

## Wednesday May 15<sup>th</sup> 2013

**Place:** DNV Hall 355 W. Queens Rd V7N 2K6

**Time:** 7:00-9:00pm

**Chair:** John Miller – Lower Capilano Community Residents Association

**Tel:** 604-985-8594 **Email:** john\_miller@ultranet.ca

**Notetaker:** TBD

Regrets:

### 1. Order/content of Agenda

a. Chair Pro-Tem Suggests:

i. ...

### 2. Adoption of Minutes of Apr 17<sup>th</sup>

a. <http://www.fonvca.org/agendas/may2013/minutes-apr2013.pdf>

Emails pertaining to draft minutes will be distributed at meeting.

b. **Business arising from Minutes.**

### 3. Roundtable on “Current Affairs”

A period of roughly 30 minutes for association members to exchange information of common concerns.

a. **EUCCA: Updates**

b. **Other members...**

### 4. Old Business

a) **Update: “Process” FONVCA Committee**

### 5. Correspondence Issues

a) **Business arising from 3 regular emails:**

Distributed with full package and posted on web-site

b) **Non-Posted letters – 1 this period**

Distributed with full package but not currently posted on web-site.

### 6. New Business

a) **Cool North Shore Neighbourhood Program:  
~ 30min presentation**

[http://www.fonvca.org/agendas/may2013/CoolNeighbourhoods\\_Overview.pdf](http://www.fonvca.org/agendas/may2013/CoolNeighbourhoods_Overview.pdf)

### 7. Any Other Business

a) **FONVCA Web Site Hosting – Renewal**

Update: Due: December 15/2013 Cost: \$400/3yr

b) **Councillor Nixon: Emperor has no clothes**

<http://www.nsnews.com/business/black+according+audit/8365540/story.html>

<http://www.northshoreoutlook.com/news/205611681.html>

### 8. For Your Information Items

a) **Non-Legal Issues**

i. News-Clips of the month May 2013

<http://www.fonvca.org/agendas/may2013/news-clips/>

ii. Energy: by the numbers

[http://www.evworld.com/library/energy\\_numbers.pdf](http://www.evworld.com/library/energy_numbers.pdf)

iii. Potential for Coach Houses in West Vancouver

<http://www.westvancouver.ca/uploadedFiles/Community/COACH%20HOUSE%20DISCUSSION%20PAPER%20-%20FINAL.pdf>

<http://www.westvancouver.ca/uploadedFiles/Community/COACH%20HOUSE%20DISCUSSION%20PAPER%20-%20FINAL.pdf>

iv. Fighting Mega-Disasters – Japan 24 months later

<http://www.fonvca.org/agendas/may2013/Japan-Earthquake-2011-CNHR-SFU-2012-Apr26.pdf>

from April 26th workshop at Halpern Centre SFU

<http://cnhr.mhrisk.ca/index5.php>

attended by John Hunter & Corrie Kost

v. SLIDESHARE.NET resources - examples

- Online Participation 101 in 5 Minutes

<http://www.slideshare.net/intellicits/online-participation-101-in-five-minutes-gasp>

- Open Government through Participation

<http://www.slideshare.net/intellicits/open-government-through-participation>

- Role of Social Media in Public Participation

<http://www.slideshare.net/intellicits/the-role-of-social-media-in-public-participation>

- Online public Participation

<http://www.slideshare.net/intellicits/online-public-participation>

- Technological & Social infrastructure for community building

<http://www.slideshare.net/missroque/community-20-community-bootcamp-the-technology-part-by-lara-hunt>

vi. Why people drive less

<http://blogs.crikey.com.au/theurbanist/2013/05/02/why-are-australians-driving-less-than-they-used-to/>

b) **Legal Issues**

i. Lillooet dispute escalates – another SLAPP

[http://www.vancouversun.com/story\\_print.html?id=8325772&sponsor=](http://www.vancouversun.com/story_print.html?id=8325772&sponsor=)

ii. National Self-Represented Litigants Project

<http://www.representing-yourself.com/doc/report.pdf>

[http://www.vancouversun.com/story\\_print.html?id=8353174&sponsor=](http://www.vancouversun.com/story_print.html?id=8353174&sponsor=)

iii. Pemberton Valley Trails Assoc. & Province of BC Lawsuit

<http://www.piquenewsmagazine.com/whistler/crown-pvta-file-statements-of-defence-in-bike-injury-case/Content?oid=2457874>

### 9. Chair & Date of next meeting

a. **June 19<sup>th</sup>**

## FONVCA Received Correspondence/Subject

13 May 2013 → 16 June 2013

<b>LINK</b>	<b>SUBJECT</b>
<a href="http://www.fonvca.org/letters/2013/15apr-to/Barry_Pruden_19apr2013.pdf">http://www.fonvca.org/letters/2013/15apr-to/Barry_Pruden_19apr2013.pdf</a>	Waste Water- Cape Cod Study
<a href="http://www.fonvca.org/letters/2013/15apr-to/Doug_Curran_1may2013.pdf">http://www.fonvca.org/letters/2013/15apr-to/Doug_Curran_1may2013.pdf</a>	Traffic realities and Lower Capilano
<a href="http://www.fonvca.org/letters/2013/15apr-to/Monica_Craver_11may2013.pdf">http://www.fonvca.org/letters/2013/15apr-to/Monica_Craver_11may2013.pdf</a>	Too much NEW Trail Building by the NSMBA...

**Past Chair Pro/Tem of FONVCA (Jan 2010-present)**

**Notetaker**

<b>May 2013</b>	<b>John Miller</b>	<b>Lower Capilano Community Residents Assoc.</b>	<b>TBD</b>
Apr 2013	Paul Tubb	Pemberton Heights C.A.	Sharlene Hertz
Mar 2013	Dan Ellis	Lynn Valley C.A.	Sharlene Hertz
Feb 2013	Diana Belhouse	Delbrook C.A. & SOS	John Miller
Jan 2013	Val Moller	Woodcroft & LGCA	Sharlene Hertz
Nov 2012	Eric Andersen	Blueridge C.A.	Cathy Adams
Oct 2012	Peter Thompson	Edgemont & Upper C.A.	Charlene Hertz
Sep 2012	John Hunter	Seymour C.A.	Kim Belcher
Jun 2012	Paul Tubb	Pemberton Heights C.A.	Diana Belhouse
May 2012	Diana Belhouse	Delbrook C.A. & SOS	John Miller
Apr 2012	Val Moller	Lions gate C.A.	Dan Ellis
Mar 2012	Eric Andersen	Blueridge C.A.	John Hunter
Feb 2012	Dan Ellis	Lynn Valley C.A.	John Miller
Jan 2012	Brian Platts	Edgemont & Upper Capilano C.A.	Cathy Adams
Nov 2011	Paul Tubb	Pemberton Heights	Eric Andersen
Oct 2011	Diana Belhouse	Delbrook C.A. & SOS	Paul Tubb
Sep 2011	John Hunter	Seymour C.A.	Dan Ellis
Jul 2011	Cathy Adams	Lions Gate C.A.	John Hunter
Jun 2011	Eric Andersen	Blueridge C.A.	Cathy Adams
May 2011	Dan Ellis	Lynn Valley C.A.	Brian Platts/Corrie Kost
Apr 2011	Brian Platts	Edgemont & Upper Capilano C.A.	Diana Belhouse
Mar 2011	Val Moller	Lions Gate C.A.	Eric Andersen
Feb 2011	Paul Tubb	Pemberton Heights ← Special focus on 2011-2015 Financial Plan	
Jan 2011	Diana Belhouse	S.O.S.	Brenda Barrick
Dec 2010	John Hunter	Seymour C.A. ← Meeting with DNV Staff on Draft#1 OCP	None
Nov 2010	Cathy Adams	Lions Gate C.A.	John Hunter
Oct 2010	Eric Andersen	Blueridge C.A.	Paul Tubb
Sep 2010	K'nud Hille	Norgate Park C.A.	Eric Andersen
Jun 2010	Dan Ellis	Lynn Valley C.A.	Cathy Adams
May 2010	Val Moller	Lions Gate C.A.	Cathy Adams
Apr 2010	Paul Tubb	Pemberton Heights	Dan Ellis
Mar 2010	Brian Platts	Edgemont C.A.	Diana Belhouse
Feb 2010	Special		
Jan 2010	Dianna Belhouse	S.O.S	K'nud Hille

# FONVCA

## **Draft Minutes of Regular Meeting April 17, 2013**

District Hall 355 West Queens Rd, North Vancouver, V7N 2K6

**Attendees:**

Paul Tubb ( <b>Chair pro-tem</b> ),	Pemberton Heights C.A.
Sharlene Hertz ( <b>notes</b> )	Delbrook C.A.
Val Moller,	Lions Gate N.A. / Woodcroft
Corrie Kost,	Edgemont & Upper Capilano C.A.
Eric Andersen,	Blueridge C.A.
John Hunter,	Seymour C.A. [arrived 8:08pm due to other mtg at hall]
John Miller,	Lower Capilano Community Residents Association
Dan Ellis,	Lynn Valley C.A.

**Regrets:** Cathy Adams, Lions Gate NA; Carol Hartnett, Norwood Queens CA, Diana Belhouse, Delbrook CA

The meeting was called to order at 7:02 p.m.

### **1. Order/Content of Agenda**

Chair Pro-Tem suggests:

**OCP IC Report** to be added to agenda as 4.3

### **2. Adoption of Minutes of March 20, 2013**

<http://www.fonvca.org/agendas/mar2013/minutes-mar2013.pdf>

Moved by Dan Ellis, **carried**

**Business Arising from Minutes:**

- a) Follow up to letter to Mayor and Council re: request for DNV Council to submit resolution to UBCM in support of doctor home visits. No response to date from M & C.  
**Action: Dan Ellis** to send letter to M & C with refresh request
- b) Sharlene/Corrie coordinated email for congrats to Block Watch on occasion of 25<sup>th</sup> anniversary

### **3. Roundtable on Current Affairs**

#### **3.a) EUCCA (Corrie Kost)**

- Had AGM March 21<sup>st</sup>; record balance in the bank (may need to reduce voluntary dues back to \$5/yr), added **two** new board member (**total 10**); provincial All candidates meeting at Highlands United Church on Wed. May 8<sup>th</sup>, sponsors: Chamber of Commerce, EUCCA, Church; wildcard format; Turning Point Society: alcoholic/drug addiction recovery housing, complex process, public hearing on May 7<sup>th</sup>
- Re: 129 unit seniors complex proposal; felt refresh process should guide decision; however this will likely be a spot zoning request; committee position split 4/7 – both majority and minority reports went to staff and EUCCA.

### **3.b) Blueridge CA (Eric Andersen)**

- Seymour is co-sponsor for provincial All candidates meeting May 6<sup>th</sup>; corner store on Mt. Seymour Parkway for which owner applied to have changed into café and was approved but this never materialized; property is declining; neighbour wrote article in newsletter – conducted survey – 104 people responded; DNV is aware; suggestion to contact DNV again which is changing regulations to address these issues; Eric will follow up.

### **3.c) Lower Capilano Community Residents Association (John Miller)**

- Street lighting in area is on hydro poles; two recently split lots are now required by DNV to install street lights resulting in two steel poles between hydro poles; suggested CA contact specific person at DNV

### **3.d) Lynn Valley Community Association (Dan Ellis)**

- LV Days and gala last Sat. in May; AGM in June, updating by-laws. Dan is now on board of LV Services Society (manages Mollie Nye House).

### **3.e) Lions Gate N.A. / Woodcroft (Val Moller)**

- Lower Cap implementation plan meeting – tried to get Woodcroft involved, successful (~100+) attendance; in general people liked the plan, but traffic concerns.

### **3.f) Delbrook CA (Sharlene Hertz)**

- Public Assembly Land Draft Report & Recommendations:  
[http://www.identity.dnv.org/upload/documents/PA\\_Draft\\_Report\\_Recommendations\\_.pdf](http://www.identity.dnv.org/upload/documents/PA_Draft_Report_Recommendations_.pdf);  
amendments to the zoning by law are recommended to establish separate PA zones for elementary schools, secondary schools, places of worship, civic and institutional uses etc. including the following: *C-2.h) residential and/or care facilities (beyond the scale permitted outright under the zoning bylaw and/or provincial/federal legislation) could be considered for a specific PA zone or within specific residential zones (see page 45 of the pdf)*; a Public Hearing will be held; section C-2.h) could be a carte blanche option for Council; continue to monitor.

## **4. Old Business**

### **4.1 Old Business Update from “Process” Committee of FoNVCA**

- Task Group met twice (Apr 4<sup>th</sup>/17<sup>th</sup>) in the last couple of weeks.
- Exploring resources and approaches; connecting with people with various expertise; working on mission and how we will conduct process; looking at linkages
- Likely more activity in the fall; if we do this successfully, the whole case of public engagement will be enhanced; exploring best practices

## 4.2 Debriefing of Shirtsleeve Meeting

- Corrie's personal notes available for attendees; participants reported worthwhile discussion; sewage plant an issue including amortization, also a zoning issue / use of land as there is a term limit to current lease and must move facility, latter concern requires clarification

## 4.3 Report on OCPIIC – Dan and Corrie

- Meeting April 3<sup>rd</sup>; LV – consultation process was deferred due to RFP for consultant; process is completed and consultant selected; next, OCP will engage with consultant; further public consultation will likely be in the fall; Edgemont refresh discussed; Lower Lynn discussed; OCPIIC need material much earlier in advance of their meetings; Seylynn is proceeding and advertising for property sales is underway.

## 5. Correspondence Issues

### 5.1 Business Arising from 6 regular emails

- Irrational garbage container rules: cheapest garbage can is not eligible for use at curb
- DCCs – Corrie discussed the DCC information he provided to Council – distributed to attendees; for comparison, DCCs in Brantford \$36,000 for single family home, DNV - \$15,000; apts. in Brantford - \$19,000, DNV \$9000
- Doug Curran – issue on health and transportation modes
- Jerome Irwin document

### 5.2 Business Arising Non Posted Letters – 0 this period

## 6. New Business

### Council and other District Issues

#### a) Council Committee of the Whole (COW) issue (John Hunter)

John Hunter provided an overview of his email

( <http://www.fonvca.org/agendas/apr2013/John-and-James-on-COWs.pdf> )

dialogue/discussions with DNV regarding COW; implementation of COW has potential of overall reduction of public input time; ten minutes allowed at end of meeting for public input; more formalized than workshop; COW is to end in a resolution – workshop structure does not have this requirement; what happened to previous implementation of COWs? Why abandoned and now re-introduced?; Regular Council meetings' public input, although still held to total 30 minutes increase individual input from 2min to 3min – felt to be a good step. Will monitor and assess overall workability.

