

File No.: 04-1000-20-2019-095

June 4, 2019

s.22(1)

Dear s.22(1)

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request of February 12, 2019 for:

1. **Copies of correspondence (electronic and/or printed) identifying the specific criteria or guidelines used by the City of Vancouver in the design and planning of the dedicated Burrard cycling lane (northbound) between Pacific and Drake;**
2. **Copies of correspondence pertaining to the notification of that area's residents of when and where public open houses would be held for comment, and distribution methods used for this notification, and documentation confirming how many attended and what specific suggestions were received; and**
3. **Any correspondence confirming that the department responsible for this project conducted and/or considered any riding behavior observation studies, and/or any human perception science research literature should be included.**

**Date Range: January 1, 2015 to December 31, 2018.**

All responsive records are attached. Some information in the records has been severed, (blacked out), under s.13(1), s.15(1)(l), and s.22(1) of the Act. You can read or download these sections here: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/96165\\_00](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00)

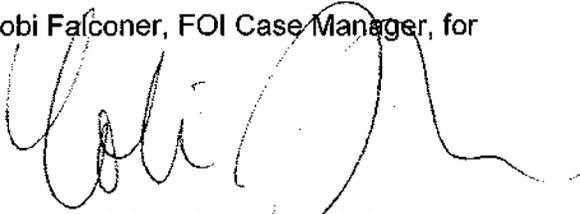
Under section 52 of the Act you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your request. The Act allows you 30 business days from the date you receive this notice to request a review by writing to: Office of the Information & Privacy Commissioner, [info@oipbc.bc.ca](mailto:info@oipbc.bc.ca) or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number assigned to your request (#04-1000-20-2019-095); 2) a copy of this letter; 3) a copy of your original request for information sent to the City of Vancouver; and 4) detailed reasons or grounds on which you are seeking the review.

Please do not hesitate to contact the Freedom of Information Office at [foi@vancouver.ca](mailto:foi@vancouver.ca) if you have any questions.

Yours truly,

Cobi Falconer, FOI Case Manager, for

A handwritten signature in black ink, appearing to read 'Cobi Falconer', written over a faint, larger signature that is partially obscured.

**Barbara J. Van Fraassen, BA**  
**Director, Access to Information & Privacy**

*[Barbara.vanfraassen@vancouver.ca](mailto:Barbara.vanfraassen@vancouver.ca)  
453 W. 12th Avenue Vancouver BC V5Y 1V4*

\*If you have any questions, please email us at [foi@vancouver.ca](mailto:foi@vancouver.ca) and we will respond to you as soon as possible. Or you can call the FOI Case Manager at 604.871.6584.

Encl.

:kt

**From:** [Krueger, Paul](#)  
**To:** [Guilbault, Lynn](#)  
**Cc:** [Storer, Paul](#); [Krueger, Paul](#)  
**Subject:** Burrard Bridge Engagement Numbers for Scorecard  
**Date:** Tuesday, August 18, 2015 12:37:14 PM  
**Attachments:** [ENG - STP - TP - Burrard Corridor - Delaney - Engagement - Consultation - final report email.tr5](#)

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Hey Lynn,

Based on our estimates below, the Burrard Bridge team met with about **240 people at 18 stakeholder meetings in Q2**, in addition to over 440 people at open houses and lemonade stands (I believe that latter estimate to be way low – the numbers seemed much higher to me). We also received over 1850 responses to our online questionnaire, and had a high level of correspondence via email.

Looking ahead to Q3, we'll likely meet with about 35 people in Q3 at various sessions on suicide prevention, accessibility, and lane access. In addition, we expect a fair amount of one on one engagement with businesses and others affected by the construction.

For reference, I've attached the Delaney report on engagement for this project.

Group	Date	Estimated # of participants
Lemonade Stand #1	5-Jun	150
Lemonade Stand #2	13-Jun	120
Open House #1	6-Jun	70
Ophen House #2	16-Jun	100
<b>Total Open House Events</b>		<b>440</b>
T2040 Stakeholder Group	26-May	20
Womens' Advisory Committee	2-Jun	20
HUB	16-Jun	10
WEBIA	15-Jun	2
BCTA	23-Jun	4
BEST	23-Jun	40
DVBIA	11-Jun	10
Heritage Commission	6/15/2015 + 7/06/2015	15
Heritage Vancouver Society	24-Jun	8
TransLink	17-Jun	3
Seniors' Advisory Committee	19-Jun	25
Vancouver Taxi Association	5-Jun	10
Vancouver filming industry	30-Jun	5
Vancouver BOT	19-Jun	20
ATPC Projects Subcommittee	3-Jun	15

Persons with Disabilities Committee	25-Jun	10
Pacific Heights Co-op	30-Jun	20
<b>TOTAL Stakeholder Meetings</b>		<b>237</b>

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**From:** Storer, Paul  
**Sent:** Tuesday, July 14, 2015 10:13 AM  
**To:** Krueger, Paul  
**Subject:** Delaney material

Paul Storer P.Eng.  
Transportation Plan Team | City of Vancouver  
p: 604 873 7693  
m: 604 763 5619  
[paul.storer@vancouver.ca](mailto:paul.storer@vancouver.ca)

## Goodwyne, Annie

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**From:** Richard Delaney <delaney@rmdelaney.com>  
**Sent:** Monday, July 06, 2015 5:29 AM  
**To:** Storer, Paul  
**Cc:** Jessica Delaney  
**Subject:** RE: Following-up  
**Attachments:** ENG - STP - TP - Burrard Corridor Projec~Delaney - Burrard Bridge Engage.ver.3jul2015.docx; ENG - STP - TP - Burrard Corridor Projec~Delaney - Burrard Bridge Engage.ver.3jul2015.pdf; COV (Storer) 2015 07 (Burrard Bridge Pacific Street Intersection Upgrade Project).pdf; Burrard Bridge Survey Question #7 - Comment Analysis - 2 July 2015.xlsx; HUB Cycling Submission re Burrard and Pacific Improvements.pdf

Hello Paul – attached are Word and PDF versions of the final engagement report. If you have any immediate questions or requests please reach me on my mobile, at 613.794.3236.

It was a pleasure to work with you and your team on this project - rmd

*Richard Delaney President and Principal, Collaborative Decision-Making*

 DELANEY + ASSOCIATES

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CORPORATE MEMBER OF THE  
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**From:** Storer, Paul [<mailto:paul.storer@vancouver.ca>]

**Sent:** Friday, July 3, 2015 2:45 PM

**To:** Richard Delaney

**Subject:** RE: Following-up

Yes, I think that's okay as long as it addresses the issues we'd identified (which were really pretty minor).

Thanks,

Paul

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**From:** Richard Delaney [<mailto:delaney@rmdelaney.com>]

**Sent:** Friday, July 03, 2015 11:42 AM

**To:** Storer, Paul

**Subject:** Re: Following-up

Hi Paul - I have the revised report from Jess and Tara for a final read. Is it OK if you get it first thing Monday AM? - rmd

Sent from my BlackBerry 10 smartphone on the Bell network.

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**From:** Storer, Paul

**Sent:** Thursday, July 2, 2015 6:17 PM

**To:** Jessica Delaney

**Cc:** Tara Cooper; Richard Delaney; Emina Dervisevic

**Subject:** RE: Following-up

Staff names are fine, as are stakeholder groups. Public names should be included...

Cheers,

Paul

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**From:** Jessica Delaney [<mailto:jessica@rmdelaney.com>]  
**Sent:** Thursday, July 02, 2015 3:02 PM  
**To:** Storer, Paul  
**Cc:** Tara Cooper; Richard Delaney; Emina Dervisevic  
**Subject:** RE: Following-up

Thanks Paul. In terms of personally identifiable, is that priority to remove references to staff names, or stakeholder names? Thanks, Jessica

**From:** Storer, Paul [<mailto:paul.storer@vancouver.ca>]  
**Sent:** 2-Jul-15 2:53 PM  
**To:** Jessica Delaney  
**Cc:** Tara Cooper; Richard Delaney; Emina Dervisevic  
**Subject:** RE: Following-up

Hi Jessica,

I haven't been able to get Patricia to review, but please see attached with (mostly minor) comments from Amanda and I.

My big issues are:

- 1) We can't include personally-identifiable information in the Council report, so will need to remove it (or create a separate version for the report)
- 2) **s.13(1)**

Otherwise, I think it's great – just some minor suggestions.

Thanks,

Paul

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**From:** Jessica Delaney [<mailto:jessica@rmdelaney.com>]  
**Sent:** Tuesday, June 30, 2015 2:14 PM  
**To:** Storer, Paul  
**Cc:** Tara Cooper; Richard Delaney  
**Subject:** Following-up

Hi Paul – I just wanted to touch base to see if you've reviewed the Burrard engagement summary report. I will be out of the office on Thursday and Friday; however, Rick and Tara are both in the office and available to connect (as am I via cell). Tara has started to code the hard copy survey comments from #7. At this point, we are not anticipating any major updates to the report, but providing an updated table of findings.

Rick is also available at 613 794 3236.

All the best and happy Canada Day. Jessica

**Jessica Delaney** *Principal, Strategic Communications and Engagement*

 DELANEY ASSOCIATES

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PanelistIdQuestion	Comments_intersection_design	Design concerns or recommendations	General approval	General disapproval	Concerns about crossing Burrard	Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	Waste of money/cost concerns	Don't support east side pedestrian lane	Support east side pedestrian access	Complaints about dangerous cyclists or giving priority to cyclists	Suggest flawed consultation process or information provided	Supports addition of bike lane / improvements for cyclists	Concern / ideas about aesthetics	Concerns / suggestions for approach to construction	General safety concerns	Seastar building resident concerns	Reviewer Note
65523	Can a southbound bus stop at Pacific for the 2/22/32/44 be added on Burrard?	1															
65524	How are people supposed to travel east on Pacific by bike? i.e. Go straight across Burrard				1												
65526	It looks very good to me. A great improvement. I'm wondering, however, about impacts further west on Pacific (where I live). Will there be even more cyclists on the sidewalks avoiding conflicts with cars on the roadway? Will there be more traffic backups/angry drivers? Will motorist be even less likely to yield to pedestrians in crosswalks (e.g. Crossing Pacific at Bute Street is dangerous NOW!).	1	1							1							
65527	Looks Great!		1														
65529	Look great!		1														
65530	The plan overall seems excellent. My only concern is whether there is sufficient bike storage at Pacific and Hornby to catch all cyclists. After all, the redesign will (presumably) substantially increase bike volumes.	1	1														
65531	The more space for people and the less space for machines, the better. Please prioritize access and safety for slow pedestrians first and fast vehicles last. While I generally bike through this area, fast bikes are an issue too. Again, I believe our focus should be on people and speeds appropriate to people. Bikes and cars are fine, but not at the expense of people's access or safety.																
65532	The south end changes are fantastic so this will equal that. Everything is covered here, especially the cycle path improvements, both adding a northbound bridge lane and the added protected lane infrastructure noted. I only use the NB right turn, EB to Pacific when I use my car; return via Granville, so can't comment much on the rest of the intersection. Bike safety and access is my main priority and these changes address that. My wife bikes daily/year round from upper Kits over the bridge. Great engineering job. Kudos!	1	1														
65536	The Pacific/Burrard intersection is a nightmare. So happy the city is finally addressing it!		1														
65538	The project does not adequately take into account driver and bus passenger safety. There should be a barrier/median in the middle of the bridge to divide the two directions of traffic. Of particular concern is the new S curve toward the North end of the bridge. This is an extreme danger. Drivers do not respect the speed limit of the bridge. Major accidents will ensue. The City should look into "hanging" the pedestrian sidewalks off each side of the bridge, putting the bike lanes where the existing side walks are, and then restoring the number of travel lanes on the bridge deck (with the added inclusion of a barrier/median down the middle of the two ways of traffic). During morning rush hour, the third Northbound lane can be for carpools and buses only.	1															
65540	Looking forward to seeing the improved cycling connections like there are already at the south end of the bridge.		1														
65542	No West-to-East bike route on Pacific				1												
65547	more "manufactured congestion" from this city govt. How are all the new people that are supposed to arrive in this city in the next 20+ years supposed to get downtown? less lanes mean more traffic for cars and buses. what a joke.					1											

65548	Currently biking through the intersection at Pacific and Burrard is very dangerous. It requires vehicle drivers to be both familiar with the intersection and rules, to know where bikes are coming from, and to be alert when they approach from the west on Pacific turning onto Burrard. Right hand turn restrictions are needed, just as they were placed on the South end of the Burrard bridge. I am proud to be part of a city that takes its infrastructure management this seriously and is so progressive with its design. Thanks to all involved.	1	1	1														
65549	Didn't the City just spend a bunch of money updating the intersection? Why does the city keep spending money on road projects, only to rip them up and redo them a year or two later? This is a total waste of money. These changes aren't going to help reduce the number of accidents. There are accidents because people are in a rush and the timing of the traffic lights made no sense. People will still in a rush but now annoyed because of the reduce numbers of lanes. Just change the timing of the lights and things will be better			1			1											
65555	Don't fully understand it... but I do appreciate the City's direction of encouraging safer streets for walking & biking. Of course need flowing streets for auto traffic too... emergency vehicles, buses, etc.		1															
65558	Is this really a problem compared to the downtown east side, homelessness and the mess of traffic down 6th-2nd avenue? This really seems like more work to create the golden cycle path for developers to develop the Jericho Garrison.																	
65559	DO NOT DO THIS!! pedestrians have lane already, DO NOT remove a traffic lane!					1												
65564	I am concerned that none of this consultation revolves around the actual idea of eliminating the eastern most lane. As a regular cyclist over the bridge, the system works fine, except for people who blatantly disregard the clearly posted signs that say no pedestrians on the east side of the bridge. The volume of vehicle traffic to pedestrian cycle traffic is 5:1 but the City is thinking of spending millions of dollars because a few people believe the rules do not apply to them and they make it dangerous for everyone on the east side of the bridge. As silly it may sound, it could be a better us of money ticketing pedestrians and reverse direction cyclists then further congesting north bound traffic into the downtown core. Additionally, the collisions identified as most frequent seem to be a result of inattention to driving not the road design. Further they do not seem to the kind that are fatal, more fender benders. Again millions of dollars are proposed to be spent to somehow keep someone's eyes on the roads. The City should complete the repairs and pay down debt.						1		1									
65571	Great to hear the pedestrian sidewalk on the east side will be reinstated!								1									
65573	My major safety concern is cycling along Pacific towards the bridge from Yaletown and not having a protected lane as you cross the Granville offramp and continue along towards the Burrard and Pacific intersection. In addition, I believe there is an extreme safety risk of trying to cross the Pacific and Burrard intersection to get into the bike lane on the West side of the bridge.  As a car driver, I often see near miss accidents as drivers turn left against oncoming traffic to get onto the bridge from Pacific. It is not clear to people who are not familiar with the route that they should clearly watch for oncoming traffic (both bike and vehicle). I have seen a cyclist almost hit as she tried to cross over Burrard travelling eastbound on Pacific, and have seen several near vehicle accidents.  This is a must needed project and I am in very strong support of improved safety and protected lanes.		1		1													1



65598	Don't have bike-lane separation tapering off toward gap that is cycled through. When avoiding a car that had entered the cycling area (painted green) I misjudged how far the concrete barrier extended toward the bicycle path and toppled my child's chariot, that I was pulling behind. Fortunately he was fine, but it would help for these corners to be more clearly visible and not tapering.	1															
65599	from the cycling perspective the worst part of the current configuration is turning left from Pacific onto the Hornby separate bikelane. In other words, the CONNECTION between the separated bike lane on the bridge and the separated lane on Hornby. The proposed intersection design doesn't seem to adequately address this - would one possibility be to continue the exit (heading north) off the bridge to run across Pacific and to connect to a 2-way separated lane on the north side of Pacific that would be a safe way to connect the bridge to Hornby?	1															
65601	I am specifically impressed with the expansion of bicycle lanes This is a great investment in moving people in a healthy and safe way into and out-of the downtown.	1															
65602	I drive the Burrard Street Bridge everyday, at times 4 times a day. While I want everyone to travel safely you cannot continue to inconvenience the majority of people for a small minority who cycle or walk. In a majority of days I cross the Burrard Street Bridge there is no one in the cycle lane, yet cars are backed up to accomodate no one, creating greater pollution. It was safer when there was no bike lane. You must accept that biking and walking to work will always be for a small minority of people and must stop massively disrupting the majority of people for this small minority. You have already with your changes near doubled the time of my commute to work and made it less safe.	1															
65604	Looks great	1															
65607	I like it!	1															
65609	Looks good	1															
65611	Have you considered a mezzanine walk way above the existing path, this would negate the need to reduce traffic lanes using existing vertical space.	1															
65612	It's good design. I'm impressed overall. Just a few things. What about access to the alley between Hornby and Burrard, south side? Currently many people cycle off the bridge and go down the alley to Beach Ave. How does one cycle on Pacific straight through eastbound, staying on Pacific? Do we use the general travel lane?	1	1			1											
65613	How do cyclists travel eastbound on Pacific through Burrard intersection?					1											
65638	The south end is a fiasco . So confusing, you are actually frightened at that intersection as the traffic comes right at you. Cyclists are scratching their head as well. The bike lanes are so wide one could easily confuse it as a car lane and drive down, I have seen it happen at the north end on Burrard !	1															
65639	Looks great! If the redesign of the south end intersection is any indication, this should be a vast improvement over the present configuration.					1											
65649	It would be helpful if there were signs along the bridge to inform traffic of the upcoming intersection	1															

65694	I like the design of the cycling and walking options. I think that coming off the bike lane on Pacific onto Hornby Street could be a more free-flowing path for cyclist heading up Hornby Street while also allowing for continued bike traffic down Pacific.  I don't understand the vehicle traffic flow from the West side to the East side of the intersection. While it's great to have two turning lanes off Burrard onto Pacific I suspect we'll still have lots of issues with traffic coming off the bridge and wanting to get into the left hand lane to turn up Hornby and blocking cars in the right-hand lane that are trying to drive straight down Pacific. This is a major issue today for Northbound traffic off Burrard.	1	1	1															
65695	Looks great. Really impressed!		1																
65701	How can someone on bike safely ride eastbound on Pacific across the intersection?  If that movement is not intended, is there a detour clearly signed down to Beach or somewhere else easy to access?				1														
65705	Please make the pedestrian and bike lanes as wide as practical, and with high quality, attractive finishes (i.e. no concrete precast barriers)	1	1																
65732	I am happy to see more space for pedestrians and cyclists. I would like to see benches for pedestrians and smooth road surfaces for cyclists.			1							1								
65733	I think the connections from Burrard st to Hornby and Howe are really important for people riding bikes. Safe, protected connections are imperative.	1																	
65735	no																		
65737	Like separated bike lanes on Pacific on east side! Very big gap right now. Like removal of dangerous SB slip lane Like wide bike lane NB on bridge			1							1								
65738	It appears the new intersection will maintain good movement for all transportation modes and enhance safety for pedestrians and cyclists especially. Looks great.				1														
65742	Fantastic!				1														
65745	northbound should be same as southbound. more bike lanes, less car lanes				1						1								
65746	It is not clear how someone bicycling eastbound on Pacific Blvd would get through the Burrard Street intersection. Is this even possible?  Please consider making the barriers between the bike lanes and the car lanes on the bridge somewhat nicer looking; it looks like you are planning on supplementing the existing ugly concrete barriers with ugly steel railings in the widened section at the north end. These sorts of things belong on highways, not city streets. We can do better!					1						1							
65747	A huge waste of money, more bike lanes? Then start on the Granville street bridge which has more lanes that could be converted for bikes at less cost than the major construction to convert the Burrard bridge.												1						
65749	Yes. There should be a turning-left lane (from Burrard Bridge turning left onto Pacific), controlled by arrow, and a turning-left lane (with arrow) turning from Burrard (going south). There should also be a right-turn arrow from Burrard to Pacific (as you're heading toward the bridge).	1																	
65768	It is a big and welcome improvement for people walking and riding a bike. The only thing missing is an eastbound way for people on bikes to cross Burrard at Pacific. This is long overdue to improve life for the growing number of people walking and riding a bike over the Burrard Bridge.				1		1						1						
65770	I think it makes sense!				1														

65775	the design looks nice! Well done!		1															
65778	I rarely cross the Burrard Bridge, but I must say the right turn off of Pacific onto the Bridge is always an adventure.	1																
65782	There should be no further permanent lane closures on the bridge. This adversely affects movement of goods and tourist traffic into the downtown, especially the West End					1												
65792	Re; Cycling: there needs to be a more obvious.useful link between the seawall bike path and the Burrard Bridge crossing. Having to come up Pacific (the obvious, if not the intended route) is dangerous and nerve-wracking.	1																
65794	I think it is very wrong. I am truly concerned about further restrictions of being able to travel out of the West End or Downtown. You are removing the emergency and medical facilities out of the downtown core. Restricting possible ambulance and emergency vehicle routes is criminal.				1			1										
65795	Sounds great		1															
65797	I think it is an improvement designed to make the bridge safer and more welcoming to all modes of transportation on it.		1															
65806	I don't think pedestrians require a lane on the east side of the bridge. It's very very rare that it's so congested on the west side that I don't think an east side side walk is necessary.								1									
65811	Pretty soon it will be impossible to even drive a car in Vancouver. I am all for walking and cycling but there is a limit. Enough is enough! I do way more walking than driving and I find that the cycling has gone way too far - and way too expensive for its use. This city is out of touch with the people living here and using the parking and the streets. They should improve the public transit - more buses, better skytrain that goes to westend and kits and that would serve way more people than the bus lanes. The bus lanes makes the traffic even worse at many locations and even dangerous and it takes away lots of parking space and causes a lot of rerouting. Enough is enough!!!!				1		1		1									
65812	Don't tie up more cars because of bike lanes. This is a city, not a country village. What ever happened to getting a small bridge just for bikes? The amount of money spent at burrard bridge to date may have paid it off.										1							
65821	You didn't show it to me																	
65822	Can you build a zip line?																	
65824	I think implementation of this along with the reconfiguration of the south end will make the experience of passing over the bridge better for all.		1															
65829	I think one less lane on Burrard st bridge is a bad idea										1							
65834	Terrific! However, it would be nice to be able when cycling Pacific, to cross Burrard eastbound by bike, without having to go north, then east, then back south around the intersection.		1			1												
65841	I'm in favour of the proposal. I ride across the bridge and there needs improvements to make it safer.		1											1				
65846	Frustrating - getting in and out of downtown is already a hassle via car.No one seems to care about commuters (I live in Vancouver and commute to West Vancouver)				1			1										
65849	I support the proposed cycling improvements. It is essential to prioritize cycling safety and efficiency in order to promote cycling as a key mode of transportation.		1											1				
65850	Much better than the current configuration. Basically it turns the intersection into 70th/Oak.		1															
65854	the more we can do to make intersections safer the better. And the more we can do to make walking and cycling safer the better.				1													
65858	Hope the new trees between Howe and Hornby don't obscure view too much. They are nice, but you really need to be able to see the traffic - there is so much of it.	1																

65859	Too much to say. Since there are limits on left/right turns, green lights on Burrard should just have a straight arrow. Please find some way of channelling traffic via Nelson to the Granville Bridge, which is woefully under-used. I see loooong lineups from my house at Burrard and Pacific, of traffic waiting to merge onto the bridge. Could there be some way to reduce this?	1																	
65861																			
65862	You did a great job on the Cornwall bike/walk intersection so I trust you will do the same here.		1																
65864	Do NOT close any more lanes for cars. So often the bike lane is empty and the car lanes are jammed.					1													
65865	The intersection at pacific should be treat as a highway with on and off ramps with burrard going over pacific.with bike and pedestrian lanes dropping below bridge plane to go under on and off ramps creating ZERO possibility of collisions between pedestrians and cyclists with automobiles. this will also keep taffic flow moving at a steady rate without having a red light. If you would like more information on this design please feel free to call me or email <a href="mailto:s.22(1)@cityofvancouver.ca">s.22(1)</a>	1																	
65866																			
65867																			
65868																			
65869																			
65871	Quite frankly, I think the transportation planner and planning in this city are being run by idiots and idealogues, particularly now that I hear about what's being planned for the Burrard Bridge and rumoured for the Granville Street Bridge. You are making a difficult situation coming into the downtown worse, and you seem oblivious what you're doing to long-time Vancouver residewnts people who aren't bike-riding health nuts.				1				1										
65873	Every effort should be made to re-open south turns onto Hornby Street from Pacific.	1																	
65874																			
65875	I would be very upset if a car lane is removed permanently on Burrard Bridge.								1										
65877																			
65880	Find a way to address the bottleneck at burrard and pacific for cars sw side. Create a better bike connection straight up burrard to drake. I live in westend (harwood) and ride straight up burrard. It's dangerous for cyclists. While at it, the drake/Hornby intersection has the worst set up for cyclists turning right from Drake onto Hornby. At least give an advance light or better setup.	1																	
65881																			
65883																			
65884																			
65886	The recent amendments that have already been made to the Burrard bridge are sufficient for current biking, walking and driving needs.								1										
65889																			
65890																			
65892																			
65893	Anything that improves the safety of bikers and walkers has my vote - we need to promote healthy behavior and lifestyles																		1







66038	JUST BUILD A DEDICATED PEDESTRIAN AND BIKING BRIDGE!!!!!!!!!!!!	1																			
66040	keep the pedestrians safe from the bikes									1											
66041	I don't know exactly what the new intersection design will be, but I think the intersection at the south end of the bridge is great! I hope we can do something like that at the northern end.		1																		
66043	The north end is very confusing on a bike-going on and coming off																				
66045	I am against the project. The bridge in its current configuration is fine.			1																	
66049	Keep it simple. Cyclists and drivers in Vancouver barely understand the rules of the road. Pedestrians assume right of way always. Complex intersections cause problems. Maybe start enforcing things like signaling, jaywalking and not cycling on sidewalks.	1									1										
66053	Would be excellent if bus. could stop on North-west part of intersection just on the bridge	1																			
66060	Walking lane is only needed on one side of the bridge. It is very workable on only one side. There is no necessity to open it to both sides.											1									
66061	Looks like a well planned improvement		1																		
66075	Better crossing for bikes, and allowing north bound left hand turn to beach ave.	1																			
66078	As someone who bikes and walks regularly in that area, I recognize that it is not perfect getting on and off the bridge. Yes, bridges need repair and improvements; but closing another lane of traffic is not a good idea. It will not only lead to more congestion but will also lead to more frustration with city council. As a Vision supporter please don't do this.				1															1	
66079	bike traffic need to have equal consideration, NOT preferred status over vehicle or pedestrian. Pedestrians and Bikes can share mixed use paths; whereas automobiles& busses can not share with pedestrians and bikes																				1
66083	I don't agree with using up another car traffic lane. Walking and cycling is fine but the intersections need the work.																				1
66084	Looks good to me, but the diagrams I have seen are very sketchy.		1																		1
66093	Good luck and i hope it works		1																		
66098	Don't cut down the tree	1																			1
66099	I don't see much in terms of beautification of the bridge for pedestrians/bicyclists. If work needs to be done, let's make it a spectacular gateway into downtown!																				1
66103	- north end needs safe bicycle routes continuing north and turning east or west. - pedestrians need routes that are not too broad and don't leave them stranded on islands in the middle of traffic when crossing north, east and west. - can there be veget	1																			
66105	Much needed.		1																		
66106	I think removing another lane of traffic is absolutely unnecessary and ridiculous. Having cars idling and polluting our air is not green you idiots.																				1
66111	It is way too soon to do another improvement on the Burrard bridge. We've barely recovered from the last one. I think there would be a hue and cry from citizens including me. Wait at least two years please!																				
66120	It does look safer.		1																		









66296	I believe a car lane should be sacrificed to widen the east bike lane and add an east pedestrian lane, to make it safer for both. This should have been done as part of the 2009 project.		1						1									
66297	Though the drawings don't show the entire Pacific Burrard Intersection, the changes in the drawings to the North End of the Bridge and the intersection of Burrard and Cornwall look like a good idea. I support those changes. I also agree that the concrete in the bridge railings, stairs and other places needs repair.  I do not use the bridge enough or live close enough to have an opinion on how and when the construction should be carried out.		1															
66298	There is significant collateral value in this type of investment as part of a string of pearls idea of liveable communities -- that just knowing it is there indicates a respect for people which is appreciated by residents and visitors alike.		1															
66304	Looks good		1															
66306	The current intersection does not work well and slows down traffic in peak times. Not a good design to entering the downtown.		1															
66316	The proposal looks fine to me but I wonder if the city council ever considered building a separate light bridge, dedicated to pedestrian and bicycle traffic only? In my opinion, that's the only sure way to improve the safety on the Burrard Bridge.	1	1															
66317	Do not close another lane. This is pure insanity. How dare you think you can clog up traffic even more. I have lived in the west end for 25 years and walk to work and we walk everywhere for exercise. Closing one lane was enough and did make it safer for walking - I always felt like I could fall into traffic without the barrier Make improvements but leave the existing lanes alone. This proposal is unacceptable, and you had better not try to shove this through as you usually do.								1									
66321	Glad this is finally getting done		1															
66325	Yes, instead of spending 10's of millions on tearing everything apart, disrupting traffic, for a few more bikes, try thinking outside the box. Maybe a pedestrian-bike overpass.....!!!!!!	1			1													
66326	If you didn't build a City around the lowest common denominator, (ie cyclists) you wouldn't need to waste tax payers money for this project.																	1
66334	Cars turning left onto Cornwall from Burrard Bridge north. Sometimes they don't stop in time for our green walk sign, or they try and beat our walk sign. I always have to check my left side before walking across the green walk sign south on Burrard.																	
66339	This is ridiculous - You've already taken away one lane for bikes - There are no longer any issues. This is a bridge - it is going to be crowded - Stop making our City unlivable for those of us that work here and can't cycle everywhere due to the nature of our work.																	1
66340	No specific issues with respect to the proposed layout. The revised traffic movements will likely increase congestion and slow the overall flow of traffic, this is acceptable though as it will make it safer for cyclists.																	1
66345	The current intersection is a mess. Anything is better																	1
66346	leave the bridge alone, there is lots of pedestrian capacity. The bike lane you installed created the mess in the first place																	1
66349	Make them safe. I was hit on my bike at Pacific and Burrard by a motorist who was disobeying the no right turn sign.																	1
66350	Why? Build a pedestrian / bike bridge along side the Burrard Bridge. Totally separate cars and other modes of transport makes it safer. Get the 3 lanes both ways back. Terrible, expensive plan, do not support. Deal w 4th Ave traffic first, after Pt Grey Rd disaster. Another money wasting project.	1																1













66545	Definitely better otflow of cars from Pacific Str. to the bridge, e.g. addition of one more lane. As a resident on Pacific Street, I would welcome anything that would speed up traffic on Pacific in summer months(bridgbound), to eliminate horrible traffic jams and idling cars on Pacific Street (since the addition of the biking lane, the traffic jams are incredible on Pacific, and residents can only "enjoy" the car fumes. Good bye open windows or enjoying the time on the balcony!). Also addition of the traffic lights might help so that the cars wouldn't need to give right of way to cyclist and cars coming from Burrard Street which is dangerous.		1	1															
66548	At the northbound end of Burrad bridge, there should be a dedicated off-ramp lane leading into the left-turn lane onto Hornby.	1																	
66549	I don't think there is any need to close another lane on the Burrard street bridge for pedestrians, maybe just some more signs. There are less people walking on the wrong side of the bridge it seems																		1
66550	over under pass , city should purchase the 4 towers on all corners and make a big underpass overpass , cost would be minimal maybe 3 billion	1																	
66551	The whole reason is stupid.				1														
66552	I think the "no turning" on Pacific from burrard is great. The last thing we need on burrard is more congestion caused by left turn signals/people waiting to turn left on a green light. Davie st and burrard, however needs a left turn light.	1																	
66555	Take out the bike lane and return the bridge to its previous levels of flow.																		1
66559	The most challenging part of my cycle commute north into downtown is the intersection of Pacific and Hornby. Traffic lights and auto habits don't encourage using the green cage and crossing the intersection to wait on the bike path can get pretty clogged up when many cyclists are using the intersection northbound on Hornby.	1																	
66562	I do not support the additional bike-only lane.																		1
66568	stop bugging up Burrard bridge				1														
66571	The proposal to increase the number of turn lanes should be really helpful in relieving congestion in the area. It should also make driving less scary because demarcation for bicycles and pedestrians would be more clear and more separate from car traffic.	1																	
66573	At the north end of the Burrard Bridge northbound traffic should be able to turn left. An enormous amount of congestion is created by routing traffic on Pacific to Howe, then to Beach, then back under the Burrard Bridge on Beach (in order to get to the West End or the North Shore). Whatever possible saving of fossil fuel use is saved by the bike lane will be more than offset by actual fuel used by cars having to travel these extra blocks. Pacific can easily handle the extra traffic between Burrard and Denman. - And also I have never seen a time when there was an actual need for more space for foot traffic. Bikes on one side and people on the other seems to work fine.	1																	1
66574	Excellent plan. Would like to be able to walk on both sides of the bridge. Improving the Burrard/Pacific intersection for driving, cycling & walking is very worthwhile. I never feel fully confident driving there and have nearly made serious mistakes.		1																1
66581	I do not support the removal of another car lane																		1
66584	I don't think Vancouver should add another pedestrian lane to the Burrard Bridge while removing another driving lane. There is a pedestrian option there already.																		1
66585	This is not a comment about the proposed intersection - I am completely opposed to removing yet another driving lane on the bridge.																		1
66589	The cost is outrageous. This money could be put to better use. Priorities should be the homeless, fair house rentals and feeding our poorest.																		1

66591	Sacrificing another traffic lane for bicycles is absolutely absurd. The bridge is already completely overtaxed by cars and trucks driven by people who cannot use other forms of transportation to get in and out of the city. Downtown is already suffocating, and this is before all the new towers being built are even occupied.						1											
66593	Just leave the bridge as is. There is ample room for pedestrians on the one side. Waste of taxpayers money to change.							1										
66595	Bike lane on Burrard street-connecting to Hornby at Drake st rather than at pacific. It feels more dangerous trying to turn on to Pacific and then again at Hornby. also Biking Westbound on Pacific between Granville and Burrard is extremely dangerous																	
66599	The right-turn curve lane from Pacific onto the bridge requires a big "approach bridge slowly" sign																	
66606	Not necessary.																	
66608	Build a pedestrian overpass (bridging Pacific) off the bridge onto Burrard St on the East side and if possible, on the West side too. There is too much interaction between pedestrians and traffic/bicycles in this city. For instance, all tube stations in London have tunnels to each side of the street... not here! As traffic gets worse, both cyclists and cars respect pedestrians less and less.																	
66611	streetcar right-of-ways ought to replace all bikeways otherwise, bring back the streets to the automobile																	
66623	I think a third lane needs to be added to the south bound lane and the north bound should stay at 3 lane. Railing on both side needs repairs and south end changes needs to be reverted to the original design																	
66626	Being able to run across both sides of the bridge again would be great.																	
66628	I really like it. I think the use of transportation demand management techniques is well used for the right turn lanes from the bridge deck onto Pacific (eastbound). It is also consistent with the design elements of the south side.																	
66630	I do not support any more changes to the bridge at this time! I think most people hated the construction last time and it's still vivid in people's mind.																	
66634	love it																	
66638	3 lanes of driving each way need to be open to support commerce in the rapidly expanding downtown core																	
66639	everything is fine as is. Don't change traffic configuration on the bridge itself. Do not permit pedestrian traffic on the east side (though better signage on the south end would direct that very rare confused soul across to the east townbound lane). The intersection needs major redesigning on behalf of west and south bound traffic vehicular traffic but don't remove the south lane on the bridge itself!																	
66641	I think it's a great improvement for all modes. Making the right-turn from EB Pacific to SB Burrard protected is a very good change as it is awkward and poorly designed at the moment.																	
66642	I mostly cycle thru the intersection. North bound is okay as I usually go down Pacific to Hornby Bike Lane. Southbound is the killer. Most people come off Hornby, right on Drake and then left (south) down Burrard to get a run at the bridge all the time checking the lights at Pacific. East/West bound cars will run that light. Then when you hit the Pacific merge cars do not stop of stop in the green box. then you need to merge with cyclists who are hidden behind cars coming off Pacific onto the bridge. UGH UGH																	











66820	Do not shift all traffic towards Hornby and Howe. It is already over congested on Howe going south. Take into account all the lane closures due to long term construction projects in the area. Already hard to get home waiting 5 or 6 lights. Open up beach ave. east of Granville street. Stop using Beach and Granville as a money grab by issuing tickets, people just want to go home.	1																
66822	I actually don't think we need to reduce the number of lanes on this bridge yet again for pedestrians and cyclists. I think there is more than ample room and would like to see the traffic lane remain. I am extremely disappointed to see the last minute notification we as taxpayers have received for this project.										1							
66824	Please keep traffic flowing taking away another lane is ridiculous, this is a CITY. People are not getting out of their cars, traffic idling is not productive and NOT GREEN. Kitsilano/Cornwall is Chaos! Bike Lanes do not work, bikes go where they want to (IE York Street, was a waste of money. Bikes are on Cornwall. Hornby Street, why are bikes still on Granville. Think before you proceed. Foreign Investors, buy a house then a car or two. People need to get into the city, look at highway 1 in the morning, where do you think all these cars are going. Vision Vancouver needs to #keeptrafficflowing																	
66825	This project is typical of the social engineering being pushed through by Vision. Very little public consultation, and studies being done by companies that push their own thoughts/beliefs, instead of actual traffic flow and the effects that are caused by closing off lanes. Unless density is greatly increased throughout most neighbourhoods of our city, the bike lanes on major arterials aren't justified.																	
66828	I believe we need to leave open all the car traffic lanes.																	
66829	I travel the bridge every day and I cannot believe taking a lane away will improve traffic congestion. This is a main route to U.B.C. and all the Westside. You cannot force people to bike or ride from one part of the city to another. This is rainy Vancouver. Blocking one more lane will only create more pollution and anger in the city																	
66830	It is unnecessary and a waste of money when there are far higher priorities for the city to consider, eg. homelessness.																	
66835	Absolutely opposed to permanent closure of a northbound lane. No need to redesign intersection. Absolutely opposed to closure of Point Grey Road, which is now inaccessible to anyone other than the wealthy residents of that area - and I cycle. Absolutely opposed to the traffic congestion and gross inconvenience caused by your ideology.																	
66838	permanent closing a lane for pedestrians use is UNNECESSARY. There is more than enough capacity for pedestrians.																	
66842	Build them their own fucking bridge if you want to impress anyone Gregor.																	
66843	1. Closing another traffic lane is absolutely and entirely unacceptable. 2. Also, this feedback form is asking for absolutely NO feedback on the proposal itself. Come on you people!!																	
66846	How do I ride my bike eastbound on Pacific from west of Burrard? The proposed design forces eastbound cyclists on Pacific to go south over the bridge. There is no option to continue eastbound on Pacific across Burrard, or to go north on Burrard.																	
66848	Put the bridge back the way it was designed (for Cars)! Some of us can't walk or cycle it! But we can drive cars! There are more great things in this great city than "BIKES" - but we have to use cars to see hem																	
66849	Are you planning to build an extra bridge to counter balance the mess you are proposing?																	

66850	there are three major bridge arteries to the south from Downtown Vancouver. the Granville Bridge proposal reduces a car lane, the Burrard Bridge has been gutted on the North side. Build a bike bridge. there is tonnes of money. fund this by stopping the road workers from standing around.																		
66853	Please make the results of the traffic studies easily available to the public.																		1
66854	I am very suspicious of travel time projections, and would like to see the underlying details utilized in calculations. Beyond the need for refurbishment of the bridge, I am most displeased with the level of tax dollars devoted to facilitating travel for a minor proportion of the public. There are many more pressing needs for capital investment in the City. Furthermore, if the City (and Province) were to require all of the so-called "driving schools" in Vancouver to produce an improved level of driver competency, traffic will ultimately flow better, and there will be less collisions at all intersections.																		1
66861	Please don't proceed with it.																		1
66863	I think it is a lot of work and expense to address a not particularly substantial problem and I am not convinced it would be helpful in any event.																		1
66866	Stop trying to create congestion and force people to walk/bike. The work on the burrard street bridge should be focused on ensuring the existing lanes are well equipped for drivers. There is an excellent bike/walk lane already and it is more than sufficient. Most of the year it is grossly underutilized as is.																		1
66867	Closing a second lane on the Burrard Bridge is a terrible idea. Traffic flow is already compromised, and with a growing population the situation will only get worse. I do not understand why the City is proposing to make changes which adversely impact the large majority of bridge users, for the benefit of a small minority of people who are fortunate enough to live close to downtown.  I realize that it is pointless to make these comments, as the City has already made up its mind about this. I find the timing and the process to be quite undemocratic.																		1
66870	Further restricting car lanes is not at all supported.																		1
66871	- use cantilevered sidewalks/bike lanes - restore 6 lanes for traffic (you need 6 lanes on this crossing for developments on dept of defense lands and UBC traffic to/from downtown and the North Shore) as per 2005 plan (with modifications for Burrard /																		1
66872	Here is the problem, you have choked off Burrard street and Cornwall, now it will be worse, but you have done nothing to alleviate the pressure on other streets. Here are my recommendations. Make Helmecken and Drake two way streets again, they can still accommodate bikes Left turn filter at the north end of Granville and Davie Left turn filter at Granville and Drake Left turn filter at Davie and Burrard west bound Have bikes stick to bike lanes off Burrard make them take Hornby street not Burrard North bound																		1
66873	Downtown traffic is congested and totally inefficient due to the bike lanes. While it is reasonable to try to limit vehicle congestion this is not the way to do it. Cycling simply does not make practical sense for a huge number of people eg working mothers who have to leave work and pick up children, groceries etc., those who do not have showers in their office buildings. This change will just cause further congestion and air pollution and will not significantly change behaviour.																		1
66874	Too short a consultation period, sounds like the city government has already made up its tiny mind and is just going through the motions. Very disappointing!																		1



66900	<p>In a confined intersection space I don't think a tree median on Pacific should be a priority. I support the dedicated right hand lane off the North end of the bridge as long as the design allows bikes and cars can make the right turn at the same time (the right turns along Hornby are a poor design for both). With dedicated bike lanes on Hornby, should require bikes to use Hornby rather than commute down Burrard where the separation between bikes, buses and cars is poor and waiting for an accident.</p> <p>Lastly, with all these improvements done for bike commuting I believe the city should take one of the four lanes along Cornwall and turn it into dedicated bike lanes. Cornwall between Cypress and Point Grey Road is one of the more dangerous stretch for bikes and cars to share. IT is illogical that the city has left this segment as the last dangerous bottleneck on an otherwise beautiful bike commute route.</p>	1															
66901	No comments on the intersection design. Regarding the proposal to close another lane of the Burrard Bridge, why not just do things properly and build a new cyclist/pedestrian only bridge across false creek?! No one can argue against the goal of increasing transportation by foot and bicycle, and making it safer. But, why does every proposal from our city council also involve making transportation more difficult for motorists?	1															
66903	Do not take away another lane PLEASE!!!!!!	1															
66904	Finally. I stopped driving over this bridge due to very unsafe 'habits' by other vehicle operators. When driving I avoid this bridge solely due to other drivers.																
66905	too many modes of crossing the bridge all interconnected. One side for walking and the opposite one for cycling is sufficient. No more reduction of driving lanes should take place.	1					1										
66909	Can't see it. Describing it doesn't explain it. If the city doesn't want cars downtown why not think it through thoroughly and be creative. Why not make an underground parking lot beneath the park on W. 7th and Manitoba with free shuttle downtown? I count bicycles on the Burrard St. bridge whenever I cross and have never counted more than 20 anytime of the day. There are more cyclists on Point Grey Rd! You guys need to do some long term planning and stop trying everything that could come up in discussion. I take the bus, I drive a Fiancé 500 and I plan to ride a bike on the sea wall .	1															
66910	I agree the bridge itself needs regular maintenance and upgrades but completely disagree with closing another lane northbound on the bridge. This is a very very bad idea and will just infuriate drivers.	1															
66911	I don't want this lane to be closed. Why aren't you asking if we support this project at all. You have not even asked this basic question. Traffic idles and sends out tons of toxic green gases because one lane has already been closed off. You rush through projects without proper consultation. So undemocratic and a waste of our precious tax dollars. I am so tired of this faux green consultation.	1								1							
66913	I do not support closing another lane northbound on Burrard St. Bridge. It's already congested and I have been very late getting to meetings downtown on a bus coming from Kits. Taking a bus should not take longer than walking.	1															



66933	Pedestrians & cyclists who frequently use the bridge think it is fine as is...just need to cross a street to get to the other side. Pedestrians want to walk on the west or view side of the bridge. Removing a driving lane in any direction is a total waste of taxpayers money.						1		1								
66937	Shutting a further lane into downtown is a truly daft idea. I live downtown and the city is slowly trying to strangle the area by cutting access a lane at a time. The proposed elimination of the Georgia viaduct will make the situation much worse as St Paul's will no longer be accessible to west End residents in a reasonable time period.						1										
66938	You didn't ask the question whether we support your initiative to reduce car lanes. I don't support it.				1												
66940	I support the upkeep of the bridge and the Burrard - Pacific intersection safety enhancements. I absolutely oppose the removal of yet another car lane from the bridge. Surely pedestrians can be restricted to one side of the bridge only, and bikes the other side, assuming the burrad pacific intersection changes are done correctly? The summer is busier with cycle & walking traffic, but winter is not busy.						1		1								
66941	Not in favour of reducing traffic lanes. Bike, walking, bus are not options for all bridge users, especially related to business. Changes already implemented do not appear to be used to capacity now.						1										
66945	It is conceived by politicians who have no idea why Vancouver actually exists. What does that mean? It means most of us who actually live here are here to work. Without business, there is no work. In other words, the politicians in power are hurting business. A bonus for this mishandling is that with less business, there is a lower tax base, and, as some of us so dearly know, the taxes on business are substantially higher than for residential. Therefore, the burden will shift to residential, or the politicians in power will try to shift it even more onto business, which will in turn hurt or kill even more business. Killing more business, will kill even more business. Vancouver will become a nice playground for those who don't actually live here, and a percentage of those who want to live here will have to move away because of the loss of jobs. One can't run an economy on bicycles. At least, not the kind of economy Vancouverites have grown accustomed to. Of course, I can always say "they deserve what they get", they voted for the politicians.						1										
66947	A significant number of people live on the west side of Vancouver. We have had to deal with a disproportionate amount of bike lanes etc. than other neighbourhoods. The reality is that working families, in particular mothers, need to drive to work so that they can efficiently and timely manner meet demands of working and of parenting and facilitating child activities. Enough Vision Vancouver with cutting road access to Burrard Street bridge.						1										1
66949	a separate light for bikes crossing Pacific	1															
66950	go back to the original use of bridge				1												
66952	Improvements and repairs without closing another lane for bikes is preferred. I think the city should look to other areas in the city to spend money. Vancouver was one of the cleanest cities in the world and you certainly can not say that now. The funds allocated to parks is not enough to allow for proper maintenance. Stop planting trees and look after what we have would make far more sense.						1		1								
66955	The cycle path is adequate. No need to change. If you need to do something, do it in winter. Do not work in the summer.						1										1



66992	It's fine. Leave it alone. I'm sick of the construction in this city.				1													
66997	The bridge and intersection design should be aimed a vehicular traffic and minor pedestrian traffic related to it. Cycling and pedestrian traffic should be diverted to a new and separate bridge span below the current bridge deck. The Burrard St bridge was originally designed to accommodate a lower bridge deck for a train. This ability to accommodate a lower deck should be taken advantage of to remove cycling and pedestrian traffic from the intersections and bridge deck. The current and previous bridge deck configurations are dangerous for pedestrians and cyclists and cause traffic jams. Separating vehicle traffic from cyclist and pedestrian traffic will improve the flow of bothe types of traffic and improve public safety.	1																
66998	none other than we don't need another lane reduction on the bridge					1												
66999	no more bike lanes. They are dangerous					1												
67000	Why didn't you think of this when you spent millions on the bike lanes?						1											
67005	It does not show how it will improve the flow of traffic from Pacific where it is daily backed up with large wait times. It does not address the large back-up to get off the Bridge onto Pacifica because of the Horny intersection and bike lanes.	1																
67006	I am frustrated at the money being spent to reconfigure these lanes AGAIN. The simple solution is to put a light at the end of Burrard and INSIST that bikers be more aware of traffic and cars obey lights. There is no need for another pedestrian "lane" that will further congest traffic. Please do NOT do this. Why don't you ask pedestrians whether they NEED another whole lane to walk - it really is not justified - Money is desperately needed elsewhere. Other city street works are in more need. I also drive past Pt Grey road every day and am INFURIATED at this 3 lane road being closed causing traffic jams on MacDonald (and fumes) when a smaller lane would have sufficed - all my biker friends agree by the way that Pt Grey is unnecessary and it should be re-opened to at least one way traffic. This would be easy to re-open and reduce stress and anger in Pt Grey Kitsilano. All Vancouverites/tourists should be able to enjoy that road. It is not a gated community. Further, for the safety of bikers, Cornwall should have signs restricting bikes and redirecting them to York where you have built bike lanes for them for the same reason as bikes are NOT to be on the bridge car lanes.	1				1	1											
67008	I have no comments on this as I have not been able to determine exactly what the changes would be.																	
67011	More bike lanes will not solve the traffic issues in Vancouver. Many citizens are not able to cycle, nor can they take public transit due to the their jobs.						1											
67012	I am mad as hell at the new bike lanes. The stats the city gives us for bike use an invalid to pump up the usage. The bikers do not have to obey traffic laws and should be put elsewhere					1				1	1							
67013	WASTE OF MONEY.							1										
67014	The emphasis on pedestrians and cyclists using this bridge has become overblown. The number of trips on the bridge is not relevant it is the number of humans traversing the bridge that is. Please be more fair in your statistical analysis to support this correct decision not the Council's predisposed decision.														1			
67018	you need to provide some enforcement on the cyclists who do not stop at intersections, few wear helmets, weave in and out of traffic and up between cars. where was the enforcement you promised for the Triple E of the last go round of unnecessary bike lanes and closure of burrard bridge lanes? there isn't any. you don't listen to the taxpayers.										1	1						











67327	I think we already have more than enough bike lanes in this city, including over the Burrard street bridge.				1												
67334	the current system design does not seem to be working. cars/buses etc should have an entirely different route than bikes and pedestrians											1					
67339	As a City with one of the most congested traffic reputations, this is one more project dreamt up to increase the problem with even more congestion. Bravo! The 'Green Council' proposing more emissions from cars stranded waiting for passage on the Bridge. Your statistics are not credible!!				1												
67344	I think allowing pedestrian use of the east side of Burrard bridge is wonderful and the resulting separated walking and cycling lanes very smart and safe-wise. However, I still think it will be a challenge to cycle/walk south-west along Burrard street across Pacific Boulevard; maybe in future a tunnel could be built to run under the street to let cyclists and pedestrians cross easily and without interruption - of course, that takes lots of \$\$\$ but would encourage good flow of many people!	1									1						
67345	Why not build a separate bike bridge, or use another bridge?	1															
67346	I think the bike lanes have gone far enough, very few cyclists use them in the winter. We all need to get to work, doctors' appointments etc. We do not need any more changes.				1							1					
67348	While I happily support bridge maintenance, I strongly disagree with elimination of another lane for automobiles.																
67354	Have you equated the value of the Kettle of Fish land into your construction costs?																
67358	I believe from this survey that the decision has been made. Why bother with the discussions?															1	
67361	Regular road lanes should not be taken away to offer more cycling lanes. Traffic congestion will only worsen and there is plenty of space for cyclists to ride. Do not take away any more motorist lanes for cycling.				1												
67362	The proposed changes will lead to greater transit times for car drivers, more pollution and frustration for all drivers and their passengers.  The City seems to be wishing to create even greater congestion than is already occurring.  The opportunities for public feedback on these proposed changes are woefully inadequate. Another example of Vision trying to ram through their agenda !				1											1	
67367	1. Eastbound cars along Pacific face substantial delays in accessing the bridge to go Southbound. This should be addressed in the redesign.  2. There should be a design feature at the Burrard Pacific intersection that causes northbound traffic off the bridge and southbound traffic onto the bridge to slow down as they approach the intersection.  3. All right turns at the intersection should have their own lane, lights and timing synchronized to occur simultaneously.	1															
67368	installation of west bike lane approaching bridge from the north created a dangerous situation for all travelers. Vital to redesign. West to east car traffic on Pacific, turning right onto the bridge in rush hour, has increased greatly. Dangerous for all.	1														1	
67372	Stop it with the ducking bike lanes already				1												
67376	What about a solution similar to Cambie Bridge that has on and off ramps for bikers and pedestrians?	1															
67377	Congratulations, you and Vision have ruined the City of Vancouver through tearing down neighbourhoods.				1												
67378	I am very much in favour of more and safer bike routes in the city	1															



67428	No , leave it alone				1														
67429	closing more lanes on a bridge is not greener because it is more congestion. while current mayor supports bikes only in downtown, not all of us have lives that support a bike or bus only use, due to mobility and work (some of us carry supplies), car are here to stay too.																		
67431	Just get rid of the concrete abutments & open it up again! Focus on safe, sane traffic flow.																		
67434	The intersection needs improvement, however i am stongly opposed to taking another car lane out for other uses.																		
67440	Go back to the way the bridge was and take out that bike lane. The intersection was fine when we had 6 lanes on the bridge.																		
67444	There has been a lack of policing the running of amber/red lights with both cyclists and cars going north on Burrard. Start there to reduce the issue. Tons of cyclists are switching from riding on the lanes to the sidewalks and across crosswalks. This has to be addressed																		
67446	Every time I drive over the Burrard Bridge there is NO congestion for either walkers, runners or bikers in the current allotted lanes provided. Where do you get your information????																		
67447	very much against it...don't take any car lanes away! WHY ARE WE NOT BEING ASKED IF WE ARE IN FAVOUR OF THE PROJECT!!! THE QUESTIONS ASSUME IT IS BEING DONE!!!																		
67454	its better																		
67467	I really like the updated Cornwall end so if it's along the same lines I think it will be fine.																		
67469	I have not seen it.																		
67470	ridiculous. stop changing your minds every few years.																		
67471	I can't remember having any kind of say on this issue. I'm disappointed in Gregor's resumed spending the way he sees fit. If you need to add a place for people to walk ride - have you considered a piggy back bridge underneath Burrard Bridge? Seems a lot more logical. I'm VERY sorry that Gregor Robertson has been re-elected. He's a dictator!																		
67472	No, other than to say I think it is a ridiculous idea																		
67474	I am against the proposed design as presented. Three lanes for traffic are needed. Find a way to expand outside of the current bridge structure, not just using that which is there now. Build new, external bike or pedestrian lanes.																		
67480	Do not proceed with this poorly conceived plan																		
67484	It seems that in trying to be greener, the cars are idling more thus emitting more pollutants in the air. Defeats the purpose, me think!!!!																		
67488	Please be kinder to auto traffic. There is an aging population in Vancouver that has to drive/uses vehicular transportation to get around. We aren't all cyclist and some of us can't walk far.																		
67489	i do not wish to see any further changes. I do not support this project.																		
67492	Would be nice to see routing of bike traffic onto the Hornby path cleaned up. There's often a jumble of bikes continuing through onto Pacific, turning left onto Hornby, and heading down to Beach.																		
67493	why does it take a decade to correct an obvious and recorded dangerous intersection.. a lack of competence ??																		
67494	I am against removing any more car lanes on the Burrard Street Bridge. I am for bike lanes, but the decisionmaking since the first test until now has been incredibly poor. I support maintenance and improving the intersection for safety, but I do NOT support removal of a northbound lane.																		
67508	It shouldn't happen!																		















67949	What would be the long term benefits given the degree of densification planned to replace wit bride with a wider new structure? Does it make economic sense to close the bridge and replace it with a new bridge with each side of the bridge accommodating two lanes for private vehicles, a separate bus lane, a separate bike lane and a separate pedestrian lane? Perhaps this information could be placed on the website.	1																
67952	Shutting down car lanes during commuter times is asinine. Please provide more time for public input before rushing ahead with construction projects that have significant impacts on commuters who chose to travel by car.						1											
67958	The bridge needs regular maintenance but any attempt to change the intersection or close another lane is a waste of taxpayers money. Spend it on affordable housing or improving public transit.						1	1										
67960	Not necessar3y --only benefitd a few cyclists				1													
67963	We do not want to lose another car traffic lane on this bridge for an imagined need. Traffic congestion in this area is at it's limit.																	
67964	use cantilevered 2005 City Staff design	1																
67966	it is fine the way it is				1													
67971	It will be bad, just like the one at Burrard and Cornwall. If you take out the bike lanes it would be better so we can actually get over the bridge properly. Buses and bigger vehicles are already taking up 2 lanes when driving over because of the cement barriers you put up for the bike lanes. I used to bike quite often but don't anymore because I was hit by a vehicle and let me tell you the bike lanes make no difference. There is good and bad drivers and bikers.																	
67979	I think closing a lane would be a big mistake. For the sake of pedestrians? I can't see why they can't cross on the West side of the bridge. I have walked on both sides. I have always felt safe and crossed with no problem. It isn't a big distance between the two sides. If a lane is removed it would greatly affect traffic and business. We will be moving from our current location back to our former location at Burrard and Drake. If the salespeople can't take customers for test drives using the Burrard St. Bridge easily it will be a problem. Also, it would negatively affect the access to our dealership. The bicycle lanes and change of road direction(Drake St.) have already taken a toll. Please don't take away another lane of access to the downtown area.	1																
67987	Don't do it. Save the Mony!				1													
67988	I do not in any way support a permanent reduction in the # of lanes in any direction.  However, I wholeheartedly support making the pacific intersection safer for cars, bikes, pedestrians alike.																	
67990	We CANNOT BELIEVE IT IS SERIOUSLY BEING CONSIDERED and DO NOT SUPPORT permanently closing another lane on this bridge. Install a more effective turn light system at Pacific and POLICE IT!!! Once more, you will ignore those who HAVE to drive to work and daycare, manipulate your survey and public "consultation" to serve your own ends, and do as you ideologically please! We used to be big Vision supporters. Shame on ALL of you!!!																	
67994	This is all a BAD idea. We do not need more bicycle lanes on the Burrard Street Bridge. Listen to the citizens of the city, not backroom operators and financial supporters for the US																	
67995	I think you should re-evalutate both the plan and the price tag																	
67999	North side of bridge needs major re-route for bike traffic. Almost like a no mans land at the north end. Not sure of solution.	1																



68040	its another situation by Mayor Robertson to reduce vehicular traffic from entering the downtown core. Next will be the removal of the Georgia Viaduct. After that will be a fee for entering the downtown core.																		
68044	COV once again wasting money on pushing through an agenda of a socialist slanted council called "Vision". Mayor Robertson is after pushing his personal agenda and is out of touch with his tax paying constituents now that he has made his \$1m on selling his home on the Point Grey "Golden Mile".						1												
68057	All I have been able to find is a written description of what the intersection will look like. The illustration only shows the lanes leading to the intersection and not the intersection itself. What I read sounds encouraging but I find it hard to believe that creating a choke point in the centre of the bridge is going to increase and ease the traffic flow. I have nothing against cycling but I believe that too much emphasis and priority is being given to cycling lanes and routes. For the majority of the travelling public cycling is not a practical option for a host of reasons. I do support the separation of vehicle lanes from cycling lanes mostly because the actions of bicycle riders are very unpredictable. Cyclists often create their own rules of the road which are										1	1							
68061	The intersection has been rendered unsafe by multiple bike/ pedestrian lanes																		
68066	I was totally against the forced closure to one west bound lane on the Bridge, but knew it was already decided before council voted on it. I guess the same is true now for the east bound lane. Council has an agenda that is their own and is not reflective of the majority of citizens of Vancouver -- we are well aware of the misrepresentation of the number of bicycle trips (negligent or simply falsified) in order to justify this \$30 million waste of our tax dollars. Hopefully, Vancouver will finally recognize their folly. Add my comments to the "stop wasting our tax dollars" half of the debate.						1	1				1							
68068	Things are just getting back to normal after the last repairs on the Burrard Street Bridge. Time to go and create traffic kaos somewhere else in the City.				1														
68075	I am completely against converting another travel lane on the main span of the bridge to be included in the plan. It will cause significant delays										1								
68076	There should not be any more closer of car lane on this very busy bridge at all!										1								
68082	Too much in the City is being done to accommodate cyclists which is not the most popular mode of transportation. As well, cyclists are never the ones targeted when the city needs to raise funds (e.g. gas tax, parking meters etc) but yet, they are the ones benefiting from road work.											1							
68083	As long as its pretty.																1		
68086	You do not need to close one more lane of traffic.this survey is a biased survey and really you are NOT ASKING US BUT TELLING. YOU ARE WASTING TAX PAYER MONEY -- again!																		
68087	the congestion at the north end of the bridge is due to the traffic turning right onto Pacific. By closin a north bound lane the congestion will be much greater as there will be only 1 lane heading down Burrard. This is not s good idea				1														
68088	both north and south ends of the bridge are a nightmare with the bike lanes. congestion is terrible as well. why didnt the city do all of this necessary bridge work when they were reconfiguring the bridge a short while ago??????																		
68100	I do not think the changes will result in an improvement.					1													
68104	Promote direct democracy by taking your ideas to a regular system of binding voting by the people, every 6.months - radical eh.																		1

68108	Lack of consideration for cyclists eastbound on Pacific Lack of transit stop southbound on Burrard at Pacific				1												
68109	Yes. Redesign the project in a way that expands vehicle access and vehicle lanes. Consider removing bike & walking lanes on one side on the bridge entirely to accommodate more cars. Also, give priority to vehicles traveling thru the area... Advanced green lights, advanced turn signals, delayed walking signals.	1				1											
68112	there should be a traffic light at that intersection that would alert cars when it is safe to enter the intersection. Otherwise it is too difficult to see oncoming traffic.	1															
68116	Overkill				1												
68131	It is completely unnecessary.				1												
68134	the city has gone way/ way/way overboard on the bike lanes, traffic is getting much worse there is not one question that asks are you in support or NOT of this project it just how would you like it done!! that is no way to get public input One little box to write you comments in and I feel this will go directly into the garbage unless it is in support of the project					1			1	1							
68138	It is increasing frustrating that this council is only interested in cyclists. As a business owner who does daily deliveries to restaurants, you have made it increasingly more difficult to do our job. I also find that the only repairs done to roads in Kits are cycling routes. There is a huge pothole on Bayswater and West 5th which has been there for a number of years. Yet on West 8th (where i live) you have repaved, changed stop signs, all which only relates to the fact that it is a cycling route. It is shameful. I also don't believe that this survey nor the information sessions mean anything as the council has already slated the changes to happen even though the people who use the bridge to walk don't feel unsafe as noted on the news.								1	1							
68141	leave it alone				1												
68144	Just two: 1. Ensure the railing barrier between cycle and motor traffic is sufficiently high so that a cyclist cannot fall over the railing and onto the roadway. 2. Great to see the use of protected cycle tracks on intersections. Please keep!	1															
68149	Completely against it. Why remove another lane in this already congested city? This is so you can receive more donations from the companies awarded this construction project. Completely against it.				1												
68151	I think it's great! The intersection improvements recently completed at Burrard and Cornwall are really fantastic. As both a pedestrian and cyclist, it has made it feel safer and easier to navigate. As an occasional driver, it feels no less 'difficult' either. I'm hoping for a similar successful outcome on the north side. (Side note: as a cyclist, I wish you would extend the bike lane on Pacific further west than just Thurlow. When biking to get to Burrard Bridge from the West End, it feels unsafe to bike along Pacific with traffic and parked cars - too narrow and traffic is FAST. Taking the seawall is not convenient for this purpose because you then have to traverse up that massive hill up Thurlow to get to the bike lane. It would be much easier to just bike all the way long flat Pacific to get to Burrard Bridge.)	1	1												1		
68153	It would be good to have a smoother exit for cyclists as at present, many do not stop before crossing at Pacific making it dangerous for drivers and cyclist.														1		
68155	I believe the money should be put to removing the first bike land as well as reopening Point Grey Road. Too many bike lanes cause a great deal of congestion and danger to both cyclists and drivers and there are plenty of routes available already.																
68160	I believe that another method of separating the lanes must be found, the heavy weight of the concrete barriers can only be harmful to the life of this bridge														1		



68228	<p>Your pdf map is such a massive file that I cannot effectively manipulate it on my computer.</p> <p>The left turn lane from Pacific to Hornby is going to back up and risk clogging the intersection at Pacific and Burrard. There should be allowance for two lanes turning left at this point. This congestion will be further increased if I am correct and the ability to turn right from Burrard onto Drake is made more difficult because of the bike lane. In spite of the reduced number of lanes, Hornby remains the most effective means to go north thru downtown. Burrard is a parking lot except in the morning rush when the lights are sync'd for north bound traffic. Therefore traffic flow from Burrard/Pacific/Hornby should be enhanced.</p> <p>Given the bike land northbound on Hornby, I fail to see the need for another bike lane northbound on Burrard at this point. For the same reason that Burrard is a poor northbound route for cars, it is a poor northbound route for bikes -- too many unsynchronzied lights. Who wants to ride their bike and stop every block, block after block? So decide which is the better bike route -- Burrard or Hornby and go with it. And do the opposite for cars -- i.e. encourage them to use the other. (If you encourage cars to stay on Burrard, then you need to optimize the Burrard/Drake/Hornby connection. This BTW would take some pressure off Pacific).</p> <p>Two lanes turning right from Pacific to Burrard southbound will be an improvement and will compensate for the stop at the light rather than the slip road.</p>	1																	
68232	I propose to have bike on one side of bridge and pedestrian on the other side of bridge with aluminum railing between lane and walkway or bike lane to prevent accident. At each end of the bridge a crosswalk to go back to other side. Thx	1										1							
68233	I like what was done with the Cornwall intersection and can see the same ideas here. It will flow better since cars, bikes, pedestrians not mixed together at turnings, each looking for a safe way of proceeding. It makes for a safe separation for all.I am looking forward to it being safer. Thanks.		1																
68238	I Don't think we need more bike lanes. They already have the ones on the NorthWestside of the Outgoing lanes.																		
68241	Congestion for cars is already too much, and this proposal will like make it worse for cars.																		
68242	hard to tell, the diagrams are really small and dont show connections to nearby streets. is design complete? will there be additional re-designs on the approaches and exits from bridge. More into please.																		
68245	Bicycle routes and bicycle bridges should be constructed separated from those for automobiles.																		
68259	it looks very good, well thought out and will make travel on the bridge much better for all users																		
68262	Nothing in this survey asks if we agree to losing another lane to bike/walking. I'm not a heavy user of Burrard Bridge, but I am forced to travel downtown on a regular basis. Creating bottlenecks on access to downtown results in traffic problems downtown - dangerous, frustrating, and unfair.																		
68265	Suggest we look at other options. what about another bridge for cyclists.  The cost is too high. I am not convinced this is the best use of my tax dollars	1																	
68266	Burrard Street intersection is a mess since Vision tried to "improve" the area with Bike Lanes. The proposed intersection design will only make it worse than it already is																		
68267	1.3 million bike riders translates to 300 per hour assuming 12 hours per day 365 days per year. Perhaps you should also include the use by cars, buses and walkers. The first bike lane created the problems.																		

68268	This new bike vs car proposition creates another political "brush fire" that diverts attention from the elephant in the room. City Hall's laissez faire policy toward foreign investment in Vancouver. Robertson has to stake his political career on doing something now. Bike lanes on Burrard Bridge are a red herring, let's move on to debates that really matter.																
68270	The flow of traffic west along Pacific is quite bad and will become even worse in the current intersection design. A single car turning right from Pacific onto Burrard NB will block the entire lane, and given that there will be a bike and pedestrian lanes to cross, the throughput will hardly get over 1-3 cars during Stage 3 of the stop light operation. There should be a split into a right-turn and straight lane along Pacific westbound. Also, with two lanes turning right onto Pacific from Burrard bridge, one left turn lane will most likely not be enough. From my experience majority of vehicles that turn right onto Pacific line up for a left turn to Hornby. So perhaps two lanes should be turning left onto Hornby and one lane going straight along Pacific	1															
68271	One very serious concern: closing the north end of the alley between Hornby and Howe. If exit is restricted at the north end, how will large vehicles leave the alley? We get a LOT of vans, service and delivery vehicles which are difficult enough to get around. Closing the north exit is NOT going to work, you're going to have chaos as people can't get home or leave for work because of the congestion. Please DO NOT CLOSE OFF THE NORTH END.	1															
68280	It looks great.		1														
68287	I do not support the closure of a northbound lane to vehicle traffic. i also find the information presented and survey give a very low profile to the closure of a lane to vehicular traffic, almost to the point of obscuring the information.					1					1						
68289	Looks like a vast improvement. Very much like idea of east side walkway. Also do not currently find riding bike northbound comfortable. Strongly support this project.		1							1							
68294	I am not content with having anymore bike lane work on the bridge. Unless they wish to begin paying insurance so that they are safe, I am safe and they hold more responsibility regarding road useage.					1					1						
68296	Not sure I like the cantilevered sidewalks. Don't really think there's a need for sidewalks on both sides, although it will add some convenience for some people.									1							
68297	I feel that restricting vehicle movement is not going to cause people to get out of their vehicles & take transit or other modes. It is causing more problems than it is helping. More people are moving into the downtown core & for most, forgoing vehicles is not an option. I have lived on Robson Street since 1988 & the last 5 years have been worst due to increased bike lanes & decreased vehicle lanes. Cyclists & pedestrians are the worst offenders when it comes to disobeying traffic laws & drivers are the scapegoats for it.															1	
68298	Prioritize walking and cycling as much as possible through infrastructure, right of way, and signage.		1														
68339	closing a lane is a waste of money for "manufactured congestion" isn't there another city proposal that kept all 6 lanes of traffic, bike and pedestrian lanes? what happened to that?					1	1										
68343	I don't understand the necessity to allow walking on both the east and west sides of the bridge and to have the walk cantilevered out. I don't understand why bicyclists are allowed to choose between Burrard and Hornby going north. Hornby is a designated bicycle route with provisions for bicycles. That would decrease the confusion at the intersection. The current allocation of space for pedestrians and bicyclists is adequate. What is the problem?	1									1						

68344	Safety is an issue. Pedestrians on one side Cyclists on another. Work only needs to be done at the Pacific intersections. NO MORE LANE CLOSURES! Stop wasting OUR money please.						1	1										
68352	The removal of the lane for vehicle traffic is completely unnecessary, clearly intended for the sole purpose of increasing congestion in a vain attempt to induce people to bike, and is being rammed through in a completely undemocratic manner - I note this "consultative" survey does not even provide the option of disagreeing with the proposed project and only asks how the work should be completed. Why waste more money pretending to solicit people's views when it is clear the decision has been made? Will you finally be satisfied when all business and every professional person has left the city?						1						1					
68356	I definitely not to agree to close more traffaic lands because most people need to use the cars for transportation						1											
68361	I think it is a great idea. the northwest side of the bridge - heading south... is very dangerous for walkers and cyclists. drivers while physically safer are at a high risk for liability .			1														
68366	On a bicycle it's is difficult to go north on Burrard after crossing the bridge. The drivers going east from the north end of the bridge have a hard time seeing cyclists. Additionally from the Hornby and Pacific intersection it is dangerous getting to the west side of the bridge to travel south. It means having to go into traffic on Pacific and turning left across traffic.																	
68378	This Council is anti the disabled and elderly. I can't ride a bike so they are making life more difficult for me.																	
68383	Cycling Pacific westbound towards bridge from Seymour street (under Granville bridge) and then looking to turn left onto the Burrard bridge is absolute chaos. I have often nearly been wiped out here and it is just a matter of time before someone dies. This needs to be addressed, in my mind is at least as important as the Burrard/Pacific intersection.																	
68394	I think Gregor is a fucking asshole																	
68397	forget the whole idea of another northbound cycling lane. the car lane that turns right onto pacific backs up long before the beginning of the the proposed design. this will just create more congestion on the bridge, shortening the structural lifespan of the bridge, and creating VERY dangerous conditions for motorcyclists and scooter riders who are in the middle lane as frustrated and angry car/truck drivers suddenly pull out of the right lane into the left....you see where I am going with this.																	
68399	I think it is unrealistic for a city our size to shut down a car lane. Yes encourage people to walk or cycle but not at the expense of the reality that people drive!																	
68405	we need a new mayor																	
68416	THIS Vision GOVERNMENT HAS MDAE A STRATEGIC ERROR IN BOTH ENCOURAGING BICYCLE USAGE BUT NOT ENFORCING ANY RULES & REGS ABOUT HOW THEY OPERATE. THEY ACT LIKE THEY AARE IN AMSTERDAM AND "BEWARE ANY WALKERS" I'VE BEEN THERE AND SEEN IT. THEY EVEN PLAY CHICKEN WITH CARS AND BUSES. VANCOUVER IS BECOMING THE SAME, SAD TO SAY. A FORMER CYCLIST.																	
68417	I use the stairs when walking and go along the alley under the bridge and up Thurlow to get on the bike lane at the North on the west side of pacific to avoid the intersection. The parked cars on Thurlow are an issue.																	
68424	Also the block of pacific east of the bridge needs a bike lane foolish idea																	





68631	<p>from Pacific onto the bridge and cut off cars traveling east through Burrard. Nothing in the proposal addresses this.</p> <p>Eliminating the right turn lane at Hornby &amp; Pacific makes an existing bottleneck infinitely worse. Due to the bike lane on the east side and pedestrian traffic on the west side, it is not uncommon for only one or two cars to make it through a green light. Having only one lane for both turns *and* through traffic is only going to cause delays and does not materially improve anybody's safety.</p> <p>As a resident of 888 Pacific, I'm also somewhat concerned that the city has eliminated essentially all pick up/drop off spots around the entire building -- taxis and delivery trucks can't stop on Hornby because it's now a turn lane, they won't be able to stop on Pacific because it's a bike lane, and they can't turn into the alley because it's being converted to stairs.</p> <p>Alley traffic can be difficult to navigate due to a blind intersection at the south end, and the absence of parking restrictions isn't helping. The alley is essentially single lane traffic in the east-west direction, and forcing all residents to use the same end at the same time will cause congestion. It seems a bit contradictory to block off one end of an emergency lane in the name of safety. There is relatively little pedestrian and bike traffic across this alley to begin with, so closing it off seems like a solution in search of a problem. Garbage and recycling trucks in particular are going to have a difficult time navigating this new configuration, as they currently enter from Howe and leave through Pacific (as they</p>	1																	
68641	<p>I live at 888 Pacific street (Hornby &amp; Burard) and According to your proposal, you are going to close off the lane between Hornby and Howe !! and also change the whole side walk design in front of my building and dedicate it to cyclists and pedestrians!!! These decisions simply ruins the whole neighbourhood in many different aspects (Traffic pattern change- privacy issues- etc.)</p> <p>I STRONGLY oppose the design decision for areas around 888 Pacific (Promenade building) to close off the Lane and making this beautiful sidewalk to another ugly bike/pedestrian lane that is barely used by anyone but the neighbours who are not happy about it.</p> <p>On the other hand, I support the upgrade of the Burrard bridge.</p>	1																	
68660	<p>I am not in favour of closing any more lanes. If pedestrians just used the correct lane then the bridge is quite safe.</p>	1																	
68666	<p>it seems there will be unforeseen impact on area business and residence</p>																		
68669	<p>Relocating the southbound bus stop on Burrard to north of Burnaby Street means the my closest bus stop is now 6 blocks from my home - not great in the winter months.</p>																		
68678	<p>ANOTHER LANE TAKEN AWAY FROM TRAFFIC IS NOT A GOOD IDEA. YOU HAVE NOT SOLICITED OPINIONS ON ANYTHING BUT CONSTRUCTION HOURS. AS USUAL, THIS IS ALL DECIDED WITHOUT ANY CITIZEN INPUT.</p>	1																	
68684	<p>walking available on both side of bridge is preferred with pedestrian towards railing and cycle lane towards cars. There should be a barrier between cycle and pedestrian lane as cyclists go with high speed and tend to go in pedestrian lane.</p>									1									
68689	<p>It appears to be a considerable improvement, and as speaking as a cyclist, pedestrians should have their own path on the east sidewalk, since they use the bike lane anyway.</p>	1								1									
68690	<p>Bike lanes abruptly end once across the bridge, would like to see bridge bike lanes (both directions) connect to dedicated/separated bike lanes on the burrard/pacific side.</p>	1																	

68707	DO NOT PERMANENTLY CLOSE ANOTHER LANE ON THE BURRARD BRIDGE BECAUSE IF YOU MAKE IT HARD FOR BUSINESSES TO HAVE ACCESS TO DOWNTOWN, THEY WILL ALL MOVE AWAY THEN YOU HAVE A DOWNTOWN GHOST TOWN OPEN TO ALL TYPES OF VANDALISM. ALSO YOUR BIG TAXES DOWNTOWN ARE PAID BY BUSINESSES.						1										
68711	Looks good. Very important to correct the safety problems with the current traffic flow.		1														
68713	I consider this another clear waste of money by an ideologically driven counsel. The downtown area is rapidly being choked off from the West Side. As a result, it is dying as a place to work and do business. If the city has any money to spend how about picking up the litter and garbage that is everywhere downtown. How about doing something for the burned out beggars you find on every corner downtown. Imagine the impression this makes on visitors. This once beautiful city is turning into a gridlocked dump more reminiscent of the Third World than Canada under the misguided policies that seem to govern every decision counsel makes. The expropriation of Point Grey Road for the benefit of a tiny minority is only the most egregious of these. Counsel already wasted a fortune on the intersection of Burrard and Cornwall now you want to empty the public purse on another solution to a problem that doesn't exist.						1										
68724	Think it is a huge waste of funds for little return						1										
68731	Yes. Why arent you asking me about the Bridge upgrades? Wheres the comment section for that? Here, you're asking about the intersection design. Please add a separate section to discuss the rest. Whilst you're in the business of upgrading you need to do something about the height of the East side wall bordering the bike lane. Its too low, some of us are tall and sit high up on our bikes. If we hit the wall we could go over it and fall into the harbour below. Please fix it.		1														1
68736	looks ok to me			1													
68741	will it cost the tax payers more for the overtime or will the work hours be adjusted for this project and no overtime paid?						1										
68745	intersection. However, I see a few flaws with the design.  Since the original changes to the Burrard Bridge, there have been unacceptable backlogs getting on to the bridge from the west at busy times. Traffic flow to and from the bridge really appear to be optimized for those going to and from Yaletown rather than those heading to the West End. I'm concerned that closing the slipway is going to make this problem even worse. The document describes relatively small increases in travel times; however, this is relative to the current, already broken situation. Travel times should compare to before bike lanes were added to the bridge.  Has thought been given to altering light timing at times of day and year when there is little bike traffic? This seems particularly relevant during busy traffic times in the winter.  There are other ways that southbound traffic flow from the west end could be improved in order to reduce the number of cars attempting to get onto the Burrard Bridge. The best idea in my opinion would be to add a turn lane (and possibly a light) to allow cars to turn left into the southbound Granville bridge ramp from Pacific (right now, this ramp is only accessible to cars heading from Yaletown).  Finally, if the intersection is being redesigned, it seems like a good opportunity to consider a left turn from the bridge onto Pacific. It's ridiculous to have cars drive five blocks out of the way in a big circle to access the west end from the bridge. This causes avoidable congestion, and in the aggregate surely has an undesirable environmental impact.		1	1													



68812	Much needed, safety especially for pedestrians and cyclists should be the top priority. Especially loving the intersection design of the intersections along Pacific with the barriers at the corners protecting pedestrians and cyclists and forcing slower turning speeds for drivers. I would love to see these design elements at other busy intersections in Vancouver.		1														
68816	I do not feel you need to reduce the number of traffic lanes in order to make the bridge safe, which is the message I have been hearing. I have been on your website but I do not see the proposed intersection design for the north portion of the bridge - it was only the southern portion. Do not use safety as a reason to reduce lanes when we have no adequate transportation system to move people in and out of the city. I expected your survey to ask the question as to whether a lane reduction was supported in the general sense - but it was only asked in light of the construction efforts/timelines - I will be watching.						1										
68817	It looks great and is sorely needed.		1														
68838	I do not agree with this project and feel there is much better ways to spend out tax dollars in this city. As well, this is another city initiative that is part of council's agenda being pushed through, rather than looking at the real development needs of the city.			1				1									
68840	Priority signaling for cyclists in all directions in order to make cycling quicker AND most importantly safer. I feel that the signaling is very unsafe as it is now; just having cars and bikes go at the same time. Right-turning cars are a big hazard for cyclists. This needs to change.		1														
68841	Not sure this project has been well thought through with due consideration to the realities of traffic needs in this city.				1				1								
68850	wholly unacceptable; that being, the proposed closure of the lane end at Pacific, between Hornby and Howe. That, and the proposal to run a median along that section--blocking access. I live in one of the 2 buildings bordering that alley, and I can tell you that doing that will make every Resident in both building's life a living hell. Pomeria was approved to be built without a proper loading bay. Both buildings have service/moving vehicles coming and going regularly, and there is already inadequate space for them. With that alley end blocked, it will create massive problems for trucks entering, and being unable to turn around--needing to back out around sharp corners with others waiting to get out, and get in. Without the alley to use, there is nowhere else for them to go. Before you say, well, there is only a small amount of traffic coming and going from those buildings, I have to point out that there is actually quite a bit more activity than you think. Before the city finally agreed to designate our lane "commercial only", we had delays and problems getting in and out daily. The lane was completely blocked at times--from both ends! We hounded the city for months before we finally got some help rectifying it. I took many pictures during that time if you'd care to see them. I'm deeply concerned about what this will mean for us--not only the daily struggles, but what about emergency vehicles? There is simply not enough space to allow for efficient functioning--or functioning at all with the proposed changes as they stand. Where I would like to see my tax dollars spent with respect to bike/pedestrian traffic would be to build 2 smaller dedicated bike bridges; one from Yaletown, at the foot of Davie seawall across, and another West of the aquatic center. Narrowing roads, while increasing population makes zero sense.		1			1											

68862	As an owner at s.22(1) I disagree with the proposed intersection design,mostly the closing off of the alley on the south end of Pacific. We had had numerous difficulties in the past with congestion in the lane. Once the city changed it into a commercial lane it's much better and traffic flows. Now by blocking off the entrance off Pacific,I question how you expect large service trucks to enter the alley then what back out??? Also moving trucks they'll block the lane and how do we as residents enter our buildings ??? I don't think it's a wise idea to be limiting access to a lane that has three garage entrances and all the service vechiles use this lane,We are headed for mass congestion. Also with the new complex being built the Vancouver House we are headed for more traffic congestion and building more bike lanes is not the answer, Most people that work in the downtown core don't bike to work they drive. Also since I have a bike lane right in front of my place it's used very seldom and when I do see the people on bikes the are riding down Horby St. on the rode not the bike lane!!!! Also in the downtown core bikers are everywhere on the streets rather then the bike lanes. Thanks for letting me express my views on the proposed design but I think you really need to study this design carefully. regards s.22(1)	1	1																
68864	Looks like many very good improvements. Two areas of concern: On the NE corner, more space for left turning bicyclists coming fro the bridge. On the NW corner, more space for west-bound cyclists to turn left.	1	1																
68866	It would be great to be able to turn left from Burrard onto Pacific (west, traveling northbound on the Bridge) since it is very difficult to access the West End right now.	1																	
68873	Having bikes and pedestrians ticketed for not obeying the law at that intersection. Go stand down there on any rush hour and see bike blasting thru the stop sign that is there, Pedestrians stepping off the curb without looking.									1									
68876	I hope it is well thought through so in another couple of years we won't be forking out more money for design flaws.																		
68887	It seems to work pretty good as it is. I've heard that it has some of the most accidents. I have never seen an accident there and I travel both ways daily during the work week.				1														
68892	The merge point of southbound bike lanes coming onto the bridge haas been the problem I've noticed the most. Coming North off the bridge it was a pain to link up with Hornby. I am glad you are finally doing something permanent at that end. I really like the southern end of the bridges improvements.	1	1																
68895	It is UNACCEPTABLE to permanently close off the alley way access between two residential buildings (Hornby and Howe on Pacific), proposal #11. This already congested lane will become impossible for garbage/recycle trucks, moving trucks and residents to maneuver. To close this lane for the purpose of putting in a dedicated bike lane for cyclists that can use the Hornby bike lane at the expense of residents who already have had to deal with one way road changes in our area is absurd. When is the city going to put the needs of the residents living in the affected area ahead of potential needs of cyclists. In addition, this lane is sometimes our only access in or out when many events such as the BMO marathon or LuLu Lemon marathon or SunRun blocks off access to get out of our area!!									1									
68902	Please stop building bike lanes all over the downtown and restricting driving, it is not doing anyone any good.									1									
68915	Don't do it				1														
68921	Add southbound bus stop at Pacific. Better yet, transit priority onto bridge.																		

