



City Council Meeting Minutes

Vancouver City Hall | Council Chambers | 415 W. 6th St.
PO Box 1995 | Vancouver, WA 98668-1995
cityofvancouver.us

Anne McEnergy-Ogle, Mayor • Bart Hansen • Ty Stober • Erik Paulsen • Sarah J. Fox • Diana H. Perez • Kim D. Harless

April 6, 2026

Workshops: 4:30-6:00 p.m.

Vancouver City Hall - Aspen Room - 415 W 6th Street, Vancouver WA

The City Council Meeting was held on 4/6/2026 at 4:30 PM in the Vancouver City Hall, Aspen Room 415 West 6th Street, Vancouver, WA 98660.

Workshops were conducted in person in the Aspen Room of City Hall. Members of the public were invited to view the meeting in person, via the live broadcast on www.cvtv.org and CVTV cable channels 23 or HD 323, or on the City's Facebook page, or www.facebook.com/VancouverUS.

View the CVTV video recording, including presentations and discussion, for workshops at: <https://www.cvtv.org/video/city-council-workshops-04-06-26-2026041000/>

Electric Vehicle Infrastructure Strategy

(Approximately 30 minutes, to immediately follow the previous workshop)

Stacey Dalgaard, Policy Analyst, Stacey.Dalgaard@cityofvancouver.us

Staff led Council through a discussion of the Electric Vehicle Infrastructure Strategy.

Councilmembers Harless and Fox were absent from the workshop.

Development Activity Update

(Approximately 1 hour, to immediately follow the previous workshop)

Patrick Quinton, Economic Development Director,
patrick.quinton@cityofvancouver.us

Staff led Council through a discussion of the Development Activity Update.

Councilmember Harless and Fox were absent from the workshop.

**Council Dinner / Executive Session Re: Potential Litigation RCW 42.30.110(i)(iii)
(6:00 - 6:30 PM)**

Mayor McEnery-Ogle announced the Council would be entering into executive session from 6:00-6:30 p.m. to discuss Potential Litigation.

Roll was taken during the Executive Session.

Present: *Councilmember Perez, Councilmember Paulsen, Councilmember Stober, Councilmember Hansen, Mayor McEnery-Ogle*

Absent: *Councilmember Harless, Councilmember Fox*

The absences of Councilmembers Harless and Fox were excused.

Regular Council Meeting

6:30 PM

Vancouver City Hall - Aspen Room - 415 W 6th Street, Vancouver WA

This meeting was conducted as a hybrid meeting with in person and remote viewing and participation over video conference utilizing a GoToMeeting platform. Members of the public were invited to view the meeting in person, via the live broadcast on www.cvtv.org and CTV cable channels 23 or HD 323, or on the City's Facebook page, www.facebook.com/VancouverUS. Public access and testimony on Consent Agenda items and under the Community Forum were also facilitated in person and via the GoToMeeting conference call.

Vancouver City Council meeting minutes are a record of the action taken by Council. To view the CTV video recording, including presentations, testimony and discussion, for this meeting please visit: <https://www.cvtv.org/video/vancouver-city-council-04-06-26-2026041001/>

Electronic audio recording of City Council meetings are kept on file in the office of the City Clerk for a period of six years.

Pledge of Allegiance

Call to Order and Roll Call

The regular meeting of the Vancouver City Council was called to order at 6:30 p.m. by Mayor McEnery-Ogle. This meeting was conducted as a hybrid meeting, including both in person and remotely over video conference.

Present: *Councilmember Perez, Councilmember Paulsen, Councilmember Stober, Councilmember Hansen, Mayor McEnery-Ogle*

Absent: *Councilmember Harless, Councilmember Fox*

Motion by Councilmember Stober, seconded by Councilmember Paulsen, and Yes: 5, No: 0, Abstaining: 0, to excuse Councilmembers Harless and Fox from the meeting. Absent from vote: Councilmember Harless, Councilmember Fox.

Approval of Minutes

Minutes - February 17, 2026

Motion by Councilmember Perez, seconded by Councilmember Stober, and Yes: 5, No: 0, Abstaining: 0, to amend the agenda to excuse Councilmember Hansen from the meeting. Absent from vote: Councilmember Harless, Councilmember Fox.