#### b) Road Line Paint (visibility) Issue (John Hunter)

Environmentally friendly paint does not perform well at night; Dollarton highway is particularly challenging; John H has a volunteer who will take photos of various roads to compare and submit to Council; is there a reflective material available at a lower cost; research alternatives / options; John Hunter will follow up

- c) **Public Participation – “Reality or Rhetoric” - trend since 1990’s- Corrie Kost**  
Deferred till next meeting for introduction by C. Kost

## 7. Any Other Business

### 7. a) FoNVCA Website Hosting Renewal

- Three year period cost is \$400 = \$40 per CA; Corrie will pay and recoup funds as required following request for funds to DNV; Due Dev 15/2013

### 7. b) Civic Engagement at City of Victoria

[http://www.victoria.ca/assets/City~Hall/Documents/Civic\\_Engagment.pdf](http://www.victoria.ca/assets/City~Hall/Documents/Civic_Engagment.pdf)

See also:

[http://www.iap2.org/associations/4748/files/IAP2%20Spectrum\\_vertical.pdf](http://www.iap2.org/associations/4748/files/IAP2%20Spectrum_vertical.pdf)

[http://www.edmonton.ca/for\\_residents/InvolvingEdmontonBrochure.pdf](http://www.edmonton.ca/for_residents/InvolvingEdmontonBrochure.pdf)

- Useful reference; relates somewhat to Task Group initiative

### 7. c) Translink Governance Review

- Executive Summary provided  
<http://www.scribd.com/doc/131890569/TransLink-Governance-Review>

### 7. d) Sponsoring Provincial All-Candidate Meetings

- New provincial regulations; read and heed; confusing regulations  
Ads to publicize the event needs to indicate the sponsors etc.  
<http://web.bcrea.bc.ca/2013Election/ElectionAdvertisingSponsorGuidelines.pdf>

## For your Information Items

### 8.0 News-Clips of the month April 2012

<http://www.fonvca.org/agendas/apr2013/news-clips/>

### 8.1 Non Legal Issues presented for information

a) & b) to be read; c) Community Association Volunteer Handbook

[http://www.saskatoon.ca/DEPARTMENTS/Community%20Services/Communitydevelopment/Documents/volunteer\\_handbook.pdf](http://www.saskatoon.ca/DEPARTMENTS/Community%20Services/Communitydevelopment/Documents/volunteer_handbook.pdf)

provides a nice summary.

d) Local Government Publications

<http://www.sooke.ca/assets/Local~Government/Corporate~Services/UBCM%20Booklet.pdf>

[http://www.sms.bc.ca/wp-content/files\\_mf/municipalcouncillorshandbook2012.pdf](http://www.sms.bc.ca/wp-content/files_mf/municipalcouncillorshandbook2012.pdf)

e) Simplified Rules of Order

<http://corp.sbay.org/board/rules-of-order/ubc-sroo.pdf> - limited hardcopies distributed.

f) Proposed Philips Ave Overpass – April 23 mtg

<http://www.fonvca.org/agendas/apr2013/philips%20overpass.pdf>

– will be a true overpass

### 8.2 Legal Issues – Advise you read

a) **Advise on Neighbour Law** – by Canadian Bar Association

[http://www.cba.org/bc/public\\_media/housing/400.aspx](http://www.cba.org/bc/public_media/housing/400.aspx)

Unrelated to above Corrie outlined court case of owner on Capilano Rd. who constructed a second dwelling on the property without any permits; Supreme Court – oral judgement: demolish the structure; owner may apply for extension to conform to DNV bylaws; DNV awarded costs; limited documents available at meeting; **Action:** Corrie to send pdf to attendees

**b) Public Hearings and Duty to Disclose Reports**

<http://www.sms.bc.ca/issue/?issue=82>

**c) Introduction to BC Local Government Law**

<http://www.lgma.ca/assets/Programs~and~Events/MATI~Programs/MATI-Foundations/2012~Presentations/REE%20HARDING%20-%20Introduction%20to%20BC%20Local%20Government%20Law.pdf>

**9. Chair and Date of next meeting**

Chair to be determined – **7 PM Wednesday May 15<sup>th</sup>**, 2013 at District Hall  
Sharlene Hertz – Recorder (conflict noted later – need to determine)

**Adjournment at 8:48 p.m.** Corrie Kost moved adjournment. **Carried.**

**Subject:** Fwd: Cape Cod Study-- Corrie Kost  
**From:** Brian Platts <bplatts@shaw.ca>  
**Date:** 19/04/2013 12:14 PM  
**To:** Corrie Kost <corrie@kost.ca>

**FONVCA AGENDA ITEM 5(a)**

----- Original Message -----

**Subject:** Cape Cod Study-- Corrie Kost  
**Date:** Fri, 19 Apr 2013 12:06:37 -0700  
**From:** Barry Pruden <barryp@dccnet.com>  
**To:** [fonvca@fonvca.org](mailto:fonvca@fonvca.org)

Here is a link for Corrie Kost.

[http://www.ccwpc.org/images/educ\\_materials/wwreports/cape\\_cod\\_ww\\_costs--4-10.pdf](http://www.ccwpc.org/images/educ_materials/wwreports/cape_cod_ww_costs--4-10.pdf)

Further to a telephone call today.  
Barry Pruden



**Subject:** Fwd: Fwd: Traffic realities and Lower Capilano Implementation

**From:** Brian Platts <bplatts@shaw.ca>

**Date:** 01/05/2013 9:19 PM

**To:** Corrie Kost <corrie@kost.ca>

----- Original Message -----

**Subject:** Fwd: Traffic realities and Lower Capilano Implementation

**Date:** Wed, 1 May 2013 21:15:43 -0700

**From:** Douglas Curran <dougcurran@shaw.ca>

**To:** FONVCA <fonvca@fonvca.org>

Begin forwarded message:

**From:** Douglas Curran <dougcurran@shaw.ca>

**Date:** May 1, 2013 9:12:37 PM PDT (CA)

**To:** Alan Nixon <nixona@dnv.org>

**Cc:** DNV Council

**Subject: RE: Traffic realities and Lower Capilano Implementation**

Good evening Alan,

We appreciated your comments at Monday evening's Council meeting with regard to the CGA's work to create "an informed community". We believe the emphasis on logic and realistic outcomes was key to shifting the community from rejection of any change. At this time, even for those not fully embracing all aspects of the Village Centre concept, there is recognition of the overall logic and need for change.

The single and most persistent difficulty for many remains the misperception that traffic is worse now than previously and will get worse. For reference i have attached a 1955 photograph of traffic lineups at the Lions Gate Bridge that shows that more than 50 years ago the situation generally looked the same as today.

I recall your own comments of some months back that it actually took longer to cross the bridge 30 years ago than it does today. The traffic table below would seem to support your recollections, as it shows that over the past 8 years traffic volumes have decreased almost 5%. Currently 30% of rush hour commuters are transported by fewer than 3% of the vehicle numbers. This shows that transit can work, people will change their habits if viable transit is in place and we are not compelled to accept a never ending cycle of gridlock.

The table below shows the average daily volumes on the Lions Gate bridge (total traffic for an entire year divided by 365 days) from 2004 to 2012 which is from the province's permanent count station on the bridge.

This information may be of use in addressing repeated traffic concerns of area residents who contact you and Council expressing worry that the Village Centre will immobilize Capilano Road traffic.

## Historical Traffic Volumes – Lions Gate Bridge

Year	Average Daily Volumes over Lions Gate Bridge		
	<b>Total</b>	<b>Southbound</b>	<b>Northbound</b>
2004	63,369	32,318	31,051
2005	62,696	31,975	30,721
2006	62,418	31,833	30,585
2007	62,287	31,766	30,521
2008	61,291	31,258	30,033
2009	61,480	31,355	30,125
2010	59,880	30,539	29,341
2012	60,285	30,745	29,540

<http://www.th.gov.bc.ca/trafficData/index.asp>

best regards, Doug



Douglas Curran  
2046 Curling Road  
North Vancouver, B.C.  
Canada V7P 1X4

Ph: 604-985-5621

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

**Subject:** Fwd: Too much NEW Trail Building by the NSMBA...

**From:** Brian Platts <bplatts@shaw.ca>

**Date:** 11/05/2013 2:52 PM

**To:** Corrie Kost <corrie@kost.ca>

----- Original Message -----

**Subject:** Too much NEW Trail Building by the NSMBA...

**Date:** Sat, 11 May 2013 13:55:52 -0700

**From:** Monica Craver <mecraver@shaw.ca>

**To:** DNV Mayor and Council <[council@dnv.org](mailto:council@dnv.org)>

**CC:** <[fonvca@fonvca.org](mailto:fonvca@fonvca.org)>

Dear Mayor and Council:

**How many NEW Trails: reroutes, bypasses, realignment, etc. are the NSMBA TAP and "Shore Corps" planning to build this year?**

Are all their bike/multi-use trails so badly eroded and damaged that they can no longer "maintain or repair" what they already have? And WHY is DNV allowing these ecologically damaging activities to continue unabated, and unsupervised? It seems like any Tom, Dick or Harriet can walk into the woods with a wheelbarrow, buckets, shovels, rakes/hoes, chainsaws, etc. to do whatever they wish inside our public forests and parks. And DNV is encouraging it!

They dig and cut new trails on almost a daily basis, somewhere on the North Shore. This year alone, (on Mt. Fromme) we have seen a new trail bypass/reroute cut off Bobsled Trail! We have seen a portion of the Baden Powell Trail turned into a speedway for mountain bikers; another new reroute on Espresso Trail; of course more digging and new building and reroutes in the Mountain View Park lowland and upland areas, etc.

Most of the damage we see is occurring off-trail (out of sight). Where does all that dirt come from, we should wonder? Where do all the rocks come from? Wheelbarrows and buckets full of "gold dirt" and rocks pack the NEW cut trails.

Tonnes of this dirt is needed, during a years digging, alone... The finished trail looks "great" (to the gullible and naïve eye.) New trail cutting and all that incessant and consumptive off-trail digging is damaging many trees/root structures, vegetation, depleting critical soil substrate/topsoil, and overall habitat to many small wildlife, including disturbance of salamanders, as seen by how many mountain bike trail builders seem to be photographed holding these disturbed amphibians in their hands.

This is prime breeding season for amphibians, so any alteration to wetlands or streams, particularly instream works or activities affecting flows, water levels, sedimentation, or habitat disturbance within the water or surrounding riparian zone can impact eggs, larvae,

or breeding adults. All this "trail" soil eventually washes into our fish-bearing streams and amphibian breeding ponds, etc. Mountain biking is very unsustainable, as it erodes the ground the tires rip and shred on. Rock armouring and "gold dirt" packing isn't going to change that fact. The fact the same steep trails are being worked on (rerouted, bypassed and realigned) almost endlessly is a sure sign of mountain bikers' unsustainable activities on our forest slopes.

DNV is purposely ignoring many environmental infractions by the NSMBA and their corporate supporters, being done over and over again, as DNV "fiddles". We're in the midst of breeding/rearing season for wildlife, and there are obvious violations happening under our federal Migratory Birds Convention Act (MBCA) and the BC Wildlife Act. DNV should already be aware of this.

But from what I see, these violations are being scoffed at by several parties involved in this incessant and consumptive NEW trail building going on within Mt. Fromme, Mtn View Park environs and Seymour. More of this cavalier anti-environmental behaviour is occurring outside of DNV's jurisdiction. Such scofflaws! DNV may talk the "environmental" talk, but they sure do not walk the walk! In fact, DNV is not even trying to manage the forests, as they have allowed the foxes to guard the chicken coop. The situation we have today, can only be called a slow-motion "sanctioned" clear-cut. (By time many figure out what is happening, it will be too late. In fact, I believe it is too late.)

Thank you for the wonderful "nature-deficit" legacy you are leaving us on the North Shore, DNV Mayor and Council, by your continued silence on these issues We do not need a parking lot on Mt. Fromme to accommodate more scofflaw bikers, nor do we another fire road cut through the heart of Mt. Fromme. "Build it and they WILL come".

Many will get the forests they deserve! What do their poor children and grandchildren end up with...? Tough luck, kids! *"It was never about you -- only about us...BUT, now you get to pick up and pay royally for the mess we've left behind..."*

**At least my children (and grandchildren) will know I tried to make a difference.** But I now fear anything less than a complete ban on mountain biking inside our forests will be too little, too late. It is shocking to see how much damage the mountain bikers, their corporate adopters, etc. have done to our forests in such a short time with their incessant and consumptive riding and trail building activities. More shocking is the fact they do know the damage they do, but their addiction to the mountain bike "lifestyle/cult" is much greater, so they continue to ride and dig, ride and dig, etc.

*Such sad, sad little people...riding and digging four seasons a year; rain, shine, sleet or snow; day and at night...If only this "non-motorized" off-road wheeled wreckreation did not place such a heavy toll on our natural places and parks. If only... <sigh> When will DNV listen? All the evidence is in plain sight.*

--Monica Craver--  
North Vancouver, V7K 2R3

\*\*\*\*\*

As of March 2013, in a mountain biking article...

**"While road biking and commuting are strong in Montreal, mountain biking is still banned on all public spaces and parks."**

~Montreal's 30-year-old regulations banning biking in municipal parks (*Bravo!*)

ie.

[http://ville.montreal.qc.ca/portal/page?\\_pageid=175,1722397&\\_dad=portal&\\_schema=PORTAL](http://ville.montreal.qc.ca/portal/page?_pageid=175,1722397&_dad=portal&_schema=PORTAL)

## **Mountain biking is harmful to the natural environment in nature parks**

\*\*Mountain bikes exert an enormous amount of pressure on the natural environment and contribute to its destruction. Leaving the trails creates ridges, destroys vegetation and leads to erosion and soil compression.\*\*

**Observe the signs along official pathways to conserve the natural environment and to enhance the pleasure of strollers!**



Cool Neighbourhoods is a community-drive program focused on helping citizens increase their neighbourhood's resiliency and sustainability, and decrease energy consumption.

The program began through the experience of homeowners in West Vancouver who came together to find a way to do something about climate change and looked at ways to decrease their electricity and natural gas use.

In the process, they came together as neighbours, learning together, making changes, and having fun.

The idea of joining together to improve the efficiency and comfort of your home, while increasing the connectedness of your community, has since spread to other neighbourhoods on the North Shore.

The Cool Neighbourhoods program is run by Cool North Shore, a non-profit society working to support citizens to take action on climate change and sustainability.



Program staff facilitate homeowners to host get-togethers to discuss and learn about areas of home energy savings. Experts and contractors answer questions on improvements, retrofits, home energy assessments and rebate programs. The municipal Fire and Rescue Services provide free thermal imaging to discover key areas of home heat loss.

Cool North Shore invites you join the Cool Neighbourhoods program and bring your neighbours together to decrease your energy use, increase the comfort in your home, and have some fun!

**Generously Supported By**



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<http://www.northshoreoutlook.com/news/205611681.html>

Councillor slams 'totally unsustainable' spending at District hall



By North Shore Outlook

Published: **May 01, 2013 08:00 AM**

Updated: **May 01, 2013 09:119 AM**

The North Vancouver District government made public its audited 2012 balance books Monday. And while there was general agreement among council and staff that the District's financial situation is sound today, one councillor, Alan Nixon, sounded the alarm about what he called the "totally unsustainable" spending future at DNV hall.

While the [2012 statements](#) don't offer much in the way of detailed line-item breakdowns, Nixon trotted out some specific comparisons with 2002 numbers to make an impassioned case for tax and spending reform.

He took aim first at compensation for District employees.

"The number of employees paid over \$75,000 in 2011 was 239. In 2002, that number was 58," he lamented.

"Sixty-two employees were reported to have been paid in excess of \$100,000 in 2011 [and] the 2012 numbers will soon be out," he continued. "In 2002, that number was eight."

Of course, inflation has had an impact on everyone's real earnings over the past decade, but these income hikes far outstrip the 17.8-per-cent rise in Vancouver's consumer price index since 2002, Nixon argued.

"Most of the residents in the District of North Vancouver have seen their incomes drop in real terms," he said, referring to the same 10-year period.

"My research indicates that the average pre-tax earnings of the 239 employees referred to —

those earning \$75,000 or more — places them in the top 7.5 per cent of all Canadian income earners in 2012.”

Nixon went on to compare the District’s reliance on taxes for the bulk of its revenue with those U.S. communities that went broke in recent years because, he said, of their governments’ beliefs they could “continue to tax until there were just no more homes left to pay those higher taxes, or half those homes were empty.”

The comments sparked some discussion about other potential revenue streams and the role of the public employees’ union in driving up District labour costs every year.

Casinos, outdoor advertising, mountainside development and large-scale land sales were all mentioned as potential revenue drivers that the District has turned up its nose at in the past.

“We’ve made a decision to forgo that income that many other municipalities around here — Burnaby, Coquitlam, Richmond, Langley and the City of Vancouver — they’re all bringing in that revenue to help stabilize their costs,” Coun. Mike Little said, referring specifically to casinos. “We’ve made a conscientious, and I think a good, decision at this point and I don’t think the will of the community has changed to forgo that.”

Citing some more macro-level costs from the District’s 2012 financials, Nixon said the municipality’s total annual spend of \$145.7 million in 2012 marks a 46-per-cent increase over 2002. Similarly, the District’s net taxes grew by 52 per cent and property taxes rose by 47 per cent in the same 10-year period, Nixon said.

For recreation services, the 2012 bill of \$7.28 million showed a 49-per-cent spike over 2002. For libraries, the District spent 27 per cent more. And finally, District hall spent \$66.6 million on staff salaries and benefits last year; 51 per cent more than a decade prior.