68934	I support safety upgrades including improving south-bound vehicle access to the bridge from east-bound Pacific. I do not see the reason for additional pedestrian lane on east side of the bridge. I do not see the case for further restrictions for vehicle traffic on the bridge, but need to know more about proposed north-bound vehicle exit onto Pacific			1			1			1							
68966	I am not in favor of taking away another car lane. Traffic is bad enough already. More people use Burrard bridge for car/bus/cab than bikes/walking. This is a waste of taxpayer money.						1		1								
69006	It worsens an already bad situation																
69016	I disagree with any proposal which would remove a further lane from use for automobiles. There has been increased automobile traffic on both Granville and Cambie since the initial lane reduction on Burrard and a further lane reduction on Burrard will only exacerbate this issue. The Cambie bridge going southbound at the end of the business day can be backed up to mid-span.																
69026	This will be a huge improvement for users of all modes of transportation. I used to run over the east side sidewalk but haven't been able to do so since the bike lanes were added. I do appreciate the bike lanes - a lot. Improving the NE corner intersection will be good too.																1
69034	The bridge needs better indication of where pedestrians and bicycles are allowed to be. I love this bridge!																1
69044	YES. STOP TRYING TO PREVENT PEOPLE OTHER THAN BIKERS FROM GETTING DOWNTOWN																1
69052	disappointed am do not support an additional lane removal, as the Granville bridge has much more capacity for such a closure than the Burrard bridge has.																1
69075	Overpasses! A two lane (one lane each direction) overpass for motor vehicles, down the center of the street/bridge, would provide space for left turn lanes. Overpasses for bicycles would provide space for extra motor vehicle right turn lanes and level out some of the hill. There is plenty of elevation change to allow this, and flattening out some of that elevation change can only encourage more people to bicycle.																1
69080	I believe your questions, as is usually the case , with the distortions introduced by the current City administration, results in answers it wants. For instance, in this case as I do not support reduction of lanes, why am I then asked, when I should accept that such work is done. This will trigger information that you then can use to justify your already made up decisions to do what you want. I am very fed up with the methods of manipulation that this administration is using to force people to accept what it has no control over.																1
69104	Do not take another lane away for cars?! This is madness. The bridge is already safe for everyone																1
69119	It will create more congestion. Need a less complicated design.																1
69123	I do not agree with "converting" a northbound lane (ie. removing another car traffic lane from the bridge). Given the amount of space already provided for cycling and walking (one southbound lane, plus both original walkways), I think the solution could be easily achieved by reconfiguring/repurposing the already provided space for cycling and walking/running. I'm all for safety and agree that the Pacific/Burrard intersection could use some serious improvement, however, I do not support removing another land northbound for vehicle traffic - this will not improve traffic flow. Having cars waiting (and idling) in traffic congestion, will be counterproductive to improving the environmental impact of any change.																1



69154	It is unbelievable the new proposed intersection design involves closing the North Entrance of already congested back lane between 888 Pacific Street & 1455 Howe Street, after making Hornby the one way street. Imagine how many cars have to drive in & out from these two buildings if only has the south entrance open!! Can you imagine how long the left turn lane will become on the Pacific & Howe, West Bound? Please reconsider. Thank you!!!	1				1													
69163	Totally opposed to closing another lane on the Burrard Bridge as I see absolutely no reason for it. Burrard Bridge is already congested - have you ever tried going over it ??? And I have never heard anyone complain about it being too crowded to walk over. Especially since most pedestrians only use it in the summer months. Why why why??? The only reason I can see is so you can make motorist lives hell...isn't that your intent?						1				1								
69212	I do not see any reason for closing another lane on Burrard Bridge. It is already congested as it is...have you never driven over it...especially on a Friday??? I have never heard any pedestrians complain about it being too crowded to walk...apart from infrastructure upgrades 30 million dollars could best be used on more important things...what about improving transit with that money?? Since most pedestrians and cyclists only use the bridge in good weather I believe this is just another ploy to make motorists lives hell...and why is it always the Burrard bridge that you pick on?						1				1								
69304	Having the lanes veer to the left/right midspan is dangerous and unwise. Bridges that are prone to icing in the cold and may be shrouded in fog seem a foolish place to add a curve to a lane. People frequently have trouble staying in their lanes when they are driving in a straight line let alone adding a curve IN THE MIDDLE OF A BRIDGE. utter foolishness	1																	
69329	Pedestrians are our highest priority. They should be able to cross the street at all four sides of the intersection. Bicyclists should be able to travel eastbound on Pacific across Burrard and continue on Pacific. You are spending all this time and money. Make it right the first time. We already know that the inconvenience to drivers into downtown is a) not as important and b) minimal. Granville Bridge continues to be a very speedy option for vehicles.	1					1												
69337	I thought a bike/walkway could run at level on the outside of the south edge and along the decent, straighten to pass over the intersection, to connect further up the Burrard Street slope.	1																	
69341	North east corner will be tricky as sometimes I am cycling off bridge then east on Pacific and sometimes and other times north on Burrard or crossing west on Beach.	1																	
69362	Do not take away anymore car lanes for bikes or pedestrians. The traffic congestion is bad as is. The last thing this city needs is to dump more money into serving the small minority of bicyclist at the expense of everyone.						1				1								
69392	Based on the conceptual drawings I think the intersection will be a tremendous improvement for all modes of transportation, as was the south end of Burrard at Cornwall. I have been riding a bike through both intersections for 24 years and find the recent improvements at the south end very successful. I expect the same will prove out at the north end.														1				
69398	Separate pedestrians from cyclist, barrier for cars. keep pest rain traffic on one side only for both directions. Keep bikes separate from both cars and pedestrian traffic.																		1

69415	I would like to see a eastbound bike lane on the south side of the intersection on Burrard St north more access to turn left into the West End maybe a left hand arrow lane with a signal on Burrard turning left at Davie St a new bus stop going south on Burrard near the intersection	1			1														
69427	Looks like a win win for drivers accessing the bridge from Pacific (from the West), and especially for pedestrians. I live next to the bridge and have to walk up the stairs and then cross Burrard, when the East stairs would be more convenient. Running and walking over the bridge are also a nuisance which the new design will solve. I also like the addition of some greenery and the elimination of what was the Kettle of Fish. All in all a great improvement to our neighbourhood!			1										1					
69437	Good work on getting us to this point! in addition though, I think it's very important to have protected eastbound cycling passage, would like to see pedestrian movement in all directions, think there needs to be immediate safe cycling configuration heading west on pacific from Richards connecting with the intersection plus excellent way faring signage everywhere.	1		1					1										
69441	1) Great improvement to safety and efficiency. 2) Fix the phone number mess at the bottom of the page. There are SEVERAL valid formats for North American phone numbers. NO MORE ARROGANT MESSAGES!				1										1				
69445	The existing lane for the bike and passengers are plenty enough.							1											
69519	I am not in favour of any further work on the burrard bridge or the intersections. I drive and walk the bridge often without any problems. Another lane for walkers is definitely not necessary					1													
69547	lane from the bridge in favor of a redundant recreational walking path, with the rationale that it is "inconvenient" for pedestrians to use the multi-million dollar intersections you have just built and plan to build, at the expense of massive quantities of greenhouse gases produced by idling cars during construction delays, is unfathomable. That lane is an artery to your central business district, a place where by far the vast majority of workers must now commute to from great distances, in part due to your refusal to make any efforts to address the cost of housing in your jurisdiction. Your planners' dogged insistence that the "only" future increases in bridge traffic will come from cyclists, in a climate that is unfriendly to that mode of transportation for a good part of the year, is misguided at best. A very recent upswing in cycle transportation is not a license to gut the City's passenger vehicle infrastructure, especially in the face of the massive congestion experienced by Vancouver commuters on a daily basis, particularly in the downtown area.  This congestion can be seen in sharp relief in the afternoon rush hour on the Burrard Street Bridge, heading south. Traffic regularly backs up three quarters of the way to the Pacific intersection, now that there are only two lanes in the centre span and despite the increased capacity at the southern intersection. To ignore this hard evidence and assert that the same thing will not happen with two lanes on the northbound span during the morning rush hour is akin to burying one's head in the sand. Particularly telling is the lack of data presented at the open houses on how the proposed upgrades would affect northbound travel times during the AM peak when workers are commuting downtown. The City																		
69569	I live at 1003 Pacific and your design is removing a large portion of our front property. If you take away the first 10 feet or so of our strata property can we expect that our property taxes will also decrease?																		1



69757	<p>A right hand, signal controlled, turn lane for car traffic heading south on Burrard is a must. So many vehicles still turn right in spite of signs saying not to, and I have witnessed multiple close calls and a few accidents between cyclists/pedestrians and cars turning when they are not permitted to do so. <b>s.22(1)</b> on the corner of Burrard and Pacific and strongly feel that an intersection with traffic management mirroring the Cornwall intersection would make perfect sense. I disagree with the plan to allow right turns from traffic traveling west onto Burrard, at the same time as cycle traffic is moving west, and believe a separate faze for cyclists and pedestrians across Burrard would be the best solution. A cycle lane also needs to be added from west to east and vice versa, to allow faster cycle traffic that doesn't want to deal with sea wall congestion to move freely without restricting traffic flow. I've had several close calls heading home along pacific or coming into work from English Bay, due to parked cars causing issues with having to position myself in the one available lane of moving traffic. For me, cycle lanes east-west along pacific are a must, but these cannot just cater to the intersection itself, otherwise you will just be encouraging traffic to accelerate to clear cyclists before the inevitable log jam happens after the intersection.</p> <p>Please do contact me if my experience of usage and day to day observations of the intersection can help in any way.</p>	1																		
69816	Less cars, more people!		1																	
69818	any improvements to bike commuter lanes is great. it's a dangerous section, but a key commuter bridge. The kits side of burrard is great, need to now fix the pacific section.			1																
69834	Looks good. I like that walking lanes will now be on both sides of the bridge.			1					1											
69845	I do not want to see another car lane closed!! When I drive downtown it is only to transit through to West Van and Hwy 99. The gridlock and bottleneck of the Burrard Bridge is terrible and causing congestion up Burrard on the south side, and along W 4th ave east and west. Don't forget that restricting cars also restricts transit buses. Not everyone rides a bike.																			1
69847	It should have a pedestrian overpass to allow cars potential for uninterrupted passage out of downtown		1																	



	Comments_intersection_design	Design concerns or recommendations	General approval	General disapproval	Concerns about crossing Burrard	Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	Waste of money/cost concerns	Don't support east side pedestrian lane	Support east side pedestrian access	Complaints about dangerous cyclists or giving priority to cyclists	Suggest flawed consultation process or information provided	Supports addition of bike lane / improvements for cyclists	Concern / ideas about aesthetics	Concerns / suggestions for approach to construction	General safety concerns	Reviewer Note
70225	in favour of spending on needed repairs that will improve safety money should not be spent on anything pedestrian get the cyclists off the sidewalks everywhere															
70226	the issue w/Burrard/Pacific intersection is speed not function removing another lane for bike creates congestion for cars most cyclists don't observe traffic laws or use the bike lanes accountability is a good start. Adding another bike lane does not solve the issues Bridge refurbishment all good; understandable															
70234																
70309	Wonderful to be able to walk on both sides of the bridge good improvement coming off and on north End Long overdue Continual improvement appreciated (cyclist and pedestrians) We live at south end of Burrard Bridge (between Burrard & Granville - both awkward to access at present - sso great plan															
70310	very important to calm traffic on Harwood st and Thurlow sta and the west side of the Burrard Drake intersection															
70312	looks good, necessary, practical															
70316	I love it and think it will make a much safer and simpler crossing for me while biking and walking across that intersection i would prefer if there was an E-W crossing for bikes on the south side of the intersection which is a vital connection															
70318	Removing the right kiosk (cars v cyclist & pedestrians) is good Adding pedestrian on E side good Protected turn good															
70319	living in s.22(1) with my car park at the backland between s.22(1) (going home from Burrard Bridge) I can not turn left onto my parking entrance. I can not turn right from Burrard onto Pacific Blvd. I can not head 10-15 miles from the backlane to have both North Side and South side traffic lights turning red, guess what even when after 1/4 from both lights are both red, there comes cyclists speeding down, am still stuck behind the wheel. so to go anywhere anywhere at all from time it becomes 5 to 6 more driving time confirmed to go all the way up the bridge turn the other direction in order just to head downtown.															
70320																

70321	We need our access to 1003 Pacific in front of building it is handicapp & emergency Bikes race down Burrard onto the bridge - put bike lane speed bumps to slow them Night construction would be very disruptive for sleep														
70322	There should be provision for eastbound thru trafic on pacific Awkward slope - left thurn onto Hornby needs to be improved														
70323	The active transportation team is doing an amazing job presenting their ideas for enhancement of active transportation modes at Pacific /Burrard. The concepts look solid and promise an enhancement of safety and traffic flow. It may help the design process, however to reach out ealry to local users and residents to ensure an impactful diligent and satisfying consultation process. While i appreciate the work, I think it is important to involve affected groups in the process early on - including the preliminary design stage. This should be considered in other consultation processes. Thx														
70324	Great upgrades for bike lanes at interscetion (Burrard & Pacific boul) Better signage for cycling would be useful (e.g. to reach sea wall from north bound bike land on bridge) The block on Pacific East of hornby is missing a bike lane to link with Pacific painted lane Easier linkages for north bound cyclists headed to west end are needed too (new land on Burrard St. might provide it?)														
70328	Excellen overall the prverbial win/win/win for walking (especially restoring access to E sidewalk), cycling and driving & major safety improvements at the intercession. The only weaken aspect is that transit is barely mentioned. Depending on what traffic modeling (and/or reality once implanted) demonstrates, some measures favouring transit may have to be considered, e.g. additional HOV lanes in the periphery of the project area and/or queue-jumping signals where HOVlanes e.g. at the corner of Burnaby on Burrard Southbound) or where multiple oanes converge (on approaches to the S end of the bridge from Cornwall or Burrard). The major sere/water line replacement work on Burrard from 1st to 16th could be an opportunity to improve the walking/cycling/transit environment/facilities on that section. At the other end, to the N. of the project area, it may be worthwhile to prolong the bike lane/cycle track No. of Drake to Davie														
70330	Looks great														
70331	Doesn't address traffic cogestion in neighbourhood south of Pacific between Hornby and Howe St. Hornby need to be two way south of Pacific														

70332	<p>Excellent improvements  Scope is too limited for cyclists accessing bridge particularly eastbound pacific to south bound Burrard. Scope should include from Sunset Beach Park to Thurrow because current access from Beach Ave to Pacific via Hornby or Thurlow is too steep for young/older cyclists or cycling tourists with heavy panniers - think 8-80 concept</p>															
70333	<p>appears to be well thought out  queing lengths may be inadequate  a low barrier between traffic and bicycles may be more of a hazard than a benefit</p>															
70334	<p>Thank you!</p>															
70335	<p>Thank you for addressing this  Really happy to see dedicated bike lanes for safety  Also walking on bothside is good  Rehabilitating the stairways is great too!</p>															
70336	<p>Good plan as we see it.</p>															
70337	<p>I support the proposed upgrade plas, walking and cycling improvements are important for quality of life &amp; mobility in the city. The current design while improved, still feels somewhat unsafe in all modes that I use (walk, cycle).</p>															
70338	<p>I'm very supportive of the proposed upgrades. We've missed the eastside sidewalk since 2009 and are excited to see the safety of all considered at Burrard and pacific.  My main suggestion would be to add bus lanes. We rarely choose to take buses that take Burrard as it gets so backed up.</p>															
70340	<p>Looks terrific! Wonderful for us seniors who, as we live close by, have very much missed walking (and unique view) on the east side of Burrard Bridge. Also, some of the pedestrians we have encountered on the east side of the bridge in the last few years are chagrined to find they are being discourteous to cyclists by unknowingly walking there. Most tourists, visitors. We need wider cycling lanes on east side of bridge so faster cyclists can pass!!</p>															
70341																
70342	<p>The city has no right ot grab our Bldg (sea star) front yard to turn into bike lanes  I brough my principal dwelling because of the beautiful garden front yard  No way to turn left onto Burrard from my parking back lane, had to wait until both bridge traffic light and Drake st light</p>															

70344	I am an owner and resident of 1003 Pacific St. I am very concerned that we will be without the landscaping at the front of Seastar. This will be bringing pedestrians and cycle traffic close to our front entrance. I feel this will encourage unwanted visitors to the property. Jeopardizing security. Why are the residents of seastar having to sacrifice our well maintained and attractive garden for more traffic and cycle lanes? Can we keep the magnolia trees please!?														
70345	looks good														
70346	A general comment re/ bite boxes: paint "stop here" in front of the box for cars														
70347	No loss of another traffic lane seems to be ridiculous bicycles & pedestrians could be handled with a two level passage														
70348	Whatever you can do to limit vehicle traffic is beneficial to the city My preferred vision would be all ped/bike on narrow single lane in each direction w/speed bumps														
70350	I think most of the improvements are great, but I'm still not convinced a northbound pedestrian lane is necessary and the vast majority of pedestrian flow will continue on the western side even if a dedicated lane is added. It's there, so we might as well use it to improve traffic flow. If there was some way to provide bus priority with that spare lane it would be ideal.														
70351	Yes I like it														
70352	Why do you have to remove another vehicle lane? Every bike lane (Dunsmuir Georgian Viaduct, Hornby, Comos is shared) 1 bike lane two way traffic My suggestion is give back the east side sidewalk to pedestrians. Have both bike traffic (north and southbound) share existing dedicated bike lane, leave three northbound car lanes.														
70357	I think the current design for bicycle lanes from the Burrard Bridge onto Hornby street was flawed. The logical design would have been to route bicycles directly north across Pacific and a right turn onto Drake, then onto Hornby. The new route will exacerbate and already congested intersection at Howe & Pacific. This will become progressively worse with the addition of Vancouver House, Tait ect. - The logical solution is to make Hornby St two ways between Pacific & Beach. This will allow right turns onto Hornby from Pacific and eliminate the needless loop and related congestion at Howe and Pacific.														
70358															

70359	<p>East bound cyclists on pacific: if they are on bike path eastbound &amp; realize too late that they need to cross Burrard on the south side of the intersection, how do they get across 2 southbound slip lanes to the through lane eastbound? Do they have to position themselves with bike) in front of first car eastbound in the corss walk. Could there be a green box for cyclist with bravely move over from the curb on pacific to the through lane eastabound or for those who realize too late that the should be in the eastbound through lane - signage at the Thurlow would help (eastbound)</p> <p>Railing between bikes &amp; traffic (northbound) should be higher (bikes passing bikes are going fast)</p>															
70360	<p>The traffic needs to flow easily - There are citizens who can't ride bikes due to reason beyond their control.</p> <p>Cyclists need to make some concession e.g. Stop at red lights to allow cars to turn right, there is more than 1 car turning right on green/red light.</p> <p>e.g. let drivers have access to beautiful routes eg. paint grey road - cyclists have many options for family cycling, including parks, where weniors and disabled are able to go.</p> <p>Why use permanent structures for seasonal issues? eg families are not out cycling in December rains</p>															
70361																
70363	<p>Leave it alone! as a matter of fact take the bike lane out and return it to the way it was. If you have to repair the bridge do so but do not touch the intersection</p>															
70364	<p>I don't believe that the 105 tax patying homeowners of 1003 Pacific St were considered in the least. We already risk and accident each and everytime we access our underground parking with cyclists flying down Burrard with no yield or stop signs at our lane. To propose and additional bike lane at our front garden the front entry and main entry to our building - offers a landscape hinderance as well as putting our residents in more cycling traffic. The front scape of any building is the curb appeal which would also suffer greatly. The proposed plan will block our front handicap access ane emergency vehicle driveway. Another guge problem. Thanks</p>															
70365	<p>Burrard bridge is ggreat enough to nowady change Don't spend extra bloody tax Please stop construction</p>															
70366																
70367	<p>1- Like the protected bike lanes 2-Need to keep Pacific St. driveway access for 1003 Pacific St. 3-Any provision to prevent cyclists from "racing" from Drake South on to the Burrard Bridge would be safer for all. 4-Do not support all night construction period. Evening shift would be ok.</p>															

70368	Doubling right turn lanes on Pacific southbound is a great idea. Current situation of having to cross bike lanes and merging intoconcoming traffic from Burrard is tricky/not very safe.														
70369	With existing available space - taken into consideration - projected rendering looks very promising. Looking forward to the completed project!														
70370	The bicycle route access from Pacific Blvd. to the laneway immediately east of Burrard If you change this to stairs, add a gutter or narrow path that bikes can be walked down (as bicyclists use this route fequently).														
70371	Too expensive - \$30 million budget too much it will take away resources from other projects. Why have 6 lanes of traffic on mouth end of Bridge/Pacific? Keep 4 lanes all the way through and save \$\$														
70375	It definitely looks like a great improvement for the Pacific-Burrard intersection. The turn lane changes are particularly good. Although only a very occassional walker -the second walk lane makes sense As a driver-the times I use the bridge and intersection - line-ups are not long at all. But the present turn lanes make it a little dangerous!														
70376	I use car, bicycle, walk and bus also. So I am keenly aware of the challenges one faces using each of the madalities. cycling - I think there is enough space for cyclists on bridge, but the ramp on Pacifi/Burrard is a gangerous one. I have had serveral close calls on bike. pedestrian- Enough space for pedestrians to walk on bridge but having to cross to west side walk inconvient for some. Does not bother me. car- I really feel reducing traffic lanes will choke up traffic even more and frustrate drivers, but on/off famps need better flow!														
70403	Needs to have bike lane to facilitate east bound on Pacific Needs to have bus-stop south bound at Burrard at Pacific Remove the tree to facilitate the above, other than above, very good design. Congratulations!														
70404	Concerned about additional rolling traffic on bridge w/4 NB lanes next to residential buildings														
70405	I am against losing one more lane on the bridge!														

70406	Removing a traffic lane will lead to cars spending longer periods on the bridge due to increased congestion - Leading to increased emissions and air pollution as well as honking and the kinds of behavior that comes from frustration. The Rationale that pedestrians are using the bike lane is a poor excuse for adding another bike lane. Bikes constantly use the Stanley Paark footpath, inconveniencing and endangering pedestrians and their pets. We need courtesy, not more bike lanes.														
70407															
70408	don't see the need for east side walking path instead discourage use with better side to side crossing and different surface treatment would like a decdicated bus lane probably south bound														
70409															
70410	So glad predestrians will once again be able to walk on both sides of the bridge. To me the cyclists paths seem good but I have a feeling they won't be thrilled.														
70411	I live at 1003 Pacific. I am concerned about access to the lane currently we cannot turn into our lane where the parkade is when driving North on Burrard, this means I have to take a large detour of many blocks to get home. We also have three beautiful Magnolia trees outside our building which is part of our landscaping we are losing. The are so special people stop and take photos. Please please can you plant the same magnolia trees with large funny birds in the new landscaping outside our building.														
70453	-with new lighting ensure it is coordinated with the guardrail supports and the orginial light St Jerome locations -repar stains at north west side -remove horrible apint job on towers -i don't belive this is orginal has this been researched ever														
70454	Appears to be well resolved solution of a different problem														
70455	don't know much about traffic engineers I guess ill trust them... get some engineers who walk/bike over the B bridge reularly and who will benefit from their own safe design														
70456	Safety and ease for walkers should be paramount														
70457	Should be 5 lanes traffice and 1 lane bike 95% of traffuc us vechcles - 65% if roadway 5% of traffic is bikes 8 months - 35% of roadway - not right														

70806	<p>-Good design</p> <p>-Curious how the impact of changes on traffic flow on Pacific (east)</p> <p>-Would like to see a separate bike lane on Pacific further down</p> <p>-Try to find a way to allow bikes on south end of Pacific between east and west</p> <p>-Can't wait for the proje</p>														
70807	<p>I live at 1003 Pacific &amp; Burrard. I am very concerned about access to our parkade (from Jane N and 11 to Pacific) currently it is very difficult at all times and most especially after 3pm.</p> <p>The Pacific access to our handicapped area and our tax drop off on Pacific must be preserved.</p>														
70808	<p>I came to the open house to see the plan for Burrard and Pacific.</p> <p>In short - I really like it, including the changes along Hornby</p>														
70809															
70810															
70811															
70812															
70813	<p>1) consider adding a bike box at the SW corner to accommodate cyclists moving east down Pacific or adding a bike lane to support cyclist movement through the intersection. I take this route daily and am constantly not acknowledged for my right of way through the intersection. I was hit in April 2015 by a car turning left on to the bridge and would really like to see cyclists movement supported west to east at this intersection.</p> <p>2) Upgrades on Burrard St are extremely necessary, with bike to work increasing. I see way more cyclist traffic coming from kits. Many do not use the Hornby St turn off and instead go straight through the intersection.</p> <p>3) This is must needed with the success seen on the south end , cyclist and pedestrian traffic has drastically increased.</p>														
70814	<p>None re the intersection.</p> <p>Re: closure of the lane east of 888 Pacific</p> <p>I recognize the gradient change should the bike/pedestrian lane expansion proceed as planned, but:</p> <p>1-lane is already congested, many service vehicles, difficult to gain safe access or exit from building parking</p> <p>2-closure would mean reduced emergency vehicle access and no ability for fire truck turnaround</p>														

70815	Not so much on the design, but I feel strongly about tis bridge because First Nation peoples were uprooted from Kits Point when the bridge was built. I feel there should be a public apology re this brutal, forcible removal and the bridge should be renamed by the 1st Nations affected - a name of their choice, a First Nations word or name, in their honour, lest we forget the war on their culture we per-petrated														
70816	Good positive change														
70817	Excellent Solves too current problems														
70818	Well done. It addresses cycling gaps on Pacific between Howe and Burrard, as well as the bridge and traffic flow improvements win, win, win. Not easy to do, but it looks good														
70819	Looks good Appreciate segregated bike lane on north side of Pacific from Hornby to Burrard.														
70820															
70821	On a difficult note... very concerned about 24/7 work schedule. Last bridge upgrade forced us to move our home office elsewhere as the jackhammering noise make it impossible to work. Coupled with not being able to work from home if noise level too high, 24/7 would also mean no sleep or quality of life for more than a year.														
70822	I live in the Seastar building (1003 Pacific St.) at the corner of Burrard/Pacific and right now is the first time I hear about us losing our garden in front of the building! I am very unhappy about this and not supportive at all. The sidewalk will run right in front of the building and change dramatically the look at our front entrance. We were not consulted about this. This will lessen the value of our property! This is not acceptable!														
70823															
70825	The remediation is well planned given the space allowed. Serves all mode of transportation. Note: the public house should have been held near the construction zone and not in Yaletown. Your survey asks for attendees! opinions on night work - any night work will greatly impact residents living in the vicinity of the bridge, and not Yaletown residents. Also, Yaletown residents use Granville and/or Cambie Bridge. Frankly I find the chosen location given the survey questions very underhand and deceitful! Again, city is not serving residents who will be impacted by bridge closures and proposed night work.														
70827	Would it be possible to disseminate infor on diversion of traffic in advance to neighbourhoods affected, especially those complexes nearer the bridge, and especially how it affects walking routes in particular.														

70828	Overall it looks like a good plan. I walk across Burrard Bridge in both directions, a few times a week. The 2009 alternations, giving a dedicated bike lane instead of shared sidewalk, were terrific. But you haven't effectively covered up the old markings on the sidewalk! It's weird and can be confusing, especially for tourists. I don't see it as a big priority to let pedestrians on the east side of the bridge. I understand your rationale for that, but I live west of Burrard so I am happy walking on the west sidewalk exclusively. What I would really like to see are changes to the Granville Bridge making it safer for pedestrians.														
70829	Excellent solution... no more merging traffic! A walk on the East side for pedestrians will keep them off the bridge path!														
70831	Yay! I'll be able to walk on both sides! - Yay! the junction will be safer biking & walking!														
70832	Need to facilitate bike access to the west of Hornby(BingThom Architects' bike entry) 2 options: -trough on new stair to facilitate taking bike down the stairs -break in barrier on Hornby bike lane across from Art Knapp's to allow bikes to cut across Hornby to lane. -														
70837	I like the proposition as designed. Needs improvement for cyclists traveling eastbound on Pacific														
70838	Now, that I've seen details (missing online), I think you've done a good job. I drive over bridge to go up Hornby,down Georgia to Lions gate.														
70840	I would suggest embedding lights into the asphalt at crosswalks. They would flash red or green, depending on the traffic light. I've seen this implemented in my native home-town at the accident-prone intersections and it definitely worked. I am against removing a traffic lane from bridges.														
70842															
70843	No														

70844	Please review traffic flow on Thurlow from Davie to Pacific. I live at Burrard & Harwood problems are: 1) Traffic travelling south on Thurlow from Davie to Pacific drive VERY FAST! heading to bridge - this is dangerous for pedestrians attempting to cross Harwood & Thurlow. There are no traffic lights after Davie - The cars treat Thurlow as a freeway! 2) If I drive my car & want to travel to the west (e.g. Denman St.) I am forced to drive my alley out to Thurlow and then cross two lanes of traffic to be able to turn Right. Again - dangerous due to speed of on coming traffic, also there are cars parked all along Thurlow to Pacific this creates very limited visibility for drivers coming out the alley between Harwood & Pacific. Then we have to cross two lanes to be able to turn right.														
70846	Widening the intersection at Burrard & Pacific with phased lights as described may help. Eventually ped/cyclist overpasses to grade separate vehicles & ped/cyclists may be needed.														
70847	The south end bridge changes are working, go for it! Make sure the bike lanes extend beyond the project area - up Burrard and connecting across from Drake to Burrard (same as Comox-Helmcken) and along Pacific (both sides to Homer St.) and west along Pacific.														
70848	Great work!														
70849	1. V. poor visual boards - sequencing Numbers (20-30M?) Lacking - Not provided - 2. I only found out for Quest H2O & Sewer(Burrard-Davie-16th NOT included) 3. As Taxpayer why? Where are \$20-30M - Allocation.														
70851	No														
70852	Most of the proposed changes are positive, especially the entrance of the intersection from the west. However, the lane closure on the south side of Pacific between Hornby & Howe causes many problems for the two projects on either side. At present garbage, moving, recycling and service vehicles use this lane daily. Because there is access from go the ends or the lane, can access to the garages for the - 350 unit remains possible. If the lane is closed off, large trucks will not be able to access the lane (T-intersection), blocking traffic on Hornby or Howe. Retaining lane access is not hard, as re-grading is very feasible.														
70853	Why?														
70855	Removing a lane of traffic is not beneficial. The arguments I heard are the open house is favour of the project confuse capacity of the bridge with the end of the northbound lane. This project SHOULD NOT PROCEED.														

70856	One aspect that is not made clear in the presentation material is how the widening of roadway at the exit from Burrard bridge going east on Pacific Blvd. is achieved. Apparently, the city owns a parcel of land which includes the old kettle of Fish building. The building will have to be demolished to allow the widening. This should be explained together with the implications of lost business cost opportunities for the city, compared to other uses for this prime land, e.g. housing etc two rezoning development "fees" property taxes etc. This will allow the public to appreciate the full cost of intersection safety aspects of this project.														
70859	There should be some information about seismic risk and upgrades to that effect.														
70860	1 use a wheelchair - for wheelchair use 1) Travel surface must be smooth i.e. no tricks or boardwalk or pebbles or large joints 9) Surface must be level - angles/sloped surfaces very hard to push														
70861															
70862	As a daily user of Burrard Bridge (Mostly by car) I want to point out the danger there is while driving. The cyclists are coming down to Burrard bridge with an extreme speed. My concern is about the downhill portion from Davie Street to the intersection as there should use (warning sign) more caution or there should be speed bumps for cyclists. I witnessed couple of times incidents involving cars trying to turn on/from Burrard St. and cyclists not able to stop/slow down in time because they were just coming down with an extreme speed.														
70863	I love the heritage features of the bridge & hope that these elements are preserved for me, the colours of the bridge currently should be preserved.														
70864	None														
70865	Overall excellent! Fine respect for traffic movements for all modes, and for heritage. Bikes southbound Burrard to Eastbound Pacific do a boxturn. Those who don't know will be confused and will be stuck at Pacific & Bridge with no crosswalk. e.g. provide signs at the corners for direction. N.B. Burrard bike lane should connect to Helmcken. Good economy - Combine rehab & improvements. - Thanks!														
70869	There should be a southbound bus stop within one block of Pacific & Burrard. The proposed bus stop at Burnaby & Burrard is too far from Pacific and too close to Davie - It is so close to Davie that it is completely redundant and unnecessary. It makes transit slower without adding enough to the rides catchment. Ideally, there would be a safe way for people on bikes to cross Burrard eastbound. If community shuttle bus route on Beach is moved to Pacific, which would make it straighter, simpler, faster, there will need to be bus stops east/westbound at Burrard & Pacific.														

70870	Great Plan!														
70871	Intersection design is fine, but closing two lanes on the bridge is silly. Put the bikes on the sidewalks & install a light (Aluminum?) elevated walkway, probably on the west side.														

Panelist/Question	Comments_intersection_design	Design concerns or recommendations	General approval	General disapproval	Concerns about crossing Burrard	Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	Waste of money/cost concerns	Don't support east side pedestrian lane	Support east side pedestrian access	Complaints about dangerous cyclists or giving priority to cyclists	Suggest flawed consultation process or information provided	Supports addition of bike lane / improvements for cyclists	Concern / ideas about aesthetics	Concerns / suggestions for approach to construction	General safety concerns	Seastar building resident concerns	Reviewer Note	
65523	Can a southbound bus stop at Pacific for the 2/22/32/44 be added on Burrard?	1																
65524	How are people supposed to travel east on Pacific by bike? i.e. Go straight across Burrard				1													
65526	It looks very good to me. A great improvement. I'm wondering, however, about impacts further west on Pacific (where I live). Will there be even more cyclists on the sidewalks avoiding conflicts with cars on the roadway? Will there be more traffic backups/angry drivers? Will motorists be even less likely to yield to pedestrians in crosswalks (e.g. Crossing Pacific at Bute Street is dangerous NOW!).	1	1							1								
65527	Looks Great!		1															
65529	Look great!		1															
65530	The plan overall seems excellent. My only concern is whether there is sufficient bike storage at Pacific and Hornby to catch all cyclists. After all, the redesign will (presumably) substantially increase bike volumes.	1	1															
65531	The more space for people and the less space for machines, the better. Please prioritize access and safety for slow pedestrians first and fast vehicles last. While I generally bike through this area, fast bikes are an issue too. Again, I believe our focus should be on people and speeds appropriate to people. Bikes and cars are fine, but not at the expense of people's access or safety.																	
65532	The south end changes are fantastic so this will equal that. Everything is covered here, especially the cycle path improvements, both adding a northbound bridge lane and the added protected lane infrastructure noted. I only use the NB right turn, EB to Pacific when I use my car; return via Granville, so can't comment much on the rest of the intersection. Bike safety and access is my main priority and these changes address that. My wife bikes daily/year round from upper Kits over the bridge. Great engineering job. Kudos!	1	1															
65536	The Pacific/Burrard intersection is a nightmare. So happy the city is finally addressing it!		1															
65538	The project does not adequately take into account driver and bus passenger safety. There should be a barrier/median in the middle of the bridge to divide the two directions of traffic. Of particular concern is the new S curve toward the North end of the bridge. This is an extreme danger. Drivers do not respect the speed limit of the bridge. Major accidents will ensue. The City should look into "hanging" the pedestrian sidewalks off each side of the bridge, putting the bike lanes where the existing side walks are, and then restoring the number of travel lanes on the bridge deck (with the added inclusion of a barrier/median down the middle of the two ways of traffic). During morning rush hour, the third Northbound lane can be for carpools and buses only.	1																
65540	Looking forward to seeing the improved cycling connections like there are already at the south end of the bridge.		1															
65542	No West-to-East bike route on Pacific				1													
65547	more "manufactured congestion" from this city govt. How are all the new people that are supposed to arrive in this city in the next 20+ years supposed to get downtown? less lanes mean more traffic for cars and buses. what a joke.																	

65548	Currently biking through the intersection at Pacific and Burrard is very dangerous. It requires vehicle drivers to be both familiar with the intersection and rules, to know where bikes are coming from, and to be alert when they approach from the west on Pacific turning onto Burrard. Right hand turn restrictions are needed, just as they were placed on the South end of the Burrard bridge. I am proud to be part of a city that takes its infrastructure management this seriously and is so progressive with its design. Thanks to all involved.	1	1	1														
65549	Didn't the City just spend a bunch of money updating the intersection? Why does the city keep spending money on road projects, only to rip them up and redo them a year or two later? This is a total waste of money. These changes aren't going to help reduce the number of accidents. There are accidents because people are in a rush and the timing of the traffic lights made no sense. People will still in a rush but now annoyed because of the reduce numbers of lanes. Just change the timing of the lights and things will be better			1			1											
65555	Don't fully understand it... but I do appreciate the City's direction of encouraging safer streets for walking & biking. Of course need flowing streets for auto traffic too... emergency vehicles, buses, etc.		1															
65558	Is this really a problem compared to the downtown east side, homelessness and the mess of traffic down 6th-2nd avenue? This really seems like more work to create the golden cycle path for developers to develop the Jericho Garrison.																	
65559	DO NOT DO THIS!! pedestrians have lane already, DO NOT remove a traffic lane!					1												
65564	I am concerned that none of this consultation revolves around the actual idea of eliminating the eastern most lane. As a regular cyclist over the bridge, the system works fine, except for people who blatantly disregard the clearly posted signs that say no pedestrians on the east side of the bridge. The volume of vehicle traffic to pedestrian cycle traffic is 5:1 but the City is thinking of spending millions of dollars because a few people believe the rules do not apply to them and they make it dangerous for everyone on the east side of the bridge. As silly it may sound, it could be a better us of money ticketing pedestrians and reverse direction cyclists then further congesting north bound traffic into the downtown core. Additionally, the collisions identified as most frequent seem to be a result of inattention to driving not the road design. Further they do not seem to be the kind that are fatal, more fender benders. Again millions of dollars are proposed to be spent to somehow keep someone's eyes on the roads. The City should complete the repairs and pay down debt.						1			1								
65571	Great to hear the pedestrian sidewalk on the east side will be reinstated!								1									





65613	How do cyclists travel eastbound on Pacific through Burrard intersection?				1												
65638	The south end is a fiasco . So confusing, you are actually frightened at that intersection as the traffic comes right at you. Cyclists are scratching their head as well. The bike lanes are so wide one could easily confuse it as a car lane and drive down, I have seen it happen at the north end on Burrard !	1															
65639	Looks great! If the redesign of the south end intersection is any indication, this should be a vast improvement over the present configuration.		1														
65649	It would be helpful if there were signs along the bridge to inform traffic of the upcoming intersection	1															
65694	I like the design of the cycling and walking options. I think that coming off the bike lane on Pacific onto Hornby Street could be a more free-flowing path for cyclist heading up Hornby Street while also allowing for continued bike traffic down Pacific.  I don't understand the vehicle traffic flow from the West side to the East side of the intersection. While it's great to have two turning lanes off Burrard onto Pacific I suspect we'll still have lots of issues with traffic coming off the bridge and wanting to get into the left hand lane to turn up Hornby and blocking cars in the right-hand lane that are trying to drive straight down Pacific. This is a major issue today for Northbound traffic off Burrard.	1	1		1												
65695	Looks great. Really impressed!		1														
65701	How can someone on bike safely ride eastbound on Pacific across the intersection?  If that movement is not intended, is there a detour clearly signed down to Beach or somewhere else easy to access?				1												
65705	Please make the pedestrian and bike lanes as wide as practical, and with high quality, attractive finishes (i e. no concrete precast barriers)	1	1														
65732	I am happy to see more space for pedestrians and cyclists. I would like to see benches for pedestrians and smooth road surfaces for cyclists.		1								1						
65733	I think the connections from Burrard st to Hornby and Howe are really important for people riding bikes. Safe, protected connections are imperative.	1															
65735	no																
65737	Like separated bike lanes on Pacific on east side! Very big gap right now. Like removal of dangerous SB slip lane Like wide bike lane NB on bridge		1								1						
65738	It appears the new intersection will maintain good movement for all transportation modes and enhance safety for pedestrians and cyclists especially. Looks great.		1														
65742	Fantastic!		1														
65745	northbound should be same as southbound. more bike lanes, less car lanes		1								1						
65746	It is not clear how someone bicycling eastbound on Pacific Blvd would get through the Burrard Street intersection. Is this even possible?  Please consider making the barriers between the bike lanes and the car lanes on the bridge somewhat nicer looking; it looks like you are planning on supplementing the existing ugly concrete barriers with ugly steel railings in the widened section at the north end. These sorts of things belong on highways, not city streets. We can do better!				1												1





65886	The recent amendments that have already been made to the Burrard bridge are sufficient for current biking, walking and driving needs.			1														
65889																		
65890																		
65892																		
65893	Anything that improves the safety of bikers and walkers has my vote - we need to promote healthy behavior and lifestyles		1															
65894	It seems good overall. I'm not convinced that opening the east sidewalk to pedestrians is critical, but I'm okay with it. The changes to the turning lanes and signals seem excellent. It's important that the bicycle lanes on Pacific continue through to the west, and eventually past Thurlow. It is also important that the cycle path up Burrard continue past Drake and provide a connection to Burnaby (in the same way that has been done at Helmcken-Comox. Right now, crossing Burrard to go west is a nightmare. Cyclists go two-way up the one-way lane on Burrard, or have to do an illegal loop east onto Drake to return the the cycle push-button to activate the light Then they have to ride on the sidewalk to get to Burnaby. Overall, the plan looks, good. Much more efficient traffic movement from Pacific onto the bridge - from both east and west.	1	1		1					1								
65898																		
65899																		
65900	If I understand there is a proposal to remove a lane of car traffic permanently. If that is the case then I oppose it. The gridlock would be ridiculous. Rush hr. is bad enough. I'm all for bikes and walking but one lane of car traffic will not work.																	
65901	A possible bike path running south north on Burrard	1																
65903																		
65905	I think it's great and will increase safety and therefore accessibility. As well, it will ensure a better and more consistent flow of traffic. The easier the relationship btw cyclists and motorists on the road, the less fury over more investment in bike lanes there this.		1										1					
65906	It was inevitable the change would have to come. I do not use Burrard Bridge as there really isn't any point since Point Grey Road was closed to thru traffic. Maybe it's just me but I find the south end unnerving at best. Maybe it has to do with seldom driving there. I use other avenues to get to UBC which I am not prepared to share. It's faster and less stressful. The only thing I don't like about the changes to the bridge are those god awful concrete dividers. Something more in touch with the bridge's looks like miniature outside concrete railings to separate the bikes from the cars. That's all I care about. The rest is easy. You know I laugh when I see line ups of car east on Pacific to the bridge and up the hill on Thurlow to get to the bridge. Some people just won't change their driving habits. That's good for me because my bridge has less traffic and less stress.																	
65908	I hate the bile lane addition on the north side of Pacific. My parked entrance is there. Entering and exiting in busy traffic is already dangerous...adding the bike lane will make it more dangerous..especially for the bikes.	1																
65909	no			1														
65910																		
65912																		
65913																		
65914	The connection between the Burrard Bridge a pacific going North is terrifying. Please do something about it.	1																
65916																		
65917																		
65918	Glad to see safer intersection for cycling and for walking east side. Many people walk on east side now even though they ate not supposed to. Please consider opening up the tower stairways for quicker access to seawall. With cameras the stairs will be safer.	1	1							1								

65919	keep as it is now.			1														
65920	I do not approve of the closure of another lane of traffic being closed. I find it hard to believe that many people feel unsafe. I have had people jaywalking across the bridge and across 4 lanes of traffic on Pacific and Burrard street.																	
65921	It's bad having pedestrians restricted to one side. I support removing a lane to have two pedestrian sidewalks																	
65924	I definitely think including a walking path on the north route would be helpful. People just seemed to ignore the no walking signs and I had many close altercations with people walking on that side while I was cycling.																	
65926	Good plan			1														
65928	If you go ahead and close a lane of traffic there will be long lineups of cars. How much air pollution will that cause?																	
65931	Do not close another lane of the Burrard bridge. Do cycling improvements to Granville bridge before doing anything more to Burrard																	
65932	I don't think you need to shut down another lane for traffic on the bridge. It is fine. You should repair the walkway areas that need it but shutting another lane down is crazy. There is plenty of space for walkers and bikers now.																	
65936	At the NE corner use bike signals to a. lead bikes into a green box in front of the lights on Pacific for bikes continuing west b. use the London system of letting the bikes go first when the light goes green c. provide some organized way for bikes to cross over to the water side of Pacific to join the cycle path			1														
65945	I do not agree in spending monies to create another bike lane unless bikes are licensed, insured and follow the rules of the road including speeds!																	
65950	I think this is ridiculous to close yet another lane to traffic. The existing bike lane is more than enough and is hardly ever used. Build a dedicated bike bridge instead. I oppose this project completely..																	
65951	Try as I might I haven't been able to see the proposed design on these links. Are we re-inventing the wheel yet again?																	
65958	On the previous page, construction & its effects on 'traffic' was the topic, but 'traffic' was not defined.. is it car traffic or bicycle traffic?																	
65959	very difficult to say since there is not really any detail about the intersection design that I could find.																	
65960	I do not support the closure of another car lane on Burrard Street bridge.																	
65961	It's a horrible horrible idea!!! the traffic has quadrupled since the lane closers in the city... Enough is enough.																	
65966	The worst idea I have heard from this mayor! And there have been some real bad decisions already in my opinion. Closing another lane is ridiculous!!!!																	
65967	no comments, im sure you ll do an excellent job!																	
65968	I love the idea of this																	
65969	Cyclists going straight instead of over to Hornby are ballsy. Glad to see this fixed. Also riding on protected road is way better than the narrow sidewalk currently on east side. Will also solve confusion with all the pedestrians using the wrong side. Great stuff! Keep it up you sexy mofos																	
65971	I would like to see as significant investment in amenities and liveability in east vancouver as we are seeing in the west parts of vancouver. How about putting grandview highway into the cut where the skytrain now runs, for instance?																	
65972	Instead of reducing car lanes -- why can't they add a suspended lane on the outside of the bridge for bicycles only? reducing the lanes for cars will only unfuriate drivers and create more smog from idling/slow moving traffic																	

65976	I am required to have my car at work so I need convenient, safe streets for driving and for the cyclists.																	
65979	Very necessary and welcome. North end of bridge is unsafe for all -- cars bikes and pedestrians.		1															
65982	I'm all for our cycle routes and even advocate for them however the traffic in the Pacific/Beach corridor is so congested during weekday rush hour and on sunny weekends that closing a lane is absurd. I live in the West End just off Pacific and am always mapping and scheduling my driving pattern around those peak times. Sorry, I guess that's a little off topic - but don't take out another car lane!					1						1						
65983	please do not close any more driving lanes to add more pedestrian lanes or bike lanes. I drive over that bridge every day and even on sunny days, the bike lanes are not that busy. The closure of Cornwall to traffic from MacDonald to Alma has created huge traffic issues along 4th Ave					1												
65985	Crosswalks always need to be well-marked and drivers made aware that they must yield to pedestrian		1															
65987	Why push this? The changes to the bridge have made it safe and enjoyable for cyclists and walkers - we love walking over the bridge and do not feel inconvenienced by only being able to walk on the west side of the bridge. To take out another lane just seems unfair to drivers and will open up anger about the changes all over again. The bridge is a success - don't screw it up					1				1								
65988	Congratulations on such a well thought out plan. Everybody wins.		1															
65989	What a huge and reckless waste of money you want to spend.								1									
65991	I like the proposed design.		1															
65995	I am strongly against the proposed change. I am a cycling enthusiast who has regularly commuted by bike across the Burrard Bridge in the past, and I am generally supportive of initiatives that make cycling safer and more enjoyable. But not when it (a)makes life miserable for those who are forced to drive, (b)leads to excessive stand-still traffic that actually increases pollution, and (c)creates only minimal benefit for cyclists. Removal of yet another lane from the Burrard Bridge falls into this category. I would much rather see the City focus on something useful to cyclists, like a cycling path along the CP rail line - something that would benefit cyclist without hurting motorists.					1						1						
65997	An earlier completion time is great, but you know damned well that productivity slows and that any chances for overtime pay will be exploited to the max. Nothing like being paid double time and a half for standing around, holding a broom or a shovel on a holiday Sunday morning. The "improvements" to the south end of the Burrard/Cornwall intersection couldn't have taken much longer if they'd tried.																	
66001	I'm very happy about the proposed design. Pedestrians need greater protection. I say that as a car driver.		1															
66004	I do not think closing a traffic lane for pedestrians is a good idea. The existing traffic is already congested.					1												
66005	I never cross on the east side, only the west, and traffic seems ready for pedestrians.									1								
66009	wouldn't it be cool if pressure on the crosswalks could trigger an amber light for merging cars on SW side		1															
66015	I live in the SeaStar building right on the NW corner of this intersection I will be attending the meeting at the Roundhouse																	1
66016	Do what ever it takes to make that bridge safer. It looks like it's rusting badly!																	
66022	It is long overdue		1															
66027	Safer is always better.		1															
66031	Cycling Westbound through the intersection scary but riding on the road one block closer to the water does not feel very safe either (Westbound past the aquatic centre)		1															1

66032	It is still too busy and dangerous, especially for cyclists.			1	1															
66033	I'd like to see some more greenery and life on it.												1							
66037	I like that people will be able to walk both sides. I think that will be a huge improvement. I also look forward to the road improvements on the north side.			1										1						
66038	JUST BUILD A DEDICATED PEDESTRIAN AND BIKING BRIDGE!!!!!!!!!!!!			1																
66040	keep the pedestrians safe from the bikes													1						
66041	I don't know exactly what the new intersection design will be, but I think the intersection at the south end of the bridge is great! I hope we can do something like that at the northern end.			1																
66043	The north end is very confusing on a bike-going on and coming off																			
66045	I am against the project. The bridge in its current configuration is fine.					1														
66049	Keep it simple. Cyclists and drivers in Vancouver barely understand the rules of the road. Pedestrians assume right of way always. Complex intersections cause problems. Maybe start enforcing things like signaling, jaywalking and not cycling on sidewalks.			1											1					
66053	Would be excellent if bus. could stop on North-west part of intersection just on the bridge			1																
66060	Walking lane is only needed on one side of the bridge. It is very workable on only one side. There is no necessity to open it to both sides.																		1	
66061	Looks like a well planned improvement			1																
66075	Better crossing for bikes, and allowing north bound left hand turn to beach ave.			1																
66078	As someone who bikes and walks regularly in that area, I recognize that it is not perfect getting on and off the bridge. Yes, bridges need repair and improvements; but closing another lane of traffic is not a good idea. It will not only lead to more congestion but will also lead to more frustration with city council. As a Vision supporter please don't do this.																		1	
66079	bike traffic need to have equal consideration, NOT preferred status over vehicle or pedestrian. Pedestrians and Bikes can share mixed use paths; whereas automobiles& busses can not share with pedestrians and bikes																			1
66083	I don't agree with using up another car traffic lane. Walking and cycling is fine but the intersections need the work.																			1
66084	Looks good to me, but the diagrams I have seen are very sketchy.			1																1
66093	Good luck and i hope it works			1																
66098	Don't cut down the tree			1																1
66099	I don't see much in terms of beautification of the bridge for pedestrians/bicyclists. If work needs to be done, let's make it a spectacular gateway into downtown!																			1
66103	- north end needs safe bicycle routes continuing north and turning east or west. - pedestrians need routes that are not too broad and don't leave them stranded on islands in the middle of traffic when crossing north, east and west. - can there be veget			1																
66105	Much needed.					1														
66106	I think removing another lane of traffic is absolutely unnecessary and ridiculous. Having cars idling and polluting our air is not green you idiots.																			1
66111	It is way too soon to do another improvement on the Burrard bridge. We've barely recovered from the last one. I think there would be a hue and cry from citizens including me. Wait at least two years please!																			
66120	It does look safer.			1																













66384	Safe bicycle and pedestrian access is vital.			1														
66386	Don't close additional lanes for bikes, you will just end up cause traffic congestion on the bridge instead of at the entry and exit points.																	
66387	sounds good			1														
66389	more CONSULTATION with the public is necessary before proceeding with this expensive project.Funds could be better spent on critical issues facing city-homelessness,school breakfast programs,creation of nonextractive energy sources, solar sidewalks, extension of pedestrian friendly areas all over city and not just the bridge-if the aim is to stop people from driving cars then the transit system needs to be upgraded, then tax all nonhybrid vehicles going into city. However we are a city and there are cars and traffic congestion needs to be alleviated not worsened by decisions not grounded in wishes rather than reality.Money could be spent better on concentrating on alternative energy sources and creating more pedestrian friendly sidewalks(wider and more) and safer bike paths all over the city.																	
66394	Primary concern is impeding fast access to St Paul's Hospital.			1														
66395	Should not close another lane to traffic.																	
66396	What are you going to do at Hornby and Pacific to help with the north bound flow of traffic turning onto Pacific? It's a bottleneck with no left turning bay and only one lane heading east and traffic waiting to turn north onto Hornby. Do you need to hold up traffic turning east right off the bridge if there are no bikes or ped. crossing north? It seems that at times when "non vehicle" traffic is light the traffic should be able to to turn on to east bound pacific without delay. Otherwise I applaud you for your design. I like the idea of getting people back on the east sidewalk, there where always people using the northbound bike lane ignoring the bikes only signs at either end.			1														
66397	It is much better and safer for cyclists and pedestrians. As a car driver entering the bridge from Pacific heading east and turning south, I always worry about not seeing a bike coming quickly from the south especially. And as you exit the bridge turning right heading north, there's always a very real worry you might hit a bike as they head north and have to cross that turn lane.  You might want to designate the two north lanes, one as Right Turn only so that southward traffic flow is not impeded by people waiting at the south end to turn right.																	
66398	I avoid using the intersection as a pedestrian and will go under the bridge past the aquatic centre instead.																	
66399	Video cameras to detect lawless drivers.																	
66405	The relatively close proximity, high speed, noise and exhaust make walking on the bridge somewhat disagreeable. Some greenery to act as a buffer would greatly enhance the walking and biking experience.																	
66411	Bike lanes should be bright red like in Berlin and crossing should be controlled by lights like at the south end of the bridge.																	





66475	I agree that the intersection needs to be redesigned as it is dangerous. BETTER SIGNAGE to warn drivers much earlier of what lane to get into would be the most effective change. I DO NOT agree with closing another lane for walkers. The lane on one side is quite enough (and I walk it regularly).	1							1									
66480	The design appears to create greater visibility for all users. Shorter intersection crossing times for pedestrians and cyclists. And adds the bus stop island on Burrard st. I generally approve of the design.		1															
66483	closing another lane may increase "greener" modes of transportation but it will also make traffic more of a nightmare!							1										
66485	I am completely opposed to closing any further traffic lanes on a permanent basis. The traffic into and out of the city is strangled enough. To promote less idling, I would prefer to make Hwy 99 that is routed through downtown an actual thoroughfare, not a stop and go waste of time and resources.							1										
66486	Highly support this project. I usually travel through this intersection with my two kids (age 4 & 7) by walking or cycling. Improvements to safety, and support for walking and cycling are appreciated.		1															
66492	I am a regular bike commuter who no longer owns my own car (member of a couple different car share programs). I am not sure another bike lane is needed on Burrard St Bridge when taking into account the amount of Bridge use for the entire calendar year. Perhaps it would make more sense to look at a dedicated transit lane that would be in effect at peak times.							1										
66495	Please make it safer for walkers and cyclists of all abilities, not just for expert cyclists. Noise reduction for walkers and cyclists would be a big improvement.		1															
66500	keep traffic flowing as much as possible with possible under/over passes (I realize there may be no space to do this but less lights/stops the better.)	1																
66501	Please improve the flow for cars turning right onto the bridge from Pacific. Potential for injury for car passengers from being rear-ended is much greater than the peril for either pedestrians or bicycles. Create a pedestrian/bike control light as they are very aggressive and leap out in front of cars.	1																1
66505	I like it. Glad to see pedestrians back on the east side.		1							1								
66510	Please keep the cyclist off Burrard street at the north end. There is a great bike lane on Hornby. Those cyclist who go north on Burrard cause big problems because of the hill and at present, crossing the existing turning lane (for cars turning onto pacific).The cyclists endanger themselves and those in vehicles.																	1
66517	It is not going achieve a lot if one is sitting in one's car generating carbs and fumes for 10 - 15 minutes a day over the bridge and back. Not sure why people would want to walk / cycle on a bridge full of cars. If this improves throughput of vehicles, that will be good but otherwise, it could very well lead to more congestion (already seeing a lineup completely over the bridge 2-3 evenings a week).																	1
66524	I think restricting traffic by one lane makes no sense and it totally unnecessary and will cause congestion on the bridge. By all means, upgrade the bridge, but don't remove a driving lane. That proposal is baffling to me.						1											1
66526	I wonder if you can provide public with actual stats on the traffic - foot/bicycle/cars? I do not think removing a lane of car traffic is a good idea at all. On a side note ever since the bike lane was added entering downtown from Powell St the traffic comes there to a complete stop. Anytime I go downtown i will count the bikes and for each 25 cars there will be 1 bicycle. This does not seem logical me.																	1

66531	<p>This bridge has been under construction every year for the past 3 years. Can we give it a rest?</p> <p>2 lanes turning on to Pacific would be good, but closing one full NB lane for cars is going to cause more traffic, in particular towards the south end, where gridlock would be very dangerous because of the unique layout.</p> <p>Bike lights are used throughout the city, but I find them very dangerous. I have seen cars move when they change, which is very scary. This is most acute on Hornby &amp; Smith with the right turn red light &amp; bike light.</p>					1													
66534	<p>I'm totally opposed to eliminating another car lane to add an east side pedestrian lane. The west side lane is perfectly fine for pedestrians. Crossing the street to use it is not an issue. There is no need for an east side pedestrian lane. It's not like suddenly hordes of pedestrians will start using the bridge. It will only increase congestion for both cars and buses. It certainly won't encourage people to take the bus downtown from Kits. This idea was obviously thought up by people who don't take the bus but drive expensive hybrid SUVs. Furthermore with all the downtown development being approved by the city the congestion problem is being made worse and closing another lane of Burrard Bridge will only make it worse. This is a REALLY stupid idea. The City's own document argued against this in 20015 ""Lane re-allocation can meet objectives for walking and cycling, but not without increasing traffic congestion, slowing goods movement and degrading transit service across the bridge. This option is not recommended." <a href="http://former.vancouver.ca/ctyclerk/cclerk/documents/tt5b_ridge.pdf">http://former.vancouver.ca/ctyclerk/cclerk/documents/tt5b_ridge.pdf</a></p>			1		1													
66537	<p>Exciting potential. Make sure the bike lanes are wide enough - lots of passing on the hills. The current east side is a bit narrow and we've had a few close calls with mute passers. (The no-passing zone is pretty much ignored.) Also, if the connection to the Hornby Bike lane could be simplified - that would be most excellent. We bike to school/work with kids and the big Hornby hill is an issue - as is biking on Burrard St. north of the bridge.</p>	1	1																
66543	<p>The most dangerous crossing I need to make when accessing the Burrard Bridge on my bike is typically traveling north-&gt;south on the west side of the street (segregated bike lane side). This is dangerous because after crossing the intersection cyclists need to also cross a dedicated right turn onto the bridge. I've had numerous close calls at this juncture, often caused by low visibility from taller vehicles obscuring the view of oncoming right turning vehicles on approach to the crossing or because drivers have their attention on getting on to the bridge and neglect to adequately check for other road users before proceeding.</p>				1														
66544	<p>Closing the bridge for all pedestrian and bicycle traffic to reduce the construction schedule would make getting to/from downtown extremely difficult for several people. I do not feel comfortable cycling on the Granville and Cambie bridges as they do not have sectioned off bike lanes. The pedestrian walkway on the Granville Bridge is also more unsafe than Burrard and I do not feel comfortable walking on it.</p> <p>Closing off all vehicle traffic for certain times would increase travel time to/from downtown significantly. When the bridge was under construction 2 years ago and reduced to 2 lanes travel time to/from downtown was almost doubled (approximately 45 min). the traffic on the Granville Bridge, including traffic on 4th Ave therefore increased as well. If the bridge were to be closed for certain periods of time traffic on the Granville Bridge would then increase significantly.</p>														1				





















66890	Stop it				1													
66891	Do not penalise cars at the expense of other forms of transport.																	
66895	The City has lost all touch with reality. The bridge is working well for all users today. There are many other much higher priorities. Like gridlock at 70th and Granville. Leave Burrard as is and focus on something else.																	
66896	NO to any further changes to Burrard bridge! Enough already with Vision's war on motorists!																	
66897	too much money spent on this stuff when other parts of the city are suffering.																	
66900	In a confined intersection space I don't think a tree median on Pacific should be a priority. I support the dedicated right hand lane off the North end of the bridge as long as the design allows bikes and cars can make the right turn at the same time (the right turns along Hornby are a poor design for both). With dedicated bike lanes on Hornby, should require bikes to use Hornby rather than commute down Burrard where the separation between bikes, buses and cars is poor and waiting for an accident.  Lastly, with all these improvements done for bike commuting I believe the city should take one of the four lanes along Cornwall and turn it into dedicated bike lanes. Cornwall between Cypress and Point Grey Road is one of the more dangerous stretches for bikes and cars to share. IT is illogical that the city has left this segment as the last dangerous bottleneck on an otherwise beautiful bike commute route.																	
66901	No comments on the intersection design. Regarding the proposal to close another lane of the Burrard Bridge, why not just do things properly and build a new cyclist/pedestrian only bridge across false creek?! No one can argue against the goal of increasing transportation by foot and bicycle, and making it safer. But, why does every proposal from our city council also involve making transportation more difficult for motorists?																	
66903	Do not take away another lane PLEASE!!!!																	
66904	Finally. I stopped driving over this bridge due to very unsafe 'habits' by other vehicle operators. When driving I avoid this bridge solely due to other drivers.																	
66905	too many modes of crossing the bridge all interconnected. One side for walking and the opposite one for cycling is sufficient. No more reduction of driving lanes should take place.																	
66909	Can't see it. Describing it doesn't explain it. If the city doesn't want cars downtown why not think it through thoroughly and be creative. Why not make an underground parking lot beneath the park on W. 7th and Manitoba with free shuttle downtown? I count bicycles on the Burrard St. bridge whenever I cross and have never counted more than 20 anytime of the day. There are more cyclists on Point Grey Rd! You guys need to do some long term planning and stop trying everything that could come up in discussion. I take the bus, I drive a Fiancé 500 and I plan to ride a bike on the sea wall .																	
66910	I agree the bridge itself needs regular maintenance and upgrades but completely disagree with closing another lane northbound on the bridge. This is a very very bad idea and will just infuriate drivers.																	





66950	go back to the original use of bridge				1													
66952	Improvements and repairs without closing another lane for bikes is preferred. I think the city should look to other areas in the city to spend money. Vancouver was one of the cleanest cities in the world and you certainly can not say that now. The funds allocated to parks is not enough to allow for proper maintenance. Stop planting trees and look after what we have would make far more sense.																	
66955	The cycle path is adequate. No need to change. If you need to do something, do it in winter. Do not work in the summer.																	1
66957	We all know that our Mayor is on a anti car crusade. My wife and I used to go down town to shop/ eat. But since the Mayors crusade we live in Vancouver but never go down town.Please look at the expense of the bike lanes on Kerr Road and seldom do you ever a bike on it. Our mayors crusade is a sham.																	1
66958	we do not need more bike lanes--the existing lane is under utilized																	1
66959	Merging into the middle lane on Pacific from the Burrard Bridge for a left onto Hornby is extremely dangerous. This needs to be looked at...																	1
66960	i dont agree with it, don't close another lane at all.																	1
66962	This is making a bad situation worse. Vehicular traffic far exceeds bike and pedestrian traffic. There is adequate capacity for bikes and pedestrians now, so don't further restrict car traffic																	1
66963	Believe it to be a complete waste of time and money. Bikers don't respect bike lanes or streets and are often a danger to all.																	1
66965	bad idea waste of money.....get rid of bike lane																	1
66967	Only problem with Burrard and Pacific intersection is cyclists not obeying the stop sign.																	1
66968	you are virtually pushing cars off the bridge It was very elitist of you to close off (to cars) part of cornwall especially as the mayor lives near there and now you will make navigation of the Burrard bridge in a car virtually useless in rush hour much as it is now.																	1
66969	This is a stupid idea.																	1
66970	Traffic is already congested enough along this route, and makes travelling by car tedious and unnecessary. In the winter months, it is far less busy, so why close more lanes to make it safer for pedestrians and cyclists when there aren't many using it from November to May? I say no to more lane closures and restrictions. Enough is enough Mayor Moonbeam and company!																	1
66972	bad idea																	1
66977	It is a waste of money. It will only increase traffic congestion and increase commuting times when new bike lanes have already taken away road traffic and the new bike lanes are not over crowded. Continuing construction of apartments and other buildings also are a squeeze on through lanes for cars and buses without more construction on Burrard st bridge.																	1
66978	no problem with the intersection redesign, but oppose the reduction in the number of northbound lanes. yet another example of this mayors war against motorists!																	1
66983	If the merge lanes from Pacific onto Burrard and from the bridge onto Pacific are being eliminated and replaced with lights for all traffic, it would seem that there will be very long waits for through traffic on Burrard both north and south bound, which will back up the bridge. I am also concerned with the bike lane taking over the east side curb lane north of the bridge because of the impact on businesses in that block.																	1

66986	I think the new design will definitely improve the bridge for walking. Currently some people still walk on the east side (bicycle lane) anyway. I believe the intersection will be a lot safer for cyclists and pedestrians.			1															
66987	Put the bridge back to the way it was before the bike lanes were implemented.				1														
66988	Further reduction of roads for vehicle use causes greater congestion and inconvenience for families who need to commute to school, shop for groceries and access community activities.  It is simply unrealistic to expect many family related activities can be accessed via a bicycle or transit.					1													
66990	Don't do it,, you made it poor before. I don't think you will improve the safety if you didn't know how to do it the first time						1												
66992	It's fine. Leave it alone. I'm sick of the construction in this city.							1											
66997	The bridge and intersection design should be aimed a vehicular traffic and minor pedestrian traffic related to it. Cycling and pedestrian traffic should be diverted to a new and separate bridge span below the current bridge deck. The Burrard St bridge was originally designed to accommodate a lower bridge deck for a train. This ability to accommodate a lower deck should be taken advantage of to remove cycling and pedestrian traffic from the intersections and bridge deck. The current and previous bridge deck configurations are dangerous for pedestrians and cyclists and cause traffic jams. Separating vehicle traffic from cyclist and pedestrian traffic will improve the flow of bothe types of traffic and improve public safety.			1															
66998	none other than we don't need another lane reduction on the bridge								1										
66999	no more bike lanes. They are dangerous									1									
67000	Why didn't you think of this when you spent millions on the bike lanes?										1								
67005	It does not show how it will improve the flow of traffic from Pacific where it is daily backed up with large wait times. It does not address the large back-up to get off the Bridge onto Pacifica because of the Horny intersection and bike lanes.				1														
67006	I am frustrated at the money being spent to reconfigure these lanes AGAIN. The simple solution is to put a light at the end of Burrard and INSIST that bikers be more aware of traffic and cars obey lights. There is no need for another pedestrian "lane" that will further congest traffic. Please do NOT do this. Why don't you ask pedestrians whether they NEED another whole lane to walk - it really is not justified - Money is desperately needed elsewhere. Other city street works are in more need. I also drive past Pt Grey road every day and am INFURIATED at this 3 lane road being closed causing traffic jams on MacDonald (and fumes) when a smaller lane would have sufficed - all my biker friends agree by the way that Pt Grey is unnecessary and it should be re-opened to at least one way traffic. This would be easy to re-open and reduce stress and anger in Pt Grey Kitsilano. All Vancouverites/tourists should be able to enjoy that road. It is not a gated community. Further, for the safety of bikers, Cornwall should have signs restricting bikes and redirecting them to York where you have built bike lanes for them for the same reason as bikes are NOT to be on the bridge car lanes.											1							
67008	I have no comments on this as I have not been able to determine exactly what the changes would be.																		
67011	More bike lanes will not solve the traffic issues in Vancouver. Many citizens are not able to cycle, nor can they take public transit due to the their jobs.																		1



67052	I am completely supportive of the proposed design and the stated goals (safer intersection for ALL modes and reduced travel times).			1														
67053	Do not get rid of any more driving lanes on the Burrard Street bridge. The current 3 lanes North Bound and 2 South Bound work. The current bike lane on the South Bound direction is perfect. Do not take any more driving lanes away as that will lead to even higher congestion in our city																	
67058	definitely do not eliminate another lane, as it is there are very few cyclists using the one in place. And next to zero in the winter. The single lane southbound is already too narrow for buses.																	
67060	I agree with improvements to the Pacific/Burrard intersection but I do not agree with increasing pedestrian & biking lanes across the bridge. The number of car lanes must not be reduced.			1							1							
67061	I think it is absolutely ridiculous. There are more accidents since the supposed upgrade to the bridge and the closure of the lanes. I have witnessed more than one accident and it has usually been the fault of the cyclist as they do not proceed with caution. I also believe that taking away another lane for car/bus traffic is not appropriate.																	1
67067	I think it makes sense and the proposal finally favours pedestrians - unlike the past one which punished them			1														
67068	I am against reducing the number of lanes. I used to bike to work in Kerrisdale from West Vancouver before a new bike lane was created, and even that was ok (Cornwall was the area that was scary, not the bridge). There is no need to reduce the number of lanes again.																	1
67075	restricting traffic lane in the middle of the bridge will cause accidents, particularly during rainy, dark nights, when poor drivers will not be able to make the necessary turn, etc. this will increase accidents.																	1
67076	This is absolute idiotic! We live in the wettest city in Canada. You always talk about the 150,000/mth bikers over the Burrard street bridge in JULY (best month for weather)... probably 1/4 of that during the wet months. How many cars go over the bridge per month?? 500,000? 1,000,000? Get your priorities in line!!																	1
67078	One less lane bad news.																	1
67079	I absolutely disagree with the proposed intersection design. The existing format is just fine.																	1
67081	looks alright			1														
67088	Do it!			1														
67089	this design will great traffic grid lock with lanes having to merge one lane in each direction																	1
67092	Repair the intersection, but retain the car lane on the bridge.			1														1
67094	I think things are O.K. as they are. I think that Vision makes decisions and then asks people what they think about it.																	1
67095	i have no faith that the city will do it right																	1
67097	Yes - I think it is a stupid idea																	1
67099	These plans do not take into account traffic patterns in the city, other than to tragically increase traffic gridlock and frustration. This survey fails to even ask the basic questions as to whether closing a lane on burrard is a desired plan for the citizens of Vancouver. Why not? Why is the pace of construction the only concern of this survey?																	1
67100	Change the intersection by all means, but you do not need to take away another lane from cars/buses. That is a unnecessary use of taxpayer's money.			1														1
67103	Reducing ANOTHER lane on the bridge?!? Probably one of the most daft proposals I have seen in this city. Traffic is already at a standstill, and you want to make it still worse????																	1

67104	Vision again makes announcement without any public input. Should be worrying about improving public transportation to help ALL citizens not putting all energy on cyclists. Enough!!			1						1	1							
67109	Please don't remove any more driving lanes. This city is becoming insufferable to get around by car in. If you have to put up twenty signal light to accommodate the new traffic pattern, you've made things too complicated. Look what happened to Burrard/Cornwall...																	
67111	North side of bridge is not safe for cyclists to go Hornby st.			1														
67115	Another bike lane should be east van not on the burrard bridge																	
67118	I do not think that bicycles should be given priority.										1							
67121	We DO NOT NEED ANY MORE BIKE LANES!!!!!!!!!!																	
67122	Flow northbound on Pacific Blvd gets congested - needs a better flow		1															
67124	Stop taking our car lanes away. The majority of us drive cars. And I believe the majority should be accommodated.																	
67125	It is not the intersection design that is at issue. It is the fact that you are closing a lane. This is discriminatory to senior citizens and people with disabilities that have no other mode of transportation than the car. Be reasonable and listen. Having this survey now is cynical at best, because if I had known you were going to do this, I would have voted against the transportation referendum on tax.																	
67126	I fully support the proposed design, specifically giving more priority to walking and cycling.			1														
67127	Ridiculous idea					1												
67130	do not close any more driving lanes. It is already busy enough. The city needs to think about busy parents who have to work, drive kids around to and from school and to different activities which makes it impossible to take public transit or ride a bicycle and carry 5 bags and multiple children at a time to multiple locations within short time spans. Not everyone is young, with no kids and travels alone. What about working parents?																	
67131	Do not close any more traffic lanes. The current configuration has plenty of room for people to walk																	
67132	I support a flexible schedule of lane closures. In the summer months I have noticed that the bike lanes are well used on the bridge and should continue. Conversely in the winter months from about November to mid April I have seen very little usage probably because of the poor weather. Would it not be possible to set up temporary barricades in the summer months that would the lane to be used as a bike lane in those months and then remove the barricades in the other months when usage is minimal.			1														
67135	It is unreasonable to eliminate another vehicle lane on the bridge																	
67140	Please facilitate smooth and safe bicycle movement as done at Burrard/Cornwall intersection--very well done!																	
67141	Don't do it. It is messed up since the last round of changes. Don't make it worse!																	
67142	I am opposed to losing another lane of traffic on this bridge.																	
67148	The impact on traffic flow is not clear - the walking and biking access across Burrard is very good now. I am not convinced that we need walking access on BOTH sides of the bridge if it will be at the cost of further restrictions on vehicle traffic flow.																	
67149	Overpass is good for cyclists. Removing one lane bad for drivers.		1															
67150	Square off the corners to the bike/vehicle traffic isn't in conflict as currently exists.																	

This comment seeks to establish middle ground in the debate on "cars vs bikes". Can a compromise be accommodated



67214	Exercise is the best way to fend off sickness. I support any measures that get mobile couch potatoes on their feet.			1														
67215	1) you haven't actually shown me what the intersection is going to look like. All you've shown is the north portion of the bridge. Please have a graphic that shows the current and new configurations on the same diagram.  2) I find the configuration on the bridge problematic as it doesn't have straight, clean lines but deviates just north of the centre column. I find these require so much more attention and are prone to accidents (Hornby weaves in and out for a major portion of the route between Pacific and Dunsmuir).																	
67219	How about using that \$30 million to build rehab centres and get the addicted off the street.																	
67224	if the project was put out to tender i would be supportive of all hours of work. With the city workers completing this work I am concerned with accountability to a budget as we as tax payers have no control																	
67232	I don't believe any of the #s - I never see the lanes busy-even during rush hour. The City needs a stronger case for this change.																	
67237	many people need to drive and you are making it harder and harder and creating more and more road rage. Don't forget you plan to take down the viaducts as well!!! More road rage.																	
67261	well what about cars, you just seem to cater to bikes and pedestrians. 3 lanes for bikes and pedestrians and 4 for cars. one lane going to west end is short so people gun to make yellow, you can no longer turn right onto burrard so if one car wants to turn right everyone else has to wait.																	
67266	The issue seems to be vehicle congestion at the points where bike and foot traffic cross the intersections. To the extent that this is may increase with fewer lanes for vehicles, I don't know to what extent the new design will improve safety. It would certainly make it better to ride/walk into downtown but this is only required for 6 months per year and during winter lanes are essentially empty. Is temporary lane assignment possible?																	
67268	An expensive remedy to dangers from giving traffic lane to cyclists instead of sharing opposing one way sidewalks (pedestrians facing cyclists) Crossover could be facilitated by 4 way vehicle stop like Granville & Georgia many years ago.																	
67269	The West Pacific street bike lane expansion is a totally unnecessary expense and an unconscionable removal of trees and vegetation for what is supposed to ultimately be part of a greener city plan.																	
67273	Please do not further restrict car traffic on the Burrard Bridge in any way.																	
67278	Great design. Happy to hear folks will be able to walk across both sides of bridge!																	
67281	I'm tired of the city reducing the number of traffic lanes. It is virtually impossible to drive through the city to get to the Lions Gate bridge and the park.																	
67291	still unclear about physical details. More and clearer drawings would help.																	
67294	This may improve the intersection although this administrations war against cars is annoying. My job does not allow me to take transit and requires a car and it is becoming increasingly difficult to drive in or park in the city. I agree with increased public transportation and cycling but it is always at the detriment to drivers. Distracted cyclists are as dangerous as drivers and yet nothing is done to crack down on them. Try licensing bikes if you plan to increase bike lanes and you might get the support of the drivers.																	



67362	<p>The proposed changes will lead to greater transit times for car drivers, more pollution and frustration for all drivers and their passengers.</p> <p>The City seems to be wishing to create even greater congestion than is already occurring.</p> <p>The opportunities for public feedback on these proposed changes are woefully inadequate. Another example of Vision trying to ram through their agenda !</p>				1														
67367	<p>1. Eastbound cars along Pacific face substantial delays in accessing the bridge to go Southbound. This should be addressed in the redesign.</p> <p>2. There should be a design feature at the Burrard Pacific intersection that causes northbound traffic off the bridge and southbound traffic onto the bridge to slow down as they approach the intersection.</p> <p>3. All right turns at the intersection should have their own lane, lights and timing synchronized to occur simultaneously.</p>				1														
67368	<p>installation of west bike lane approaching bridge from the north created a dangerous situation for all travelers. Vital to redesign. West to east car traffic on Pacific, turning right onto the bridge in rush hour, has increased greatly. Dangerous for all.</p>				1														
67372	Stop it with the ducking bike lanes already					1													
67376	What about a solution similar to Cambie Bridge that has on and off ramps for bikers and pedestrians?					1													
67377	Congratulations, you and Vision have ruined the City of Vancouver through tearing down neighbourhoods.																		
67378	I am very much in favour of more and safer bike routes in the city					1													
67381	<p>This is not a comment on design but a comment on openness of government. As usual, the current City council only gives the illusion of involving the citizens of the city in such decisions and, instead, simply forces its will on the people without real consultation. The time line for the input of citizens is ridiculously shortly and at a time when many people are away on summer vacation. I am in favour of increasing safety for everyone on the bridge but I am NOT in favour of taking away another lane from cars.</p>																		
67386	More car friendly																		
67392	This is a poor survey. You only ask residents about construction times, not whether we agree with taking another bike lane. This is not consultation. The decision has already been made.																		