Motion by Councilmember Stober, seconded by Councilmember Paulsen, and Yes: 5, No: 0, Abstaining: 0, to approve the Minutes of February 17, 2026, as amended. Absent from vote: Councilmember Harless, Councilmember Fox.

Minutes - February 23, 2026

Motion by Councilmember Perez, seconded by Councilmember Paulsen, and Yes: 5, No: 0, Abstaining: 0, to approve the Minutes of February 23, 2026. Absent from vote: Councilmember Harless, Councilmember Fox.

Minutes - March 2, 2026

Motion by Councilmember Paulsen, seconded by Councilmember Hansen, and Yes: 3, No: 0, Abstaining: 2, to approve the Minutes of March 2, 2026. Absent from vote: Councilmember Harless, Councilmember Fox. Councilmembers Stober and Perez abstained from the vote.

Minutes - March 16, 2026

Motion by Councilmember Perez, seconded by Councilmember Hansen, and Yes: 3, No: 0, Abstaining: 2, to approve the Minutes of March 16, 2026. Absent from vote: Councilmember Harless, Councilmember Fox. Councilmembers Stober and Paulsen abstained from the vote.

Minutes - March 23, 2026

Motion by Councilmember Paulsen, seconded by Councilmember Perez, and Yes: 3, No: 0, Abstaining: 2, to approve the Minutes of March 23, 2026. Absent from vote: Councilmember Harless, Councilmember Fox. Councilmembers Hansen and Stober abstained from the vote.

Proclamations

Arbor Day

Mayor McEnerny-Ogle read and presented a proclamation to Jess Durfee, Urban Forestry Commissioner, and Charles Ray, Urban Forestry Supervisor for the City of Vancouver, proclaiming April 8, 2026, as Arbor Day.

Java House Recognition

Mayor McEnerny-Ogle read and presented a proclamation to Lonnie and Cora Chandler, Java House Owners and Operators, to recognize the Java House for their many years of dedication of serving the community.

Community Development Week

Mayor McEnerny-Ogle read and presented a proclamation to Kimberly Kerlee, Housing Project Planner for the City of Vancouver, and Tasha Slater, Senior Housing Planner for the City of Vancouver, proclaiming April 6-10, 2026, as Community Development Week.

Community Communication

This is the place on the agenda where the public is invited to speak to Council regarding any matter on the Agenda not already scheduled for Public Hearing. (Separate instructions are provided for offering testimony on Public Hearing when applicable.) This includes the option to testify about Workshops. Members of the public addressing Council are requested to give their name and city of residence for the audio record. Speakers are to limit their testimony to a total of three minutes for all items combined.

Mayor McEnerny-Ogle opened Community Communication and received testimony from the following community members regarding any matter on the agenda not scheduled for a Public Hearing:

- *Bruce Barnes, Vancouver*

There being no further testimony, Mayor McEnerny-Ogle closed Community Communication.

Consent Agenda

The following items will be passed by a single motion to approve all listed actions and resolutions. There will be no discussion on these items unless requested by Council. If discussion is requested, the item will be moved from the Consent Agenda and considered separately – after the motion has been made and passed to approve the remaining items.

Motion by Councilmember Hansen, seconded by Councilmember Stober, and Yes: 5, No: 0, Abstaining: 0, to approve Items 1-10 on the Consent Agenda. Absent from vote: Councilmember Harless, Councilmember Fox.

1. Construction Acceptance - Shin Etsu Handotai (SEH) Pump Station Improvements

Staff Report: 067-26

Request: On Monday, April 6, 2026, accept the Shin Etsu Handotai (SEH) pump station improvements project and authorize release of bond, subject to receipt of all documentation required by law.

Frank Dick, Wastewater Treatment Program Manager, Catherine Morey, Civil Engineer, frank.dick@cityofvancouver.us, Catherine.Morey@cityofvancouver.us

Motion approved the request.

2. Utility Easement Release - 615 W. 6th Street

Staff Report: 068-26

Request: On Monday, April 6, 2026, authorize the City Manager, or designee, to sign the attached utility easement release for 615 West 6th Street on parcel number 49360000.

Sasha Vassev, Associate Project Planner, Kris Olinger, Utility Engineering Program Manager, Sasha.Vassev@cityofvancouver.us, kris.olinger@cityofvancouver.us

Motion approved the request.