“These numbers beg the following rhetorical questions,” Nixon said. “Is my quality of life, as resident in the District, 52 per cent better than it was in 2002? Are we and our region, including the school district, providing that many more services to our residents and taxpayers in 2012 in order to justify the 47-per-cent increase in the tax levies since 2002? And are District residents 48.6 per cent healthier in 2012 than they were in 2002 as a result of that increased investment in recreation services?”

The District’s chief administrative officer, David Stuart, however, cautioned Nixon against taking the municipality’s 2012 financials at face value. He said differing accounting practices and the recent inclusion of costs for major Metro capital projects, like the Lions Gate Wastewater Treatment Plant replacement, keep moving the goal posts for the region’s chief financial officers.

It’s worth noting too that Nixon was first elected to DNV council in 2002, a point that wasn’t lost on the four-term councillor.

“In all of the comments I’ve made, I’ve played a role in the decision-making of the past 11 years that has led to where we are today,” Nixon said. “But at the same time, I don’t think we can

continue.

“The current trend is totally unsustainable by any measure imaginable. Over the coming years we are going to have to make some really tough decisions about how to dramatically control expenditures while maintaining a semblance of the quality of life we have come to cherish here in the District.”

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Find this article at:

<http://www.northshoreoutlook.com/news/205611681.html>

**FONVCA AGENDA ITEM 7(b)**

# DNV in the black according to audit

## But cost of government continues to rise - unsustainably for some

BY BRENT RICHTER, NORTH SHORE NEWS MAY 10, 2013

THE District of North Vancouver is in good financial shape, according to its 2012 audited financial statements.

The 2012 revenues, expenditures and transfers, overseen by the district's audit committee as well as an outside consulting firm, came up for discussion at an April 29 council meeting.

"They show the district to be in a healthy financial position. Fixed assets of half a billion dollars. . . . We've almost reached a position where we're putting enough money into capital allocations each year to replenish our fixed asset position. I think that is a really important status," said Coun Robin Hicks, who is also an audit committee member. "The reserves and investments are significantly healthy as well."

The district is passing a 2.5-per cent tax increase in 2013, including a one-per cent bump for infrastructure projects.

But the sound news belied a troubling trend in numbers put forward by Coun. Alan Nixon. After acknowledging that changes in accounting practices make direct comparisons almost impossible, Nixon noted the ballooning budgets, tax collection, employee expenditures and infrastructure spending the district has seen in the 11 years since he was elected.

Compared to a 17.8-per cent jump in the Vancouver consumer price index since 2002, the total 2012 expenses for the district of \$145.7 million rose 47 per cent. The amount the district collected in property taxes rose by a similar percentage. At \$7.28 million, spending on recreation services was up 48 per cent and the number of employees making more than \$100,000 went from eight in 2002 to 62 in 2011.

Nixon then posed a number of rhetorical questions, encouraging council to evaluate whether the municipality was on the right track.

"Is my quality of life as a resident in the district 52 per cent better than it was in 2002?" he asked. "Are district residents 48 per cent healthier in 2012 than they were in 2002 as a result of that increased investment in recreation services?"

The point in "boring council with numbers" was to show that the district's taxing and spending was on an unsustainable trajectory that would have to be reined in.

"Over the coming years we are going to have to make some really tough decisions about

how to dramatically control expenditures while maintaining a semblance of the quality of life we have come to cherish here in the district," he said.

The sentiment of fiscal prudence behind Nixon's comments was echoed by others on council, but the methodology didn't hold up without context, most argued.

Things not captured in the limited data available included things outside the district's control, like Canadian Union of Public Employees salaries negotiated by Metro Vancouver, the rising cost of the RCMP contract and increased downloading of services that should be under provincial or federal jurisdiction.

On the revenue side, the data didn't show how new development added to the district offsets the tax burden on the existing population or new sources of non-tax revenue. Taking those things into account, the district is actually quite competitive with its Lower Mainland neighbours, Mayor Richard Walton said.

The district has also forgone lots of revenue-generating activities that would fill the coffers because that's what council believed the community wanted, Coun. Mike Little said, including casinos, outdoor billboard advertising and the sale of land for development.

For Coun. Lisa Muri, the trend in numbers was a sign of too much government for too few people who live on North Shore, leading to a call for consolidation of municipalities.

"We have 28 councillors on the North Shore. We have five mayors. Our population is just under 200,000 we need to continue to have a conversation around consolidating our communities so our children are not going to be put in a position that Coun. Nixon and some of us foresee in the future," she said.

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**Energy notes: Energy in natural processes and human consumption, some numbers H A&S 220c Fall 2004 19x2004**

The average person in the US consumes 60 barrels of oil (2520 gallons) per year and on average this is 10,000 watts of power consumption (the calculation is made relatively easy by consulting tables below and keeping track of units:  $[2520 \text{ gallons /yr} \times 125 \times 10^6 \text{ J/gallon}] / [\pi \times 10^7 \text{ sec./yr}] = 1.00 \times 10^4 \text{ watts}$ ). It is a useful coincidence that the number of seconds in a year is  $\pi \times 10^7$  to within half of one percent.

**Rough Values of Power of Various Processes (watts)**

Solar power in all directions	$10^{27}$
Solar power incident on earth	$10^{17}$
Solar power avg. on U.S.	$10^{15}$
Solar power consumed in photosynthesis	$10^{14}$
U.S. power consumption rate	$10^{13}$
U.S. electrical power	$10^{12}$
Large electrical generating plant	$10^9$
Automobile at 40 mph...note this is not the output which only about 30% of the energy input..PBR	$10^5$
Solar power on roof of U.S. home	$10^4$
U.S. citizen consumption rate	$10^4$
Electric stove	$10^4$
Solar power per m <sup>2</sup> on U.S. surface ...this seems a little low...it's 1342 watts per m <sup>2</sup> outside the atmosphere, about 1000 watts per m <sup>2</sup> at high noon on the ground, and on average (day and night) about 240 watts per meter <sup>2</sup> absorbed at the ground. This is the average over the Earth too...PBR	$10^2$
One light bulb	$10^2$
Food consumption rate per capita U.S.	$10^2$
Electric razor	$10^1$

**Energy Content of Fuels (in Joules)**

Energy Unit	Joules Equivalent (S.I.)
-------------	--------------------------

gallon of gasoline	$1.3 \times 10^8$
AA battery	$10^3$
standard cubic foot of natural gas (SCF)	$1.1 \times 10^6$
candy bar	$10^6$
barrel of crude oil (contains 42 gallons)	$6.1 \times 10^9$
pound of coal	$1.6 \times 10^7$
pound of gasoline	$2.2 \times 10^7$
pound of oil	$2.4 \times 10^7$
pound of Uranium-235	$3.7 \times 10^{13}$
ton of coal	$3.2 \times 10^{10}$
ton of Uranium-235	$7.4 \times 10^{16}$

## Energy Conversions

Energy Unit	Equivalent				
1 Btu	1055 joules	or	778 ftlb	or	252 cal
1 calorie	4.184 joules				
1 food Calorie	1000 calories	or	1 kilocalorie		
1 hp hr	$2.68 \times 10^6$ joules	or	0.746 kwh		
1 kwh	$3.6 \times 10^6$ joules	or	3413 Btu		
1 eV	$1.6 \times 10^{-19}$ joules				

**Fuel Requirements for a 1000MWe Power Plant =  $10^9$  watts**

**( $2.4 \times 10^{11}$  Btu/day energy input)**

**=  $2.53 \times 10^{14}$  joules/day =  $2.9 \times 10^9$  watts = 2200 Mwatts thermal fuel energy**

Coal: 9000 tons/day of 1 "unit train load" (100 90 - ton cars/day)

Oil: 40,000 bbl/day or 1 tanker per week (note: "bbl" means barrels)

Natural Gas:  $2.4 \times 10^8$  SCF/day

Uranium (as  $^{235}\text{U}$ ): 3 kg/day

Note: 1000 MWe utility, at 60% load factor, =  $6 \times 10^5$  kw generates  $5.3 \times 10^9$  kwh/year, enough for a city of about 1 million people in the U.S.A ; this is just their electricity needs, at about 0.6 kw per person

(Note: MWE is an abbreviation for megawatts-electrical output)

## **Global Energy Consumption**

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Global Energy consumption (marketable energy): about 400 exaJoules per year  
=  $4 \times 10^{20}$  J/yr

U.S. Total Energy Consumption (1990)

=  $82.110^{15}$  Btu (82.1 Quads) = 38.8 MBPD oil equivalent =  $86.6 \times 10^9$  GJ = 86.6 exaJoule; (recall 1 Quad is a quadrillion ( $10^{15}$ ) BTU or 1.055 exaJoules ( $1.055 \times 10^{18}$  Joules)). Since 1990 we've gone up.

## **Everyday Usage and Energy Equivalencies**

---

1 barrel of oil = 42 gallons: driving 1400 km (840 miles) in average car

1 kwh electricity = 1½ hours of operation of standard air conditioner

= 92 days for electric clock

= 24 hours for color TV

## **One million Btu equals approximately**

---

90 pounds of coal

125 pounds of oven-dried wood

8 gallons of motor gasoline



10 therms of natural gas

1.1 day energy consumption per capita in the U.S.

Power is the amount of energy used per unit time - or how fast energy is being used. If we multiply a unit of power by a unit of time, the result is a unit of energy. Example: kilowatt-hour.

## Power Conversions

Power Unit	Equivalent				
1 watt	1 joule/s	or	3.41 Btu/hr		
1 hp		or	2545 Btu/hr	or	746 watts

## Power Converted to Watts

Quantity	Equivalent
1 Btu per hour	0.293 W
1 joule per second	1 W
1 kilowatt-hour per day	41.7 W
1 food Calorie per minute	69.77 W
1 horsepower	745.7 W
1 kilowatt	1000 W
1 Btu per second	1054 W
1 gallon of gasoline per hour	39 kW
1 million barrels of oil per day	73 GW

## Rough Values of the Energies of Various Events

Occurrence	Energy (J)
Creation of the Universe	$10^{68}$
Emission from a radio galaxy	$10^{55}$
$E = mc^2$ of the Sun	$10^{47}$
Supernova explosion	$10^{44}$
Yearly solar emission	$10^{34}$
Earth moving in orbit	$10^{33}$

D-D fusion energy possible from worlds oceans	$10^{31}$
Earth spinning	$10^{29}$
Earth's annual sunshine	$10^{25}$
Cretaceous-Tertiary extinction theory meteorite	$10^{23}$
Energy available from earth's fossil fuels	$10^{23}$
Yearly U.S. sunshine	$10^{23}$
tidal friction (which drives the moon slowly away from Earth and lengthens the day steadily)	$10^{20}$
U.S. energy consumption	$10^{20}$
Exploding volcano (Krakatoa)	$10^{19}$
Severe earthquake (Richter 8)	$10^{18}$
100-megaton H-bomb	$10^{17}$
Fission one ton of Uranium	$10^{17}$
$E = mc^2$ of 1 kilogram	$10^{17}$
Burning a million tons of coal	$10^{16}$
Energy to create Meteor Crater in Arizona	$10^{16}$
1000-MW power station (1 year)	$10^{16}$
Hurricane	$10^{15}$
Thunderstorm	$10^{15}$
Atomic Bomb (Hiroshima)	$10^{14}$
$E = mc^2$ of 1 gram	$10^{14}$
Energy to put the space shuttle in orbit	$10^{13}$
Energy used in one year per capita U.S.	$10^{12}$
Atlantic crossing (one way) of jet airliner	$10^{12}$

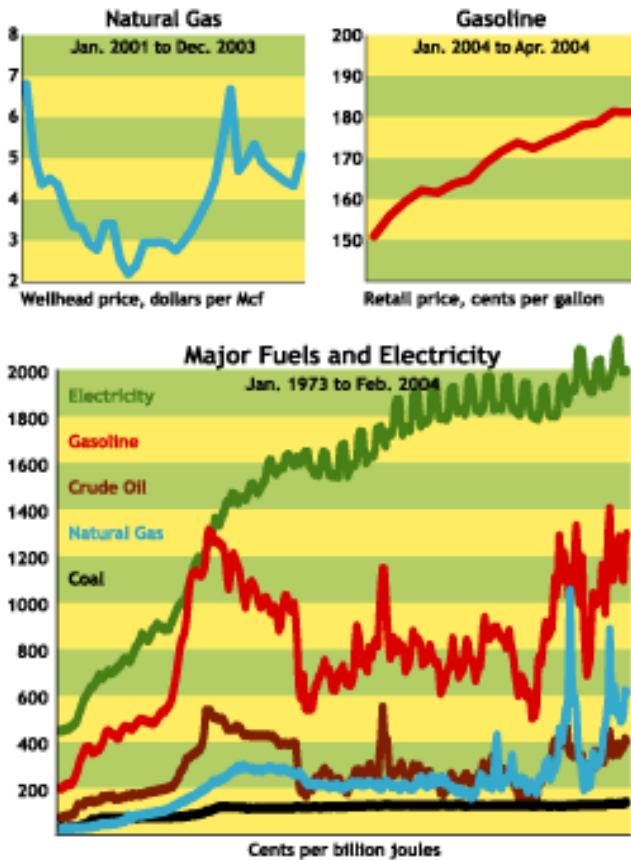
<i>Saturn V</i> rocket	$10^{11}$
Energy to heat a house for one year	$10^{11}$
D-D fusion energy possible from 1 gal. of water	$10^{11}$
One year of electricity for the average house	$10^{10}$
Lightening bolt	$10^{10}$
Burning a cord of wood	$10^{10}$
One gallon of gasoline	$10^8$
100-W light bulb left on for one day	$10^7$
Human daily diet	$10^7$
One day of heavy manual labor	$10^7$
Explosion of 1 kg of TNT	$10^6$
Woman running for 1 hr	$10^6$
Candy bar	$10^6$
Burning match	$10^3$

1AA battery (alkaline)	$10^3$
Hard-hit baseball	$10^3$
Lifting an apple 1 m	1
Human heartbeat	0.5
Depressing typewriter key	$10^{-2}$
Cricket chirrup	$10^{-3}$
Hopping flea	$10^{-7}$
Proton accelerated to high energy (one trillion eV)	$10^{-7}$
Fission of 1 uranium nucleus	$10^{-11}$
Energy released in D-D fusion	$10^{-12}$
Electron mass-energy	$10^{-13}$
Chemical reaction per atom	$10^{-18}$
Photon of light	$10^{-19}$
Energy of room-temperature air molecule	$10^{-21}$

## Cost of Various Fuels

Type	Unit	Cost \$/Unit	Cost \$/Joule	Uses
Electricity	1Kwh= $3.6 \times 10^6$ J (3.6 MJ)	\$0.10	$0.028 \text{ \$/MJ} = 2.8 \times 10^{-8}$	appliances, motors
Gasoline	1 gallon	2.00	$0.013 \text{ \$/MJ} = 1.3 \times 10^{-8}$	transportation
Natural Gas	1 Therm	0.60	similar to gasoline	heating
AA battery	1 battery	0.80	$0.8 \times 10^{-3}$	portable electronics
Milky Way candy bar	1 bar	0.60	$0.60/\text{MJ} = 0.6 \times 10^{-6}$	food

(but note, although electricity is twice as expensive as gasoline per unit of energy, electric motors are typically much more efficient than gasoline engines, so that electricity as a fuel source can be competitive with gasoline).