67577	You want more bike lanes even though people don't use them and continue to slow down traffic using the Granville St. Bridge. As well the lanes are not maintained and look horrible with the surface peeling.																
67582	Great idea, walking on the east side is a big plus.	1							1								
67584	As is the case with Dobrovolny and Vision this report pretty much focuses on everything other than vehicular traffic. You've lied to us before (Hornby Street bike lanes), so why would anyone trust anything that employees of the City of Vancouver say? If there was an independent analysis of this project supporting the contents of this report then I may be inclined to support it. But the past has taught me that to be weary of anything the City proposes today.																
67587	I think having green arrow turning right would eliminate accidents. I have never had a problem here and usually turn right to go north on Hornby Street, but merging into the left lane can take a while. I'm not sure eliminating another lane of traffic for bikes is necessary. I think the existing dedicated bike lane is ample. I do enjoy walking over the bridge and find the sidewalk on the west side is adequate. There is lots of room, and only a bike lane beside it. I don't think it is dangerous. I really don't think deleting a further lane of traffic will benefit walkers, buses or cars. It only helps bikers and they are already well taken care of.	1							1								
67589	Closing yet another lane on the bridge to accommodate a small number of cyclists while severely inconveniencing the majority of users (yes, in that evil thing called a car) is completely idiotic. We constantly get very expensive projects like this pushed through even though the majority of Vancouverites don't support it.																
67591	Sidewalks are ok As is. No changes necessary.																
67594	When are you planning an outright ban on vehicles in the downtown core? How many more lanes of bridges, roads and arteries are you going to be content with? For those of us who work and need to get around you are clueless.																
67596	If it's not broken what the heck are you fixing. This is another example of Gregor manipulating the system to support his bike lane agenda. Has Council even considered this bike infrastructure will be less and less relevant as our aging population moves away from their bikes and into electric cars?																
67598	yes, please don't proceed with more construction																
67608	Burrard Pacific intersection will be safer for walking and biking.																
67613	This is unnecessary and a waste of money.																
67617	We need more roads, not less roads																
67623	I don't agree with reducing the number of lanes for vehicles.																
67624	It worked fine until the bicycle alterations were made.																
67632	I have noticed that bikes travel northbound on Burrard St. after leaving the bridge and interfere with the buses causing dangerous situations. Please force the bikes onto Hornby and out of the way of the buses.	1															
67634	The mayor is an idiot. Did you not know that. ????																
67635	I'd like to see and hear about a few other options before agreeing to this one design.																
67637	Anything that decreases risk of accident is helpful.																
67638	I have no idea why this is being done. None. I cycle and drive it 2-3 times per week and so zero need for any changes. Please stop.																
67639	Big dumb-ass idea																

67643	The design seems overly complex and the proposed weaving lanes are themselves a safety hazard. Why not use proper lighting to control vehicle and bike, pedestrian traffic. Something like the intersection at Oak and 70th would seem appropriate. The wait for lights to change are a little longer but should reduce accidents for all travelers.	1																
67645	not on the intersection per say but would never support removing a lane of traffic. I would like to see the stats on how much accidents have increased since the first lane was removed					1					1							
67649	totally unnecessary. loosing another lane makes no sense. if you want to be green how does making cars take ever longer and longer to get anywhere equal green? Second the North end junction for South bound traffic is far more dangerous than this one ever sinse you changed it with the bike lane addition.				1													
67650	Pedestrian lights to prevent traffic stoppage coming onto the bridge from Pacific	1																
67652	Really stupid idea. Very few cyclists use the bridge in the Winter. Beach avenue is a joke regarding traffic backlogs. Why are you making a bigger mess of the Bridge? Who runs this city, cyclists? And I am a regular cyclist who travels by bike 4 times a week.				1						1							
67653	ridiculous idea - motorists in the city are being penalized - I completely disagree with the direction that the mayor is taking the city				1													
67666	Safety is a priority. Reducing traffic lanes is out of touch with the volume of vehicles that need to use the bridge. Why not a low level covered crossing for pedestrians and bikes where the rails were lower down. Could be opened for rare tall ships.	1									1							
67667	Please tell us how much it all costs.  Why close the extra lane? it is not necessary for the very few pedestrians.  Why not have different flows in winter versus summer.  by your numbers 3500+ daily cycling trips occur, break down summer versus winter months. The lanes, old or new, cannot be justified in the winter										1							1
67669	I believe what you are proposing is unnecessary & inconveniences more people than it helps you are causing traffic chaos all over the city with your overkill of bike lanes etc. start considering those others who also contribute to the city.				1													
67672	I am opposed to any further bike lanes on the Burrard Bridge or any other areas in the downtown area.										1							
67676	leave it alone. its fine as it is				1													
67680	Don't make it as confusing as the south end of the bridge. When heading south with a turn onto cornwal it is hard to see if a cyclist is going to run the light even though mine is green. Even heading North from Cornwall you have t be very careful of the cyclists when making a right onto burrard.	1																
67689	I have not seen the design but here is what you need to do if this is not in your plans: 1) make TWO traffic lanes from Pacific from the west(eastbound)enter the Burrard bridge going south on the bridge-the way it used to be. Restricting this onramp to one lane made it useless and inefficient. 2) have a pedestrian light for the crosswalk that crosses this same onramp (cars going south) so that it is synchrony with the traffic light at the Burrard/Pacific intersection- i.e. pedestrians cannot walk when the light along Pacific is green (crossing Burrard), and they can walk when it is red to eastbound traffic. This will allow more cars to enter onto the bridge deck per minute.																	1
67692	None but why aren't you asking whether or not people are in favour of closing another lane? The sense one gets is that you aren't really interested in feedback.																	1





67815	I AM HAPPY WITH THE CURRENT ARRANGEMENTS				1														
67816	The intersection improvements may be warranted to improve safety, but closing an additional lane of traffic is ludicrous. What was the accident rate reduction resulting from the first lane closure for cyclists? Lineups exiting the bridge northbound onto Pacific, and entering the bridge southbound from Pacific are larger now, and a direct result of implementing the first bike lane closure. Closing another lane will only increase the lineups. Throughout the year the vast majority of traffic is vehicular (car, bus, taxi) into downtown businesses. If you make it too difficult to access downtown, people (and businesses) will no longer go there. Vancouver is already cost prohibitive for business (my company has just announced plans to move head office out of town because of cost), by adding additional impediments as this will - increased traffic congestion with reduced lanes on the bridges - you will satisfy the vocal minority cyclist lobby, but further annoy the vast majority of business commuters. Keep it up and the cyclists will no longer have jobs to bike to.				1														
67820	The "consultative" process has been, and continues to be, a sham and designed to provide cover for a pre-determined result.																	1	
67822	The people advocating this lane change reconfiguration must think the citizens of this city are idiots, which we are not. There so many hundreds or thousands of cars using these lanes on an hourly basis. if you reduce the number of lanes you are still going to have the same volume of cars so of course by simple arithmetic it will result in congestion. Your so-called experts should learn take a course in simple arithmetic and common sense which in the planners' case does not appear to be common. You put in a bicycle lane that is under utilized because of some academic notion of being "green" and now you'll back up even more traffic with car engines idling for some reason that defies necessity.																		1
67832	All cycling, and electric small vehicles (like Segways,), should be on suspended narrow steel pathways under the bridge. The roadway should be put back to full lanes. The under the bridge suspended pathways can be created with no closures and if they are narrow, then the weight the structure holds is minimum.																		1
67837	Ridiculous.																		1
67838	The city has already created huge delay in most people's daily commute to Downtown by addition of the notorious bike lanes. This is another outrageous proposal that I would definitely go against!																		1
67843	Leave as is until need is warranted. Too much money has already been spent for too few users, specifically, cyclists. The existing very expensive infrastructure is already highly underused for most of the year.																		1
67852	I wonder why the city never seems to make use of pedestrian or cyclist underpasses or overpasses to keep them from crossing directly in the path of motorists.																		1
67855	I do not support any reduction in car lanes on the Burrard bridge.																		1
67862	access to bridge from Pacific on north side is decidedly dangerous. Access to bridge from "inset" second lane from Pacific at East is not well planned - it is too short to move into that second land.																		1
67863	STOP the war on motorists!!																		1





67995	I think you should re-evalutate both the plan and the price tag				1													
67999	North side of bridge needs major re-route for bike traffic. Almost like a no mans land at the north end. Not sure of solution.				1													
68001	I live on s.22(1) being affected by the Point Grey Rd closure we were offered similar input to a plan that was a fete accompli, with lame optics and words about consultation. You didn't have the courage to publicize this before the Transit Tax survey because you know that it is not supported by the people you represent. This is another heavy-handed "we know best solution" from our City. It must be nice for a Mayor and council that have the time and luxury of choosing to ride to work, what about the rest of us? And I'm a cyclist.																1	
68004	Any changes the intersection at burrard and pacific must also include adding a bike lane on the north side of pacific from richards to burrard. Right now biking on pacific to reach the burrard intersection can be crazy with people coming off granville interchange without stopping and coming onto pacific, drivers going 80km down pacific to reach burrard and trying to squeeze you into the sidewalk especially between howe and hornby. You basically ride in the middle of the lane to take appropriate space and hope for the best or you go onto a very narrow sidewalk and hope no pedestrians are coming. This is a missing link in the burrard/pacific bike lane				1													1
68007	I'm supportive. At the moment, the intersection at Pacific feels confusing for both drivers and cyclists. Signals will help.				1	1												
68008	The City is spending money on make-work political social experiment projects like this rather than the meat and potatoes of basic road and bridge maintenance																	
68009	One way pedestrian traffic fine No need to close another lane																	1
68010	Not sure why it's needed when there's a signal-controlled light at Hornby. A bike lane was put in there for a reson. Can't they cycle a mere 150 metres more? I do when I use it. That's why it's so safe for me. Just block the crossing at Burrard/Pacific  Frankly, I'm a little tired to see the city spend and spend on projects that are not absolutely necessary.																	1
68015	Do. It reduce driving lanes																	1
68016	Need a crossing for bikes and peds headed east across Burrard on Pacific.																	1
68019	I support the new intersection design - as I did the Burrard-Cornwall intersection upgrade.  BUT, as a member of the local community, there is one thing not complete on the Burrard-Cornwall Intersection Upgrade: the median on Burrard Street between W. 1 Ave and W. 4 Ave. It appears to be temporary in nature and it's an eye sore. It would be nice to have this addressed when these upgrades are underway. Thanks.				1	1												
68020	Love it. Pedestrians need to be able to walk on east side of bridge and cross on east side of North intersection. It's not safe walking on east side of bridge now, and I am forced to cross at intersections more often, making it even more unsafe.																	1













68397	forget the whole idea of another northbound cycling lane. the car lane that turns right onto pacific backs up long before the beginning of the the proposed design. this will just create more congestion on the bridge, shortening the structural lifespan of the bridge, and creating VERY dangerous conditions for motorcyclists and scooter riders who are in the middle lane as frustrated and angry car/truck drivers suddenly pull out of the right lane into the left....you see where I am going with this.	1					1											
68399	I think it is unrealistic for a city our size to shut down a car lane. Yes encourage people to walk or cycle but not at the expense of the reality that people drive!						1											
68405	we need a new mayor																	
68416	THIS Vision GOVERNMENT HAS MDAE A STRATEGIC ERROR IN BOTH ENCOURAGING BICYCLE USAGE BUT NOT ENFORCING ANY RULES & REGS ABOUT HOW THEY OPERATE. THEY ACT LIKE THEY AARE IN AMSTERDAM AND "BEWARE ANY WALKERS" I'VE BEEN THERE AND SEEN IT. THEY EVEN PLAY CHICKEN WITH CARS AND BUSES. VANCOUVER IS BECOMING THE SAME, SAD TO SAY. A FORMER CYCLIST.																	1
68417	I use the stairs when walking and go along the alley under the bridge and up Thurlow to get on the bike lane at the North on the west side of pacific to avoid the intersection. The parked cars on Thurlow are an issue. Also the block of pacific east of the bridge needs a bike lane	1																
68424	foolish idea				1													
68425	It's absurd! I drive for a living and there is NO reason to remove yet another lane from our roadways for cyclists and pedestrians! The west side of Burrard St bridge is in NO way overused (if the perhaps 50 pedestrians/cyclists at any one time over the entire span of the bridge can be considered 'high' usage). Please re-think the proposal; ALL citizens (pedestrians/cyclists/motorists) need to be educated (as in 'ticketed') as to proper use of the lights signals -- that's what will keep us all safe!!						1											1
68431	I walk across the bridge quite often. I don't see a need to close down a lane to vehicles to add a walkway for pedestrians. Feels like a waste of money to me						1		1									
68434	You're going to do it any way, so why bother.																	1
68440	I am still not sure why you try to retain the left hand turn onto Hornby. This always seems to cause a backlog coming from the Westend. Why not use the spare area right at the intersection to allow a lefthand turn on Burrard towards downtown?  Likewise, the lane that goes into the Westend is still also a right hand turn lane. Result being that cars making a turn block the entire lane due to pedestrians (and with the bike lane for bikes too). This should be rethought and at least a short right hand turn lane installed.	1																
68441	I think it a huge waste of tax papers dollars to spend money on this project. I don't think its in the majority of citizens best interests to make the proposed changes. I don't think the bridge is under enough by the type of people that the city is catering to, I also think the people that are paying the taxes to pay for this project are the same ones that oppose this project																	1
68453	Why can't you put a bike lane under the bridge? The bike lanes in this city are very poorly designed and dangerous for all concerned - esp the cyclists.	1																
68458	We don't need another bike lane						1											
68459	Increased safety for all users is encouraging.				1													

68468	On the stages of traffic light sequencing, it suggests mixing right turning traffic with bicycle/pedestrian traffic on stage two and three. I suggest that on stage two, the right turning cars do go, but pedestrians/bikes are held back by a red light, and on stage three, right turning cars get held back and bicycles/pedestrians can go. This involving the North side crossing.	1																
68481	Awesome. Big improvements - especially in allowing pedestrians their own path on the east side of the bridge. The path is too narrow for people walking and cycling - even though walking is supposed to happen only on the west side that is inconvenient for many people so they walk on the east side anyways. This design finally accommodates that. Great work !		1								1							
68485	I do not support taking out another lane and cannot believe Council would consider this.					1												
68489	Estimates are too costly								1									
68496	I would like to see you doing something more constructive for the city than wasting all of our funds on a minority group of cyclists.								1									
68519	Nothing! I absolutely needs to be changed or done to this bridge! It works well! The unnecessary modifications have to stop! I voted for this government & was hoping they'd finally ease off with the redundant upgrades they love doing! Frustration is the only thing it is to create!																	
68525	Why is there no mention of plans to close one lane of northbound traffic? This is deceitful!																	
68547	WHAT IS IT/																	
68554	I do not see any changes to reduce the illegal right panic turns from Burrard south to Pacific west. This is a very important source of cars hitting cyclists.																	
68561	What you have in place works perfectly well. Pedestrians don't need to walk on both sides of the bridge & you shouldn't close another lane for vehicles. Just improve the intersection at Burrard & Pacific -- for one, change the left turn off Pacific to an arrow at the beginning of the cycle, not at the end. I walk over the bridge a lot & the way it is now, for pedestrians & cyclists really works. Why provoke those in vehicles? and why spend so much extra money? Also, the bridge has been worked on a lot in the last few years & to do it again so soon is annoying!!!																	
68573	I think that the arrangement of bike lanes and the pedestrian walkway on one side only works well. I walk across the bridge often and rarely see more than 2 dozen bikers at a time.I don't see the need to spend \$30 million dollars to make "improvements" other than for bridge updating to keep it safe.																	
68591	intersection design looks safer without slip lanes. I'd like to know how the emergency services (e.g. ambulance, fire) feel about proposed changes.																	
68593	I am happy that the city is finally going to address the problem of this intersection as it has been a major concern of mine for many years. I ride across the Burrard bridge daily, to and from work. It is almost daily that I encounter a driver who isn't paying attention to cyclists passing through the North intersection, and I have had countless near-misses with cars as a result. The proposed changes to this intersection can't be implemented soon enough.																	

68604	<p>You spent a lot of money on the south side fixing the intersection to make it the number of lanes onto the bridge now you want to decrease that number on the north side. Waste of taxpayers money.</p> <p>The intersecrion needs to be fixed but don't take a car lane away.</p> <p>Also get rid of the concrete barriers. I'm sure it's not helping the bridge at all. There should be lighter materials that will be able to keep cyclists safe but not add as much weight to the bridge.</p> <p>Why not put the cycle lanes and pedestrian lanes under the bridge? When the bridge was first designed it was supposed to have a train bridge right under it but because of the depression it was never built. You could add the cycle/pedestrian bridge and not detract from the heritage look of the bridge. It would be an easy sell that way.</p>	1	1			1													
68606	<p>Somewhat related: Can you look into a different surface for the painted bike boxes/lanes? The current ones are getting quite damaged and are causing swerving and unsafe biking conditions. There are chunks of surface that have somehow flaked off in the painted sections.</p>	1																	
68618	<p>I think it's great they are finally repairing this beautiful, yet neglected landmark. However, I am really angered that the city seems to think the answer to everything is to shut down more car lanes. What about putting cyclists and pedestrians on a ramp to under the bridge and restoring traffic to 3 lanes each way? Or, put a driving ramp underneath and traffic one way can have 6 lanes on the top and 6 lanes the other way underneath?</p>	1				1													
68631	<p>from Pacific onto the bridge and cut off cars traveling east through Burrard. Nothing in the proposal addresses this.</p> <p>Eliminating the right turn lane at Hornby &amp; Pacific makes an existing bottleneck infinitely worse. Due to the bike lane on the east side and pedestrian traffic on the west side, it is not uncommon for only one or two cars to make it through a green light. Having only one lane for both turns *and* through traffic is only going to cause delays and does not materially improve anybody's safety.</p> <p>As a resident of 888 Pacific, I'm also somewhat concerned that the city has eliminated essentially all pick up/drop off spots around the entire building -- taxis and delivery trucks can't stop on Hornby because it's now a turn lane, they won't be able to stop on Pacific because it's a bike lane, and they can't turn into the alley because it's being converted to stairs.</p> <p>Alley traffic can be difficult to navigate due to a blind intersection at the south end, and the absence of parking restrictions isn't helping. The alley is essentially single lane traffic in the east-west direction, and forcing all residents to use the same end at the same time will cause congestion. It seems a bit contradictory to block off one end of an emergency lane in the name of safety. There is relatively little pedestrian and bike traffic across this alley to begin with, so closing it off seems like a solution in search of a problem. Garbage and recycling trucks in particular are going to have a difficult time navigating this new configuration, as they currently enter from Howe and leave through Pacific (as</p>	1																	

68641	I live at 888 Pacific street (Hornby & Burard) and According to your proposal, you are going to close off the lane between Hornby and Howe !! and also change the whole side walk design in front of my building and dedicate it to cyclists and pedestrians!!! These decisions simply ruins the whole neighbourhood in many different aspects (Traffic pattern change- privacy issues- etc.) I STRONGLY oppose the design decision for areas around 888 Pacific (Promenade building) to close off the Lane and making this beautiful sidewalk to another ugly bike/pedestrian lane that is barely used by anyone but the neighbours who are not happy about it. On the other hand, I support the upgrade of the Burrard bridge.	1																	
68660	I am not in favour of closing any more lanes. If pedestrians just used the correct lane then the bridge is quite safe.																		
68666	it seems there will be unforeseen impact on area business and residence																		
68669	Relocating the southbound bus stop on Burrard to north of Burnaby Street means the my closest bus stop is now 6 blocks from my home - not great in the winter months.																		
68678	ANOTHER LANE TAKEN AWAY FROM TRAFFIC IS NOT A GOOD IDEA. YOU HAVE NOT SOLICITED OPINIONS ON ANYTHING BUT CONSTRUCTION HOURS. AS USUAL, THIS IS ALL DECIDED WITHOUT ANY CITIZEN INPUT.																		
68684	walking available on both side of bridge is preferred with pedestrian towards railing and cycle lane towards cars. There should be a barrier between cycle and pedestrian lane as cyclists go with high speed and tend to go in pedestrian lane.																		
68689	It appears to be a considerable improvement, and as speaking as a cyclist, pedestrians should have their own path on the east sidewalk, since they use the bike lane anyway.																		
68690	Bike lanes abruptly end once across the bridge, would like to see bridge bike lanes (both directions) connect to dedicated/separated bike lanes on the burrard/pacific side.	1																	
68707	DO NOT PERMANENTLY CLOSE ANOTHER LANE ON THE BURRARD BRIDGE BECAUSE IF YOU MAKE IT HARD FOR BUSINESSES TO HAVE ACCESS TO DOWNTOWN, THEY WILL ALL MOVE AWAY THEN YOU HAVE A DOWNTOWN GHOST TOWN OPEN TO ALL TYPES OF VANDALISM. ALSO YOUR BIG TAXES DOWNTOWN ARE PAID BY BUSINESSES.																		
68711	Looks good. Very important to correct the safety problems with the current traffic flow.																		
68713	I consider this another clear waste of money by an ideologically driven counsel. The downtown area is rapidly being choked off from the West Side. As a result, it is dying as a place to work and do business. If the city has any money to spend how about picking up the litter and garbage that is everywhere downtown. How about doing something for the burned out beggars you find on every corner downtown. Imagine the impression this makes on visitors. This once beautiful city is turning into a gridlocked dump more reminiscent of the Third World than Canada under the misguided policies that seem to govern every decision counsel makes. The expropriation of Point Grey Road for the benefit of a tiny minority is only the most egregious of these. Counsel already wasted a fortune on the intersection of Burrard and Cornwall now you want to empty the public purse on another solution to a problem that doesn't exist.																		
68724	Think it is a huge waste of funds for little return																		

68731	Yes. Why arent you asking me about the Bridge upgrades? Wheres the comment section for that? Here, you're asking about the intersection design. Please add a separate section to discuss the rest. Whilst you're in the business of upgrading you need to do something about the height of the East side wall bordering the bike lane. Its too low, some of us are tall and sit high up on our bikes. If we hit the wall we could go over it and fall into the harbour below. Please fix it.	1																
68736	looks ok to me		1															
68741	will it cost the tax payers more for the overtime or will the work hours be adjusted for this project and no overtime paid?						1											
68745	<p>intersection. However, I see a few flaws with the design.</p> <p>Since the original changes to the Burrard Bridge, there have been unacceptable backlogs getting on to the bridge from the west at busy times. Traffic flow to and from the bridge really appear to be optimized for those going to and from Yaletown rather than those heading to the West End. I'm concerned that closing the slipway is going to make this problem even worse. The document describes relatively small increases in travel times; however, this is relative to the current, already broken situation. Travel times should compare to before bike lanes were added to the bridge.</p> <p>Has thought been given to altering light timing at times of day and year when there is little bike traffic? This seems particularly relevant during busy traffic times in the winter.</p> <p>There are other ways that southbound traffic flow from the west end could be improved in order to reduce the number of cars attempting to get onto the Burrard Bridge. The best idea in my opinion would be to add a turn lane (and possibly a light) to allow cars to turn left into the southbound Granville bridge ramp from Pacific (right now, this ramp is only accessible to cars heading from Yaletown).</p> <p>Finally, if the intersection is being redesigned, it seems like a good opportunity to consider a left turn from the bridge onto Pacific. It's ridiculous to have cars drive five blocks out of the way in a big circle to access the west end from the bridge. This causes avoidable congestion, and in the aggregate surely has an undesirable environmental impact.</p>	1	1															
68748	Yes you are hiding information regarding walking access to both sides of the bridge. it is fine the way it is, people need to read signs and be fined if they are on the wrong side of the bridge to walk																	1
68749	I find that with the changes, southbound, with the Burrard Street bridge, the cars are idling more than before. I don't see how that is saving or protecting the environment when the cars are just sitting there emitting fumes. It's also very dangerous as the layout is confusing and some cars take the turns too sharply.																	1
68766	Looks good.																	1
68771	A more robust cycling and pedestrian network is needed in the city. The intersection design looks to reduce some of the conflicts that are currently experienced. I'm hoping the changes mean that the pedestrian crossings at Pacific and Burrard will be improved. On the east side, you should include a pedestrian crossing over Pacific.																	1
68775	I am opposed to the change																	1

68779	I live by the Hornby Street/Beach Avenue intersection. In general, I think that the plan will provide a safer route across the bridge for all users. My main concern is at the Hornby Street/Pacific Street intersection. It is proposed to keep Hornby Street to the south of Pacific Street one-way and, moreover, decrease it to one lane width as it meets Pacific Street. Many cars travel north up Hornby Street throughout the day as it is the main exit route for the numerous residents of the False Creek North area. There is much pedestrian traffic on the east and west sides of Hornby Street and two-way cyclist traffic on the east side of Hornby Street (particularly in summer) so it can be difficult for cars to turn either east or west onto Pacific Street. Hence, a single lane could cause much longer delays than at present for all cars trying to turn onto or cross Pacific Street there. The road carries two lanes of vehicles at present; I can see no benefit in making the situation worse than it already is when, presumably, the aim is to improve the situation for all road users. Residents here have already had to suffer considerable inconvenience when Hornby Street was made one-way south of Pacific Street and Howe Street became the only access road into the area from the north for vehicular traffic. We hope that we will not now be asked to endure further (unnecessary) inconvenience while using Hornby Street to leave the area.	1	1															
68782	The cyclists think they can go and the cars must stop for them. Who has the right of way? If a car is on front of a bike, who has the right of way to make a turn?										1							
68783	There should be a through lane on Pacific for cyclists heading east, as it will be difficult and not comfortable for many cyclists to use the vehicle lane and any alternate routes involve steep hills.	1																
68784	interested to know how long the wait for cyclists going south will be, with phased signals for right turning cars this could be a while and there might be a big backlog of bikes waiting to cross.																	
68794	Ensure the bike lane goes all the way around Pacific. It currently ends under the Granville Bridge and it is very dangerous to get to the Burrard bridge.	1																
68803	Anything is better than what is there now!		1															
68806	I cycle commute across Burrard daily, rain or shine, and welcome the proposed intersection design! From what I understand in the details provided, it looks like a win for everyone. Thank you for considering the safety of everyone walking, cycling, driving and using transit over Burrard.			1														
68812	Much needed, safety especially for pedestrians and cyclists should be the top priority. Especially loving the intersection design of the intersections along Pacific with the barriers at the corners protecting pedestrians and cyclists and forcing slower turning speeds for drivers. I would love to see these design elements at other busy intersections in Vancouver.			1														
68816	I do not feel you need to reduce the number of traffic lanes in order to make the bridge safe, which is the message I have been hearing. I have been on your website but I do not see the proposed intersection design for the north portion of the bridge - it was only the southern portion. Do not use safety as a reason to reduce lanes when we have no adequate transportation system to move people in and out of the city. I expected your survey to ask the question as to whether a lane reduction was supported in the general sense - but it was only asked in light of the construction efforts/timelines - I will be watching.											1						
68817	It looks great and is sorely needed.			1														
68838	I do not agree with this project and feel there is much better ways to spend out tax dollars in this city. As well, this is another city initiative that is part of council's agenda being pushed through, rather than looking at the real development needs of the city.				1													

68840	Priority signaling for cyclists in all directions in order to make cycling quicker AND most importantly safer. I feel that the signaling is very unsafe as it is now; just having cars and bikes go at the same time. Right-turning cars are a big hazard for cyclists. This needs to change.	1															
68841	Not sure this project has been well thought through with due consideration to the realities of traffic needs in this city.		1		1												
68850	wholly unacceptable; that being, the proposed closure of the lane end at Pacific, between Hornby and Howe. That, and the proposal to run a median along that section--blocking access. I live in one of the 2 buildings bordering that alley, and I can tell you that doing that will make every Resident in both building's life a living hell. Pomeria was approved to be built without a proper loading bay. Both buildings have service/moving vehicles coming and going regularly, and there is already inadequate space for them. With that alley end blocked, it will create massive problems for trucks entering, and being unable to turn around--needing to back out around sharp corners with others waiting to get out, and get in. Without the alley to use, there is nowhere else for them to go. Before you say, well, there is only a small amount of traffic coming and going from those buildings, I have to point out that there is actually quite a bit more activity than you think. Before the city finally agreed to designate our lane "commercial only", we had delays and problems getting in and out daily. The lane was completely blocked at times--from both ends! We hounded the city for months before we finally got some help rectifying it. I took many pictures during that time if you'd care to see them. I'm deeply concerned about what this will mean for us--not only the daily struggles, but what about emergency vehicles? There is simply not enough space to allow for efficient functioning--or functioning at all with the proposed changes as they stand. Where I would like to see my tax dollars spent with respect to bike/pedestrian traffic would be to build 2 smaller dedicated bike bridges; one from Yaletown, at the foot of Davie seawall across, and another West of the aquatic center. Narrowing roads, while increasing	1		1													
68862	As an owner at s.22(1) disagree with the proposed intersection design,mostly the closing off of the alley on the south end of Pacific. We had had numerous difficulties in the past with congestion in the lane. Once the city changed it into a commercial lane it's much better and traffic flows. Now by blocking off the entrance off Pacific,I question how you expect large service trucks to enter the alley then what back out??? Also moving trucks they'll block the lane and how do we as residents enter our buildings ??? I don't think it's a wise idea to be limiting access to a lane that has three garage entrances and all the service vechiles use this lane,We are headed for mass congestion. Also with the new complex being built the Vancouver House we are headed for more traffic congestion and building more bike lanes is not the answer, Most people that work in the downtown core don't bike to work they drive. Also since I have a bike lane right in front of my place it's used very seldom and when I do see the people on bikes the are riding down Horby St. on the rode not the bike lane!!!! Also in the downtown core bikers are everywhere on the streets rather then the bike lanes. Thanks for letting me express my views on the proposed design but I think you really need to study this design carefully. regards s.22(1)	1		1													
68864	Looks like many very good improvements. Two areas of concern: On the NE corner, more space for left turning bicyclists coming fro the bridge. On the NW corner, more space for west-bound cyclists to turn left.	1	1														

68866	It would be great to be able to turn left from Burrard onto Pacific (west, traveling northbound on the Bridge) since it is very difficult to access the West End right now.	1																
68873	Having bikes and pedestrians ticketed for not obeying the law at that intersection. Go stand down there on any rush hour and see bike blasting thru the stop sign that is there, Pedestrians stepping off the curb without looking.										1							
68876	I hope it is well thought through so in another couple of years we won't be forking out more money for design flaws.																	
68887	It seems to work pretty good as it is. I've heard that it has some of the most accidents. I have never seen an accident there and I travel both ways daily during the work week.					1												
68892	The merge point of southbound bike lanes coming onto the bridge has been the problem I've noticed the most. Coming North off the bridge it was a pain to link up with Hornby. I am glad you are finally doing something permanent at that end. I really like the southern end of the bridges improvements.	1	1															
68895	It is UNACCEPTABLE to permanently close off the alley way access between two residential buildings (Hornby and Howe on Pacific), proposal #11. This already congested lane will become impossible for garbage/recycle trucks, moving trucks and residents to maneuver. To close this lane for the purpose of putting in a dedicated bike lane for cyclists that can use the Hornby bike lane at the expense of residents who already have had to deal with one way road changes in our area is absurd. When is the city going to put the needs of the residents living in the affected area ahead of potential needs of cyclists. In addition, this lane is sometimes our only access in or out when many events such as the BMO marathon or LuLu Lemon marathon or SunRun blocks off access to get out of our area!!										1							
68902	Please stop building bike lanes all over the downtown and restricting driving, it is not doing anyone any good.										1							
68915	Don't do it					1												
68921	Add southbound bus stop at Pacific. Better yet, transit priority onto bridge.																	
68934	I support safety upgrades including improving south-bound vehicle access to the bridge from east-bound Pacific. I do not see the reason for additional pedestrian lane on east side of the bridge. I do not see the case for further restrictions for vehicle traffic on the bridge, but need to know more about proposed north-bound vehicle exit onto Pacific										1							
68966	I am not in favor of taking away another car lane. Traffic is bad enough already. More people use Burrard bridge for car/bus/cab than bikes/walking. This is a waste of taxpayer money.										1							
69006	It worsens an already bad situation					1												
69016	I disagree with any proposal which would remove a further lane from use for automobiles. There has been increased automobile traffic on both Granville and Cambie since the initial lane reduction on Burrard and a further lane reduction on Burrard will only exacerbate this issue. The Cambie bridge going southbound at the end of the business day can be backed up to mid-span.										1							
69026	This will be a huge improvement for users of all modes of transportation. I used to run over the east side sidewalk but haven't been able to do so since the bike lanes were added. I do appreciate the bike lanes - a lot. Improving the NE corner intersection will be good too.																	1
69034	The bridge needs better indication of where pedestrians and bicycles are allowed to be. I love this bridge!	1																
69044	YES. STOP TRYING TO PREVENT PEOPLE OTHER THAN BIKERS FROM GETTING DOWNTOWN					1					1							

69052	disappointed am do not support an additional lane removal, as the Granville bridge has much more capacity for such a closure than the Burrard bridge has.				1		1											
69075	Overpasses! A two lane (one lane each direction) overpass for motor vehicles, down the center of the street/bridge, would provide space for left turn lanes. Overpasses for bicycles would provide space for extra motor vehicle right turn lanes and level out some of the hill. There is plenty of elevation change to allow this, and flattening out some of that elevation change can only encourage more people to bicycle.				1													
69080	I believe your questions, as is usually the case , with the distortions introduced by the current City administration, results in answers it wants. For instance, in this case as I do not support reduction of lanes, why am I then asked, when I should accept that such work is done. This will trigger information that you then can use to justify your already made up decisions to do what you want. I am very fed up with the methods of manipulation that this administration is using to force people to accept what it has no control over.						1					1						
69104	Do not take another lane away for cars?! This is madness. The bridge is already safe for everyone						1											
69119	It will create more congestion. Need a less complicated design.				1													
69123	I do not agree with "converting" a northbound lane (ie. removing another car traffic lane from the bridge). Given the amount of space already provided for cycling and walking (one southbound lane, plus both original walkways), I think the solution could be easily achieved by reconfiguring/repurposing the already provided space for cycling and walking/running. I'm all for safety and agree that the Pacific/Burrard intersection could use some serious improvement, however, I do not support removing another land northbound for vehicle traffic - this will not improve traffic flow. Having cars waiting (and idling) in traffic congestion, will be counterproductive to improving the environmental impact of any change.				1		1											
69127	The current bike lanes provided are sufficient for bikers use, however unlike vehicle traffic, the bike traffic is not subject to monitoring and ticketing by traffic authorities, so the lanes are abused and not used properly. This gives the impression that more lanes are required. I strongly advise that the City of Vancouver deploys traffic authority personnel to enforce the laws applicable to cyclists to ensure the current infrastructure is used properly. The fact that cyclists can do as they please without much risk (if any) of penalty promotes the irresponsibility in their actions, which has created the safety hazard that currently exists.						1					1						
69136	Although I no longer pull a bike trailer I hope that the purposed new and improved cycling lanes will be bike trailer friendly and not super narrow.				1													
69141	The reason that there are so many accidents is because of the barriers created by the bike lane. Traffic going east on Pacific has to really juggle to try to get on the bridge because the window of opportunity is so small. Also, they have to go out so far before they can turn. Traffic is often backed up to Jervis St so drivers get frustrated. As much as you would like less cars, some people have to drive. This is a problem created by the city and now you want to inconvenience residents again! Another issue that the city forgets is this is a residential neighbourhood so drilling early, late, or on weekends is so disturbing to families with small children. We put up with it for years with the seismic upgrades. It's just not fair to put this much stress on people!				1												1	



69304	Having the lanes veer to the left/right midspan is dangerous and unwise. Bridges that are prone to icing in the cold and may be shrouded in fog seem a foolish place to add a curve to a lane. People frequently have trouble staying in their lanes when they are driving in a straight line let alone adding a curve IN THE MIDDLE OF A BRIDGE. utter foolishness	1																
69329	Pedestrians are our highest priority. They should be able to cross the street at all four sides of the intersection. Bicyclists should be able to travel eastbound on Pacific across Burrard and continue on Pacific. You are spending all this time and money. Make it right the first time. We already know that the inconvenience to drivers into downtown is a) not as important and b) minimal.  Granville Bridge continues to be a very speedy option for vehicles.	1			1													
69337	I thought a bike/walkway could run at level on the outside of the south edge and along the decent, straighten to pass over the intersection, to connect further up the Burrard Street slope.	1																
69341	North east corner will be tricky as sometimes I am cycling off bridge then east on Pacific and sometimes and other times north on Burrard or crossing west on Beach.	1																
69362	Do not take away anymore car lanes for bikes or pedestrians. The traffic congestion is bad as is. The last thing this city needs is to dump more money into serving the small minority of bicyclist at the expense of everyone.						1	1										
69392	Based on the conceptual drawings I think the intersection will be a tremendous improvement for all modes of transportation, as was the south end of Burrard at Cornwall. I have been riding a bike through both intersections for 24 years and find the recent improvements at the south end very successful. I expect the same will prove out at the north end.			1														
69398	Separate pedestrians from cyclist, barrier for cars. keep pest rain traffic on one side only for both directions. Keep bikes separate from both cars and pedestrian traffic.									1								
69415	I would like to see a eastbound bike lane on the south side of the intersection on Burrard St north more access to turn left into the West End maybe a left hand arrow lane with a signal on Burrard turning left at Davie St a new bus stop going south on Burrard near the intersection	1				1												
69427	Looks like a win win for drivers accessing the bridge from Pacific (from the West), and especially for pedestrians. I live next to the bridge and have to walk up the stairs and then cross Burrard, when the East stairs would be more convenient. Running and walking over the bridge are also a nuisance which the new design will solve. I also like the addition of some greenery and the elimination of what was the Kettle of Fish. All in all a great improvement to our neighbourhood!			1											1			
69437	Good work on getting us to this point! in addition though, I think it's very important to have protected eastbound cycling passage, would like to see pedestrian movement in all directions, think there needs to be immediate safe cycling configuration heading west on pacific from Richards connecting with the intersection plus excellent way faring signage everywhere.	1		1						1								
69441	1) Great improvement to safety and efficiency. 2) Fix the phone number mess at the bottom of the page. There are SEVERAL valid formats for North American phone numbers. NO MORE ARROGANT MESSAGES!																	1
69445	The existing lane for the bike and passengers are plenty enough.							1										

69519	I am not in favour of any further work on the Burrard bridge or the intersections. I drive and walk the bridge often without any problems. Another lane for walkers is definitely not necessary			1				1										
69547	<p>Remove the lane from the bridge in favor of a redundant recreational walking path, with the rationale that it is "inconvenient" for pedestrians to use the multi-million dollar intersections you have just built and plan to build, at the expense of massive quantities of greenhouse gases produced by idling cars during construction delays, is unfathomable. That lane is an artery to your central business district, a place where by far the vast majority of workers must now commute to from great distances, in part due to your refusal to make any efforts to address the cost of housing in your jurisdiction. Your planners' dogged insistence that the "only" future increases in bridge traffic will come from cyclists, in a climate that is unfriendly to that mode of transportation for a good part of the year, is misguided at best. A very recent upswing in cycle transportation is not a license to gut the City's passenger vehicle infrastructure, especially in the face of the massive congestion experienced by Vancouver commuters on a daily basis, particularly in the downtown area.</p> <p>This congestion can be seen in sharp relief in the afternoon rush hour on the Burrard Street Bridge, heading south. Traffic regularly backs up three quarters of the way to the Pacific intersection, now that there are only two lanes in the centre span and despite the increased capacity at the southern intersection. To ignore this hard evidence and assert that the same thing will not happen with two lanes on the northbound span during the morning rush hour is akin to burying one's head in the sand. Particularly telling is the lack of data presented at the open houses on how the proposed upgrades would affect northbound travel times during the AM peak when workers are commuting downtown. The City</p>			1		1												
69569	I live at 1003 Pacific and your design is removing a large portion of our front property. If you take away the first 10 feet or so of our strata property can we expect that our property taxes will also decrease?			1														1
69605	Very disturbed that no consultation process took place when the City designers decided to use "eminent domain" to expropriate the land that forms part of our property at 1003 Pacific St. Advised at Open House, it's a "done deal". I thought Open Houses were about open consultation - not here is the way it is, too bad for you!																	1
69613	The best solution would be to remove the existing bike lanes and return to original bridge plans. Cycling should be banned from the bridge as it is unsafe, bikes should be walked across. Urban cycling in general is very dangerous and leads to accidents and premature death, the city should not encourage this dangerous activity.																	1
69616	Impossible to get out of the West End onto Burrard Bridge thanks to you geniuses. Now everyone uses Cambie to get to 16th to travel to Point Grey, and Cambie Bridge is plugged in rush hour!		1															



69834	Looks good. I like that walking lanes will now be on both sides of the bridge.		1					1							
69845	I do not want to see another car lane closed!! When I drive downtown it is only to transit through to West Van and Hwy 99. The gridlock and bottleneck of the Burrard Bridge is terrible and causing congestion up Burrard on the south side, and along W 4th ave east and west. Don't forget that restricting cars also restricts transit buses. Not everyone rides a bike.									1					
69847	It should have a pedestrian overpass to allow cars potential for uninterrupted passage out of downtown	1													
69865	<b>s.22(1)</b> I am greatly impacted by the congestion at the intersection and the continuous honking horns of frustrated drivers when the intersection is blocked by traffic. I cannot keep my front room or bedroom windows open during daylight hours as exhaust fumes enter my apartment. I find it difficult to relax on the patio or inside my own apartment because of the honking horns especially between 2:00 PM and 7:00 pm on a sunny day. Traffic is always particularly bad in the good weather. As such I want the dual turning lanes a priority and anything prior to construction to help mitigate the blocking of the intersection. Can warning signs be placed. Intersection painted out to hinder people blocking it...? Periodic Police presence to hand out tickets..? My quality of life has deteriorated in the past couple of years since the Bike lane went in causing the congestion at the bridge. I am not anti bike. I am a Westender and walk bike and take Skytrain / Canada Line everywhere. I frequently use the bike lanes on the bridge as well as Hornby and always on the seawall biking even if doing a small shopping run to Cambie / 7th area / Olympic Village etc. Finally I strongly suggest that at the end of the renovations to the Bridge and hopefully planting and shrubbery go back that a Welcome to the West End sign is erected as in other city neighbourhoods. I am very proud of the West End. And using subtropical flora such as palm trees and banana plants. Evergreens are everywhere. The current planting is nothing special. Place the palms at the entrance way to downtown and the West End to show how unique we are. And I might add remind tourists this is not a brutally harsh city in winter. They can also consider visiting us in the winter months and not be		1												
69896	Do NOT reduce lanes for cars and buses for walkers and cyclists. This is a small minority. You should consider families, disabled and businesses that use vehicles to get across the bridge. This group is a majority and must be prioritized. If need be...add a bus lane!!! For a larger group to use!!!														
69934	It seems the most logical choice. Long overdue.		1												
70101	Protected eastbound bicycle traffic would be great.						1								
70124	Needs an eastbound bicycle crossing and a southbound bus stop - these are pretty obvious misses. Lose car lanes, take out trees, whatever it takes. Speaking of car lanes, widening the bridge by two lanes is pretty ridiculous if you're not willing to spend the money to avoid the sidewalks making magic 90 degree corners or to make the Burrard Street protected bike lanes wide enough for kids to not fall into traffic. Connection to the West End on Burnaby is hugely important, as are the intersections on Drake for connecting to Hornby (speaking of which, where are the protected intersections at Hornby/Pacific, Drake/Hornby, and Drake/Burrard?).														1

70129	Please cut down the big tree on the southwest corner to make space for a protected movement eastbound across pacific. Also, please add a bus stop at the same corner.  I would also like the city to explore the idea of reopening the pedestrian stairwell that is built on the south end of the bridge. this would eliminate 800m of extra walking to make a connection down to the seawall below, this is critical given the future residential growth on the first nations land below the bridge. More info is here: really cool video showing it! it is here: <a href="http://burrardbridgestairwell.blogspot.ca/">http://burrardbridgestairwell.blogspot.ca/</a>	1																
70225	in favour of spending on needed repairs that will improve safety money should not be spent on anything pedestrian get the cyclists off the sidewalks everywhere		1					1										
70226	the issue w/Burrard/Pacific intersection is speed not function removing another lane for bike creates congestion for cars most cyclists don't observe traffic laws or use the bike lanes accountability is a good start. Adding another bike lane does not solve the issues Bridge refurbishment all good; understandable																	
70309	Wonderful to be able to walk on both sides of the bridge good improvement coming off and on north End Long ovedue Continual improvement appreciated (cyclist and pedestrians) We live at south end of Burrard Bridge (between Brrard & Granville - both awkward to access at present - sso great plan		1															
70310	very important to calm traffic on Harwood st and Thurlow sta and the west side of the Burrard Drake intersection	1																
70312	looks good, necessary, practical		1															
70316	I love it and think it will make a much safer and simpler crossing for me while biking and walking across that intersection1 i would prefer if there wa a E-W crossing for bikes on the south side of the intersection which is a vital connection	1	1															
70318	Removing the right kiosk (cars v cyclist & pedestirans) is good Adding pedestrian on E side good Protected turn good																	
70319	living in s.22(1) with my car park at the backland between s.22(1) (going home from Burrard Bridge) I can not turn left onto my parking entrance. I can not turn right from Burrard onto Pacific Blvd. i can not head 10-15 miles from the backlane to have both North Side and South side traffic lights turning red, guess what even when after 1/4 from both lights are both red, there comes cyclists speeding down, am still stuck behind the wheel. so to go anywhere anywhere at all from time it becomes 5 to 6 more driving time confirmed to go all the way up the bridge turn the othe rdirection in order just to head downtown.																	
70321	We need our access to 1003 Pacific in front of building it is handicapp & emergency Bikes race down Burrard onto the bridge - put bike lane speed bumps to slow them Night construction would be very disruptive for sleep																	
70322	There should be provision for eastbound thru trafic on pacific Awkward slope - left thurn onto Hornby needs to be improved	1																



70338	I'm very supportive of the proposed upgrades. We've missed the eastside sidewalk since 2009 and are excited to see the safety of all considered at Burrard and Pacific. My main suggestion would be to add bus lanes. We rarely choose to take buses that take Burrard as it gets so backed up.	1	1						1								
70340	Looks terrific! Wonderful for us seniors who, as we live close by, have very much missed walking (and unique view) on the east side of Burrard Bridge. Also, some of the pedestrians we have encountered on the east side of the bridge in the last few years are chagrined to find they are being discourteous to cyclists by unknowingly walking there. Most tourists, visitors. We need wider cycling lanes on east side of bridge so faster cyclists can pass!!		1						1								
70342	The city has no right to grab our Bldg (sea star) front yard to turn into bike lanes I brought my principal dwelling because of the beautiful garden front yard No way to turn left onto Burrard from my parking back lane, had to wait until both bridge traffic light and Drake st light																1
70344	I am an owner and resident of 1003 Pacific St. I am very concerned that we will be without the landscaping at the front of Seastar. This will be bringing pedestrians and cycle traffic close to our front entrance. I feel this will encourage unwanted visitors to the property. Jeopardizing security. Why are the residents of seastar having to sacrifice our well maintained and attractive garden for more traffic and cycle lanes? Can we keep the magnolia trees please!?																1
70345	looks good		1														
70346	A general comment re/ bite boxes: paint "stop here" in front of the box for cars	1															
70347	No loss of another traffic lane seems to be ridiculous bicycles & pedestrians could be handled with a two level passage							1									
70348	Whatever you can do to limit vehicle traffic is beneficial to the city My preferred vision would be all ped/bike on narrow single lane in each direction w/speed bumps		1														
70350	I think most of the improvements are great, but I'm still not convinced a northbound pedestrian lane is necessary and the vast majority of pedestrian flow will continue on the western side even if a dedicated lane is added. It's there, so we might as well use it to improve traffic flow. If there was some way to provide bus priority with that spare lane it would be ideal.		1						1								
70351	Yes I like it		1														
70352	Why do you have to remove another vehicle lane? Every bike lane (Dunsmuir Georgian Viaduct, Hornby, Comos is shared) 1 bike lane two way traffic My suggestion is give back the east side sidewalk to pedestrians. Have both bike traffic (north and southbound) share existing dedicated bike lane, leave three northbound car lanes.							1									1
70357	I think the current design for bicycle lanes from the Burrard Bridge onto Hornby street was flawed. The logical design would have been to route bicycles directly north across Pacific and a right turn onto Drake, then onto Hornby. The new route will exacerbate and already congested intersection at Howe & Pacific. This will become progressively worse with the addition of Vancouver House, Tait ect. - The logical solution is to make Hornby St two ways between Pacific & Beach. This will allow right turns onto Hornby from Pacific and eliminate the needless loop and related congestion at Howe and Pacific.		1														1

70359	East bound cyclists on pacific: if they are on bike path eastbound & realize too late that they need to cross Burrard on the south side of the intersection, how do they get across 2 southbound slip lanes to the through lane eastbound? Do they have to position themselves with bike in front of first car eastbound in the cross walk. Could there be a green box for cyclist with bravely move over from the curb on pacific to the through lane eastbound or for those who realize too late that the should be in the eastbound through lane - signage at the Thurlow would help (eastbound) Railing between bikes & traffic (northbound) should be higher (bikes passing bikes are going fast)	1			1												
70360	The traffic needs to flow easily - There are citizens who can't ride bikes due to reason beyond their control. Cyclists need to make some concession e.g. Stop at red lights to allow cars to turn right, there is more than 1 car turning right on green/red light. e.g. let drivers have access to beautiful routes eg. paint grey road - cyclists have many options for family cycling, including parks, where weniors and disabled are able to go. Why use permanent structures for seasonal issues? eg families are not out cycling in December rains					1					1						
70363	Leave it alone! as a matter of fact take the bike lane out and return it to the way it was. If you have to repair the bridge do so but do not touch the intersection			1		1											
70364	I don't believe that the 105 tax patying homeowners of 1003 Pacific St were considered in the least. We already risk and accident each and everytime we access our underground parking with cyclists flying down Burrard with no yield or stop signs at our lane. To propose and additional bike lane at our front garden the front entry and main entry to our building - offers a landscape hinderance as well as putting our residents in more cycling traffic. The front scape of any building is the curb appeal which would also suffer greatly. The proposed plan will block our front handicap access ane emergency vehicle driveway. Another guge problem. Thanks										1			1		1	
70365	Burrard bridge is ggreat enough to nowady change Don't spend extra bloody tax Please stop construction			1													
70367	1- Like the protected bike lanes 2-Need to keep Pacific St. driveway access for 1003 Pacific St. 3-Any provision to prevent cyclists from "racing" from Drake South on to the Burrard Bridge would be safer for all. 4-Do not support all night construction period. Evening shift would be ok.										1		1		1	1	1
70368	Doubling right turn lanes on Pacific southbound is a great idea. Current situation of having to cross bike lanes and merging intoconcoming traffic from Burrard is tricky/not very safe.			1													
70369	With existing available space - taken into consideration - projected rendering looks very promising. Looking forward to the completed project!			1													
70370	The bicycle route access from Pacific Blvd. to the laneway immediately east of Burrard If you change this to stairs, add a gutter or narrow path that bikes can be walked down (as bicyclists use this route fequently).			1													
70371	Too expensive - \$30 million budget too much it will take away resources from other projects. Why have 6 lanes of traffic on mouth end of Bridge/Pacific? Keep 4 lanes all the way through and save \$\$			1													1

70375	It definitely looks like a great improvement for the Pacific-Burrard intersection. The turn lane changes are particularly good. Although only a very occasional walker -the second walk lane makes sense As a driver-the times I use the bridge and intersection - line-ups are not long at all. But the present turn lanes make it a little dangerous!		1						1								
70376	I use car, bicycle, walk and bus also. So I am keenly aware of the challenges one faces using each of the modalities. cycling - I think there is enough space for cyclists on bridge, but the ramp on Pacific/Burrard is a dangerous one. I have had several close calls on bike. pedestrian- Enough space for pedestrians to walk on bridge but having to cross to west side walk inconvenient for some. Does not bother me. car- I really feel reducing traffic lanes will choke up traffic even more and frustrate drivers, but on/off ramps need better flow!								1								
70403	Needs to have bike lane to facilitate east bound on Pacific Needs to have bus-stop south bound at Burrard at Pacific Remove the tree to facilitate the above, other than above, very good design. Congratulations!	1	1			1											
70404	Concerned about additional rolling traffic on bridge w/4 NB lanes next to residential buildings								1								
70405	I am against losing one more lane on the bridge!								1								
70406	Removing a traffic lane will lead to cars spending longer periods on the bridge due to increased congestion - Leading to increased emissions and air pollution as well as honking and the kinds of behavior that comes from frustration. The Rationale that pedestrians are using the bike lane is a poor excuse for adding another bike lane. Bikes constantly use the Stanley Paark footpath, inconveniencing and endangering pedestrians and their pets. We need courtesy, not more bike lanes.								1			1					
70408	don't see the need for east side walking path instead discourage use with better side to side crossing and different surface treatment would like a dedicated bus lane probably south bound	1									1						
70410	So glad pedestrians will once again be able to walk on both sides of the bridge. To me the cyclists paths seem good but I have a feeling they won't be thrilled.																1
70411	I live at 1003 Pacific. I am concerned about access to the lane currently we cannot turn into our lane where the parkade is when driving North on Burrard, this means I have to take a large detour of many blocks to get home. We also have three beautiful Magnolia trees outside our building which is part of our landscaping we are losing. They are so special people stop and take photos. Please please can you plant the same magnolia trees with large funny birds in the new landscaping outside our building.	1															1
70453	-with new lighting ensure it is coordinated with the guardrail supports and the original light St Jerome locations -repair stains at north west side -remove horrible paint job on towers -i don't believe this is original has this been researched ever	1															
70454	Appears to be well resolved solution of a different problem															1	
70455	don't know much about traffic engineers I guess ill trust them... get some engineers who walk/bike over the B bridge regularly and who will benefit from their own safe design																
70456	Safety and ease for walkers should be paramount																1









Note: These results combine online and hard copy surveys	
Total number of responses to Q7: 1,097	
<b>Response category</b>	<b>Number of responses</b>
Design concerns or recommendations	229
Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	302
General approval	241
General disapproval	185
Suggest flawed consultation process or information provided	83
Complaints about dangerous cyclists or giving priority to cyclists	80
Waste of money/cost concerns	66
Concerns about crossing Burrard	49
Support east side pedestrian access	42
Don't support east side pedestrian lane	39
Supports addition of bike lane / improvements for cyclists	34
Concern / ideas about aesthetics	20
General safety concerns	16
Concerns / suggestions for approach to construction	14
Seastar building resident concerns	12

July 3, 2015

Paul Storer  
Project Manager  
Transportation Plan Team  
Engineering Services  
City of Vancouver  
320-507 West Broadway  
Vancouver, BC V5Z 0B4

**Re.: Burrard Bridge and Pacific Street Intersection Upgrade Project – Congestion Mitigation during Construction**

Dear Mr. Storer:

Thank you for meeting with the BC Trucking Association (BCTA) to provide an overview of the Burrard Bridge and Pacific Street Intersection Upgrade Project and solicit our input. We have no immediate concerns about the proposed upgrades to the Burrard Bridge and the intersection at Pacific Street. However, our concern is the anticipated disruption to traffic and increase in congestion during construction, which could take 14 to 20 months.

To mitigate the negative impact on commercial vehicle traffic during construction, BCTA recommends that the City of Vancouver designate the Granville Bridge, Howe Street, and Seymour Street as a "limited-use" truck route for the duration of the project.

Consistent with past BCTA recommendations to designate the Granville Bridge as a "limited-use" truck route, the route would be restricted to non-articulated straight trucks and commercial buses with up to 3 axles and gross vehicle weight (GVW) up to 27,000 kg. This recommendation is also consistent with the enclosed City of Vancouver Engineering Services memo to City Council, which allows commercial buses on the Granville Bridge, and provisions under the Olympic Transportation Plan (OTP), which in addition to commercial buses, temporarily allowed goods moving vehicles to access the downtown area using the Granville Bridge during the 2010 Winter Olympics.

Available routes for commercial vehicles that weigh more than 10,000 kg travelling to and from the downtown area are limited to four major corridors:

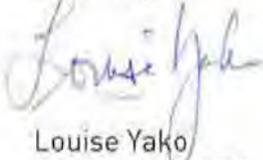
- Burrard Street, Cambie Street, and Quebec/Main Street, which form the primary North/South corridors, and
- the viaducts and Expo/Pacific Boulevards, which form the primary East/West corridor.

These corridors are major arterial routes that are currently subject to heavy congestion, particularly when there are seasonal spikes in travel demand, such as during the cruise ship season.

With the Burrard Bridge and the intersection of Burrard Street and Pacific Street compromised for up to 20 months, the Granville Bridge would provide an alternate route to mitigate the negative impact on commercial vehicles travelling to and from the downtown area over False Creek.

I look forward to the City's response. In the meantime, please do not hesitate to contact me if you have any questions.

Sincerely,



Louise Yako  
President & CEO

Encl.

cc. Steve Brown, Manager, Traffic and Data Management, City of Vancouver Engineering Services  
Sany Zein, Director, Infrastructure and Network Management, TransLink  
Helen Cook, Planning Manager, Infrastructure and Network Management, TransLink  
Phoebe Cheung, Project Manager - Roads, Infrastructure and Network Management, TransLink  
Bob Wilds, Managing Director, Greater Vancouver Gateway Council

## MEMORANDUM

May 28, 2010

TO: Mayor and Council

CC: Penny Ballem, City Manager  
Marg Coulson, City Clerk  
Robin Adair, GM, Intergovernmental Relations & Strategic Partnerships  
Wendy Stewart, Assistant Director - Media Services

FROM: Peter Judd, Acting General Manager of Engineering Services

SUBJECT: Buses on Granville Bridge

The purpose of this memo is to advise Mayor and Council that the structural upgrades to the Granville Bridge approach spans have been completed and buses that weigh less than 27,000kg are no longer restricted from using the Granville Bridge. The temporary restriction was in place between April, 2007, and January, 2010, while the upgrades were underway. During that time, buses were required to use either the Burrard or Cambie Bridge to travel to and from the downtown over False Creek. The use of the Granville Bridge by buses provides a direct connection along Highway 99 between the YVR Airport and the Cruise Ship Terminal, as well as additional downtown venues. Trucks are still prohibited from using the Granville Bridge and there are no plans for this to be changed at this time.

If you have any questions related to the above information, please contact Jerry Dobrovolsky, Assistant City Engineer, Transportation, at 604-873-7331.



Peter Judd, P.Eng.  
Acting General Manager/City Engineer

PJ/np  
memo-buses on granville bridge.doc

3 July 2015

# BURRARD BRIDGE Engagement Summary

## VANCOUVER

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Delaney + Associates is a third party neutral stakeholder and public engagement company. We are certified by the International Association of Public Participation and the International Association for Facilitation. We have no vested interests in the decision for which this engagement was convened. Our instructions from the client were to design and facilitated dialogue in order to reach out to interested and effected parties in order to collect and document advice and concerns. This summary of engagement findings is true and accurate to the best of our knowledge and fully reflects views of those we engaged.



Richard Delaney, CPF, MPA  
President

Original Draft – Prepared June 26, 2015  
Revised – July 3, 2015

## Executive Summary

The City of Vancouver hired Delaney + Associates to support the City's implementation of the Burrard Bridge engagement process, in support of upgrades to the north end of the bridge intersection, including realignment of the intersection, improved pedestrian and cyclist safety measures, adding a new cycle lane and returning pedestrian traffic to the east side of the bridge. All of which means closes an existing vehicle lane. The engagement period was for the month of June 2015, and the purpose was to provide information to stakeholders and the public about the project and to receive comments on a draft design for bridge improvements.

During the engagement period (1-25 June, 2015), there were more than 20 unique engagements ranging from open houses, on-site lemonade stands, online and hardcopy surveys, one-on-one meetings, and presentations with Q&A / discussion sessions. The engagement was robust and sought to include all those stakeholders who may be impacted by the project.

The engagement process highlighted just how vital the Burrard Bridge is as a multi-modal transportation corridor, heritage landmark and key access to the downtown peninsula. While there is significant support for the upgrades, and a clear recognition that safety for all bridge users is paramount, there are specific concerns, questions, and areas of the proposed modifications to the bridge that will require further consideration or evaluation based on what was heard during the engagement process. This report outlines how and what stakeholders were engaged, highlights comments on the proposed design and documents what was heard throughout the engagement.

Stakeholders have a high expectation of ongoing engagement, including feedback on how their input was considered or how it influenced modifications to the bridge and intersection.

# Summary of Engagement

## Engagements Conducted/Assisted by Delaney and Associates

Delaney + Associates (D+A), in coordination with the City of Vancouver (City), contacted numerous stakeholders who may be impacted by the project. The stakeholders contacted by D+A can be divided into two groups and several categories:

- 1) The general public:
  - a. Motorists / Commuters
  - b. Cyclists
  - c. Pedestrians
  - d. Seniors
  - e. Heritage Enthusiasts
  - f. Local Residents
- 2) Organizations serving people who may have interests relating to the project:
  - a. Government agencies
  - b. Non-governmental organizations
  - c. Community organizations
  - d. Businesses Associations potentially impacted by construction or routing
  - e. Corporations with offices in close proximity to the north end of the bridge

This report consolidates and relays our findings to the City for project-based decision making.

We understand the City initiated engagement with residents and businesses near the Burrard Bridge with information sent by mail. The engagement activities undertaken by Delaney sought to add value to this communication and to creatively engage bridge users to inform them of the rationale and approach to the project and to capture their input.

### 1) General Public

Three main types of engagement were used to connect with the general public.

1. Open Houses: Two open houses were organized, both taking place at the Roundhouse Community Centre held Saturday, June 6 and Tuesday, June 16.
2. Lemonade Stands: Two “lemonade stands” (information booths) were set up on the bridge at the intersection of Pacific Street and Burrard Street on separate days. The lemonade stands involved D+A and City staff intercepting people crossing the bridge by foot or bicycle to offer a glass of lemonade, information about the project, answer questions, and solicit feedback. A number of information panels were also set up at the lemonade stands to provide detailed information and the project timeline.

3. Posters: D+A staff conducted two poster campaigns to put up posters and distribute information flyers in gas stations, coffee shops, and other places where people either congregate or pass through as they approach the Burrard Bridge.

a) Open Houses<sup>1</sup>

**1<sup>st</sup> Open House – Saturday, June 6, 10 a.m. – 2 p.m.:**

Estimated number of people engaged: 50-70

**2<sup>nd</sup> Open House – Tuesday, June 16, 7-9p.m.:**

Estimated number of people engaged: 80-100

**Written Feedback Received:**

**Positive:**

- I think this is a great project and I really appreciate that City staff are here to answer our questions and show us all this information.
- I appreciate the opportunity to come to this open house and get my questions answered.
- This is going to be great for cyclists. We are all on board.

**Neutral:** None.

**Negative:**

- I did not hear anything about this construction or this session. Why was I not informed?
- They are not going to do a presentation? I have to look at all the information myself?
- Is the City even going to listen to what I have to say? There is no point to this. Seems like it is a done deal.
- The project is too expensive and seems like we are paying too much money to improve the bridge when it was just updated.

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<sup>1</sup> D+A staff captured limited feedback from the Open Houses, as the role of D+A staff was primarily to sign people in, orient them, and collect feedback forms.

- I am really pissed about this project and have a lot to say (filled out two feedback forms).

## b) Lemonade stands

### 1<sup>st</sup> Lemonade stand – Friday, June 5, 3-6p.m.

Staff: Paul Storer (City of Vancouver), Emina (Delaney), Suzy (Delaney)

Estimated number of people engaged: 150 people

### 2<sup>nd</sup> Lemonade stand – Saturday, June 13, 3-6p.m.

Staff: Paul Storer (City of Vancouver), Sally (Delaney), Suzy (Delaney)

Estimated number of people engaged: 120 people

## Feedback Received:

### Positive:

- Lemonade is too sweet :)
- I am happy they are making that intersection safer, it is very dangerous.
- I am an old lady and access to the bridge on both sides is much better for me; it makes the bridge more accessible.
- The intersection is so dangerous and I feel scared crossing onto the bridge with my kids in the stroller.
- I think this is a great project and I am 100% supportive of it.
- As a biker, I welcome the changes to the east side of the bridge, as it is a little dangerous and tight during peak times. Although you are not supposed to pass, people do. Widening the bike lane is a great idea.
- Who designed that intersection in the first place? It is not safe. We saw an accident this morning with a biker and car. I am glad they are going to make it safer.
- I get so nervous every time I bike down Burrard going south onto the bridge from downtown. I am really happy the city will be improving that area.
- Right now the east side is dangerous for bikers because walkers sometimes use it. The addition of walking on the east side will improve this.
- My husband bikes over this bridge every day and I am so nervous about it. I would welcome improvements to this intersection.

- I really liked the improvements that were made on the south end of the bridge, so feel this project will also make a positive impact.
- It really is a pain having to cross to the other side of the bridge to walk over it. Any improvement to that would be great.
- It all seems to make sense to me.

#### Neutral:

- I don't use the bridge that often so the construction will not really impact me on a regular basis.
- What will access to the bridge be like during the construction period?
- I walk the bridge every day and do not really see the need for an additional walking area. It is not a big inconvenience to cross the road.
- It would be great if bikers/walkers could be completely separated from the cars either under or over the bridge.
- Will the loss of the lane on the east-side reduce traffic on an already busy bridge?
- As a regular user of this bridge I see accidents at this intersection happen all the time.
- Why was this not done at the same time as the work on the south side?
- Will the bridge be completely closed during construction?
- We witnessed two families, most likely visitors try to use the bike lane as a pedestrian crossing.
- Will the 'look' of the bridge be maintained?

#### Negative:

- I am not sure why there are spending all this money to upgrade. We didn't need the lane in 2009 and it was too expensive, why do we need it now?
- I live close by and am surprised I didn't hear anything about this before.
- More construction! Didn't you just complete some?
- \$30 million dollars! That is a lot of money. Do we really need to do all this. We spent too much on the Cornwall side in 2009.

- I am concerned about the noise from construction. If it occurs during work hours when I am not at home, that is okay but otherwise I am concerned I will be inconvenienced.
- Why are we just hearing about this? I feel like there should have been more consultation.
- Isn't a done deal anyways, why are you even asking for our input?
- I'm concerned about construction noise as we live right next to the bridge.
- No point in giving feedback, no one is going to listen anyhow.
- Why was the intersection designed so inefficiently in the first place?

### c) Gas station poster campaigns

#### 1<sup>st</sup> poster campaign – Tuesday, June 2, approximately 1-3p.m. (North end of the bridge)

D+A staff requested permission to put up a poster and leave information postcards at the Esso on Burrard and Davie for distribution to patrons. We were told, however, that permission from head office must be sought. As that was the only gas station identified north of the bridge, D+A staff continued to coffee shops and other locations with potential for significant customer traffic. This included approaching the following: Molli Café (took a poster to display as well as some postcards); the Maple Leaf Café and Deli (took postcards to put on the counter); Burrard Corner Store (took postcards); Subway (staff said they are not permitted to put up posters or leave postcards); Bicycle Sports Pacific (took postcards); UPS (took postcards); Cycle City Tours/Cycle Vancouver (took postcards); Afso Café (did not take posters or postcards); TD/Canada Trust (agreed to distribute postcards).

#### Comments on 1<sup>st</sup> poster campaign:

The manager at Bicycle Sports Pacific offered detailed commentary about the traffic patterns at the north intersection. He expressed that he was open to being contacted by the City to provide information or feedback on the possible designs for the intersection based on his experience from the store right near the intersection, and the occurrences that he observes daily.

Owners or staff members of The Maple Leaf Café and Deli, Afso Café, and UPS were very concerned about the short and long-term impacts of the project on their businesses.

#### 2<sup>nd</sup> poster campaign – Friday, June 12, approximately 12-1p.m. (South end of the bridge)

Four gas stations were approached:

- Esso at Burrard and Broadway: Staff indicated that they are not allowed to put up posters or distribute postcards.
- Esso at Burrard and 4<sup>th</sup> Avenue: The store manager took one poster and a stack of postcards, and indicated that he would ask permission of head office to display them.
- Chevron at Burrard between 3<sup>rd</sup> and 4<sup>th</sup> Avenues: Staff permitted the displaying of one poster, and took a stack of postcards to put on the counter.
- Petro Canada on Burrard near 1<sup>st</sup> Avenue: Staff indicated that they are not allowed to display posters, but took a stack of postcards to put on the counter.

## 2) Organizations serving people who may have interests relating to the project

### a) Lists of organizations contacted:

The following organizations were contacted directly either by City or D+A staff to provide information and arrange meetings with City staff, for any organizations that desired one. Information project packages were also mailed to residential buildings in the vicinity of the north end of the bridge:

- BC Hydro
- BC Trucking Association (BCTA)
- Better Environmentally Sound Transportation (BEST)
- Downtown Vancouver Association (DVA)
- Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee
- Fortis BC
- Gateway Council
- Heritage Commission
- Heritage Vancouver Society
- HUB
- Persons with Disabilities Committee
- Port Metro Vancouver
- Robson Street Business Association
- Shaw cable
- Telus
- Tourism Vancouver
- Vancouver filming industry
- Vancouver Heritage Foundation
- West End Business Improvement Association (WEBIA)
- West End Seniors Community Planning Table
- West End Seniors Network<sup>2</sup>

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<sup>2</sup> A member of the West End Seniors Network attended the meeting on June 19 with the Seniors Advisory Committee, and expressed an appreciation at being contacted, but some frustration at the short notice and the short consultation period as this organization would have liked to engage more robustly but they were not able to within the City's timeline.

- Women's Advisory Committee
- TransLink
- Advisory Committee on Seniors' Issues
- Vancouver Taxi Association
- Vancouver filming industry representatives
- Vancouver Board of Trade
- Active Transportation Policy Council Projects Subcommittee
- Transportation 2040 Plan Stakeholder Committee
- Persons with Disabilities Committee

Of the organizations listed above, the following were satisfied by the information provided by D+A and indicated they did not request further consultation:

- West End Seniors Network\*
- Robson Street Business Association
- Fortis BC

Of the organizations listed above, the following either:

a) did not respond to the initial contact made by D+A, or

b) responded initially, but did not follow up with a request for a meeting, or did not continue to respond to the extent that would have been required to set up a meeting:

- Downtown Vancouver Association
- West End Seniors Community Planning Table
- Port Metro Vancouver
- BC Hydro
- Telus
- Shaw
- Tourism Vancouver
- Gateway Council

Of the organizations who desired meetings with the City, the following meetings were arranged:

- Women's Advisory Committee: June 2, 5.30-7.30 p.m.
- HUB: June 16, 5.15-6 p.m.
- West End Business Improvement Association (WEBIA): June 15, 2 p.m.
- BC Trucking Association (BCTA): June 23, 9-10 a.m.
- Better Environmentally Sound Transportation (BEST): City staff attended their staff and volunteer appreciation night on June 12 and presented the project
- Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee: (during the Committee's regular meeting) June 11, 12-1.30 p.m.
- Heritage Commission: June 15, 11 a.m.
- Heritage Vancouver Society: June 24, 6-7.30 p.m.

- TransLink: June 17, 10 a.m.
- Advisory Committee on Seniors' Issues: June 19, 9.30-10.30 a.m.
- Vancouver Taxi Association: June 5, 9.30 a.m.
- Vancouver filming industry: June 30, 7 p.m.
- Vancouver Board of Trade: June 19, 9 a.m.
- Active Transportation Policy Council Projects Subcommittee: June 3 @ 6 p.m.
- Transportation 2040 Plan Stakeholder Committee: May 26, 2015
- Persons with Disabilities Committee: June 25, 5 p.m.

**b) Summaries of meetings held (at which D+A staff took notes):**

**Women's Advisory Committee (June 2, 5.30-7.30 p.m.)**

The City (Paul Storer) gave an overview of the Burrard Bridge Upgrade and North Intersection Project, following which the Committee had the opportunity to ask questions. Committee members asked a wide range of questions spanning from lighting on the bridge to media coverage of the project, as well as the process of obtaining Council funding and approval for large projects and a variety of additional questions. The meeting was adjourned after the Committee had finished asking questions, and Mr. Storer provided members with information about the project website as well as additional avenues through which to provide feedback.

**HUB (June 16, 5.15-6 p.m.)**

The City (Paul Storer) gave a presentation; he went through the slides in a targeted manner, as several HUB members in attendance were already familiar with many of the details of the project. HUB members then asked questions of the City team for approximately 30 minutes. HUB members overall were supportive of the project, and asked several detailed questions about cycling connections. One of their greatest concerns was the intersection crossing for cyclists heading eastbound on Pacific, through Burrard. The City team answered all questions, and made HUB aware of their right to make a formal submission to City Council expressing their preferences for cycling connections and other cycling provisions related to the project.

**West End Business Improvement Association (WEBIA) (June 15, 2pm)**

The City (Paul Storer) attended one of the West End Business Improvement Association's regular meetings, making a presentation about the project followed by a question and answer period. WEBIA members expressed concerns in a few categories, including the removal of the vehicle lane, impacts on businesses during construction, and the difficult crossing for cyclists heading eastbound on Pacific across Burrard Street. Members also expressed a strong desire for the City to install the necessary infrastructure to allow multi-coloured lighting on the bridge, either for special events or to help light up the city when it is rainy and cloudy.

### **BC Trucking Association (BCTA) (June 23, 9-10 a.m.)**

Following the presentation by Paul Storer, meeting participants representing various trucking, tourism-related, and other transportation companies, asked several questions. Most of the questions surrounded impacts during construction on travel times and scheduling for picking up/dropping off and deliveries. Participants also asked detailed questions about the new signaling and arrangement of the north intersection, as well as impacts on travel times for different directions or routes following construction. A strong desire was expressed for the City to explore options to make Granville Bridge available during construction to as much truck/bus/other large vehicle traffic as its weight capacity can handle, to minimize disruptions to scheduling for trucking and other transport companies during that phase. The City team stated that they will look into the question of allowing additional heavy vehicle traffic on Granville Bridge, including a review of the previous discussion on the same topic which occurred several years ago, and will report back to meeting participants.

The BCTA and/or representatives from companies present at the meeting prepared a formal submission on the project (see attached Louise Yako letter, 3 July 2015), which is supportive overall while requesting the City “designate the Granville Bridge, Howe Street, and Seymour Street as a “limited-use” truck route for the duration of the project.”

### **Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee (June 11, 12-1.30 p.m.)**

The meeting between the City and the Downtown Vancouver Business Improvement Association (DVBIA)’s Access and Mobility Committee took place during one of the Committee’s regular meetings. The segment concerning the Burrard Bridge took up approximately 20-30 minutes of the 1.5 hour-long meeting. Paul Storer with the City’s team gave a presentation and took questions afterward. Overall, the DVBIA’s Access and Mobility Committee is supportive of the project, as it will improve access to downtown Vancouver once it is completed and is therefore consistent with their goals.

### **Heritage Commission (June 15, 11 a.m.)**

Paul Storer from the City began by giving a PowerPoint presentation to Heritage Commission members describing the project. He indicated that the City had worked with a consultant (Donald Luxton) regarding heritage aspects of the bridge. Following the presentation, Commission members asked several questions, including about the removal of one vehicle lane and the planned changes to the north intersection, with respect to car traffic. Paul Storer responded that commute times would increase only slightly, and that the intersection is the primary capacity constraint. Ultimately, members of the Heritage Commission expressed their support for the project and its plans to protect the heritage value of the bridge, stating that it is great to be in a time where the Commission does not have to fight for a voice regarding protecting the heritage value of the bridge, and can easily communicate with the City about this topic.

### **TransLink (June 17, 10 a.m.)**

After a brief presentation by the City, members of TransLink in attendance asked questions related to the public feedback received so far, as well as issues related to the arrangements for bus and truck traffic across the bridge during construction. The City representative noted that most public feedback so far has been in four areas:

1. reallocation of the vehicle lane;
2. impacts during construction;
3. eastbound cycling on Pacific through Burrard; and
4. laneway between Hornby and Howe.

The City also noted that most trucks travel across the bridge during off-peak hours, that they will ensure that lanes are wide enough for buses, and that buses can safely navigate the new traffic patterns. Participants also recommended a joint meeting with the Port and the Gateway Council as they would have similar questions to TransLink. A recommendation was also made to connect with Coast Mountain Bus Company (CMBC).

#### **Advisory Committee on Seniors' Issues (June 19, 9.30-10.30 a.m.)**

After a presentation by Paul Storer, Committee members asked a series of questions. Some skepticism was expressed regarding plans for the north intersection and whether the changes would make things better for traffic of all types and all directions. Mr. Storer explained some of the reasoning behind the proposals for the changes and new signaling at the intersection, and some of the challenges and trade-offs the City team faced. Participants seemed to largely agree that these were sound considerations, and that the plans were realistic. Some concern was expressed over the length of the crossings with respect to signal timing. Mr. Storer explained that the City recently increased the amount of crossing time it plans for when designing intersections and signaling, as they realized the previous benchmark was not allowing people enough time to cross.

Overall, participants concluded by expressing support for the project. They, however, also expressed a strong interest in being engaged much earlier in the process, as it seemed too late at this stage for certain ideas to be considered (e.g. a Bailey bridge for pedestrian/cyclists), even though they may have been very good ideas.

#### **Vancouver Taxi Association (June 5, 9.30 a.m.)**

The Vancouver Taxi Association expressed support for the project overall. They expressed concerns about how the south intersection was done in the previous phase, but were of the opinion that the plans and design for the north intersection would work well. Members asked about putting mirrors in for the bike lanes (in general), to make it easier to see bikes coming before turning; Paul Storer from the City explained that it was not City practice to install mirrors. Another topic of discussion included the slip lanes for cars turning right from Pacific on to the bridge. Taxi Association members said there is a stop sign for cyclists, but they often don't stop. Other safety challenges associated with the slip lanes were also discussed. Meeting participants also asked about the planned construction phase and what the impacts would be during construction.

### **Vancouver filming industry (June 30, 7 p.m.)**

After a presentation by the City of Vancouver, participants asked several questions. Three principal concerns were expressed. The first was that a significant amount of filming takes place on the Burrard Bridge, especially for car commercials, in part because of unique features that make for visually appealing scenes, and the construction would restrict their ability to film these scenes. Participants also noted, however, that the construction zones often provide unique filming opportunities as well. For this reason, a request was made for ongoing information about construction and closure schedules, and instructions on how to access restricted zones for shooting during these times. The topic of the green paint indicating cycling zones arose; participants expressed frustration over this decision which took place a few years ago, as it has affected their ability to film and there are costs associated with temporarily painting over it. The greatest concern was the impact on the film industry of the visual changes that would result from the potential addition of “means prevention” (suicide prevention) fencing; one participant wondered if any provision could be made for this to be removable for filming purposes.

### **Persons with Disabilities Committee (June 25, 5-6 p.m.)**

The meeting opened with a short presentation from the City. The presentation covered the key elements of the project and highlighted that the key objectives were improving safety and active transportation as well as improving infrastructure on, as well as underneath the bridge (sewer and water mains). Safety and wayfaring were the Committee’s biggest concerns. Two issues were raised and were officially incorporated into the Committee’s meeting minutes: (1) Signaling at crosswalks/intersections on the bridge as well as areas along the active transportation corridors that separate bikes and pedestrians, and (2) Accessibility and flow along the pedestrian corridors, specifically having places for people with disabilities and seniors to sit or rest. Committee members were also advised that the City will accept additional feedback in the coming weeks regarding bridge design and the City welcomes that feedback.

### **Heritage Vancouver Society (June 24, 6-7 p.m.)**

The meeting between the City and the Heritage Vancouver Society covered many specific heritage-related topics relating to the project, including the proposed barriers between the bike and vehicle lanes, the potential addition of suicide fencing, the handrails, and the different types of lighting on the bridge.

Heritage Vancouver members expresses an interest in alternatives to steel barriers, expressed concern over the high heritage impact of suicide fencing, and asked questions about the City’s plans for the handrails and lighting, while asking the City if it is possible to include repairs of the brazier lights in the plan. The City team responded to all questions and in doing so provided additional information on topics like safety codes for barriers, that some of the lighting on the bridge is not part of the original design, and information on the alternatives they had considered for various questions raised by participants. The City team explained that they have not finalized decisions on barriers yet, but any chosen option needs to meet safety standards. The City also acknowledged

the significant heritage and historical value of the brazier lights, their sub-optimal condition, and the need to repair them in the near future. They also explained the significant and unique challenges associated with performing these repairs, as they had discovered in their initial assessment of the brazier lights for this project. The City team invited the Heritage Vancouver Society to make a formal submission to City Council should they wish to express official positions on aspects of the project.

## Engagements Conducted by the City of Vancouver, tracked by D+A

Several forms of engagement were organized and conducted by the City of Vancouver, and tracked by D+A. These included a survey which was distributed in hard copy at the Open Houses and online ([vancouver.ca/burrardbridgenorth](http://vancouver.ca/burrardbridgenorth)), and interaction directly to City staff/officials by email. In addition to the above, D+A tracked the timing and status of all engagements through a document shared with the City.

### a) Correspondence Received by Email

Comments made electronically (as distinct from responses to the online survey) were done in several ways. Some people emailed directly, either to the City team or to a member of City Council. Others used the feedback tool available on the project website. A few people emailed [info@vancouver.ca](mailto:info@vancouver.ca) or the City's Correspondence Group, and a few contacted the City through the 3-1-1 service. As of July 3, 49 comments in total had been forwarded by the City to D+A. The following section summarizes the electronic feedback. A detailed analysis can be found in Appendix D.

**Correspondence Received:** 49

**Unique Participants:** 47

**Comments not relating specifically to the project:** 5 (3 of which were criticisms of the engagement (information [2], timing [1]))

## Themes:

- Opposition to removal of lane for vehicle traffic (19 out of 46 comments)
- Expression of support for project (13 out of 46 comments). Some of these commenters also expressed concerns about particular aspects of the project, while being supportive overall)
- Several residents of the Seastar building at 1003 Pacific expressed opposition to the project, based on their impression that the City would be removing some of their property and limiting access to their parking facilities (5 out of 46 comments)
- Suggestions, concerns, or questions on specific aspects of the project (11 out of 46 comments)

## b) Surveys

The project survey was administered both online and in person at the two open houses. Survey results from quantitative questions have been analyzed by City staff and are summarized in a separate report. Question #7 was an open-ended question that asked respondents “Do you have any comments about intersection design?”. In this section, we provide a summary of responses, with additional comments in Appendix D. A full detailed list (Excel) of the responses is attached to the email that transmitted this report to the City:

**Responses to Question 7:** 1,097 of 1,872 (59%) of respondents left comments on question 7.

Many respondents used the open-ended text box for question 7 to express their thoughts and opinions about the project as a whole, or specific aspects of it, despite that the question invited comments specifically on the design of the north intersection. Questions 1-6 of the survey were close-ended asking about project implementation and none provided the opportunity for general comments. It is assumed most, if not all, online respondents did participate in other ways, and thus considered this question their only opportunity to provide comments on the project as a whole.

Of the 1,097 responses to the question, 229 (21%) included specific comments or recommendations for the north intersection, which was the intention of the question. The majority of these comments are well-informed and constructive.

A breakdown of all of the themes noted in the comments follows.<sup>3</sup>

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<sup>3</sup> Since many respondents commented on more than one aspect of the project, a single response can be associated with more than one theme, and therefore the total number of responses in this table greatly exceeds the total number of responses to the question.