3. Bid Award - NE Royal St & 81st Ave Water Main Replacement - ITB 26-6

Staff Report: 069-26

Request: On Monday, April 6, 2026, award a construction contract for NE Royal St & 81st Ave Water Main Replacement Project to the lowest responsive and responsible bidder, Halme Excavating of Battle Ground, Washington, at their bid price of \$353,078.85, which includes Washington State sales tax, authorize the City Manager, or designee, to finalize and execute the contract and authorize any legal action necessary to enforce the terms of the same.

Reed Crosson, Civil Engineer 1, Mehrin Selimgir, Water Engineering Manager, Reed.Crosson@cityofvancouver.us, Mehrin.Selimgir@cityofvancouver.us

Motion approved the request.

4. Bid Award - West Vancouver Phase 1 Sanitary Sewer Improvements and Alki Road Water Main Replacement - ITB26-13

Staff Report: 070-26

Request: On Monday, March 16, 2026, award a construction contract for West Vancouver Phase 1 Sewer Improvements and Alki Rd Water Replacement Project to the lowest responsive bidder, Advanced Excavating Specialists, LLC, of Kelso, WA, at the bid price of \$2,245,532.69, which includes Washington State Sales tax, and authorize the City Manager, or designee, to finalize and execute the contract and authorize any legal action necessary to enforce the terms of the same.

Sheryl Hale, Engineering Manager, sheryl.hale@cityofvancouver.us

Motion approved the request.

5. Bid Award - Marine Park Wastewater Treatment Facility Headworks Equipment Replacement - ITB 26-9

Staff Report: 071-26

Request: On Monday, April 6, 2026, award a construction contract for Marine Park wastewater treatment facility headworks equipment replacement project to the lowest responsive and responsible bidder, Prospect Construction, Inc. of Puyallup, WA, at their bid price of \$3,827,214.08, which includes Washington State sales tax, and authorize the City Manager, or designee, to finalize and execute the contract and authorize any legal action necessary to enforce the terms of the same.

Gavin Zirkel, Civil Engineer, Frank Dick, Wastewater Treatment Program Manager, Gavin.Zirkel@cityofvancouver.us, frank.dick@cityofvancouver.us

Motion approved the request.

6. Interlocal Agreement - City of Vancouver and Clark County Corrections

Staff Report: 072-26

Request: On Monday, April 6, 2026, authorize the City Manager, or designee, to finalize and execute an Interlocal Agreement with Clark County Correction Services for offender restitution crew labor/maintenance services.

Michael Cero, Operations Superintendent,
michael.cero@cityofvancouver.us

Motion approved the request.

7. Cooperative Purchasing Agreement - Landscape Structures

Staff Report: 073-26

Request: On Monday, April 6, 2026, authorize the City Manager, or designee, to amend Contract C-102205 between the City of Vancouver and Landscape Structures Inc. to approve spending above \$300,000 without a specific limit, and; authorize the City Manager to take any legal action necessary to enforce the terms of the same. The City of Vancouver piggybacks on the terms of the contract between Landscape Structures and Sourcewell (Sourcewell Contract #101625-LSI), which provides discount pricing for play equipment, shade, shelters, splash play, site furnishings and playground surfacing purchased from Landscape Structures, Delano MN, for the life of the contract.

Terry Snyder, Park Development Manager, David Perlick, Director of Parks, Recreation and Cultural Services,
Terry.Snyder@cityofvancouver.us, david.perlick@cityofvancouver.us

Motion approved the request.

8. Collective Bargaining Agreement - Vancouver Police Officers Guild 2026-2028

Staff Report: 074-26

Request: On Monday, April 6, 2026, authorize the City Manager, or designee, to sign the collective bargaining agreement with the Vancouver Police Officers Guild for 2026–2028.

Robert Prociak, People and Labor Strategy Manager, Antoinette Gasbarre, Human Resources Director, Rob.Prociak@cityofvancouver.us, Antoinette.Gasbarre@cityofvancouver.us

Motion approved the request.

9. Right-of-way Telecommunications Franchise Ordinance Agreement for Mashell Telecom, Inc. doing Business as Lightcurve

AN ORDINANCE relating to management of the public rights-of-way, granting to Mashell Telecom, Inc. d/b/a Lightcurve and its affiliates (“Grantee”), a corporation (collectively “Parties”), a non-exclusive and revocable Franchise to install, operate

and maintain a telecommunication system in, on, over, upon, along, and across Public Ways of the City of Vancouver, Washington (“City”), establishing certain rights, duties, terms, and conditions with respect to the Franchise; and setting an effective date and conditions. Grantee and City are sometimes collectively referred to as the “Parties.”