<http://physics.ucsd.edu/~tmurphy/phys12/phys12.html>

## Worldwide Power Use - History

"Developed" countries average (1990):

- 1.2 billion people 7.5 kilowatts/person = 9.0 terawatts

The rest of the world (1990):

- 4.1 billion people 1.1 kilowatts/person = 4.5 terawatts

*(...we got a slightly different number for 2000...taking 400 exaJoules/year and dividing by 6 Billion people gave 2.11 kw per person..average power consumption..24 hrs a day!..has it changed? Here we used the interesting fact that there are  $\pi \times 10^7$  seconds per year...to a good approx. PBR)*

World Population (est.) (billion persons)	Year	Average Power Use (terawatts)
5.5	1990	13.5
3.6	1970	8.4

2.5	1959	3.2
2.0	1930	2.3
1.7	1910	1.6
1.5	1890	1

---

## Areas and crop yields

- 1.0 hectare = 10,000 m<sup>2</sup> (an area 100 m x 100 m, or 328 x 328 ft) = 2.47 acres
- 1.0 km<sup>2</sup> = 100 hectares = 247 acres
- 1.0 acre = 0.405 hectares
- 1.0 US ton/acre = 2.24 t/ha
- 1 metric tonne/hectare = 0.446 ton/acre
- 100 g/m<sup>2</sup> = 1.0 tonne/hectare = 892 lb/acre
  - for example, a "target" bioenergy crop yield might be: 5.0 US tons/acre (10,000 lb/acre) = 11.2 tonnes/hectare (1120 g/m<sup>2</sup>)

---

## Biomass energy

- **Cord:** a stack of wood comprising 128 cubic feet (3.62 m<sup>3</sup>); standard dimensions are 4 x 4 x 8 feet, including air space and bark. One cord contains approx. 1.2 U.S. tons (oven-dry) = 2400 pounds = 1089 kg
  - 1.0 metric tonne (that is, 1000 kg) **wood** = 1.4 cubic meters (solid wood, not stacked)
  - Energy content of **wood fuel** (HHV, bone dry) = 18-22 GJ/t = 18-22 MJ/kg (7,600-9,600 Btu/lb)
  - Energy content of **wood fuel** (air dry, 20% moisture) = about 15 GJ/t (or 15 MJ/kg) ( or 6,400 Btu/lb)
- Energy content of **agricultural residues** (range due to moisture content) = 10-17 GJ/t (4,300-7,300 Btu/lb)
- Metric tonne **charcoal** = 30 GJ (= 12,800 Btu/lb) (but usually derived from 6-12 t air-dry wood, i.e. 90-180 GJ original energy content)
- Metric tonne **ethanol** = 7.94 petroleum barrels = 1262 liters
  - ethanol energy content (LHV) = 11,500 Btu/lb = 75,700 Btu/gallon = 26.7 GJ/t = 21.1 MJ/liter. HHV for ethanol = 84,000 Btu/gallon = 89 MJ/gallon = 23.4 MJ/liter
  - ethanol density (average) = 0.79 g/ml (= metric tonnes/m<sup>3</sup>)
- Metric tonne **biodiesel** = 37.8 GJ (33.3 - 35.7 MJ/liter)

- biodiesel density (average) = 0.88 g/ml (= metric tonnes/m<sup>3</sup>)

## Fossil fuels

- **Barrel of oil** equivalent (boe) = approx. 6.1 GJ (5.8 million Btu), equivalent to 1,700 kWh. *One "Petroleum barrel" is a liquid measure equal to 42 U.S. gallons* (35 Imperial gallons or 159 liters); about 7.2 barrels oil are equivalent to one tonne of oil (metric) = 42-45 GJ.
- **Gasoline:** US gallon = 115,000 Btu = 121 MJ = 32 MJ/liter (LHV). 'Premium' or HHV gasoline = 125,000 Btu/gallon = **132 MJ/gallon** = 35 MJ/liter
  - Metric tonne gasoline = 8.53 barrels = 1356 liter = 43.5 GJ/t (LHV); 47.3 GJ/t (HHV)
  - gasoline density (average) = 0.73 g/ml (= metric tonnes/m<sup>3</sup>)
- **Petro-diesel** = 130,500 Btu/gallon (36.4 MJ/liter or 42.8 GJ/t)
  - petro-diesel density (average) = 0.84 g/ml (= metric tonnes/m<sup>3</sup>)
- Note that the energy content (heating value) of petroleum products per unit mass is fairly constant, but their density differs significantly – hence the energy content of a liter, gallon, etc. varies between gasoline, diesel, kerosene.
- Metric tonne **coal** = 27-30 GJ (bituminous/anthracite); 15-19 GJ (lignite/sub-bituminous) (the above ranges are equivalent to 11,500-13,000 Btu/lb and 6,500-8,200 Btu/lb).
  - Note that the energy content (heating value) per unit mass varies greatly between different "ranks" of coal. "Typical" coal (rank not specified) usually means bituminous coal, the most common fuel for power plants (27 GJ/t).
- **Natural gas:** HHV = 1027 Btu/ft<sup>3</sup> = 38.3 MJ/m<sup>3</sup>; LHV = 930 Btu/ft<sup>3</sup> = 34.6 MJ/m<sup>3</sup>
  - Therm (used for natural gas, methane) = 100,000 Btu (= 105.5 MJ)

---

## Carbon content of fossil fuels and bioenergy feedstocks

- **coal** (average) = 25.4 metric tonnes carbon per terajoule (TJ)
  - 1.0 metric tonne **coal** = 746 kg carbon
- **oil** (average) = 19.9 metric tonnes carbon / TJ
- 1.0 US gallon **gasoline** (0.833 Imperial gallon, 3.79 liter) = 2.42 kg carbon
- 1.0 US gallon **diesel/fuel oil** (0.833 Imperial gallon, 3.79 liter) = 2.77 kg carbon
- **natural gas (methane)** = 14.4 metric tonnes carbon / TJ
- 1.0 cubic meter **natural gas (methane)** = 0.49 kg carbon
- carbon content of **bioenergy feedstocks:** approx. 50% for woody crops or wood waste; approx. 45% for graminaceous (grass) crops or agricultural residues

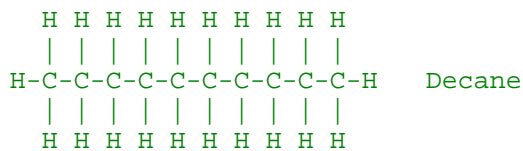
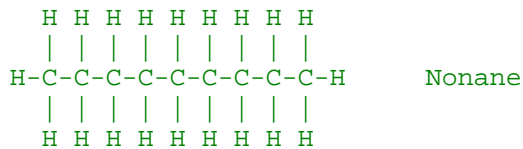
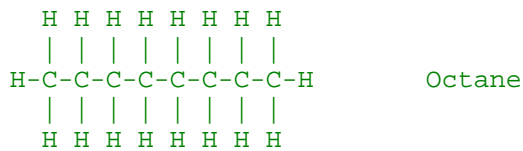
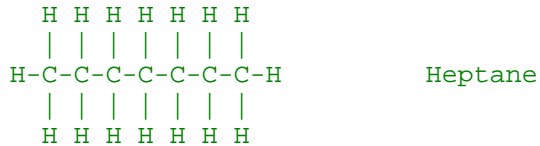
**GASOLINE:**

Energy content: 43 to 47 KJ/gram (that is , 43 – 47 MJ/kg) not much different from candlewax or candybars

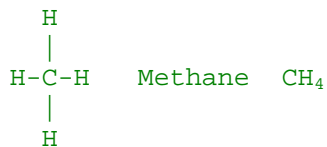
(physical density of gasoline is about .73 times that of water (.73 g/cc...it floats!).

Coal has energy content of 15 to 19 KJ/gram

**Typical molecules found in gasoline**



**compare with ‘cleaner’ natural gas: methane, which has roughly 1/2 carbon:hydrogen ratio of gasoline**



# The Potential for 'Coach Houses' in West Vancouver



*A Discussion Paper*

*December 2012*



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## APPENDIX: COMPARISON OF COACH HOUSE REGULATIONS IN OTHER COMMUNITIES

TABLE 1-A:	Metro Vancouver: Coquitlam, Delta, Langley Township and Maple Ridge
TABLE 1-B:	Metro Vancouver: North Vancouver City, Richmond and Vancouver
TABLE 2:	Other BC: Kelowna, Sidney and Victoria
TABLE 3:	Washington State: Kirkland and Seattle

*This Discussion Paper was produced by the District of West Vancouver Planning Department to provide a basis for informed discussion during community engagement on coach houses. This final version is dated December 2012, and incorporates minor edits made through December 11, 2012.*

## 1.0 OVERVIEW: WEST VANCOUVER'S 'COACH HOUSE' EXAMINATION

In June 2012, West Vancouver Council authorized an examination of 'coach houses' as the policy focus for the District's efforts in exploring new housing types in 2012-2013. This work is identified in the Draft Housing Action Plan (November 2012) as one of five key actions for addressing housing issues in West Vancouver; specifically, limited choice and affordability.

The work program for the coach house examination includes:

- This *Discussion Paper*, which provides an overview of policy, regulations and approval processes developed in other municipalities to support coach house development, and lessons learned from program implementation. It will provide the basis for an informed community discussion on coach house potential in West Vancouver.
- A *Community Engagement Program* which may include: public displays, presentations and special events, questionnaires, and tours.
- Should feedback from residents confirm sufficient community interest in coach houses as a new housing type for West Vancouver, the preparation of *Draft Coach House Policies and Regulations* for Council and community review.

## 2.0 WHAT IS A 'COACH HOUSE'?

Historically, a 'coach house' was an accessory building used for housing horse-drawn coaches, carriages and other vehicles (i.e., a precursor to the modern-day garage). Some coach houses included living quarters for drivers or servants. Today, the term 'coach house' refers primarily to a smaller detached dwelling, which is typically attached to a garage.

Even though coach houses are becoming more common in Metro Vancouver, there is still public misconception about what a 'coach house' is due to the common use of various terms to mean essentially the same thing. For example, all of the following terms are used within the Metro Vancouver region:

- Accessory Coach House
- Accessory Dwelling
- Backyard Cottage
- Carriage House
- Coach House
- Detached Garden Suite
- Garden Cottage
- Garden Suite
- Infill One-Family Dwelling
- Laneway House
- Secondary Dwelling Unit

Sometimes different terms are defined within municipal zoning bylaws to describe different types of coach houses (e.g., single v. two-level units, those built at grade level v. those built above a garage, etc.). In other instances, specific terms are used to connote differences between unit size, tenure, location on a lot, relationship to a principal dwelling, or lane orientation. The glossary to West Vancouver’s Official Community Plan (OCP) includes the following definition for a ‘carriage house’, which serves as a good working definition for the purposes of this coach house investigation:

*“a separate, smaller dwelling unit, often located above or attached to a garage, built on a residential lot occupied by a primary residence”*

### **3.0 UNDERSTANDING WEST VANCOUVER’S HOUSING ‘GAPS’**

Determining whether or not coach houses are an appropriate housing type for West Vancouver requires an understanding of the housing ‘gaps’ in this community, and what role coach houses could play in meeting the housing requirements of West Vancouver residents.

Between 2005 and 2008, the District undertook two initiatives to improve community understanding about housing issues in the community, and possible actions to address these: (1) the preparation of a series of background reports on demographic and housing trends in West Vancouver, now titled *“Facts and Stats: Our Community by the Numbers”*; and (2) a comprehensive public engagement program, called the *Community Dialogue on Neighbourhood Character and Housing*.

These initiatives have identified the following:

- West Vancouver has a greater proportion of older residents than the region as a whole – i.e., median age of 50 in 2011, compared to a median age of 40 in Metro Vancouver.
- 25% of West Vancouver residents were age 65 or older in 2011, compared to 13% in Metro Vancouver.

*The growing proportion of older residents in the community has significant implications for health and social services, recreation, transportation planning, and housing. Access to well-located, low-maintenance, and adaptable/accessible housing that is convenient to community support networks is important to the overall well being and quality of life for many of these residents.*

- In 2011, West Vancouver’s housing mix was 58% single-detached, 13% duplex<sup>1</sup>/townhouse, and 29% apartments. For most residents, however, the basic

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<sup>1</sup> Note: The ‘duplex’ category includes single-detached houses with secondary suites.

housing choice in West Vancouver remains a detached house on its own fee simple lot or an apartment in a multi-family building.

- 79% of younger (age 15-34) and 86% of older (age 55+) residents moving from West Vancouver to elsewhere on the North Shore and Vancouver moved into attached multi-unit housing;
- 70% of residents aged 65+ who moved within West Vancouver moved into multi-unit housing.

*This suggests that the availability of multi-unit housing such as duplexes, townhouses, and apartments plays a significant role in determining whether young adults and seniors can be accommodated in the community, or must leave West Vancouver to find the right type of housing elsewhere.*

- 17% of West Vancouver's purpose-built rental stock is considered currently at risk of loss through redevelopment.<sup>2</sup>
- Given the region's growing attractiveness as a place to live, a highly constrained supply of land available for development, and high land values in places like West Vancouver, housing is simply not affordable for many residents, particularly in comparison to other Canadian cities.

*For West Vancouver, the question is what can be done to improve relative affordability? Part of the answer lies in increasing the supply and diversity of housing options available along the housing continuum, based on type, size and tenure of housing.*

### ***The 'Right Type' and 'Right Size' of Housing***

Through the Community Dialogue, West Vancouver residents called for the right type and right size of housing for a diversity of needs in the community; specifically for:

- Older residents wishing to downsize into smaller, more manageable housing that will allow them to age in place in their own neighbourhoods;
- Younger families and young adults wishing to establish themselves in the community;
- Lower income residents wishing to find more affordable housing options, including rental housing;

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<sup>2</sup> Source: "Metro Vancouver Purpose-Built Rental Housing: Inventory and Risk Analysis", Coriolis Consulting Corp., April 2012.

- People requiring accessible / adaptable housing, with special features to accommodate their unique requirements; and
- People requiring assisted living and other support to remain in the community.

Residents also identified the kinds of new housing they would like to see introduced in West Vancouver to begin to address some of these housing gaps. A community survey<sup>3</sup> conducted during Phase III of the Community Dialogue identified strong community interest in the following:

- More housing options for seniors and young families (71% and 54% respectively)
- More affordable housing (51%)
- Accessible / adaptable housing (61%)
- Housing units in the 1,000 to 1,500 sq.ft. range (62%)

On a District-wide basis, 74% supported the legalization of secondary suites, and 61% indicated support for introducing ‘infill’ units (such as coach houses) on existing single-family lots.

### ***Ongoing Public Interest in ‘Coach Houses’***

The District receives regular enquiries from residents in all areas of West Vancouver wishing to build a coach house on their properties. The common reasons provided by residents are that a coach house would provide them the opportunity to:

- downsize into a smaller housing unit on their own property;
- provide self-contained accommodation for an elderly parent, adult child, or on-site caregiver;
- design a custom housing unit for a family member with special needs (e.g., limited mobility); or
- create a detached secondary suite to maintain the privacy of the principal dwelling unit.

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<sup>3</sup> This survey was undertaken during Phase III of the Community Dialogue (May-June 2008), and was administered by Synovate, a professional survey firm. The statistical confidence limits for a sample size of 654 are  $\pm 3.8\%$ , 19 times out of 20.

#### 4.0 THE 'COACH HOUSE' EXPERIENCE IN OTHER COMMUNITIES

While West Vancouver is now examining the potential for coach houses in this community, a number of other municipalities in Metro Vancouver, elsewhere in British Columbia, and in Washington State have implemented policies and regulations to provide for coach house development. Built coach houses in each of these communities provide readily-accessible examples of different unit types and sizes, and shed light on typical design issues related to coach houses and their 'fit' within new or established neighbourhoods.

The following municipalities provide a cross-section of communities in terms of size and location, and illustrate both common and unique regulatory approaches for coach house development.

##### **Metro Vancouver**

- *City of Coquitlam*
- *Corporation of Delta*
- *Township of Langley*
- *District of Maple Ridge*
- *City of North Vancouver*
- *City of Richmond*
- *City of Vancouver*

##### **British Columbia**

- *City of Kelowna*
- *City of Sidney*
- *City of Victoria*

##### **Washington State**

- *City of Kirkland*
- *City of Seattle*

In researching coach house policies and regulations adopted in these communities, key questions have included the following:

- What were the key objectives for introducing coach houses?
- How has coach house development been implemented (i.e., regulations, approval processes)?
- What are the outcomes? (e.g., issues that may have arisen, subsequent changes to regulations/processes, number of units built, etc.)

Understanding the experience of these communities provides:

- the basis for informed community discussion about coach houses as a potential new housing type in West Vancouver; and
- possible models for draft coach house regulations, should there be strong public support for introducing this type of housing in West Vancouver neighbourhoods.

The following discussion provides an overview of both common and unique approaches to coach house implementation, in terms of land use and housing policies, and zoning regulations.