Theme	Number of responses
<b>Design concerns or recommendations</b>	<b>229</b>
Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	302
General approval	241
General disapproval	185
Suggest flawed consultation process or information provided	83
Complaints about dangerous cyclists or giving priority to cyclists	80
Waste of money/cost concerns	66
Concerns about crossing Burrard	49
Support east side pedestrian access	42
Don't support east side pedestrian access	39
Supports addition of bike lane / improvements for cyclists	34
Concern / ideas about aesthetics	20
General safety concerns	16
Concerns / suggestions for approach to construction	14
Seastar building resident concerns	12

From those responses to question 7 that focused on the design of the north intersection, the following represented either themes that arose, or specific suggestions not heard by D+A in other consultations:

- The suggestion to make bike lanes seasonal; use barriers to separate bike lanes during the months when ridership is high, and remove the barriers for the winter and give the lane to vehicles.
- Many echoes of concerns expressed in other forums over the safety of crossing Burrard on Pacific by bicycle.
- Observations about potential “downstream” impacts to bike and vehicle traffic, mostly as relates to activity on Hornby, but other observations too.
- Concerns about bike lanes being too narrow to handle addition use, particularly on inclines to afford extra room of passing.
- Recommendations for additional or clearer signage to guide all forms of transportation.
- Suggestions for a pedestrian / cyclist overpass for Burrard at Pacific.
- Suggestions for a dedicated pedestrian / cyclist bridge over False Creek.

# Key Themes

In discussions and written input, stakeholders asked how feedback is being integrated into the planning process. This had not been discussed at project team meetings and D+A did not engage these discussions or provide any response. The City is working on a separate report which outlines how feedback received during engagement has influenced project design, scope, and implementation.

This section summarizes the key themes heard at engagements in which D+A were present:

## Positive feedback:

- Return of pedestrians to east side of bridge (web/email comments, HUB, lemonade stands, web/email comments, survey comments)
- Improved safety at north intersection (web/email comments, lemonade stands, Vancouver Taxi Association, BC Trucking Association, survey comments)
- Separation of bike traffic (unidirectional bike lanes) (HUB, survey comments)
- Improved access to downtown for all modes once project is completed (DVBIA Access & Mobility Committee)
- Combination of several tasks to minimize overall impacts (Poster campaigns)

## Neutral feedback/requests:

- Requests for clear wayfinding signage for all forms of transportation (HUB, web/email comments, survey comments)

## Negative feedback/concerns:

- Eastbound cycling on Pacific through Burrard (HUB, web/email comments, survey comments)
- Short consultation period; much already decided, limiting opportunities for suggestions which could be good, but would have needed earlier consultation (Lemonade stands, Advisory Committee on Seniors' Issues, web/email comments, survey responses)

- Impact on businesses from construction or other aspects of project such as potential loss of parking (Swan Laundry, UPS, Maple Leaf Café and Deli, Afso Café, web/email comments)
- Removal of car lane (web/email comments, survey comments)
- Impact on trucking and other transportation/delivery traffic during construction (BC Trucking Association)
- Parking; entering and exiting for residents and guests of the condo building at 1003 Pacific Street (web/email comments, survey comments)
- Closure of the lane between Hornby and Howe (web/email comments, survey comments)
- Access to and from West End from the bridge/Pacific (web/email comments, Advisory Committee on Seniors' Issues, survey comments)

### Specific Suggestions or Concerns by Specific Stakeholders or Groups

The following table summarizes specific suggestions made or concerns expressed by an identified stakeholder group in engagements which D+A staff attended, for those groups who expressed specific concerns or made specific suggestion (not all did).

Note that this is not meant to be an exhaustive list of all stakeholder suggestions or concerns, but rather a list of those considered extremely important or critical to the stakeholder. It also does not include any generalized concerns by a broad group of stakeholders, e.g. motorists; it is meant to document specific requests/concerns held or made by specific stakeholders or groups.

Group	Concern/Request
HUB	(Concern): Eastbound cycling on Pacific across Burrard
HUB (echoed in survey comments; web/email comments)	(Suggestion): Additional or clearer signage to guide all forms of transportation.
Businesses on Burrard	(Concern): several businesses on Burrard between Pacific and Davie attended open houses and / or contacted D+A directly. D+A listened to their concerns, which include the loss of street parking, disruption to business during the construction period, routing changes that make accessibility to their businesses by customers more challenging, which would have a negative impact on their business / livelihood.
West End Business Improvement Association (WEBIA)	(Suggestion): Infrastructure for multi-coloured lighting on the bridge
BC Trucking Association	(Concern): Impact on trucking/transport routes during construction (Request): Strong suggestion to examine options to temporarily allow heavier vehicles on Granville bridge to the extent that it can safely handle.
Advisory Committee on Seniors' Issues; Persons with Disabilities Committee	(Concern): Length of crosswalks/refuges in the middle of crosswalks
Advisory Committee on Seniors' Issues (echoed in survey comments to some extent)	(Concern): Insufficient length of consultation period/strong desire to have been engaged earlier before critical/limiting decisions made.
Persons with Disabilities Committee	(Suggestion): Signaling for disabled persons at crosswalks/intersections on the bridge. (Request): Places for people with disabilities and seniors to sit or rest along pedestrian corridors
Heritage Vancouver Society	(Concern): Impact of potential suicide fencing on heritage aspect of bridge (Concern): Impact of potential steel barriers (as opposed to concrete) on heritage aspect of bridge (Suggestion): Repair/restoration of brazier lights
Filming industry representatives	(Concern): Impact of potential suicide fencing on visuals for filming (Concern): Impact of construction closures on filming (Concern): Ongoing concern about green paint indicating cycling zones

# Ongoing Engagement & Communications

The City, with support from D+A, met with a large number of individuals and stakeholder groups during an intensive consultation period covering nearly a one-month period in June 2015. Many concerns have been noted. However, it is important to recognize that there have been many voices of encouragement and support for this project.

By and large, individuals and organizations expressing concerns have also clearly expressed appreciation at the opportunity to contribute to the project. Overall, the engagement has provided many opportunities and many different avenues for people to contribute their input, and a large volume of information has been widely dispersed in a relatively short period of time. The engagement process has helped to establish, or in many cases further build and deepen, the City's relationship with stakeholders who have an interest in the Burrard Bridge project and an interest in transportation and infrastructure projects more broadly. There is a clear expectation from key stakeholders to remain engaged throughout the project. This appetite for dialogue offers the City the opportunity to build trust and further deepen their working relationship with these groups.

Below, we detail aspects of the Burrard Bridge engagement that worked well, as well as listing any information captured directly by D+A on the current expectations of stakeholders regarding future communication and engagement on this project.

## What Worked Well

- Approaching groups directly: most stakeholder groups that met with City staff, even if they had strong concerns about aspects of the project, expressed their appreciation at being consulted/included/considered (though many also expressed some disappointment at not being engaged pre-design);
- The lemonade stands were an effective and light-hearted way to communicate a lot of information to people who clearly use the bridge;
- The open houses were also an effective method of connecting with the interested public to provide information, respond to questions or concerns, and to provide detailed information to a large number of people; and
- The City's approach has strengthened relationships with many organizations and individuals which will be beneficial to all with respect to future projects and initiatives.

## Next Steps

The City's goal is to bring the project to City Council for its 22 July 2015 session for a decision. City staff will use the present report as well as many other sources to compile its report to Council in preparation for the meeting and decision. Several stakeholder organizations have communicated to D+A interest in making formal submissions to Council; these include HUB, BC Trucking Association, and Heritage Vancouver Society.

In addition, the City has stated that it will return to certain stakeholder groups once more refined details are finalized on various aspects of the project. For example, the City stated an intention to return to consultation with the BC Trucking Association over the possibility of allowing heavier traffic on Granville Bridge during the construction period on the Burrard bridge and north intersection. In certain other cases the City has stated its intention to also conduct additional follow-up consultation.

Based on the significant participation of the public and stakeholders on this project, it is clear that ongoing communications and engagement will be required through to construction.

# Appendix A – Intercept Engagement Summary

D+ A, in concert with City staff, conducted two intercept engagements on the Burrard Bridge, in the form of lemonade stands near the north intersection. The first lemonade stand was held Friday, June 5 from 3-6 p.m., and the second on Saturday, June 13 from 3-6 p.m.

## **1<sup>st</sup> Lemonade stand – Friday, June 5, 3-6 p.m.**

Staff: Paul Storer (City of Vancouver), Emina (Delaney) and Suzy (Delaney)

Estimated number of people engaged: 150 people

## **2<sup>nd</sup> Lemonade stand – Saturday, June 13, 3-6 p.m.**

Staff: Paul Storer (City of Vancouver), Sally (Delaney) and Suzy (Delaney)

Estimated number of people engaged: 120 people

## **Feedback Received**

### **Positive:**

- Lemonade is too sweet :)
- I am happy they are making that intersection more safe, it is very dangerous
- I am an old lady and access to the bridge on both sides is much better for me; it makes the bridge more accessible
- The intersection is so dangerous and I feel scared crossing onto the bridge with my kids in the stroller
- I think this is a great project and I am 100% supportive of it
- As a biker, I welcome the changes to the east side of the bridge, as it is a little dangerous and tight during peak times. Although you are not supposed to pass, people do. Widening the bike lane is a great idea
- Who designed that intersection in the first place? It is not safe. We saw an accident this morning with a biker and car. I am glad they are going to make it safer
- I get so nervous every time I bike down Burrard going south onto the bridge from downtown. I am really happy the city will be improving that area.
- Right now the east side is dangerous for bikers because walkers sometimes use it. The addition of walking on the east side will improve this.
- My husband bikes over this bridge every day and I am so nervous about it. I would welcome improvements to this intersection.
- I really liked the improvements that were made on the south end of the bridge, so feel this project will also make a positive impact.
- It really is a pain having to cross to the other side of the bridge to walk over it. Any improvement to that would be great.
- It all seems to make sense to me.

### Neutral:

- I don't use the bridge that often so the construction will not really impact me on a regular basis
- What will access to the bridge be like during the construction period?
- I walk the bridge every day and do not really see the need for an additional walking area. It is not a big inconvenience to cross the road
- It would be great if bikers/walkers could be completely separated from the cars either under or over the bridge
- Will the loss of the lane on the east-side reduce traffic on an already busy bridge?
- As a regular user of this bridge I see accidents at this intersection happen all the time.
- Why was this not done at the same time as the work on the south side?
- Will the bridge be completely closed during construction?
- We witnessed two families, most likely visitors try to use the bike lane as a pedestrian crossing.
- Will the 'look' of the bridge be maintained?

### Negative:

- I am not sure why there are spending all this money to upgrade. We didn't need the lane in 2009 and it was too expensive, why do we need it now?
- I live close by and am surprised I didn't hear anything about this before
- More construction! Didn't you just complete some?
- \$30 million dollars! That is a lot of money. Do we really need to do all this? We spent too much on the Cornwall side in 2009
- I am concerned about the noise from construction. If it occurs during work hours when I am not at home, that is okay but otherwise I am concerned I will be inconvenienced
- Why are we just hearing about this? I feel like there should have been more consultation
- Isn't a done deal anyways, why are you even asking for our input?
- I'm concerned about construction noise as we live right next to the bridge.
- No point in giving feedback, no one is going to listen anyhow.
- Why was the intersection designed so inefficiently in the first place?

## Appendix B – Poster Campaign Summary

D+A conducted two poster campaigns, which included requests to display posters and/or leave information postcards. The first was on the afternoon of Tuesday, June 2, and the second was early afternoon on Friday, June 12. The details are as follows:

### June 2:

Number of gas stations visited	1
Number of other locations visited	10
Number of posters posted	1
Number of stacks of postcards given out	7
Location(s) of gas stations visited	Esso at Burrard and Davie
Location(s) of poster(s)	Molli Café on Burrard near Davie (west side)
Location(s) of postcards	Molli Café, Maple Leaf Café/Deli, Burrard Corner Store, Bicycle Sports Pacific, UPS, Cycle City Tours, TD/Canada Trust

**Comments received** (all are paraphrased/described, and are not meant to be a verbatim recording of anyone’s specific words):

**Maple Leaf Café/Deli:** The man who was likely the owner agreed to take postcards to put on counter. He also offered some views on the project, e.g. the City should spend money on ‘things that are really needed’ (paraphrased), like schools and hospitals. The bridge is only falling apart because they added more weight to it.

**Burrard Corner Store:** The man who was likely the owner agreed to put postcards on the counter. He also offered some views on the project. E.g. ‘why aren’t they working to make the Granville Bridge safer?’

**Bicycle Sports Pacific:** The store manager is open to meeting with the City to provide specific input into the design of the north intersection. He observes the intersection every day, including many collisions.

**UPS:** The store owner has significant concerns based on a previous Olympics-related project/parking restriction.

**Afso Café:** The man who was likely the owner did not want to take posters or postcards. He said (paraphrased) ‘you don’t want to know what I think of the City’.

**Swan Laundry:** The owners of Swan Laundry are extremely concerned about the loss of parking, as their customers use it to offload large loads of laundry. They are very worried about the impact of the project on their business and believe it to be a clear threat. Relocation is not an option for them as they recently signed an eight-year lease.

Most of the business owners along Burrard are ready and willing to provide more detailed input.

**June 12:**

Number of gas stations visited	4
Number of other locations visited	0
Number of posters posted	1 (gave another one to manager of Esso on 4 <sup>th</sup> Avenue, but not sure if he will be able to post it)
Number of stacks of postcards given out	3
Location(s) of gas stations visited	Esso at Burrard and Broadway, Esso at Burrard and 4 <sup>th</sup> Avenue, Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues, Petro Canada on Burrard near 1 <sup>st</sup> Avenue.
Location(s) of poster(s)	Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues
Location(s) of postcards	Esso at Burrard and 4 <sup>th</sup> Avenue (manager not sure if he could display them), Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues, Petro Canada on Burrard near 1 <sup>st</sup> Avenue.

Comments received: None.

## Appendix C – Open House Summary

The first of two Open Houses was held on Saturday, June 6, from 10 a.m. – 2 p.m. at the Roundhouse Community Centre. The second Open House was held on Tuesday, June 6, from 3-6 p.m, also at the Roundhouse Community Centre.<sup>4</sup>

### 1<sup>st</sup> Open House – Saturday, June 6, 10am – 2 p.m.:

Estimated number of people engaged: 50-70

### 2<sup>nd</sup> Open House – Tuesday, June 16, 7-9 p.m.:

Estimated number of people engaged: 80-100

#### Positive:

- I think this is a great project and I really appreciate that City staff are here to answer our questions and show us all this information.
- I appreciate the opportunity to come to this open house and get my questions answered.
- This is going to be great for cyclists. We are all on board.

Neutral: None.

#### Negative:

- I did not hear anything about this construction or this session. Why was I not informed?
- They are not going to do a presentation? I have to look at all the information myself?
- Is the City even going to listen to what I have to say? There is no point to this. Seems like it is a done deal.
- The project is too expensive and seems like we are paying too much money to improve the bridge when it was just updated.
- I am really pissed about this project and have a lot to say (filled out two feedback forms).

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<sup>4</sup> D+A staff captured only limited feedback from the Open Houses, as the role of D+A staff was primarily to sign people in, orient them and collect feedback forms. D+A notes that the City team spoke with the owners of Swan Laundry at the second Open House, but is not aware of the details.

# Appendix D – Online Engagement

## Electronic comments (“web/email comments”)

D+A assessed the comments made by email, the feedback tool on the project website, and through the City’s 3-1-1 service. Following is a detailed analysis of those comments\*:

*\*A full listing of all web or email comments has been made available to the City in a separate document.*

### Summary

Correspondence Received: 49

Unique Participants: 47

Comments not relating specifically to the project: 5 (3 of which were criticisms of the engagement (information [2], timing [1]))

### Stakeholder Groups

In most cases, the nature of individual input provides the opportunity for identification of the stakeholder group to which participants belong. This was clearly a subjective determination. By this method the following groups / interests have been identified:

Motorist – a participant who, based upon their comments uses the bridge and surrounding road network in their personal vehicle.

Professional Driver – a taxi, limo, shuttle or bus driver

Cyclist – a participant who uses the bridge and surrounding road network via bicycle

Resident – a participant who lives in proximity to the north or south end of the Burrard Street Bridge

Seastar Resident – participants residing at 1003 Pacific Street

Senior – participant referred to themselves as a “senior”

Local Consumer – using local businesses

## Rates of Stakeholder Participation

Motorist	13	Cyclist / Motorist	1
Cyclist	6	Motorist / Resident	1
Resident	8	Motorist / Local Resident	1
Seastar Resident	5	Pedestrian / Motorist	1
Unknown	4	Local Consumer	1
Resident / Senior	2	Professional Drivers	1
Pedestrian	2	Directors Guild of Canada	1

## Summary of Burrard Bridge Upgrade and North Intersection Project Input

Date	Stakeholder	Concerns / Aspirations	Support	
			Project	Approach
June 5	Cyclist	<ul style="list-style-type: none"> <li>a. Poor crossing Burrard eastbound on Pacific, providing limited downtown access for cyclists coming from area NW of bridge.</li> <li>b. Accommodate cycle access to Pacific from N/S streets due to steep slope.</li> <li>c. Signage improvements for cyclists.</li> <li>d. Widen cycle track along Hornby to accommodate slope and speed differentials.</li> </ul>	Y	N
June 4	Motorist	Not supportive of lane reductions	N	N
June 6	Pedestrian / Motorist	Not supportive of lane reductions	N	N
June 3	??	Not supportive of lane reductions	N	N
June 2	Motorist / Local	Not supportive of lane reductions	N	N
June 2	Cyclist / Motorist	Very supportive	Y	Y
June 2	Resident	Comments not related to project (property tax)	n/a	n/a
June 3	Resident	Upset with timing of engagement	?	?
June 3	Motorist	Not supportive of lane reductions	N	N
June 1	Cyclist	Burrard safe crossing eastbound on Pacific	Y	N
30 May	Cyclist	Suggests closing the curved east/south bound approach from Pacific onto bridge and adding short	Y	Y

Date	Stakeholder	Concerns / Aspirations	Support	
		right-turn-only lane eastbound at the intersection. Would require bikes to pass in front of the stopped cars and stop on red light southbound.		
June 7	Professional Drivers	Frustrated with pedestrians and cyclists	n/a	n/a
June 5	??	Upset over lack of statistics provided at open house to justify modifications. Worried about traffic jams.	?	?
June 8	??	Not supportive of lane reductions	N	N
June 5	Motorist	Suggests putting Pacific under Burrard	Y	N
June 1	Cyclist	<ul style="list-style-type: none"> <li>a. Concerned about congestion caused by northbound turning left and waiting for pedestrian and foot traffic to clear.</li> <li>b. Make Hornby/Pacific intersection a scramble crossing?</li> <li>c. How do plans improve Lion Gate Bridge destine traffic? I.e. still facing the Hornby/Pacific interchange and the Howe/Pacific interchange and the Howe/Beach interchange and the Hornby/Beach interchange.</li> <li>d. Move the Hornby Street bike lane between Pacific and Beach to the West Side of the street?</li> <li>e. Enable safe cyclist traffic on the north-south alley west of Hornby?</li> <li>f. Downtown destine bike traffic encouraged to take Drake to Hornby?</li> </ul>	Y	?
June 2	Cyclist	Safety concerns about bikers on bridge – suggests enforcement of NO PASSING rule.	?	?
June 8	Local Consumer	Concerned about the loss of parking along Burrard	?	N
June 17	Motorist	Not supportive of lane reductions	N	N
June 18	Seastar Resident	Worried about expropriation, frustrated by poor access to residence caused by so many no turn	N	N

Date	Stakeholder	Concerns / Aspirations	Support	
		signs and concerned about hazard to pedestrians caused by speeding cyclists.		
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 10	Motorist	Suggests Pacific pass under Burrard	Y	N
?	Resident	Frustrated with pedestrians and cyclists	Y	?
June 21	Resident	Worried about congestion cause if lane between Hornby and Howe is blocked	Y	N
June 12	Pedestrian	Suggests elevators from sea wall to Burrard Bridge	?	?
June 11	Resident	Show of support	Y	Y
June 7	Resident	Believes northbound cycle lane unnecessary, wants safe crossing of Burrard at Pacific and does not favour loss of vehicle lane and would re-align existing cycle and pedestrian lanes on bridge	Y	N
June 7	Resident / Senior	Frustrated with cyclists	?	?
June 2	Resident / Senior	Not supportive of lane reductions	N	N
June 4	Motorist	Not supportive of lane reductions	N	N
June 5	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist	Not supportive of lane reductions	N	N
June 2	Motorist	Not supportive of lane reductions	N	N
June 1	Resident	Not supportive of lane reductions	N	N
June 4	Resident	Not supportive of lane reductions	N	N
June 4	??	Upset over quality of information provided at open house	?	?
June 2	Motorist	Not supportive of lane reductions	N	N
June 2	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist / Resident	Not supportive of lane reductions	N	N
June 2	Pedestrian	Wants to make the bridge more of a	Y	Y

Date	Stakeholder	Concerns / Aspirations	Support	
		people place, i.e. seating		
June 1	Motorist	Not supportive of lane reductions	Y	N
June 24	Cyclist	Supports planned safety improvements; wondering whether there will still be a gap in the bike lane between Seymour and Howe	Y	Y
June 24	Seastar Resident	Response to Paul Storer's original response, reiterating original concerns: Worried about expropriation, frustrated by poor access to residence caused by so many no turn signs and concerned about hazard to pedestrians caused by speeding cyclists.	N	N
June 25	Unknown	Transit-friendly infrastructure	Y	N
June 25	Unknown	Converting original 6-lane design to 4 lanes for vehicles is a design based on short-term uses/thinking.	N	N
July 2	Directors Guild of Canada	1. Bridge closures will affect ability to film car commercials but also present unique opportunities for filming unique scenes not otherwise possible. 2. The green paint demarcating cycling zones remains a problem for filming. 3. The proposed suicide fencing will have a major impact on ability to film on the bridge.	Y	N

### Reviewer Notes

- This is a quantitative analysis.
- The summarized "Concerns / Aspirations" shown above are provided for comparative and analytical purposes only. Details about individual comments should be drawn from the detailed Stakeholder Management Template.
- Assumptions were made about stakeholder group affiliation based upon comments in correspondence.

## Summary of Issues Raised (in order of priority)

Based upon the correspondence received the issues raised about the proposed approach include:

1. Increased congestion due to lane reduction was raised by all motorist participants
2. Loss of property at 1003 Pacific Street and reduced accessibility to that property was raised by all Seastar residents
3. Safe crossing of Burrard at Pacific
4. Increased cycle traffic on Hornby

## Reviewer Observations

1. Capital expenditure to accommodate bike traffic has annoyed many private vehicle commuters.
2. Many private vehicle commuters do not believe that cyclists do not have the right to use roadways.
3. The behavior of many cyclists and even pedestrians creates animosity with vehicle road users and makes it difficult for the City to introduce safety measures.
4. Many motorists were not supportive of the project because of lane loss and the assumed increases in congestion / travel time. Many of them questioned the cycle and pedestrian usage statistics used to justify plans for accommodating these users.

## Survey

D+A assessed the open-ended comments from the project survey administered by the City; these comments are associated with question #7 of the survey. The City analyzed all quantitative survey results. The following is a summary of some of the major themes that emerged from the assessment of the open-ended responses to the survey's question #7; and a full detailed list of the responses has been made available to the City in a separate Excel document.

**Online responses to Question 7:** 1,097 (total number of online respondents: 1,872).

Many respondents used the open-ended text box for question #7 to express their thoughts and opinions about the project as a whole, or specific aspects of it, despite that the question inviting comments specifically on the design of the north intersection. Many respondents seemed to consider this question their only opportunity to provide comments on the project, as the rest of the survey questions were close-ended and none asked for comments in general.

Of the 1,097 responses<sup>5</sup> to the question, 229 (21%) included specific comments or recommendations for the north intersection, which was the intention of the question. The majority of these comments are well-informed and constructive.

Theme	Number of responses
<b>Design concerns or recommendations</b>	<b>229</b>
Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	302
General approval	241
General disapproval	185
Suggest flawed consultation process or information provided	83
Complaints about dangerous cyclists or giving priority to cyclists	80
Waste of money/cost concerns	66
Concerns about crossing Burrard	49
Support east side pedestrian access	42
Don't support east side pedestrian access	39
Supports addition of bike lane / improvements for cyclists	34
Concern / ideas about aesthetics	20
General safety concerns	16
Concerns / suggestions for approach to construction	14
Seastar building resident concerns	12

Of the 229 comments focusing on the design of the north intersection, many are quite specific and represent possible added value to the Burrard Bridge project if able to be assessed and possibly integrated into the design. Some of these comments included:

- The suggestion to make bike lanes seasonal; use barriers to separate bike lanes during the months when ridership is high, and remove the barriers for the winter and give the lane to vehicles.
- Many echoes of concerns expressed in other forums over the safety of crossing Burrard on Pacific by bicycle.
- Observations about potential “downstream” impacts to bike and vehicle traffic, mostly as relates to activity on Hornby, but other observations too.
- Recommendations for additional or clearer signage to guide all forms of transport.
- Suggestions for a pedestrian / cyclist overpass for Burrard at Pacific.
- Suggestions for a dedicated pedestrian / cyclist bridge over False Creek.

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<sup>5</sup> Since many respondents commented on more than one aspect of the project, a single response can be associated with more than one theme, and therefore the total number of responses in this table will add up to more than the total number of responses to the question.

In addition to comments specifically about the intersection, a few other categories of concerns included unique comments which may not have been previously identified.

- One concern that was mentioned often (coded as “Concerns about crossing Burrard”) was regarding the tendency of cyclists to time their descent down Burrard street hill on to the bridge to attempt to coincide with the light turning green. This does not always work and has resulted in dangerous situations if cyclists fail to time themselves properly and build up too much speed to stop, or if cars are also in the process of making illegal right turns on to Pacific, or as motorists advance their green going east or west through those intersections.
- Under the category “Suggest flawed consultation process or information provided” there are several comments about people not believing the need for these changes based upon the information provided, or doubting the accuracy of the information provided. The other complaints were about rushed process, which led several people to doubt the legitimacy of the overall process and willingness of Council or ability of staff to modify project design at this stage of development.
- Use of the bridge by emergency vehicles accessing St. Paul’s Hospital also came up several times.
- There were several comments from seniors who believe they are being discriminated against. They are not against cyclists; people with mobility issues have little choice but to rely on their vehicle to get around. This sentiment also applies to people who are disabled or professional drivers. This also relates to concerns about moving the bus stop.
- Vision and Council were criticized around 40 – 50 times for either overly favouring bikes (over cars) or for bad public engagement (relating to timing), or for wasting money.
- In addition, one commenter stated that the current addition of the bike lanes goes against recommendations from a 2005 report by the City to the Standing Committee on Transportation and Traffic.

A full list of all of the responses to question #7 according to topic is available in the companion Excel document referred to above.

## Appendix E – Media Coverage

*\*This is not meant to be an exhaustive list of press coverage, but a sampling of coverage from the major outlets.*

**Global News, June 1:** *City of Vancouver considers removing another lane on Burrard Bridge.* No subtitle. <http://globalnews.ca/news/2028760/city-of-vancouver-considering-removing-another-lane-on-burrard-bridge/>

**CBC News, June 1:** *Burrard Bridge repairs could include improved bike lanes and sidewalks.* Subtitle: City plans to widen the north end of the bridge to ease bottleneck at high-collision intersection. <http://www.cbc.ca/news/canada/british-columbia/burrard-bridge-repairs-could-include-improved-bike-lanes-and-sidewalks-1.3095163>

**Vancouver Sun, June 1 (blog – The Vancouver Sun Now):** *Proposed Burrard Bridge upgrade would eliminate vehicle lane in favour of pedestrian lane.* No subtitle. <http://blogs.vancouversun.com/2015/06/01/proposed-burrard-bridge-upgrade-would-eliminate-vehicle-lane-in-favour-of-pedestrian-lane/>

**The Province, June 1:** *Reducing Burrard Bridge's vehicle lanes will improve traffic flow, city says.* No subtitle. <http://www.theprovince.com/news/Reducing+Burrard+Bridge+vehicle+lanes+will+improve+traffic+flow+city+says/11100442/story.html>

**The Province, June 1:** *Video: Proposed pedestrian upgrades to the Burrard Bridge.* Subtitle: “Is it going to be carmededdon on the Burrard Street Bridge once the city reduces the lane numbers down to four mid-span?” <http://www.theprovince.com/Video+Proposed+pedestrian+upgrades+Burrard+Bridge/11100276/story.html>

**Metro News, June 1:** *Burrard Bridge \$30-m renos thrill pedestrians, concern NPA councillor.* No subtitle. <http://metronews.ca/news/vancouver/1384422/burrard-bridge-30-m-renos-thrill-pedestrians-concern-npa-councillor/>

**CTV News Vancouver, June 1:** *City unveils plan to revamp Burrard Street Bridge.* No subtitle. <http://bc.ctvnews.ca/city-unveils-plan-to-revamp-burrard-street-bridge-1.2401125>

**Vancouver Courier, June 1:** *Vancouver calls for \$30 million fix to Burrard Bridge.* Subtitle: Upgrades involve removing one vehicle lane. <http://www.vancourier.com/news/vancouver-calls-for-30-million-fix-to-burrard-bridge-1.1954033>

The Province, June 1 – Letter to the Editor: *Quit messing with the Burrard Bridge.*  
<http://blogs.theprovince.com/2015/06/01/letters-burrard-bridge-vision-fifa-surrey-six-killers-salmon-farms/>

The Province, June 1 – Letter to the Editor: *City made a mess of bridge.*  
<http://blogs.theprovince.com/2015/06/01/letters-burrard-bridge-vision-fifa-surrey-six-killers-salmon-farms/>

The Province, June 2 – Letter to the Editor: *All the idling cars isn't good.*  
<http://blogs.theprovince.com/2015/06/02/letters-justin-trudeau-stephen-harper-translink-plebiscite-cyclists-Ing-burrard-bridge-rifles/>

Vancouver Sun, June 2: *Burrard Bridge makeover to see one northbound traffic lane removed.* Subtitle: “The \$30-million project will include a redesign to the intersection at Pacific and Burrard and at the same time will improve access for cars, pedestrians and cyclists”.  
<http://www.vancouversun.com/Burrard+Bridge+makeover+northbound+traffic+lane+removed/11099792/story.html>

Vancouver Sun (blog – Civic Lee Speaking), June 2: *Will the city shut Burrard Bridge entirely during reconstruction?*  
<http://blogs.vancouversun.com/2015/06/02/will-the-city-shut-burrard-bridge-entirely-during-reconstruction/>

Metro News, June 2: *Burrard Bridge could be closed to everyone during construction.* No subtitle. <http://metronews.ca/news/vancouver/1385493/burrard-bridge-could-be-closed-to-everyone-during-construction/>

Metro News, June 2: *It's about time for a safer, easier crossing – for all Burrard Bridge travelers.* No subtitle. <http://metronews.ca/voices/your-ride-vancouver/1384587/its-not-too-late-for-bike-lanes-on-vancouvers-burrard-bridge/>

The Province, June 3 – Letter to the Editor: *New costs needed to fix bike-lane mess created by Vision on Burrard Bridge.* <http://blogs.theprovince.com/2015/06/03/letters-burrard-bridge-bike-lanes-city-claims-lane-splitting-dogs-omar-khadr-communism-victims/>

The Province, June 4 – Letter to the Editor: *Who are they Kidding?*  
<http://blogs.theprovince.com/2015/06/04/letters-kids-play-oil-Ing-fuel-exports-guns-burrard-bridge-translink-pattullo-bridge/>

Global News, June 6: *City of Vancouver holds public consultation over proposed changes to Burrard Bridge.* No subtitle. <http://globalnews.ca/news/2040394/city-of-vancouver-holds-public-consultation-over-proposed-changes-to-burrard-bridge/>

AM 730 Traffic News, June 1: *Vancouver Mulls Removing Another Vehicle Lane on Burrard Bridge*. No subtitle. <http://www.am730.ca/syn/112/78652/78652>

# Appendix F – Direct Submissions

HUB Cycling (please see attached PDF)



June 22<sup>nd</sup>, 2015

Dale Bracewell, City of Vancouver

Paul Storer, City of Vancouver

## **HUB Cycling Submission re Burrard and Pacific Intersection Improvements**

HUB Cycling is a charitable organization that works to make cycling better through education, events and collaboration. We are Metro Vancouver's leader in making cycling an attractive choice for everyone.

We would like to take this opportunity to provide input to the Public Consultation process relating to the Burrard Bridge and Burrard and Pacific Intersection Improvements.

Our comments are based on the display boards from the Open Houses, the detailed maps posted on line, and the presentation City staff (Paul Storer) made to HUB Cycling on June 16, 2015.

### **Background**

Burrard Bridge is an important cycling and pedestrian link in the Vancouver and regional cycling networks, with rapidly increasing cycling volumes. The current bicycle lanes have made the bridge much safer for crossing, and the recent improvements to the Burrard and Cornwall intersection provide significant improvements for all users in terms of connections at the south end.

We support the proposed and much needed improvements to the north end of Burrard Bridge as well as the re-allocation of the motor vehicle traffic lane to active transportation on the bridge itself.

### **Specific feedback**

- We consider it important to restore the east sidewalk to pedestrian use. There have been conflicts between pedestrians and cyclists on this cycling path, and it makes sense to separate pedestrians and people on bicycles given the differing travel speeds.
- The new cycling path on the east side (northbound) will be wider, improving safety for users and allowing overtaking on the ascent. This is a positive move.
- Extending cycling connections northward on Burrard, for both northbound and southbound cyclists, will be important for improved safety, and will likely



- encourage greater use by all ages and abilities as it expands the network.
- The elimination of the motor vehicle slip lanes onto and off of Pacific will be a major step forward for collision reduction.
- We are very concerned about the lack of consideration of any bicycle traffic travelling eastbound on Pacific, at Burrard. Bicycle traffic has not been accommodated in the design presented. It is not reasonable to expect people to walk their bicycles across three pedestrian crosswalks simply to continue eastbound, and the two motor vehicle turn lanes onto the bridge will create a conflict zone as people on bikes look for a way to continue along Pacific and attempt to cross those turn lanes. Ideally, there would be a protected eastbound bicycle lane starting at Thurlow, between the vehicle through lane and the right turn lanes. If this cannot be accommodated due to the roadway width, we strongly urge you to include a bike box (painted green and signed) at the intersection, with access from the bicycle path where it turns right from Pacific on to the bridge. Signals should specifically address bicycles, within the planned signal phasing. Without some type of accommodation for eastbound cyclists on Pacific, we consider this design to be incomplete and potentially dangerous.
- The inclusion of a separated bicycle lane eastbound on Pacific, between Hornby and Howe, is a significant improvement and addresses a long-standing danger zone. We would like to see a similar protected lane on Pacific westbound in this same block. Realizing that new development is pending on the north side of Pacific, we understand the inclusion of a painted lane, but request that flexible plastic bollards be used to delineate this lane instead of paint only. While we understand the need to define and limit the scope of this project, the lack of any westbound access along Pacific from Yaletown to reach this new infrastructure is concerning. The westbound bicycle lane on Pacific currently ends at Seymour, leaving a gap between Seymour and Howe. This two-block gap will make it uncomfortable for many people who want cycling access to Burrard and the bridge from Yaletown. We realize that there may not be room to build separated lanes in this stretch, particularly until the on and off ramps to the Granville Bridge are addressed. However, lane markings, green paint, and signage would partially address this shortcoming.
- For people on bikes travelling both eastbound and westbound through the Burrard and Pacific intersection and not requiring access to the bridge, an alternate bypass route along Beach Ave should be signposted and promoted, particularly during the construction phase. For westbound traffic this could be at Homer or Richards; for eastbound traffic this could be at Broughton.



### Additional feedback

- While we understand that the detailed design has not yet been completed, we note that the new bicycle lanes on the bridge itself will include transitions both northbound and southbound that involve jogs and grade changes. These transitions will require design attention so as to mitigate the risks to users. The jogs should not be abrupt (as shown on the preliminary design drawings), and the ramps should be gradual.
- We hope that we will have an opportunity to see and comment on the proposed designs and locations of barriers between the bike lanes and motorized traffic lanes throughout the improvement zone.
- We understand the logic of coordinating these improvements with planned work to Burrard Street, involving water and sewer construction. We note that Burrard Street, from 1<sup>st</sup> to 16<sup>th</sup>, will be repaved, with sidewalks addressed. We understand that no bicycle infrastructure is currently being included in this major work to Burrard Street. When the plans are being made for Burrard Street work, we encourage you to consider all modes of transportation, including people on bicycles. It is a missed opportunity to rebuild a major street and put it back without any improvements to bicycle infrastructure.

### Conclusion

HUB Cycling supports the goal of increasing active transportation modes, while addressing the serious safety concerns for all modes at this intersection. We are confident that the proposed bridge and intersection design, with consideration of the above points, will be another major step forward in helping Vancouver achieve its goals.

HUB Cycling would be pleased to discuss any of our recommendations further. Please be in touch with Jeff Leigh at the HUB Vancouver UBC Committee at [vancouver@bikehub.ca](mailto:vancouver@bikehub.ca).

Thank you for the opportunity to engage in this process.

Jeff Leigh  
Co-Chair, Vancouver UBC Committee  
HUB Cycling

Lisa Slakov  
Co-Chair, Vancouver UBC Committee  
HUB Cycling

**From:** Burrard Bridge Upgrades Project  
**To:** [Krueger, Paul](#)  
**Subject:** Burrard Bridge Upgrades Project Update  
**Date:** Wednesday, July 15, 2015 2:47:23 PM

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Thank you for your interest in the [Burrard Bridge and Pacific Street Intersection Upgrades project](#).

Since launching public and stakeholder engagement in late May we've heard from over 2,000 participants both online and in-person. We have received a lot of great feedback, including high levels of general support for the project as well as some specific concerns.

We've been working hard to refine the design to address specific issues, and are preparing to take the project to Council for approval within the next few weeks. The most common concerns and our resolutions are highlighted below for your information.

Concern	Response
<b>1. Motor Vehicle Capacity</b>	<p><i>Issue:</i></p> <p>The proposed design converts a lane on the middle part of the bridge to enable walking on both sides. Concern was expressed that this could worsen traffic congestion.</p> <p><i>Response:</i></p> <p>The proposed design reallocates road space where there is spare capacity (the centre span), and adds capacity where it is needed (the intersection). As a result, travel times during peak periods are expected to stay roughly the same, with some improvement in reliability.</p> <p>Motor vehicle capacity is not limited by the number of lanes on the bridge, but by the intersections at either end.</p> <p>The two remaining northbound lanes across the midspan will have almost twice the capacity needed to carry the current demand.</p> <p>The intersection is the key "choke point", where capacity is impacted by the number and length of lanes at the intersection and the proportion of green time in the signal cycle. The proposed design increases the number of northbound lanes at the intersection to four (two through lanes and two right-turn lanes) through the intersection.</p>
<b>2. Construction Impacts</b>	<p><i>Issue:</i></p> <p>The bridge repairs and upgrades will take between 14 and 20 months to complete. Some people expressed concern about construction impacts on parking, traffic, goods movement, and tour buses.</p> <p><i>Response:</i></p>

	<p>During construction, access to homes and businesses will be maintained, and people will still be able to walk, bike, take transit, and drive across the bridge. However road capacity will be reduced to provide a safe working environment, and delays should be expected.</p> <p>Staff will work with nearby businesses and residents to minimize construction impacts, including finding new parking and loading spaces nearby (where feasible) when parking and loading may be impacted. These solutions will be resolved in more detail as a contractor is brought on board. Additionally, staff are looking at the possibility of making Granville a temporary truck route for lighter vehicles.</p>
<p><b>3. Landscaping</b></p>	<p><i>Issue:</i></p> <p>Some residents expressed concern about the removal of landscaping in select areas of City-owned land along Pacific Avenue.</p> <p><i>Response:</i></p> <p>The new street design requires the removal of landscaping in some places, and creates opportunities for new green space in other places. Where removal is required, staff will work with nearby businesses and residents to minimize the loss and relocate plants if possible.</p> <p>Overall, more than 60 new street trees will be planted through this project.</p>
<p><b>4. Driveway Conflicts</b></p>	<p><i>Issue:</i></p> <p>Concern was expressed about potential conflicts at driveways on the north side of Pacific Avenue between Thurlow and Burrard.</p> <p><i>Response:</i></p> <p>Staff have revised the base design to include green paint and stencils at all driveways to make the driveway conflict zones clear to all road users. This is an established design practice for All Ages and Abilities cycling facilities elsewhere in the city.</p> <p>Staff will monitor the situation and if necessary make modifications to help ensure the driveways are safe and comfortable for people walking, cycling, and driving.</p>
<p><b>5. Roadside Barrier</b></p>	<p><i>Issue:</i></p> <p>Concern was expressed about the design of the barrier separating motor vehicle and cycling lanes, specifically the transition from a concrete barrier across the midspan to steel barrier at the widening.</p> <p><i>Response:</i></p> <p>Staff have modified the design, replacing the proposed steel barriers with architecturally enhanced concrete barriers. This creates more flexibility, reduces costs, and establishes a consistent aesthetic. The barriers are designed with safety in mind, with no sharp edges or protrusions.</p>

<p><b>6. Lane Closure</b></p>	<p><i>Issue:</i></p> <p>The initial proposal reduced access to the lane between Hornby and Howe on the south side of Pacific Street. Specifically, the lane end at Pacific became a stairway that was closed to bicycles and motor vehicles. This was proposed as a way to accommodate changes to the street slope required by the new design.</p> <p>Residents on the affected block expressed concern that limiting lane access to one end would make it difficult to access or leave their homes.</p> <p><i>Response:</i></p> <p>Staff believe that there is a design solution that maintains the current function of the lane by raising the grade of the lane between the building driveways and Pacific Street instead of closing it. Staff will continue to work with the buildings and residents to explore this option and provide the solution that best fits the needs of the residents.</p>
<p><b>7. Southbound Bus Stop</b></p>	<p><i>Issue:</i></p> <p>Many people expressed desire for a southbound bus stop close to the Burrard-Pacific intersection. At present the closest southbound stop is two blocks north at Burnaby.</p> <p><i>Response:</i></p> <p>Staff have revised the base design to include a southbound stop at Drake Street, about half a block south of the previous stop. This will provide better transit access to the community south of the bridge.</p>
<p><b>8. Eastbound Cycling Connections</b></p>	<p><i>Issue:</i></p> <p>Many people expressed concern that the proposed design did not include an All Ages and Abilities connection for people cycling eastbound on Pacific through the Burrard intersection.</p> <p><i>Response:</i></p> <p>Staff have revised the base plan to include a bike box in front of the northern (left) right turn lane on the west leg of the Burrard-Pacific intersection. This will facilitate both the eastbound through movement for people cycling and the left turn from southbound Burrard. The modification is not expected to impact motor vehicle traffic.</p>
<p><b>9. Means Prevention Measures</b></p>	<p><i>Issue:</i></p> <p>Public health stakeholders expressed concern about a lack of suicide prevention measures in the plan.</p> <p><i>Response:</i></p> <p>Means prevention (anti-suicide) fencing has been added to the design to reduce the likelihood of suicide attempts from the Burrard Bridge.</p>
	<p><i>Issue:</i></p>

**10. Accessibility Improvements**

Concern was expressed that proposed accessibility improvements on the bridge were insufficient.

*Response:*

Staff will work to ensure that the transitions along the bridge deck are clearly communicated to visually impaired pedestrians and that all of the grades are wheelchair accessible. In addition, the signal timing will be adjusted to allow for slower pedestrians to safely cross.

The final report will be [posted online](#) prior to going to Council and shared with you via email. You will be able to provide your feedback to Council through a written submission or in person. If you have any further questions, please email us at [burrardbridgenorth@vancouver.ca](mailto:burrardbridgenorth@vancouver.ca).

Best regards,

**The Burrard Bridge and Pacific Street Intersection Upgrades Project Team**

[vancouver.ca/burrardbridgenorth](http://vancouver.ca/burrardbridgenorth)

You're receiving this email because you are subscribed to the Burrard Bridge and Pacific Street Intersection Upgrades newsletter with [paul.krueger@vancouver.ca](mailto:paul.krueger@vancouver.ca).

Contact us by emailing: [info@vancouver.ca](mailto:info@vancouver.ca).

To unsubscribe click here: [unsubscribe](#).

Thank you,  
City of Vancouver  
453 W 12th Avenue  
Vancouver, BC V5Y 1V4

Report Date: July 13, 2015  
Contact: Lon LaClaire  
Contact No.: 604.873.7336  
RTS No.: 10983  
VanRIMS No.: 08-2000-20  
Meeting Date: July 22, 2015

TO: Standing Committee on Planning, Transportation and Environment  
FROM: General Manager of Engineering Services  
SUBJECT: Burrard Bridge Upgrades and North Intersection Improvements

**RECOMMENDATION**

- A. THAT Council approve a \$35 million package of modifications to the Burrard Bridge and nearby streets as generally outlined in this report, namely:
- i. Structural modifications to the bridge, including:
    1. Concrete railing replacement,
    2. Roadway lighting electrical replacement,
    3. Sidewalk overlay,
    4. Concrete repairs (soffits),
    5. Access improvements for marine spans,
    6. East side duct bank repair, and
    7. Means prevention fencing and crisis phone installation;
  - ii. Restoration of walking to the east sidewalk of the Burrard Bridge by reallocating a northbound travel lane;
  - iii. Replacement of existing concrete barriers with architecturally-enhanced concrete barriers;
  - iv. Widening the northern bridge approach to generally maintain motor vehicle capacity; and
  - v. Safety improvements to the Burrard-Pacific intersection and associated active transportation connections.

B. THAT Council approve a Multi-Year Capital project budget of up to \$35 million for this work, with the funding source to be as follows:

- Current approved Multi Year Capital Project Budget for Burrard Bridge Rehabilitation and Upgrades \$30 million;
- CAC from 1262-1290 Burrard Street and 1229-1281 Hornby Street Rezoning \$4 million;
- City Wide DCL allocated to Transportation \$1 million

FURTHER THAT Council approve a funding source change for the current approved \$30 million Multi Year Capital Project Budget for Burrard Bridge Rehabilitation and Upgrades:

- Reduce borrowing authority by \$6 million and replace with City Wide DCL allocated to Transportation to reflect an increase in the growth-related component of the project.

### ***REPORT SUMMARY***

This report proposes a series of modifications to the Burrard Bridge and nearby streets. The changes include rehabilitating and upgrading aging bridge elements (including railings, electrical systems, sidewalks, and other important repairs), installing means prevention (suicide prevention) fencing, reconstructing the Burrard-Pacific intersection to improve safety, widening the north bridge approach, replacing existing concrete barriers with architecturally-enhanced concrete barriers, and converting a northbound motor vehicle lane to a protected bike lane to allow the return of pedestrians to the east sidewalk.

The bridge construction is expected to take 14 to 18 months to complete from commencement of construction. To reduce future construction-related disruptions to the corridor, several nearby water, sewer, and streets asset renewal projects are planned for the same timeframe.

There was one substantial change made to the proposal due to feedback from the public and stakeholders. Based on feedback from Vancouver Coastal Health, means prevention fencing and crisis phones have been added to the proposal. Staff have also made, or are in the process of investigating, several other changes to address issues, including: provision of a bike box and associated connections for people cycling eastbound through the Burrard-Pacific intersection; re-evaluating the potential lane closure between Howe and Hornby, south of Pacific; ensuring that pedestrian lighting which was removed from the bridge in many years ago can be reinstated on the bridge; and addressing accessibility concerns on the north bridge approach.

### ***COUNCIL AUTHORITY/PREVIOUS DECISIONS***

On October 31, 2012 Council adopted the Transportation 2040 Plan, which includes a zero fatality goal and identifies active transportation on the False Creek Bridges as an area of focus.

## **CITY MANAGER'S/GENERAL MANAGER'S COMMENTS**

The General Manager of Engineering Services RECOMMENDS approval of the recommendations of this report.

### **REPORT**

#### **Background/Context**

Burrard Bridge opened in 1932. Although ongoing maintenance has occurred throughout its lifespan, it requires rehabilitation, including:

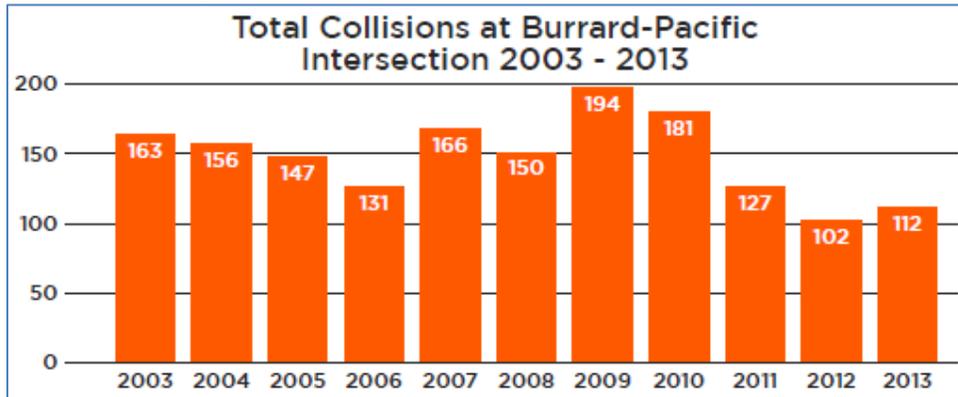
1. Concrete handrail replacement,
2. Roadway lighting electrical replacement,
3. Sidewalk overlay,
4. Concrete repairs (soffits),
5. Access improvements for marine spans, and
6. East side duct bank repair.

Prior to 2009, people walking and cycling shared the sidewalks on both sides of the bridge. As the number of people crossing the bridge using active transportation grew, the shared sidewalk increasingly became a safety hazard for pedestrians and cyclists. Safety was a particular issue for people cycling, as they were directed to ride in a narrow area adjacent to motor vehicle traffic and a minor error (or conflict with a pedestrian) could cause them to fall off the sidewalk onto the roadway. In 2009, the City reallocated a southbound travel lane from general purpose traffic and prohibited pedestrians from using the east sidewalk in order to create a protected bicycle lane in each direction. Since then, walking and cycling volumes have increased significantly with cycling growing by over 30%.

The Transportation 2040 Plan, adopted by Council in 2012, includes a zero transportation-related fatality goal and identifies the False Creek Bridges as an area of focus for active transportation improvements to address gaps in the pedestrian and cycling networks. Burrard Bridge is one of the busiest active transportation corridors in the city, with 10,000 walking and cycling trips on a busy summer day. It also carries approximately 55,000 motor vehicles, 13,000 transit passengers, and 500 trucks on a typical day.

According to ICBC, over the last 5 years, the Burrard and Pacific intersection has been the second-highest collision location in the City of Vancouver, with an average of over 140 collisions per year (figure 1). There has been significant improvement in the last 3 years, reducing it to 4<sup>th</sup> place in terms of collisions across the city, however, further improvement is dependent on a redesign of the intersection, particularly in view of the increasing cycling traffic over the bridge. The most frequent collision types include: 1) rear-end collisions in the right-turn channel onto the bridge and 2) collisions between vehicles merging onto the bridge and southbound vehicles.

**Figure 1: Collision Statistics at Burrard-Pacific**



Bridges are also an unfortunate opportunity for self-harm by those struggling with mental health issues. According to the BC Coroner’s Office, in a typical year one person dies by jumping from Burrard Bridge. Table 1 below shows suicide (fatality) statistics for Burrard Inlet and False Creek bridges between 2006 and 2011.

**Table 1: Burrard Inlet and False Creek Bridge Suicide Statistics\***

Bridge	Suicides per year
Lions Gate	4.3
Granville	2.5
Burrard	0.8
2 <sup>nd</sup> Narrows	0.8
Cambie	0.3

\*BC Coroner’s office 2006-2011

Table 2 shows average yearly logged calls labelled as potential suicide attempts from emergency services from 2006 to 2011. While not comprehensive, it represents a comparative source of data on potential suicide attempts.

**Table 2: Police Calls Logged as Potential Suicides on Burrard Inlet/False Creek Bridges\*\***

Bridge	Calls logged as potential suicide attempts per year
Lions Gate	19
Granville	20
Burrard	17
2 <sup>nd</sup> Narrows	No data
Cambie	8

\*\*Vancouver Police Department Records 2006-2011

The Ironworkers Memorial (Second Narrows) Bridge has a similar number of suicides as Burrard. The province is in the process of completing a project that includes means prevention fencing. Plans for the Burrard Bridge now include the placement of appropriate fencing.

### Strategic Analysis

### Structural Rehabilitation

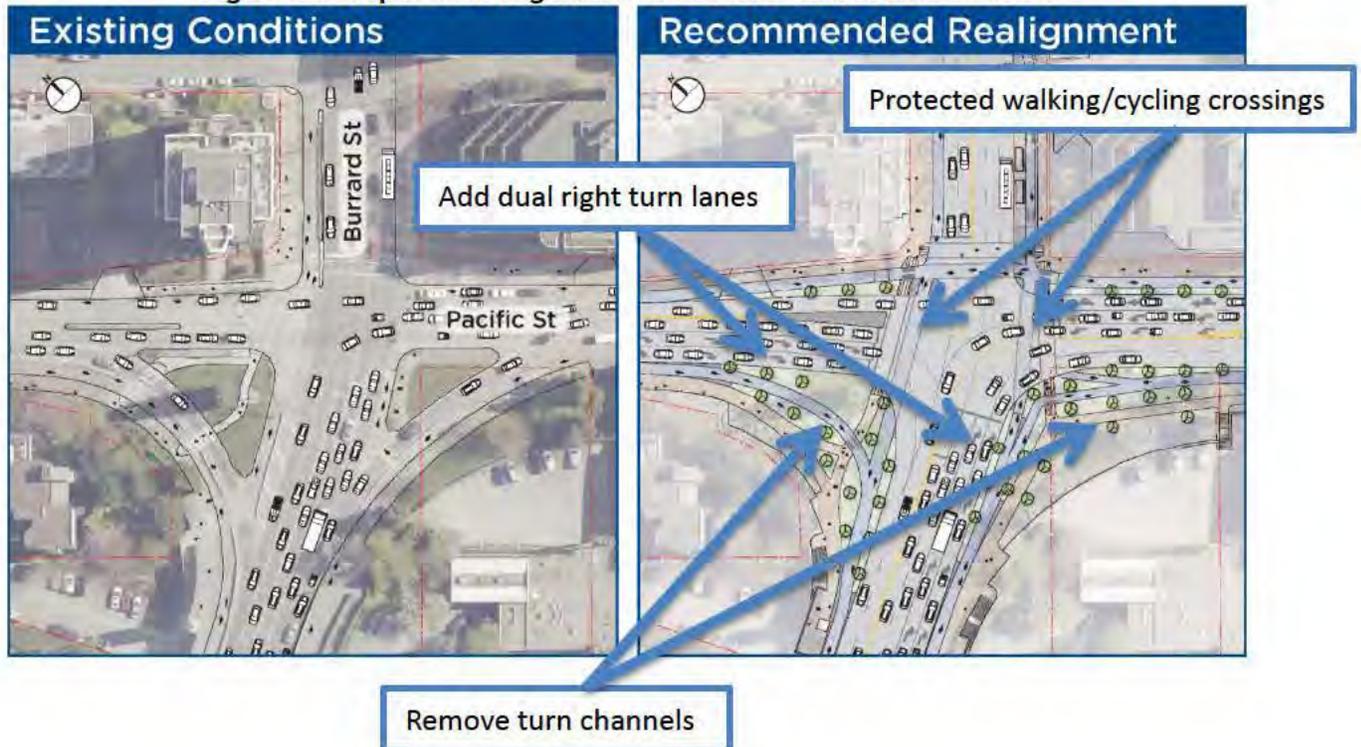
The rehabilitation work on the Burrard Bridge provides an opportunity to coordinate safety improvements both at the north end of the bridge and on the bridge (means prevention barriers), reinstate walking on the east sidewalk by converting a travel lane to a bicycle lane, and make active transportation network improvements at the north end of the bridge (similar to the improvements recently completed at the south end).

The rehabilitation is expected to take between 14 and 18 months, during which time road modification and utility work can also be undertaken to minimize overall long-term impacts on the public.

### Safety Improvements

The most significant safety improvements would be achieved by normalizing the Burrard/Pacific intersection, similar to the changes to the Burrard/Cornwall intersection in 2014 (see figure 2). With the exception of a low-volume westbound to northbound right turn, all movements would be signalized to eliminate conflict between vehicles and people walking and cycling. It is anticipated that this would significantly reduce collisions of all types.

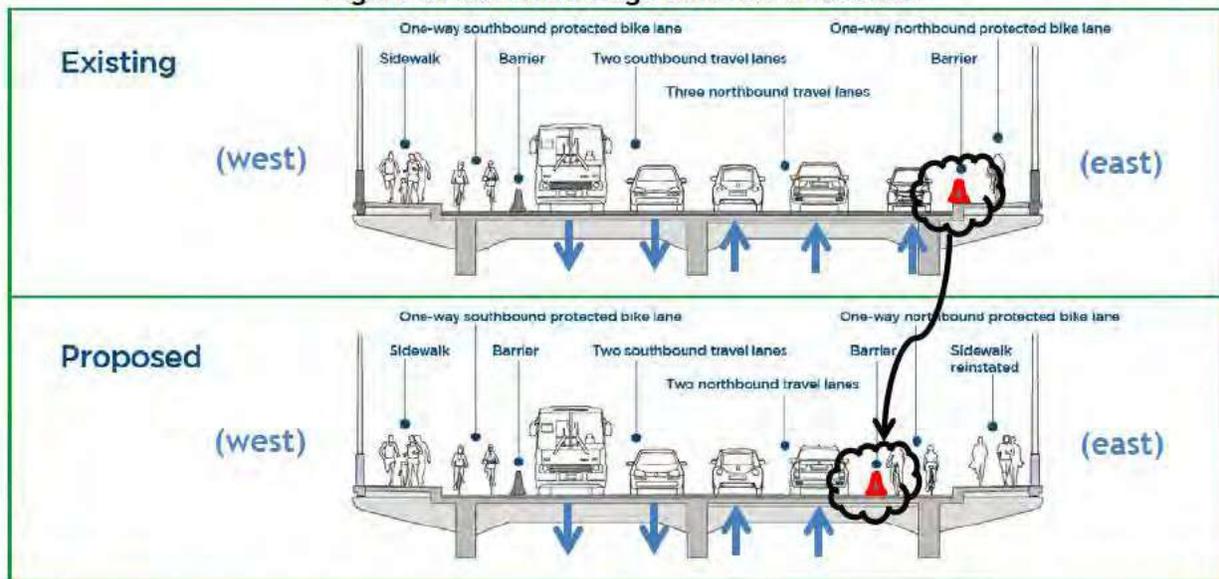
Figure 2: Proposed realignment of Burrard-Pacific Intersection



## Returning Pedestrians to East Sidewalk

The project proposes to reintroduce pedestrians to the east sidewalk. This will improve walking connectivity (particularly for destinations on the east side of the bridge), reduce conflicts between people cycling northbound and people who still wish to walk on the east sidewalk despite the prohibition, and increase overall space and public views of False Creek for people walking. This would require reallocation of a travel lane across the mid-span of the bridge (see figure 3) and limited bridge widening (along a north-south length of approximately 100m) near the Burrard-Pacific intersection.

Figure 3: Burrard Bridge Lane Re-allocation



Reducing the number of general traffic lanes from three to two in each direction on the mid-span of the bridge is not anticipated to significantly impact motor vehicle traffic. Without signals or other factors that affect traffic capacity, two lanes could carry approximately twice the vehicle volume that currently travels across the bridge in the peak hour. Instead, it is the Burrard-Pacific intersection that constrains capacity for northbound vehicles - primarily the number and length of lanes at the intersection and the proportion of the signal cycle length devoted to the northbound movements. Reallocating the lane over the mid-span will better utilize the width of the bridge by providing additional space for pedestrians where the additional lane is not required to accommodate motor vehicle demand.

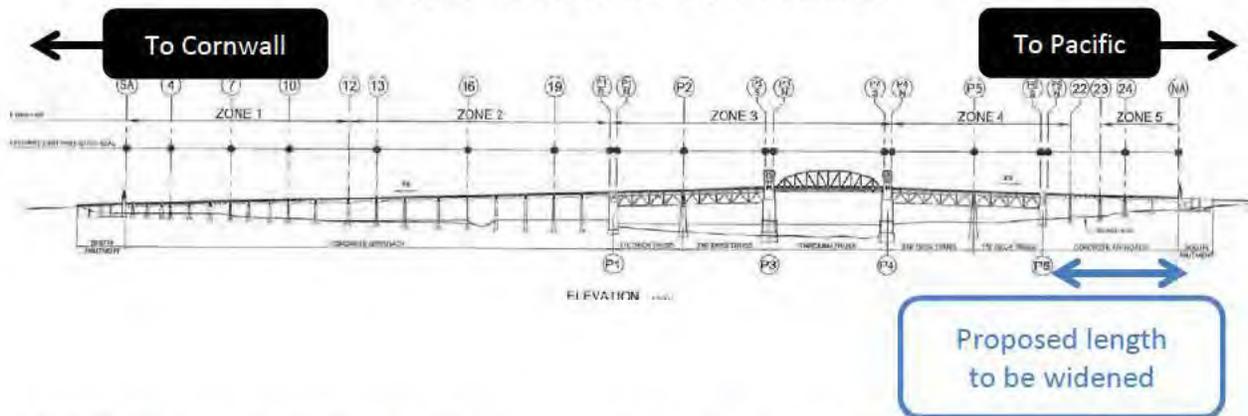
As part of the lane reallocation, the final improvements to the Burrard-Cornwall intersection will be completed to align with this shift in lanes which was anticipated at the time of that project.

## Motor Vehicle Capacity and Bridge Widening

To maintain current motor vehicle capacity through the Burrard-Pacific intersection, dual right turn lanes onto and off of the bridge are needed. On the bridge this would be accomplished by widening the structure by cantilevering the sidewalks on the outside of the

existing structure on the concrete approach (see figure 4). Overall, the proposal will widen approximately 100m of the 859m bridge.

Figure 4: Proposed Bridge Widening



A detailed micro-simulation model was created to help understand the impacts of the proposed changes to motor vehicle capacity. Appendix A shows a summary the results of the modelling. While minor delay is expected for northbound traffic, several movements are improved, including the eastbound turn onto the bridge from Pacific. Overall, the impact to motor vehicle travel times is expected to be negligible, and travel time reliability during peak periods is expected to improve.

New architecturally-enhanced concrete gravity barriers are being proposed for the length of the bridge. The drawings used in the consultation process showed a steel barrier on the widened portion, however as a less costly approach and to allow for future flexibility, staff are considering gravity barriers be included on the widened section in addition to the rest of the bridge, subject to final design and risk assessment.

**Active Transportation Network Improvements at the North End of the Bridge**

The project proposes unidirectional protected bike lanes in all directions for intersection legs approaching the bridge to provide all ages and abilities cycling connections to and from the bridge in all directions. This includes bike lanes on Pacific between Thurlow and Howe and on Burrard to Drake (with a provision to extend to Burnaby St in coordination with the development at Burrard and Drake) - see figure 5 for details. To achieve the new design for active transportation improvements while maintaining motor vehicle capacity, the City-owned building at 900 Pacific (the “Kettle of Fish” building) will be removed and a portion of the site would be used to shift the street to the south.

Figure 5: Burrard Bridge North End Improvements



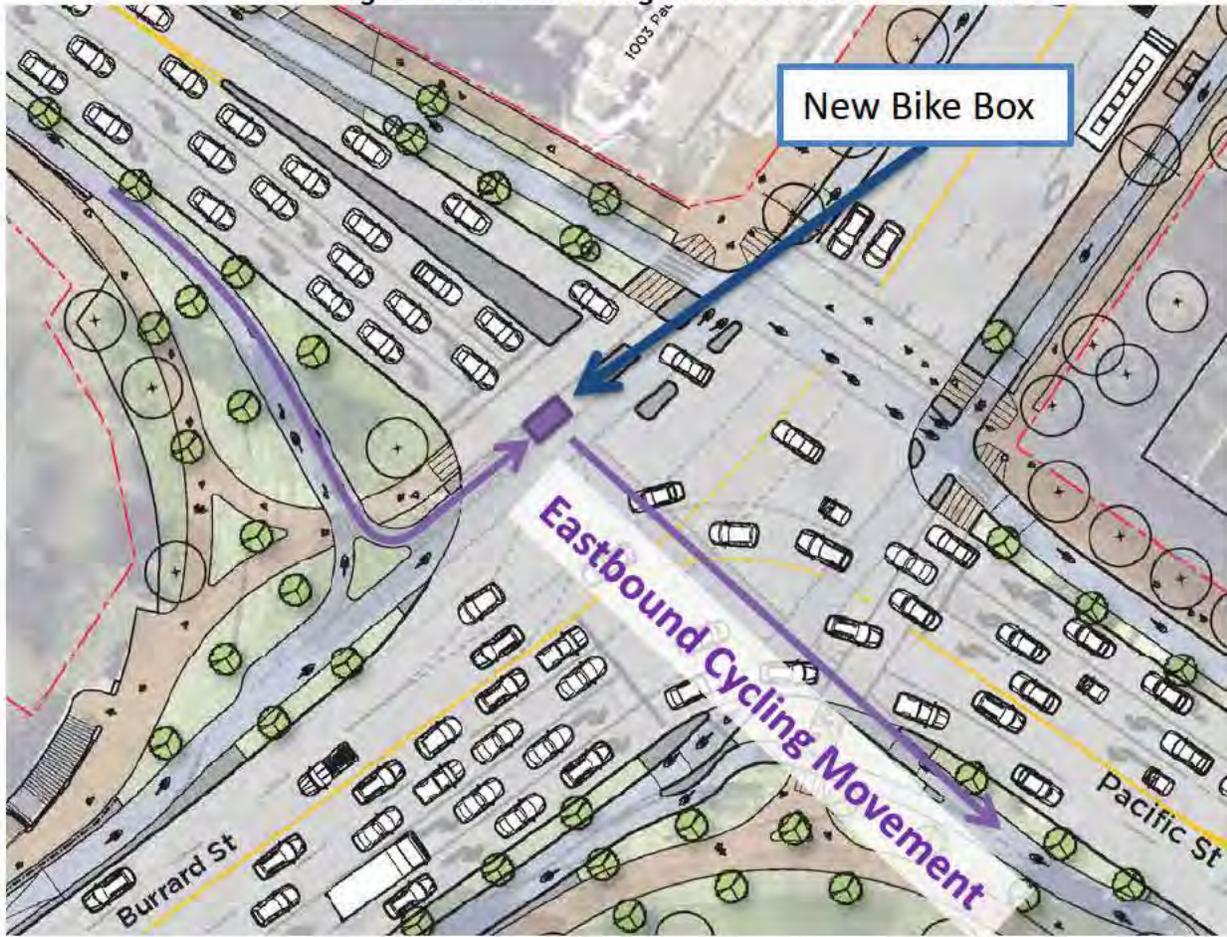
- Unidirectional protected bike lanes (both sides)

- Bridge widening

- Unidirectional protected bike lane (south side)
- Interim painted bike lane (north side)

The original design that was consulted on (figure 2) didn't include provisions for eastbound cycling across the Burrard-Pacific intersection. Based on public and stakeholder feedback, staff have revised the design to include an eastbound bike box and associated connections (figure 6). The bike box would be positioned so that people cycling would be able to enter it without conflict and proceed with the eastbound motor vehicles. Because they would be to the right of the through traffic there would be little conflict between modes and almost no additional delay for motor vehicle traffic.

Figure 6: Revised Design with Eastbound Bike Box



### Heritage Value

The Burrard Bridge is one of the most important heritage structures in the City of Vancouver, and is significant for its Art Deco design and sculptural embellishments. From a heritage perspective, any alteration to the original character-defining elements of the bridge can have a potential impact, however the proposed interventions have been designed following the “Standards and Guidelines for the Conservation of Historic Places in Canada”. While the original concrete handrails are being replaced and the north bridgehead is being widened, the proposal has several positive outcomes from a heritage perspective.

Firstly, the concrete handrails (key character-defining elements) are being rehabilitated along the entire length of the bridge. The design will be a replication of the original, with a smooth board-formed concrete finish. The non-original street lights will be removed from the tops of the handrail and relocated to new platforms outside of the existing railings. This will restore

the bridge more closely to its original state and allow for the possible future reinstatement of the original pedestrian scale lighting. Secondly, the bridge will be restored to a symmetrical condition, which is important to the “road gate” intent of the original design. Lastly, the most significant modifications are limited to the northern approach, which does not affect views from the “sea gate”, Granville Island, and the water.

The motions from the Vancouver Heritage Commission are included in appendix B.

### Coordination of Infrastructure and Public Works Projects

Staff are proposing to coordinate construction of several public works projects with the bridge and safety improvements in order to avoid repeated construction and traffic impacts. These would be funded separately and include:

- Burrard St from 1<sup>st</sup> to 16<sup>th</sup> - water main, sewer, and streets improvements
- Burrard St from Beach to Davie - water main and sewer replacement
- Drake St from Burrard to Hornby - water main replacement

### Public Engagement

Staff have undertaken significant engagement to date and met with key stakeholders in May and June 2015 including: the Transportation 2040 Stakeholder Group, Women’s Advisory Committee Seniors’ Advisory Committee, the Persons with Disabilities Committee, Active Transportation Policy Council (see motion in Appendix B), Downtown Vancouver Business Improvement Association, the West End Business Improvement Association, Vancouver Board of Trade, Heritage Commission, Vancouver Taxi Association, Film Industry, HUB, TransLink, BC Trucking Association, and Heritage Vancouver.

Staff also held several events to speak with local residents, businesses, and the general public. This included:

- talking to people walking and cycling through two lemonade stands,
- informing people driving by talking to them at nearby gas stations, and
- engaging nearby businesses, residents and the general public at two open houses.

Delaney and Associates was commissioned to facilitate the public and stakeholder engagement - their report is attached as appendix C. A quantitative analysis by City staff of survey responses is attached in appendix D.

Common issues that arose from the public were:

1. **Cost** of the project,
2. Perceived reduction in the **motor vehicle capacity** of bridge, particularly across the mid-span where the proposal calls for the conversion of one travel lane in order to allow walking on the east sidewalk,
3. Feedback that the public process was abbreviated and a perceived lack of **engagement**,
4. Concern about **construction impacts** on parking and traffic,
5. **Local impacts** (landscape removal, driveways, etc.),
6. Concern about the transition from a **concrete vehicle barrier** across the midspan to **steel barrier** at the widening,
7. Concern about potential **closure of the lane** south of Pacific between Hornby and Howe to vehicles,

8. Desire for a **southbound bus stop** further south on Burrard (currently two blocks north at Burnaby), and
9. Concern about the lack of **eastbound cycling connections** at Burrard and Pacific.

Key issues from stakeholders were:

10. Lack of provision of **eastbound AAA (all ages and abilities) cycling facilities** through the Burrard-Pacific intersection (HUB, ATPC)
11. **Construction impacts on traffic, tour buses, and goods movement** (Vancouver Trucking Association)
12. Concern about lack of **suicide prevention measures** in the plan (VCH)
13. **Accessibility** improvements - places to rest across the bridge (eg. benches), good cues at transition points for visually impaired pedestrians, improved stairs, and accessible signals (Persons with Disabilities Committee, ATPC)

Staff believe they have addressed these concerns in the following ways:

1. **Cost.** The cost of the project is \$35 million. Approximately \$27 million is required for the structural work and \$8 million for the road work. These are required to maintain an aging asset, improve safety, and achieve active transportation goals. The intersection improvements are expected to significantly reduce collisions and their overall cost to society.
2. **Motor vehicle capacity.** As discussed above, extensive modelling has been done to determine impacts on road users. Based on that work, motor vehicle capacity across the bridge is expected to be generally maintained. The midspan of the bridge, where the northbound vehicle lanes are proposed to be reduced to two lanes from three, will have more than enough capacity to accommodate the northbound motor vehicle traffic in the peak period. The intersection is the limiting factor for capacity and the proposed four northbound lanes and two southbound lanes will have sufficient capacity to accommodate the motor vehicle demand at the intersection.
3. **Engagement.** This project was included in the extensive engagement process for the Transportation 2040 Plan. Additionally, detailed discussions have been underway since 2010 on key issues such as heritage and active transportation. The most recent consultation allowed stakeholders and the public to make constructive comments regarding the design, which are currently being addressed through design refinements, where possible. The bridge is a popular film location and staff will continue to work with the film industry to address concerns, where possible.
4. **Construction impacts.** Staff are committed to working through construction issues with the nearby residents and businesses in order to minimize impacts. There will be aggressive management of traffic and congestion issues and a robust communications plan to ensure that all stakeholders are up to speed. Where there are temporary parking and loading losses, staff will attempt to find other locations nearby to provide better access for businesses and residents.
5. **Local impacts.** Staff have met with several local residents who have expressed concern about specific potential impacts, and are working to resolve them. For

example, there have been concerns about the removal of landscaping on the street right-of-way. When landscaping needs to be removed for the project, staff will give adjacent residents an opportunity to relocate plants to the adjacent property. The project will also add over 60 trees at the north end of the bridge. Residents of the buildings on the north side of Pacific, west of Burrard, also expressed concern about conflicts between the driveways and cycling facilities. These types of issues are not uncommon with protected bike lanes and staff believe that the safety concerns can be addressed through detailed design of the driveway crossings.

6. **Steel vehicle barrier at widening.** Staff have reviewed the proposal and are considering a concrete barrier along the widening. The Vancouver Heritage Commission supported the concrete barrier, subject to it being well-designed (see motion in appendix B).
7. **Lane south of Pacific, west of Howe.** Staff have met with the impacted residents and, based on further design work, are working with the intention that the lane can be left open at Pacific, subject to a final review of grading details. The lane may be limited to one-way northbound to reduce short-cutting, improve safety, and address issues with potential pinch points, but the details will be determined through continued discussion with affected residents.
8. **Bus stop at Burrard-Pacific.** During the engagement process, several residents and stakeholders commented that they would like to see a southbound bus stop on Burrard at Pacific. The stop could be accommodated but it would require removal of the large Cypress tree at the southwest corner of the Burrard-Pacific intersection, something which we would not support. The Cypress tree was likely planted shortly after the opening of the bridge in 1932 and staff are focusing efforts on preserving the tree. The current design would instead accommodate a new bus stop in the curb lane on Burrard, south of Drake St (a half-block closer the Burrard-Pacific than it is now).
9. **Eastbound cycling at Burrard-Pacific.** The modified design accommodates a bike box and associated connections to facilitate the eastbound cycling connection across the intersection (figure 6).
11. **Construction impacts on traffic, tour buses, and goods movement.** Staff will work to minimize the traffic impacts and ensure that any delays are well-communicated. Staff are exploring the possibility of allowing light trucks on the Granville Bridge for the construction period.
12. **Means prevention (suicide fencing).** Staff have now added means prevention (suicide) fencing and crisis phones to the proposal (see discussion below).
13. **Accessibility.** Staff will work to find opportunities for benches on the bridge, and are investigating a combination of tactile treatments and fencing to direct visually impaired pedestrians at transition points, as well as minimizing grade changes, and ensuring that signals meet current accessibility standards in Vancouver. The stairs on both ends will be modified to improve accessibility, including adding wheel ramps for bikes.

## Means Prevention Fencing and Crisis Phones

Means prevention fencing and crisis phones are key measures to help prevent suicides. While it is difficult to prevent planned suicides, many suicides and attempted suicides are impulsive acts. Providing support to people contemplating suicide by installing crisis phones and installing fencing to make it more difficult to jump over the railings are proven methods to reduce potential suicides.

Means prevention fencing was not shown in open houses or online, as it was not proposed in the original scope. It has been included in the final scope based on feedback from the public and stakeholders and particularly related to a letter of concern from the Vancouver Coastal Health (VCH) Medical Health Officer, who wrote to Council and senior management urging that this infrastructure be implemented with the work done on the bridge. Staff will work with the structural engineer, architect, and heritage consultant to design a fence that meets the means prevention needs, but is as aesthetically pleasing, light, and transparent as possible.

From a heritage perspective, the means prevention fencing is highly impactful to both the sea gate and road gate, however the intent is for it to be designed to be sympathetic to, yet distinguishable from, the heritage character of the bridge. Staff will work with the Vancouver Heritage Commission to determine how to best incorporate elements of the pedestrian-level lamp standards into the design of the means prevention fencing, as moving towards achieving the lighting was a key factor in the Commission supporting the fencing.

### *Implications/Related Issues/Risk*

#### *Financial*

The total Multi-Year Capital project budget is estimated to be \$35 million. It is estimated approximately \$20 to \$25 million will be spent in 2016 and \$10 to \$15 million in 2017.

The funding source for this project will be as follows:

- \$30 million from the current approved Multi Year Capital Project Budget for Burrard Bridge Rehabilitation and Upgrades;
- \$4 million from 1262-1290 Burrard Street and 1229-1281 Hornby Street Re-Zoning (RTS 10320);
- \$1 million from City Wide DCL allocated to Transportation.

In addition, staff recommend Council approve a funding source change for the current approved \$30 million dollar Multi Year Capital Project Budget for Burrard Bridge Rehabilitation and Upgrades which involves reducing borrowing authority by \$6 million and replacing it with \$6 million City Wide DCL to reflect an increase in the DCL-eligible component of the overall project.

The \$4 million CAC will be funded from the approved recommendation from RTS 10320 1262-1290 Burrard Street and 1229-1281 Hornby Street as follows:

*\$4 million towards public realm improvements including Comox-Helmcken Greenway and improved bicycle/pedestrian facilities over the Burrard Bridge and/or connections to improved bicycle/pedestrian facilities over Granville Bridge.*

In addition, Staff are seeking funding through several cost-sharing programs, including:

- TransLink Minor Capital (up to \$2 million)
- ICBC safety improvement funding (~\$500,000)
- Building Canada Fund (up to 1/3 of total project cost)

At this time the applications have not been approved however, if these applications are successful, they will reduce the debt-funded costs of the project, where possible. Staff have also approach P3 Canada, who have advised that they are not in favour of a P3 on bridge rehabilitation projects.

### ***Environmental***

Transportation 2040 and the Greenest City 2020 Action Plan identify that a mode shift toward walking, cycling, and transit is critical to accommodate regional population growth and to meet our environmental targets. The proposal addresses a major gap in the walking network by once again allowing walking on both sides of the bridge. In addition, the proposal greatly improves comfort, convenience, and safety for people walking and cycling across the bridge, by upgrading the Burrard/Pacific intersection and providing new or improved connections to the existing walking and biking networks, all while ensuring that transit and good movement are not compromised.

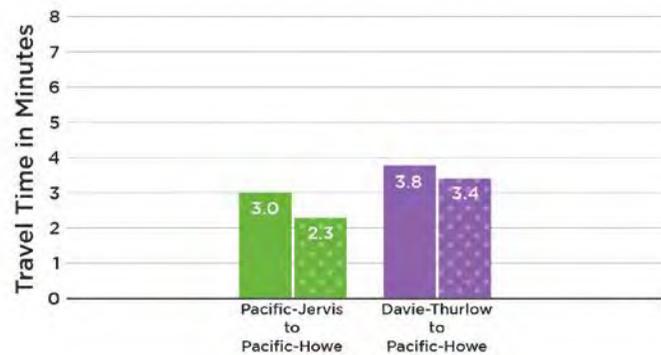
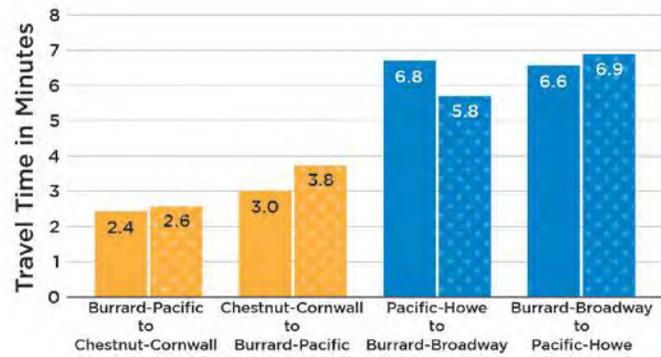
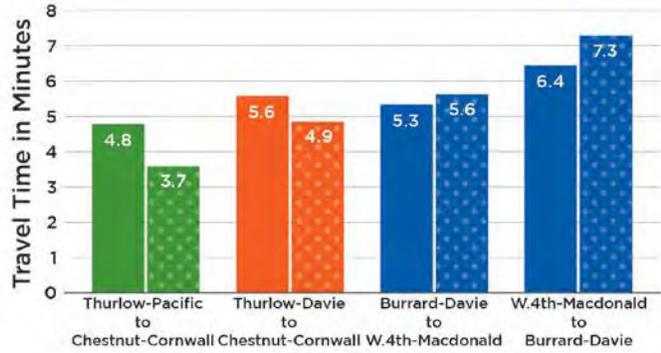
### ***CONCLUSION***

The project, as proposed, addresses the need to rehabilitate the bridge, improve safety at the Burrard/Pacific intersection, and restore walking to the east bridge sidewalk. While several issues arose through the engagement process, staff believe that they have been addressed through the measures proposed in the report.

\* \* \* \* \*

# APPENDIX A: Travel Time Summaries

## Before & After Travel Times for Select Routes (PM Peak)



Solid bars indicate current travel time. Dotted bars indicate projected travel times once the project is complete. Travel times are for the PM peak period, which is the busiest time of day for the bridge. Projected travel times are based on modelling completed by independent consultants.

## APPENDIX B: Council Advisory Committee Motions

### *1. Active Transportation Policy Council Motion*

#### WHEREAS

1. The intersection at Burrard Street and Pacific Street has the second highest number of traffic collisions in the City of Vancouver;
2. The City of Vancouver's Transportation 2040 Plan calls for a focus on shifting modes to active transportation;
3. Pedestrian traffic across the Burrard Bridge has been steadily increasing but is currently restricted to using only the western sidewalk;
4. There has already been a significant increase in cycling across the Burrard Bridge and the current northbound route on the narrow eastern sidewalk is unsafe;

#### THEREFORE BE IT RESOLVED

THAT the Active Transportation Policy Council supports the proposal presented by City staff, especially the following:

- Provides safer protected connections moving people out of the intersection in all directions;
- Gives people access to eastern sidewalk;
- Within the extent of the project there is a net increase in trees and green space coverage; and
- Removal of slip lanes, normalizing the intersection for increased safety.