Staff Report: 075-26

Request: On April 6, 2026, advance the ordinance on first reading, setting a date for second reading and public hearing on May 11, 2026.

Aaron Lande, Assistant City Manager, Cary Driskell, Assistant City Attorney, aaron.lande@cityofvancouver.us, cary.driskell@cityofvancouver.us

Mayor McEnerny-Ogle read the title of the ordinance into the record.

Motion approved the request.

10. Approval of the Claim Vouchers

Request: Approve claim vouchers for April 6, 2026.

Motion approved claim vouchers in the amount of \$30,806,324.25.

Public Hearings

The following item(s) are scheduled for public hearing. Members of the public addressing Council are requested to give their name and city of residence for the audio record. Unless otherwise announced by the Presiding Officer, speakers are to limit their testimony to three minutes for each public hearing.

11. First Supplemental Budget

AN ORDINANCE relating to the 2025-26 Biennial Budget and making supplemental appropriations in various funds needed to meet certain necessary expenditures to be incurred in 2025-26 which were not and could not reasonably have been foreseen at the time of adoption of the 2025-26 Budget; declaring an emergency and providing for an immediate effective date.

Staff Report: 066-26

Request: On Monday, April 6, 2026, upon second reading and a public hearing, finalize and approve the ordinance.

Shannon Olsen, Budget Manager, shannon.olsen@cityofvancouver.us

Shannon Olsen, Budget Manager, provided an overview of the First Supplemental Budget.

Council discussed the item briefly with staff.

Mayor McEnery-Ogle opened the public hearing and received testimony from the following community members:

- *Bruce Barnes, Vancouver*

There being no further testimony, Mayor McEnery-Ogle closed the public hearing.

Motion by Councilmember Paulsen, seconded by Councilmember Perez, and Yes: 5, No: 0, Abstaining: 0, to approve Ordinance M-4530. Absent from vote: Councilmember Harless, Councilmember Fox.

Communications

A. From the Council

B. From the Mayor

C. From the City Manager

Lon Pluckhahn, City Manager, invited Laura Shepard, Communications Director, to the table to discuss digital accessibility and accessibility for meetings with the City Council.

Community Forum

This is the place on the agenda where the public is invited to speak to Council regarding any matter. Members of the public addressing Council are requested to give their name and city of residence for the record. Speakers are to limit their testimony to a total of three minutes. Up to 90 minutes will be allotted for the Community Forum.

Mayor McEnery-Ogle opened the Community Forum and received testimony from the following community members regarding any matter:

- *Claire Campbell, Vancouver*
- *Bruce Barnes, Vancouver*
- *John Polos, Battle Ground*

There being no further testimony, Mayor McEnery-Ogle closed Community Forum.

Adjournment

7:30 p.m.

DocuSigned by:

Anne McEnerny-Ogle

0C09D8089EC5424...

Anne McEnerny-Ogle, Mayor

Attest:

Signed by:

Lisa Brandl

02BF78E9C0DE84DB

Lisa Brandl, City Clerk

The written comments below are those of the submitter alone and are not representative of the views of CVTV or the City of Vancouver, its elected or appointed officials, or its employees.

From: [Dollar, Sarah](#)
To: [Dollar, Sarah](#)
Subject: FW: Meeting 4/6/26 10 years of repeat illegal habitation by known offenders in Arnold Park
Date: Monday, April 6, 2026 10:23:26 AM

Sarah Dollar | Executive Assistant to the City Council
Pronouns: She/Her/Hers
CITY OF VANCOUVER, WASHINGTON
City Manager's Office (CMO)
Primary (Cell): 360-624-2949 | **Desk:** 360-487-8641
www.cityofvancouver.us

From: PETER BRACCHI <[REDACTED]>
Sent: Friday, April 3, 2026 10:30 PM
To: City Council <council@cityofvancouver.us>
Subject: Meeting 4/6/26 10 years of repeat illegal habitation by known offenders in Arnold Park

Council Members,

I am sending this for your awareness regarding a long-running problem in Arnold Park and the Burnt Bridge Creek corridor.