## 4.1 COMMON OBJECTIVES

Communities in Metro Vancouver and further afield have primarily looked to coach houses as an opportunity to diversify existing housing choices in single-family neighbourhoods, and specifically, to provide a rental housing option. Coach houses are often described and perceived of as a form of ‘hidden’ or ‘invisible’ density:

- Coach houses are modest-sized dwellings typically located in the rear yard, and are not readily visible from behind the main (street-facing) house;
- They are typically sited on the portion of a lot that would otherwise be occupied by a detached garage, and do not reduce the area of the back yard.
- They are seen as a more sensitive approach for adding rental units and densifying established neighbourhoods – i.e., as compared to more intensive infill housing types.

## 4.2 DIFFERENT COMMUNITY CONTEXTS

### *Older, Established Communities*

In general, the introduction of coach houses in older, established communities must address issues related to neighbourhood character, resistance to land use intensification, and potential requirements for upgrading aging infrastructure to accommodate new development. Both the City of Vancouver and the City of North Vancouver undertake a comprehensive design review to ensure compatibility of coach houses with adjacent properties. Coach house regulations in these communities, as well as in Seattle and Kirkland in Washington State, apply to single-family neighbourhoods across the municipality, rather than any one neighbourhood.

Some communities have chosen to consider coach house proposals on a one-by-one basis through individual rezoning applications:

- Kelowna has provided for coach houses since 1998; and 167 units have been approved through rezoning. A further 500+ coach houses have been built within the RU6 (Two Dwelling House) Zone, where coach houses are a permitted use (rezoning not required). Rezoning applications have been denied in cases where there has been considerable neighbour opposition (typically in areas with very few coach houses).
- Victoria adopted its ‘Garden Suite’ policy in 2011. Since that time, two rezoning applications have been approved, one has been denied, and one is currently under review.

## ***New and Redeveloping Communities***

Newer, growing communities in more outlying areas have a greater opportunity to provide for housing diversity in the development of planned new neighbourhoods, rather than ‘retrofit’ existing neighbourhoods to meet changing housing needs. A good example of this is the Township of Langley, which has provided for coach house development within newly urbanizing areas in Willoughby, Fort Langley, and Murrayville.

Some older, suburban communities have identified coach houses as an appropriate housing form in specific areas or neighbourhoods – such as Southwest Coquitlam, Delta’s three urban centres (Ladner, North Delta and Tsawwassen), and Maple Ridge’s town centre area. The Town of Sidney has identified ‘detached secondary dwellings’ as an appropriate infill housing type in its established Orchard Avenue area.

### **4.3 REGULATORY FRAMEWORK**

Coach houses are commonly viewed as ‘detached’ secondary suites, as reflected in similar zoning requirements – e.g., maximum floor area, parking, etc. A comparative overview of zoning regulations in other communities is provided in Tables 1-A, 1-B, 2 and 3 in the Appendix. These tables also define the respective ‘coach house’ terms used in each community, and describe where coach houses are permitted, whether or not coach houses provide for additional density on a lot, maximum building height, and required development approvals.

The approval process for coach houses varies between local governments. Some municipalities require a building permit only. Others have implemented a process of design review, which is implemented through a Development Permit (Council approval or delegated to staff); or, in one case (Delta) a design covenant. As noted above, some municipalities require rezoning, so that coach house proposals can be considered on a one-by-one basis.

### **4.4 COMMUNITY HIGHLIGHTS**

#### ***Vancouver***

The City of Vancouver has played a lead role in coach house development, given its high profile ‘EcoDensity’ initiatives, and the public interest generated by its ‘Laneway Housing’ program. With over 700 laneway houses now approved, Vancouver provides a number of coach house examples within different neighbourhood contexts, and a laboratory for understanding various issues related to this type of housing.

The City of Vancouver’s ‘laneway housing’ regulations provide for an increase in number of units (i.e., a second legal suite) on a single lot, and an increase in density – i.e., an additional



0.15 Floor Area Ratio(FAR); whereas other communities provide for either a secondary suite or a coach house, but not both.

Most municipalities require that one parking space be provided for a ‘coach house’. In Vancouver, however, only one parking space is required when a laneway house is added to a property – for use by any one of three potential dwelling units<sup>4</sup> on the lot. Victoria requires a minimum one parking space for the principal dwelling only.

In monitoring the implementation of its Laneway Housing program, the City of Vancouver reported in October 2012 that rental rates for laneway houses ranged from \$1,000 to \$2,100 per month for 1 – 2 bedroom units in various locations across the city. Media reports in Vancouver have also cited typical construction costs for laneway house as ranging between \$200,000 and \$300,000.



*± 500 sq.ft. Laneway House on typical 33 ft. x 120 ft. lot (corner location)*



*± 750 sq.ft. Laneway House on a typical 50 ft. x 120 ft. lot (mid-block location)*



*As viewed from side street*



*As viewed from backyard of main house*

<sup>4</sup> Vancouver permits a laneway house in addition to a secondary suite in areas zoned RS-1 and RS-5 (the majority of the city’s single-family areas), which means up to three self-contained dwellings on a single lot.

## **North Vancouver**

The City of North Vancouver looks to rental coach houses as a ‘redistribution’ of permitted floor area (i.e., from the principal house to the coach house), which is common to other communities (e.g., Sidney). Something unique to North Vancouver is a two-tiered approval process:

- Both Level ‘A’ ( $\leq 800$  sq.ft., one storey) and Level ‘B’ ( $\leq 1,000$  sq.ft., 1.6 storeys) coach houses require a Development Permit (staff approval).
- Level ‘B’ units require a Development Variance Permit (Council approval) to allow for the additional height (above the 1 storey allowed for a Level ‘A’ units), and the ‘redistribution’ of additional floor area from the principal dwelling to the coach house.



*Level ‘A’ Coach House (occupied)*



*Level ‘B’ Coach House (nearing completion)*

## **Kelowna**

The City of Kelowna has provided for ‘carriage houses’ since 1998, and nearly 700 units have built in that community under different zoning approaches:

- Carriage houses are a permitted use in the RU6 Zone. Over 500 units have been developed without rezoning.
- 167 units have resulted from individual rezoning.
- In all cases, a Development Permit (delegated to staff) is required.

## **Richmond**

Coach houses were introduced in Richmond in 2004, and approximately 100 units have been built to date. They are provided for in a number of areas, and rezoning is required. In November 2012, Richmond amended zoning regulations for the ‘Edgemere’ area to permit both ‘coach houses’ and ‘granny flats’ (the latter a single-level unit, not attached to a garage) as outright uses (no rezoning required), but established a Development Permit requirement.

## ***Victoria***

Victoria’s Garden Suites policy was adopted in September 2011, and only a handful of garden suite applications have been considered to date. Given the age of this community, and the distinct heritage character of many of its neighbourhoods, the City may request heritage designation (for the principal dwelling) for applicable properties – as a condition for garden suite approval.

## ***Seattle and Kirkland***

Coach house policies in Seattle and Kirkland are, in part, an outcome of the Washington State Growth Management Act (1990), which directed local governments to focus future growth within established urban areas and contain suburban sprawl. Coach houses in Washington state communities have been introduced within a broader context of ground-oriented infill housing. Kirkland uses the term ‘accessory dwelling unit’ to describe any additional dwelling units on a single family lot, whereas ‘cottage’ and ‘carriage unit’ are two infill housing types that may be developed as either rental or ownership housing. Seattle’s rental coach houses are referred to as ‘backyard cottages’.



*Backyard Cottage, Seattle*



*‘Danielson Grove’ Cottage Community in Kirkland  
(developed by The Cottage Company)*

## 5.0 ARE COACH HOUSES APPROPRIATE FOR WEST VANCOUVER?

Determining whether or not coach houses are an appropriate housing type for West Vancouver requires a thorough understanding of the housing gaps in this community, and what role coach houses could play in fulfilling the housing requirements of West Vancouver residents. Specific objectives for housing choice and affordability have implications for unit size, building design, outdoor space, landscaping, parking, and other considerations such as fit with established neighbourhood character.

A primary objective of this Discussion Paper is to stimulate public debate on coach houses as a possible new housing type in West Vancouver, and to generate community input on specific issues related to coach houses:

### **1. *How Could Coach Houses Help to Improve Housing Choice and Affordability in West Vancouver?***

- A coach house, as rental housing, provides a potential mortgage-helper for supporting home ownership.
- A coach house provides an opportunity to house family members on-site in a detached, self-contained unit; perhaps enabling older individuals to ‘downsize’ from a traditional house elsewhere in the community. Coach houses are ‘smaller’ units (typically under 1,000 sq.ft.) and are considered appropriate for households of 1 to 2 adults, perhaps with a young child.
- Coach houses could be custom-designed to meet specific housing needs within a relatively small space:
  - *Accessibility / adaptable design features*
  - *Flexibility for live-work options*
  - *With or without attached parking*
  - *Manageable private outdoor space*

### **2. *What is the Right Size for a Coach House?***

- During the Community Dialogue, residents indicated a strong desire for smaller-sized housing units in the 1,000 – 1,500 sq.ft. range. The maximum size for a secondary suite in West Vancouver is just under 1,000 sq.ft.; this is also the maximum unit size among other Metro Vancouver municipalities that allow for coach houses as detached suites and is based upon provisions within the BC Building Code.

- Does this coincide with household expectations for down-sized living in West Vancouver, or should we be considering different-sized coach houses?

**3. *Should Coach Houses Provide Rental Accommodation Only? Or, Should the District Allow for Strata-Titled Ownership?***

- At the outset of research into other municipalities, no assumptions were made about unit size or tenure. However, the communities surveyed as part of this examination have looked to coach houses as a form of rental housing in single-family neighbourhoods and, in most cases, as a detached alternative to a secondary suite.
- Regulations for rental coach houses are typically based on secondary suite provisions, with maximum unit sizes under 1,000 sq.ft.
- Some communities do provide for ‘strata-titled’ coach houses within designated areas but this is a more intensive ‘infill’ housing type, with unit sizes typically ranging from 1,200 to 1,800 sq.ft.
- There are three examples of strata-titled coach houses currently under construction in West Vancouver; in the “Hollyburn Mews” development in the 2000-block Esquimalt Avenue (see artist’s rendering below). This project required an Official Community Plan amendment (which designated the block for future infill housing development) and a rezoning to permit a mix of duplexes and coaches houses (9 strata units).



*Strata-Titled Coach Houses at “Hollyburn Mews”, West Vancouver (under construction)*

**4. What are the Potential ‘Neighbour’ Impacts of Coach Houses, and How Might These be Mitigated?**

- Based on a review of other jurisdictions, common neighbour concerns relate to scale and massing of coach houses, privacy and view impacts on adjacent properties, and parking. These are addressed in part, through zoning regulations and, in some cases, through a formal design review process (see below).

**5. How Can We Ensure that Coach Houses ‘Fit’ With the Established Built Form Character of West Vancouver’s Neighbourhoods?**

- Form and character guidelines could be developed to ensure fit with neighbourhood context, and a design review process could be implemented. This may include a Development Permit requirement (approval by Council or delegated to staff). The Design Review Committee (DRC) may play a role in the development of form and character guidelines. The DRC could also potentially review coach house designs, though this would significantly alter its Terms of Reference and increase time and processing costs; an alternative may be to refer projects to the DRC that staff are unable to resolve.



*Example of a ‘Laneway House’ in Vancouver’s Mackenzie Heights neighbourhood, designed in the same style as the 1930s-era principal dwelling, and using the same exterior materials and colours.*

**6. Should Coach Houses be Allowed: District-Wide? Only in Certain Areas? Or, Only Under Certain Conditions?**

- Municipal approaches to coach house development vary between communities:
  - *Where there is an opportunity to introduce greater housing diversity through development of new neighbourhoods, coach house implementation tends to focus on those areas, rather than established neighbourhoods.*

- *In mature, built-out communities, greater efforts are made to increase the variety of housing options in existing neighbourhoods. Coach house policies are either implemented in single-family neighbourhoods across the municipality, or are focused on particular neighbourhoods, or allowed only on properties meeting certain criteria.*
- *Some municipalities limit coach house potential to only those lots with lane access or location on a corner. From a design perspective, corner lots provide an opportunity for coach houses to have a front door facing a street, and a stronger identity as a smaller private residence.*

### **7. Should Coach Houses Provide for Densification in Existing Neighbourhoods?**

- The City of Vancouver has provided for increased density in implementing its Laneway Housing program – i.e., an additional (third) dwelling unit on a lot, and a density of 0.15 Floor Area Ratio (FAR) for coach house units to a maximum of 750 sq.ft.<sup>5</sup>.
- Other communities have restricted coach houses to a detached suite option (i.e., one rental suite per property); in some cases, with an increase in permitted floor area (i.e., as compared to maximum floor area without a coach house).
- The City of North Vancouver looks to rental coach houses as a ‘redistribution’ of permitted floor area (i.e., from the principal house to the coach house).

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<sup>5</sup> 750 sq.ft. is the maximum size of a laneway house on a 50 ft. x 120 ft. or larger lot; maximum unit size on a typical 33 ft. x 120 ft. lot is approximately 500 sq.ft.

## **6.0 POSSIBLE DIRECTIONS FOR WEST VANCOUVER**

If community engagement on coach houses indicates strong public support for this type of housing in West Vancouver, the following outlines some possible directions for moving forward on coach house implementation:

### ***Over the Shorter Term***

Based on the lessons learned from other jurisdictions, introduction of coach houses as detached secondary suites (without an increase in permitted density) could be implemented in West Vancouver over the shorter term. Required work would include the following:

- A Zoning Bylaw amendment (to allow for ‘detached suites’ as a permitted use, in zones that permit secondary suites). Alternatively, Development Variance Permits (DVPs) could be used to allow for suite ‘detachment’ on individual properties. However, this would be a more onerous process for property owner, and require more District resources to implement – given that each application would be considered on a one-by-one basis, and would be subject to Council approval.
- If a process of design review is implemented, an Official Community Plan amendment would be required to establish a Development Permit Area designation and guidelines for coach house development. Based on examples from other jurisdictions, delegation of Development Permit approval to staff would be appropriate (as is the case with Environmental Development Permits).

### ***Possible Over the Longer Term***

If West Vancouver residents wish to explore forms of ‘coach house’ development, which are more akin to infill housing, further work would be required to develop a policy framework for infill housing – e.g., locational considerations (area, neighbourhood, proximity to transit, community services and amenities), size and tenure of units, etc.