AND FURTHER THAT the Active Transportation Policy Council suggests adding the following:

- Permitting pedestrians to cross at all four sides of the Burrard and Pacific intersection. The priority for safety and convenience over other modes needs to be part of the design of this section for the first time;
- An eastbound All Ages and Abilities (AAA) bicycle route from Pacific Street at Bute Street, crossing Burrard Street, to join up with the AAA infrastructure on Pacific Street east of Burrard Street - even if this means removal of one tree. The tree may be compromised by root upheaval during construction anyway. A minimum of 50 new trees will be planted as part of this project; and
- Upgrading the west side and east side stairs to modern accessibility standards.

#### CARRIED UNANIMOUSLY

### *2. Persons with Disabilities Advisory Committee Motion*

THAT the Persons with Disabilities Advisory Committee, at its meeting on June 25, 2015, expressed concerns to staff about safety and wayfinding on the Burrard Bridge for persons who are blind or partially sighted and wishes to see the accessible and audible signals and tactile markers used;

FURTHER THAT the Committee requests there be places for people to rest along the Burrard Bridge.

CARRIED UNANIMOUSLY

3. *Vancouver Heritage Commission Motion*

THAT the Vancouver Heritage Commission supports the scope of work presented at its meeting on June 15, 2015, for the ongoing restoration project for the Burrard Street Bridge being performed by the City of Vancouver.

CARRIED UNANIMOUSLY

At its meeting on July 6, 2015, the Vancouver Heritage Commission approved the following motion, in response to discussion of proposed means prevention fencing and concrete (rather than steel) vehicle barriers on the widened portion of the bridge:

WHEREAS, on June 15, 2015, the Vancouver Heritage approved a motion supporting the scope of work for the Burrard Bridge currently being performed by the City of Vancouver.

THEREFORE BE IT RESOLVED THAT the Vancouver Heritage Commission recommends further design development to the following features of the proposal of the Burrard Bridge as presented at its meeting on July 6, 2015:

- Inclusion of restored/rehabilitated pedestrian heritage lighting
- Redesign of the concrete barriers



3 July 2015

# BURRARD BRIDGE Engagement Summary

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Delaney + Associates is a third party neutral stakeholder and public engagement company. We are certified by the International Association of Public Participation and the International Association for Facilitation. We have no vested interests in the decision for which this engagement was convened. Our instructions from the client were to design and facilitated dialogue in order to reach out to interested and effected parties in order to collect and document advice and concerns. This summary of engagement findings is true and accurate to the best of our knowledge and fully reflects views of those we engaged.



Richard Delaney, CPF, MPA  
President  
Original Draft – Prepared June 26, 2015  
Revised – July 3, 2015

# Burrard Bridge Engagement Summary Report

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## Executive Summary

The City of Vancouver hired Delaney + Associates to support the City's implementation of the Burrard Bridge engagement process, in support of upgrades to the north end of the bridge intersection, including realignment of the intersection, improved pedestrian and cyclist safety measures, adding a new cycle lane and returning pedestrian traffic to the east side of the bridge. All of which means closes an existing vehicle lane. The engagement period was for the month of June 2015, and the purpose was to provide information to stakeholders and the public about the project and to receive comments on a draft design for bridge improvements.

During the engagement period (1-25 June, 2015), there were more than 20 unique engagements ranging from open houses, on-site lemonade stands, online and hardcopy surveys, one-on-one meetings, and presentations with Q&A / discussion sessions. The engagement was robust and sought to include all those stakeholders who may be impacted by the project.

The engagement process highlighted just how vital the Burrard Bridge is as a multi-modal transportation corridor, heritage landmark and key access to the downtown peninsula. While there is significant support for the upgrades, and a clear recognition that safety for all bridge users is paramount, there are specific concerns, questions, and areas of the proposed modifications to the bridge that will require further consideration or evaluation based on what was heard during the engagement process. This report outlines how and what stakeholders were engaged, highlights comments on the proposed design and documents what was heard throughout the engagement.

Stakeholders have a high expectation of ongoing engagement, including feedback on how their input was considered or how it influenced modifications to the bridge and intersection.

# Summary of Engagement

## Engagements Conducted/Assisted by Delaney and Associates

Delaney + Associates (D+A), in coordination with the City of Vancouver (City), contacted numerous stakeholders who may be impacted by the project. The stakeholders contacted by D+A can be divided into two groups and several categories:

- 1) The general public:
  - a. Motorists / Commuters
  - b. Cyclists
  - c. Pedestrians
  - d. Seniors
  - e. Heritage Enthusiasts
  - f. Local Residents
- 2) Organizations serving people who may have interests relating to the project:
  - a. Government agencies
  - b. Non-governmental organizations
  - c. Community organizations
  - d. Businesses Associations potentially impacted by construction or routing
  - e. Corporations with offices in close proximity to the north end of the bridge

This report consolidates and relays our findings to the City for project-based decision making.

We understand the City initiated engagement with residents and businesses near the Burrard Bridge with information sent by mail. The engagement activities undertaken by Delaney sought to add value to this communication and to creatively engage bridge users to inform them of the rationale and approach to the project and to capture their input.

### 1) General Public

Three main types of engagement were used to connect with the general public.

1. Open Houses: Two open houses were organized, both taking place at the Roundhouse Community Centre held Saturday, June 6 and Tuesday, June 16.
2. Lemonade Stands: Two “lemonade stands” (information booths) were set up on the bridge at the intersection of Pacific Street and Burrard Street on separate days. The lemonade stands involved D+A and City staff intercepting people crossing the bridge by foot or bicycle to offer a glass of lemonade, information about the project, answer questions, and solicit feedback. A number of information panels were also set up at the lemonade stands to provide detailed information and the project timeline.

3. Posters: D+A staff conducted two poster campaigns to put up posters and distribute information flyers in gas stations, coffee shops, and other places where people either congregate or pass through as they approach the Burrard Bridge.

#### a) Open Houses<sup>1</sup>

##### 1<sup>st</sup> Open House – Saturday, June 6, 10 a.m. – 2 p.m.:

Estimated number of people engaged: 50-70

##### 2<sup>nd</sup> Open House – Tuesday, June 16, 7-9p.m.:

Estimated number of people engaged: 80-100

#### Written Feedback Received:

##### Positive:

- I think this is a great project and I really appreciate that City staff are here to answer our questions and show us all this information.
- I appreciate the opportunity to come to this open house and get my questions answered.
- This is going to be great for cyclists. We are all on board.

**Neutral:** None.

##### Negative:

- I did not hear anything about this construction or this session. Why was I not informed?
- They are not going to do a presentation? I have to look at all the information myself?
- Is the City even going to listen to what I have to say? There is no point to this. Seems like it is a done deal.
- The project is too expensive and seems like we are paying too much money to improve the bridge when it was just updated.
- I am really pissed about this project and have a lot to say (filled out two feedback forms).

#### b) Lemonade stands

<sup>1</sup> D+A staff captured limited feedback from the Open Houses, as the role of D+A staff was primarily to sign people in, orient them, and collect feedback forms.

**1<sup>st</sup> Lemonade stand – Friday, June 5, 3-6p.m.**

Staff: Paul Storer (City of Vancouver), Emina (Delaney), Suzy (Delaney)

Estimated number of people engaged: 150 people

**2<sup>nd</sup> Lemonade stand – Saturday, June 13, 3-6p.m.**

Staff: Paul Storer (City of Vancouver), Sally (Delaney), Suzy (Delaney)

Estimated number of people engaged: 120 people

**Feedback Received:**

**Positive:**

- Lemonade is too sweet :)
- I am happy they are making that intersection safer, it is very dangerous.
- I am an old lady and access to the bridge on both sides is much better for me; it makes the bridge more accessible.
- The intersection is so dangerous and I feel scared crossing onto the bridge with my kids in the stroller.
- I think this is a great project and I am 100% supportive of it.
- As a biker, I welcome the changes to the east side of the bridge, as it is a little dangerous and tight during peak times. Although you are not supposed to pass, people do. Widening the bike lane is a great idea.
- Who designed that intersection in the first place? It is not safe. We saw an accident this morning with a biker and car. I am glad they are going to make it safer.
- I get so nervous every time I bike down Burrard going south onto the bridge from downtown. I am really happy the city will be improving that area.
- Right now the east side is dangerous for bikers because walkers sometimes use it. The addition of walking on the east side will improve this.
- My husband bikes over this bridge every day and I am so nervous about it. I would welcome improvements to this intersection.
- I really liked the improvements that were made on the south end of the bridge, so feel this project will also make a positive impact.

- It really is a pain having to cross to the other side of the bridge to walk over it. Any improvement to that would be great.
- It all seems to make sense to me.

**Neutral:**

- I don't use the bridge that often so the construction will not really impact me on a regular basis.
- What will access to the bridge be like during the construction period?
- I walk the bridge every day and do not really see the need for an additional walking area. It is not a big inconvenience to cross the road.
- It would be great if bikers/walkers could be completely separated from the cars either under or over the bridge.
- Will the loss of the lane on the east-side reduce traffic on an already busy bridge?
- As a regular user of this bridge I see accidents at this intersection happen all the time.
- Why was this not done at the same time as the work on the south side?
- Will the bridge be completely closed during construction?
- We witnessed two families, most likely visitors try to use the bike lane as a pedestrian crossing.
- Will the 'look' of the bridge be maintained?

**Negative:**

- I am not sure why there are spending all this money to upgrade. We didn't need the lane in 2009 and it was too expensive, why do we need it now?
- I live close by and am surprised I didn't hear anything about this before.
- More construction! Didn't you just complete some?
- \$30 million dollars! That is a lot of money. Do we really need to do all this. We spent too much on the Cornwall side in 2009.
- I am concerned about the noise from construction. If it occurs during work hours when I am not at home, that is okay but otherwise I am concerned I will be inconvenienced.

- Why are we just hearing about this? I feel like there should have been more consultation.
- Isn't a done deal anyways, why are you even asking for our input?
- I'm concerned about construction noise as we live right next to the bridge.
- No point in giving feedback, no one is going to listen anyhow.
- Why was the intersection designed so inefficiently in the first place?

### c) Gas station poster campaigns

#### **1<sup>st</sup> poster campaign – Tuesday, June 2, approximately 1-3p.m. (North end of the bridge)**

D+A staff requested permission to put up a poster and leave information postcards at the Esso on Burrard and Davie for distribution to patrons. We were told, however, that permission from head office must be sought. As that was the only gas station identified north of the bridge, D+A staff continued to coffee shops and other locations with potential for significant customer traffic. This included approaching the following: Molli Café (took a poster to display as well as some postcards); the Maple Leaf Café and Deli (took postcards to put on the counter); Burrard Corner Store (took postcards); Subway (staff said they are not permitted to put up posters or leave postcards); Bicycle Sports Pacific (took postcards); UPS (took postcards); Cycle City Tours/Cycle Vancouver (took postcards); Afso Café (did not take posters or postcards); TD/Canada Trust (agreed to distribute postcards).

#### **Comments on 1<sup>st</sup> poster campaign:**

The manager at Bicycle Sports Pacific offered detailed commentary about the traffic patterns at the north intersection. He expressed that he was open to being contacted by the City to provide information or feedback on the possible designs for the intersection based on his experience from the store right near the intersection, and the occurrences that he observes daily.

Owners or staff members of The Maple Leaf Café and Deli, Afso Café, and UPS were very concerned about the short and long-term impacts of the project on their businesses.

#### **2<sup>nd</sup> poster campaign – Friday, June 12, approximately 12-1p.m. (South end of the bridge)**

Four gas stations were approached:

- Esso at Burrard and Broadway: Staff indicated that they are not allowed to put up posters or distribute postcards.
- Esso at Burrard and 4<sup>th</sup> Avenue: The store manager took one poster and a stack of postcards, and indicated that he would ask permission of head office to display them.

- Chevron at Burrard between 3<sup>rd</sup> and 4<sup>th</sup> Avenues: Staff permitted the displaying of one poster, and took a stack of postcards to put on the counter.
- Petro Canada on Burrard near 1<sup>st</sup> Avenue: Staff indicated that they are not allowed to display posters, but took a stack of postcards to put on the counter.

## 2) Organizations serving people who may have interests relating to the project

### a) Lists of organizations contacted:

The following organizations were contacted directly either by City or D+A staff to provide information and arrange meetings with City staff, for any organizations that desired one. Information project packages were also mailed to residential buildings in the vicinity of the north end of the bridge:

- BC Hydro
- BC Trucking Association (BCTA)
- Better Environmentally Sound Transportation (BEST)
- Downtown Vancouver Association (DVA)
- Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee
- Fortis BC
- Gateway Council
- Heritage Commission
- Heritage Vancouver Society
- HUB
- Persons with Disabilities Committee
- Port Metro Vancouver
- Robson Street Business Association
- Shaw cable
- Telus
- Tourism Vancouver
- Vancouver filming industry
- Vancouver Heritage Foundation
- West End Business Improvement Association (WEBIA)
- West End Seniors Community Planning Table
- West End Seniors Network<sup>2</sup>
- Women’s Advisory Committee
- TransLink
- Advisory Committee on Seniors’ Issues

<sup>2</sup> A member of the West End Seniors Network attended the meeting on June 19 with the Seniors Advisory Committee, and expressed an appreciation at being contacted, but some frustration at the short notice and the short consultation period as this organization would have liked to engage more robustly but they were not able to within the City’s timeline.

- Vancouver Taxi Association
- Vancouver filming industry representatives
- Vancouver Board of Trade
- Active Transportation Policy Council Projects Subcommittee
- Transportation 2040 Plan Stakeholder Committee
- Persons with Disabilities Committee

Of the organizations listed above, the following were satisfied by the information provided by D+A and indicated they did not request further consultation:

- West End Seniors Network\*
- Robson Street Business Association
- Fortis BC

Of the organizations listed above, the following either:

a) did not respond to the initial contact made by D+A, or

b) responded initially, but did not follow up with a request for a meeting, or did not continue to respond to the extent that would have been required to set up a meeting:

- Downtown Vancouver Association
- West End Seniors Community Planning Table
- Port Metro Vancouver
- BC Hydro
- Telus
- Shaw
- Tourism Vancouver
- Gateway Council

Of the organizations who desired meetings with the City, the following meetings were arranged:

- Women’s Advisory Committee: June 2, 5.30-7.30 p.m.
- HUB: June 16, 5.15-6 p.m.
- West End Business Improvement Association (WEBIA): June 15, 2 p.m.
- BC Trucking Association (BCTA): June 23, 9-10 a.m.
- Better Environmentally Sound Transportation (BEST): City staff attended their staff and volunteer appreciation night on June 12 and presented the project
- Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee: (during the Committee’s regular meeting) June 11, 12-1.30 p.m.
- Heritage Commission: June 15, 11 a.m.
- Heritage Vancouver Society: June 24, 6-7.30 p.m.
- TransLink: June 17, 10 a.m.
- Advisory Committee on Seniors’ Issues: June 19, 9.30-10.30 a.m.

- Vancouver Taxi Association: June 5, 9.30 a.m.
- Vancouver filming industry: June 30, 7 p.m.
- Vancouver Board of Trade: June 19, 9 a.m.
- Active Transportation Policy Council Projects Subcommittee: June 3 @ 6 p.m.
- Transportation 2040 Plan Stakeholder Committee: May 26, 2015
- Persons with Disabilities Committee: June 25, 5 p.m.

**b) Summaries of meetings held (at which D+A staff took notes):**

**Women’s Advisory Committee (June 2, 5.30-7.30 p.m.)**

The City (Paul Storer) gave an overview of the Burrard Bridge Upgrade and North Intersection Project, following which the Committee had the opportunity to ask questions. Committee members asked a wide range of questions spanning from lighting on the bridge to media coverage of the project, as well as the process of obtaining Council funding and approval for large projects and a variety of additional questions. The meeting was adjourned after the Committee had finished asking questions, and Mr. Storer provided members with information about the project website as well as additional avenues through which to provide feedback.

**HUB (June 16, 5.15-6 p.m.)**

The City (Paul Storer) gave a presentation; he went through the slides in a targeted manner, as several HUB members in attendance were already familiar with many of the details of the project. HUB members then asked questions of the City team for approximately 30 minutes. HUB members overall were supportive of the project, and asked several detailed questions about cycling connections. One of their greatest concerns was the intersection crossing for cyclists heading eastbound on Pacific, through Burrard. The City team answered all questions, and made HUB aware of their right to make a formal submission to City Council expressing their preferences for cycling connections and other cycling provisions related to the project.

**West End Business Improvement Association (WEBIA) (June 15, 2pm)**

The City (Paul Storer) attended one of the West End Business Improvement Association’s regular meetings, making a presentation about the project followed by a question and answer period. WEBIA members expressed concerns in a few categories, including the removal of the vehicle lane, impacts on businesses during construction, and the difficult crossing for cyclists heading eastbound on Pacific across Burrard Street. Members also expressed a strong desire for the City to install the necessary infrastructure to allow multi-coloured lighting on the bridge, either for special events or to help light up the city when it is rainy and cloudy.

**BC Trucking Association (BCTA) (June 23, 9-10 a.m.)**

Following the presentation by Paul Storer, meeting participants representing various trucking, tourism-related, and other transportation companies, asked several questions. Most of the questions surrounded impacts during construction on travel times and scheduling for picking up/dropping off and deliveries. Participants also asked detailed questions about the new signaling and arrangement of the north intersection, as well as impacts on travel times for different directions or routes following construction. A strong desire was expressed for the City to explore options to make Granville Bridge available during construction to as much truck/bus/other large vehicle traffic as its weight capacity can handle, to minimize disruptions to scheduling for trucking and other transport companies during that phase. The City team stated that they will look into the question of allowing additional heavy vehicle traffic on Granville Bridge, including a review of the previous discussion on the same topic which occurred several years ago, and will report back to meeting participants.

The BCTA and/or representatives from companies present at the meeting prepared a formal submission on the project (see attached Louise Yako letter, 3 July 2015), which is supportive overall while requesting the City “designate the Granville Bridge, Howe Street, and Seymour Street as a “limited-use” truck route for the duration of the project.”

#### **Downtown Vancouver Business Improvement Association (DVBIA) Access & Mobility Committee (June 11, 12-1.30 p.m.)**

The meeting between the City and the Downtown Vancouver Business Improvement Association (DVBIA)'s Access and Mobility Committee took place during one of the Committee's regular meetings. The segment concerning the Burrard Bridge took up approximately 20-30 minutes of the 1.5 hour-long meeting. Paul Storer with the City's team gave a presentation and took questions afterward. Overall, the DVBIA's Access and Mobility Committee is supportive of the project, as it will improve access to downtown Vancouver once it is completed and is therefore consistent with their goals.

#### **Heritage Commission (June 15, 11 a.m.)**

Paul Storer from the City began by giving a PowerPoint presentation to Heritage Commission members describing the project. He indicated that the City had worked with a consultant (Donald Luxton) regarding heritage aspects of the bridge. Following the presentation, Commission members asked several questions, including about the removal of one vehicle lane and the planned changes to the north intersection, with respect to car traffic. Paul Storer responded that commute times would increase only slightly, and that the intersection is the primary capacity constraint. Ultimately, members of the Heritage Commission expressed their support for the project and its plans to protect the heritage value of the bridge, stating that it is great to be in a time where the Commission does not have to fight for a voice regarding protecting the heritage value of the bridge, and can easily communicate with the City about this topic.

#### **TransLink (June 17, 10 a.m.)**

After a brief presentation by the City, members of TransLink in attendance asked questions related to the public feedback received so far, as well as issues related to the arrangements for bus and truck traffic across the bridge during construction. The City representative noted that most public feedback so far has been in four areas:

1. reallocation of the vehicle lane;
2. impacts during construction;
3. eastbound cycling on Pacific through Burrard; and
4. laneway between Hornby and Howe.

The City also noted that most trucks travel across the bridge during off-peak hours, that they will ensure that lanes are wide enough for buses, and that buses can safely navigate the new traffic patterns. Participants also recommended a joint meeting with the Port and the Gateway Council as they would have similar questions to TransLink. A recommendation was also made to connect with Coast Mountain Bus Company (CMBC).

#### **Advisory Committee on Seniors' Issues (June 19, 9.30-10.30 a.m.)**

After a presentation by Paul Storer, Committee members asked a series of questions. Some skepticism was expressed regarding plans for the north intersection and whether the changes would make things better for traffic of all types and all directions. Mr. Storer explained some of the reasoning behind the proposals for the changes and new signaling at the intersection, and some of the challenges and trade-offs the City team faced. Participants seemed to largely agree that these were sound considerations, and that the plans were realistic. Some concern was expressed over the length of the crossings with respect to signal timing. Mr. Storer explained that the City recently increased the amount of crossing time it plans for when designing intersections and signaling, as they realized the previous benchmark was not allowing people enough time to cross.

Overall, participants concluded by expressing support for the project. They, however, also expressed a strong interest in being engaged much earlier in the process, as it seemed too late at this stage for certain ideas to be considered (e.g. a Bailey bridge for pedestrian/cyclists), even though they may have been very good ideas.

#### **Vancouver Taxi Association (June 5, 9.30 a.m.)**

The Vancouver Taxi Association expressed support for the project overall. They expressed concerns about how the south intersection was done in the previous phase, but were of the opinion that the plans and design for the north intersection would work well. Members asked about putting mirrors in for the bike lanes (in general), to make it easier to see bikes coming before turning; Paul Storer from the City explained that it was not City practice to install mirrors. Another topic of discussion included the slip lanes for cars turning right from Pacific on to the bridge. Taxi Association members said there is a stop sign for cyclists, but they often don't stop. Other safety challenges associated with the slip lanes were also discussed. Meeting participants also asked about the planned construction phase and what the impacts would be during construction.

### **Vancouver filming industry (June 30, 7 p.m.)**

After a presentation by the City of Vancouver, participants asked several questions. Three principal concerns were expressed. The first was that a significant amount of filming takes place on the Burrard Bridge, especially for car commercials, in part because of unique features that make for visually appealing scenes, and the construction would restrict their ability to film these scenes. Participants also noted, however, that the construction zones often provide unique filming opportunities as well. For this reason, a request was made for ongoing information about construction and closure schedules, and instructions on how to access restricted zones for shooting during these times. The topic of the green paint indicating cycling zones arose; participants expressed frustration over this decision which took place a few years ago, as it has affected their ability to film and there are costs associated with temporarily painting over it. The greatest concern was the impact on the film industry of the visual changes that would result from the potential addition of “means prevention” (suicide prevention) fencing; one participant wondered if any provision could be made for this to be removable for filming purposes.

### **Persons with Disabilities Committee (June 25, 5-6 p.m.)**

The meeting opened with a short presentation from the City. The presentation covered the key elements of the project and highlighted that the key objectives were improving safety and active transportation as well as improving infrastructure on, as well as underneath the bridge (sewer and water mains). Safety and wayfaring were the Committee’s biggest concerns. Two issues were raised and were officially incorporated into the Committee’s meeting minutes: (1) Signaling at crosswalks/intersections on the bridge as well as areas along the active transportation corridors that separate bikes and pedestrians, and (2) Accessibility and flow along the pedestrian corridors, specifically having places for people with disabilities and seniors to sit or rest. Committee members were also advised that the City will accept additional feedback in the coming weeks regarding bridge design and the City welcomes that feedback.

### **Heritage Vancouver Society (June 24, 6-7 p.m.)**

The meeting between the City and the Heritage Vancouver Society covered many specific heritage-related topics relating to the project, including the proposed barriers between the bike and vehicle lanes, the potential addition of suicide fencing, the handrails, and the different types of lighting on the bridge.

Heritage Vancouver members expresses an interest in alternatives to steel barriers, expressed concern over the high heritage impact of suicide fencing, and asked questions about the City’s plans for the handrails and lighting, while asking the City if it is possible to include repairs of the brazier lights in the plan. The City team responded to all questions and in doing so provided additional information on topics like safety codes for barriers, that some of the lighting on the bridge is not part of the original design, and information on the alternatives they had considered for various questions raised by participants. The City team

explained that they have not finalized decisions on barriers yet, but any chosen option needs to meet safety standards. The City also acknowledged the significant heritage and historical value of the brazier lights, their sub-optimal condition, and the need to repair them in the near future. They also explained the significant and unique challenges associated with performing these repairs, as they had discovered in their initial assessment of the brazier lights for this project. The City team invited the Heritage Vancouver Society to make a formal submission to City Council should they wish to express official positions on aspects of the project.

## Engagements Conducted by the City of Vancouver, tracked by D+A

Several forms of engagement were organized and conducted by the City of Vancouver, and tracked by D+A. These included a survey which was distributed in hard copy at the Open Houses and online ([vancouver.ca/burrardbridgenorth](http://vancouver.ca/burrardbridgenorth)), and interaction directly to City staff/officials by email. In addition to the above, D+A tracked the timing and status of all engagements through a document shared with the City.

### a) Correspondence Received by Email

Comments made electronically (as distinct from responses to the online survey) were done in several ways. Some people emailed directly, either to the City team or to a member of City Council. Others used the feedback tool available on the project website. A few people emailed [info@vancouver.ca](mailto:info@vancouver.ca) or the City's Correspondence Group, and a few contacted the City through the 3-1-1 service. As of July 3, 49 comments in total had been forwarded by the City to D+A. The following section summarizes the electronic feedback. A detailed analysis can be found in Appendix D.

**Correspondence Received:** 49

**Unique Participants:** 47

**Comments not relating specifically to the project:** 5 (3 of which were criticisms of the engagement (information [2], timing [1]))

**Themes:**

- Opposition to removal of lane for vehicle traffic (19 out of 46 comments)
- Expression of support for project (13 out of 46 comments). Some of these commenters also expressed concerns about particular aspects of the project, while being supportive overall)
- Several residents of the Seastar building at 1003 Pacific expressed opposition to the project, based on their impression that the City would be removing some of their property and limiting access to their parking facilities (5 out of 46 comments)
- Suggestions, concerns, or questions on specific aspects of the project (11 out of 46 comments)

**b) Surveys**

The project survey was administered both online and in person at the two open houses. Survey results from quantitative questions have been analyzed by City staff and are summarized in a separate report. Question #7 was an open-ended question that asked respondents “Do you have any comments about intersection design?”. In this section, we provide a summary of responses, with additional comments in Appendix D. A full detailed list (Excel) of the responses is attached to the email that transmitted this report to the City:

**Responses to Question 7:** 1,097 of 1,872 (59%) of respondents left comments on question 7.

Many respondents used the open-ended text box for question 7 to express their thoughts and opinions about the project as a whole, or specific aspects of it, despite that the question invited comments specifically on the design of the north intersection. Questions 1-6 of the survey were close-ended asking about project implementation and none provided the opportunity for general comments. It is assumed most, if not all, online respondents did participate in other ways, and thus considered this question their only opportunity to provide comments on the project as a whole.

Of the 1,097 responses to the question, 229 (21%) included specific comments or recommendations for the north intersection, which was the intention of the question. The majority of these comments are well-informed and constructive.

A breakdown of all of the themes noted in the comments follows.<sup>3</sup>

Theme	Number of responses
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<sup>3</sup> Since many respondents commented on more than one aspect of the project, a single response can be associated with more than one theme, and therefore the total number of responses in this table greatly exceeds the total number of responses to the question.

Theme	Number of responses
<b>Design concerns or recommendations</b>	<b>229</b>
Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	302
General approval	241
General disapproval	185
Suggest flawed consultation process or information provided	83
Complaints about dangerous cyclists or giving priority to cyclists	80
Waste of money/cost concerns	66
Concerns about crossing Burrard	49
Support east side pedestrian access	42
Don't support east side pedestrian access	39
Supports addition of bike lane / improvements for cyclists	34
Concern / ideas about aesthetics	20
General safety concerns	16
Concerns / suggestions for approach to construction	14
Seastar building resident concerns	12

From those responses to question 7 that focused on the design of the north intersection, the following represented either themes that arose, or specific suggestions not heard by D+A in other consultations:

- The suggestion to make bike lanes seasonal; use barriers to separate bike lanes during the months when ridership is high, and remove the barriers for the winter and give the lane to vehicles.
- Many echoes of concerns expressed in other forums over the safety of crossing Burrard on Pacific by bicycle.
- Observations about potential “downstream” impacts to bike and vehicle traffic, mostly as relates to activity on Hornby, but other observations too.
- Concerns about bike lanes being too narrow to handle addition use, particularly on inclines to afford extra room of passing.
- Recommendations for additional or clearer signage to guide all forms of transportation.
- Suggestions for a pedestrian / cyclist overpass for Burrard at Pacific.
- Suggestions for a dedicated pedestrian / cyclist bridge over False Creek.

# Key Themes

In discussions and written input, stakeholders asked how feedback is being integrated into the planning process. This had not been discussed at project team meetings and D+A did not engage these discussions or provide any response. The City is working on a separate report which outlines how feedback received during engagement has influenced project design, scope, and implementation.

This section summarizes the key themes heard at engagements in which D+A were present:

## **Positive feedback:**

- Return of pedestrians to east side of bridge (web/email comments, HUB, lemonade stands, web/email comments, survey comments)
- Improved safety at north intersection (web/email comments, lemonade stands, Vancouver Taxi Association, BC Trucking Association, survey comments)
- Separation of bike traffic (unidirectional bike lanes) (HUB, survey comments)
- Improved access to downtown for all modes once project is completed (DVBIA Access & Mobility Committee)
- Combination of several tasks to minimize overall impacts (Poster campaigns)

## **Neutral feedback/requests:**

- Requests for clear wayfinding signage for all forms of transportation (HUB, web/email comments, survey comments)

## **Negative feedback/concerns:**

- Eastbound cycling on Pacific through Burrard (HUB, web/email comments, survey comments)
- Short consultation period; much already decided, limiting opportunities for suggestions which could be good, but would have needed earlier consultation (Lemonade stands, Advisory Committee on Seniors' Issues, web/email comments, survey responses)

- Impact on businesses from construction or other aspects of project such as potential loss of parking (Swan Laundry, UPS, Maple Leaf Café and Deli, Afso Café, web/email comments)
- Removal of car lane (web/email comments, survey comments)
- Impact on trucking and other transportation/delivery traffic during construction (BC Trucking Association)
- Parking; entering and exiting for residents and guests of the condo building at 1003 Pacific Street (web/email comments, survey comments)
- Closure of the lane between Hornby and Howe (web/email comments, survey comments)
- Access to and from West End from the bridge/Pacific (web/email comments, Advisory Committee on Seniors' Issues, survey comments)

### **Specific Suggestions or Concerns by Specific Stakeholders or Groups**

The following table summarizes specific suggestions made or concerns expressed by an identified stakeholder group in engagements which D+A staff attended, for those groups who expressed specific concerns or made specific suggestion (not all did).

Note that this is not meant to be an exhaustive list of all stakeholder suggestions or concerns, but rather a list of those considered extremely important or critical to the stakeholder. It also does not include any generalized concerns by a broad group of stakeholders, e.g. motorists; it is meant to document specific requests/concerns held or made by specific stakeholders or groups.

Group	Concern/Request
HUB	(Concern): Eastbound cycling on Pacific across Burrard
HUB (echoed in survey comments; web/email comments)	(Suggestion): Additional or clearer signage to guide all forms of transportation.
Businesses on Burrard	(Concern): several businesses on Burrard between Pacific and Davie attended open houses and / or contacted D+A directly. D+A listened to their concerns, which include the loss of street parking, disruption to business during the construction period, routing changes that make accessibility to their businesses by customers more challenging, which would have a negative impact on their business / livelihood.
West End Business Improvement Association (WEBIA)	(Suggestion): Infrastructure for multi-coloured lighting on the bridge
BC Trucking Association	(Concern): Impact on trucking/transport routes during construction (Request): Strong suggestion to examine options to temporarily allow heavier vehicles on Granville bridge to the extent that it can safely handle.
Advisory Committee on Seniors' Issues; Persons with Disabilities Committee	(Concern): Length of crosswalks/refuges in the middle of crosswalks
Advisory Committee on Seniors' Issues (echoed in survey comments to some extent)	(Concern): Insufficient length of consultation period/strong desire to have been engaged earlier before critical/limiting decisions made.
Persons with Disabilities Committee	(Suggestion): Signaling for disabled persons at crosswalks/intersections on the bridge. (Request): Places for people with disabilities and seniors to sit or rest along pedestrian corridors
Heritage Vancouver Society	(Concern): Impact of potential suicide fencing on heritage aspect of bridge (Concern): Impact of potential steel barriers (as opposed to concrete) on heritage aspect of bridge (Suggestion): Repair/restoration of brazier lights
Filming industry representatives	(Concern): Impact of potential suicide fencing on visuals for filming (Concern): Impact of construction closures on filming (Concern): Ongoing concern about green paint indicating cycling zones

# Ongoing Engagement & Communications

The City, with support from D+A, met with a large number of individuals and stakeholder groups during an intensive consultation period covering nearly a one-month period in June 2015. Many concerns have been noted. However, it is important to recognize that there have been many voices of encouragement and support for this project.

By and large, individuals and organizations expressing concerns have also clearly expressed appreciation at the opportunity to contribute to the project. Overall, the engagement has provided many opportunities and many different avenues for people to contribute their input, and a large volume of information has been widely dispersed in a relatively short period of time. The engagement process has helped to establish, or in many cases further build and deepen, the City's relationship with stakeholders who have an interest in the Burrard Bridge project and an interest in transportation and infrastructure projects more broadly. There is a clear expectation from key stakeholders to remain engaged throughout the project. This appetite for dialogue offers the City the opportunity to build trust and further deepen their working relationship with these groups.

Below, we detail aspects of the Burrard Bridge engagement that worked well, as well as listing any information captured directly by D+A on the current expectations of stakeholders regarding future communication and engagement on this project.

## What Worked Well

- Approaching groups directly: most stakeholder groups that met with City staff, even if they had strong concerns about aspects of the project, expressed their appreciation at being consulted/included/considered (though many also expressed some disappointment at not being engaged pre-design);
- The lemonade stands were an effective and light-hearted way to communicate a lot of information to people who clearly use the bridge;
- The open houses were also an effective method of connecting with the interested public to provide information, respond to questions or concerns, and to provide detailed information to a large number of people; and
- The City's approach has strengthened relationships with many organizations and individuals which will be beneficial to all with respect to future projects and initiatives.

## Next Steps

The City's goal is to bring the project to City Council for its 22 July 2015 session for a decision. City staff will use the present report as well as many other sources to compile its report to Council in preparation for the meeting and decision. Several stakeholder organizations have communicated to D+A interest in making, formal submissions to Council; these include HUB, BC Trucking Association, and Heritage Vancouver Society.

In addition, the City has stated that it will return to certain stakeholder groups once more refined details are finalized on various aspects of the project. For example, the City stated an intention to return to consultation with the BC Trucking Association over the possibility of allowing heavier traffic on Granville Bridge during the construction period on the Burrard bridge and north intersection. In certain other cases the City has stated its intention to also conduct additional follow-up consultation.

Based on the significant participation of the public and stakeholders on this project, it is clear that ongoing communications and engagement will be required through to construction.

# Appendix A – Intercept Engagement Summary

D+ A, in concert with City staff, conducted two intercept engagements on the Burrard Bridge, in the form of lemonade stands near the north intersection. The first lemonade stand was held Friday, June 5 from 3-6 p.m., and the second on Saturday, June 13 from 3-6 p.m.

## **1<sup>st</sup> Lemonade stand – Friday, June 5, 3-6 p.m.**

Staff: Paul Storer (City of Vancouver), Emina (Delaney) and Suzy (Delaney)

Estimated number of people engaged: 150 people

## **2<sup>nd</sup> Lemonade stand – Saturday, June 13, 3-6 p.m.**

Staff: Paul Storer (City of Vancouver), Sally (Delaney) and Suzy (Delaney)

Estimated number of people engaged: 120 people

## **Feedback Received**

### **Positive:**

- Lemonade is too sweet :)
- I am happy they are making that intersection more safe, it is very dangerous
- I am an old lady and access to the bridge on both sides is much better for me; it makes the bridge more accessible
- The intersection is so dangerous and I feel scared crossing onto the bridge with my kids in the stroller
- I think this is a great project and I am 100% supportive of it
- As a biker, I welcome the changes to the east side of the bridge, as it is a little dangerous and tight during peak times. Although you are not supposed to pass, people do. Widening the bike lane is a great idea
- Who designed that intersection in the first place? It is not safe. We saw an accident this morning with a biker and car. I am glad they are going to make it safer
- I get so nervous every time I bike down Burrard going south onto the bridge from downtown. I am really happy the city will be improving that area.
- Right now the east side is dangerous for bikers because walkers sometimes use it. The addition of walking on the east side will improve this.
- My husband bikes over this bridge every day and I am so nervous about it. I would welcome improvements to this intersection.
- I really liked the improvements that were made on the south end of the bridge, so feel this project will also make a positive impact.
- It really is a pain having to cross to the other side of the bridge to walk over it. Any improvement to that would be great.

- It all seems to make sense to me.

**Neutral:**

- I don't use the bridge that often so the construction will not really impact me on a regular basis
- What will access to the bridge be like during the construction period?
- I walk the bridge every day and do not really see the need for an additional walking area. It is not a big inconvenience to cross the road
- It would be great if bikers/walkers could be completely separated from the cars either under or over the bridge
- Will the loss of the lane on the east-side reduce traffic on an already busy bridge?
- As a regular user of this bridge I see accidents at this intersection happen all the time.
- Why was this not done at the same time as the work on the south side?
- Will the bridge be completely closed during construction?
- We witnessed two families, most likely visitors try to use the bike lane as a pedestrian crossing.
- Will the 'look' of the bridge be maintained?

**Negative:**

- I am not sure why there are spending all this money to upgrade. We didn't need the lane in 2009 and it was too expensive, why do we need it now?
- I live close by and am surprised I didn't hear anything about this before
- More construction! Didn't you just complete some?
- \$30 million dollars! That is a lot of money. Do we really need to do all this? We spent too much on the Cornwall side in 2009
- I am concerned about the noise from construction. If it occurs during work hours when I am not at home, that is okay but otherwise I am concerned I will be inconvenienced
- Why are we just hearing about this? I feel like there should have been more consultation
- Isn't a done deal anyways, why are you even asking for our input?
- I'm concerned about construction noise as we live right next to the bridge.
- No point in giving feedback, no one is going to listen anyhow.
- Why was the intersection designed so inefficiently in the first place?

## Appendix B – Poster Campaign Summary

D+A conducted two poster campaigns, which included requests to display posters and/or leave information postcards. The first was on the afternoon of Tuesday, June 2, and the second was early afternoon on Friday, June 12. The details are as follows:

### June 2:

Number of gas stations visited	1
Number of other locations visited	10
Number of posters posted	1
Number of stacks of postcards given out	7
Location(s) of gas stations visited	Esso at Burrard and Davie
Location(s) of poster(s)	Molli Café on Burrard near Davie (west side)
Location(s) of postcards	Molli Café, Maple Leaf Café/Deli, Burrard Corner Store, Bicycle Sports Pacific, UPS, Cycle City Tours, TD/Canada Trust

**Comments received** (all are paraphrased/described, and are not meant to be a verbatim recording of anyone’s specific words):

**Maple Leaf Café/Deli:** The man who was likely the owner agreed to take postcards to put on counter. He also offered some views on the project, e.g. the City should spend money on ‘things that are really needed’ (paraphrased), like schools and hospitals. The bridge is only falling apart because they added more weight to it.

**Burrard Corner Store:** The man who was likely the owner agreed to put postcards on the counter. He also offered some views on the project. E.g. ‘why aren’t they working to make the Granville Bridge safer?’

**Bicycle Sports Pacific:** The store manager is open to meeting with the City to provide specific input into the design of the north intersection. He observes the intersection every day, including many collisions.

**UPS:** The store owner has significant concerns based on a previous Olympics-related project/parking restriction.

**Afso Café:** The man who was likely the owner did not want to take posters or postcards. He said (paraphrased) ‘you don’t want to know what I think of the City’.

**Swan Laundry:** The owners of Swan Laundry are extremely concerned about the loss of parking, as their customers use it to offload large loads of laundry. They are very worried about the impact of the project on their business and believe it to be a clear threat. Relocation is not an option for them as they recently signed an eight-year lease.

Most of the business owners along Burrard are ready and willing to provide more detailed input.

**June 12:**

Number of gas stations visited	4
Number of other locations visited	0
Number of posters posted	1 (gave another one to manager of Esso on 4 <sup>th</sup> Avenue, but not sure if he will be able to post it)
Number of stacks of postcards given out	3
Location(s) of gas stations visited	Esso at Burrard and Broadway, Esso at Burrard and 4 <sup>th</sup> Avenue, Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues, Petro Canada on Burrard near 1 <sup>st</sup> Avenue.
Location(s) of poster(s)	Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues
Location(s) of postcards	Esso at Burrard and 4 <sup>th</sup> Avenue (manager not sure if he could display them), Chevron on Burrard between 3 <sup>rd</sup> and 4 <sup>th</sup> avenues, Petro Canada on Burrard near 1 <sup>st</sup> Avenue.

**Comments received:** None.

## Appendix C – Open House Summary

The first of two Open Houses was held on Saturday, June 6, from 10 a.m. – 2 p.m. at the Roundhouse Community Centre. The second Open House was held on Tuesday, June 6, from 3-6 p.m, also at the Roundhouse Community Centre.<sup>4</sup>

### **1<sup>st</sup> Open House – Saturday, June 6, 10am – 2 p.m.:**

Estimated number of people engaged: 50-70

### **2<sup>nd</sup> Open House – Tuesday, June 16, 7-9 p.m.:**

Estimated number of people engaged: 80-100

#### **Positive:**

- I think this is a great project and I really appreciate that City staff are here to answer our questions and show us all this information.
- I appreciate the opportunity to come to this open house and get my questions answered.
- This is going to be great for cyclists. We are all on board.

**Neutral:** None.

#### **Negative:**

- I did not hear anything about this construction or this session. Why was I not informed?
- They are not going to do a presentation? I have to look at all the information myself?
- Is the City even going to listen to what I have to say? There is no point to this. Seems like it is a done deal.
- The project is too expensive and seems like we are paying too much money to improve the bridge when it was just updated.
- I am really pissed about this project and have a lot to say (filled out two feedback forms).

## Appendix D – Online Engagement

<sup>4</sup> D+A staff captured only limited feedback from the Open Houses, as the role of D+A staff was primarily to sign people in, orient them and collect feedback forms. D+A notes that the City team spoke with the owners of Swan Laundry at the second Open House, but is not aware of the details.

## Electronic comments (“web/email comments”)

D+A assessed the comments made by email, the feedback tool on the project website, and through the City’s 3-1-1 service. Following is a detailed analysis of those comments\*:

*\*A full listing of all web or email comments has been made available to the City in a separate document.*

### Summary

Correspondence Received: 49

Unique Participants: 47

Comments not relating specifically to the project: 5 (3 of which were criticisms of the engagement (information [2], timing [1]))

### Stakeholder Groups

In most cases, the nature of individual input provides the opportunity for identification of the stakeholder group to which participants belong. This was clearly a subjective determination. By this method the following groups / interests have been identified:

Motorist – a participant who, based upon their comments uses the bridge and surrounding road network in their personal vehicle.

Professional Driver – a taxi, limo, shuttle or bus driver

Cyclist – a participant who uses the bridge and surrounding road network via bicycle

Resident – a participant who lives in proximity to the north or south end of the Burrard Street Bridge

Seastar Resident – participants residing at 1003 Pacific Street

Senior – participant referred to themselves as a “senior”

Local Consumer – using local businesses

## Rates of Stakeholder Participation

Motorist	13	Cyclist / Motorist	1
Cyclist	6	Motorist / Resident	1
Resident	8	Motorist / Local Resident	1
Seastar Resident	5	Pedestrian / Motorist	1
Unknown	4	Local Consumer	1
Resident / Senior	2	Professional Drivers	1
Pedestrian	2	Directors Guild of Canada	1

## Summary of Burrard Bridge Upgrade and North Intersection Project Input

Date	Stakeholder	Concerns / Aspirations	Support	
			Project	Approach
June 5	Cyclist	<ul style="list-style-type: none"> <li>a. Poor crossing Burrard eastbound on Pacific, providing limited downtown access for cyclists coming from area NW of bridge.</li> <li>b. Accommodate cycle access to Pacific from N/S streets due to steep slope.</li> <li>c. Signage improvements for cyclists.</li> <li>d. Widen cycle track along Hornby to accommodate slope and speed differentials.</li> </ul>	Y	N
June 4	Motorist	Not supportive of lane reductions	N	N
June 6	Pedestrian / Motorist	Not supportive of lane reductions	N	N
June 3	??	Not supportive of lane reductions	N	N
June 2	Motorist / Local	Not supportive of lane reductions	N	N
June 2	Cyclist / Motorist	Very supportive	Y	Y
June 2	Resident	Comments not related to project (property tax)	n/a	n/a
June 3	Resident	Upset with timing of engagement	?	?
June 3	Motorist	Not supportive of lane reductions	N	N
June 1	Cyclist	Burrard safe crossing eastbound on Pacific	Y	N
30 May	Cyclist	Suggests closing the curved east/south bound approach from Pacific onto	Y	Y

Date	Stakeholder	Concerns / Aspirations	Support	
		bridge and adding short right-turn-only lane eastbound at the intersection. Would require bikes to pass in front of the stopped cars and stop on red light southbound.		
June 7	Professional Drivers	Frustrated with pedestrians and cyclists	n/a	n/a
June 5	??	Upset over lack of statistics provided at open house to justify modifications. Worried about traffic jams.	?	?
June 8	??	Not supportive of lane reductions	N	N
June 5	Motorist	Suggests putting Pacific under Burrard	Y	N
June 1	Cyclist	<ul style="list-style-type: none"> <li>a. Concerned about congestion caused by northbound turning left and waiting for pedestrian and foot traffic to clear.</li> <li>b. Make Hornby/Pacific intersection a scramble crossing?</li> <li>c. How do plans improve Lion Gate Bridge destine traffic? I.e. still facing the Hornby/Pacific interchange and the Howe/Pacific interchange and the Howe/Beach interchange and the Hornby/Beach interchange.</li> <li>d. Move the Hornby Street bike lane between Pacific and Beach to the West Side of the street?</li> <li>e. Enable safe cyclist traffic on the north-south alley west of Hornby?</li> <li>f. Downtown destine bike traffic encouraged to take Drake to Hornby?</li> </ul>	Y	?
June 2	Cyclist	Safety concerns about bikers on bridge – suggests enforcement of NO PASSING rule.	?	?
June 8	Local Consumer	Concerned about the loss of parking along Burrard	?	N
June 17	Motorist	Not supportive of lane reductions	N	N
June 18	Seastar Resident	Worried about expropriation, frustrated by poor access to residence caused by so many no turn signs and	N	N

Date	Stakeholder	Concerns / Aspirations	Support	
		concerned about hazard to pedestrians caused by speeding cyclists.		
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 17	Seastar Resident	Against proposed bike lane on Pacific	?	N
June 10	Motorist	Suggests Pacific pass under Burrard	Y	N
?	Resident	Frustrated with pedestrians and cyclists	Y	?
June 21	Resident	Worried about congestion cause if lane between Hornby and Howe is blocked	Y	N
June 12	Pedestrian	Suggests elevators from sea wall to Burrard Bridge	?	?
June 11	Resident	Show of support	Y	Y
June 7	Resident	Believes northbound cycle lane unnecessary, wants safe crossing of Burrard at Pacific and does not favour loss of vehicle lane and would re-align existing cycle and pedestrian lanes on bridge	Y	N
June 7	Resident / Senior	Frustrated with cyclists	?	?
June 2	Resident / Senior	Not supportive of lane reductions	N	N
June 4	Motorist	Not supportive of lane reductions	N	N
June 5	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist	Not supportive of lane reductions	N	N
June 2	Motorist	Not supportive of lane reductions	N	N
June 1	Resident	Not supportive of lane reductions	N	N
June 4	Resident	Not supportive of lane reductions	N	N
June 4	??	Upset over quality of information provided at open house	?	?
June 2	Motorist	Not supportive of lane reductions	N	N
June 2	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist	Not supportive of lane reductions	N	N
June 3	Motorist / Resident	Not supportive of lane reductions	N	N
June 2	Pedestrian	Wants to make the bridge more of a people place, i.e. seating	Y	Y
June 1	Motorist	Not supportive of lane reductions	Y	N

Date	Stakeholder	Concerns / Aspirations	Support	
June 24	Cyclist	Supports planned safety improvements; wondering whether there will still be a gap in the bike lane between Seymour and Howe	Y	Y
June 24	Seastar Resident	Response to Paul Storer's original response, reiterating original concerns: Worried about expropriation, frustrated by poor access to residence caused by so many no turn signs and concerned about hazard to pedestrians caused by speeding cyclists.	N	N
June 25	Unknown	Transit-friendly infrastructure	Y	N
June 25	Unknown	Converting original 6-lane design to 4 lanes for vehicles is a design based on short-term uses/thinking.	N	N
July 2	Directors Guild of Canada	1. Bridge closures will affect ability to film car commercials but also present unique opportunities for filming unique scenes not otherwise possible. 2. The green paint demarcating cycling zones remains a problem for filming. 3. The proposed suicide fencing will have a major impact on ability to film on the bridge.	Y	N

**Reviewer Notes**

- This is a quantitative analysis.
- The summarized "Concerns / Aspirations" shown above are provided for comparative and analytical purposes only. Details about individual comments should be drawn from the detailed Stakeholder Management Template.
- Assumptions were made about stakeholder group affiliation based upon comments in correspondence.

## Summary of Issues Raised (in order of priority)

Based upon the correspondence received the issues raised about the proposed approach include:

1. Increased congestion due to lane reduction was raised by all motorist participants
2. Loss of property at 1003 Pacific Street and reduced accessibility to that property was raised by all Seastar residents
3. Safe crossing of Burrard at Pacific
4. Increased cycle traffic on Hornby

## Reviewer Observations

1. Capital expenditure to accommodate bike traffic has annoyed many private vehicle commuters.
2. Many private vehicle commuters do not believe that cyclists do not have the right to use roadways.
3. The behavior of many cyclists and even pedestrians creates animosity with vehicle road users and makes it difficult for the City to introduce safety measures.
4. Many motorists were not supportive of the project because of lane loss and the assumed increases in congestion / travel time. Many of them questioned the cycle and pedestrian usage statistics used to justify plans for accommodating these users.

## Survey

D+A assessed the open-ended comments from the project survey administered by the City; these comments are associated with question #7 of the survey. The City analyzed all quantitative survey results. The following is a summary of some of the major themes that emerged from the assessment of the open-ended responses to the survey's question #7; and a full detailed list of the responses has been made available to the City in a separate Excel document.

**Online responses to Question 7:** 1,097 (total number of online respondents: 1,872).

Many respondents used the open-ended text box for question #7 to express their thoughts and opinions about the project as a whole, or specific aspects of it, despite that the question inviting comments specifically on the design of the north intersection. Many respondents seemed to consider this question their only opportunity to provide comments on the project, as the rest of the survey questions were close-ended and none asked for comments in general.

Of the 1,097 responses<sup>5</sup> to the question, 229 (21%) included specific comments or recommendations for the north intersection, which was the intention of the question. The majority of these comments are well-informed and constructive.

Theme	Number of responses
<b>Design concerns or recommendations</b>	<b>229</b>
Concerned about removal of car lane/insufficient attention to driver needs/will increase congestion	302
General approval	241
General disapproval	185
Suggest flawed consultation process or information provided	83
Complaints about dangerous cyclists or giving priority to cyclists	80
Waste of money/cost concerns	66
Concerns about crossing Burrard	49
Support east side pedestrian access	42
Don't support east side pedestrian access	39
Supports addition of bike lane / improvements for cyclists	34
Concern / ideas about aesthetics	20
General safety concerns	16
Concerns / suggestions for approach to construction	14
Seastar building resident concerns	12

Of the 229 comments focusing on the design of the north intersection, many are quite specific and represent possible added value to the Burrard Bridge project if able to be assessed and possibly integrated into the design. Some of these comments included:

- The suggestion to make bike lanes seasonal; use barriers to separate bike lanes during the months when ridership is high, and remove the barriers for the winter and give the lane to vehicles.
- Many echoes of concerns expressed in other forums over the safety of crossing Burrard on Pacific by bicycle.
- Observations about potential “downstream” impacts to bike and vehicle traffic, mostly as relates to activity on Hornby, but other observations too.
- Recommendations for additional or clearer signage to guide all forms of transport.
- Suggestions for a pedestrian / cyclist overpass for Burrard at Pacific.
- Suggestions for a dedicated pedestrian / cyclist bridge over False Creek.

<sup>5</sup> Since many respondents commented on more than one aspect of the project, a single response can be associated with more than one theme, and therefore the total number of responses in this table will add up to more than the total number of responses to the question.

In addition to comments specifically about the intersection, a few other categories of concerns included unique comments which may not have been previously identified.

- One concern that was mentioned often (coded as “Concerns about crossing Burrard”) was regarding the tendency of cyclists to time their descent down Burrard street hill on to the bridge to attempt to coincide with the light turning green. This does not always work and has resulted in dangerous situations if cyclists fail to time themselves properly and build up too much speed to stop, or if cars are also in the process of making illegal right turns on to Pacific, or as motorists advance their green going east or west through those intersections.
- Under the category “Suggest flawed consultation process or information provided” there are several comments about people not believing the need for these changes based upon the information provided, or doubting the accuracy of the information provided. The other complaints were about rushed process, which led several people to doubt the legitimacy of the overall process and willingness of Council or ability of staff to modify project design at this stage of development.
- Use of the bridge by emergency vehicles accessing St. Paul’s Hospital also came up several times.
- There were several comments from seniors who believe they are being discriminated against. They are not against cyclists; people with mobility issues have little choice but to rely on their vehicle to get around. This sentiment also applies to people who are disabled or professional drivers. This also relates to concerns about moving the bus stop.
- Vision and Council were criticized around 40 – 50 times for either overly favouring bikes (over cars) or for bad public engagement (relating to timing), or for wasting money.
- In addition, one commenter stated that the current addition of the bike lanes goes against recommendations from a 2005 report by the City to the Standing Committee on Transportation and Traffic.

A full list of all of the responses to question #7 according to topic is available in the companion Excel document referred to above.

## Appendix E – Media Coverage

*\*This is not meant to be an exhaustive list of press coverage, but a sampling of coverage from the major outlets.*

**Global News, June 1:** *City of Vancouver considers removing another lane on Burrard Bridge.* No subtitle. <http://globalnews.ca/news/2028760/city-of-vancouver-considering-removing-another-lane-on-burrard-bridge/>

**CBC News, June 1:** *Burrard Bridge repairs could include improved bike lanes and sidewalks.* Subtitle: City plans to widen the north end of the bridge to ease bottleneck at high-collision intersection. <http://www.cbc.ca/news/canada/british-columbia/burrard-bridge-repairs-could-include-improved-bike-lanes-and-sidewalks-1.3095163>

**Vancouver Sun, June 1 (blog – The Vancouver Sun Now):** *Proposed Burrard Bridge upgrade would eliminate vehicle lane in favour of pedestrian lane.* No subtitle. <http://blogs.vancouversun.com/2015/06/01/proposed-burrard-bridge-upgrade-would-eliminate-vehicle-lane-in-favour-of-pedestrian-lane/>

**The Province, June 1:** *Reducing Burrard Bridge's vehicle lanes will improve traffic flow, city says.* No subtitle. <http://www.theprovince.com/news/Reducing+Burrard+Bridge+vehicle+lanes+will+improve+traffic+flow+city+says/11100442/story.html>

**The Province, June 1:** *Video: Proposed pedestrian upgrades to the Burrard Bridge.* Subtitle: “Is it going to be carmededdon on the Burrard Street Bridge once the city reduces the lane numbers down to four mid-span?” <http://www.theprovince.com/Video+Proposed+pedestrian+upgrades+Burrard+Bridge/11100276/story.html>

**Metro News, June 1:** *Burrard Bridge \$30-m renos thrill pedestrians, concern NPA councilor.* No subtitle. <http://metronews.ca/news/vancouver/1384422/burrard-bridge-30-m-renos-thrill-pedestrians-concern-npa-councillor/>

**CTV News Vancouver, June 1:** *City unveils plan to revamp Burrard Street Bridge.* No subtitle. <http://bc.ctvnews.ca/city-unveils-plan-to-revamp-burrard-street-bridge-1.2401125>

**Vancouver Courier, June 1:** *Vancouver calls for \$30 million fix to Burrard Bridge.* Subtitle: Upgrades involve removing one vehicle lane. <http://www.vancourier.com/news/vancouver-calls-for-30-million-fix-to-burrard-bridge-1.1954033>

**The Province, June 1 – Letter to the Editor:** *Quit messing with the Burrard Bridge.*

<http://blogs.theprovince.com/2015/06/01/letters-burrard-bridge-vision-fifa-surrey-six-killers-salmon-farms/>

**The Province, June 1 – Letter to the Editor:** *City made a mess of bridge.*

<http://blogs.theprovince.com/2015/06/01/letters-burrard-bridge-vision-fifa-surrey-six-killers-salmon-farms/>

**The Province, June 2 – Letter to the Editor:** *All the idling cars isn't good.*

<http://blogs.theprovince.com/2015/06/02/letters-justin-trudeau-stephen-harper-translink-plebiscite-cyclists-Ing-burrard-bridge-rifles/>

**Vancouver Sun, June 2:** *Burrard Bridge makeover to see one northbound traffic lane removed.*

Subtitle: "The \$30-million project will include a redesign to the intersection at Pacific and Burrard and at the same time will improve access for cars, pedestrians and cyclists".

<http://www.vancouversun.com/Burrard+Bridge+makeover+northbound+traffic+lane+removed/11099792/story.html>

**Vancouver Sun (blog – Civic Lee Speaking), June 2:** *Will the city shut Burrard Bridge entirely during reconstruction?* <http://blogs.vancouversun.com/2015/06/02/will-the-city-shut-burrard-bridge-entirely-during-reconstruction/>

**Metro News, June 2:** *Burrard Bridge could be closed to everyone during construction.* No subtitle.

<http://metronews.ca/news/vancouver/1385493/burrard-bridge-could-be-closed-to-everyone-during-construction/>

**Metro News, June 2:** *It's about time for a safer, easier crossing — for all Burrard Bridge travelers.*

No subtitle. <http://metronews.ca/voices/your-ride-vancouver/1384587/its-not-too-late-for-bike-lanes-on-vancouvers-burrard-bridge/>

**The Province, June 3 – Letter to the Editor:** *New costs needed to fix bike-lane mess created by*

*Vision on Burrard Bridge.* <http://blogs.theprovince.com/2015/06/03/letters-burrard-bridge-bike-lanes-city-claims-lane-splitting-dogs-omar-khadr-communism-victims/>

**The Province, June 4 – Letter to the Editor:** *Who are they Kidding?*

<http://blogs.theprovince.com/2015/06/04/letters-kids-play-oil-Ing-fuel-exports-guns-burrard-bridge-translink-pattullo-bridge/>

**Global News, June 6:** *City of Vancouver holds public consultation over proposed changes to*

*Burrard Bridge.* No subtitle. <http://globalnews.ca/news/2040394/city-of-vancouver-holds-public-consultation-over-proposed-changes-to-burrard-bridge/>

**AM 730 Traffic News, June 1:** *Vancouver Mulls Removing Another Vehicle Lane on Burrard Bridge.*  
No subtitle. <http://www.am730.ca/syn/112/78652/78652>

# Appendix F – Direct Submissions

Your Cycling Connection



June 22<sup>nd</sup>, 2015

Dale Bracewell, City of Vancouver  
Paul Storer, City of Vancouver

## HUB Cycling Submission re Burrard and Pacific Intersection Improvements

HUB Cycling is a charitable organization that works to make cycling better through education, events and collaboration. We are Metro Vancouver's leader in making cycling an attractive choice for everyone.

We would like to take this opportunity to provide input to the Public Consultation process relating to the Burrard Bridge and Burrard and Pacific Intersection Improvements. Our comments are based on the display boards from the Open Houses, the detailed maps posted on line, and the presentation City staff (Paul Storer) made to HUB Cycling on June 16, 2015.

### Background

Burrard Bridge is an important cycling and pedestrian link in the Vancouver and regional cycling networks, with rapidly increasing cycling volumes. The current bicycle lanes have made the bridge much safer for crossing, and the recent improvements to the Burrard and Cornwall intersection provide significant improvements for all users in terms of connections at the south end.

We support the proposed and much needed improvements to the north end of Burrard Bridge as well as the re-allocation of the motor vehicle traffic lane to active transportation on the bridge itself.

### Specific feedback

- We consider it important to restore the east sidewalk to pedestrian use. There have been conflicts between pedestrians and cyclists on this cycling path, and it makes sense to separate pedestrians and people on bicycles given the differing travel speeds.
- The new cycling path on the east side (northbound) will be wider, improving safety for users and allowing overtaking on the ascent. This is a positive move.
- Extending cycling connections northward on Burrard, for both northbound and southbound cyclists, will be important for improved safety, and will likely

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- encourage greater use by all ages and abilities as it expands the network.
- The elimination of the motor vehicle slip lanes onto and off of Pacific will be a major step forward for collision reduction.
  - We are very concerned about the lack of consideration of any bicycle traffic travelling eastbound on Pacific, at Burrard. Bicycle traffic has not been accommodated in the design presented. It is not reasonable to expect people to walk their bicycles across three pedestrian crosswalks simply to continue eastbound, and the two motor vehicle turn lanes onto the bridge will create a conflict zone as people on bikes look for a way to continue along Pacific and attempt to cross those turn lanes. Ideally, there would be a protected eastbound bicycle lane starting at Thurlow, between the vehicle through lane and the right turn lanes. If this cannot be accommodated due to the roadway width, we strongly urge you to include a bike box (painted green and signed) at the intersection, with access from the bicycle path where it turns right from Pacific on to the bridge. Signals should specifically address bicycles, within the planned signal phasing. Without some type of accommodation for eastbound cyclists on Pacific, we consider this design to be incomplete and potentially dangerous.
  - The inclusion of a separated bicycle lane eastbound on Pacific, between Hornby and Howe, is a significant improvement and addresses a long-standing danger zone. We would like to see a similar protected lane on Pacific westbound in this same block. Realizing that new development is pending on the north side of Pacific, we understand the inclusion of a painted lane, but request that flexible plastic bollards be used to delineate this lane instead of paint only. While we understand the need to define and limit the scope of this project, the lack of any westbound access along Pacific from Yaletown to reach this new infrastructure is concerning. The westbound bicycle lane on Pacific currently ends at Seymour, leaving a gap between Seymour and Howe. This two-block gap will make it uncomfortable for many people who want cycling access to Burrard and the bridge from Yaletown. We realize that there may not be room to build separated lanes in this stretch, particularly until the on and off ramps to the Granville Bridge are addressed. However, lane markings, green paint, and signage would partially address this shortcoming.
  - For people on bikes travelling both eastbound and westbound through the Burrard and Pacific intersection and not requiring access to the bridge, an alternate bypass route along Beach Ave should be signposted and promoted, particularly during the construction phase. For westbound traffic this could be at Homer or Richards; for eastbound traffic this could be at Broughton.



#### Additional feedback

- While we understand that the detailed design has not yet been completed, we note that the new bicycle lanes on the bridge itself will include transitions both northbound and southbound that involve jogs and grade changes. These transitions will require design attention so as to mitigate the risks to users. The jogs should not be abrupt (as shown on the preliminary design drawings), and the ramps should be gradual.
- We hope that we will have an opportunity to see and comment on the proposed designs and locations of barriers between the bike lanes and motorized traffic lanes throughout the improvement zone.
- We understand the logic of coordinating these improvements with planned work to Burrard Street, involving water and sewer construction. We note that Burrard Street, from 1<sup>st</sup> to 16<sup>th</sup>, will be repaved, with sidewalks addressed. We understand that no bicycle infrastructure is currently being included in this major work to Burrard Street. When the plans are being made for Burrard Street work, we encourage you to consider all modes of transportation, including people on bicycles. It is a missed opportunity to rebuild a major street and put it back without any improvements to bicycle infrastructure.

#### Conclusion

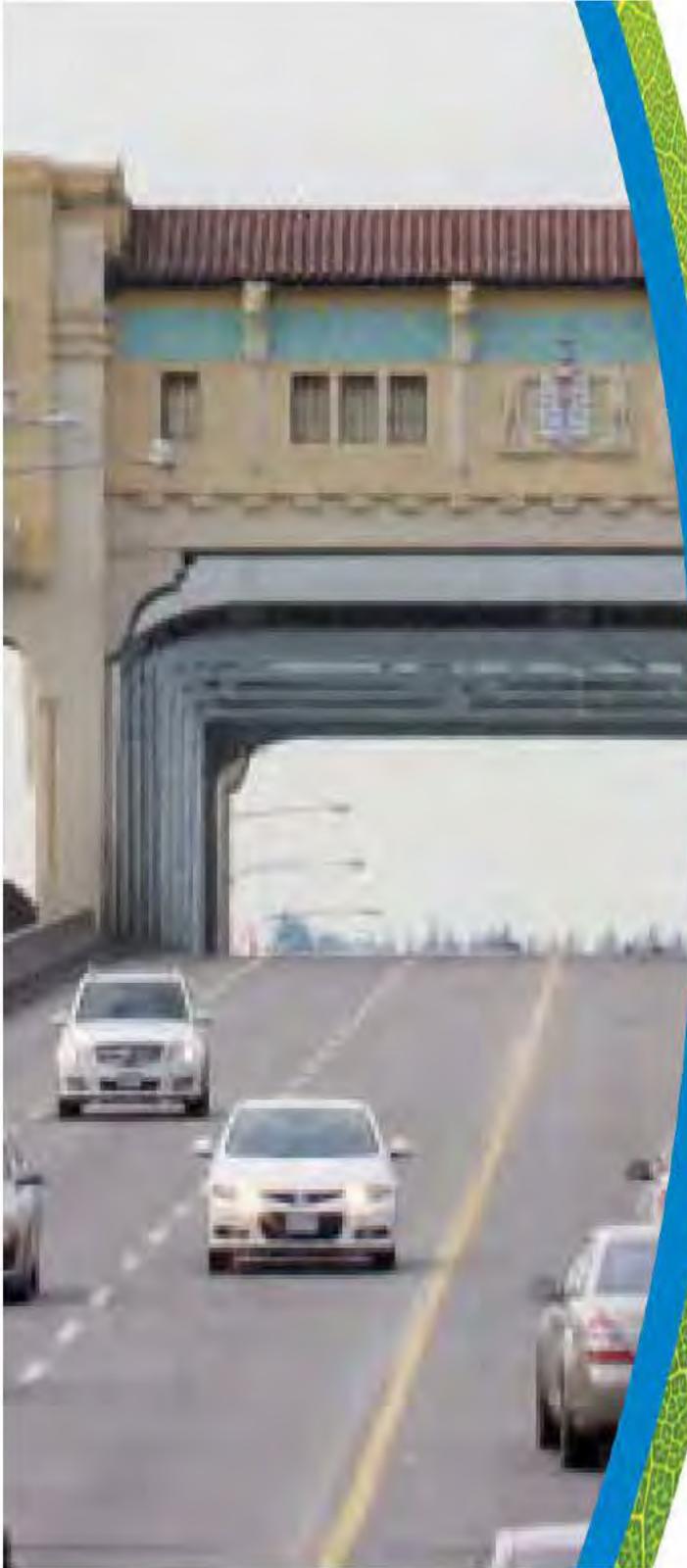
HUB Cycling supports the goal of increasing active transportation modes, while addressing the serious safety concerns for all modes at this intersection. We are confident that the proposed bridge and intersection design, with consideration of the above points, will be another major step forward in helping Vancouver achieve its goals.

HUB Cycling would be pleased to discuss any of our recommendations further. Please be in touch with Jeff Leigh at the HUB Vancouver UBC Committee at [vancouver@bikehub.ca](mailto:vancouver@bikehub.ca).

Thank you for the opportunity to engage in this process.

Jeff Leigh  
Co-Chair, Vancouver UBC Committee  
HUB Cycling

Lisa Slakov  
Co-Chair, Vancouver UBC Committee  
HUB Cycling



# **BURRARD BRIDGE & PACIFIC STREET UPGRADE**

Consultation Summary  
June 2015



## Consultation Overview

### Background:

- The City of Vancouver is planning to undertake necessary structural repairs and maintenance on the Burrard Bridge in 2016 and 2017. Making the proposed changes requires converting a travel lane on the main span of the bridge and widening the north end to maintain traffic flow. The City consulted with the public to gather feedback on the design of the upgrades and to gauge support for traffic restrictions on the bridge during the construction.
- The questionnaire ran from June 1 to 23, 2015.
- A link to the questionnaire was posted on the project page (City of Vancouver website) and paper copies of the questionnaire were available at the open house events for this project.
- A total of 1,823 completed surveys were collected.

### Who did we hear from?

- More men than women completed the questionnaire (57% vs. 39%).
- There was representation across all age groups, although representation was smaller among those aged 20-29 (7%) and 30-39 (14%) as well as those aged 70 or older (11%).
- Based on respondents' home postal codes, roughly one-quarter (23%) of respondents were residents of neighbourhoods surrounding the Burrard Bridge and the Burrard and Pacific Street intersection (those with home postal codes beginning with V6Z, V6E or V6J). Most other respondents were from other areas of Vancouver and a small number were from outside of the city (e.g. Burnaby, Surrey, etc.)



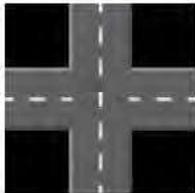
## Summary of Results

### Current Usage of Burrard Bridge – Crossing by car is most common mode of transport



52% of respondents cross the Burrard Bridge by car at least a few times per week during the warm, sunny months and 54% cross the bridge by car in the cooler, rainy months.

### Perception of Safety of Burrard/Pacific Street Intersection



25% say they feel somewhat or very unsafe travelling through the Burrard/Pacific intersection when travelling by bicycle;  
21% feel unsafe when travelling by car;  
17% feel unsafe when walking through the Burrard/Pacific intersection.

### Support for Measures to Shorten Construction Period



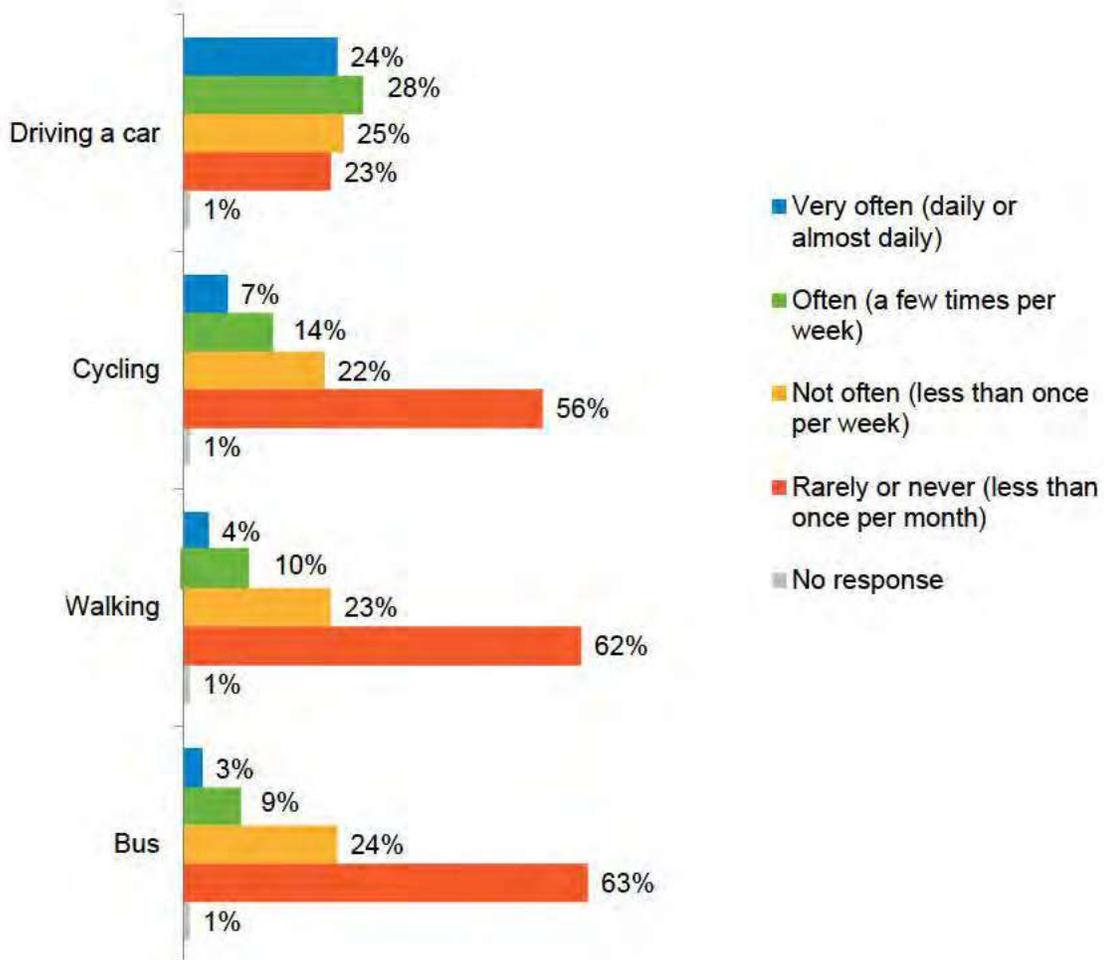
66% support evening and/or Sunday construction if it meant a shorter construction period;  
56% support no (or few) limits on construction hours;  
35% support closing more traffic lanes (or restricting all bridge traffic).



# QUESTIONNAIRE RESULTS



## Frequency of use of Burrard Bridge by Mode of Transport During Warm/Sunny Months



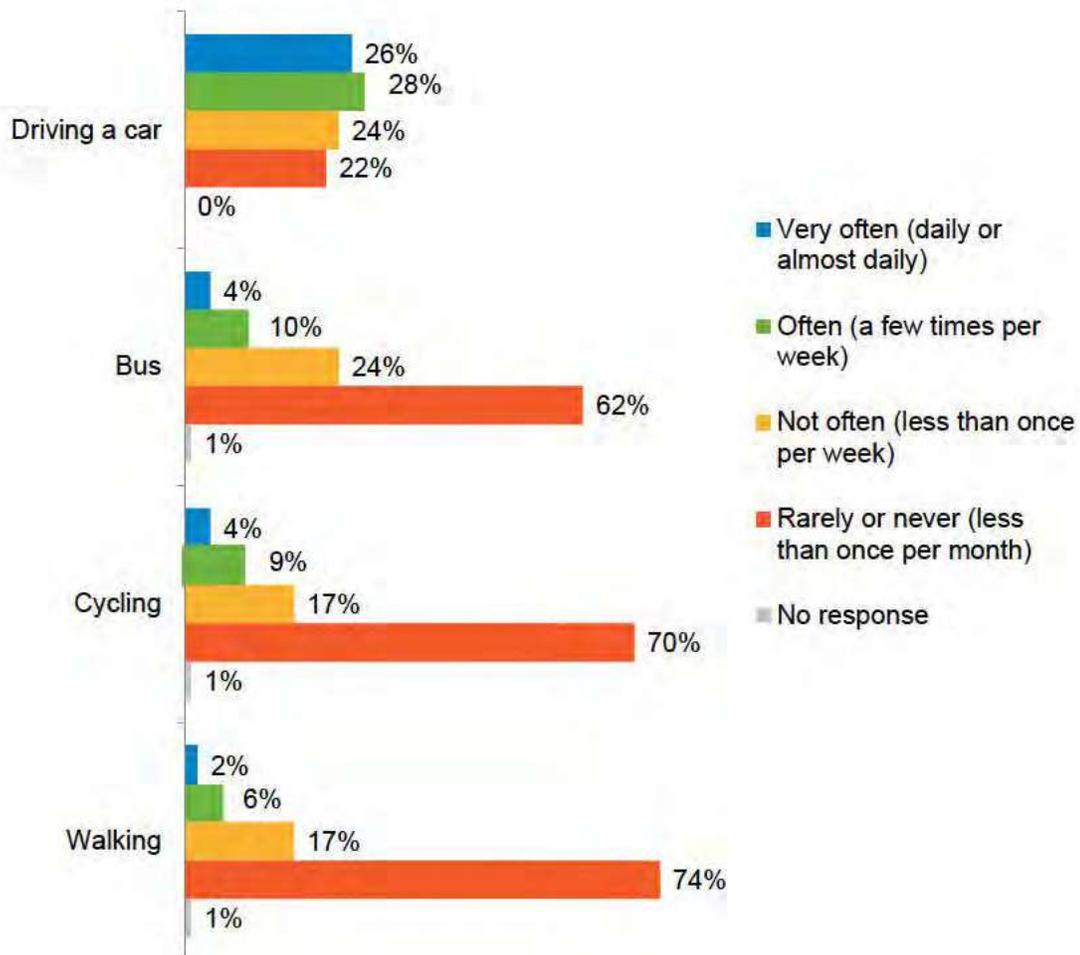
Base: All respondents (1,823)

For each of the following modes of transport, please indicate how frequently you use the Burrard Bridge in the warm/sunny months.

Burrard Bridge and Pacific Street Upgrade (June 2015)



## Frequency of use of Burrard Bridge by Mode of Transport During Cool/Rainy Months



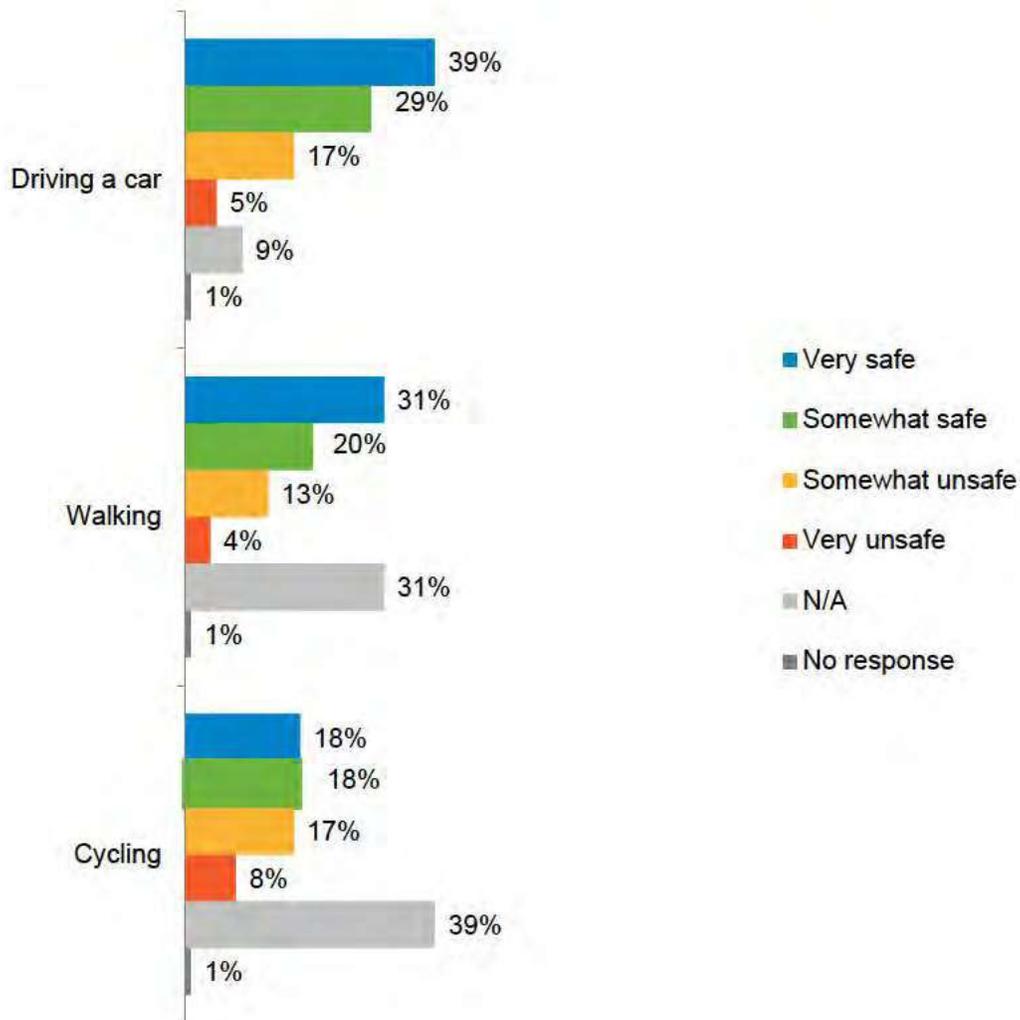
Base: All respondents (1,823)

For each of the following modes of transport, please indicate how frequently you use the Burrard Bridge in the cool/rainy months.