This is not just a general homelessness issue. It is a **repeat illegal habitation problem involving certain known individuals who have returned to this area for roughly 10 years** and are known to City workers, HART, law enforcement, and members of the public.

My concern is the continuing cycle of repeat occupancy, cleanup, return, and repeat damage. In particular, **two known repeat individuals — Tyrone and Ron — have been part of this pattern for about 10 years** in and around Arnold Park. This is not a new issue, and it is not a one-time campsite complaint. It is a long-term failure to stop chronic reentry by known repeat offenders.

The issue affects public safety, worker safety, environmental protection, and stormwater quality in a sensitive creek corridor.

One individual tied to this long-term pattern is Tyrone Leroy James. Another long-term repeat individual known in the area is Ron Bradford. The larger point is that the City appears to be dealing with **the same known chronic repeaters year after year**, yet the public has not been given a clear explanation of what strategy is being used to stop continual reentry and reoccupation in Arnold Park.

I am asking HART for a written response addressing these four points:

1. What is the City's specific plan for known repeat offenders in Arnold Park, not just general outreach policy?

2. How does HART identify a chronic repeater in this area?
3. Once someone is identified as a chronic repeater, what elevated response occurs beyond another warning or cleanup?
4. How are HART, VPD, Parks, Public Works, and the City Attorney's Office coordinating to stop repeat reentry into Arnold Park by known offenders, and what follow-up enforcement, monitoring, site control, restoration, and prevention measures are being used so that the same individuals do not simply return and continue the cycle?

I wanted Council to be aware that **this pattern involving these two known individuals has persisted for about 10 years**. Arnold Park and Burnt Bridge Creek should not remain a revolving door for known repeat violators.

Please include this email in the public record. I would appreciate Council's awareness and any direction you may provide to ensure the City develops a real repeat-offender strategy for this area.

Sincerely,

Peter Bracchi
Vancouver, WA
[REDACTED]

Kelly Cannard

[REDACTED]
Vancouver, WA

98160

Educator

Please refrain from sharing address.

Essential questions

How can we learn to live simply
such that our earth and
all 8 billion humans thrive?
What collective living practice
experiments can we
co-design and try?

To: City Council of Vancouver

March 25, 2026

I have been trying to explain some ideas about how we live and approaches to learning such practices that could be hugely beneficial to goals we share.

I've been heard. I'm not sure if I've been understood. And sometimes, the members of your staff assigned to listen and I seem equally frustrated.

I am asking you to consider

The really long-term, one hundred years from now

How do you think human life will function when every last drop of fossil fuels has been burned or kept in the ground?

What do you think will happen to "equality" then, if when fossil fuels are still abundant, governments and markets allow a handful of individual men to amass a combined wealth equal to that of 4 billion humans who each live on \$4/day or less?

The few young people I've asked responded with deer-in-the-headlights looks or referred me to science fiction authors. I'm convinced we need to find ways to hold one another through the process of generating possibilities without illusions.

I invite each of you to respond to the long-term prompts. I won't demand a 5-paragraph essay like I did of over 150 8th graders thirty years ago. Some brain storms, sketches, notes, thoughts, designs, ideas for micro-economies for meeting needs over marketing desires would help me better understand what you understand. How would you ask such questions so that they invite thoughtful responses rather than frighten?

Enclosed are more ideas of practical experiments, the kind that ought to be co-developed. Among all of the residents

in this city, there must be a few who do have some interest, time, and expertise to give the approach a try.

The shorter term

When and where (in-person) is the monthly Carter Park Neighborhood Association meeting? I have repeatedly offered to assist with planning and facilitating.

This (nonviolent) Luddite may be reached via the U.S. postal service and asks that her address not be shared.

Thank you.

Kelly Cannard

Living Practices

This past year, I moved the jars of grains and beans that comprise most of the meals I eat. I placed them on shelves adjacent to the cooktop and pot in which I cook those meals. The change was both desired and convenient.

It took several weeks before I stopped automatically walking over to the shelves where I used to keep the jars.

Many more substantive simpler living practices initially feel neither convenient nor desired, even if our heads and hearts scream at us that they are necessary.

Making room for those feelings without screaming at one another through the process would seem imperative.