## APPENDIX:

### COMPARISON OF COACH HOUSE REGULATIONS

#### IN OTHER COMMUNITIES:

TABLE	REGION	MUNICIPALITIES
1 – A	Metro Vancouver	▪ Coquitlam, Delta, Langley Township and Maple Ridge
1 – B	Metro Vancouver	▪ North Vancouver City, Richmond and Vancouver
2	Other B.C.	▪ Kelowna, Sidney and Victoria
3	Washington State	▪ Washington State: Kirkland and Seattle

**TABLE 1-A: OVERVIEW OF COACH HOUSE ‘REGULATIONS’ IN SELECTED METRO VANCOUVER COMMUNITIES:  
COQUITLAM, DELTA, LANGLEY TOWNSHIP, AND MAPLE RIDGE**

	<b>COQUITLAM</b>	<b>DELTA</b>	<b>LANGLEY TOWNSHIP</b>	<b>MAPLE RIDGE</b>
<b>Term Used</b>	<p><b>Garden Cottage</b> <i>A one-storey, at-grade residential structure accessory to a one-family dwelling unit.</i></p> <p><b>Carriage House</b> <i>An accessory residential suite, located on the second storey above a garage</i></p>	<p><b>Secondary Dwelling Unit</b> <i>Term used in Zoning Bylaw but not specifically defined.</i></p> <p><b>Coach Housing</b> <i>(OCP definition)</i> <i>A second dwelling unit located in an accessory building on a lot. The accessory building is typically a separate garage with the dwelling unit situated on the 2<sup>nd</sup> storey or at ground level.</i></p>	<p><b>Coach House</b> <i>An accessory dwelling unit which is located within the second storey of the garage on the lot.</i></p>	<p><b>Detached Garden Suite</b> <i>A self-contained dwelling unit, accessory to, subordinate and detached from a one family residential use, limited to one dwelling unit on the same lot, located within the rear yard.</i></p>
<b>Where Allowed per OCP and Zoning Bylaw?</b>	<p>Properties designated in the SW Coquitlam Plan as “Neighbourhood Attached Residential” (NAR) can be developed with garden cottages or carriage houses, under RT-1 zoning.</p> <p>Approximately 1,100 of 1,500 NAR-designated lots are already zoned RT-1; the balance would require rezoning.</p> <p>RT-1 Zone establishes following requirements for garden cottages / carriage houses:</p> <ul style="list-style-type: none"> <li>- Min. 370 m<sup>2</sup> lot area and 10 m lot width if there is a lane; Min. 12m lot width without lane</li> <li>- Not permitted on a lot with a secondary suite or lots less than 740m<sup>2</sup></li> <li>- lots larger than 740m<sup>2</sup> can have both a secondary suite and a garden cottage/carriage house</li> </ul>	<p>OCP identifies coach houses as appropriate for urban areas close to community services and amenities in Ladner, North Delta and Tsawassen – i.e., in areas with a “Ground-Oriented Residential” designation</p> <p>Rezoning to RS 9 Zone - Single Family (330 m<sup>2</sup>) Infill Residential is required (considered on a site-by-site basis)</p>	<p>Primarily in new neighbourhoods in Willoughby, but also in newer developments in Fort Langley and Murrayville.</p> <p>Rear lane requirement</p> <p>Residential Compact Lot Zone R-CL(CH); and CD-4 Zone</p>	<p>Properties zoned RS-1b, RS-1, RS-1a, RS-1c, RS-1d, RS-2, RS-3, A-1, A-2, A-3 or A-4.</p> <p>Min. lot size 557 m<sup>2</sup> (5995sqf.t)</p> <p>Not permitted on a lot with a secondary suite.</p>
<b>Additional Density</b>	Yes. Floor area of garden cottage/carriage house is in addition to the max. floor area of for the principal dwelling.	No. Floor area of coach house is within the max. 0.65 FAR permitted for the lot.	No (see Unit Size below)	To be determined
<b>Unit Size</b>	Max. 50 m <sup>2</sup>	Min. 42 m <sup>2</sup> excluding garage; Max. 110 m <sup>2</sup> including garage	Unit size not specifically defined in Zoning Bylaw: R-CL(CH) Zone: Max density in accordance with density provisions outlined in community or neighbourhood plan;	Min. 37 m <sup>2</sup> / max. 90 m <sup>2</sup> or 10% of lot area, whichever is less.

**TABLE 1-A: OVERVIEW OF COACH HOUSE 'REGULATIONS' IN SELECTED METRO VANCOUVER COMMUNITIES:  
COQUITLAM, DELTA, LANGLEY TOWNSHIP, AND MAPLE RIDGE**

	<b>COQUITLAM</b>	<b>DELTA</b>	<b>LANGLEY TOWNSHIP</b>	<b>MAPLE RIDGE</b>
			CD-4 Zone: Max. FAR of all buildings and structures ≤ 0.65; Max. 2-person occupancy.	
<b>Max. Height</b>	Garden Cottage: <i>3.0 metres; or 4.3 metres for buildings with roof slope of ≥ 3:12 for an area of at least 80% of all roof surfaces.</i>  Carriage House: <i>5.0 metres; or 7.0 metres per above requirements.</i>	2 storeys  9.8 metres to ridge of pitched roof  7.3 metres to mid-roof (or to top of a flat roof)	R-CL(CH) Zone: Lesser of 9.0 metres or 2 storeys.  CD-4 Zone: Lesser of 3.75 metres or 1 storey; except where an accessory coach house is situated above a detached garage: 7.0 m.	(1) Lesser of 4.5m or 1 storey for lot sizes < 0.4 hectare, except: (a) 6.0 metres for properties zoned RS-2 or RS-3; and (b) on properties with lane access, detached garden suite above an accessory structure or garage: 6.0 metres; or ground level unit: 4.5 metres  (2) Lesser of 6 metres or 2 storeys for lot sizes of ≥ hectares, except: (a) on properties zoned A-1, A-2, A-3 & A-4, may build a detached garden suite above the detached residential structure or an off-street parking structure to a maximum height of 7.5 metres
<b>On-Site Parking</b>	1 space for accessory rental suite, plus two spaces for principal house	1 space for secondary dwelling unit	R-CL(CH) Zone: 1 space for coach house; CD-4 Zone: 2 additional spaces	1 (covenanted) space for detached garden suite
<b>Approval Process</b>	Building Permit only	No Development Permit required, but applicants must enter into a design covenant in accordance with Ladner Coach House Guidelines for single-family neighbourhoods	Building Permit only	Building Permit only. Prior to permit issuance, covenants are required for the following:  - Housing Agreement for provision of affordable rental housing and owner-occupancy  - Dedicated parking space for the detached garden suite
<b>Notes</b>	- Introduced January 2012 - 4 applications in process in Southwest Coquitlam - To date: 8 building permits issued in Somerton Development in East Coquitlam; 6 more in process	- 1999 – First coach house rezoning (in Ladner) - 2007 – Ladner Area Plan amended to include Design Guidelines for coach houses - To date: 30 coach houses built in Ladner; 4 in North Delta		- Introduced in 2008 - 15 approved or in process

**TABLE 1-B: OVERVIEW OF COACH HOUSE REGULATIONS IN SELECTED METRO VANCOUVER COMMUNITIES:  
NORTH VANCOUVER CITY, RICHMOND AND VANCOUVER**

	<b>NORTH VANCOUVER CITY</b>	<b>RICHMOND</b>	<b>RICHMOND (Edgemere)</b>	<b>VANCOUVER</b>
<b>Term Used</b>	<p><b>Accessory Coach House</b> <i>A detached unit that is subordinate in size to the principal home, and must be non-stratified. The owner must reside on the property.</i></p>	<p><b>Coach house</b> - a self-contained dwelling that: [Bylaw 8922, Nov 19/12] a) is accessory and either attached or detached to the single detached housing unit, except in Edgemere where it must be detached from the principal dwelling unit; b) has at least 75% of its floor area located above the garage, except in Edgemere where a maximum of 60% of its floor area must be located above a detached garage; c) has cooking, food preparation, sleeping and bathing facilities that are separate from those of the principal dwelling unit located on the lot; d) has an entrance separate from the entrance to the garage; and e) is a separate and distinct use from a secondary suite, and does not include its own secondary suite.</p>	<p><b>Granny flat</b> - a self-contained dwelling that: [Bylaw 8922, Nov 19/12] a) is accessory to and detached from the single detached housing unit; b) is located totally on the ground floor in the rear yard of a single detached housing lot; c) has cooking, food preparation, sleeping and bathing facilities that are separate from those of the principal dwelling unit located on the lot; d) has an entrance separate from the entrance to the garage; and e) is a separate and distinct use from a secondary suite, and does not include its own secondary suite.</p>	<p><b>Laneway House</b> <i>A small house at the rear of a lot near the lane which may include both a dwelling unit and parking/accessory uses.</i></p>
<b>Where Allowed per OCP and Zoning Bylaw?</b>	<p>OCP established Coach House Development Permit Area designation.</p> <p>Accessory Coach Houses are permitted in all single-family (RS-1) zones. Lane required. Rezoning may be required for some Level 'B' units.</p>	<p>Rezoning required on a site-by-site basis. Permitted use in the following zones:</p> <ul style="list-style-type: none"> <li>- Coach Houses (RCH)</li> <li>- Infill Residential (RI1, RI2)</li> <li>- R/9 (Hamilton)</li> <li>- ZS12 (Broadmoor)</li> <li>- ZS20 (Burkeville)</li> </ul> <p>Lane required in RCH, R/0 and ZS20 Zones</p>	<p>As an outcome of Richmond's current OCP review process, a portion of the Edgemere area was re-zoned to RE1 Zone (to permit granny flats and coach houses) in November 2012. The draft OCP includes Development Permit Area Guidelines for Granny Flats and Coach Houses in Edgemere.</p> <p>Lane required.</p>	<p>RS1 and RS5 zones city-wide.</p> <p>Min. lot width: 10 metres</p> <p>Lots must have access to an open lane, be located on a corner with an open or dedicated lane, or on a double-fronting lot.</p>
<b>Additional Density</b>	No	Yes: Additional 0.05 FAR in R/9 Zone; and additional 0.10 FAR in RI1, RI2, and ZS12 Zones	Yes: Additional 23.2 m <sup>2</sup> (0.05 FAR x 464.5 m <sup>2</sup> ) on lots with an accessory dwelling	Yes: Additional 0.125 FAR and laneway house in addition to secondary suite (3 units on one lot)
<b>Unit Size</b>	Lesser of 0.15 times lot area or 74.32 m <sup>2</sup> for Level 'A' units or 92.9 m <sup>2</sup> for Level 'B' units.	Min. 33 m <sup>2</sup> and max. 60 m <sup>2</sup> in the RCH and ZS20 Zones; Max. 60 m <sup>2</sup> in the R/9, RI1, RI2 and ZS12 Zones.	Granny Flat: min. 33 m <sup>2</sup> / max. 70 m <sup>2</sup> Coach House: min. 33m <sup>2</sup> / max. 60m <sup>2</sup> , of which at least 40% is on 1 <sup>st</sup> storey.	0.125 FAR to max. 70 m <sup>2</sup> , results in 46.5 m <sup>2</sup> on typical 33x120 lot and 70 m <sup>2</sup> on 50x120 or larger lot.

**TABLE 1-B: OVERVIEW OF COACH HOUSE REGULATIONS IN SELECTED METRO VANCOUVER COMMUNITIES:  
NORTH VANCOUVER CITY, RICHMOND AND VANCOUVER**

	<b>NORTH VANCOUVER CITY</b>	<b>RICHMOND</b>	<b>RICHMOND (Edgemere)</b>	<b>VANCOUVER</b>
<b>Max. Height</b>	Level 'A' Units: 1 storey, 4.57 metres  Level 'B' Units: 1.6 storeys, 6.7 metres	RCH, R/9 and ZS20 Zones: Lesser of 2 storeys or 7.4 meters  RI1, RI2 and ZS12 Zones: 9.0 metres.	Granny Flat: Lesser of 1 storey or 5 metres  Coach House: Lesser of 1.5 storeys or 6 metres	1-storey: 3.7 metres; 1.5-storey: 6.1 metres
<b>On-Site Parking</b>	2 spaces; 1 for main dwelling and 1 for coach house	RI1 and RI2 Zones: 1 space per dwelling or 0.5 space per bedroom, whichever is greater; max. 1.7 spaces per dwelling unit  R/9 and ZS20 Zones: 1 space for coach house  ZS12 Zone: 2 spaces per primary dwelling; 2 per additional smaller dwelling	1 space per granny flat or coach house.	Min. 1 parking space on the lot, for use by any of a potential three dwelling units on the lot (including the laneway house).  On lots up to 740 m <sup>2</sup> , max. 1 enclosed or covered parking space up to 21 m <sup>2</sup> . On larger lots, max.2 enclosed or covered spaces up to 42 m <sup>2</sup> .
<b>Approval Process</b>	Development Permit required (delegated to staff).  Development Variance Permit (DVP) or Rezoning required to permit Level 'B' Units.	Building permit only.	Development permit required (delegated to staff).	Applications subject to "Development Planner (staff) Review", which focuses on the massing and design of the partial upper storey, to reduce impacts on neighbouring properties.
<b>Notes</b>	Introduced in 2012. As of November 23, 2012: 12 units occupied or under construction; Development Permits for another 8 units issued or under review.	Introduced in 2004. Approximately 100 units built to date.	Introduced November 2012 n/a	Introduced July 2009. As of November 16, 2012: 739 applications approved (of these ±400 have had final inspections and are occupied)

**TABLE 2: OVERVIEW OF ‘COACH HOUSE’ REGULATIONS IN OTHER BC MUNICIPALITIES: KELOWNA, SIDNEY, VICTORIA**

	<b>KELOWNA</b>	<b>SIDNEY</b>	<b>VICTORIA</b>
<b>Term Used</b>	<b>Carriage House</b> <i>An additional dwelling unit located within an accessory building that is subordinate to the principle dwelling unit and is a single real estate entity.</i>	<b>Detached Secondary Dwelling</b> <i>A secondary dwelling located in an accessory building.</i>	<b>Garden Suite</b> <i>A building used or designated as a self-contained dwelling unit located on a lot with a single family dwelling and does not include a strata lot.</i>
<b>Where Allowed per OCP and Zoning Bylaw?</b>	Permitted use in the RU6 (Residential) Zone  Requires rezoning to the ‘c’ version of the following zones: (e.g., RU1 to RU1c) <ul style="list-style-type: none"> <li>▪ A1 (Agricultural) Zone</li> <li>▪ RR1, RR2, RR3 (Rural Residential) Zones</li> <li>▪ RU1, RU2, RU3,</li> </ul>	R1.3 and R3 Zones in the Orchard Avenue area. Owner occupancy required Only in conjunction with a single-family dwelling with no secondary suite  Min. lot area = 400 m <sup>2</sup> Min. lot width = 10 metres	OCP establishes Development Permit Area 15E – Intensive Residential Garden Suites  Rezoning on an individual site basis is required  Garden suites are permitted in the R1-B-GS and R1-B-GS2 Zones
<b>Additional Density</b>	Yes. Floor area of carriage house is in addition to that allowed for principal dwelling.	No. Size of building is regulated through lot coverage: max 35% for 2-storey; and 40% for 1-storey. Balance of site coverage not used for principal dwelling may be used for detached secondary dwelling.	Yes. Floor area of the garden suite is in addition to that of the principal dwelling.
<b>Unit Size</b>	Lesser of 90 m <sup>2</sup> or 75% of the total floor area of the principal building.  <u>Note:</u> A secondary suites is the lesser of 90 m <sup>2</sup> or 40%.	Min. 37 m <sup>2</sup> Max. 60 m <sup>2</sup>	Max 37 m <sup>2</sup> except: potential for larger unit size for conversion of existing garages (R1-B-GS); and Max. 56 m <sup>2</sup> on “plus sites” – i.e., on lots located on corner, with two street frontages, rear lane, and > 557 m <sup>2</sup> (R1-B-GS2).
<b>Max. Height</b>	The lesser of 4.5 metres or the height of the existing principal dwelling unit on the same property.	Max. 2 storeys. Lesser of 85% of height of principal dwelling or 6 metres	3.5 metres (R1-B-GS) 5.5 metres (R1-B-GS2)
<b>On-Site Parking</b>	1 space for carriage house.	1 space for detached secondary dwelling	No additional parking requirement for garden suite, but primary dwelling requires min. 1 space
<b>Approval Process</b>	Development Permit required (delegated to staff).	Building Permit only. DVP required to allow for detached secondary dwelling on properties that do not have sufficient unused lot coverage.	Development Permit (DP Area 15E) is processed concurrent with rezoning (Council approval). Heritage Designation requested if property is on Register.
<b>Notes</b>	Introduced circa 1998. To date: 167 carriage houses (from rezoning); and over 500 units in the RU6 (Two Dwelling Housing) Zone, where coach houses are a permitted use	Introduced June 2012. To date: 1 Building Permit approved, but project is not proceeding.	Garden Suite policy adopted in Sept 2011; OCP amended to establish Development Permit requirement for garden suites (as intensive residential development). To date: 2 approved rezoning; 1 denied; and 1 in process.