Burrard Bridge and Pacific Street Upgrade (June 2015)



## Feeling of Safety on Burrard Bridge by Mode of Transport



Base: All respondents (1,823)

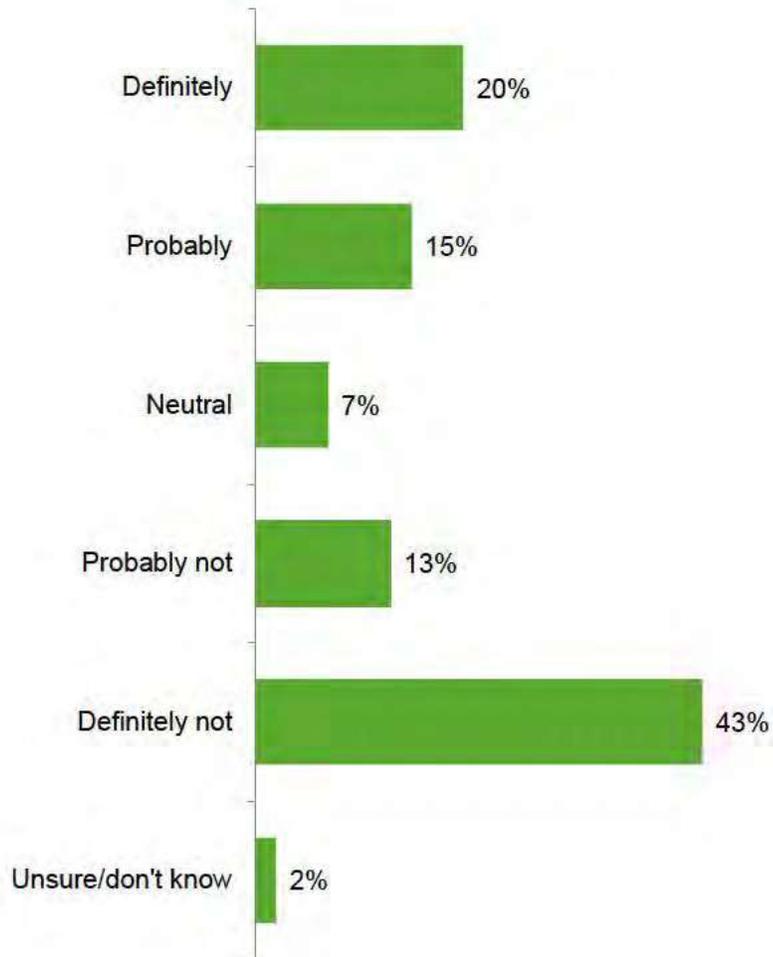
*How safe do you feel travelling through the Burrard/Pacific intersection while using the following modes of transportation. If you do not use one of the following modes of transportation, please select "N/A".*

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for Traffic Lane Closure



Base: All respondents (1,823)

*Would you support closing more traffic lanes (or restricting all bridge traffic) for substantial periods if it meant a shorter construction period?*

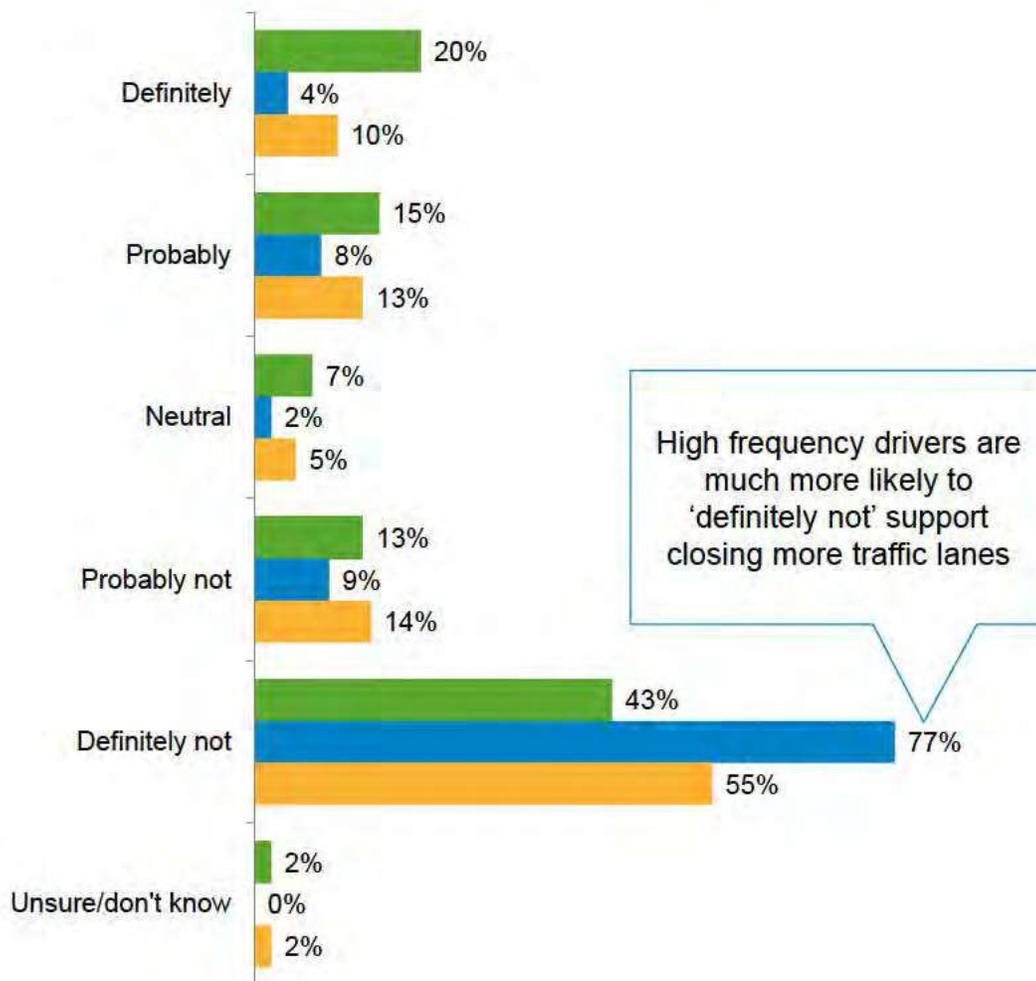
Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for Traffic Lane Closure Among Frequent Drivers

■ All respondents ■ Drive very often (daily or almost daily) ■ Drive often (a few times per week)



Base: Respondents who drive a car across the Burrard Bridge very often or often (933)

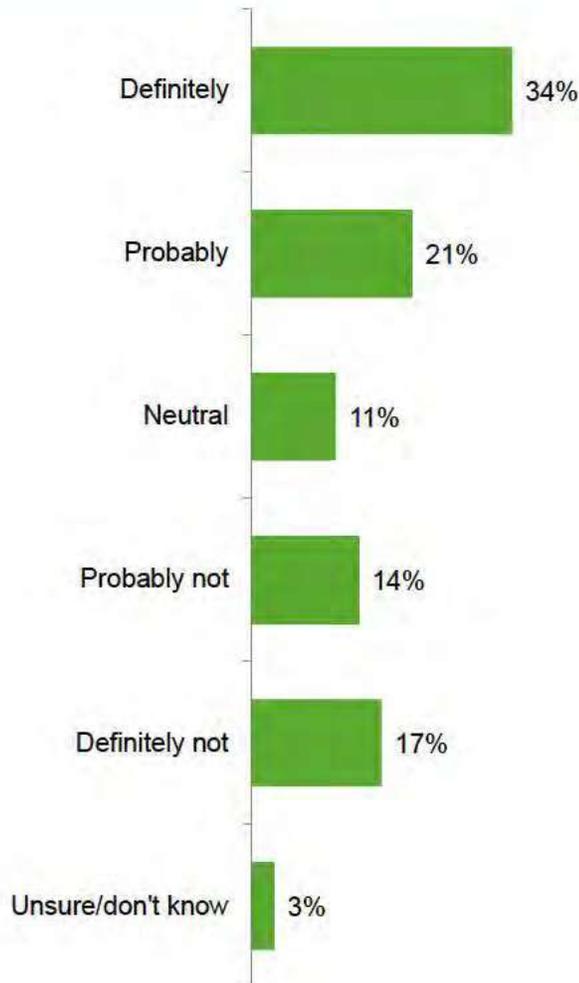
*Would you support closing more traffic lanes (or restricting all bridge traffic) for substantial periods if it meant a shorter construction period?*

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for Traffic Lane Closure Among Non-Primary Drivers



Base: Respondents who are not primary drivers across the Burrard Bridge (defined as all respondents minus those who drive a car across the bridge "very often" or "often" during the warm/sunny or cooler/rainy months)(858)

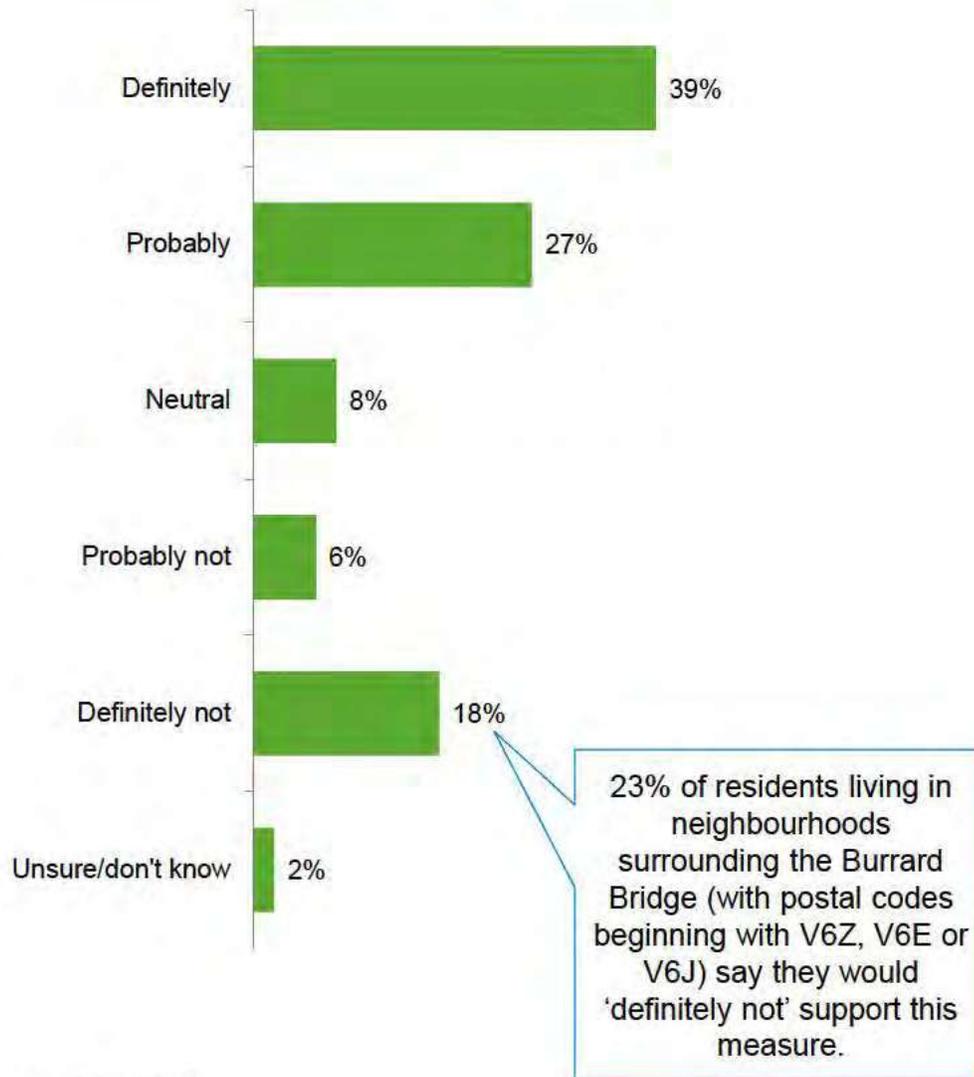
*Would you support closing more traffic lanes (or restricting all bridge traffic) for substantial periods if it meant a shorter construction period?*

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for Evening and/or Sunday Construction Work



Base: All respondents (1,823)

Would you support evening and/or Sunday construction work if it meant a shorter construction period?

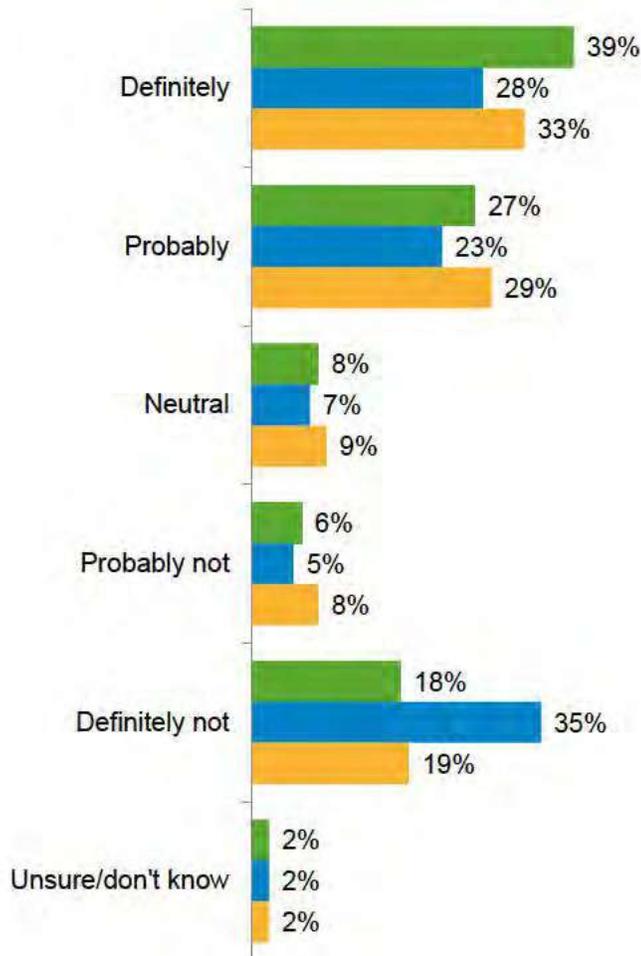
Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for Evening and/or Sunday Construction Work: Among Frequent Drivers

■ All respondents ■ Drive very often (daily or almost daily) ■ Drive often (a few times per week)



Base: Respondents who drive a car across the Burrard Bridge very often or often (933)

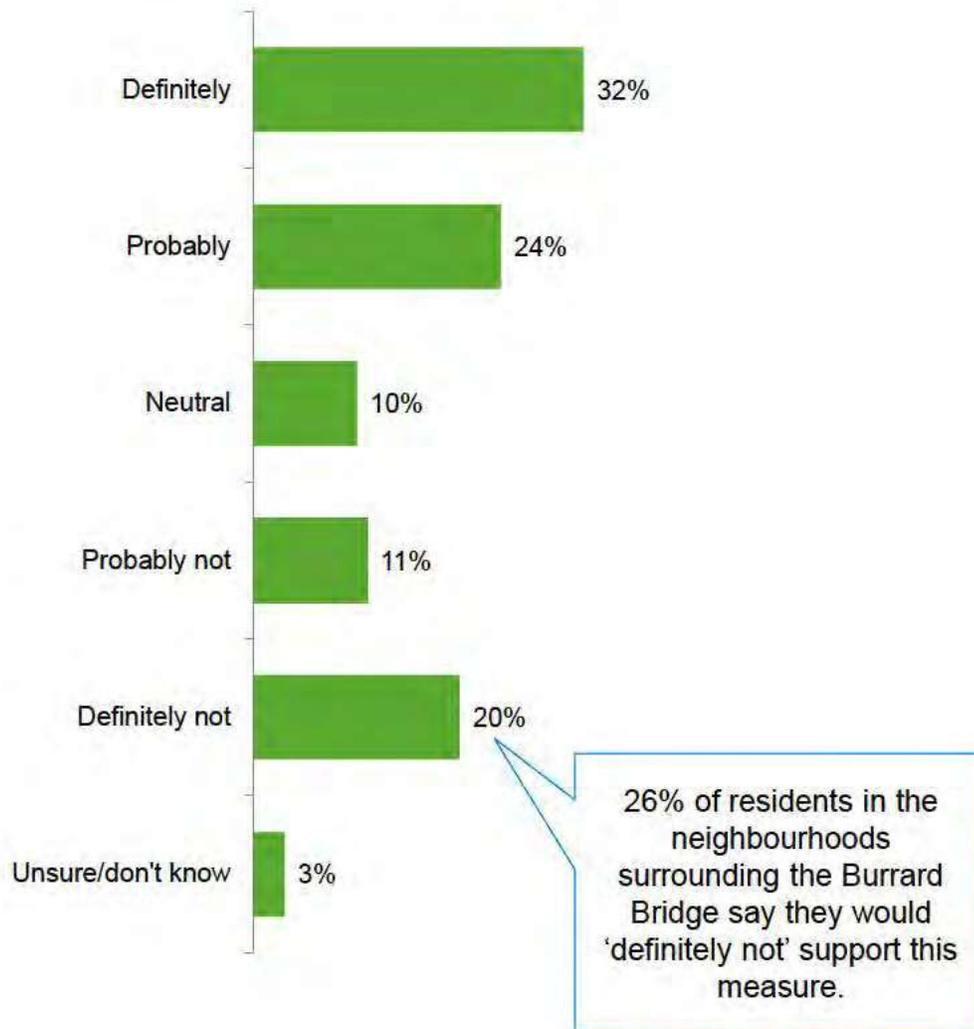
Would you support evening and/or Sunday construction work if it meant a shorter construction period?

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for No or Few Limits on Construction Hours



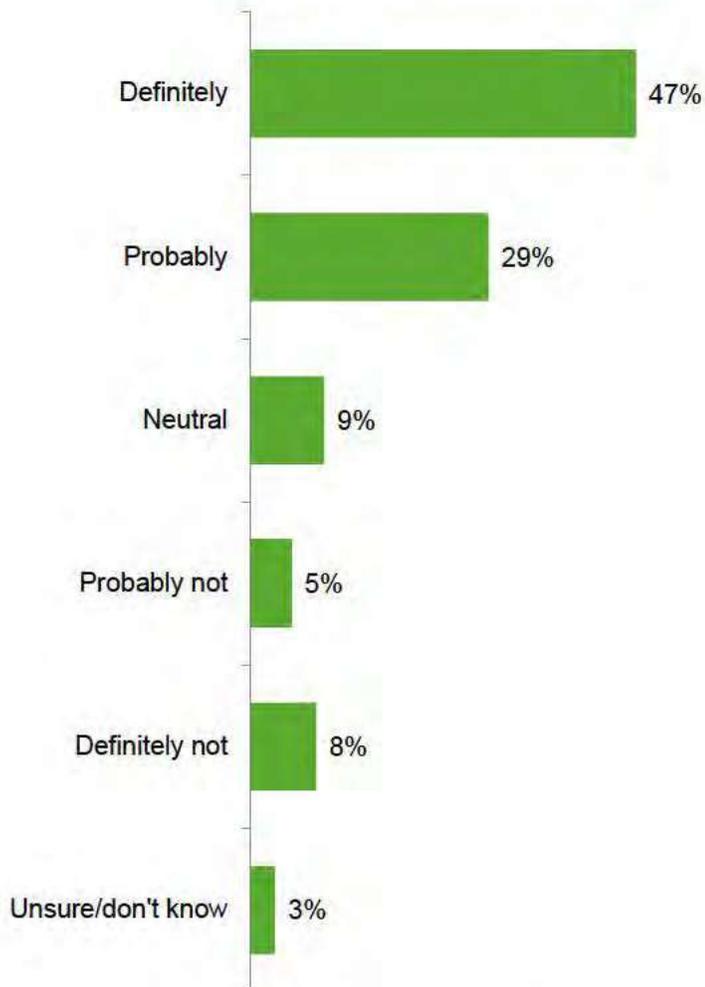
Base: All respondents (1,823)

Would you support no (or few) limits on construction hours (e.g. regular overnight work) if it meant a shorter construction period?

Burrard Bridge and Pacific Street Upgrade (June 2015)



## Support for Evening and/or Sunday Construction Work: Among Non-Primary Drivers



Base: Respondents who are not primary drivers across the Burrard Bridge (defined as all respondents minus those who drive a car across the bridge "very often" or "often" during the warm/sunny or cooler/rainy months)(858)

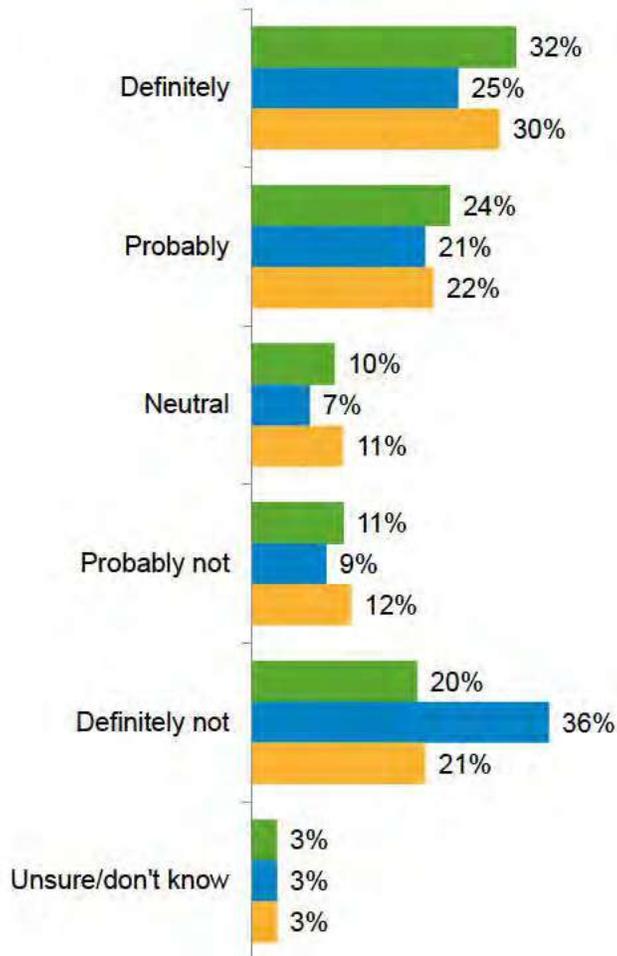
*Would you support evening and/or Sunday construction work if it meant a shorter construction period?*

Burrard Bridge and Pacific Street Upgrade (June 2015)



## Support for No or Few Limits on Construction Hours: Among Frequent Drivers

■ All respondents ■ Drive very often (daily or almost daily) ■ Drive often (a few times per week)



Base: Respondents who drive a car across the Burrard Bridge very often or often (933)

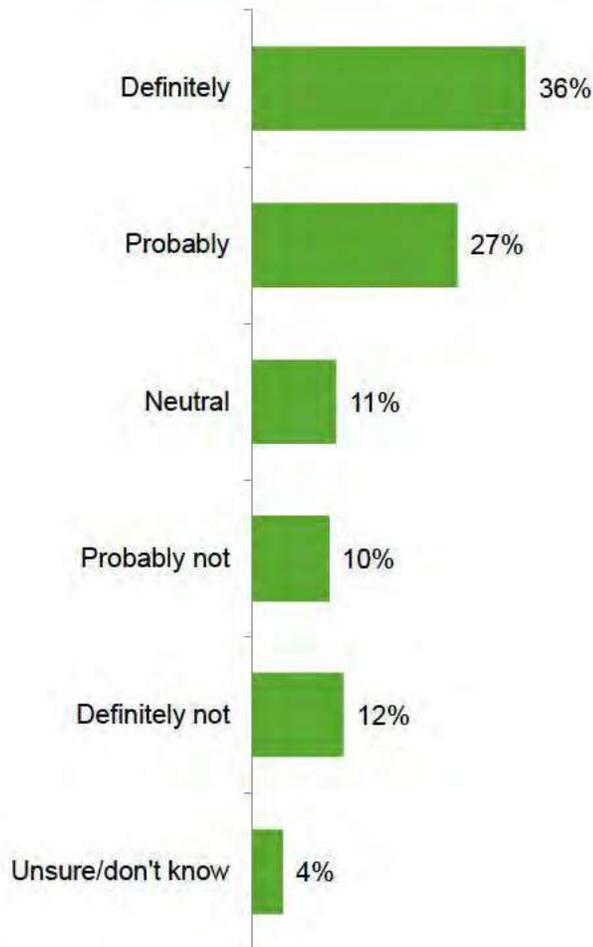
Would you support no (or few) limits on construction hours (e.g. regular overnight work) if it meant a shorter construction period?

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Support for No or Few Limits on Construction Hours: Among Non-Primary Drivers

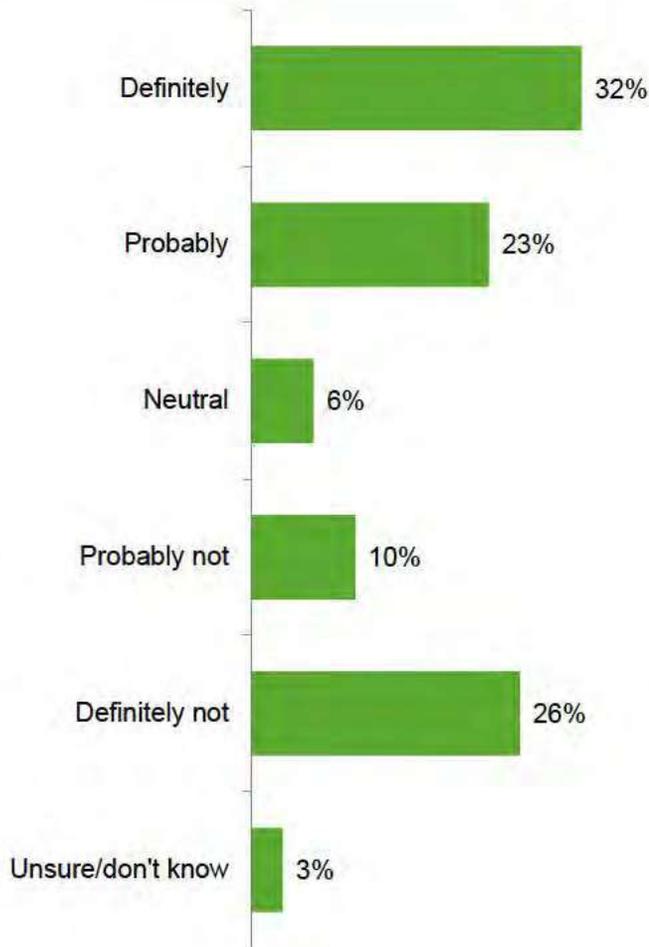


Base: Respondents who are not primary drivers across the Burrard Bridge (defined as all respondents minus those who drive a car across the bridge "very often" or "often" during the warm/sunny or cooler/rainy months)(858)

*Would you support no (or few) limits on construction hours (e.g. regular overnight work) if it meant a shorter construction period?*



## Support for No or Few Limits on Construction Hours: Among residents surrounding Burrard Bridge



**Base:** Residents living in neighbourhoods surrounding the Burrard Bridge (with home postal codes beginning with V6E, V6J or V6Z (439)

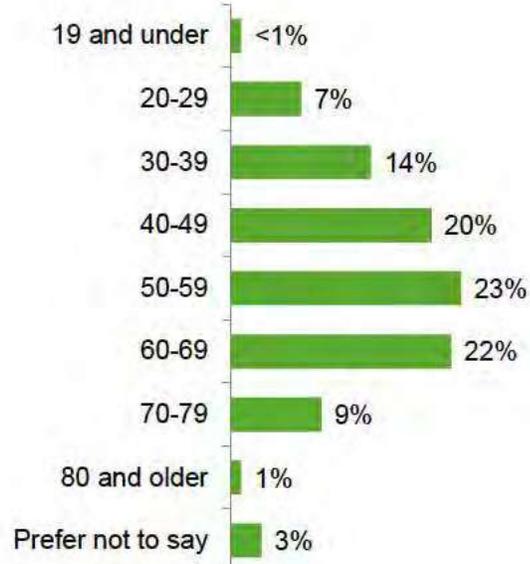
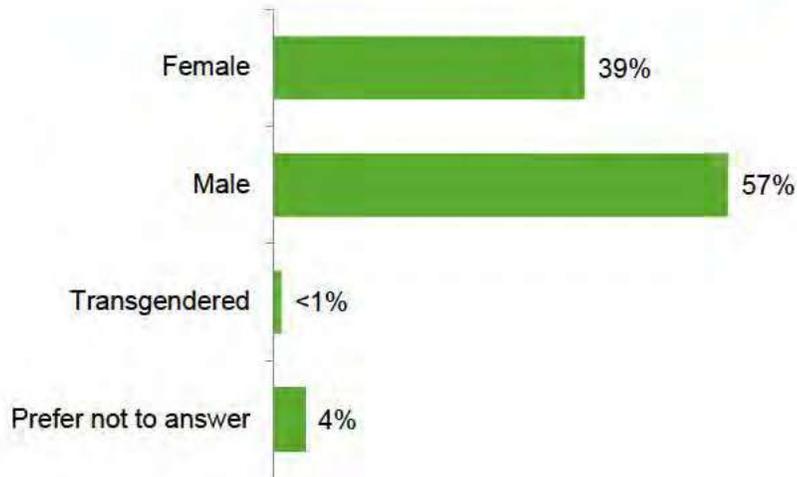
*Would you support no (or few) limits on construction hours (e.g. regular overnight work) if it meant a shorter construction period?*

Burrard Bridge and Pacific Street Upgrade (June 2015)

1



## Demographics



Base: All respondents (1,823)

*Do you identify as...*

*What age category do you fall in?*

Burrard Bridge and Pacific Street Upgrade (June 2015)

## MEMORANDUM

25/10/2018

TO: Dale Bracewell, Manager Transportation Planning  
Paul Storer, Manager Transportation Design  
Eric Mital, Manager (Acting) Streets Design  
Ken Brown, Superintendent Streets Operations  
Dave Currie, Project Manager Burrard North

FROM: Mike Zipf, Transportation Planning

SUBJECT: Standard Curb between Cycle Track and Sidewalk

### REVISION LOG:

Version	Description	Date	Author
0.1 Draft	Initial draft memo	06/09/2016	MZ
0.2 Draft	Inserted recommended curb detail drawing	06/16/2017	MZ

This memo provides information on a standard curb design to physically separate a sidewalk from an adjacent cycle track. The curb design is envisioned to be used in constrained areas where lateral landscaped separation is not possible.

### Background:

People walking and people cycling tend to travel at different speed. Urban walking speeds range from about 3-6km/hr and cycling speeds range from about 10 - 30km/hr. Recognizing the difference in speed, separation of modes can help to enhance people's comfort and safety. Research also indicates that separated cycling facilities have a lower collision risk than shared walking and cycling paths.<sup>1</sup> In urban environments where there are many people walking and cycling, separation can also help increase the capacity of a pathway.

Types of separation vary depending on the context. They range from a painted line or different material types to more physical separation such as a curb, physical barrier or lateral separation with a landscaped buffer. For the upcoming Burrard Bridge project there are two blocks along Pacific Street where the cycling path and sidewalk are adjacent to each other due to space constraints. The purpose of this study is to recommend a new curb that

<sup>1</sup> UBC Bicycle Injuries and the Cycling Environment (BICE) Study  
t0RDP4RF.DOCX



provides a visible vertical separation between the bike lane and sidewalk and does not pose a trip hazard to people walking or cycling. The curb type will be piloted along Pacific Street and then may be used for future cycling infrastructure if successful.

### Literature Review:

Cycle tracks are relatively new in the North American context so local guidance is not well developed on curbs between walking and cycling paths. Guidance from the CROW manual out of the Netherlands details two types of standard curbs between cycle tracks and footpaths shown in figure 1.

Some considerations indicated in CROW are that cyclists can hit higher curbs with their pedals and fall off their bikes. People cycling also tend to fear of obstacles and shy away from steeper curbs effectively narrowing the width of a cycle track. Regarding pedal height the VeloQuebec Design Guide suggests that typical pedal height ranges between 6 cm - 10 cm in the lowest position.

Queensland, Australia's Department of Transport also provides some details on an appropriate curb separation. It recommends a minimum 5cm curb height with a sloped edge between a cycle track and a footpath. See Figure 2.

### Curb Design Trial:

Using the CROW and Queensland information as a starting point, four different curb types were constructed. The curb types all have a 5cm (2") vertical separation to allow clearance for bike pedals. The curbs have edges of varying slopes. See Appendix A for the curb trial designs. The goal of the trial is to test the curbs and find a preferred design that will:

- 1) Intuitively delineate space for people cycling and people walking
- 2) Minimize impacts to the usable width of the cycle track and sidewalk
- 3) Minimize trip hazards for pedestrians and cyclists
- 4) Provide useful cues people with visual impairments
- 5) Be accessible for people on wheelchairs and people with limited mobility
- 6) Be easy to construct

City staff and accessibility consultants, Canadian Barrier Free Design (CBFD), evaluated the curb types based upon the criteria above. Staff prefer Curb B because it provides a noticeable delineation without posing a hazard to pedestrians or cyclists. The photos in figure 3 show the trial evaluation and the results of the summarized in Table 1.

(C) 'cycle track kerb':  
footway-cycle track

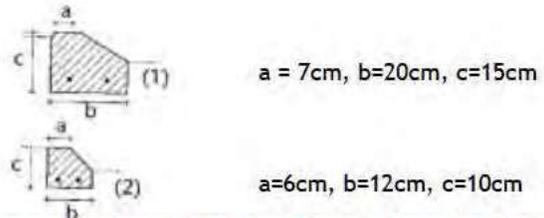


Figure 1 - Cycle Track Curb Details from the CROW, Design Manual for Bicycle Traffic

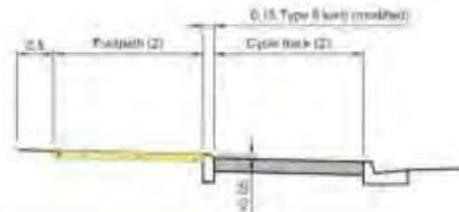


Figure 2 - Cycle Track Curbs from Queensland Department of Transport - Technical Note on the Selection and Design of Cycle Tracks

CBFD had the same conclusion. (See Appendix B) Curb A may be preferred by a person using a wheelchair or mobility aid because of the gradual slope. However, it provides little noticeable delineation and a person using a white cane is unable to shoreline along the curb. Considering all users, curb B is preferred. It provides the necessary cues for a person using a white cane while still being negotiable by people using wheelchairs. Curbs C & D had greater tripping hazard especially for those with limited mobility so were not recommended. CBFD also agreed with staffs' suggestion to add a parallel trowel line approximately 15cm behind the curb to enhance visibility.



Figure 3 - Curb Trial Evaluation

Table 1 - Curb Trial Evaluation Summary

	Curb A	Curb B	Curb C	Curb D
<b>Category:</b>				
1. Intuitive Delineation of Space	<b>Poor</b> Vertical separation is very subtle so does not provide meaningful separation	<b>Good</b> Easy to see and detect the vertical separation	<b>Good</b> Easy to see and detect the vertical separation	<b>Best</b> Sharp angles make the vertical separation very easy to detect
2. Space Impacts	<b>Moderate</b> Width of curb cuts into cycle track space	<b>Low</b>	<b>Low</b>	<b>Lowest</b> Flat top surface allows for slightly wider sidewalk space
3. Potential Hazard for Pedestrians and Cyclists	<b>Lowest</b> Slope poses little very hazard	<b>Low</b> Slope poses minimal trip hazard	<b>Medium</b> Moderate slope may pose some trip hazard	<b>High</b> Steep slope is easy for bike tires to catch and is a possible trip hazard for pedestrians
4. Cues for People with Limited Vision	<b>Poor</b> Difficult to detect for white cane users	<b>Good</b> Sufficient slope to allow for easy detection	<b>Good</b> Sufficient slope to allow for easy detection	<b>Good</b> Sufficient slope to allow for easy detection
5. Accessibility for Wheelchair Users	<b>Best</b> Very easy for wheelchair users to negotiate	<b>Good</b> Relatively easy for wheelchair users to negotiate	<b>Medium</b> Some challenges to climb in wheelchair	<b>Poor</b> Difficult to climb in wheelchair. Possible tipping hazard
6. Constructability	<b>Easy</b>	<b>Moderate</b> Challenging to operate asphalt roller so it does not damage bottom of curb	<b>Difficult</b> Sloped area and curb top needs to be manually troweled	<b>Moderate</b> Extra step to frame in 45 degree slope

Based on the above, curb style B will be trialed along Pacific Street as part of the Burrard Bridge rehab project. For this trial a parallel score line will be added 15cm behind the top of the curb to provide enhanced visibility and detection for both sighted and visually impaired people. In addition, a variant of Curb B with a 0.15m gutter pan will also be trialed where drainage is needed. The Pacific trial design is shown in Attachment C.

Depending on the outcome of the Pacific trial, further refinements to curb B may be required. One area to monitor will be the constructability challenge of operating the asphalt roller adjacent to the curb. Figure 4 shows damaged to the edge of curb B from the roller during the initial trial.



Figure 4 - Damage to the Lower Edge of Curb B from the Asphalt Roller

**Recommendation:**

From the investigations to date, the design shown in *Attachment C* is recommended as Vancouver's standard curb between a raised cycle track and a sidewalk. This design will be first used for the Burrard North Project along Pacific Street. Recognizing this curb type is relatively new, it may be subject to refinements based upon feedback from the project as well as from future learnings and best practices from other jurisdictions.

**Appendixes:**

- A. Curb Trial Designs
- B. Barrier Free Design Comments on Curb Trial
- C. Recommended Curb Design





**Report on  
Transition Designs  
Separating Bicycle Routes from Sidewalks  
And Their Impact on People with Disabilities**

**Prepared for the Active Transportation Branch  
City of Vancouver Engineering Services**

 **canadian barrier free design inc.**  
*December 2015*

## Bicycle Lane / Sidewalk Transitions And Their Impact on People with Disabilities

Canadian Barrier Free Design was invited by City of Vancouver Engineering staff to review proposed sidewalk transition sample treatments to distinguish cycling lanes from pedestrian pathways/sidewalks for their impact on people with visual impairments; people using walking aids and wheelchair users.

Four different curb transitions were examined:

- A flat sloped transition extending out approx. 250mm;
- A flat sloped transition with a shorter run extending approx. 150mm and therefore steeper incline;
- A 150mm transition with a slight shoulder and
- A 150mm run with a sharp, distinct shoulder.



By way of background, blind and visually impaired pedestrians using a white mobility cane to orientate and travel in their physical surroundings, commonly use one of four forms of cane tips. The tips are designed to detect and distinguish way finding cues. Tips come in the form of: high resilient plastic, porcelain, metal, and roller ball. As a blind or visually impaired person proceeds in the intended line of travel, a side to side tapping arc or side to side glide with constant contact with the walking surface is maintained.

All of the cane tips effectively detected the difference between the broom finished sidewalk walking surface and the smooth finished curb. The cane tips also effectively detected the parallel score line running the length of the smooth curb. To further emphasize the transition, we recommend that an additional score line be introduced to the final product to define the transition between the paths and thereby further enhance the function of the way finding information along the curb edge.

Test curbs 'B', 'C' and 'D' all provided distinct edges that allowed a guide dog to easily target the curb edge and sustain a consistent line of travel on the sidewalk.

The two-inch height difference and the distinct shoulder of the transition between the pedestrian walkway and the cycling pathway in 'C' and 'D' provided excellent white cane tip detect ability utilizing the "shore lining" travel technique. From a purely 'detection' perspective 'C' and 'D' were better for people using mobility canes. However, in our view, the addition of a curb shoulder dramatically increases the likelihood for pedestrians – including people with visual impairments, to turn their ankles or otherwise trip/fall. Further, the shoulder creates a sharp transition meaning that cyclists could too easily 'catch an edge' causing them to fall and/or potentially crash into pedestrians on the sidewalk side of the common route. This edge hazard compromises the safety of people using wheeled mobility devices as well.



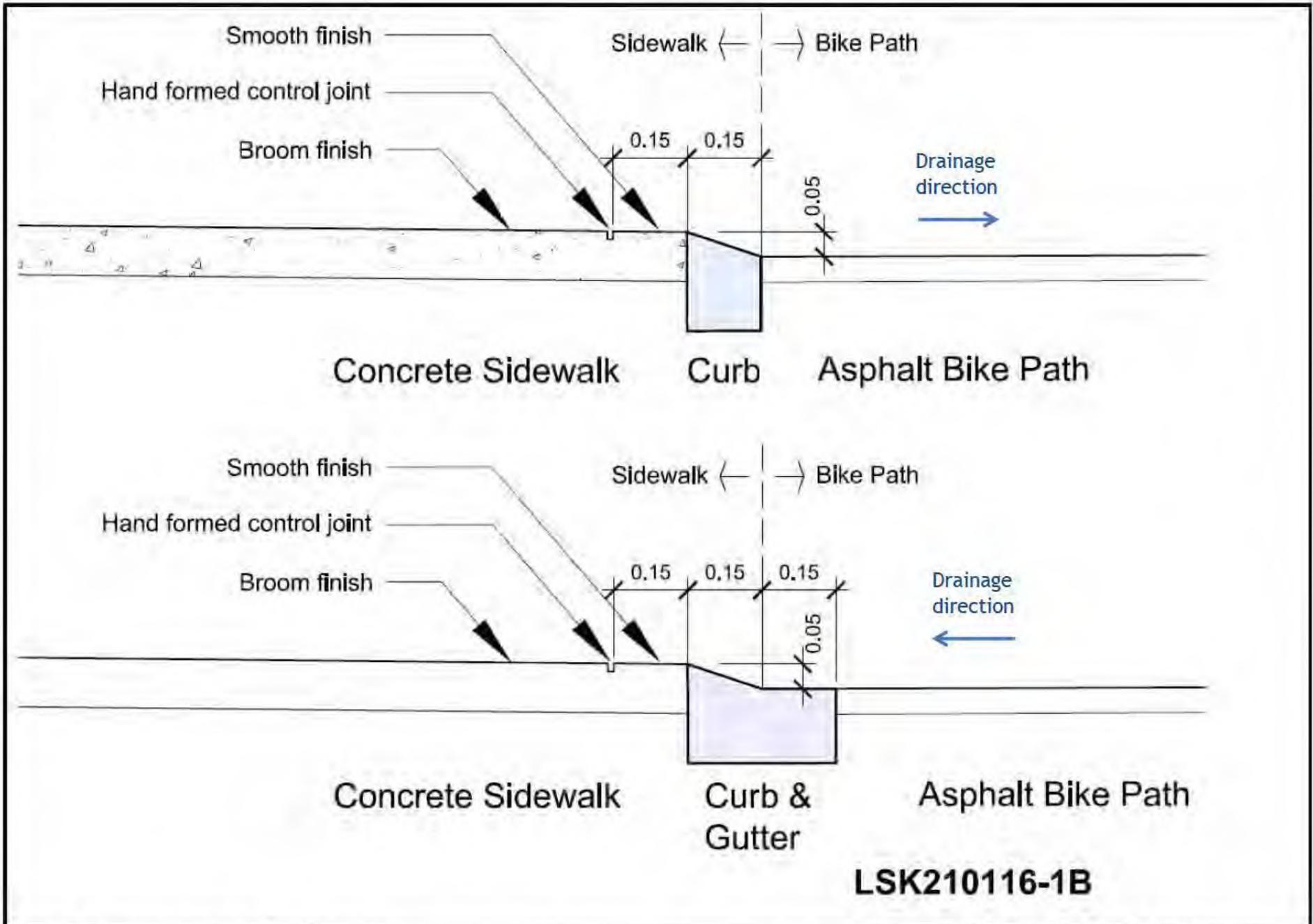
Test slope 'A' was the easiest transition for people using wheeled mobility devices and bicycles however this also meant it was the easiest to be encroached upon by both user groups thereby making it the least effective at separating bikes and pedestrians. Potentially dangerous for everyone – particularly people with visual impairments.



Of the four transitions tested, test transition 'B' provided the most effective compromise to simultaneously meet the safety and mobility requirements for people using walking aids, people using wheeled mobility devices, pedestrians using white mobility canes and cyclists. Wheelchair users can cross over transition B without a tipping risk. Similarly, people using walking aids are not presented with an unusual tripping hazard. At the same time, it is a distinct transition that separates the routes with a slope that is cane/foot detectable without being problematic to people with mobility impairments. Cbfd further recommends highlighting the full length of the transition in signal yellow to further delineate the two routes.

The City should be congratulated for developing these test transitions and constructing a working, full size model. It made identifying the most appropriate transition easier and certainly increases our confidence in recommending Test Transition 'B' as the most appropriate transition strip to separate cyclist and pedestrians in this application.

Brad McCannell/Bruce Gilmour  
Canadian Barrier Free Design Inc.



**LSK210116-1B**

	<b>Burrard Pacific Intersection</b> Cross Section - Curb Detail Pacific Street - Between Bike Lane and Sidewalk	City of Vancouver - FOI File # 2019-095		ENGINEERING SERVICES & - CITY OF VANCOUVER	
		ACTIVE TRANSPORTATION	DESIGN: PL	DRAFTING: PL	ACCT. NO.

**Work Plan - Design & Planning Guidelines**

Last Updated: 01/21/2019 VanDOC's Container 13-1400-30/000074

Folder	Topic area	Branch Owner	Priority	Supervisor/EoR	Staff	2019				Status	Vandoc's Guideline Link	Notes
						Q1	Q2	Q3	Q4			
4	Bus Stop Island	TDE	Med	ML	ML					15%		Conduct reaserch / draft guidance
6	Local Street Bikeway - Enhanced Sightlines	TDE	High	KT	MZ					90%	<a href="#">T:\13-1400-30</a>	Plan to finish as is and add traffic circles to future work
11	Right Turn Diverter	TDE	Low		SS					5%		
12	Median Diverter	TDE	Low		SS					5%		
14	Local Bikeway Offsets	TDE	Low		SS					5%		
16	Turn Boxes	Both	Low		MZ					5%		
18	Fully Raised Driveway, Laneway Crossings of Sidewalks & Bike Paths	TDE	Med	DP	MZ/SS					15%		Partially included in Design Criteria Manual. Update to maximize ped priority and reduce vehcile speeds
20	Bollard Spacing in Bike Lane Buffer Zone	TDE	Low		SS					0%		
25	Yield sign usage along bike routes	TDE	Low		SS					5%		
26	Protected Bike Lane Barrier Options	TDE	Low		SS					10%		
30	Greenway Lighting	TPL	Low		MZ					50%	<a href="#">T:\13-1400-30</a>	Consider as part of CoV lighting strategy
32	Truncated Domes Guidelines	TDE	High	DP	SS					0%		Reaserch being led by TDE
33	Bike Parking Guidelines	TPL	Low		MZ					0%		Work with PMB
34	Sidewalk Weather Protection	TPL	Med	DS	MZ					0%		TPL to lead
35	Curb types and uses	TDE	Low		SS					0%		
36	Painted sidewalk extensions	TDE	Low		SS					0%		
37	Curb & Ramp Details at the Beginning of a PBL	TDE	Low		SS					0%		
38	Protected Intersection Corner Details	TDE	Low		SS					0%		
39	Mountable Median Design	TDE	Med		SS					0%		
40	Painted Bike Lane Intersection Treatment	TDE	Low		SS					0%		Based on co-op reaserch on turning behavior across painted lanes
41	Micromobility Guidelines	TPL	High	RC	MZ					5%		Work commnecing in 2018 with presentation
42	Street Elements and Functional Zones	TPL	High	RC	MZ					5%		
43	Bike Stencils at Driveways	TDE	High	KT	MZ					0%		
44	Fully Raised Pedestrian Crossings	TDE	High	DP	SS					0%		
45	Fully Raised Ped/Bike Crossing	TDE	Med	?	SS					0%		
46	Fully Raised Minor Street Crossing	TDE	Med	?	SS					0%		
47	Valley Gutter Practices	TDE	Med	?	SS					0%		
48	Standard 4" Curb and Usage	TDE	Med	?	SS					0%		
49	Narrow Gutter Pans	TDE	Med	?	SS					0%		
50	Laneway Typologies	TPL	Med	DS	MZ					0%		

Design guidelines define specific treatments and details on the application of such treatments.  
 Planning guidelines devlops policy framework or guidance that influence broad design choices.

Design Guideline Competition Status:	
0. Add to List	0%
1. Guideline Brief Scoped	5%
2. Reaserch and Initial Draft Memo Started	25%
3. Engineer Focus Group Review + Draft Memo	50%
4. DRT Review	75%
5. Final Quality Check	90%
6. Sign and Seal Memo	95%
7. Branch Heads Approval	100%

## Work Plan - Design & Planning Guidelines

Last Updated: 11/02/2018

Topic area	Planning / Design	Vandoc's Memo Link	Notes
<b>Design Guidelines</b>			
1 Raised Crosswalk (5" Pilot)	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Completed September 2015
2 AAA Rules of Thumb	Planning	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Completed March 2017 Detailed Memo DOC/2014/155129
3 Green Paint	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	See COV Design Manual P.
5 Use of Sharrows	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	See Cov Design Mannual P.
7 Conventional Bike Lane Design and Usage	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Included in CoV Design Manual
8 Yield on Turn Signage	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Completed May 2016
9 Parking Lane and Bike Buffer Width	Design	See 7	Included in CoV Design Manual
10 Protected Bike Lane Width	Design		Included in CoV Design Manual
13 Bike / Pedestrian Sign Height	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Completed October 2016
15 Reflective Marker Size for Bike Path**	Design	See 13	Completed October 2016
17 Right Turn Policy Across Cycle Track*	Design	See 8	Completed May 2016
19 Pedestrian Crossings on Off Street Paths	Design		
21 Bikeway Crossing Markings	Design		Partially included in CoV Design Manual
23 Curbs between Cycle Track and Sidewalk	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Included in CoV Design Manual
27 New Off-Street Bike Path Stencil	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	
28 Advance Vehicle Stop Bar on PBL's	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	Included in CoV Design Manual
29 Bike Friendly Roadway Curb / Drainage	Design		0.15 Gutter in Design Manual. Narrow drainage not started
31 Speed Cushon Design and Usage Guidance	Design	<a href="T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007">T:\13-1400-30\TPL + TDE - Design Standards and Guidelines (000007</a>	

Included in CoV Design Manual

Complete

\* Topic covered in Memo 8

\*\* Topic covered in Memo 13

Design guidelines define specific treatments and details on the application of such treatments

Planning guidelines provide direction on future policy and provide guidance on broad design choices

**Work Plan - Design & Planning Guidelines**

Last Updated: 11/02/2018

Topic area	Planning / Design	2018		2019			Status	Vandoc's Memo Link	Notes
		Q4	Q1	Q2	Q3	Q4			
<b>Design Guidelines</b>									
1 Raised Crosswalk	Design						100%	<a href="#">T\13-1400-3</a>	Completed September 2015
2 AAA Rules of Thumb	Planning						100%	<a href="#">T\13-1400-3</a>	Completed March 2017 Detailed Memo DOC/2014/155129
3 Green Paint	Design						75%	<a href="#">T\13-1400-3</a>	Partially included in Design Criteria Manual
4 Bus Stop Island	Design						15%		Conduct reaserch / draft guidance
5 Use of Sharrows	Design						50%	<a href="#">T\13-1400-3</a>	Included in CoV Design Manual
6 Local Street Bikeway - Enhanced Sightlines	Design						90%	<a href="#">T\13-1400-3</a>	Further work to include traffic circles to memo
7 Conventional Bike Lane Design and Usage	Design						10%	<a href="#">T\13-1400-3</a>	Included in CoV Design Manual
8 Yield on Turn Signage	Design						100%	<a href="#">T\13-1400-3</a>	Completed May 2016
9 Parking Lane and Bike Buffer Width	Design						50%	See 7	Included in CoV Design Manual
10 Protected Bike Lane Width	Design						10%		Included in CoV Design Manual
11 Right Turn Diverter	Design						5%		
12 Median Diverter	Design						5%		
13 Bike / Pedestrian Sign Height	Design						100%	<a href="#">T\13-1400-3</a>	Completed October 2016
14 Local Bikeway Offsets	Design						5%		
15 Reflective Marker Size for Bike Path**	Design						100%	See 13	Completed October 2016
16 Turn Boxes	Design						5%		
17 Right Turn Policy Across Cycle Track*	Design						100%	See 8	Completed May 2016
18 Driveway, Laneway Crossings of Sidewalks & Bike Paths	Design						15%		Partially included in Design Criteria Manual. Update to maximize ped priority and reduce vehcile speeds
19 Pedestrian Crossings on Off Street Paths	Design						5%		
20 Bollard Spacing in Bike Lane Buffer Zone	Design						0%		
21 Bikeway Crossing Markings	Design						5%		Partially included in CoV Design Manual
22 Signing of One-Way Yield Diversion	Design						5%		
23 Curbs between Cycle Track and Sidewalk	Design						50%	<a href="#">T\13-1400-3</a>	Included in CoV Design Manual
24 Maintenance along Protected Bike Lanes	Planning						5%		
25 Yield sign usage along bike routes	Design						5%		
26 Protected Bike Lane Barrier Options	Design						10%		
27 New Off-Street Bike Path Stencil	Design						100%	<a href="#">T\13-1400-3</a>	
28 Advance Vehicle Stop Bar on PBL's	Design						95%	<a href="#">T\13-1400-3</a>	Included in CoV Design Manual
29 Bike Friendly Roadway Curb / Drainage	Design						5%		0.15 Gutter in Design Manual. Narrow drainage not started
30 Greenway Lighting	Planning						50%	<a href="#">T\13-1400-3</a>	Consider as part of CoV lighting strategy
31 Speed Cushion Design and Usage Guidance	Design						100%	<a href="#">T\13-1400-3</a>	
32 Accessibility Treatments at Crossings	Design						0%		Reaserch being led by TDE
33 Bike Parking Guidelines	Planning						0%		Work with PMB
34 Sidewalk Weather Protection	Planning						0%		TPL to lead
35 Curb types and uses	Design						0%		
36 Painted sidewalk extensions	Design						0%		
37 Curb & Ramp Details at the Beginning of a PBL	Design						0%		
38 Protected Intersection Corner Details	Design						0%		
39 Median desgin	Design						0%		Per Ross, new tapered median curb
40 Painted Bike Lane Intersection Treatment	Design						0%		Based on co-op reaserch on turning behavior across painted lanes
41 Micromobility Guidelines	Planning						5%		Work commencing in 2018 with presentation
42 Street Elements and Functional Zones	Planning								

Included in Draft CoV Design Manual  
Complete

\* Topic covered in Memo 8  
\*\* Topic covered in Memo 13

Design guidelines define specific treatments and details on the application of such treatments  
Planning guidelines provide direction on future policy and provide guidance on broad design choices

**Design Guideline Competition Status:**

0. Add to List
1. Guideline Brief or Memo Introduction
2. Reaserch and Initial Draft Memo Started
3. Engineer Focus Group Review + Draft Memo
4. DRT Review
5. Final Quality Check / Branch Manager Review
6. Sign and Seal Memo
7. Branch Heads Approval

		2018				
		Q1	Q2	Q3	Q4	
<b>Other work areas</b>						Notes: Led by TDM, Provide support as needed Led by TDM, Provide support as needed Working with Citystudio on subjective analysis of PBL comfort McLean Bridge, McsPadden Park etc.
1	Construction on Bike Routes Brochure Update					
2	Construction and Events on Seawall New Brochure					
2	Protected Bike Lane Catalog					
3	Complete streets policy / guides support					
4	Viaducts construction / bikeway network support					
5	Cycling big data (Biko/Strava) for viaducts and bike model					
6	TPL Concepts support					
7	Hudson Bikeway planning					
<b>Ongoing Branch Rep / Tasks</b>						Support TDM where exceptions from policy are needed Anticipate completion spring 2018 plus future annual updates.
1	Major Events & Construction Bike & Walk Detours					
2	Bike / Walk Tour Coordination TPL					
3	OQM TPL Branch Rep					
4	CoV Design Manual - TPL Rep					
5	NACTO Urban Bikeway Design Guide Update Working Group					
6	DRT Branch Rep / TPL Design Checks					
7	CoV Lighting Strategy TPL rep					
8	Plaza stewardship TPL rep					
<b>Research Areas - Potential Future Co-op Projects</b>						Jasmeen studying Jasmeen potential term project Do these change behavior in a substantive way? Feed into future guideline / discussion. When should we do a full signal? When not? Are diverters being used as intended? Observe behavior at various locations with stop signs and yield signs to inform future design directions. Initial research done in 2016 and 2017. Possible follow up research in the future Initial research completed in 2017. Possible follow up research in the future Initial research done in 2015 Initial research done in 2014
1	Bus All Door Loading - Study Benefits for Sidewalk Space					
2	Bus Boarding Island Comfort					
3	Crosswalk Markings at Stop Signs and adjacent to Bike Crossings					
4	Bike behavior at crossings / half signals					
5	Bike behavior at crossings / diverters					
6	Bike yield signs vs stop signs at street crossings					
	Bike and Pedestrian Crossing Interactions Yielding and Comfort					
	Bike and Pedestrian Comfort and Interactions in Shared Spaces					
	Use of Bike Boxes					
	Parking Behavior beside curbs and buffer areas					

## Burrard Bridge Engagement Summary

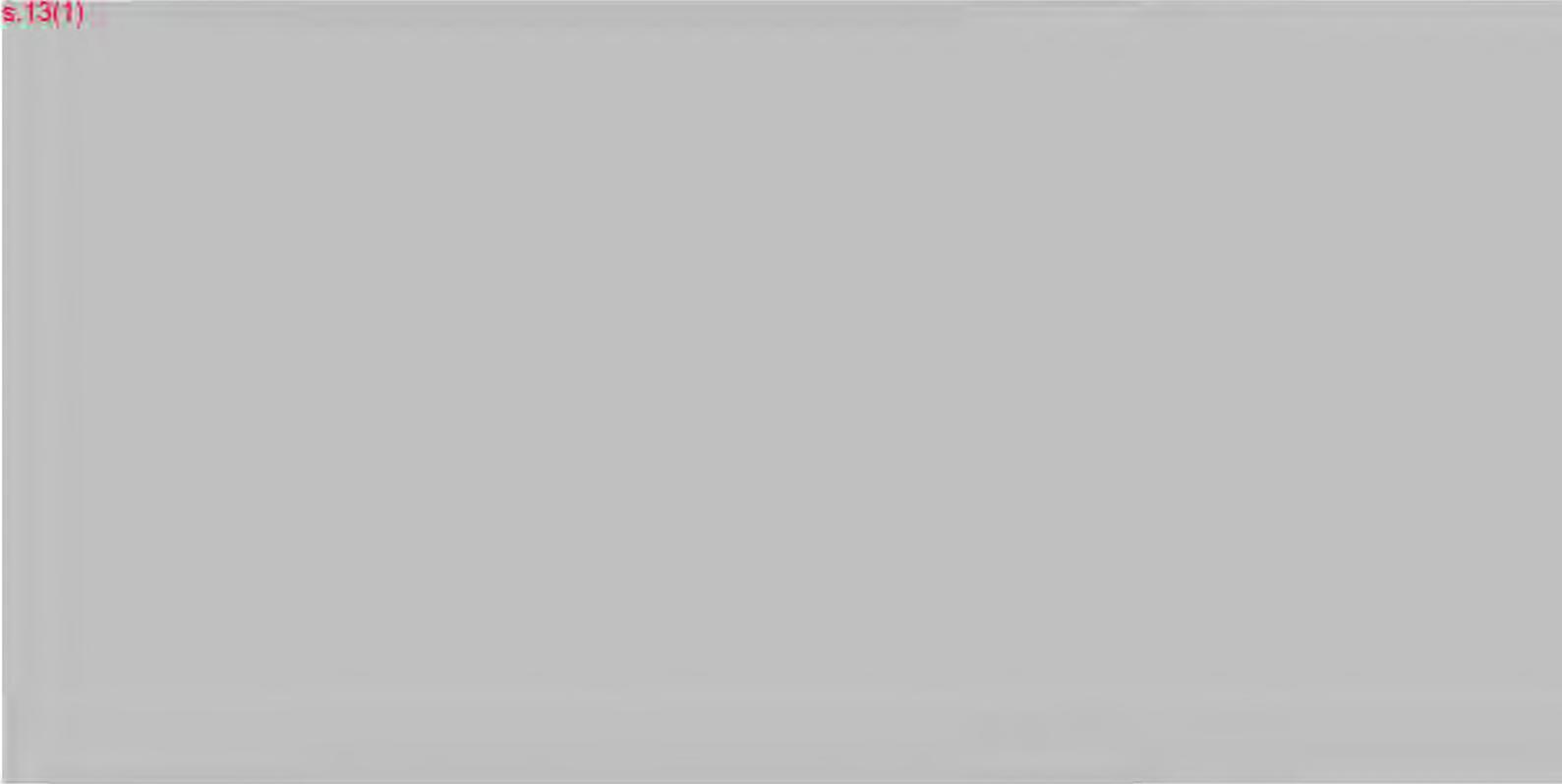
Draft – Prepared June 26, 2015

[www.rmdelaney.com](http://www.rmdelaney.com)

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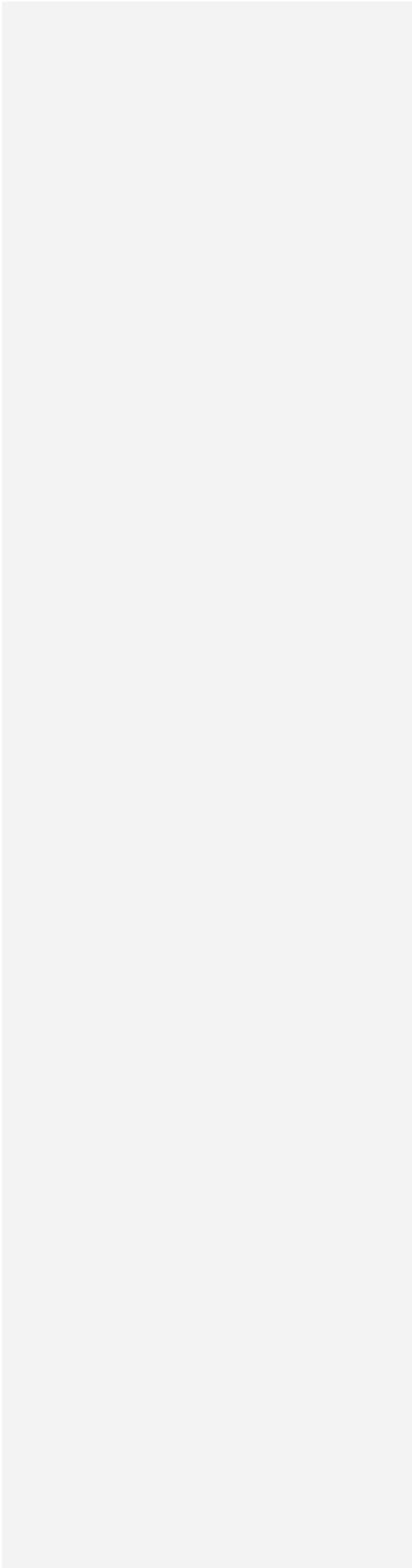
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# Design Guidelines for All Ages and Abilities Cycling Routes

## Version 1.0

**Authors:**

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**Director of Transportation:**

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Name Signature Date (YYYY-MM-DD) 2017-03-15

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## MEMORANDUM

March 20, 2017

**TO:** Lon LaClaire, Director of Transportation  
 Dale Bracewell  
 Branch Manager, Transportation Planning  
 Paul Storer  
 Branch Manager, Transportation Design  
 Steve Brown  
 Branch Manager, Traffic & Data Management

**FROM:** Mike Zipf  
 Senior Engineering Assistant, Transportation Planning  
 Mike Anderson  
 Senior Transportation Engineer, Transportation Planning

**SUBJECT: Guidelines for All Ages and Abilities (AAA) Cycling Routes**

### REVISION LOG:

Version	Description	Date	Author
0.1 Draft	Initial draft memo	06/17/2014	MA
0.2 Draft	Included AT branch manager initial comments. Also added sections on vehicular speeds, surface treatments and intersections as well as attached a short summary.	02/06/2015	MZ
0.3 Draft	Included initial comments from AT engineer focus group. Changed local street width analysis and added off European design manual recommendations on off-street path width.	02/12/2015	MZ
0.4 Draft	Added preliminary DRT comments, updated street width in mixed traffic including the multiple accounts analysis and real world examples presented to the DRT group and updated the summary.	02/27/2015	MZ
0.5 Draft	Includes DRT emailed comments and AT branch manager comments. This includes minor clarifications to on-street and off-street width guidance, greater clarity on desired grades (<3% is preferred for new infrastructure) as well as other minor edits.	05/04/2015	MZ
1.0 Approved	Approved memo. Attached graphically formatted guideline summary. In the memo body, clarified rationale for allowing steeper grades when following topography, and added more information on AAA intersection design features. Minor text edits from EoR check and from Branch Heads and Director check/approval	03/20/2017	MZ

## **Vision:**

*Transportation 2040* sets a long-term vision for cycling in Vancouver to be safe, comfortable, convenient and fun for people of all ages and abilities. If cycling is safe and comfortable for children and seniors, then it will be appealing as a transportation option for the full spectrum of our population and help the City achieve its long-term mode share goals.

To broaden the appeal of cycling for utilitarian needs, we need to design for people of all ages and abilities who are interested in cycling, but are concerned about safety, primarily conflicts with motor vehicle traffic. This is documented in a January 2009 article of the *Journal of Public Health Policy* ('Bicycling for Transportation and Health: The Role of Infrastructure') and UBC's 'Cycling in Cities' 2010 study on bike route preferences.

Since approval of *Transportation 2040* in 2012, we have begun work on Action C1.1.1, which calls for the development of all-ages-and-abilities (AAA) planning and design guidelines. These guidelines will assist staff and Council in developing and designating a comprehensive network of bicycle routes that are safe and comfortable for a broad spectrum of the population. This will be achieved over time by upgrading many of our existing bicycle routes and by implementing new routes to AAA standards where gaps exist.

The focus on accommodating people of all ages and abilities is a new vision for the City, and represents an emerging North American paradigm that is being led by only a handful of cities. These leading cities are continually learning from each other and sharing knowledge as the North American model evolves. As such, these guidelines will be a 'living' resource for staff that will be updated over time as we learn more from other leading cities and from our own projects.

We are starting this process by preparing preliminary guidance for several factors based on research and consultation to date. This work will continue locally and through partner networks such as the National Association of City Transportation Officials (NACTO).

## What do we mean by AAA?

In the long term, provision of a 'AAA' network means that we would like everyone to feel comfortable and be as safe as possible when riding a bicycle in Vancouver, regardless of age, gender, or physical ability. This is an ambitious vision and one that will require significant upgrades of existing infrastructure to achieve. For the short and medium term, this means a cycling network that accommodates a broader spectrum of the population than the existing network. In many cases, it can be achieved incrementally such that the spectrum of the population using the infrastructure gradually broadens and the interest in cycling for transportation grows. As more people become comfortable cycling, we will benefit from the 'safety in numbers' phenomenon, whereby actual safety of cycling improves with increasing volumes of people riding bicycles.

Many agencies and organizations are now defining 'all ages' to refer to people ranging in age from children to seniors, sometimes referred to as '8 to 80'. We want children and seniors to feel safe and comfortable riding their bicycles, but acknowledge that a medium-term objective should be to accommodate *most* people in a broader age range.

Similarly, the term 'all abilities' can generally be viewed in the medium term as people with a basic level of competence and health to ride a bike, and must recognize that the type of bicycles ridden may vary depending on physical abilities. For example, AAA infrastructure design should account for adult tricycles, electric-assist bikes, and bicycles with child trailers. We acknowledge that it will be a long-term challenge to accommodate people with visual impairments and severe physical impairments that limit their ability to ride a bicycle independently, but incremental improvements should consider how best to achieve this.

## Facilities Suitable for AAA:

Designing for AAA will only apply to the following facility types, as these are the preferred types for people within the 'interested but concerned' segment (based on a combination of UBC, TransLink and City of Portland research):

- off-street pathways separated from motor vehicles, such as the Seawall;
- protected bicycle lanes on arterial and collector streets, such as the Hornby and Dunsmuir bike lanes, and the York Bikeway (near Cypress); and
- traffic-calmed local residential streets, such as the Ontario Greenway and 10<sup>th</sup> Avenue Bikeway.

Bike routes on busier streets without physical separation, including those with conventional painted bike lanes and with sharrows, are not considered suitable for AAA status.

The following sections outline our initial recommendations for AAA guidelines. The first three topics apply only to local street bikeways/greenways where people ride in mixed traffic.

### **Preferred Maximum Volume for Cycling in Mixed Traffic:**

The volume of motor vehicle traffic (daily and/or peak hour) to which someone is exposed while cycling in mixed traffic is one of the key determinants of comfort and perceived safety. UBC research indicates that local streets with relatively low traffic volumes (typically achieved through traffic calming) are more appealing. A higher frequency of encounters with motor vehicles, moving and parked (leading to potential collisions with opening vehicle doors), makes a street less comfortable for cycling.

Other factors such as street width, traffic speed, parking activity, and bicycle volume affect the comfort and safety of cycling. However, low vehicle volumes reduce the impact of the noted factors. Therefore, **a preferred maximum volume of 500 vehicles per day (total for both directions) represents a reasonable proxy for determining whether a route segment can be considered AAA.** This typically translates to approximately 50 vehicles in the peak hour, or less than one motor vehicle passing per minute. Because we would like to encourage cycling throughout the entire day, the daily volume target is preferred to the peak hour volume target, which relates more to commuting traffic. That said, a street with low daily traffic that experiences substantial peaking (such as a residential street with a school) may warrant further consideration.

In Vancouver, most local street blocks are approximately 100 or 200 m in length. At an average cycling speed of 15 km/h (reasonable for most people), a person requires 24 s to traverse a 100-m block and 48 s for a 200-m block. A traffic volume of 50 veh/h means that a vehicle will pass through the block every 72 s, on average, and the likelihood of a cyclist encountering a motor vehicle is relatively low (likely one encounter or less per long block). Above this volume, the frequency of encounters will increase (likely above one encounter per block) and the relative comfort for people of all ages and abilities will decline, especially on narrower and/or heavily parked streets.

Where traffic volumes exceed 500 vehicles per day, consideration should be given to additional traffic calming to bring volumes down to or below the preferred value. However, subject to engineering judgement, volumes of up to 1000 vehicles per day or 100 vehicles in the peak hour may be considered suitable for all ages and abilities, as long as vehicle speed is below the AAA threshold, there is low parking turn over, and there is sufficient road width for passing without cyclists entering the door zone (described in the sections below).

Where traffic volumes exceed approximately 2000 vehicles per day after potential traffic calming measures are installed, separation must be considered as these streets are likely important routes for both motor vehicles and cycling.

### **Vehicular Speeds:**

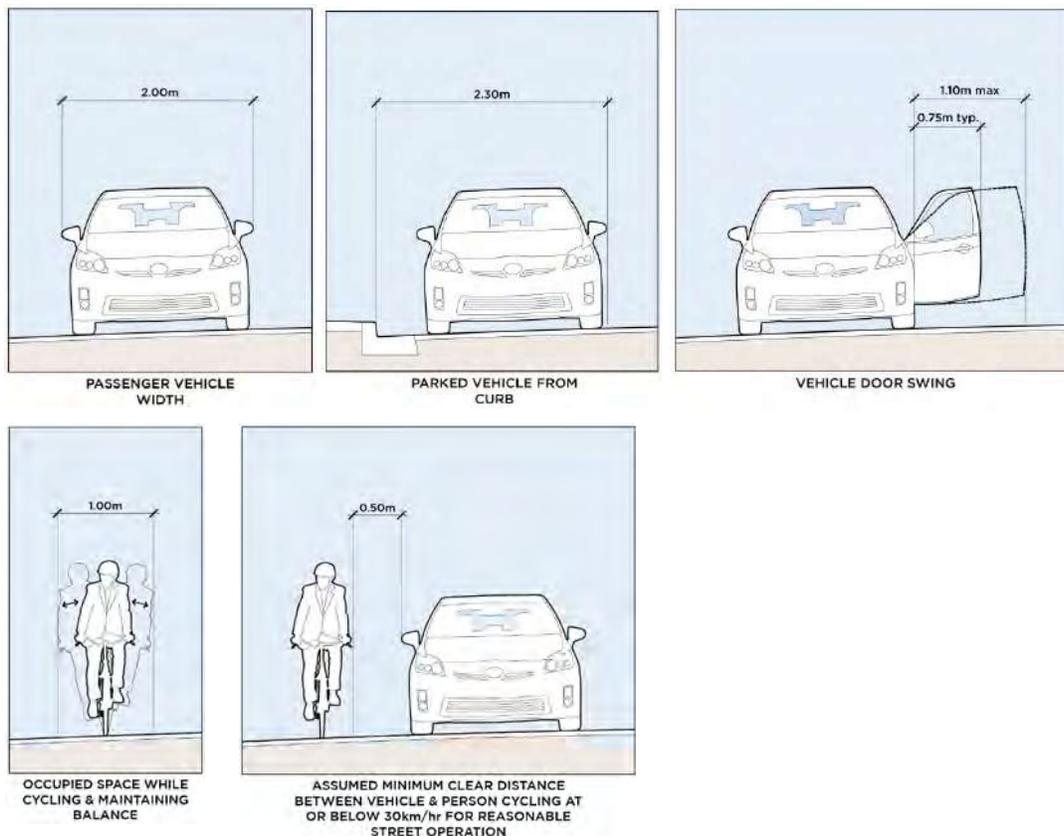
Slower vehicle speeds create a safer and more comfortable environment for cycling. Driving slowly reduces the chance of a collision by making it easier for drivers to see people cycling and by shortening the distance needed to stop. Slow speeds also reduce severity and fatality risk in the event of a collision. The posted speed limit on local street bikeways is typically 30 km/hr. Traffic calming measures, landscaping and other features should be integrated into local bikeway designs to encourage compliance with the posted speed. **For a route to be considered AAA, the observed median speed for motor vehicles should be less than 30 km/hr and the 95<sup>th</sup> percentile of motor vehicle speeds should be less than 40 km/hr.** For speeds above this threshold that cannot be addressed through traffic calming, physical separation of bicycles from motor vehicles is preferred.

## Street Width for Cycling in Mixed Traffic:

Street width (curb-to-curb) and the associated factors of parking and car door zone(s) can also have a substantial effect on comfort for cycling in mixed traffic. For this analysis, the following dimensions (shown graphically in Figure 1) are assumed, although further field research would be required to improve the statistical validity of the values.

- Passenger vehicle width<sup>1</sup> 2.0 m
- Parked vehicle width<sup>2</sup> 2.3 m (distance from curb to left side (driver side) of car)
- Door Swing width<sup>3</sup>
  - 0.75 m Typical (side of car to edge of door open to first detent)
  - 1.1m Maximum (side of car to edge of door fully open)
- Occupied Space while riding a bicycle<sup>4</sup> 1.0 m

Figure 1: Assumed Dimensional Elements



It is assumed that people driving and people cycling will position themselves so that the clearance between each other and the distance between them and parked vehicles will generally be equally distributed. It is also assumed that 0.5m is the minimum clear distance between vehicles or bikes moving below 30km/hr to allow for a reasonably comfortable operation of the street.

<sup>1</sup> Based upon autotrader.com width of 2014 passenger vehicles (Pick-up truck or large SUV)

<sup>2</sup> Based upon City of Vancouver research on parking behaviour

<sup>3</sup> Based upon City of Vancouver research on typical vehicle door opening width

<sup>4</sup> Based upon Transportation Association of Canada and Velo Quebec's space occupied by a cyclist

For illustrative purposes only, an 'ideal' AAA route in mixed traffic would provide sufficient width for two directions of bike travel to be unimpeded by parked cars and the associated maximum door zone(s), and for one motor vehicle to pass people riding in both directions. The following diagram illustrates the above dimensional elements for an 'ideal' local street.

Figure 2: Illustration of an 'Ideal' AAA Local Street



This hypothetical local street would require a curb-to-curb width of 13 m where parking is permitted on both sides to incorporate exclusive space for all users. This local street width is non-existent in Vancouver and such a wide roadway would in fact lead to higher vehicle operating speeds, especially with light bicycle traffic. Most local streets in Vancouver are in the range of 7.0-11.0 m wide.

Since a 13-m curb-to-curb width for local streets is non-existent and would lead to higher vehicle speeds, the preferred AAA curb-to-curb width should be investigated from a number of perspectives. At a minimum, a AAA route should strive to accommodate the following characteristics:

- Comfortable bi-directional cycling outside of a typical door zone
- Comfortable for a cyclist in one direction to pass an oncoming motor vehicle in the opposite direction outside of a typical door zone
- A street width that is not so wide as to encourage excess motor vehicle speeds
- Some degree of comfortable conversational cycling

Using the desired characteristics, a multiple account analysis was conducted to see what curb-to-curb width would be most suitable for a AAA route. The analysis is shown in Table 1 and assumes high parking utilization on both sides of the street.

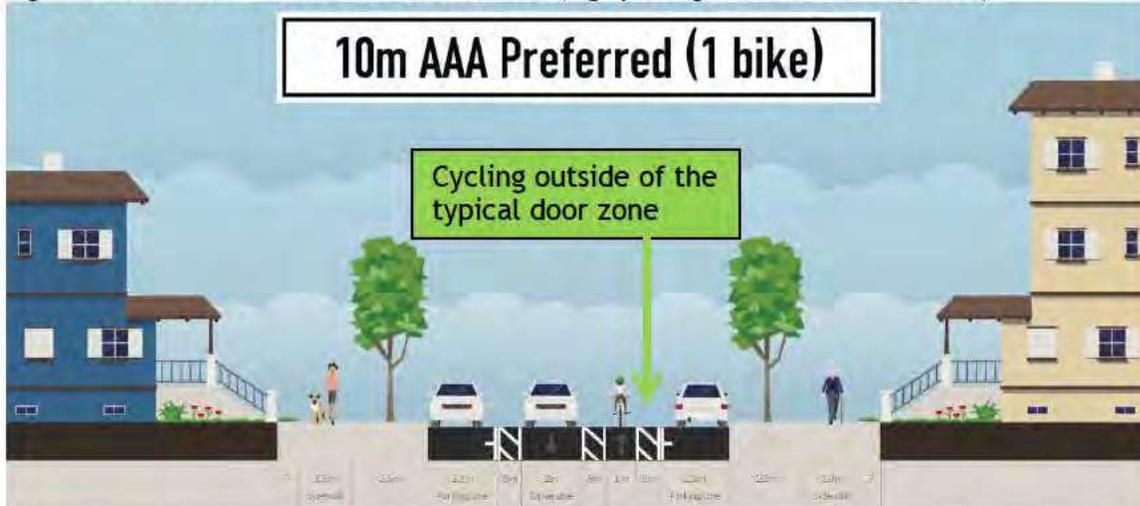
Table 1: Multiple Account Analysis of Desired AAA Route Characteristics with Parking on Both Sides

Curb to Curb Width	8.5m	9m	9.5m	10m	10.5m	11m
Bidirectional cycling (single file in each direction)						
Conversational cyclists (2 bikes) passing an oncoming bike						
Single bike passing an oncoming vehicle						
Conversational cyclists (2 bikes) passing an oncoming vehicle						
Street width potential to control vehicle speed						
<b>Overall Comments</b>	<b>NON AAA</b> Insufficient space for passing. Cannot be considered AAA where parking utilization is higher than 40%	<b>4) AAA Minimum</b> Marginal passing. Only use if low volumes and some gaps in parking	<b>3) AAA Potential</b> Constrained passing. Adequate where there are some gaps in parking	<b>1) AAA Preferred</b>	<b>2) AAA Potential</b> Wider street may encourage higher vehicle speed. Preferred where there is high cycling volume and high parking demand.	

- Comfortable passing outside maximum door zone or Provides significant traffic calming benefit
- Comfortable passing outside typical door zone or Provides some traffic calming benefit
- Comfortable passing partially within door zone or Provides little traffic calming benefit
- Minimal space required for passing or Provides minimal traffic calming benefit
- Not comfortable to pass or Provides no traffic calming benefit

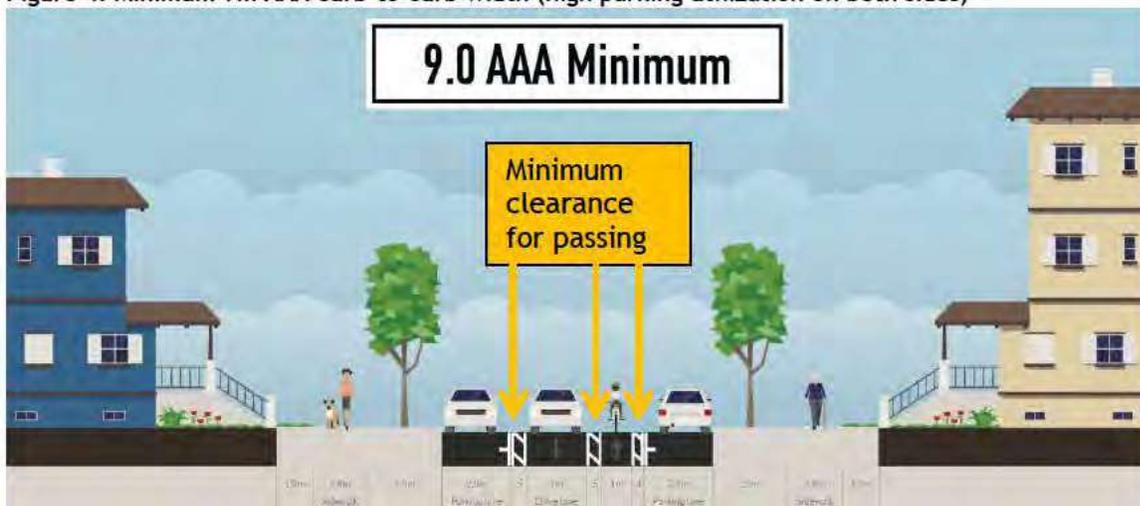
Based on the above analysis the preferred curb-to-curb width for a AAA route is about 10 m with parking on both sides. An example of this street cross-section with parking on both sides of the street is shown in figure 3.

Figure 3: Preferred 10m AAA curb-to-curb width (high parking utilization on both sides)



In constrained environments, engineering judgement may deem a narrower cross-section suitable for AAA. For example, the occasional cycling partially within the door zone to pass an oncoming vehicle may be considered acceptable and reasonable as AAA if traffic volume and parking turnover is very low. Therefore, the minimum AAA curb-to-curb width can be 9m with parking on both sides. An example of the minimum AAA street cross-section with parking on both sides of the street is shown in the following figure.

Figure 4: Minimum 9m AAA curb-to-curb width (high parking utilization on both sides)



As shown in Table 2, where parking is permitted on only one side of a street, 8 m is the preferred AAA curb-to-curb width.

Table 2: Analysis of Desired AAA Route Characteristics with Parking on One Side

Curb to Curb Width	6.5m	7.0m	7.5m	8m	8.5m	9.0m
Comments	<b>NON AAA</b> Insufficient space for passing	<b>4) AAA Minimum</b> Marginal passing. Only use if low volumes and some gaps in parking	<b>3) AAA Potential</b> Constrained passing. Adequate where there are some gaps in parking	<b>1) AAA Preferred</b>	<b>2) AAA Potential</b> Wider street may encourage higher vehicle speed. Preferred where there is high cycling volume and high parking demand.	

Where the curb-to-curb width falls below the recommended values in Tables 1 and 2, consideration may be given to:

- Prohibiting parking on one side of the street (or both sides for very narrow streets),
- Widening the roadway by either moving the entire curb or creating parking pockets around street trees,
- Using the boulevard space to create an off-street bike path, or
- In rare circumstances, relocating the bikeway to another street<sup>5</sup>

A qualitative check of the proposed AAA curb-to-curb widths was done by riding local street bikeways of various widths. Several bikeways are shown and described in the pictures below. Riding along highly parked streets narrower than 9m was found to be uncomfortable for passing an oncoming motor vehicle. At about a 9.5m - 10m curb-to-curb width it is relatively comfortable to pass an oncoming vehicle. The 9.5m - 10m width also allowed for conversational cycling while passing an oncoming bicycle. Wider streets, especially those with curb-to-curb width greater than 10m, felt visually quite open and may encourage higher motor vehicle speeds than desired. The open feeling was especially apparent on wider roadways that were not fully parked. These wider roadways (often adjacent to schools and parks) also tend to have more speed humps to calm traffic.

<sup>5</sup> Relocating a bikeway to another street is a last resort and may only be considered where there is little or no impact on the directness of the overall route. Route relocation must not be more than one block from the desired line of travel.

The examples in Figures 5 and 6 show narrow streets combined with high parking demand on both sides. They are **NOT recommended for AAA cycling** because there is little room to comfortably pass an oncoming vehicle.

**Figure 5: 10<sup>th</sup> Ave near Fraser, 8.2m (27ft) curb to curb.** This is an example of a narrow bikeway with high parking utilization. At this width it is not considered comfortable for a cyclist passing an oncoming motor vehicle.



Photo: Google Street View

**Figure 6: 10<sup>th</sup> Ave near Cypress, 8.2m (27ft) curb to curb.** This is another example of a narrow bikeway with high parking utilization during school pick up time. The picture shows the limited space for a cyclist passing an oncoming vehicle.



Photo: Google Street View

Figures 7 and 8 show streets that **may be suitable for AAA cycling in certain circumstances.** In Figure 7, the street is narrow but parking utilization is below 40%, which allows for comfortable passing along the majority of the route. Figure 8 shows the minimum width that can be considered AAA as long as traffic volumes are very low.

**Figure 7: Ontario St near 27<sup>th</sup>, 8.2m (27ft) curb to curb.** In this example, there is low to moderate parking utilization on a narrow bikeway. This creates numerous pockets where a cyclist can comfortably pass an oncoming vehicle. For these situations, engineering judgement on a case by case basis can be used to determine suitability as AAA.



Photo: Google Street View

**Figure 8: 7<sup>th</sup> Ave near Fir, 9.1m (30ft) curb to curb.** At a 9m roadway width it is marginally comfortable for a cyclist to pass an oncoming motor vehicle. It also allows for some conversational cycling. This example corresponds to the proposed minimum AAA width assuming vehicle volumes are below the preferred threshold.



Photo: Google Street View

Figures 9 and 10 are examples of streets with high parking on both sides but which have the preferred AAA curb to curb width.

**Figure 9: Union Street near Princess, 9.7m (32ft) curb to curb.** This example is near the AAA preferred roadway width. At this width passing of motor vehicles becomes more comfortable and it is easy for conversational cycling.



Photo: Google Street View

**Figure 10: 7<sup>th</sup> Ave near Oak, 10m (33ft) curb to curb.** This is an example of the AAA preferred roadway width. The 10m width allows for comfortable passing of oncoming vehicles and conversational cycling.



Photo: Google Street View

**Curb-to-curb widths wider than 10m may be beneficial in situations where there is high parking demand and high cycling volume.** However, where there is lower parking demand (shown below) and low cycling volume, a wider street is not preferred as it may encourage higher motor vehicle speeds. Additional traffic calming measures may be needed in these situations.

**Figure 11: Adanac St near Slocan, 10.5m (34ft) curb to curb.** This example has favorable geometry for passing or conversational cycling. However, the wide roadway combined with moderate parking tends to make the roadway feel more open and may encourage higher vehicle speeds. It is noted there are three speed humps on this block.



Photo: Google Street View

**Figure 12: Adanac St near Kamloops, 11m (36ft) curb to curb.** This example also has favorable geometry for passing or conversational cycling. The wide roadway combined with moderate parking tends to make the roadway feel more open and may encourage higher vehicle speeds.



Photo: Google Street View

## Bike Lane Width for Protected Bike Lanes and Off-Street Pathways:

For AAA consideration, any bicycle facility on a collector or arterial street should be physically separated from motor vehicle traffic because traffic volumes will almost certainly be above those considered reasonable for AAA cycling in mixed traffic (see previous section). The type of separation is subject to a range of considerations.

The recommended bike lane width is based upon the dynamic envelope of a cyclist, as illustrated in Figure 13 per Transportation Association of Canada (TAC) and Vélo Québec guidelines.

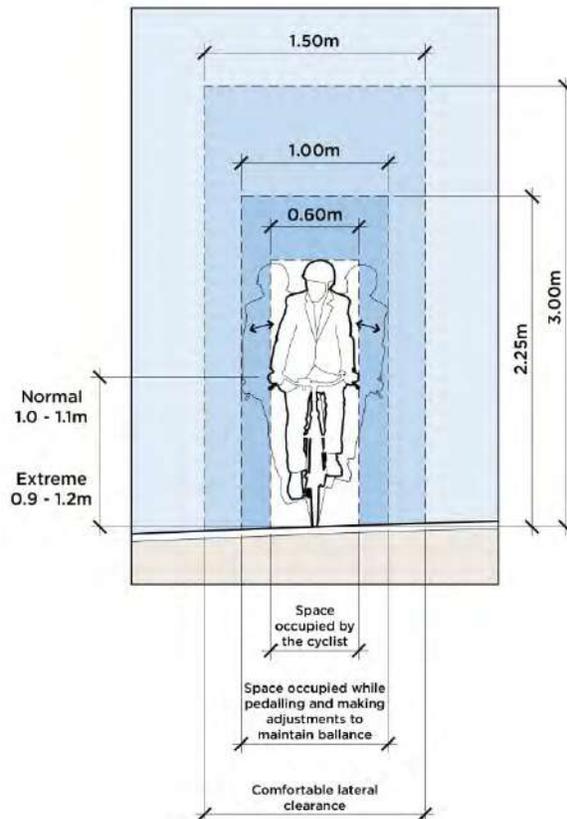
For ideal comfort and usability, protected bike lanes and pathways should be wide enough for someone cycling to pass slower people on bikes, allow some degree of conversational cycling, and accommodate other modes of wheeled active transportation (skateboarders, cargo bikes, etc.). For unidirectional travel, a 2.0-m bike lane may allow for occasional passing as it could physically fit two standard bicycles. However, 2.5 m is necessary for more comfortable passing or conversational cycling as it provides some lateral clearance. For bi-directional travel the clear width of a bike lane should accommodate the full comfortable lateral clearance needed for two cyclists (i.e. 3.0 m).

Therefore, the preferred minimum clear width for AAA protected bike lanes is 2.5 m for unidirectional bicycle traffic and at least 3.0 m for bi-directional bicycle traffic. A width of at least 2.5 m also allows City sweeping equipment to access the bike lane for street cleaning. It must be recognized that clear width is in addition to any required shy distances from vertical obstructions.

Edge conditions must also be taken into account as they affect usable width. For example a wider buffer space may be needed from fast moving traffic or opening vehicle doors and barrier curbs tend to narrow usable width as people will shy away. Conversely, adjacent and level hard surfaces can add to usable width.

The recommended AAA bike lane widths are generally consistent with European design guidance shown in Table 3. The European guidelines also provide a cycling volume threshold where wider pathways are recommended. Where peak bicycle volumes are expected to be more than 750 per hour (7500 per day), pathway widths wider than the AAA preferred minimums need to be considered. It should be noted that Burrard Bridge and Seaside Greenway are both approaching these usage levels in summer months.

Figure 13: Dynamic Envelope of a Person Cycling



**Table 3: Recommended Bike Lane Widths in European Design Manuals**

Design Manual	Unidirectional		Bidirectional	
	Desirable Width	Minimum Width	Desirable Width	Minimum Width
Centre for Research and Contract Standardization in Civil and Traffic Engineering [CROW] (2007) Design manual for bicycle traffic, p. 173	2.0 m (0-150 cyclists/pk hr) 3.0 m (150-750 cyclists/pk hr) 4.0 m (>750 cyclists/pk hr)	2.0 m (0-150 cyclists/pk hr) 2.5 m (150-750 cyclists/pk hr) 3.5 m (>750 cyclists/pk hr)	2.5 m (0 - 50 cyclists / pk hr) 2.5 - 3.0 m (50-150 cyclists/pk hr) 3.5 - 4.0 m (>150 cyclists/pk hr)	
Transport for London [TfL] (2014) London Cycling Design Standards Draft, p. 109	1.5 m (0-200 cyclists/pk hr) 2.2 m (200-800 cyclist/pk hr) 2.5 m (>800 cyclists/pk hr)		2.0 m (0-200 cyclists/pk hr) 3.0 m (200-800 cyclists/pk hr) 4.0 m (>800 cyclists/pk hr)	3.0 m desired minimum (2.0 m absolute minimum)
Danish Road Directorate (2012) Collection of Cycle Concepts, p. 82	2.2 m  3.0 m in high-demand corridors	1.7 m (2 m "in practice")  2.8 m in high-demand corridors		3.0 m (2.5 m if adjacent to sidewalk that cyclists can enter to pass or avoid obstacles)

In general, bicycle lanes wider than the preferred minimum are desirable for capacity, future growth, comfort, easier conversational cycling, and occasional emergency vehicle use.

It is also recognized that, for a number of reasons, narrower bike lanes (below 2.5m unidirectional or 3.0m bidirectional) may be necessary and acceptable in constrained environments, or over short distances to make a AAA project achievable. One example where a narrower bike lane may be used is if the volume of people cycling is low and if there is an adjacent sidewalk at the same elevation that can be used for occasional passing. Another example is behind bus stop islands where passing may not be desired. However, in all cases, the bike lane should still meet the TAC minimum recommended width of 1.5m unidirectional or 2.5m bidirectional.

### Multi-Use Walking & Cycling Pathways:

Vancouver has some multi-use pathways as part of its current bicycle route network. According to UBC research, multi-use pathways are perceived to be comfortable for most cyclists and can help to encourage travel by bicycle. However, recent cycling safety research indicates that multi-use pathways tend to have higher collision risks than bike-only pathways<sup>6</sup>. Also there has been feedback from people walking that it can be uncomfortable sharing a path with faster people on bikes. Therefore, in most urban areas where there are high numbers of people riding bikes and walking, separate pathways are recommended.

<sup>6</sup> Winters et al, "Safe Cycling: How Do Risk Perceptions Compare with Observed Risk", Canadian Journal of Public Health, Nov 2012 P42-27

Multi-use pathways and shared spaces may be considered AAA, but as a rule of thumb **future designs should separate pedestrians from cyclists and other wheeled users whenever possible**. Depending on the context, physical separation (curb or boulevard), a painted line or a different material type (typically asphalt for cycling and concrete for walking), or a combination of the above may be used. Acknowledging that it is challenging to prevent people from walking on bike-only pathways and vice versa, designs should be intuitive to help distinguish cycling space from walking space. In pedestrian priority areas or streets, additional design treatments should be considered to encourage slow and respectful cycling.

### **Lighting:**

During periods of darkness or low light, consistent and reliable street/path lighting is critical for achieving safe and comfortable cycling, especially for the young, elderly, and people who are new to cycling. Although further research is required to determine minimum desirable lighting levels, **street and pathway lighting should be provided along an entire route for it to be considered AAA for utilitarian cycling**. Sufficient lighting is especially important at intersections. This applies to all types of routes: off-street pathways, protected bike lanes, and local street bikeways.

In the meantime, general guidelines for street lighting and a subjective review of lighting levels during periods of darkness should be used as the initial basis for determining AAA status.

Some recreational routes without lighting may be considered AAA during daylight hours. However, consideration should be given to informing users (on signage, the web, and/or maps) of the lack of lighting after dusk. This may apply, for example, to the Stanley Park Seawall and some other portions of the Seaside Greenway. However, it would be desirable to provide lighting on portions of the Seaside Greenway that are used for transportation cycling (in contrast to being more oriented to recreational cycling).

### **Grades:**

People cycling provide the energy required to propel themselves. Therefore, steep grades can be very challenging, particularly for young and older riders, people who are new to cycling, and some people with disabilities.

Comprehensive research on grades and cycling comfort was published in the 2009 Austroads Design Guide<sup>7</sup>. As illustrated in Figure 14, the distance people are comfortable riding becomes substantively shorter the steeper the grade. The Austroads guide suggests that grades be kept below 3% and up to a maximum of 5% with flat resting areas at regular intervals where this is not feasible.

The Vélo Québec Design Guide<sup>8</sup> has an analysis of climbing speed in relation to a person's weight and power output. It concludes that most people can maintain a speed of 10 km/hr needed for balance on a grade of 4% or less. For grades between 4% and 8%, the effort required is greater and people have to waver to maintain balance on a bike. Above an 8% grade, speed drops to a point where many people have a hard time keeping their balance and

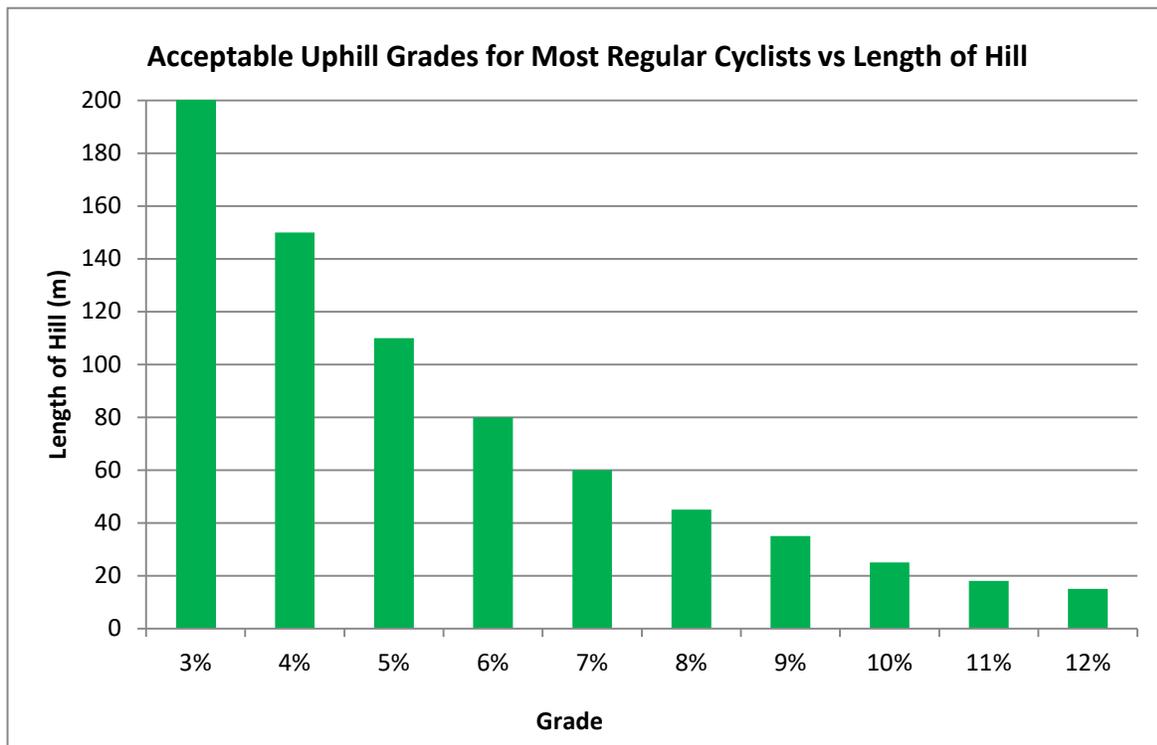
<sup>7</sup> Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths (2009)

<sup>8</sup> Velo Quebec, Planning and Design for Pedestrians and Cyclists, Climbing Capability of Cyclists P.15 (2010)

have to dismount. Therefore grades above 8% should be avoided. For hand cyclists, grades above 5% are prohibitive for all but the fittest athletes.

Steep grades may also create safety issues for downhill cycling. The Vélo Québec guide states that on a 6% downhill, people on bikes can reach a coasting speed of 40km/hr and 60km/hr on an 8% grade. It suggests providing extra width and smoother curves on steep grades. UBC’s Cycling in Cities research indicates that there are increased risks for injury along downhill routes. Therefore, additional safety measures should be considered for people cycling downhill.

**Figure 14: Grades and length of hill that would be satisfactory for a large proportion of people. The steeper the grade the less distance people are comfortable riding and many people do not feel comfortable riding long distances on grades higher than 3%**



Source: Adapted from Figure 7.1 in the 2009 Aust Roads Design guide, which is based on a 1996 review of the ease of uphill travel by Andrew O’Brian and Associates.

Based on the above guidance, and to accommodate the broadest range of cycling abilities, it is preferred to keep grades as flat as possible. **Grades of 3% or lower are preferred for AAA cycling.**

However, Vancouver is a hilly city and the desired grades, for the length shown in *Figure 14*, cannot always be achieved when a bike route follows the city’s topography. Steeper grades may be unavoidable but should be limited to a reasonable distance. Thus taking into account the city’s topography, grades of between 5% and 7% may be considered AAA for several blocks (distances up to 500m) recognizing that some people may have to weave or walk their bikes uphill. Grades of 7% to 8% are about the maximum that can be considered AAA as long as the steep portion of the hill is less than 1 block (~150m). Above this grade, a large proportion of

people are unable to ride uphill for any significant distance and people cycling downhill can achieve very high speeds, increasing risk of crashes. Therefore grades above 8% should be limited to 30m or less consistent with *Figure 14*.

To the greatest extent possible, for both cycling and wheelchair accessibility, new infrastructure such as overpasses, bridges, and ramps should be designed with grades of 3% or less. If this is not achievable without significant cost or impacts then grades should be kept to a maximum of 5% with level landings every 100m. In all cases, where grades are above 5% the designer should consider<sup>9</sup>:

- reducing the grade closer to 5% or less by cutting into a hillside, filling a dip or lengthening a ramp.
- providing intermediate flat sections or minimally sloped sections (under 3%) at regular intervals for people to catch their breath on an uphill or recover control of their bikes on a downhill.
- adding width to account for uphill weaving or walking of bikes and higher downhill speeds.
- adding a flat waiting area at the top of a slope to enable resting and a place for faster members of a group to wait for slower members.
- avoiding sharp corners and obstacles at the bottom of a slope, which are hard to negotiate for a person moving quickly. A sharp corner at the base of a slope also reduces the chance for a person riding up a hill to build up momentum.
- keeping sight lines clear so people can avoid obstacles and conflicts in the downhill direction.
- signing a shallower alternate route for steeper hills whenever possible.
- marking steeper hills on bicycle route maps so people can make more informed route choices.

### Surface Treatments and Transitions:

Rough surfaces tend to increase jarring, are less comfortable, and may contribute to falls, especially for older adults and people who are new to cycling. **AAA bike routes should provide a smooth paved riding surface with asphalt being the preferred treatment.** Asphalt helps to distinguish cycling space from walking space, which tends to be concrete. However, recognizing the diversity of contexts in the city, saw-cut concrete, textured treatments or finely crushed aggregate may be considered AAA through plazas, parks, and other context-sensitive areas. Also, to highlight pedestrian priority crossings of bike paths, concrete or other materials may be used, noting that measures should be incorporated to minimize the likelihood of differential settlement.

In addition, where there are changes in grade, it is important to design the bike facility to minimize jarring. For example, long ramps and vertical curves should be used where bike lanes transition between road and sidewalk level.

<sup>9</sup> Considerations were adapted from various sources including 2009 Austroads Design Guideline / Bicycle Network webpage [bicyclenetwork.com.au](http://bicyclenetwork.com.au), AASHTO Guide for the Development of Cycling Facilities 1999, and City of Vancouver experience.

## Intersection Crossings:

Designs for intersections with bicycle facilities should reduce the conflict between people cycling and driving by heightening the visibility, denoting a clear right of way and facilitating eye contact and awareness of different modes. The level of intersection treatment required for AAA safety and comfort is context sensitive, depending on many factors.

As part of the design process, a number of features should be considered to enhance visibility and reduce conflict at intersections. Right turn lanes or an area for vehicles to pull out of the traffic stream should be provided where drivers turn across bike lanes to enhance visibility and reduce pressure on drivers to turn. Separate signal phases are recommended where intersections are complex or turn volumes are high (>150/hr across unidirectional lanes). Well marked crossings with coloured treatment and advance stopping areas for people biking can help improve visibility. Also areas to facilitate safe bike turns should be provided.

The following minimum intersection criteria are suggested for AAA routes:

- Crossings of major streets with three or more travel lanes (including turn lanes) require a signalized crossing. Typically a separate bike signal head is recommended. An example of this treatment is shown in Figure 15.
- Crossings of arterials and collector streets with two travel lanes require an enhanced treatment such as a median refuge (wide enough to accommodate a bike and trailer) or a signalized crossing. An example is shown in figure 16.
- For crossings of local or equally classified streets, the preference is for right-of-way priority favouring the AAA cycling facility or, at minimum, an equal right-of-way priority. An example with equal priority is shown in Figure 17.

Figure 15: Intersection of Union St at Main St, which is a six-lane arterial. A bike signal is provided for people cycling across Main Street.



Photo: City of Vancouver

Figure 16: Intersection of Kaslo St at Dundas St, a relatively low volume two-lane arterial. A wide diverter is provided to help people cycling to cross the intersection. This is the minimum crossing treatment of a two-lane arterial that may be considered AAA.



Photo: Google Street View

Figure 17: Intersection of York and Cypress, which are both local street cycling routes. An all-way stop is used to give equal priority at this intersection.



Photo: Google Street View

## Summary:

*Transportation 2040* sets a long-term vision for cycling in Vancouver to be safe, comfortable, convenient and fun for people of all ages and abilities (AAA). This memo explains the basic infrastructure characteristics needed for AAA cycling.

In general, routes that are shared with vehicle traffic must have low vehicular volumes, low traffic speeds, and enough width to allow for comfortable passing. Bicycle routes protected from traffic and off-street paths require a comfortable width and should provide a separate space for people cycling and walking. Other AAA characteristics are adequate lighting, gentle grades, smooth surface treatments and quality crossings at intersections.

It is recognized that every context is unique and that engineering judgement and subjective assessment will be necessary to evaluate the appropriate criteria for determining AAA classification for all of Vancouver's bicycle routes.

A design guideline summary can be found in *Attachment 1* for easy reference. Once approved, the summary is intended to be shared both internally and externally to communicate Vancouver's latest design thinking for AAA cycling. This document will be a 'living' resource that will be updated periodically as we learn more from other leading cities and from our own projects. It is intended to assist staff and Council in developing and designating a comprehensive network of AAA bicycle routes that will make cycling a more viable transportation option to a broader spectrum of the population.

## Attachments:

### 1. Design Guideline Summary: All Ages and Abilities Cycling Routes

# All Ages and Abilities Cycling Routes



Version 1.0  
March, 2017

## Overview:

The City of Vancouver has a vision to make cycling safe, convenient, comfortable and fun for all ages and abilities (AAA), including families with children, seniors, and new riders. An inviting and connected network of low stress "AAA" routes will provide a wide spectrum of the population the option to cycle for most short trips.

This guideline provides 10 "rules of thumb" to consider when designing or designating a route "AAA". It is intended as a living document that will be updated and supplemented periodically as we learn from local projects, research, and other leading cities.



## Rule #1:

**Build the types of cycling facilities that feel comfortable for all**



Many types of traditional bike facilities only appeal to people who are comfortable riding in traffic. However, bikeways on quiet streets, protected bike lanes, and off-street pathways appeal to people who are interested in cycling but concerned for their safety.<sup>2</sup>

The general approaches to creating AAA cycling routes on city streets are:

- Ensuring low motor vehicle speeds and volumes on local streets, or
- Providing physical separation on busy streets

## Rule #2:

**Target motor vehicle volume below 500/day (below 50/peak hour)**

Local Street Bikeway

Reducing the number of interactions between motor vehicles and people cycling can improve safety and comfort. At a volume below 500 vehicles per day, most people cycling will encounter less than one motor vehicle per block in the peak hour.

### Considerations:

- On routes with >500 vehicles/day (>50/hr), consider additional traffic calming or diversion to bring volumes down to the target value.
- Routes with up to 1,000 vehicles/day (100/hr) may be considered AAA after carefully considering speed, parking turnover, and passing opportunities.
- On routes where low motor vehicle volumes are not possible to achieve, separation of bikes from vehicles is needed.



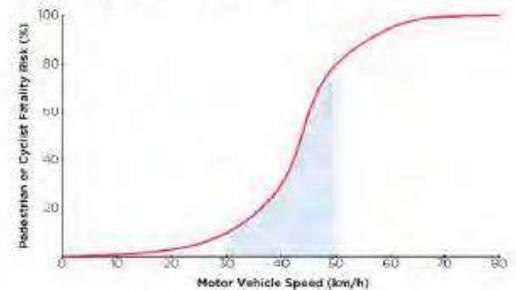
**Rule #3:**

Local Street Bikeway

**Target motor vehicle speed below 30km/hr median (below 40km/h 95th percentile)**

Slower vehicle speeds reduce the likelihood of a collision by making it easier for drivers to see people cycling and by shortening the distance needed to stop. Slower speeds also reduce the severity and fatality risk in the event of a collision. Along local street bikeways, the posted speed limit is 30km/hr. In order for a shared roadway to be safe and comfortable for people cycling it is important that the speed limit is respected.

**Lower Speeds Reduce Risk**



Source: Based on data from VICRoads, Australia. Found in Victorian Auditor-General's Office

**Considerations:**

- Traffic calming measures, landscaping, and other design features should be integrated into bikeways to encourage compliance with the posted speed.
- If vehicle speeds cannot be brought below the AAA threshold, separation of bicycles from motor vehicles is recommended.

**Rule #4:**

Local Street Bikeway

**Consider the interplay between parking and roadway width:**

- 8m (26ft) allows parking on one side
- 10m (33ft) allows parking on both sides

The roadway widths above allow for a person cycling to pass an oncoming car without feeling squeezed or entering a door zone. It also allows two people cycling side by side to comfortably pass an oncoming cyclist. Providing this width is especially important in areas with high parking occupancy and along busy bike routes.

**Considerations:**

- Engineering judgement is needed when considering each context. Wider streets provide more comfortable passing and increased cycling capacity, but may also encourage higher vehicle speeds and other undesired effects.
- Where motor vehicle volumes and parking turnover are very low, a minimum roadway width of 9m (30ft) with parking on both sides, or 7m (23ft) with parking on one side, may be considered AAA.
- Where parking occupancy is typically less than 40%, an 8m (26ft) street with parking on both sides may be considered AAA.



Too narrow for comfortable passing



Allows for comfortable passing



**Rule #5:**

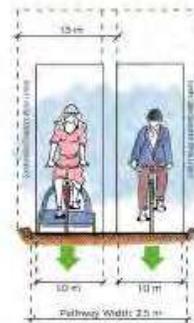
Protected Bike Lane

Off-Street Pathway

**Design bike lane width for comfortable passing:**

- 2.5m (8ft) unidirectional
- 3.0m (10ft) bidirectional

For optimal usability and comfort, protected bike lanes should be wide enough for comfortable passing, allow some degree of conversational cycling, and accommodate all types of wheeled active transportation (skateboards, cargo bikes, etc.). For unidirectional travel, a 2m (6.5ft) bike lane may allow for occasional passing as it can physically fit two standard bicycles. However, 2.5m (8ft) provides some lateral clearance for more comfortable passing and conversational cycling. For comfortable bidirectional travel, the bike lane should be at least 3m (10ft) to accommodate the full comfortable clearance envelope of two cyclists.



**Preferred minimum 2.5m unidirectional path**  
Provides some clearance for passing and conversational cycling



**Preferred minimum 3.0m bidirectional path**  
Provides comfortable clearance for passing oncoming cyclist

**Considerations:**

- Edge conditions must be taken into account when determining appropriate width, as they may add to or subtract from usable width.
- Additional clearance is needed from vertical obstructions such as lamp poles.
- Widths of 4.5m (15ft) bidirectional or 3.0m (10ft) unidirectional are recommended where 2-way bike volumes are expected to be greater than 7500 bikes/day.
- Over short distances or in constrained environments (eg. behind bus stops) narrower lanes may be acceptable taking into account the local context.

**Rule #6:**

Local Street Alleyway

Protected Bike Lane

Off-Street Pathway

**Provide adequate lighting along the entire length of the route**

Reliable and consistent lighting can enhance safety and comfort for people biking, especially in the winter months or during inclement weather. Sufficient lighting is of particular importance at intersections.



**Considerations:**

- Further research is needed to define an "adequate" level of lighting. In the meantime, a subjective review of lighting can be used to determine if a route is AAA.
- Recreational routes without lighting may be considered AAA during daylight hours.
- It is desirable to provide lighting on portions of recreational routes that are used for transportation cycling.



**Rule #7:**

**Create separate spaces for walking and cycling**

Protected Bike Lane

Off-Street Pathway

Shared-use pathways are perceived to be comfortable by many people on bikes and can help to encourage more cycling. However, they tend to have a higher collision risk than bike-only pathways.<sup>3</sup> For people walking, shared pathways can be uncomfortable when there are high numbers of people biking at relatively fast speeds.



Separated space is more comfortable for all

**Considerations:**

- Existing shared-use pathways and public spaces may be considered AAA; however, consideration should be given to separating users in busy areas. New pathways should be designed with separated walking and cycling space.
- The type of separation can vary and could be a landscaped buffer, a beveled curb, or a painted line depending on context.

**Rule #8:**

**Provide smooth and paved travel surfaces**

Local Street

Protected Bike Lane

Off-Street Pathway

Smooth surfaces are especially important for older adults and people who are new to cycling because rough surfaces are more jarring, less comfortable, and may contribute to falls. Research out of the Netherlands shows a preference for asphalt, followed by concrete, over pavers and other textured surfaces.<sup>4</sup>



Rough surfaces are uncomfortable



Smooth surfaces are comfortable

**Considerations:**

- Separate pathways should be intuitive. In general, asphalt is the preferred material for cycling and concrete is the preferred material for walking.
- A variety of surface treatments such as saw-cut concrete, textured treatments, or finely crushed aggregate may be considered AAA through plazas, parks, and other context-sensitive areas.
- Where there are abrupt changes in grade, the bicycle facility should be designed to minimize jarring. For example, long ramps and vertical curves should be used where a bike lane transitions from road to sidewalk level.



**Rule #9:**

**Keep grades below 3% as much as possible**

Local Street  
Bikeway

Protected Bike  
Lane

Off-Street  
Pathway

Steep hills can be very challenging, particularly for young riders, seniors, people who are new to cycling, and some people with disabilities. Most people can maintain a speed of 10 km/hr—a speed that helps to maintain balance—on a grade of 4% or less. Other research suggests a grade of 3% or less is desirable for longer distances. For grades between 4% and 8%, people are more likely to weave to maintain balance on a bike. At grades above 8%, speed drops to a point where many people have a hard time keeping their balance and have to dismount.<sup>5</sup>



Some people have to weave to get up steeper hills

**Considerations:**

- For new bridges and ramps, start with concepts using a 3% grade. If the concepts are not feasible, grades up to 5% may be acceptable.
- Since it is not always possible or practical to avoid a hill, routes with grades up to 5% may be considered AAA and above 5% for short distances:
  - i. Less than 500m, for grades between 5% and 7%
  - ii. Less than 150m (about a block), for grades between 7% and 8%
  - iii. Less than 30m, for grades above 8%.
- For routes with grades of 5% or higher:
  - i. Consider mitigation measures for people riding uphill, such as flat landings at regular intervals (~every 100m) for resting and a wider bike path to accommodate weaving.
  - ii. Consider mitigation measures for people riding downhill, including higher design speeds, improved sightlines, and other safety measures.
  - iii. Sign a shallower alternate route if possible.
  - iv. Identify hills on cycling route maps.



**Rule #10:**

- Local Street Bikeway
- Protected Bike Lane
- Off-Street Pathway

**Design intersections thoughtfully to reduce conflicts, increase visibility and provide clear direction of movement**

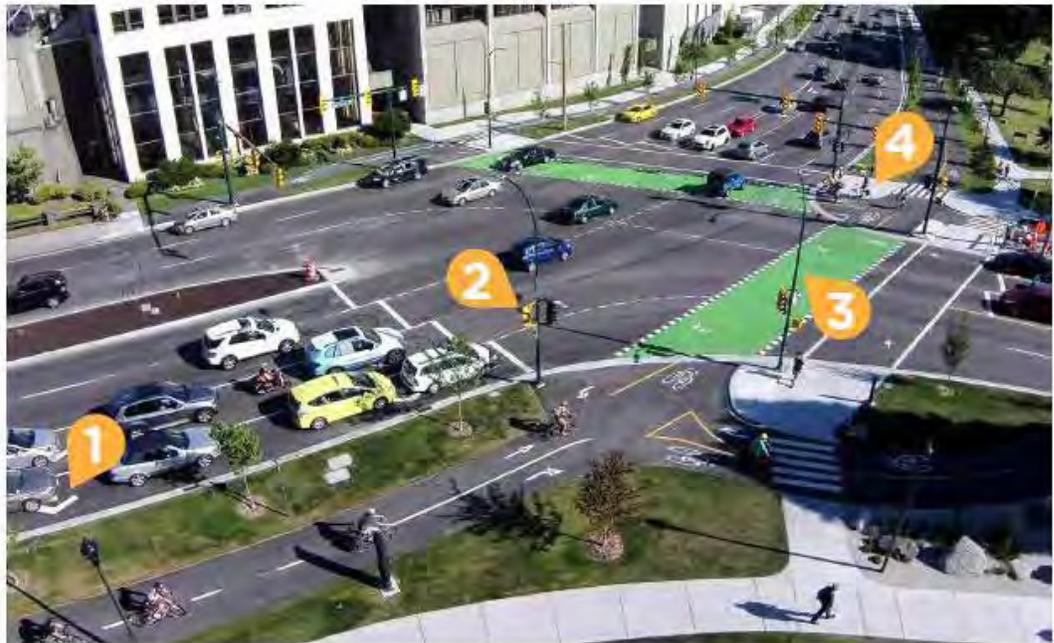
Quality intersection design is essential for the safety and comfort of people regardless of how they travel. Intersection designs should minimize conflicts between people walking, cycling, and driving by heightening visibility, denoting a clear right of way, and facilitating eye contact and awareness of different modes. Intersection design should be intuitive and provide directional messaging when needed. The level of intersection treatment required for AAA safety and comfort is context sensitive, depending on many factors. Some potential features are shown below.

**Features:**

- 1** Right turn lanes, or an area for motor vehicles to pull out of the traffic stream, when turning across bike lanes
- 2** Separate motor vehicle turn and through bike signal phases at complex intersections or where there are high turn volumes (> 500) or across unidirectional lanes
- 3** Green coloured treatment\* and elephant feet at street crossings  
*\*Where bikes have or sometimes have right-of-way over cross traffic*
- 4** Advance stopping areas to increase visibility of people biking and help accommodate bike turns

**Considerations:**

- Crossings at major streets with three or more motor vehicle travel lanes (including turn lanes) require a signal. Typically a separate bike signal head is recommended.
- Crossings at major streets with two travel lanes require an enhanced treatment such as a median refuge or a signal.
- Crossings at local or equally classified streets should favour the right-of-way of the AAA cycling facility if possible.



*\* Phases of traffic are principles with broad application that are not intended to be strictly accurate or overly situation- or context-specific. Understanding of the context and using judgement is important when applying these rules.*

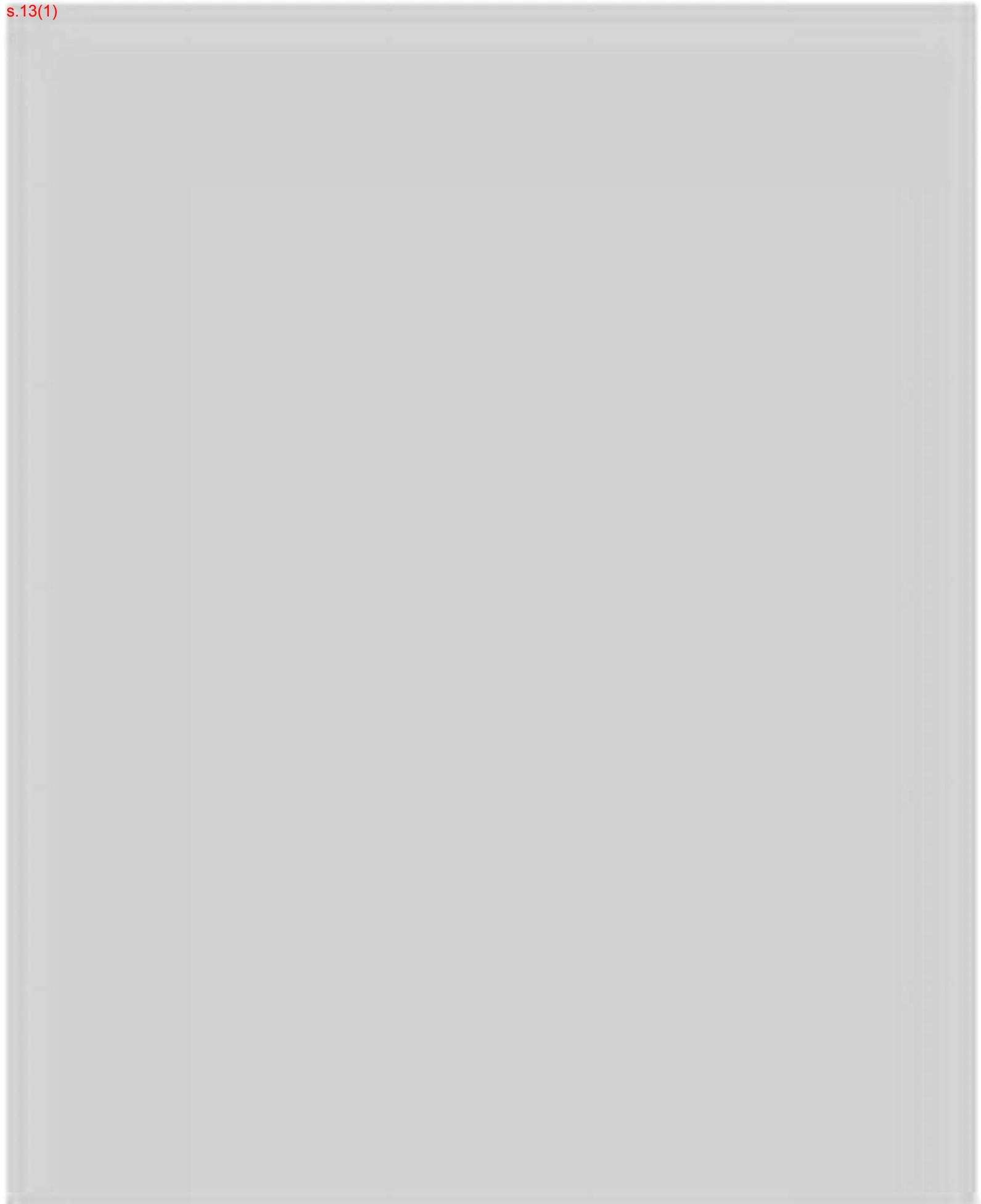
*\* Based on research from multiple sources including the University of British Columbia, Rutgers University, the City of Portland, and Transit 911.*

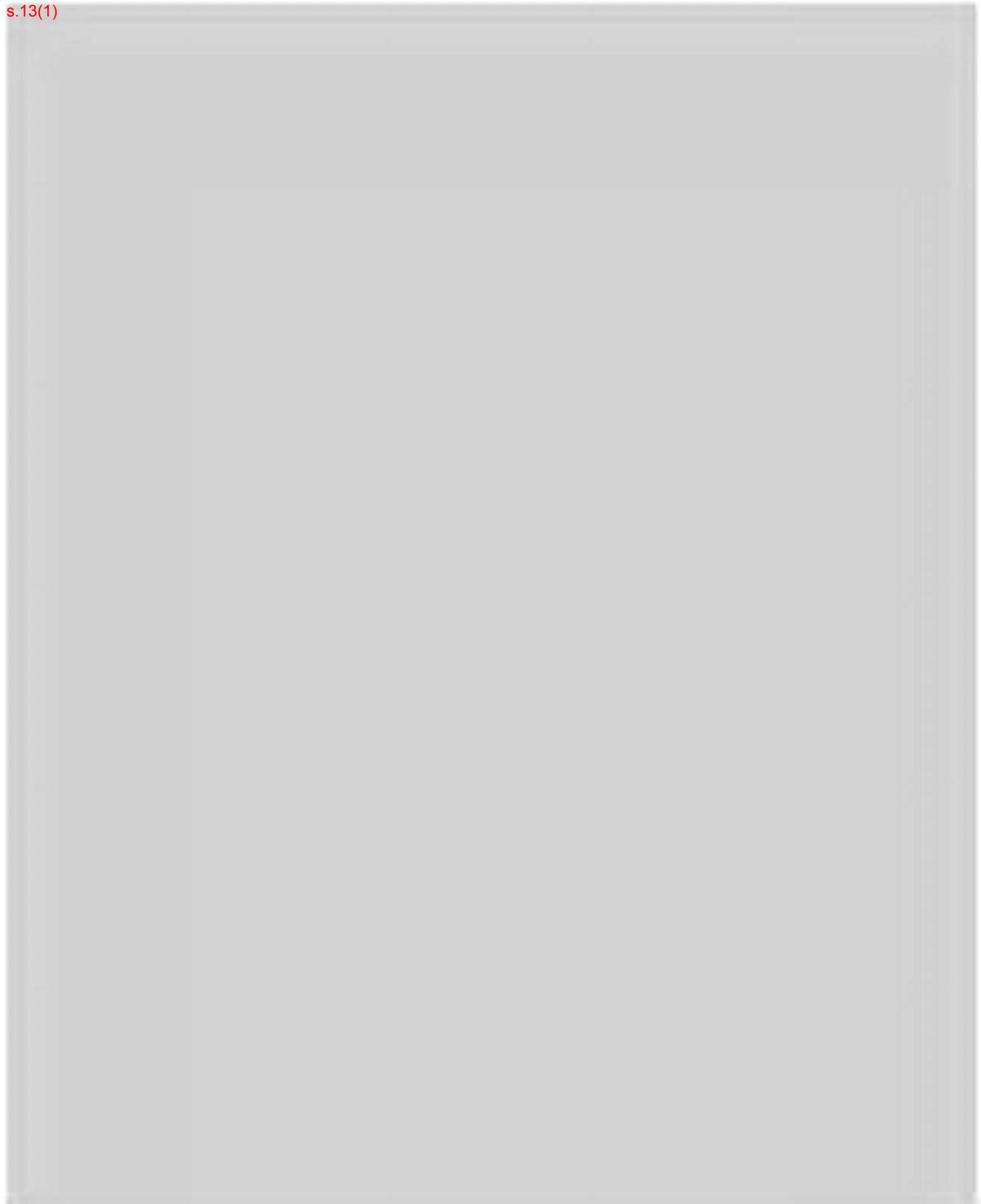
*\* Winters et al. "Safe Cycling: How Do Risk Perceptions Compare With Observed Risk?" Canadian Journal of Public Health, November 2012, 1-12.*

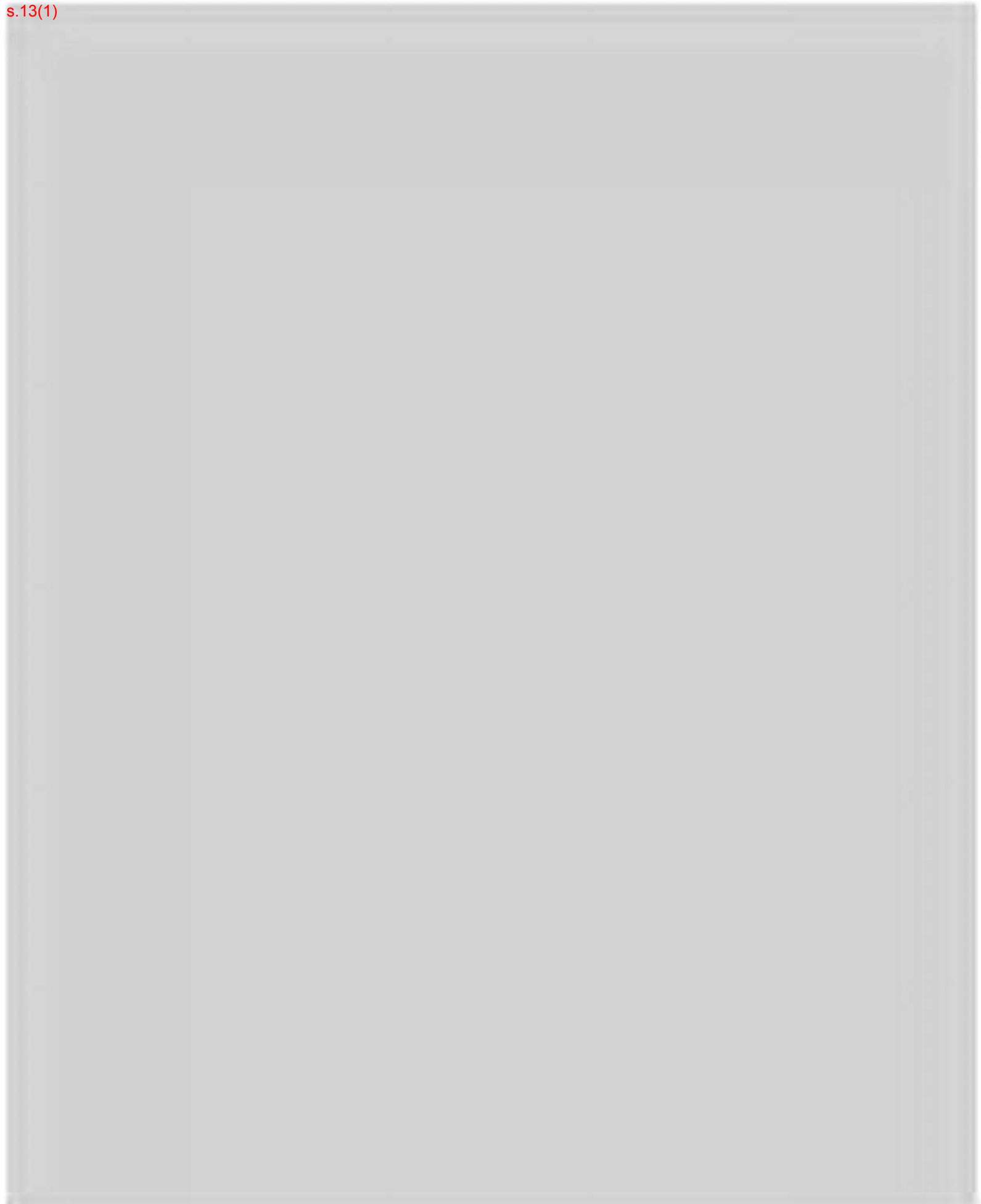
*\* See CDOT Design Manual for Bicycle Traffic (2006) 229-232.*

*\* Based on VeloCité: Planning and Design Guide for Pedestrians and Cyclists (2011) and AustRoads Guide to Road Design (2002).*

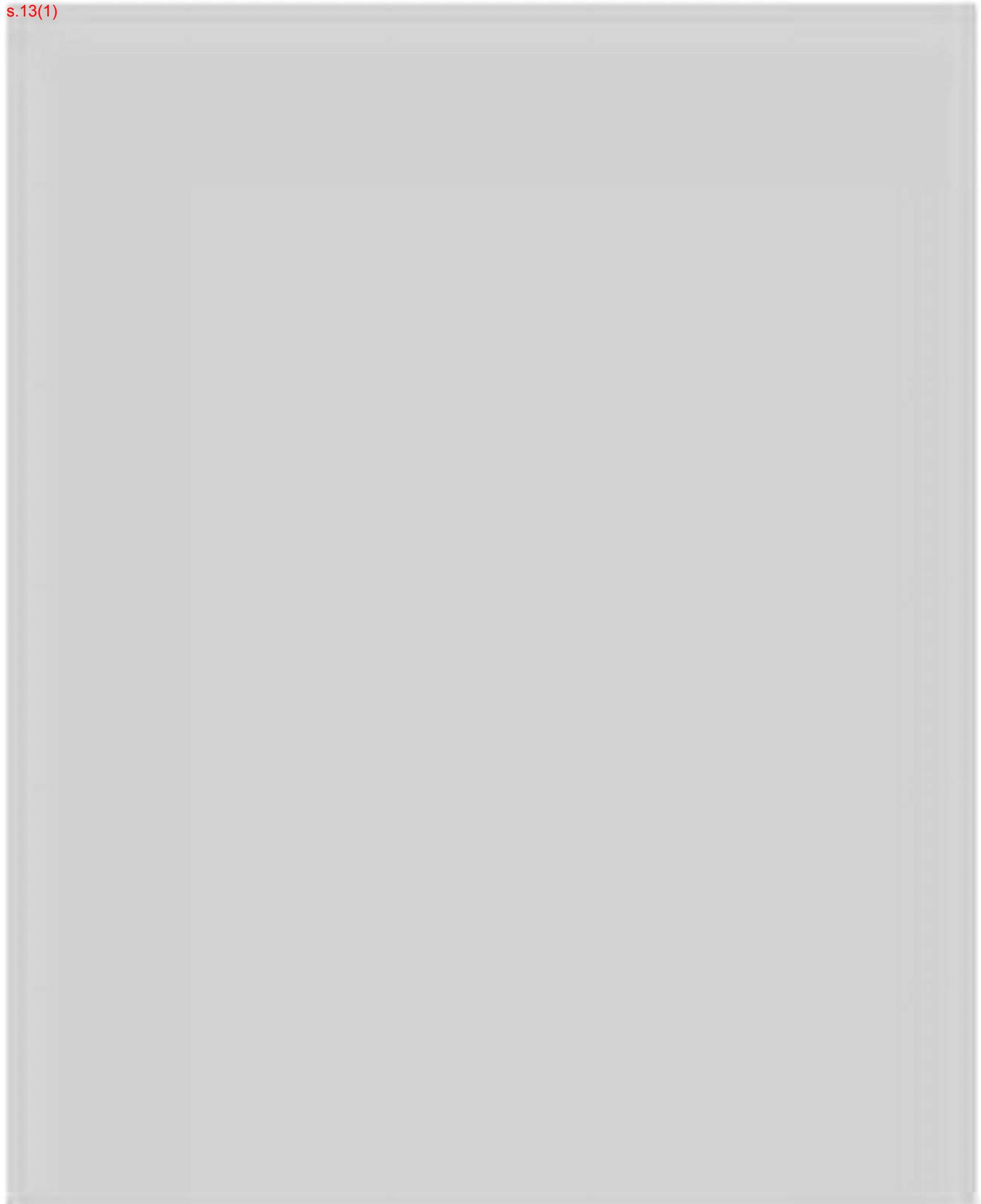
**For more information:**  
Visit [vancouver.ca](http://vancouver.ca) or call 3-1-1  
Outside Vancouver: 604.873.7000

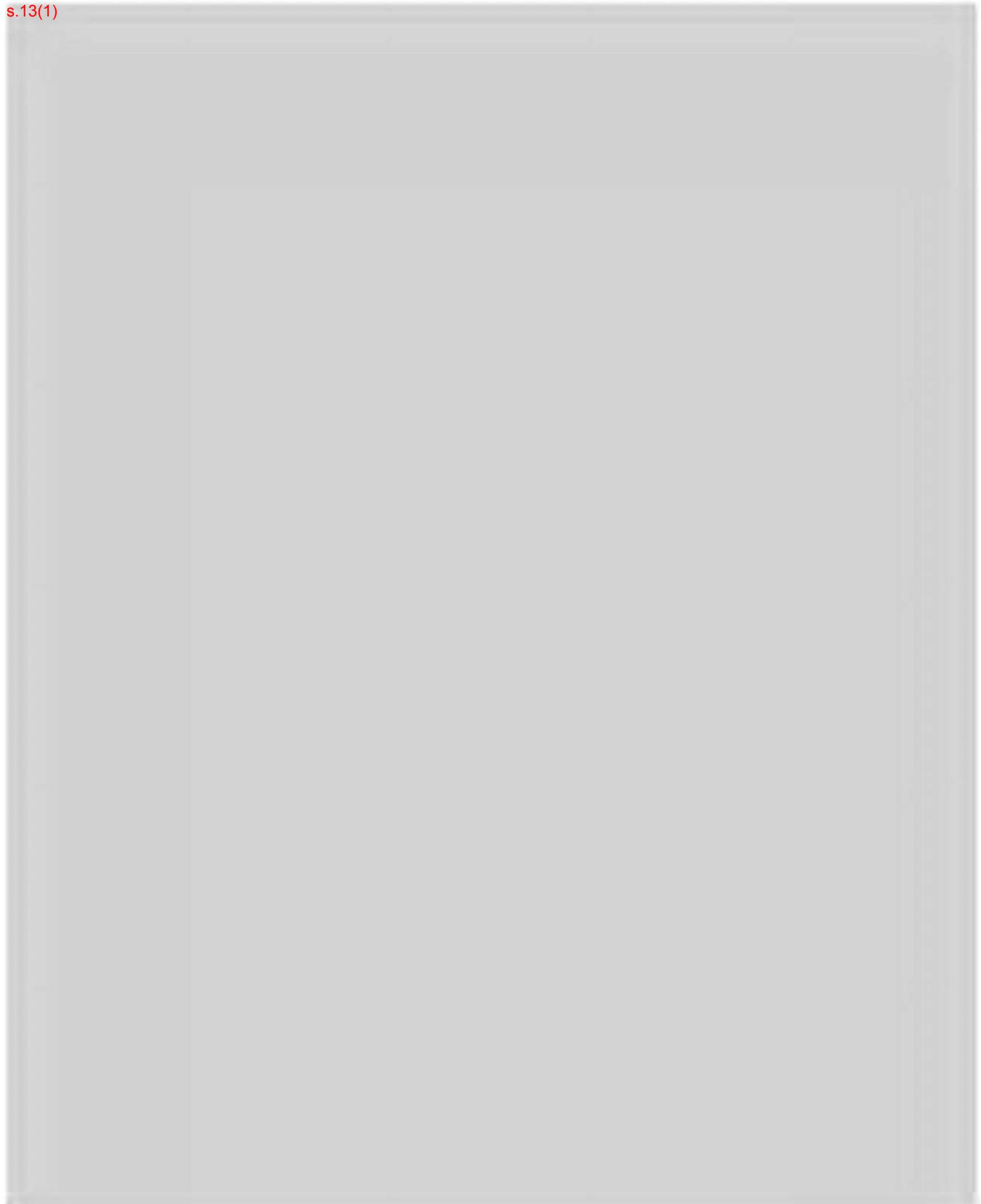


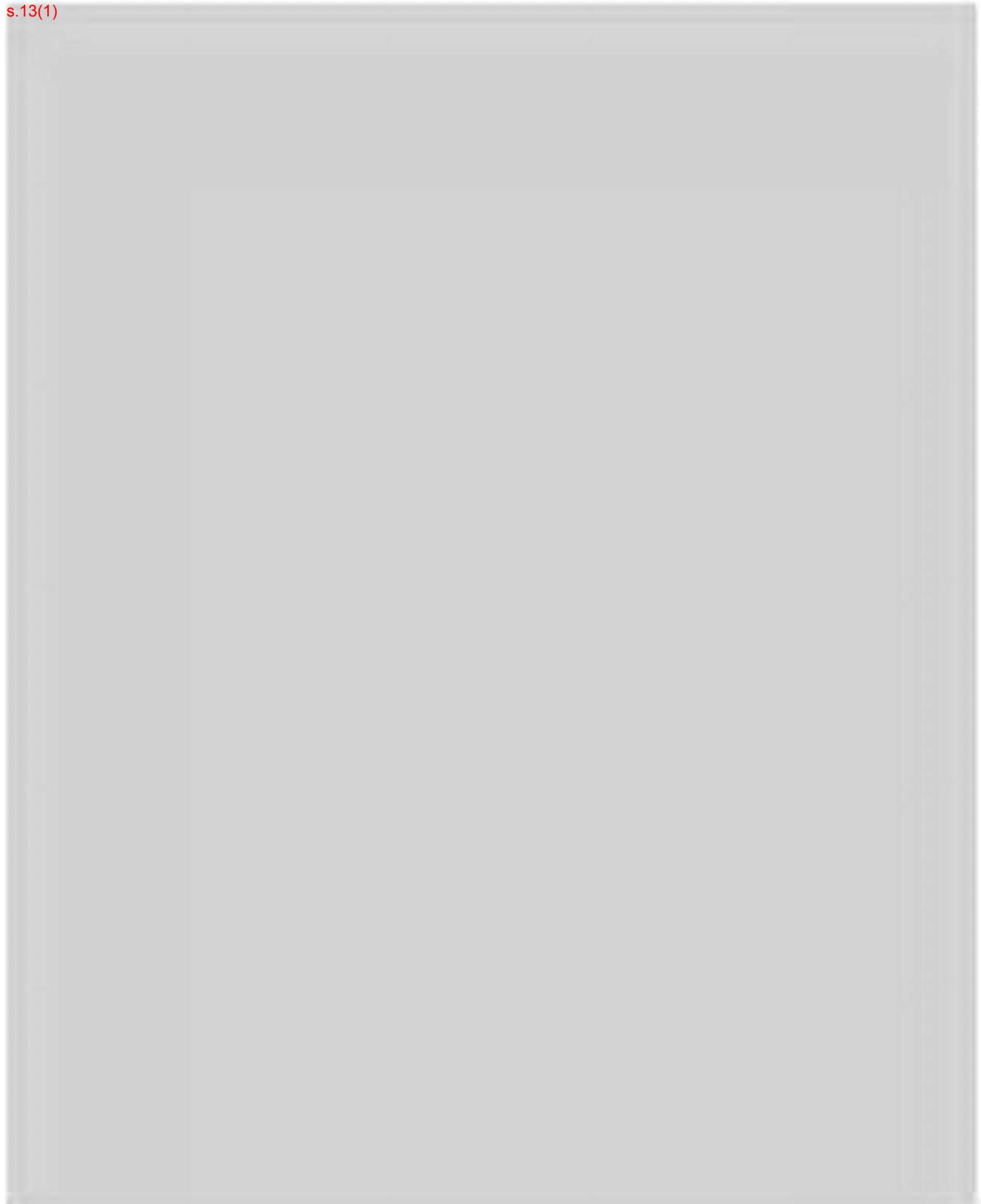


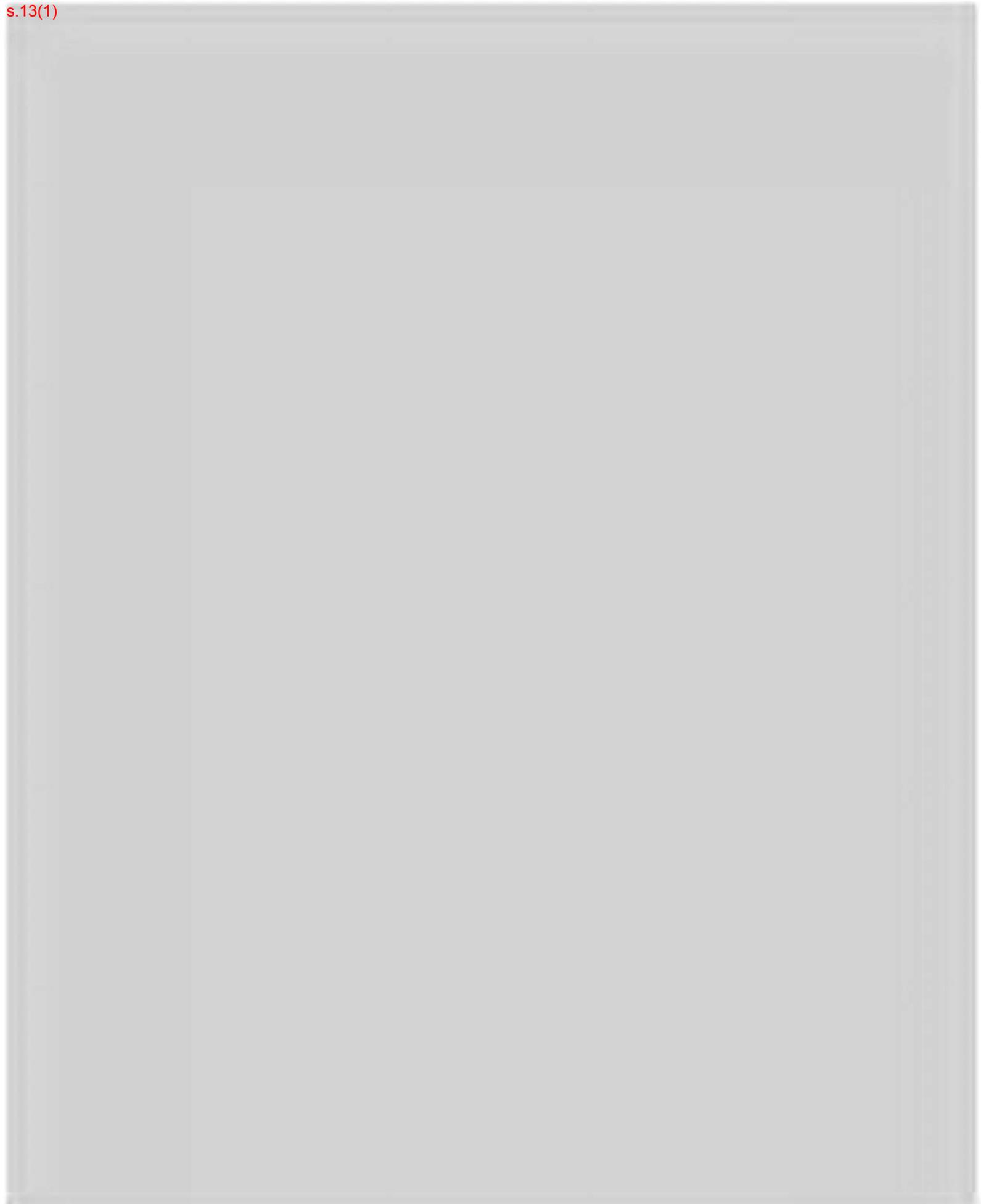








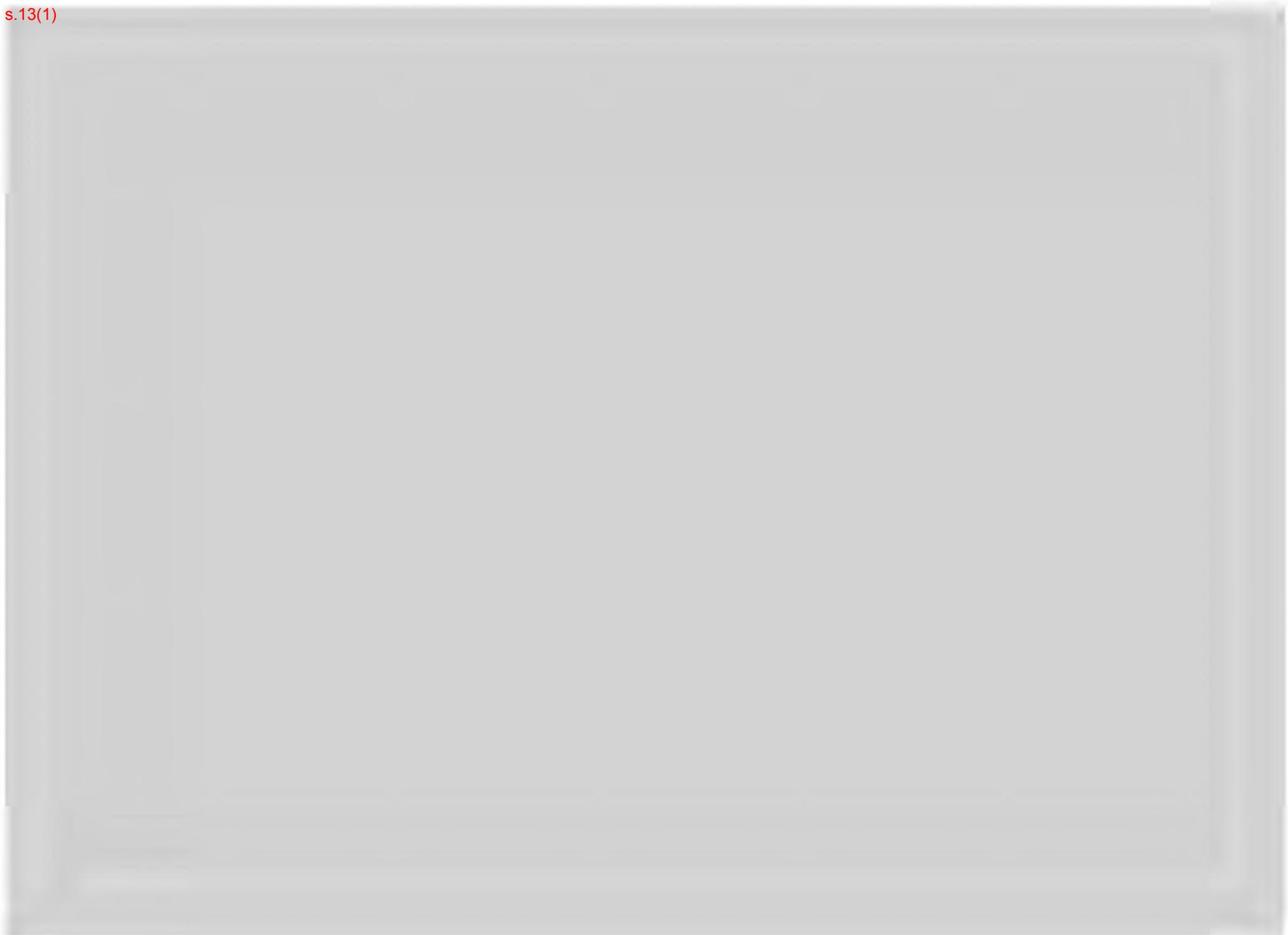














**From:** [MacNeil, Patricia](#)  
**To:** [Krueger, Paul](#); [Storer, Paul](#)  
**Subject:** RE: need clarificaiton of public input summary  
**Date:** Wednesday, July 15, 2015 1:47:38 PM

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Good suggestion. Please ensure the Report to Council is accurate. Thanks. P

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**From:** Krueger, Paul  
**Sent:** Wednesday, July 15, 2015 1:44 PM  
**To:** MacNeil, Patricia; Storer, Paul  
**Subject:** RE: need clarificaiton of public input summary

Good catch on Penny's part.

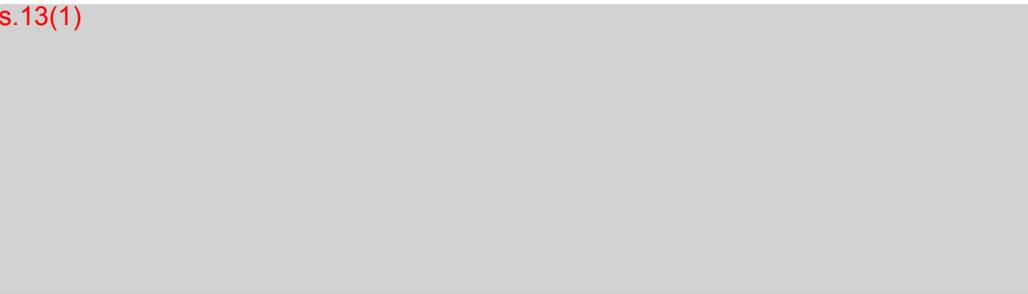
s.13(1)



I cut-and-pasted the relevant section from the consultant's report – see below after the break. In summary:

- 
- 
- 
- 
- 

s.13(1)



I recommend that we strike this sentence from the report. If desired, we could replace it with something like, s.13(1)



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s.13(1)



s.13(1)



---

**From:** MacNeil, Patricia  
**Sent:** Wednesday, July 15, 2015 1:10 PM  
**To:** Storer, Paul; Krueger, Paul  
**Subject:** need clarificaiton of public input summary  
**Importance:** High

Hi there – Penny flagged something needing clarity in the Burrard Bridge/Pacific IB.

s.13(1)



Specific comments about what and were all the other blank?

Need clarification within the hour. Thanks. P

**Patricia MacNeil | Communications Manager**  
Corporate Communications | City of Vancouver  
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[patricia.macneil@vancouver.ca](mailto:patricia.macneil@vancouver.ca)

# Guidelines and Design Changes for Yield-on-Turn Signage

Version 1.0

**Authors:**

Mike Zipf, ASCT		2016-04-15
Name	Signature	Date (YYYY-MM-DD)
Brian Gould, EIT		2016-04-18
Name	Signature	Date (YYYY-MM-DD)
Mike Anderson, P.Eng.		2016/04/15
Name	Signature	Date (YYYY-MM-DD)

**EoR Seal:**



**Branch Heads or Representatives Approvals:**

Dale Bracewell P.Eng. (ATB)		2016-05-09
Name	Signature	Date (YYYY-MM-DD)
Steve Brown, P.Eng. (TDM)		2016-04-28
Name	Signature	Date (YYYY-MM-DD)
PAUL STOEHR TDE Don Klimchuk, P.Eng. (STP)		2016-04-18
Name	Signature	Date (YYYY-MM-DD)

**Director of Transportation:**

Lon LaClaire, P.Eng.		2016-05-19
Name	Signature	Date (YYYY-MM-DD)

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# MEMORANDUM

April 15, 2016

TO: Lon LaClaire  
Director of Transportation

Dale Bracewell  
Branch Manager, Transportation Planning

Steve Brown  
Branch Manager, Traffic & Data Management

Don Klimchuk  
Branch Manager (Acting), Transportation Design

CC: Ken Brown  
Superintendent, Streets Operations

FROM: Mike Zipf, Transportation Planning  
Brian Gould, Transportation Planning  
Mike Anderson, Transportation Planning

SUBJECT: Guidelines and Design Changes for Yield-on-Turn Signage  
**Version 1.0**

Version	Description	Date	Author
0.1 Draft	Initial draft memo	01/07/2013	BG
0.2 Draft	Updated recommendations on sign usage and placement as well as added new Yield-on-turn sign designs	11/18/2015	MZ
0.3 Draft	Updated considering AT engineers comments on Memo recommendations	11/23/2015	MZ
0.4 Draft	Updated considering DRT comments and added sign shop sign design	01/05/2016	MZ
1.0	For approval. Includes changes after ATB and TDM branch head review	04/15/2016	MZ

This memo provides information to Transportation Planning, Design, and Traffic Management branches on the use of yield-on-turn signage along bike lanes in the city. It outlines the need for signage to clarify the right of way between turning vehicles and bicycles along streets with protected bike lanes<sup>1</sup> with permissive vehicle turns. It also provides guidance on sign usage and placement, and proposes an updated sign design to improve legibility.



Figure 1 - RA 2-6 signs installed along Hornby and Dunsmuir Streets circa 2010

<sup>1</sup> Protected bike lane means the part of the roadway that is designated for the use of bicycle traffic and separated from motor vehicle traffic by physical measures such as curbs, planters, parking, parking, bollards or other similar measures

Protected bike lanes with yield-on-turn signage are relatively new in the North American context. As such, the sign usage guidelines are intended to be a living document which staff will periodically update as we learn from research, from experience through new projects and from other leading cities.

## 1. Background

Right-of-way rules at intersections are often understood in a simplified form, such as “left turners yield”. However, the BC Motor Vehicle Act (MVA) and the City of Vancouver’s Street and Traffic By-law (S&T) are more specific about the conditions under which those rules apply.

The MVA and S&T were developed to govern traffic on a street network where the space between the curbs is for vehicles (as well as bicycles ridden with traffic) and the spaces outside the curbs are for walking. In this simplified framework, drivers move to the curb to make right turns, and therefore do not have anyone to yield to except people walking in crosswalks or vehicles already in the intersection. Conventional painted bike lanes fit reasonably well into this framework on the premise that vehicle drivers merge into or cross through the bike lane prior to turning, as this constitutes a lane change (See figure 2).



Figure 2 - Painted bike lane along Rupert Street. Turning vehicles cross through bike lane prior to turning.

Protected bicycle lanes are an increasingly common treatment in major cities<sup>2</sup> to improve safety and comfort for people biking. These types of bike lanes generally prevent drivers from merging into or across the bicycle lane when making a turn. They improve comfort by reducing conflicts outside of intersections and crossings. (See figure 3.) In doing so, protected bike lanes introduce complexities that the MVA and S&T were not specifically designed to govern.



Figure 3 - Protected bike lane along Dunsmuir. The physical barrier prevents vehicles from merging into bike lane prior to turning

For example, without additional traffic controls the person who enters an

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<sup>2</sup> Major cities in North America employing protected bicycle lanes include Toronto, ON; Montreal, PQ; Ottawa, ON; Calgary, AB; Winnipeg, MB; Portland, OR; Seattle, WA; San Francisco, CA; Los Angeles and Long Beach, CA; New York, NY; Washington, DC; Chicago, IL; Austin, TX; Pittsburgh, PA; Memphis, TN; Indianapolis, IN; Denver and Boulder, CO. Turning conflicts in North America are often addressed via turning restrictions or mixing zones, whereas separate signal phases and clearly marked yield points are more common in Europe, especially the Netherlands. This has begun changing recently, with the first “protected intersections” in North America opening starting with Vancouver’s Burrard and Cornwall in 2014.

intersection first generally has the right of way.<sup>3</sup> Because a bicycle traveling straight in a protected bike lane and a turning vehicle may arrive at an intersection at the same time, the right of way is not always clear.

In addition, as the majority of streets do not have protected bike lanes, drivers may not expect that bicycles would be oncoming along a protected bike facility to the right. Also, drivers would not generally expect a protected bike facility with bicycles travelling in the same direction on the left, or bicycles in a crosswalk connecting to a multi-use pathway, regardless of people being permitted to ride there.

Measures to address these turning conflicts are perhaps the most important component of a corridor design process. These include right-of-way management, turning restrictions and separate signal phases. Where turning vehicles cross bicycles during the same signal phase, yield-on-turn signs are often used. Figure 4 illustrates a variety of signs used to indicate right-of-way in various jurisdictions. A legal interpretation on the need for such signage is provided in Appendix A.



Figure 4 - Similar Yield-on-turn signs in various jurisdictions: Netherlands (1-3), Portland (4), Boulder (5), NACTO (6), TAC (7), Calgary (8), Richmond (9), New Westminster (10), Hamilton (11)

## 2. Use and Guidance for Yield-on-Turn Intersection Control

The earliest widespread examples of yield-on-turn signs in Vancouver are several RA 2-6 signs (see figure 5) found along the Dunsmuir and Hornby protected bicycle lanes. These signs, in addition to warning drivers of the presence of people biking, direct drivers to yield to with-flow and counterflow bicycles when turning right (or left in the case of Burrard St at Canada Place).



Figure 5 - RA 2-6 sign along the Dunsmuir bi-directional protected bike lane.

<sup>3</sup> Although not defined as a vehicle in law, a person cycling in a protected bike lane is owed the same rights as a driver of a vehicle and therefore, according to S&T Section 127, a vehicle must give way to a cycle lawfully in the intersection.

For the Hornby and Dunsmuir examples, yield-on-turn control has been used at intersections with low turn volumes in conjunction with right-turn bays. At intersections with higher turn volumes, turn prohibitions or, in the case of Hornby, separate signal phases have been used.

In addition to signage, green surface treatment has become a common practice to highlight conflict zones. Current green surface treatment guidelines (under development) recommend that green treatment be used at most areas where there are conflicts between motor vehicles and bicycles. To reflect this treatment and to reinforce the potential conflict zone, the City has created yield-on-turn signs that highlight green surface treatment (figure 6). It is expected that, in the future, nearly all of these signs will use the green background to highlight the potential conflict and reinforce the green treatment on the ground.



Figure 6 -  
RA 2-6.1

In general, the City's practice on the use of yield-on-turn signage, including limited use along bidirectional protected bike lanes, is consistent with practices in other jurisdictions and available information in guidelines and research papers. For example, the NACTO Urban Bikeway Design Guide recommends that "Yield to Bicycles" signage be used to identify conflict areas at driveways and minor street crossings and to make it clear that the protected bike lane has priority over entering and exiting traffic. This applies to both unidirectional and bidirectional protected bike lanes. A more detailed literature review, including a rationale for using yield-on-turn signage, is provided in *Appendix B*.

**Based on existing practice and literature review, the following guidance is recommended for the consistent use of yield-on-turn signs along protected bike lanes:**

- Shall be installed at all street and lane intersections where there are permissive right or left turns across unidirectional or bidirectional protected bike lanes;
- Should be used at busier driveway crossings<sup>4</sup> with adjacent unidirectional or bidirectional protected bike lanes, especially ones with unfamiliar users (people who do not drive in the area on a regular basis);
- Despite the above, an exception where yield-on-turn signage may not be required is when there are permissive left turns across an oncoming unidirectional protected bike lane. In this case, drivers expect and are legally required to yield to oncoming traffic. Signs should only be considered in this case when the oncoming bike lane may not be expected, such as a counterflow bike lane along a one-way street;
- Shall indicate green colouring where green surface treatment is used; and
- Shall indicate the direction(s) that bikes should be expected to travel

In all cases where yield-on turn control is used, engineering judgement is needed and separate turn lanes are recommended to enable drivers to pull out of the through traffic stream and to provide clearer information to people cycling. Attention to other intersection details, such as whether the bicycle crossing is bent in, bent out, or raised, is crucially important to the safe functioning of intersections, and guidance can be found in CROW and other manuals.

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<sup>4</sup> Busier driveway crossings generally refer to driveways that service commercial, mixed-use, or high-density residential buildings and do not include single-family residential.

### 3. Guidance for When NOT to use Yield-on-Turn Control

Although yield-on-turn signage is a cost-effective, simple and appropriate method to control turn movements across protected bike lanes at many intersections, it is not desirable for all situations. Currently, NACTO and other North American design guidelines lack detailed information on when more active measures such as signalization or physically reinforced turn restrictions are needed.

Additional information is available in the Dutch CROW Design Manual, which is one of the most comprehensive manuals on designing for bicycle traffic. According to CROW, where permissive turns are allowed, good visibility is of vital importance. However, it does NOT recommend permissive turns across protected bike lanes if:

- “the intensity of motorised traffic turning off is higher than 150 *vehicles per hour*
- a two-way cycle track is involved, as some of the cyclists will then appear from an unexpected direction
- it concerns a situation outside built-up areas where the speeds are higher and cyclists are less dominant in the roadscape (which means that they are more easily overlooked)
- a lot of lorries are turning right (because of the risk of a blind spot accident).”<sup>5</sup>

Despite yield-on-turn control not being recommended by CROW along streets with bidirectional bike lanes, it may be acceptable for bidirectional bike lanes along one-way vehicular streets with low turn volumes. This is because one-way streets have a lower level of complexity than two-way streets.

Yield-on-turn control may also be acceptable for bidirectional bike lanes on two-way streets with very low turn volumes and low speeds. Examples of such can be found in the Netherlands with intersection design treatments such as setback and/or raised crossings to compensate. Further analysis and research is needed to determine a specific volume threshold and other considerations for using yield-on-turn signage along bidirectional bike lanes. Therefore, for future projects, efforts should be explored to build unidirectional bike lanes whenever possible to reduce complexity and unexpected turn conflicts.

In addition, Vancouver’s recent cycling safety study suggests there is a significant increase in collision and injury risk for people biking in a downhill direction. This is likely due to higher downhill cycling speeds which allows less time for people driving to see cyclists. It can also make the consequences of collisions more severe. Thus, protecting or physically restricting turn movements and/or other counter measures are suggested for downhill situations regardless of bike lane configuration.

**Based on the information above, yield-on-turn control is not recommended and physically reinforced turn restrictions, signalization or other measures are suggested:**

- Where sightlines are poor;
- In situations where bicycles are travelling in a downhill direction;
- Outside of urban areas where traffic speeds are higher and bicycle traffic is less predominant;
- Where there is a high volume of turning trucks;
- Where the peak hour volume of turning vehicles is higher than 150 vehicles per hour across a unidirectional bike lane; or,

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<sup>5</sup> CROW Design Manual for Bicycle Traffic, 2006. P. 207

- Along bidirectional bike routes, unless the volume of turning vehicles is far below 150 turning vehicles per hour (the CROW unidirectional threshold).

#### 4. Sign Placement Guidance

Typical practice until 2013 was to install the yield-on-turn signs on the near side of a crossing. This is consistent with the Manual of Uniform Traffic Control Devices for Canada (MUTCDC), which states that “a yield sign should be placed at or as near as possible to the point where the vehicle may be required to stop.” At minor crossings, such as laneways or local streets where this sign may be the only regulatory control facing drivers, this may be sufficient.

However, as the number of visual elements in the urban environment increases, driver recognition diminishes, especially where other information is presented farside. For example, at an intersection of two relatively busy streets, drivers are often expected to observe the traffic signal, lane designations, turn restrictions, and other regulatory signs. Typical practice locates each of these regulatory devices farside so that a driver waiting at a stop line can easily identify the regulations.

Therefore it is recommended that yield-on-turn signage:

- Shall be placed at or as near as possible to the point where the vehicle may be required to stop. However, where nearside placement is not practical, signage may be placed exclusively on the far side of the intersection;
- Should be supplemented with a farside sign at signalized or complicated intersections; and
- Should be mounted in a position similar to other traffic control signage using engineering judgement

#### 5. Sign Design

Vancouver’s sign code inventory currently includes the yield-on-turn sign family shown in figure 7. These designs are similar to the TAC sign (figure 4 -7) with a single turn arrow instead of a straight and turn arrow and a slightly larger yield symbol.