**TABLE 3: OVERVIEW OF ‘COACH HOUSE’ REGULATIONS IN WASHINGTON STATE COMMUNITIES**

	<b>KIRKLAND</b>	<b>SEATTLE</b>
<b>Term Used</b>	<p><b>Accessory Dwelling Unit (ADU)</b> – A subordinate dwelling unit added to, created within, or detached from a single-family structure, that provides basic requirements for living, sleeping, eating, cooking and sanitation.</p> <p>Related Terminology (for multi-unit development in low density zones):</p> <ol style="list-style-type: none"> <li>1. <b>Cottage</b> – A detached, single-family dwelling unit (<math>\leq 1500</math> sq.ft.).</li> <li>2. <b>Carriage Unit</b> – A single-family dwelling unit (<math>\leq 800</math> sq.ft.) located above a garage structure in a cottage housing development.</li> </ol>	<p><b>Backyard Cottage</b> – A small residential structure sharing the same lot as a house, but self-contained and physically separate from the primary house. Referred to in zoning terms as “Accessory Dwelling Unit, Detached”.</p>
<b>Where Allowed?</b>	In conjunction with any single-family dwelling, unless specifically excluded in Zoning Code – e.g., not permitted with cottage or carriage units.	SF 5000, SF 7200 and SF 9600 Zones Min. lot requirements: - Area = 371.6 m <sup>2</sup> - Width = 7.62 metres - Depth = 21.34 metres
<b>Additional Density</b>	No, but not counted as a “dwelling unit” in sections of the Zoning Ordinance which limit the number of detached dwelling units in a single-family zone to one.	No
<b>Unit Size</b>	The lesser of 74.32 m <sup>2</sup> of gross floor area or 40% of the of the primary residence and ADU combined.	Max. 74.32 m <sup>2</sup> (including garage or storage)
<b>Max. Height</b>	Must conform to the height restrictions for single-family dwellings in the applicable zone (usually 7.6 metres to 9.1 metres)	3.7 metres to 4.9 metres (varies depending on lot width)
<b>On-Site Parking</b>	One parking space for the accessory dwelling unit.	1 parking space for backyard cottage. No parking required if located in a designated urban village or urban centre.
<b>Approval Process</b>	Assumed to be building permit only.	Building permit only (Washington State equivalent). Owner occupancy covenant.
<b>Notes</b>	An ADU is a rental-only use, whereas cottages and carriage units may be developed as either ownership or rental housing.	Introduced in Southeast Seattle in 2006; expanded city-wide in 2009. Approximately 55 units approved through April 2011.



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### Review Items

1. Threats/Hazards
2. Impacts:
  - Social
  - Economic
3. Lessons Learned



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### Threats – the Earthquakes and Associated Hazards:

1. Earthquakes (the trigger)
2. Fire
3. Tsunami
4. Landslides and Flooding
5. Liquefaction and Ground Subsidence
6. Radiation


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### The Earthquakes

1. 2011 Mar 11 (Fri) at 2:46 p.m. (Japan Standard Time)
2. Area: 200 km by 500 KM, Epicentre 370 KM North of Tokyo
3. Three major quakes: about 90 second each at magnitude 9.0
4. Over 500 aftershocks in 3 weeks, the largest at 7.2 magnitude
5. Maximum Peak Ground Acceleration of 2.7
6. Topography of the area similar to the BC and WA outer coast
7. Japan now 15 feet closer to North America!!
8. Casualties: ~19,000 as of 2013 Mar

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### Disaster Areas:



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**Plate Tectonics**

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**Tsunami**

- Came within 10 - 45 minutes of the first earthquake, in series of waves
- Up to 10 meters high in the open ocean , run up to 40 meters high at the end of inlets
- The wave height and force magnified by the topography of the areas
- There were numerous warnings, sirens and evacuation notices at the time

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**Onagawa Village Then**

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**Onagawa Village Then**

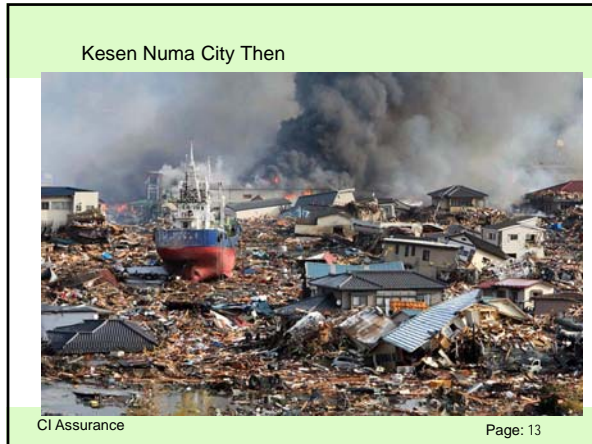
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**Onagawa Village Then**

CI Assurance Page: 11

**The Same Area Today**

CI Assurance Page: 12



Fukushima No. 1

It is estimated that it would take over 40 year to safely mothball the plant. Key activities include:

- Leak containment
- Removal and storage of radioactive debris
- Application of special sealants
- Cover structure (temporary)
- Removing and storing fuel rods
- Removing and disposing reactors
- Final mothballing

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Fukushima No. 1

The clean-up of the surrounding communities started but will requires significant effort:

- Within the 30 KM exclusion zone
- Outside within the Fukushima Prefecture
- Rest of Japan
- May cost ~\$150 billion for the plant mothballing and lessening the ground contamination
- Compensation ~\$50 to 100 billion

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2. Impacts

- Social
- Economic

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2. Impacts – Social:

- Loss of identity (Vital Records):
  - Government Identification Papers
  - Bank Identification
  - Medical Records
  - Family Picture Albums/memorabilia
- Displacement of residences (~220,000)
- Isolation from usual contacts and social interaction
- Inadequate care for the aged, invalid and young
- Slow re-building process
- Off-Nuclear Movement

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2. Impacts – Social:

- Emotional Toll
- Run on food and water supply
- Saturated telephone systems
- Expanded role of social media
- Re-thinking:
  - City Plans from the Scratch
  - Location of tsunami refuge sites

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2. Impacts – Social:



震災直後、被災者のために物資を届けるボランティア活動の現場。2月11日、新潟県。C 中野 昭彦撮影

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2. Impacts – Social:



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2. Impacts – Social:



10. People line up in front of public telephone booths at Shitaya station in Tokyo March 11, 2011. The biggest earthquake in 140 years since records began 140 years ago struck the northeast coast on Friday, triggering a 10-meter tsunami that swept away everything in its path, including houses, ships, cars and farm buildings on the coast. REUTERS/YONEMAI

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2. Impacts – Social:



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2. Impacts – Economic:

1. Impacts to the Japanese Economy:
  - DGP – Negative Growth
  - Supply Chain - International Reputation
2. Costs of Recovery:
  - Recovery from Earthquake/tsunami: ~\$250 billion
  - Nuclear Accident: ~\$250 billion
3. Funding for Recovery:
  - National Debt and Tax Increases
  - Curtailment of Social Services
  - Industry Contribution

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3. Lessons Learned


Avoiding Dangerous Syndromes:

1. "Not-On-My-Shift"
2. "Statistical Analysis"
3. "Too Many Cooks"
4. "Regulatory Capture"
5. "Perfunctory Exercises"

CI Assurance Page: 25

3.1 "Not-On-My-Shift" Syndrome

1. Government officials claimed:
  - The earthquakes and tsunamis were unprecedented
  - Historical records and geological evidences proved otherwise
2. Tokyo Electric officials claimed:
  - The tsunami height of 13 meters at Fukushima No 1 Nuclear Station was unprecedented
  - Its own study in 2008 predicted a maximum of 15 meters



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3.2 Too Heavy Reliance on Statistical Analysis

1. Statistical calculation for Mega Disasters:
  - Probability of a mega earthquakes combined with tsunami - small
  - Probability of a critical facilities being impacted by such hazards – small
  - Probabilities of:
    - External power unavailable – very small
    - 3 Diesel generators incapacitated – very small
    - Battery banks destroyed - small
    - Unable to connect mobile generators – small
2. Tokyo Electric was lulled into a belief that a nuclear disaster cannot happen.


CI Assurance Page: 27

3.3 "Too Many Cooks"

Syndrome: "Too many cooks spoil the broth".  
 Kitchen: Fukushima No 1 Nuclear Station

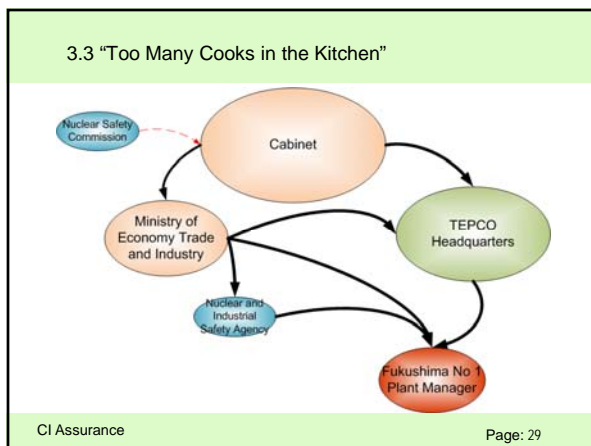
Would-be Cooks:

1. Cabinet members including the Prime Minister
1. METI officials
2. TEPCO Headquarters officials
3. Nuclear and Industrial Safety Agency
4. Plant Manager



METI – Ministry of Economy, Trade and Industry

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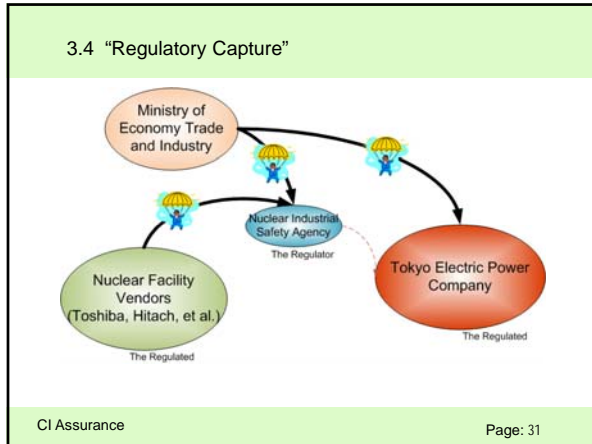
3.4 "Regulatory Capture" Syndrome

Definition:  
 "regulatory agencies come to be dominated by the industries regulated".

1. METI officials retiring into TEPCO executive suites.
2. METI oversees the NISA(Nuclear and Industrial Safety Agency and Committee).
3. Toshiba and Hitachi executives joins NISA.

METI – Ministry of Economy, Trade and Industry

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- ### 3.5 Perfunctory Exercises:
- Tokyo Electric's exercises failed to cover:
- Loss of external (Grid) power
  - Loss of all 3 stationary emergency generators
  - Loss of emergency battery banks
  - Manual operation of release vent valves
  - Hook-ups of mobile emergency generators
  - Rotating blackouts for customers
- Resulting in a Station Blackout (SBO)
- CI Assurance Page: 32

- ### Re-Cap
1. Disaster Events
  2. Impacts:
    - Social
    - Economic
  3. Lessons Learned
- 
- CI Assurance Page: 33





6

## Why are Australians driving less than they used to?

[Alan Davies](#) | May 02, 2013 9:02AM | [EMAIL](#) | [PRINT](#)

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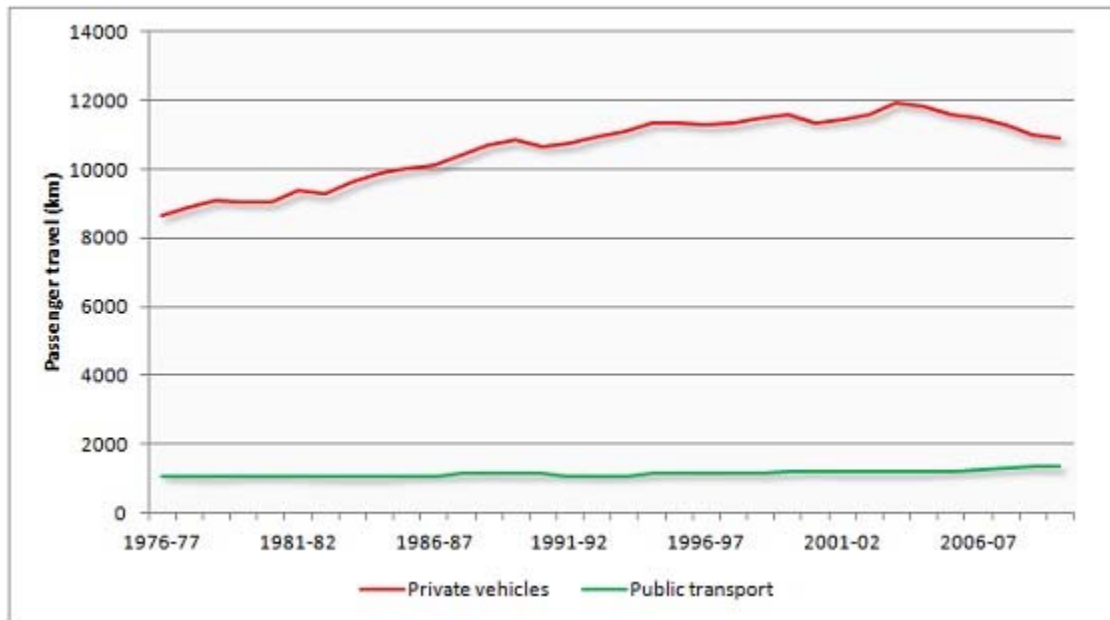
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Although there's a lot of variation across countries, westerners are generally driving less. There're lots of potential explanations but pinning down the key ones is proving hard



Per capita passenger kms by car vs public transport in Australia's eight capital cities. Data source: BITRE

Tyler Cowen at [Marginal Revolution](#) linked to a piece in the Washington Post by Brad Plumer last week asking, [Why aren't young Americans driving anymore?](#)

That's a challenging question I've discussed before (e.g. [Why is Gen Y driving less?](#)). It's complex because there're [differences between countries](#) on some key measures, as well as between men and women.

Mr Plumer reckons it's down to a combination of factors: the recession; the cost of driving has gone up; it's harder to get a licence; more young people are living in transit-oriented areas; and technology is making it easier to go car-free.

Professor Cowen suggests it might also be because young Americans [are working less](#) and, more speculatively, "because it's easier to have sex without driving to get it".

### **[Follow this link to enter the competition to win one of two copies of 'Where to Ride'](#)**

Young people aren't the only ones who're driving less. The first exhibit shows per capita travel by private vehicles (i.e. after taking account of population growth) has fallen since 2003-04 in Australia. The second shows total travel by private vehicle in Australia plateaued between 2003-04 and 2009-10 notwithstanding strong population growth.

It's likely there are a number of reasons for the change. Higher petrol prices and the impact of the GFC are common explanations and are undoubtedly important, but they [don't provide a complete explanation](#).

Here's a summary of the various hypotheses I've collected around the traps (see [here](#), [here](#) and [here](#)) to explain the decline in travel:

- Demand for travel is saturated – almost everything we want to get to is now within a reasonably short drive.
- Higher levels of traffic congestion and slower average speeds – it's too hard nowadays to travel long distances within our capital cities.
- The population is getting older – retired people spend less time on day-to-day travel
- Greater reliance on electronic communication – there is more scope to work and conduct personal business, shopping, banking and social networking without travelling.
- Home offers more entertainment options than in the past e.g. computer and TV, reducing the need for travel
- Driving costs more – although cars are cheaper to buy, insurance is expensive for young drivers, drink-driving penalties are severe, and obtaining a driver's licence is both arduous and expensive
- Young people stay longer in full-time education, carry debt on student loans and experience high rates of under-employment – they're demand for travel is lower as is their ability to buy and operate a car.

- More air travel – more time is spent on overseas holidays and business trips and hence not driving at home.
- The age at which people have their first child is later, reducing the utility of car ownership
- Shopping centres – larger, more diverse centres with longer-lasting perishables mean fewer shopping trips are necessary
- Migrants and overseas students studying in Australia generally come from countries where car use is much lower so they're less inclined to use a car here
- Better public transport services have attracted travellers away from cars – most Australian cities enjoy improving service frequencies, a longer span of operating hours, and in some cities extended networks.
- Less emphasis on cars as coming-of-age symbols – changing mores mean there's less need for a “shaggin’ wagon”
- Smartphones have replaced cars as a means of providing social connection.
- Cars are now commodities and are no longer as useful in signalling status as they once were
- Slowing in the growth of female workforce participation – the dramatic growth of the last 40 years, which increased travel, has slowed. There's a small fall in male participation.
- More people live at higher densities in accessible locations like the inner city – cars aren't essential and parking is in any event too expensive or too hard to find
- The number of jobs has grown much faster in the city centre in recent years, where public transport is at its most competitive, than in the suburbs. Traffic congestion and high parking charges makes driving to the CBD less attractive.
- Greater awareness of the negative environmental implications of car travel and the health benefits of active travel modes.