Figure 7 - Current Yield-on-turn Signs in Vancouver's Sign Code Inventory

The above signs convey that turning vehicles must yield to bicycles. They also indicate the position of the bike facility relative to the turning vehicles, if bike traffic is one-way or bidirectional, and if green surface treatment is used.

Upon review of other signage examples shown in figure 4, it was noted that some signs do a better job visually highlighting the most important elements to drivers. These include:

- 1) the indication that turning vehicles must yield; and
- 2) the green area where to watch for bicycles.

Vancouver's current signs also use dashed continuity lines when in reality nearly all of these signs refer to crossings bound by square "elephant's feet". Several yield-on-turn signs omit the bounding lines completely for clarity, especially where green surface treatment is used. Some of the best examples are the signs in the NACTO Bikeway Guide and the recently developed signs used by the City of Calgary (figures 8 and 9).

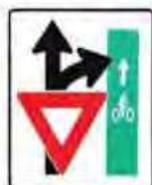


Figure 8  
NACTO Yield-on-Turn sign



Figure 9  
Calgary Yield-on-Turn Sign

The Calgary sign also includes a "Yield to Bicycles" placard. Although the use of text in signs is typically discouraged, yield-on-turn signs are relatively new and complex so the placard can help to clarify their meaning.

Based on the Calgary design and inspiration from other jurisdictions, new sign designs are proposed and are shown in figures 10 and 11. Figure 10, with the green surface indication, is recommended where green treatment is applied. Figure 11 would be used at crossings without green surface treatment, such as shared-use pathways.



The new signs include the following benefits over the existing City of Vancouver designs shown in figure 7:

- The yield symbol - the most important element on the sign - is 30% larger than in the existing design;
- The turn arrow ends at the edge of the bike lane, reinforcing the message to yield;
- The graphic is simpler and easier to understand;
- The "Yield to Bicycles" text helps clarify the sign's meaning;
- The bike direction arrows are easier to read; and,
- The similar appearance to the Calgary design helps create standardized and more recognizable signage.

An informal survey was conducted with City of Vancouver transportation division staff comparing the more common green paint version of the existing sign (figure 6) and an early version of the proposed sign. Of the 29 respondents, 85% preferred the new sign design. 95% of respondents felt the new sign clearly conveyed the message that turning vehicles must yield versus 80% for the old sign. Most respondents felt the new sign design was simpler and clearer than the current design and 80% of respondents felt the "Yield to Bicycles" placard helped clarify its meaning. Complete survey results are shown in *Appendix C*.

**Based upon the results above it is recommended that:**

- A new family of yield-on-turn signs consistent with figures 10 and 11 (with and without green paint) replace the current signs in the sign code inventory; and,
- The sign family be expanded to cover all possible bicycle lane configurations. New configurations include same direction bikes to the left, oncoming bikes to the left and oncoming bikes to the right. See *Appendix D*.

## **6. Conclusion and Next Steps**

This memo provides guidance on the use of yield-on-turn signs to regulate permissive vehicular turning movements across protected bike lanes. It will help to ensure consistent usage of yield-on-turn signs and highlights conditions where more aggressive treatments, such as turn restrictions or signalization, should be considered. It also suggests a new family of signs be adopted based on a review of best practices. The proposed signs have a simplified and clearer graphic as well as text to clarify their meaning.

The recommendations in this memo are intended to be refined as the City learns from future research and observations from our projects. This may include developing a more specific volume threshold and conditions where yield-on-turn control may be used for bidirectional bike lanes.

Following the approval of this memo, it is recommended that the new sign design be incorporated into Vancouver's sign code inventory. Existing yield-on-turn signage along the downtown protected bike lanes and elsewhere in the City is also suggested to be replaced with the new version of the sign, with care taken to ensure that the new signs accurately reflect the actual bike lane configuration at each site. Consistent with the recommendations in this memo, new signage will be installed at locations that do not currently have yield-on-turn signs.

## **Appendices**

- A. Yield-on-Turn Legal Requirements
- B. Yield-on-Turn Literature Review
- C. Yield-on-Turn Sign Design Survey
- D. Sign Code Inventory Changes

**Zipf, Mike**

---

**From:** Chou, Winston  
**Sent:** Tuesday, September 22, 2015 2:47 PM  
**To:** Zipf, Mike  
**Cc:** Lewis, Toby  
**Subject:** FW: Traffic Regulation Question

FYI

---

**From:** Jordan, Brent  
**Sent:** Friday, September 11, 2015 3:56 PM  
**To:** Chou, Winston  
**Subject:** FW: Traffic Regulation Question

Winston,

First off, a bicycle is not defined as a "vehicle" in the *Motor Vehicle Act*.

s. 1 "vehicle": means a device in, on or by which a person or thing is or may be transported or drawn on a highway, but does not include a device designed to be moved by human power, a device used exclusively on stationary rails or tracks, mobile equipment or a motor assisted cycle.

s. 119(1) in this part: "cycle" means a device having any number of wheels that is propelled by human power and on which a person may ride and

**So a cycle is not in the definition of vehicle it is separately defined in the Act.**

However, s. 183(1) states: "In addition to the duties imposed by this section, a person operating a cycle on a highway has **the same rights and duties as a driver of a vehicle**."

s.1 "highway" (b) every road, street, lane or right of way designed or intended for or used by the general public for the passage of vehicles

s. 119(1) in this part: "designated use lane" means a lane of highway in respect of which a traffic control device indicates that the lane is reserved for the exclusive use of persons, organizations, vehicles or cycles ...

So, although not a vehicle, a cycle riding in a bike lane (designated use lane) is owed the same rights as a driver of a vehicle and therefore under s. 127 a vehicle must give way to a cycle lawfully in the intersection.

The problem as I see it however, is that some conflicts occur when a car turns right across a bike lane and hits a bike in the intersection but just as likely is a car turning right and cutting off a cycle that has not yet reached the intersection when the turn starts but is in the intersection (and hits the car) during the turn.

For this I would refer to:

s. 119(1) in this part "traffic control device" means a sign, signal, line, meter, marking, space, barrier or device, not inconsistent with this Part, placed or erected by authority of .... the council of a municipality ... or a person authorized by any of them to exercise that authority.

And,

s. 165(4) If at an intersection there is a traffic control device indicating the course to be travelled by vehicles turning at the intersection, a driver must turn a vehicle at the intersection in the manner directed by the traffic control device.

s. 165(5) A person must not turn a vehicle at an intersection unless it is in the position on the highway required by this section.

S. 165 means that a car coming to an intersection seeing our typical right turn across bike lane sign must follow the direction of the sign (yield to the cyclist).

I hope this helps,

---

Brent D. Jordan  
Barrister & Solicitor  
Law Department, City of Vancouver  
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Vancouver, B.C.  
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**From:** Chou, Winston  
**Sent:** Friday, September 11, 2015 10:23 AM  
**To:** Jordan, Brent  
**Subject:** Traffic Regulation Question

Brent, I have a question that's a bit complicated but need your assistance in interpretation.

**Background:**

The City has been installing the following sign at intersections where there is a separated two-way bike facility as it was believed that there was no regulation in the Motor Vehicle Act to give cyclists the right-of-way over right-turning motorists at the intersection. You can see the sign in the following google streets view: <https://goo.gl/maps/32lBr>

<< OLE Object: Picture (Device Independent Bitmap) >>

However, after consulting with staff at MoTI, they pointed us to Section 127(1)(e)(iii) which states the following:

**127** (1) When a green light alone is exhibited at an intersection by a traffic control signal,

(a) the driver of a vehicle facing the green light

(i) may cause the vehicle to proceed straight through the intersection, or to turn left or right, subject to a sign or signal prohibiting a left or right turn, or both, or designating the turning movement permitted,

(ii) must yield the right of way to pedestrians lawfully in the intersection or in an adjacent crosswalk at the time the green light is exhibited, and

(iii) must yield the right of way to vehicles lawfully in the intersection at the time the green light became exhibited, and

**Question:**

As a bike is defined as a vehicle in the MVA does this mean that right-turning cars must yield to cyclists in a separated bike lane similar to the one on Dunsmuir shown in the following Google Streets view? We are taught in driving school to shoulder check to the right when making a right turn to look for cyclists and so would this be the regulation that covers that?

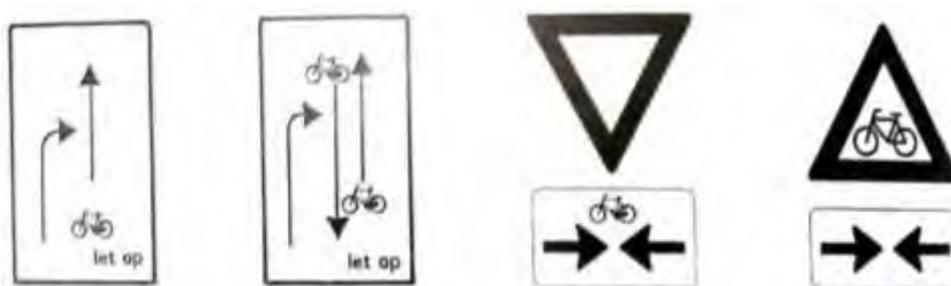
Thanks,

**Winston Chou, P.Eng.**  
**Traffic & Data Management**  
City of Vancouver  
507 West Broadway  
Vancouver BC V5Z 1E6  
TEL: 604.873.7913  
[www.vancouver.ca](http://www.vancouver.ca)

**Literature Review**

In general, the City’s current practice is in line with what is being recommended in many research papers regarding yield-on-turn signage. **Bold** has been added in some statements below for emphasis.

*“Function: drawing attention to cyclists...Application: intersection with separate cycle track, inside and outside built-up areas...one-way [or two-way] cycle track at ≤8.00 m from the carriageway and no or parallel control of conflict type cyclist proceeding straight ahead and car turning right [or left]...Considerations: **increased attention, which is beneficial to safety of cyclists; signposting alone has little effect...Combination options: transverse central island, visual support, cycle crossing on plateau.**” CROW Design Manual for Bicycle Traffic, Signposting at Cycle Crossing (V37), 2007*



*Signs shown in CROW, 2007. The first and second are for turning conflicts. The third sign is for a more perpendicular cycle track crossing with right of way, the fourth is the same without right of way.*

*“A ‘Yield to Bikes’ sign should be post-mounted in advance of an in conjunction with an egress lane to reinforce that bicyclists have the right-of-way going through the intersection.” NACTO Urban Bikeway Design Guide, Bike Boxes, 2012*

*“The Turning Vehicles Yield to Bicycles [RB-37] sign may be used at conflict zones where motorists are required to cross a cyclist facility and are required to yield to the cyclist. The sign should incorporate the type of cyclist facility present in the conflict zone (e.g. dashed bicycle lane lines, shared use lane marking, etc.)*



*The Yield To Bicycles and Pedestrians [RB-38] sign may be used where motorists are required to cross or share a facility used by cyclists and/or pedestrians, and are required to yield to the cyclists or pedestrians. This sign is to be used in exceptional cases for only the following configurations: (a) where application of the basic right-of-way rule does not provide for safe and efficient movement of vehicles, including bicycles...**The importance of this sign is stressed for jurisdictions that require motorists to undertake a right turn from the [left of the bicycle] lane, rather than immediately adjacent to the curb. In this case, the sign would be installed to advise motorists to yield the right of way to cyclists and pedestrians directly to the right of the turning vehicle, before undertaking the right turn.**” TAC Bikeway Traffic Control Guidelines for Canada, 2<sup>nd</sup> Ed*



## Review of MVA and S&T for Turning across Separated Bicycle Lanes

A summary of the various legal requirements are as follows:

		Location	
		Intersection <sup>6</sup>	Driveway <sup>1</sup>
Bikes on left are:	Oncoming	<b>A1</b>	<b>B1</b>
	With flow	<b>A2a</b>	

		Location	
		Intersection <sup>1</sup>	Driveway <sup>1</sup>
Bikes on right are:	Oncoming	<b>A2b</b>	<b>B2</b>
	With flow		

- MVA says yield for certain configurations
- MVA says must “be made in safety”
- S&T (only) says must “be made in safety”
- No explicit requirement to yield

<sup>6</sup> For the purposes of this document and its interpretation of the MVA, “intersection” includes intersections with all types of highway, including lanes, while “driveway” includes any viable exit from the highway including the bicycle facility in question.

### **Conflict A1: Left turns across oncoming bicycles at an intersection**

This conflict may be covered by the MVA in section 174 for certain types of facility.

Yielding right of way on left turn

**174** When a vehicle is in an intersection<sup>7</sup> and its driver intends to turn left, the driver must yield the right of way to traffic<sup>8</sup> approaching from the opposite direction that is in the intersection or so close as to constitute an immediate hazard, but having yielded and given a signal as required by sections 171 and 172, the driver may turn the vehicle to the left, and traffic approaching the intersection from the opposite direction must yield the right of way to the vehicle making the left turn.

The reference to “in an intersection” is potentially problematic, as the MVA definition refers to an area within the extension of curb lines or boundaries of roadways. Curb lines can exist in different locations depending on the type of facility. Where there is a painted buffer, the curb is typically between the bicycle lane and sidewalk. Where there is a concrete separation, there is arguably both a curb between the bicycle lane and sidewalk, as well as one between the bicycle lane and “roadway.” Where the bicycle lane is raised to sidewalk level, there is only a curb between the bicycle lane and roadway.

In the rare situation where there are no curbs at all, the definition of a roadway would take precedence. Where there is a bicycle path parallel to a roadway, its crossing would not be part of the intersection, nor would a painted buffered bicycle lane if it does not meet the “improved, designed or ordinarily used for vehicular traffic” criterion for inclusion in the roadway. It also suggests that the intent is to identify the curbs as the boundaries of the roadway and thereby exclude any form of bicycle path.

This conflict should be carefully examined to clarify whether it can be clearly shown to be “in the intersection.” If not, an RA 2-X is needed.

If the facility is bidirectional, check for conflict A2a and install the appropriate RA 2-X sign for both conflicts; if it is part of a pair of unidirectional cycle tracks, check for conflict A2b.

---

<sup>7</sup> Intersection is defined under Part 3 of the MVA to mean “the area embraced within the prolongation or connection of the lateral curb lines, or if none, then the lateral boundary lines of the roadways of the 2 highways that join one another at or approximately at right angles, or the area within which vehicles travelling on different highways joining at any other angle may come in conflict.”

<sup>8</sup> Traffic is defined under Part 3 of the MVA to include “pedestrians, ridden or herded animals, vehicles, cycles and other conveyances, either singly or together, while using a highway to travel.”

**Conflict A2a: Left turns across same direction bicycles at an intersection**

This conflict is not covered by Section 174 or otherwise of the MVA because it does not involve oncoming traffic. There is no equivalent section of S&T. There is thus no explicit requirement to yield, and signage is required.

Use the appropriate RA 2-X sign except in exceptional circumstances.

**Conflict A2b: Right turns across bicycles at an intersection**

This conflict is not covered by Section 174 or otherwise of the MVA because it does not involve left turns and there is no equivalent requirement to yield on a right turn. There is no relevant section of S&T. There is thus no explicit requirement to yield, and signage is required.

Use the appropriate RA 2-X sign except in exceptional circumstances.

**Conflict B1: Left turns across bicycles at a driveway**

Left turns into driveways are covered by MVA section 166(c), which forbids turns unless “the movement can be made in safety.”

Turning left other than at intersection

166 A driver of a vehicle must not turn the vehicle to the left from a highway at a place other than an intersection unless

(c) the driver has ascertained that the movement can be made in safety, having regard to the nature, condition and use of the highway and the traffic that actually is at the time or might reasonably be expected to be on the highway.

The section also refers to traffic that “might reasonably be expected to be on the highway,” and a well-marked bicycle lane should be considered evidence of bicycle traffic. However, engineering judgement may suggest the use of the sign to

- mitigate high motor vehicle crossing volumes
- address higher conflict potential due to two-way motor vehicles
- state and clarify the yielding requirement
- highlight the crossing conflict
- clarify the direction of bicycle travel
- increase consistency with signage at intersection crossings
- increase consistency with signage for right turn conflicts at driveway crossings

It should also be noted that the S&T version of this passage (see Conflict B2) imposes a somewhat contradictory requirement that “such movement can be made without obstructing traffic.” Thus the optional use of the sign may further reinforce that safety for people on bicycle is a higher priority.

**Conflict B2: Right turns across bicycles at a driveway**

This conflict is not covered by Section 166 or otherwise of the MVA because it does not involve a left turn in leaving the highway. An equivalent section of the S&T imposes a similar requirement.

**TURN AT INTERSECTIONS ONLY**

42. No driver of a vehicle shall drive such vehicle from one side of a street to the other at any place other than at an intersection or street end, unless such driver shall have first ascertained that such movement can be made without obstructing traffic and can be made in safety having regard to the nature, condition, and use of the roadway, and the traffic which actually is at the time or might reasonably be expected to be on the highway.

In addition to the circumstances which might suggest the use of a sign for left turns, the lack of language in the MVA may additionally suggest the use of a RA 2-X for right turns into driveways.

The following sign survey was opened to City of Vancouver (CoV) transportation division staff from October 20 to 27<sup>th</sup> 2015. The survey compared the current CoV Yield-on-Turn Sign with the proposed new sign. A total of 29 responses were received. The survey questions and results are noted below.

*“Yield-on-Turn signs are used where turning motorists cross a bike facility and are required to yield to people biking.*

*In an effort to improve the readability of the signs, we are considering modifying our existing signage based upon signage used in other jurisdictions.*

*Two yield-on-turn sign mock ups are posted on the pillars in front of the Active Transportation and Strategic Transportation Planning area. Please view the signs from the tape marks near Don's and Dale's offices to simulate looking at them from the far side of an intersection. (14m away) Then answer the following questions.”*



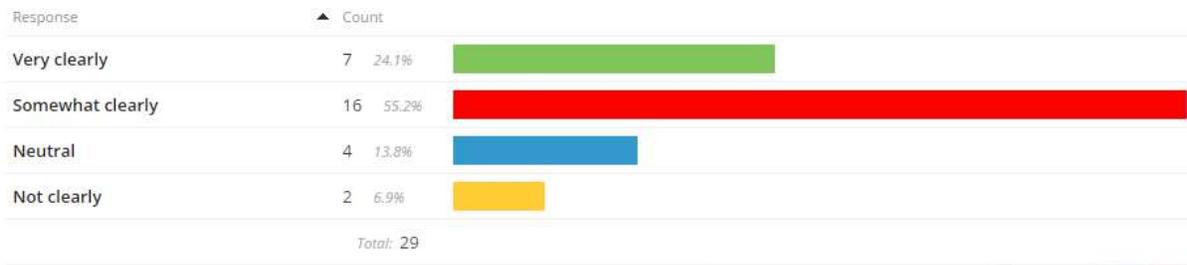
Sign 1



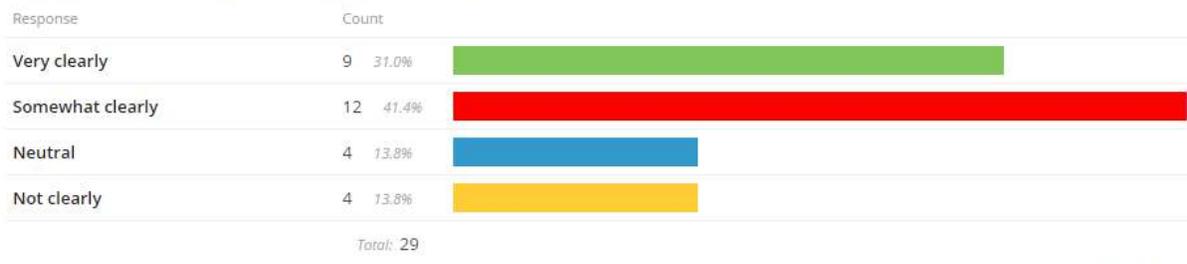
Sign 2

## Yield on Turn Sign Report

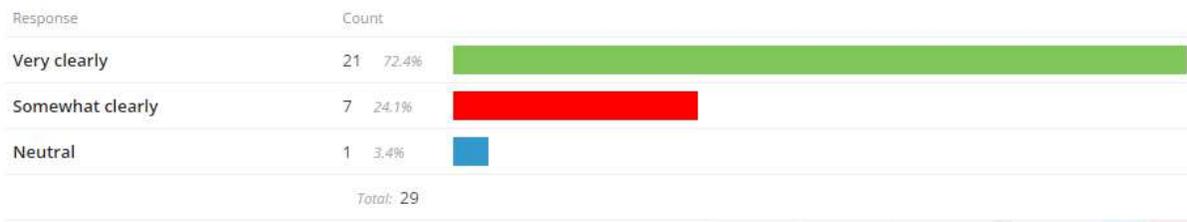
Sign 1: How clearly does the sign graphic convey that "turning vehicles must yield"?



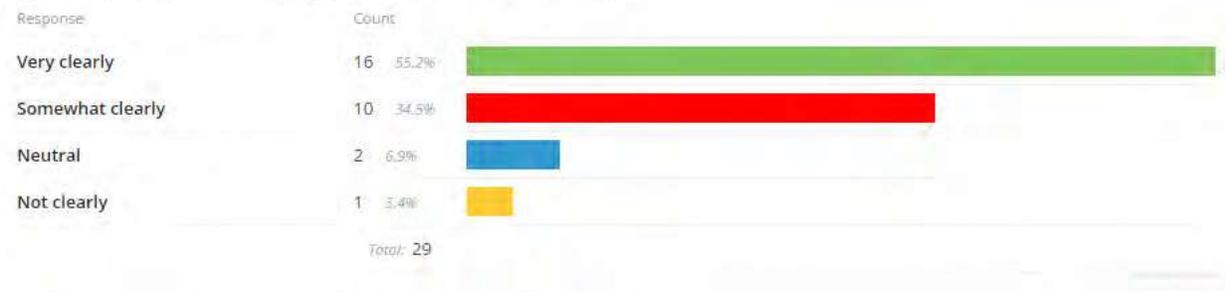
Sign 1: How clearly does the sign graphic indicate there are two-way bikes?



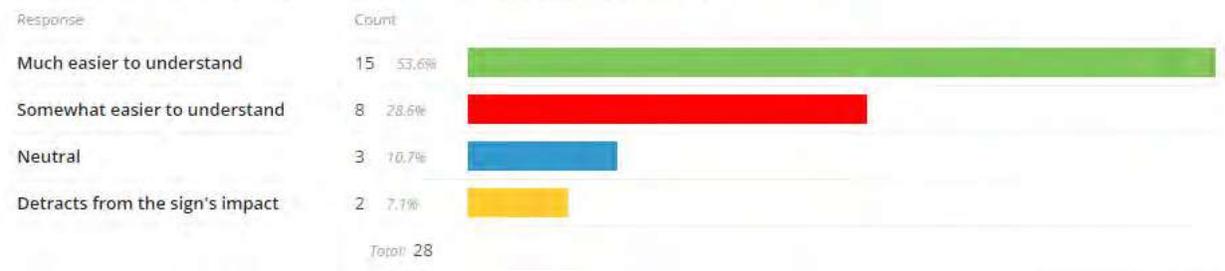
Sign 2: How clearly does the sign graphic convey that "turning vehicles must yield"?



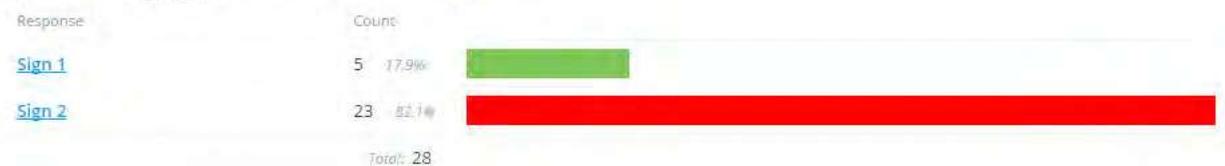
Sign 2: How clearly does the sign graphic indicate there are two-way bikes?



Does the Optional Placard "Yield to Bicycles" make the sign easier to understand?



Overall which sign graphic is more readable and why



Those who preferred sign 1 said:

- Black lines and dashes detract from readability; a lot of wasted space
- I think that sign #1 represents a more accurate depiction of what the driver would expect to see in terms of the bike lane design through the crossing. My primary reason for perceiving that is the dashed and solid lines that frame the green conflict zone.
- The yield sign closer to the point where there is a conflict is better; however the white of green two-way bikes seems better. I'd recommend a hybrid. We should always have the words until the signs become common enough that everyone fully understands what they mean.
- the placement of the yield has more emphasis on the "turn" part of the arrow

### Those who preferred sign 2 said:

- Graphic is clearer
- The location and size of the yield sign is better, the larger/bolder white stencils in green are better.
- Without the words underneath
- Not as congested with symbols i.e. yield sign and turn arrow
- Simpler.
- Added info 'Yield to Bicycles' takes away potential confusion (cars to yield or bikes to yield)
- a combination of diagram & Wording is always better
- The yield symbol is more obvious to the driver. Also the placard explains the new & unfamiliar sign
- Location of yield symbol signals drivers to look for bikes well before making the turn; less clutter of symbols at the top compared to sign 1
- Less cluttered, simplified bicycle crossing better emphasizes the arrows
- The additional placard "Yield to Bicycles" is irrefutable.
- Personally I feel like all of the key components are more pronounced: the turn arrow is larger, the yield symbol is larger and more centered, the bike symbol is larger and at the same height as the yield symbol, meaning it's more likely to be noticed by drivers; the 2-way arrows are wider stand out more in white-on-green than black-on-green, etc. In comparison the lane line details (solid line followed by dash on both sides) on Sign 1, while technically more accurate doesn't add any additional context to the drawing and just clutters/distracts from the other components. Layout-wise all of the key components are all crammed into the top 2/3 of the sign too.
- The larger yield symbol and the longer green strip make the sign more legible. Text under sign 2 helps clarify that it is drivers who need to yield to cyclists.
- White on green easier to see
- it has a more bold viewable look to it...more eye catching
- Because of the white outline around the arrow and yield sign
- The green bike lane extending all the way down the sign helps the visual message
- The white on green is more legible and matches the road markings of the conflict zone
- Yield symbol is in a better location. 2-way graphic is better defined and verbal tab helps to support the sign
- Larger Yield sign that drivers may take notice first and know of condition

## Comments to improve the signs:

- Darken the green colour on sign 2.
- The bikeway bi-directional arrows are still too small. I'd strongly encourage replacing with a double-ended arrow. I'd even consider removing them (too much information?). I'd even consider removing the bike logo for the same reason.
- Right Turn Arrow should turn into the Bike Symbol not 2 arrows showing direction of bicycle travel. Bike symbol should be Black. Remove "Yield to Bike Sign"
- Sign 2 with added info looks very good to me, clear graphic + description is excellent
- Placement should ideally be to the right of the driver and also preferably left of the bike lane. (between the drivers lane and the 2-way bike facility)
- Add lights around it and make it very big!
- I'll maintain that like in the Netherlands we would be better off showing bicycle traffic from the direction it's approaching (so a two-way crossing shows bicycles above and below the turning arrow) to explain WHERE the bicycles are. It's that contraflow direction that's the trickiest (almost all the collisions on Dunsmuir) and yet both iterations show bikes only below the turn arrow.
- Make the bike symbol as simple as possible on Sign 2
- As an English speaker, I like the words. With both signs, I would be concerned if it is clear that pedestrians must also be yielded to.
- Signs are too much to process for drivers. Will become more of a distraction for drivers.
- I think both sounds convey the message, but believe a hybrid of the two would be best. I think the larger yield shown on Sign 2 is better, but as indicated above, I prefer the use of the black colouring to outline the green conflict zone. I realize the bike markings will likely be white on the street, but that doesn't necessarily translate well to the sign colouring. Furthermore, I don't know if the benefit of the "Yield to Bicycles" tab is justified and seems inconsistent with our desire to reduce English statements on signs.
- Would a thin black line around the bicycle symbol and arrows in sign 2 make them even more visible?

**Sign Code Inventory Changes**

The following signs are currently included in the sign code inventory:



RA 2-5



RA 2-5.1



RA 2-6



RA 2-6.1



RA 2-6.1L

Current Sign size is 24" x 30" (600mm x 750mm)

These signs are to be replaced by the following:



RA 2-10.1  
Replaces RA 2-5.1



RA 2-10.2  
New



RA 2-10.3  
Replaces RA 2-6.1



RA 2-10.1L  
New



RA 2-10.2L  
New



RA 2-10.3L  
Replaces RA 2-6.1L



RA 2-11.1  
Replaces RA 2-5



RA 2-11.2  
New



RA 2-11.3  
Replaces RA 2-6



RA 2-11.1L  
New



RA 2-11.2L  
New



RA 2-11.3L  
New

New sign size is 24" x 36" (600mm x 900mm)

**From:** [Kenny, Ross](#)  
**To:** [Klimchuk, Don](#); [Brown, Steve](#); [Bracewell, Dale](#); [Storer, Paul](#); [LaClaire, Lon](#)  
**Cc:** [Lewis, Toby](#); [Larijani, Alipasha](#); [Yee, Carol](#); [Currie, David](#); [Wager, Albert](#); [Cohen, Peter](#)  
**Subject:** Burrard and Pacific - 90% geometric design memo  
**Date:** Friday, May 08, 2015 4:49:34 PM  
**Attachments:** [ENG - ATB - Burrard and Pacific - 90 geometric - design memo.tr5](#)

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Good Afternoon All,

Please find attached a link to the design memo that will be attached to the 90% Burrard and Pacific design that will be circulated for signature early next week. The 90% design will be included as the base plan for the council briefing on May 11 and for the public consultation process in June. The design memo is intended to document the outstanding design issues that require attention in order to sign off the 100% complete geometric shortly following the council meeting on July 23.

If you would like to see changes to the design memo, please track changes in Vandocs, or advise me of the proposed change and I can include it in the document.

Streets has already begun to use this drawing to base their 50% Streets 3D design and it has already been included in the council briefing information. Any additional changes will be documented and included in the final print.

Warm Regards,

Ross

## MEMORANDUM

May 14, 2015

TO: Dale Bracewell, Manager, Active Transportation  
Steve Brown, Manager, Traffic and Data Management  
Paul Storer, Manager, Transportation 2040 Team, STP Design Rep.  
Lon LaClaire, Acting Director, Transportation

FROM: Ross Kenny, Transportation Engineer, Active Transportation

SUBJECT: North End of Burrard Bridge - 90% Geometric Drawing

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Attached is the 90% complete geometric design for the North End of the Burrard Street Bridge Project. I am seeking departmental approval on the 90% drawing to ensure that management is in alignment as the project moves into the public consultation and 3D design phases.

This current design will be utilized for all of our public consultation materials and presentations to City Council. Streets Design will also complete a detailed 3D design of the roadways based on this geometric design to highlight potential constructability issues and to refine the project cost estimate moving towards a July 2015 City Council Meeting.

The geometric design will continue to be refined moving forward to the Council Meeting in July with an expectation that a complete geometric drawing will be approved in the summer of 2015 following the council meeting. It is recognized that there are still outstanding items in the design to be finalized, but that it overall is reflective of the project scope. Outstanding design issues to be completed:

### Southbound Bus Stop on Burrard Street

It is noted that there is a desire to include a SB bus stop on Burrard Street far side Pacific Avenue. In leading to the completion of the 90% drawing, concerns were raised regarding potential safety concerns relating to bus driver sight lines and the geometric design of the southwest corner of the intersection. There are also concerns about people disembarking from the bus and potential conflicts with fast moving cyclists. It was decided to omit the bus stop from the consultation materials to ensure that the City was not raising the expectations of residents regarding a bus stop at this location, if it could not safely be provided for all modes.

If a bus stop cannot be provided at this location in the 100% design, there is a provision that a bus stop could be constructed on the west side of Burrard Street south of Drake Street.

#### Eastbound Dual Right Turn from Pacific Avenue to Burrard Street

Concerns have been raised regarding the dual right turn from Pacific Avenue to Burrard Street in a constrained environment with vehicles having to turn more than 90 degrees. In order to alleviate some of the concerns, the bus stop at this location was omitted from the design and the pedestrian and bicycle paths have been moved to the east of the significant Cypress Tree. These actions create additional space at the intersection and bring the eastbound stop bar closer to the intersection.

A 3<sup>rd</sup> party road safety audit will be initiated on this corner to get guidance as to whether there are additional changes that should be made to the design to improve performance. The ability to provide the SB bus stop at this location will also be considered as part of the audit. The 3D design of this corner is also an important consideration in the safety of the design as the grading plan could influence the geometric design.

#### Eastbound Bike Crossing on Pacific

There is a desire to provide a bicycle box for cyclists to be able to continue to travel eastbound on Pacific Avenue through Burrard Street or for cyclists on Burrard Street to make a 2-stage left turn onto eastbound Pacific from southbound Burrard. Design refinements will take place at this corner to introduce a bicycle box at a location to will minimize conflicts between users and that would be accessible from protected bike lanes.

#### Westbound Bike Crossing on Pacific

The current westbound curb lane on Pacific Avenue is a shared thru/right turn lane for vehicles. Our practice has been to provide a right turn bay adjacent protected bike lanes wherever possible to minimize conflicts at the intersection. Due to space constraints and the need for a dual left turn to maintain current vehicle traffic a right turn lane was not possible. The current peak hour right turn volumes fall within the threshold outlined by the CROW manual for a shared/right turn vehicle lane adjacent a protected bike lane.

There is a desire to develop an option to enhance safety and comfort for cyclists given that an exclusive right turn lane is not possible. One consideration is to provide a leading westbound bicycle (and pedestrian) interval to provide cyclists an opportunity to get out in front of right any queued turning vehicles before they can enter the intersection. . Before committing to include it in the traffic signal plan, further review is required to conclude whether it will improve cyclists comfort or safety.

#### Pedestrian and Bicycle Paths on Bridge Approach

The pedestrian pathways on the south side of Pacific Avenue on the bridge approach need to be finalized and refined based on the final curb location.

#### Conclusion

It is noted that refinements to the design will be required through the completion of the traffic signal and 3D design of the intersection. The intention of the 90% design is to provide a baseline for others to begin work and to ensure that the department is in alignment on the overall design.

Ross Kenny, P.Eng.  
Transportation Engineer

**From:** [Kenny, Ross](#)  
**To:** [Bracewell, Dale](#)  
**Subject:** Re: 95% Burrard/Pacific Geometric for review and comment  
**Date:** Monday, June 22, 2015 7:48:26 AM

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Hi Dale, there were a lot of comments on the 90% design which would take over an hour to go through. I'm hoping that each individual could review the 90% sheet and review the responses I provided to see if the concern has been addressed.

I'm going to see if Alipasha can provide a list of all changes from the 90% to the 95% drawing for everyone to reference.

Ross

Sent from my iPhone

On Jun 19, 2015, at 7:10 PM, Bracewell, Dale <[dale.bracewell@vancouver.ca](mailto:dale.bracewell@vancouver.ca)> wrote:

Ross, FYI I made some paint comments on the copy Dave Currie had today. Not sure if you can grab those already. Will you be bringing the responses to the 90% submission when we meet on Tuesday? Cheers, Dale

---

**Dale Bracewell, MAsC, PEng**  
Manager, Active Transportation  
604-871-6440

---

**From:** Kenny, Ross  
**Sent:** Friday, June 19, 2015 1:19 PM  
**To:** Lewis, Toby; Bracewell, Dale; Brown, Steve; Storer, Paul; LaClaire, Lon; Mate, Tibor; Peacocke, Neal  
**Cc:** Currie, David; Zipf, Mike; Larijani, Alipasha; Lightfoot, Paul  
**Subject:** 95% Burrard/Pacific Geometric for review and comment

Good Afternoon everyone,

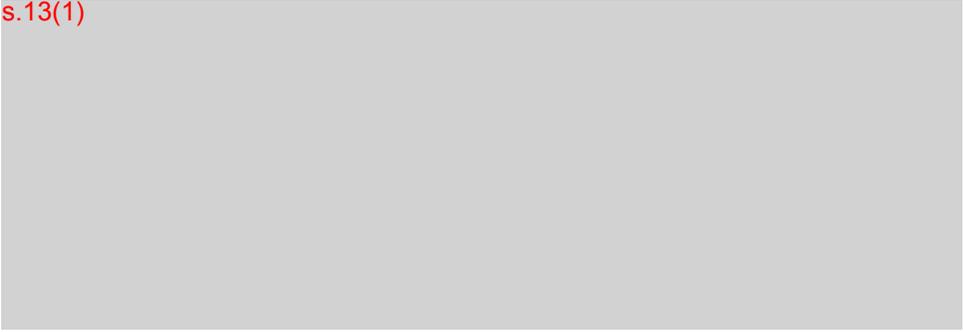
Alipasha has prepared a copy of the 95% geometric and is ready for review by the Transportation Division. Four copies have been printed and are being delivered to each branch: STP (Paul S), TDM (Toby), ATB (Ross) and Director (Lon).

In order to meet our geometric deadline completion of July 15, I will require every group to do a review and provide feedback by next Friday June 26. I note many of the branch managers are out of the office the week of Canada Day, so I will require comments before you leave.

As with the 90% Geometric, I have set up a comments and disposition form for you to record comments (the Vandocs link is attached). We will not be signing off this version, so please feel free to draw on your plan and make comments directly on the sheet.

A couple of things to note:

s.13(1)



Cheers,  
Ross

**From:** [Bracewell, Dale](#)  
**To:** [Brown, Steve](#); [Hicks, Jacqueline](#); [Peacocke, Neal](#); [Kenny, Ross](#)  
**Cc:** [Chou, Winston](#); [LaClaire, Lon](#)  
**Subject:** RE: Burrard & Pacific Video Recordings  
**Date:** Thursday, January 08, 2015 10:18:00 AM

---

Enough that as per our design meeting we should do something with the signal timing such as a "leading pedestrian and bike interval" or other equivalent separation of active and right turning cars dependent on the entire signal timing...

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**From:** Brown, Steve  
**Sent:** Wednesday, January 07, 2015 1:07 PM  
**To:** Hicks, Jacqueline; Peacocke, Neal; Kenny, Ross  
**Cc:** Bracewell, Dale; Chou, Winston  
**Subject:** FW: Burrard & Pacific Video Recordings

Looks like the right turn volumes at Burrard and Pacific heading east to north are pretty constant throughout the day. Not a large volume but peaking at 60 vehs

---

**From:** Chou, Winston  
**Sent:** Wednesday, January 07, 2015 11:27 AM  
**To:** Brown, Steve  
**Subject:** FW: Burrard & Pacific Video Recordings

Steve attached are the right turn volumes for Burrard and Pacific. It appears to be a steady movement throughout the day. The peak times have 60/hr at noon.

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**From:** Nowak, Greg  
**Sent:** Wednesday, January 07, 2015 9:46 AM  
**To:** Chou, Winston  
**Cc:** Lam, Jason  
**Subject:** RE: Burrard & Pacific Video Recordings

Hi Winston,

Here is the hourly data for the recordings at burrard and pacific

Let me know if you have any questions.

Greg

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**From:** Chou, Winston  
**Sent:** Thursday, December 18, 2014 10:01 AM  
**To:** Lam, Jason; Nowak, Greg  
**Subject:** RE: Burrard & Pacific Video Recordings

Thanks Jason.

Greg, can we get a TA to watch the video. We need counts on the WB to NB right turn volumes at the Burrard and Pacific intersection.

Thanks,

Winston.

---

**From:** Lam, Jason  
**Sent:** Thursday, December 18, 2014 9:47 AM  
**To:** Chou, Winston  
**Subject:** Burrard & Pacific Video Recordings

Winston,

The completed recordings are located on pc C146873 in the TSMS Room.

s.15(1)(l)

A large grey rectangular redaction box covers the text in this section.

File names are:  
BurrardPacific\_2014-12-16\_ 70000.mp4  
BurrardPacific\_2014-12-17\_ 65959.mp4

Jason Lam  
City of Vancouver, Engineering Services  
t: 604-873-7381

**From:** [Bracewell, Dale](#)  
**To:** [Storer, Paul](#); [Kenny, Ross](#); [Brown, Steve](#); [Lewis, Toby](#); [Mate, Tibor](#); [Yee, Carol](#)  
**Cc:** [Larijani, Alipasha](#)  
**Subject:** RE: Burrard and Pacific 90% geometric drawing - Comment and disposition sheet  
**Date:** Tuesday, May 19, 2015 5:54:00 PM

---

My review is done so I'll pass off to Steve next. Cheers, Dale

---

**Dale Bracewell, MAsc, PEng**  
Manager, Active Transportation  
604-871-6440

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**From:** Storer, Paul  
**Sent:** Friday, May 15, 2015 12:36 PM  
**To:** Kenny, Ross; Bracewell, Dale; Brown, Steve; Lewis, Toby; Mate, Tibor; Yee, Carol  
**Cc:** Larijani, Alipasha  
**Subject:** RE: Burrard and Pacific 90% geometric drawing - Comment and disposition sheet

FYI - I've passed the geometric along to Dale. I've signed off on the design, subject to resolution of the issues that Tibor and I have included in the comment sheet.

Cheers,

Paul

---

**From:** Kenny, Ross  
**Sent:** Thursday, May 14, 2015 2:22 PM  
**To:** Storer, Paul; Bracewell, Dale; Brown, Steve; Lewis, Toby; Mate, Tibor; Yee, Carol  
**Cc:** Larijani, Alipasha  
**Subject:** Burrard and Pacific 90% geometric drawing - Comment and disposition sheet

Good Afternoon Everyone,

Recognizing that the current 90% geometric has already been issued to Streets and Electrical design to complete their 50% design, we will not be updating the current 90% and will rather include all future changes into the next version of the drawing.

In order to capture the changes required from all of the branches, I request that you fill out the attached word document with all of your comments. This will allow Alipasha and I to record the changes and provide response if required. This will help us document changes from this point and will help us in resolution of design issues.

Paul Storer currently has the drawing and will be passing it on shortly. If you would like a separate print or pdf to review, please let Alipasha know. I hope to have the 90% approved by end of next week to keep us moving forward.

Thank you,

Ross

**From:** [Kenny, Ross](#)  
**To:** [Bracewell, Dale](#); [Gould, Brian](#)  
**Subject:** Re: Pacific - Burrard to Howe concept  
**Date:** Wednesday, February 11, 2015 12:41:26 PM

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The design of Drake street relates to the future design of the north end of Granville Bridge, which directly will impact the design of Burrard Street.

We are working on some design concepts (they still need more work), but it would be worthwhile looking at Drake as it impacts Burrard Bridge.

---

**From:** Bracewell, Dale  
**Sent:** Wednesday, February 11, 2015 12:29 PM  
**To:** Gould, Brian  
**Cc:** Kenny, Ross  
**Subject:** RE: Pacific - Burrard to Howe concept

s.13(1)

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**From:** Gould, Brian  
**Sent:** Wednesday, February 11, 2015 10:32 AM  
**To:** Kenny, Ross; Bracewell, Dale  
**Subject:** RE: Pacific - Burrard to Howe concept

I can certainly have the concepts (working on it right now), but would recommend more time for the meeting. s.13(1)

-----Original Appointment-----

**From:** Kenny, Ross  
**Sent:** Wednesday, February 11, 2015 9:36 AM  
**To:** Kenny, Ross; Gould, Brian; Bracewell, Dale  
**Subject:** Pacific - Burrard to Howe concept  
**When:** Friday, February 13, 2015 9:30 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).  
**Where:** Break out room

Dale,

Brian has been working on a sketch of Pacific to provide enhanced protected intersections. I want to run this past you before we have anyone start on detailed design.

Ross

**COMMENTS AND DISPOSITION SHEET**

<b>PROJECT: NORTH END OF BURRARD BRIDGE</b>		<b>Submission: 90% geometric Design Submission</b>	<b>Date Drawing Issued: May 11, 2015</b>	
<b>Transportation Design Lead: Ross Kenny, ATB</b>		<b>Geometric Designer: Alipasha Larijani, STP</b>	<b>Comments Required By: May 25, 2015</b>	
Item #	Reviewer Name & Branch	REVIEWER'S COMMENTS/DESIGN LEAD RESPONSE	ORIGINATOR RESPONSE CODES	FINAL RESOLUTION (BY LEAD REVIEWER)
1.	Paul Storer, STP	<b>Comment:</b> Pacific – S/S near Thurlow. Are the trees on private property intended to be saved and does the current design allow for that? Can more width be achieved from the 0.7m back boulevard and reallocated to the travel lanes to try to achieve something closer to our guidelines?		
		<b>Response:</b> Additional space shown on the drawing will be utilized to house street lighting poles. The 0.7m has been located between the road and the bike lane to provide separation for the protected bike lane.		D
2.	Paul Storer, STP	<b>Comment:</b> Pacific – S/S near Thurlow. Can the 0.7m back boulevard be reduced to 0.3m and reallocated to the travel lanes to try to achieve something closer to our preferred?		
		<b>Response:</b> Additional space shown on the drawing will be utilized to house street lighting poles. The 0.7m has been located between the road and the bike lane to provide separation for the protected bike lane.		D
3.	Paul Storer, STP	<b>Comment:</b> Hornby – s/o of Pacific. Is VFRS okay with the 5.5m? Can we increase to 6m to meet fire's preferred width?		
		<b>Response:</b> The throat width has been increased to 6m.		A
4.	Paul Storer, STP	<b>Comment:</b> Pacific – s/s near Howe. Is there opportunity in increase the centre lanes to achieve an extra 0.2/0.3 to allow shy distance from the curb? Can the sidewalk be widened where there are hydro chambers to include the chambers in the sidewalk?		
		<b>Response:</b> The median will be narrowed to provide additional shy distance for the centre lanes. The lanes will be increased to 3.2m. A DDL will be painted at 3m to provide continuity to the median east of Howe (which cannot be narrowed due to the close proximity of a column for the Howe Street onramp to Granville Bridge).		A

COMMENTS AND DISPOSITION SHEET

<b>PROJECT: NORTH END OF BURRARD BRIDGE</b>		<b>Submission: 90% geometric Design Submission</b>	<b>Date Drawing Issued: May 11, 2015</b>
<b>Transportation Design Lead: Ross Kenny, ATB</b>		<b>Geometric Designer: Alipasha Larijani, STP</b>	<b>Comments Required By: May 25, 2015</b>
5.	Paul Storer, STP	<b>Comment:</b> Pacific – s/s near Howe. Can the sidewalk be widened to at least 2m? If the issue is hydro chambers, can they be incorporated into the sidewalk?	
		<b>Response:</b> The existing sidewalk is 1.8m and is relatively new and in good condition. It was incorrectly labeled on the drawing as 1.5m.	D
6.	Paul Storer, STP	<b>Comment:</b> Pacific – n/s Hornby to Burrard. Do the trees reduce the sidewalk to below 1.8m (or larger requirement??) If so, do they need to be removed?	
		<b>Response:</b> The sidewalk is greater than 1.8m. The corner at Hornby and Pacific has been redesigned to ensure that the minimum 1.8m is provided.	D
7.	Paul Storer, STP	<b>Comment:</b> Burrard – is there an opportunity to achieve wider curb lanes on the NB bridge approach (or are there alternate methods to reduce collision potential for vehicles making the dual right)? What would the impact be?	
		<b>Response:</b> The curb lane will be widened to 3.3m once adequate space is available between the road and bike facility (north of the staircase to Beach Avenue.)	A
8.	Paul Storer, STP	<b>Comment:</b> Burrard – bus stop locations and landing area designs will need to be adjusted and approved separately (including NB stop far side Pacific, SB stops).	
		<b>Response:</b> Plan to be developed by TPP Group within STP.	A
9.	Paul Storer, STP	<b>Comment:</b> Pacific, e/o Howe. Show approved design to ensure alignment works.	
		<b>Response:</b> Road design ties into already approved design for Pacific east of Howe. The southeast corner of Howe and Pacific will be constructed as part of the Burrard project to coordinate upgrades to the traffic signal.	A

**COMMENTS AND DISPOSITION SHEET**

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10.	Tibor Mate, STP	<p><b>Comment:</b> Curb lane on Burrard, NB approach to Pacific. Can the section of about 20m prior to the intersection be widened to min 3.3m to allow for a more comfortable approach to the dual RT? It looks like there is room there without changing the geometry of the bike path.</p> <p><b>Response:</b> The curb lane will be widened to 3.3m once adequate space is available between the road and bike facility (north of the staircase to Beach Avenue.)</p>	A
11.	Tibor Mate, STP	<p><b>Comment:</b> W side of Burrard Burnaby to Pacific. It looks like the intent is to keep the existing curb, build a new one E of it, fill the space with asphalt and call it a bike path, I assume not to disturb the trees along the existing curb. If the old curb will be removed potentially damaging the trees can we look into changing the geometry of the road by pushing the curb west and providing curb/ bus lanes somewhat closer to the standard?</p> <p><b>Response:</b> The intent is to maintain existing curb / trees. If this changes through the 3D design, we can revisit this request.</p>	D
12.	Dale Bracewell, ATB	<p><b>Comment:</b> Active supports a fully protected EB bike lane on Pacific from Thurlow to Burrard including a special median treatment. If any new information regarding the health of the large tree currently being retained that prevents this EB PBL from being a part of this design, Active would like to see a change order in the construction design to include this.</p> <p><b>Response:</b> A bike box solution will be included in the base design with the tree to provide guidance to eastbound cyclists.</p>	A
13.	Dale Bracewell, ATB	<p><b>Comment:</b> SB people cycling on Thurlow at Pacific. How do they get into EB PBL? Can we either do a painted bike lane in between two travel lanes (there is 7.0m) or include something in the bike box already shown?</p>	

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		<p><u>Response:</u> The SB centre lane line cannot be shifted eastward as it impacts the SU9 SB to WB turn.</p> <p>s.13(1)</p>	C
14.	Dale Bracewell, ATB	<p><u>Comment:</u> EB cycle track on Pacific as it merges with SB cycle track from Burrard – please soften the merge as some people cycling will want to make this “all protected” movement (even though not encouraged) to either better position themselves for EB or perhaps walk across to go NB on Burrard, etc.</p>	
		<p><u>Response:</u> The curve has been softened.</p>	A
15.	Dale Bracewell, ATB	<p><u>Comment:</u> EB Pacific at Thurlow. Can we please have one EB travel lane and introduce a PBL that will people cycling to be protected while waiting for Thurlow traffic. Alternatively, make the EB travel lane a RT and bike only lane? (current issue is today people cycling are using the sidewalk during peak times).</p>	
		<p><u>Response:</u> This needs to be considered all the way to Beach and Pacific divergence. This would be a separate project but this design is compatible. (Existing Pacific St west of Thurlow is 10.9m with four travel lanes.)</p>	D
16.	Dale Bracewell, ATB	<p><u>Comment:</u> Active prefers this design that does not include a SB bus stop farside Burrard at Pacific as it would have new ped conflicts with fast moving people cycling down Burrard and provides for a more aesthetic reconfiguration of the SW corner including more street trees, green area. Etc.</p>	
		<p><u>Response:</u> Noted.</p>	A

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17.	Dale Bracewell, ATB	<p><b>Comment:</b> SB Burrard PBL. Would like to know why we haven't done minimum 2.5 from Burnaby down to Pacific and why we aren't being consistent each block. Can accept 2.4m for 0.6m separation plus 1.8m but not 2.3m, especially when the grade is highest close to Pacific.</p> <p><b>Response:</b> For the two PBL's on Burrard Street from Burnaby to Pacific only 4.8m is available. It has been decided by Transportation Branch Managers that 2.5m will be provided on the downhill and 2.3m provided on the uphill. This is based on the fact that downhill cyclists will be travelling faster and has more of a requirement for space. In addition, the curb on the east side will be flush with the bike lane and could be ridden over, while the curb on the west side is granite and has an irregular surface that cannot be ridden over.</p>	D
18.	Dale Bracewell, ATB	<p><b>Comment:</b> NB Burrard PBL and Sidewalk. There is too much hard surface space for NB bus stop at 2.6m. This needs to be more balanced and therefore reduced to allow for a wider than 2.0m PBL and 2.0m sidewalk. More discussion on tradeoffs needed.</p> <p><b>Response:</b> The bus stop has been redesigned to include trees and minimize the depth of the bus stop. Specific design will be included for review with the 100% geometric.</p>	D
19.	Dale Bracewell, ATB	<p><b>Comment:</b> NB Burrard Bridge towards Pacific. Please ensure the 2.5m PBL breaks into at least 2.0m for each NB and EB split. Also the NB to EB curve seems unnecessarily too tight and can be smoothed while still creating a more 90 degree interface with the pedestrian crossing to the intersection.</p> <p><b>Response:</b> a) At the point of deflection, each pathway is a 1.5m painted lane. The NB lane widens to 2.5m at the intersection of Pacific to allow for passing. The EB leg maintains a width of 1.5m to 1.9m and has a reverse curve to slow cyclists before they enter the marked pedestrian crossing. The curvature of the path is based on the east bound path design of Union and Hawks.</p>	D

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20.	Dale Bracewell, ATB	<p><b>Comment:</b> WB Pacific PBL requires a bike interval leading phase at Burrard to increase the comfort of people cycling who were waiting for WB signal phase so as have a few seconds to clear intersection without a conflicting RT movement. Do we need a similar approach for at Hornby as well with the painted bike lane or just at Burrard with the fully protected movement?</p> <p><b>Response:</b> It was determined that a bike leading interval is not required at Burrard and Pacific due to the advanced stopping position of cyclists at that intersection. The right turn from Pacific to Hornby Street will operate as a standard intersection with motorists turning right from the curbside (within the bikelane).</p>	D
21.	Dale Bracewell, ATB	<p><b>Comment:</b> The centre median on the west side of Burrard/Pacific – can it please extended thru the pedestrian crossing and consideration of also extending thru the SB PBL from Burrard. Will prevent even more illegal SB to WB car turns and an overall tighter intersection design.</p> <p><b>Response:</b> The median will be extended as is possible.</p>	A
22.	Dale Bracewell, ATB	<p><b>Comment:</b> Hornby details are needed. I don't understand the 5.5m south side and 7.1m on the north. Need the paint plan and travel lane and turning assumptions to know what is the design intent here.</p> <p><b>Response:</b> The south side has been increased to 6m. The intent is for one vehicle lane with enough width for a vehicle to pass a turning vehicle. s.13(1) s.13(1)</p> <p>North side design is to accommodate a WB to NB SU9 turn from future right-turn bay.</p>	A
23.	Dale Bracewell, ATB	<p><b>Comment:</b> The laneway is assumed to be closed between Hornby and Howe on south side of Pacific. What happens to this design if the consultation deems otherwise?</p>	

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		<p><u>Response:</u> There is challenging grade issues at this location. If the lane is open, the sidewalk / bike lane geometry will be dictated by the 3D design. Maintaining an open lane here would exceed COV policy for laneway grades and grade breaks.</p>	A
24.	Dale Bracewell, ATB	<p><u>Comment:</u> s.13(1) [redacted] Still believe we can get more 'straighter' and a wider median alignment Hornby to Howe by reducing the RT bay to be slower in its transition to being 3.0m.</p>	
		<p><u>Response:</u> s.13(1) [redacted]</p> <p>b) Due to road offset east of Howe St, reverse curves are required. A sub-standard right-turn lane not recommended, as this would decrease the length of the Howe Street right turn bay, causing possible congestion due to the proposed protected right turn phasing.</p>	D
25.	Dale Bracewell, ATB	<p><u>Comment:</u> Why are we not achieving a minimum 1.8m sidewalk from Hornby to Howe on the south side of Pacific?</p>	
		<p><u>Response:</u> The sidewalk was measured in the field and determined to be an existing 1.8m walk.</p>	D
26.	Dale Bracewell, ATB	<p><u>Comment:</u> While not a paint plan, some PBLs are showing where stop bars are to be located and other movements are absent. Need to achieve consistency and be mindful of not impeding the pedestrian crossings at protected intersections.</p>	
		<p><u>Response:</u> Paint will be added to PBL.</p>	A

**COMMENTS AND DISPOSITION SHEET**

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27.	Dale Bracewell, ATB	<b>Comment:</b> WB Pacific at Hornby. Please have the stop bar for painted bike lane ahead of the two vehicle travel lanes.	
		<b>Response:</b> Stop bars are located as per COV Policy and Procedure Guidelines.	D
28.	Paul Storer, STP	<b>Comment:</b> Restrict left turn from driveway on Pacific west of Burrard. Current median design doesn't look like it physically restricts this movement.	
		<b>Response:</b> The median has been extended to beyond the driveway to restrict left turns.	D
29.	Toby Lewis, TDM	<b>Comment:</b> Parking is being removed on the east side of Thurlow. Can we add it to the west side? It looks like this can be done if we narrow the buffered bike lane to 1.6m and reallocate 0.4m to the west side	
		<b>Response:</b> The NB bike lane width has been reduced to 1.8m and the painted NB vehicular lane approaching Pacific can be reduced to 3.0m, this will provide a 5.5m parking / SB lane.	A
30.	Toby Lewis, TDM	<b>Comment:</b> Consider adding a bulge on the SW corner of Thurlow and Pacific so the south leg crossing distance is shortened.	
		<b>Response:</b> Currently out of scope.	D
31.	Toby Lewis, TDM	<b>Comment:</b> For the EB curved gore area on Pacific & Thurlow Howe does an EB cyclist on Pacific enter the facility, are they meant to ride over the gore?	
		<b>Response:</b> The goring will be removed from the drawing.	A

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32.	Toby Lewis, TDM	<p><b>Comment:</b> The separated bike lanes on Pacific between Thurlow and Burrard have no utility strip. This means all poles and signs will be mounted in the bike path or the sidewalk</p> <p><b>Response:</b> The geometric has been updated to include a utility strip between the roadway and bike lane to hold all street lighting poles.</p>	A
33.	Toby Lewis, TDM	<p><b>Comment:</b> How are cyclists meant to connect to the new painted buffered bike lane on Thurlow from the seawall, and similarly, WB cyclists that have turned to go south on Thurlow in the bike box – how to they get to the seawall? Do we need an enhanced crossing on Beach and Thurlow? Ped/Bike signal?</p> <p><b>Response:</b> Project scope currently ends at the Beach. Cyclists expected to use current pathway to seawall.</p>	D
34.	Toby Lewis, TDM	<p><b>Comment:</b> Is the bike box on Pacific &amp; Thurlow out of the pathway of a westbound vehicle that is getting around a left turner?</p> <p><b>Response:</b> Width between the bike box and the DDL is 5.0m.</p>	D
35.	Toby Lewis, TDM	<p><b>Comment:</b> Consider adding additional RT arrows in the final paint plan on Pacific approaching Burrard to advise motorists as early as possible.</p> <p><b>Response:</b> <b>Please provide distance from Thurlow for marked RT arrows.</b></p>	C
36.	Toby Lewis, TDM	<p><b>Comment:</b> the east leg of Pacific &amp; Howe needs to be brought in to this geometric to show the transition back to existing or to the 1400 Howe geometric</p> <p><b>Response:</b> Will develop interim design to tie into 1400 Howe geometric at the SE corner of Pacific and Howe.</p>	A

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37.	Toby Lewis, TDM	<p><u>Comment:</u> Noted this is not the final paint plan, but all the zebra crosswalk markings need to be added at all the intersections to clarify the yield condition between peds/bikes</p> <p><u>Response:</u> Paint will be added to PBL and roadway.</p>	A
38.	Toby Lewis, TDM	<p><u>Comment</u> The Proposed LPI/LBI at Burrard &amp; Pacific requires dedicated signal heads. Space is very limited on the NW corner. The only position available to install them is the adjacent to the zebra crosswalk. Cyclists are meant to yield to pedestrians at the zebra crosswalk. The addition of a green bike display at this location may cause an unclear definition of right-of-way. Additionally, the right turn volumes indicate that there is less than 1 vehicle/cycle making the right turn. Finally, the modelling suggests that the single westbound thru lane is at capacity without the leading interval. Would need to determine that this would provide a safety benefit for the added complexities in operation and infrastructure.</p> <p><u>Response:</u> As determined by Transportation Branch Heads, an LPI and WB bike signal will not be included at this time due to the advanced stopping position of WB cyclists in front of WB vehicles. The traffic signal design should be completed in such a way as to not preclude a future installation.</p>	D
39.	Toby Lewis, TDM	<p><u>Comment</u> The proposed median on the west leg will require electrical crews to close westbound Pacific to service the signal in the future. (Or to develop a complex TMP)</p> <p><u>Response:</u> Recommend that Electrical Operations closes lane during signal servicing.</p>	D
40.	Toby Lewis, TDM	<p><u>Comment</u> Note that Transafe Consulting will be undertaking a road safety review and that the outcomes of the review may necessitate a change to the intersection design. The aspects that we are most interested in are the dual right from Pacific to Burrard Br., noting in particular that the turn is more than 90 degrees, as well as the potential impacts of a leading ped/bike interval</p> <p><u>Response:</u> Noted in design memo.</p>	A

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41.	Toby Lewis, TDM	<p><b>Comment</b> The turning swath guidelines at Burrard / Pacific may need to be optimized in the final paint plan</p> <p><b>Response:</b> Noted in design memo.</p>	A
42.	Toby Lewis, TDM	<p><b>Comment</b> The signal phasing at Howe / Pacific will likely require the westbound left turn to be upgraded to a protected/prohibited turn phase because of the proposed eastbound protected/prohibited right turn phase. This will introduce significant delay. The available ped/bike time in the south crosswalk will be minimized to accommodate these phases. Eastbound right turn capacity will be significantly reduced with the addition of this phase.</p> <p><b>Response:</b> TDM to provide recommendation.</p>	A
43.	Toby Lewis, TDM	<p><b>Comment</b> What is the proposed operation at Drake / Burrard – eastbound only on the west leg?</p> <p><b>Response:</b> The west leg is intended to be one-way EB.</p>	A
44.	Toby Lewis, TDM	<p><b>Comment</b> Consider adding crosswalks for pedestrians on Drake at Burrard if we are adding elephants feet for cyclists</p> <p><b>Response:</b> A full signal will be constructed as part of the Burrard Gateway development. Painted crosswalks will be added to the Drake crossings.</p>	A
45.	Toby Lewis, TDM	<p><b>Comment</b> The bike lanes on Burrard have no utility strip. This means no signs curbside. “right turns yield to cyclists” signs may be less effective and/or have no useful mounting location.</p> <p><b>Response:</b> Due to width signs will be located on the existing utility strip behind the PBL. “Yield on right turn” signs should be located at the far side of the intersection for visibility.</p>	A

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46.	Toby Lewis, TDM	<b>Comment</b> What is the interim plan for NB bikes farside Drake on Burrard if the future geometric isn't built? <b>Response:</b> The PBL will terminate at Drake St in the interim. Cyclists can turn east or continue north in the bus lane.		A
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## COMMENTS AND DISPOSITION SHEET

**Legend – Originator Response Codes:**

A = Accept Comment – Correct, Add to, or Clarify plans  
B = Evaluate but do not incorporate comment (explain)  
C = Address comment in next design phase  
D = Clarify or discuss comment – no action required  
E = Action will be taken as part of another project submission

**Legend - Final Resolution:**

A = Accepted  
B = Accepted with Conditions  
C = Further Information Required  
D = Rejected

COMMENTS AND DISPOSITION SHEET

<b>PROJECT: NORTH END OF BURRARD BRIDGE</b>		<b>Submission: 95% geometric Design Submission</b>	<b>Date Drawing Issued: June 17, 2015</b>	
<b>Transportation Design Lead: Ross Kenny, ATB</b>		<b>Geometric Designer: Alipasha Larijani, STP</b>	<b>Comments Required By: June 29, 2015</b>	
Item #	Reviewer Name & Branch	REVIEWER'S COMMENTS/DESIGN LEAD RESPONSE	ORIGINATOR RESPONSE CODES	FINAL RESOLUTION (BY LEAD REVIEWER)
1.	Brian Gould ATB	<p>What is the ultimate cross-section and protected bike lane alignment for 900 Pacific between the south curb and south property line? The bike lane has six curves in it as it bends around a single tree, while in the future it would presumably be straight for the majority of the block with transitions at the ends.</p> <p>Would it be better to build as much as possible of this with a minimal detour around the tree, so that new trees in the new boulevards can be planted today? See also, to a lesser extent, sidewalk on 900 Pacific and walk/bike on 800 block.</p> <p><b><u>The bike path on the 900 block will be modified to maintain a constant boulevard width between the curb and the south side bike lane of 1.5, except at the pinch point around the existing tree. The pathway to the west of the existing tree will be modified to achieve this width.</u></b></p> <p><b><u>In regards to the 800 block, Paul Lightfoot is having discussions with the Parks Board to understand the width requirements to maintain the existing trees. No planned changes to the geometric at this time.</u></b></p>		
2.	Brian Gould ATB	<p>The widths of proposed protected bike lanes on 1300 Burrard Street are below CROW standards for cycle tracks carrying more than 150 bike trips peak hour/peak direction (the equivalent of 2,000 bidirectional bike trips/day). This would be a minimum track of 2.5m and a minimum partition of 0.35m inside the built up area (assuming no obstacles in the verge), or 2.85m versus the 2.3/2.5m proposed. See also Drake. Additionally, CROW has no guidance to compensate for slope.</p> <p>As the cross-section as designed will be 1m less for bikes than CROW on opening day, what is the plan to widen? Trees were recently planted on the west side just north of Harwood, is this not the time to move them to gain the width?</p>		

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		<p><u>There is limited for space on Burrard Street north of Pacific and are planning to install a raised cycle track with only a vertical separation from the roadway, more similar to a cycle track from Copenhagen.</u></p> <p><u>The sidewalk between Drake and Harwood was recently reconstructed and there is a desire not to reconstruct this block. Also, if the cypress tree on the southwest corner of Burrard/pacific is retained a southbound bus stop will be added here.</u></p>		
3.	Brian Gould ATB	<p>The configuration of bicycle paths in the SE corner of the intersection is somewhat experimental in terms of the right turn channelization and re-entry path from the eastbound crossing. It may need to be reconfigured as the intersection matures. The landscape plan should avoid tree planting and fixed objects in the corner between the curb and sidewalk. The signal plan should locate poles adjacent to the walking refuge.</p> <p><u>Noted on Drawing.</u></p>		
4.	Brian Gould ATB	<p>The EB Pacific to SB Burrard Bridge PBL gradually bends to meet the SB Burrard St to SB Burrard Bridge PBL, except for a comparatively sharp bend at the end. Additionally, the combination path is no wider than either of the entering paths. As this is likely to function as a merge with rather high operating speeds, should it be designed more similarly to the merge in the SE corner?</p> <p><u>This corner will has been redesigned to accommodate a merge condition.</u></p>		
5.	Brian Gould ATB	<p>The NB curb lane on 1300 Burrard Street is painted as a bus lane. Please confirm that no parking will be allowed off-peak or otherwise, or provide an adequate buffer (may require making lane full-time parking with a bus bay and turn bay). See also lack of buffer on Drake. The NBR from Burrard to Drake sees 250-300 per peak hour. How will signalization provide a protected turn phase if a right turn lane is not provided?</p>		

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		<p><b><u>Parking will be allowed in off-peak hours as per the current regulations. A permanent buffer is not planned at this time, but there is a provision that a painted buffer (0.8m buffer/1.5m bike lane) could be added if deemed necessary in the future. The parking is next to uphill cycling so that cycling speeds will be relatively slow and severity of collisions lower than if it were on a downhill.</u></b></p> <p><b><u>The curb lane at Drake will be marked as “must turn right except buses”.</u></b></p>		
6.	Brian Gould ATB	<p>A review of bicycle-motor vehicle collision data from opening to the end of 2013 identified the top 3 locations on the DPBL network to all be on 1300 Burrard Street: Burrard at Pacific, Burrard at Harwood, Burrard at L/S Harwood. Collisions were all yield-on-turn: right turns into the lane and right/left turns into Harwood, and “didn’t see” is higher than usual in the reports.</p> <p>Although the removal of planters and narrower separation may help with visibility, there is no proposed change to the nature of the crossing, where CROW would suggest raising both the walking and cycling crossings at these sorts of minor cross-streets. This would be similar to the driveway designs on Pacific.</p> <p>Are the openings into the lane and Harwood for motor vehicles as narrow as absolutely possible (i.e. maximize the length of curb on the protected bike lane and minimize the length of crossbike)?</p>		
		<p><b><u>Raising the bike lane through the street/lane was considered, but is challenging to implement due to the lack of a separation between the protected bike lane and the road. Raising the bike and pedestrian crossing at Harwood will be considered in the option in which a bus stop is provided far side Drake Street.</u></b></p> <p><b><u>A bulge is proposed at Harwood to minimize the width of the roadway and the bicycle crossing/sidewalk.</u></b></p>		
7.	Paul Storer STP	<p>NB entry to dual RT lanes at Burrard/Pacific. Consider modifying to avoid very wide lane which may be confusing for drivers.</p>		

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		<b><u>The northbound vehicle laning has been modified to open the curb right turn lane first and then introduce the second right turn lane further to the north. This will make this dual right more consistent with the dual right from Pacific to southbound Burrard Bridge.</u></b>	
8.	Paul Storer STP	NB Dual RT lane at Burrard/Pacific. Consider widening to 3.3m further south.	
		<b><u>The lane widening has been extended approximately 10m to the south. This is the furthest the widening can be extended without impacting the ability to plant trees in the boulevard.</u></b>	
9.	Paul Storer STP	NB laning at Burrard/Pacific. Consider moving stop bars further north, particularly for NBR lanes	
		<b><u>The stop bar has been realigned to bring the dual right turn lanes closer to the intersection.</u></b>	
10.	Paul Storer STP	Provide stop bars for all bike movements at signals (missing EB/NB Hornby, and WB at Burrard	
		<b><u>Stop bars for all bicycle movements have been added to the design.</u></b>	
11.	Paul Storer STP	Pacific – Hornby to Howe. Why are centre lanes 3.2m in centre of block and 3.0 at ends? Consider straightening the median and providing 3.2 throughout.	
		<b><u>The centre lane of Pacific Howe to Hornby is designed at a constant painted width of 3.2m. The DDL in this section has been removed except at the approach to the intersections.</u></b>	
12.	Paul Storer STP	Need more detail of design east of Howe to ensure alignments, etc. work.	
		<b><u>The roadway paint details of existing Pacific east of Howe have been added to the design. The proposed 1400 Howe geometric has been designed to align with the Burrard North End project. If you wish to see the completed future scenario a drawing can be provided.</u></b>	
13.	Paul Storer	Why are we moving the curb on the west side of Hornby instead of narrowing the median on the east side? Is the full width needed for a WBR SU9?	

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	STP	<u>Hornby Street has been widened to the west to accommodate an SU9 turn from the location of the future right turn bay. By constructing the northwest corner of Hornby and Pacific in this manner we will not have to modify it in the future to accommodate the future protected bike lane on Pacific.</u>	
14.	Paul Storer STP	Bike lane e/s of Burrard n/o drake. Can the bike facility be straightened?  <u>The bike facility has been straightened.</u>	
15.	Paul Storer STP	Burrard – Burnaby to Drake. Does it make sense to leave facility at road level for a short block like this?  <u>The protected bike lane is shown to be raised to be consistent with the treatment to the south.</u>	
16.	Paul Storer STP	Burrard and Burnaby. Is there a way to better accommodate SBR mv turns without conflict with SB bikes? Additionally, open up gap on east side for cyclists to facilitate the turn.  <u>The SB cross bike at Burnaby and Burrard has been removed and replaced with guidelines. This will provide adequate space for a vehicle right turn and southbound bicycle movement to occur at the same time.</u>	
17.	Paul Storer STP	Burrard and Drake. How does the SBL bike geometry work?  <u>The south bound SBL has been modified as part of the bus stop design to provide space for left turn boxes for WB to SB and SB to EB.</u>	
18.	Paul Storer STP	Harwood bulge at Burrard – dimension width  <u>Dimension added.</u>	
19.	Paul Storer STP	Pacific e/o Thurlow. Dimension cross section including bike/ped facilities.  <u>Dimensioning added.</u>	
20.	Paul Storer STP	Add bus stop to SB Burrard at either FS Pacific or FS Drake.  <u>Bus stop added. Two drawings will be produced for approval, one with a bus stop FS Drake the other with the bus stop FS Pacific.</u>	

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21.	Toby Lewis TDM	Burrard & Burnaby – Unclear if SB RT motorists are meant to turn into space outside of green paint/elephants feet or cross over it. <b><u>The southbound elephants feet crossing and green paint has been removed and replaced with guidelines (consistent with painted bike lane treatment).</u></b>		
22.	Toby Lewis TDM	Burrard & Burnaby – Is parking being removed to provide the SBRT lane? <b><u>The parking is being removed to accommodate the #44 bus stop and the right turn lane.</u></b>		
23.	Toby Lewis TDM	Burrard & Burnaby - NB Cyclists have two stop bars. What is the intended operation if a cyclist arrives on red? <b><u>The first stop bar is for the traffic signal for NB cyclists who are expected to stop at a red light and give right of way to pedestrians in the crosswalk. The second stop bar will have a stop sign and is for queuing cyclists preparing to had east on Burnaby.</u></b>		
24.	Toby Lewis TDM	Burrard & Drake - SB Cyclists have two stop bars. What is the intended operation if a cyclist arrives on red? <b><u>The first stop bar is for cyclists travelling southbound on Burrard to stop at a ride light. The second stop bar provides a turn box for a two stage left turn for the WB to SB movement from Drake to Burrard.</u></b>		
25.	Toby Lewis TDM	Burrard & Drake - SE corner. Is there value in constructing the concrete in the radius? Will a sign have to be installed on it? <b><u>The concrete is intended to protect cyclists from right turning vehicles. The concrete could be replaced with custom bollards to remove the necessity for a sign.</u></b>		
26.				
27.	Toby Lewis TDM	NB Burrard Bus Lane – how will parking work. Other locations with offset meters have parking stalls marked. <b><u>Parking lane paint markings to be determined. Parking ‘t’s, paystations and other solutions will be considered.</u></b>		

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28.	Toby Lewis TDM	EB RT Lanes on Pacific approaching Burrard – painted arrow in 2 <sup>nd</sup> RT lane not recommended until full lane width. Also consider extending 3-6 marking in curb lane and not painting 1-1 dashed line <b><u>Modification to paint plan made.</u></b>		
29.	Toby Lewis TDM	Pacific at Burrard – West leg. Consider gore rather than concrete median to mitigate concerns about access wile services signals or pruning trees etc. Median can still be installed in front of driveway. <b><u>Based on the proposal to add concrete islands east of the median and the location of the traffic signal and the trees painting a portion of the median would not provide adequate width to divert west bound traffic around a maintenance vehicle. Recommend to keep the median as concrete.</u></b>		
30.	Toby Lewis TDM	Pacific at Burrard – Bike Box for eastbound cyclists may be unclear when to enter without conflict. Also, it is painted in front of both right turn lanes. If a cyclist departs from the middle of the turn lanes there will be a conflict. Consider alternative option that we discussed. Finally, it requires the stop bar for motorists to be setback 9m which makes the dual right turn more complex and reduces capacity <b><u>The eastbound bicycle crossing has been updated to place to the bike box between the crosswalk and bike crossing.</u></b>		
31.	Toby Lewis TDM	NBRT Lanes – there may be a better alternative for the final paint plan in terms of how to introduce the lanes <b><u>The northbound vehicle laning has been modified to open the curb right turn lane first and then introduce the second right turn lane further to the north. This will make this dual right more consistent with the dual right from Pacific to southbound Burrard Bridge.</u></b>		
32.	Toby Lewis TDM	Burrard & Pacific paint turning swath guidelines – provide opportunity to review again before final paint plan <b><u>There will be additional opportunities to review and comment on the paint plan.</u></b>		
33.				

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34.	Toby Lewis TDM	There is a bike stop bar missing for WB cyclists on Pacific at Burrard  <b><u>Stop bar added.</u></b>		
35.	Toby Lewis TDM	Hornby & Pacific. Bike stop bars missing eastbound and northbound. Also do we want to add a ddl for N/S bikes  <b><u>Stop bars and DDL added.</u></b>		
36.	Toby Lewis TDM	Median on Pacific between Howe & Hornby – are the yellow lines required?  <b><u>The DDL provides alignment for eastbound vehicles travelling through Howe.</u></b>		
37.	Toby Lewis TDM	The stopbar on Pacific westbound at Howe may be from the 1400 Howe geometric  <b><u>The proposed stop bar has been removed and the existing stop bar will be retained.</u></b>		
38.	Toby Lewis TDM	The proposed SB bus stop should be indicated on the drawing. Does it require a geometric change?  <b><u>The southbound bus stop farside Drake will be added to the drawing.</u></b>		
39.	Tibor Mate STP	Further to comment 13. PS, this also creates misalignment across the intersection.  <b><u>Hornby Street has been widened to the west to accommodate an SU9 turn from the location of the future right turn bay. By constructing the northwest corner of Hornby and Pacific in this manner we will not have to modify it in the future to accommodate the future protected bike lane on Pacific.</u></b>		
40.	Tibor Mate	Burrard @ Pacific EB/SB dual RT. why is the second guideline needed, consider removing.		

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	STP	<u>The second guideline provides guidance for the middle right turn lane to direct them to make the right turn rather than continue straight. The right turn is over 90 degrees and it was felt that additional guidance would help motorists make the turn safely. However, there will be additional opportunities to comment on the final paint plan as it is developed.</u>		
41.	Tibor Mate STP	Further to comment 30. TL, the operation of this box feels unclear and unsafe to me.  <u>The eastbound bicycle crossing has been updated to place to the bike box between the crosswalk and bike crossing.</u>		
42.	Tibor Mate STP	Further to comment 28. TL, reverse lane markings when introducing the dual RT (solid outside, dashed in between).  <u>The dual right turn lane paint lines have been updated.</u>		
43.	Brian Gould ATB	Please confirm eastbound motor vehicle right turn volumes from Pacific to Howe and any turn control. I am not seeing a count post-Hornby for this intersection, but assume it is over 200 based on historical counts at Hornby. This volume, in combination with relatively quick bicycles, may be problematic for yield-on-turn.  <u>The traffic signal at Howe has been designed to accommodate a protected right turn phase. The PM peak hour has over 350 vehicle right turns per hour (January 15, 2015 count).</u>		
44.	Brian Gould ATB	Square off the NW and SW curb returns at Hornby and Pacific (R1?). There are no legal turns around them and, at least in the NW, the extra space is useful for the sidewalk.  <u>The SW curb return can be squared off to a tighter radii to reinforce the turn ban. It is recommended not to adjust the NW corner as the future protected bike lane will be angled through Hornby Street and a tighter radius could make the transition into the protected bike lane west of Hornby more challenging.</u>		
45.	Brian Gould ATB	Unmarked crosswalks at Harwood are not respected. Plan to ban?  <b>Follow up with Tibor/Paul S.</b>		
46.	Brian Gould	Assuming there will be an ad-panel-less shelter on the bus boarding island, please show.		

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	ATB	<b><u>It has not yet been determined whether there will be no shelter or whether it will be panel-less. The intention of the design is to ensure that no sightline hazards are introduced at the bus stop. Design to be completed as part of the street furniture plan by STP.</u></b>		
47.	Brian Gould ATB	Green paint for SB bike lane at Burnaby is non-standard. Should be in the bike lane on approach if the intent is to address SB drivers merging into (or out of the right turn bay). If the intent is addressing drivers making right turns on red, the last reported collision involving a right turning driver from Burnaby was in 2000 under stop control. Given the quality of the facility is there a problem here that requires an arguably confusing green paint application? <b><u>Green paint in this crossing will be omitted from the paint plan.</u></b>		
48.	Brian Gould ATB	Break up driveway and lane crossings on Thurlow into two sections of green paint with buffer in between. Consider bollards in the buffer to provide a more AAA connection. <b><u>The green paint crossing will be updated as noted. Bollards can be considered as part of paint plan finalization. Pacific east of Hornby should also be considered.</u></b>		
49.	Brian Gould ATB	Should NB bike lane in NE corner of Burrard/Pacific gradually narrow from the crossbike width rather than suddenly being confronted by the bus boarding island? Difficult to tell whether this sticks out enough to be a problem or merely aids left turns. <b><u>Cross bike will be narrowed from 3.2m to 2.5m. This will be consistent with the southbound cross bike on the west side of Burrard.</u></b>		
50.	Ross Kenny - ATB	Show laneway between Hornby and Howe as a right turn out.  <b><u>The lane will be shown as open for outbound vehicles to address the access/servicing concerns of residents in the Strata buildings next to the laneway. Associated Engineering will have to reconfirm whether it is technically feasible to maintain the laneway as open.</u></b>		
51.	Ross Kenny - ATB	Add a left turn pocket for EB to NB cyclists.		

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		<u><b>A turn pocket will be added in the edge of the NB protected bike lane to provide a space for EB to NB left turns.</b></u>		
52.	Ross Kenny – ATB	Remove the concrete median on the west side of Burrard to allow for fire services to make a right turn from the wrong side of Burrard Street in an emergency.		
		<u><b>As part of the eastbound bicycle crossing design, a concrete median has been designed between the crosswalk and crossbike which will restrict illegal right turns.</b></u>		
53.	Ross Kenny – ATB	Show a curb line on the east side of Burrard Street through the Burnaby Street connection to allow for drainage and the 3D design		
		<u><b>Curb line added.</b></u>		
54.	Ross Kenny – ATB	Buffered bike lane on Pacific approaching Hornby Street and the green bike crossing should be removed. Dashing the bike lane approaching Hornby Street will remove the right turn conflict created with the buffered bike lane, removing the need for green paint. It is undesirable to paint this location green at this time as the crossing will be relocated when the development on the north side of Pacific – Hornby to Howe is completed. Relocating the crossing would require grinding the pavement, meaning either repaving or having a road surface which would be rough and less comfortable for cycling.  Cyclists reaching Hornby Street on Pacific from the east would have had to negotiate a number of blocks of street with no bike facility and loops on and off the Granville Bridge.		
		<u><b>Buffered bike lane and crossing removed.</b></u>		
55.				
56.				

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63.				

<p><b>Legend – Originator Response Codes:</b>          A = Accept Comment – Correct, Add to, or Clarify plans          B = Evaluate but do not incorporate comment (explain)          C = Address comment in next design phase          D = Clarify or discuss comment – no action required          E = Action will be taken as part of another project submission</p>	<p><b>Legend - Final Resolution:</b>          A = Accepted          B = Accepted with Conditions          C = Further Information Required          D = Rejected</p>
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