In their study of the travel behaviour of 20-29 year olds in Germany, France, Great Britain, Norway, Japan and the USA , [Kuhnimhof et al](#) concluded that the key factors underlying the reduction in driving are more young adults in tertiary education, lower workforce participation, and starting families at a later age.

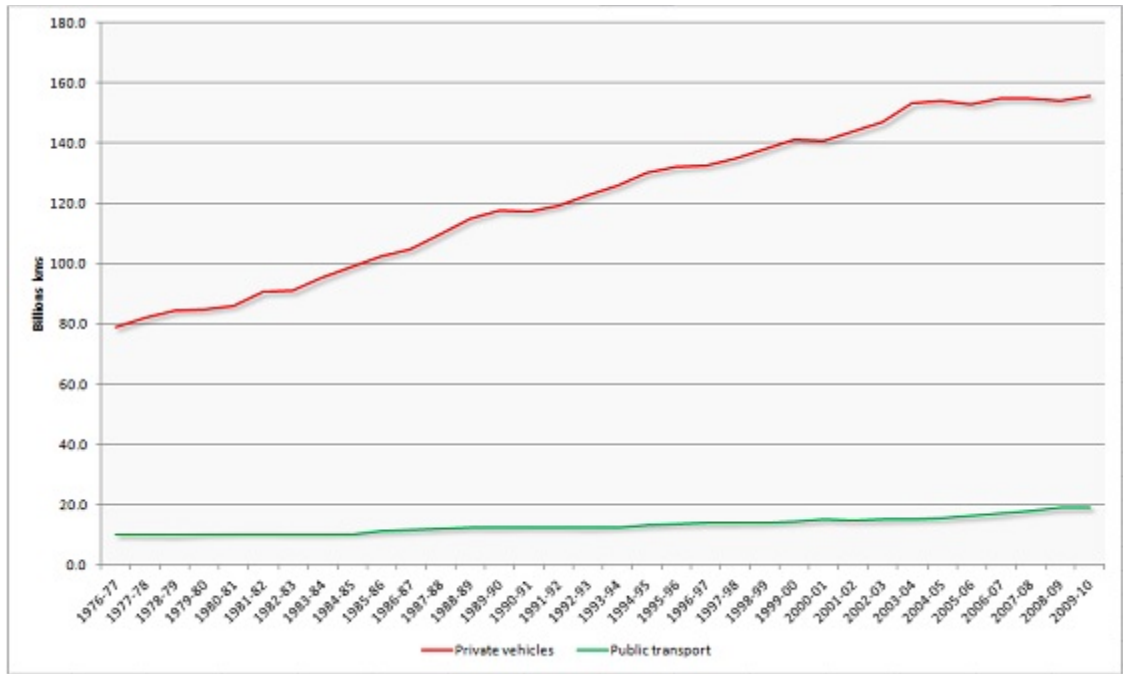
Smartphones are often put forward [as an important explanation](#) but I'm not convinced. Neither are Kuhnimhof et al – they find they have negligible impact.

I'm not persuaded that the standard explanations from planners, particularly improved public transport and a growing preference for higher density living, are an especially important [part of the explanation](#) either (although I expect they figure in there somewhere).

The fact is our understanding of what underlies this change isn't well developed (yet). There's still insufficient information about what sort of travel is affected e.g. is it fewer trips? are trips getting shorter? is it mainly certain purposes?

We'll have to wait for better research but if I had to guess at the key factors, I'd put my money on [rising petrol prices](#), increasing [traffic congestion](#) and the sorts of structural social and economic changes identified by Kuhnimhof et al.





Total kms of travel in Australia's eight capital cities. Source: BITRE

**FONVCA AGENDA ITEM 8(b)(i)**

# Lillooet dispute escalates with new attempt to quash dissent

## Top official is suing several citizens with district financial help

BY DAPHNE BRAMHAM, VANCOUVER SUN MAY 2, 2013

Lillooet must surely rank not only as one of the most dysfunctional municipalities in British Columbia, but in Canada.

The civil war between residents and their council only seems to escalate. There are no signs of détente; no outside offers of peacekeeping forces to try to normalize relations.

For the second time in three years, the B.C. Civil Liberties Association has stepped into the fray to defend citizens' rights to free expression.

The municipal district appeared on the BCCLA's radar in 2010 when Mayor Dennis Bontron and council tabled a bylaw to ban all unauthorized public meetings, from protests to picnics. Also to be banned was the posting of all public notices, which effectively made it illegal to even pin up a lost kitten sign without a permit.

The penalties included a fine of up to \$10,000 and six months in jail.

I wrote about the bylaw at the time and the story attracted national attention after the BCCLA demanded to be heard at the next council meeting. (The district scrapped the proposal.)

At the time, I foolishly described it as "the apex of an escalating war over water, water quality and the installation of water meters that began a few years ago."

I noted that in the years preceding 2010, the former mayor sued several citizens for defamation, recording devices were banned at council meetings and access to public documents had been limited.

I see now, that was just the start.

Last week, chief administrative officer Grant Loyer filed a defamation suit against three citizens.

Conveniently for Loyer, the contract he signed in November with the district has a provision to "assist" him with any legal costs should he commence any defamation suits against any citizens in B.C. Supreme Court.

That alone seems like an unusual perk of the job. But there's more.

If Loyer wins a defamation claim, awarded legal costs would go to the District of Lillooet. Any court-awarded damages would be split equally between Loyer and the Lillooet Foundation - a trust fund controlled by council that gives grants to local organizations.

The contract says Loyer can use the money either "for a vacation or for reduction of employee personal debt."

It amounts- in the words of BCCLA president Lindsay Lyster - to "an agreement for the division of the

spoils" and "a clear measure of substantive and moral participation by the district of Lillooet government with their agent in such lawsuits."

Lyster goes on to say, "It is a matter of settled law in B.C. and Ontario that government may not bring defamation actions against citizens in connection with criticism of governments' policies, laws or conduct."

The "settling" came here in 2009 after John Dixon of the BCCLA took Powell River council to court over its attempt to muzzle several citizens with what's become known as a SLAPP suit - a strategic lawsuit against public participation.

In her 2009 judgment, Justice Nicole Garson wrote: "It is antithetical to the notion of freedom of speech and a citizen's rights to criticize his or her government concerning its governing functions ... should be chilled by the threat of a suit in defamation."

Lyster argues that letting Loyer sue citizens is also antithetical to the constitutional guarantees of freedom of speech and expression.

"Defamation suits brought by government or funded by government infringe on free-speech rights," he wrote in a letter addressed to the premier, attorney general, community services minister, opposition leader, Lillooet's mayor and Loyer. "Protecting freedom of expression requires that robust criticism of government and its agents be allowed."

Among the three citizens being sued is Ted Anchor, who was elected mayor by a wide margin in 2011, promising openness, change and an end to the open warfare that had existed between the town's administration and its citizens.

He and Coun. Kevin Taylor quit two months later after receiving legal advice related to management of a flood-control situation. Subsequent emails from Anchor to several citizens about his decision to quit are the subject of Loyer's defamation suit.

The BCCLA wants the provincial government to amend the Local Government Act to ban municipal government from paying for any defamation suits initiated by its officials and agents.

In addition, the civil liberties association is suggesting that the B.C. government ban funding for any SLAPP suits initiated against citizens by its employees regardless of whether they work for the government itself, its agencies or Crown corporations.

Campaigning provincial politicians would do well to back these recommendations and affirm that politicians have no right to muzzle citizens.

Because while there is no doubt that politics can be messy and even mean, it's one of the prices we pay for democracy.

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**FONVCA AGENDA ITEM 8(b)(ii)**

# Self-represented see access to justice system as fairy tale

BY IAN MULGREW, VANCOUVER SUN MAY 8, 2013

<http://www.representing-yourself.com/doc/report.pdf>

The final report of the National Self-Represented Litigants Project says the country's justice system isn't working unless you're rich enough to afford a lawyer.

Written by University of Windsor law professor Julie Macfarlane, the 147page document is a litany of despair and a depressing glimpse inside the courthouses of three provinces.

"While some of the most extreme reactions border on the paranoid, many self-represented litigants appraise their experience in a rational and balanced way in coming to the conclusion that the justice system is 'broken,' " Macfarlane reports.

"Their basic complaint is clear - that instead of a user-friendly, practical means of resolving disputes, the courts offer a false promise of 'access to justice.' "

She urged sweeping reform and broad cultural change across the legal system.

Funded by the Law Foundations of Ontario, Alberta and B.C., Macfarlane and her team interviewed more than 100 court staff and service providers along with 259 self-represented litigants.

The sample of litigants was almost exactly half men and half women; 63 per cent were plaintiffs or petitioners, and 37 per cent were defendants or respondents; roughly 40 per cent were earning more than \$50,000 a year and half had a university degree. This isn't about hurdles faced by the poor, the disadvantaged or the non-computer-literate.

In fact, many of the frustrated litigants said that if trying to get justice was so difficult for them given their education, what was it like for someone without their training or who wasn't fluent in French or English?

The results of the survey are scalding.

"No more fairy tales about having access to a justice system," said one litigant.

"My expectations?" said another. "I can't even remember my expectations anymore. My life just fell apart."

As one put it: "There are all these buildings - the courthouses - that are like false-front buildings, like they have at Universal Studios - they are supposed to help you, but they don't." Some remain angry and distressed about what happened to them - and there are thousands upon thousands left similarly disillusioned.

"This is creating a crisis of faith in the Canadian justice system," Macfarlane insisted.

Consistently 40 per cent or more of the litigants in family courts are unrepresented, while in some civil courts, 70 per cent are unrepresented.

In B.C., 80 per cent of those in small claims court are unrepresented.

"The numbers are extraordinary," the report says, adding registry and court staff feel under siege and desperate.

Most people represented themselves because they couldn't afford legal fees or had already spent \$20,000-plus without achieving a resolution and running out of funds. "A mechanic will tell you how long it will take and about how much it will cost," said one, "a lawyer won't do that."

Only one in 10 thought they were up to the task of representing themselves. Most discovered they weren't.

Many didn't have the office services required - printing and photocopying facilities or even computers -

to pursue an action.

In spite of the promise that online services aid access to justice, the litigants had difficulty filling in the forms, which they found too complex.

Many grew frustrated when failure to fill in the forms properly had serious consequences for the progress of their actions.

Even those with training have problems: A number of court staff said they and some lawyers had difficulty completing the forms or keeping up with the constant changes.

Court guides seem to be written in a foreign tongue and the entire online self-help process left self-represented litigants scratching their heads.

It added insult to injury to be constantly told they "should consult a lawyer."

The self-represented litigants emphasized the lack of accountability - neither lawyers nor judges were seen to be subject to any meaningful oversight.

Some judges rudely scolded them and treated them with contempt, yet the mechanism for complaining about such treatment was highly protective of the bench. Some of the litigants broke down in tears simply recounting their humiliating experience.

"The negativity of so many self-represented litigants about judges makes for upsetting reading, but they point to some deep-rooted problems that require our urgent attention," Macfarlane says.

"Read alongside the poor (previous) experiences of many self-represented litigants with legal counsel, they suggest that public confidence in the justice system is damaged, and diminishing further day by day."

The study concluded that self-represented litigants deplete their savings, lose their job or have difficulty at work trying to manage their legal cases, endure social isolation from friends and family as the case becomes increasingly complex and overwhelming and suffer myriad physical and emotional health problems.

"The scale and frequency of these individually experienced consequences represent a social problem on a scale that requires our recognition and attention," Macfarlane said. "The costs are as yet unknown."

Still, it's not that self-represented litigants don't want lawyers to help them: They're saying the way lawyers offer their services doesn't fit within their budgets.

The report concludes as many other recent studies have: the profession faces difficult choices about ending its monopoly, making room for more paralegals and others; doing piecemeal or some of the tasks related to a file but not the entire case (the so-called unbundling of legal services); and loosening its traditional professional control over the conduct of a case.

The report is available at [www.representing-yourself.com](http://www.representing-yourself.com).

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## Crown, PVTA file statements of defence in bike injury case

by Andrew Mitchell



**A** lawsuit against the Pemberton Valley Trails Association (PVTA) and the Province of B.C. took another step towards court with both defendants denying claims by plaintiff Christopher Sanchez, a mountain biker who was allegedly injured when a trail feature collapsed during a race.

The original suit, filed in June 2012, also named the Squamish-Lillooet Regional District, but the suit against the SLRD has been discontinued.

Sanchez, identified as a carpenter living in Whistler, was taking part in PVTA race that included Richochet Trail on June 22, 2010 when he alleges that a wooden trail feature, a teeter-totter,

collapsed. He claims his injuries from that incident include a fracture of the C1 vertebra in his neck, the fracture of the T8-9 vertebral segment in his mid-back and other injuries that have resulted in "pain, suffering, loss of enjoyment of life and permanent physical disability." He also cites a loss of income and earning capacity as well as medical costs for ongoing treatment.

His suit further states that his injuries were the result of the negligence of the defendants, including failing to ensure his safety or the safety of the trail feature.

Sanchez is represented in the case by Whistler's mayor Nancy Wilhelm-

Morden.

Both the province and PVTA filed responses in court recently.

The four-page provincial government's response denied many of the facts in Sanchez's suit, and stated that many of the facts are outside the knowledge of the province. The province also stated that it had no knowledge of the existence of the Richochet Trail, and denied that Sanchez's injuries were the result of that accident.

According to the response: "...the Province denies that the Plaintiff sustained injuries, loss, or damages, but says, if such injuries were sustained, such injuries, loss, or damages were not caused by the accident as pleaded... but were caused or contributed to by previous and/or subsequent incidents or accidents, or by congenital defects or pre-existing conditions."

As well, the province also suggested that the plaintiff "failed to take reasonable steps to mitigate his damages," and if the accident did occur in the way that Sanchez alleges that it was the result of riding too fast, failing to keep a proper lookout, failing to inspect the stunt before riding it, failing to wear appropriate armour or protective clothing. Further, the province said that if the accident did occur, it was the result of negligence by the Pemberton Valley Trails Association.

For its part, the PVTA response also denies any negligence. Among additional facts presented, the PVTA said Sanchez had ridden Richochet Trail before June 22, 2010 and was familiar with the stunts and available ride-arounds. It also claims the defendant knew of additional safety equipment he could have worn, and that he was riding an event hosted by a non-profit organization that had not inspected all of the wooden structures on the course.

Further, the PVTA claims that: "The plaintiff continued to ride his mountain bicycle for an extended period of time

after the alleged injury," and that "alleged injuries, losses, damages or expenses are attributable to previous or subsequent incidents involving the plaintiff, or to congenital defects or previous conditions of the plaintiff."

None of the claims by Sanchez, the province or PVTA have been proven in court.

[http://www.leg.bc.ca/36th3rd/3rd\\_read/gov16-3.htm](http://www.leg.bc.ca/36th3rd/3rd_read/gov16-3.htm)

Both the province and PVTA also claim legal protection under the Occupiers' Liability Act, amended in 1996 to protect property owners from civil suits related to recreation on their land.

The case is being watched closely by cycling clubs across the province and in Sea to Sky, as well as landowners where recreation takes place.

When the suit was made public, *Pique* contacted lawyer David W. Hay from the law firm Richards Buell Sutton LLP. Known as B.C.'s "bike lawyer," Hay regularly consults with cycling advocacy groups on legal matters related to cycling.

Hay said the success of the suit could depend on the judge's reading of the Occupier's Liability Act.

"That statute itself is designed to facilitate recreation," said Hay. "That was the primary purpose of the amendments to the OLA. It was really to encourage landowners and occupiers to open up access to lands without fear of litigation.

"Prior to the amendment, there was this view that if people were on your land and they were hurt, you could be sued — so there was a tendency to not allow people on your land."

According to Hay, the OLA treats a recreational user the same way it treats a trespasser. "That is, occupiers and owners owe no duty of care to the entrant if they are characterized as a recreational user," he said. "You can't create an alligator pit or fire a shotgun at them, but you can't be liable in negligence if they are a true recreational user, except in extreme circumstances."

In the case of bike stunts on trails, Hay said that it's not the duty of the legal occupier to ensure that they are safe.

The next step in the suit is the discovery process, along with other pre-trial requirements to decide if the case will proceed to trial.

Tags: Sea to Sky

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