Policies, carrots and sticks of behavioral economics, and markets cannot really provide that social learning. As adults, most of us are not in classrooms learning simpler living practices with a cross-section reflective of our community.

What I am seeking:

one or two other individuals willing and available to co-plan an initial work group gathering related to a particular living practice and able to help identify and convene such a group of 5-6 individuals.

General areas of my personal interest and commitment:

- native/near native forest/wetland restoring including small and very small urban/suburban spots that would collectively create a mosaic of wildlife corridors and fir human respite
- edible vegetation grown by hand, agroforestry, and regenerative agricultural practices
- food system - small collectives/cooperatives working directly with area farms for staples without packaging, neighborhood fruit caring, harvesting, and preserving
- transportation - active/transit/car sharing/carpooling and errand cize; designated hours encouraging us all to use our bodies to complete errands and any motorists slowing down
- design/construction/deconstruction practices to utilize new materials minimally, repurpose and detoxify older materials, renovate more existing residences for co-housing/quasi co-housing varieties, and developing protocols for pre-arranging groups.

What I would bring to any such work:

An extensive set of skills and understanding of how humans learn and develop even among groups of learners with quite different experiences, motivations, and capacities. Certain types of learning practices create environments conducive to humans constructing broader and deeper understanding, and are less apparent in the world of adults living outside of classrooms.

I'm also quite good at co-designing, assembling, and displaying materials and facilitating.

What a potential outline might include for a focus on a particular living practice:

- 2-3 people co-plan an initial gathering for a work group of 5-6 people (2-3 hours)
- 1st work group gathering (2-3 hours)
 - practice method
 - brainstorm ideas
 - agree to contemplate ideas for a couple of weeks
- 2nd work group gathering (2-3 hours)
 - share thoughts + any new ideas
 - decide on a living practice experiment + reflection protocol
- carrying out of experiment over a few weeks (total hours depends on scope of experiment)
- work group reflecting + planning
 - reflect on process
 - plan communication for inviting + starting new participant groups
 - make sure plans complement existing policies/ resolve any differences
 - prepare materials + flexible protocols

(time needed depends on project; may divide some responsibilities)

Comments:

Quiet Hours: I'm not sure how I learned the habit of quiet in natural areas. A rhythm of listening, an awareness that the human voice diminishes the fullness of sound from the fauna, flora and water.

I got to wondering about designating a few quiet hours each week in some natural areas.

Forest Bathing Steps + Traditions	Natural Area Quiet Hours: whispering only if necessary	Do you hear these sounds? : : : :
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Often, conservation-oriented organizations provide different strata of donor services and recognition. Those of modest means may be asked to generalize their support.

This brainstorm thinks about some ways to involve more of us in connecting more deeply to particular places and encourage a variety of natural area practices.

Who might volunteer?

- retirees
- HS: senior project completers
- art + science students of all ages
- existing groups - birders, gardeners, walkers, tree planters, etc.
- teachers past, present + future
- trade school + ecology program students

Sister natural areas:

We could do this and it could help us bond with places far away yet part of our planet earth home and from which many in our community migrated

While this is an example for a fairly large area, the ideas could be implemented gradually in parts and in smaller spots

- bioswale planting?
- corners of neighborhood/school grounds
- amenities/signage added to existing spaces
- right-of-way/along multi-use paths

Brainstorm
for

Natural Area

Map + Guide

A community of
modest means
project

Signage by the season Artwork by:

- ~~~~~
- ~~~~~
- ~~~~~

each sign -
(+ typical flora for a particular
quadrat or a tree species)

bird blind builders:
includes binoculars
+ guides (more artwork?)

walking stick carvers
+ boot cleaner
installers:

Local chapter of
whittle + nibble

brush
from
local farm

Science
+ Art
Kit
Check
out
Station

Spring Summer Fall Winter

Tree climbing
training
saturdays
2-4 PM

Post-molert +
salvaged 4x4 ends
Team:

- ~~~~~
- ~~~~~
- ~~~~~
- ~~~~~

Play in the
mud + sand
area

Quiet Hours:
Wed 3-5 PM
Sun 8-10 AM

Quadrat saplings donors
and planters:

ooh lala
look at
that!

Leaf peeping
stilts +
platforms

Safety training
+ check-out hours:
~~~~~

constructed by:

- ~~~~~
- ~~~~~
- ~~~~~
- ~~~~~

Howdowe  
turn  
around?

- ~~~~~
- ~~~~~
- ~~~~~
- ~~~~~

Public Transit  
Nature  
BUS

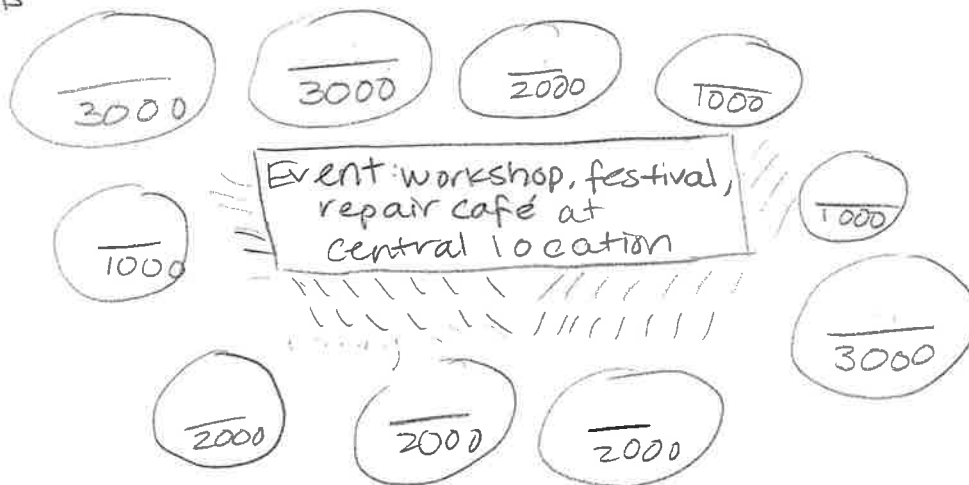
Schedule  
+ routes  
(rotates  
by  
week)

Bicycle + Disabled  
Parking only

Our sister natural areas  
in these areas:  
S. America  
Africa  
Asia  
Pacific Islands

# Come and Get Ideas/Workshop/Repair Café Model

⊖ = neighborhood  
 ⊖ ≈ residents



For this example, we'll say the center is holding a monthly repair café. Several repairers of different areas of repair expertise. It's very popular, the parking lot is full, and many objects are repaired at a rate of one per attendee.

Make an estimate of the number of residents who bring an object to the repair café.

## Alternative Approach

Each of the above ten neighborhoods holds a repair information gathering meeting to which every resident receives a personal communication and optional response card if they cannot attend.

The neighbors compile a list of objects needing repair and sort by expertise needed to complete the repairs. They match those to a list of volunteer repairers from the repair café and schedule a session with each needed expert, spread out over the year.

Would you expect there to be more, less, or the same level of participation? What might be additional benefits of trying this approach? How might neighbors' own repair skills be brought out? How might bartering/cost sharing/sliding scale be used if there is substantial participation above what might be volunteered by repair experts?

How might a similar approach work with other practices such as household maintenance or soil improvements?

Reduce Amount of Stormwater Runoff and Debris on common Surfaces (streets, sidewalks, parks)

protocols for neighbors to collaborate in placing up debris / checking drains curb cuts  
recognition + reminders?

rain gardens

public spaces

privately owned yards

mini water absorbers

- corner rain garden
- alternative vegetation to right of way lawns

mini-forests + trees + shrubs

public areas along shared property lines  
planned together across neighborhood incl. renters + homeowners of varied means

reduction of individual vehicles (see transportation ideas)

And accessibility for moving around

deeper understanding of ecosystem services + absorbing + filtering storm water into aquifer through practices

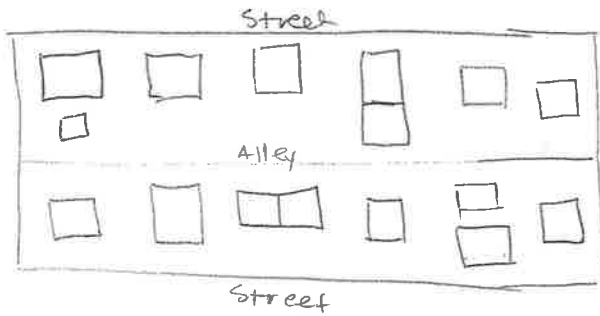
relevance to keeping streams, rivers + lakes free of algal blooms

recreation fish population

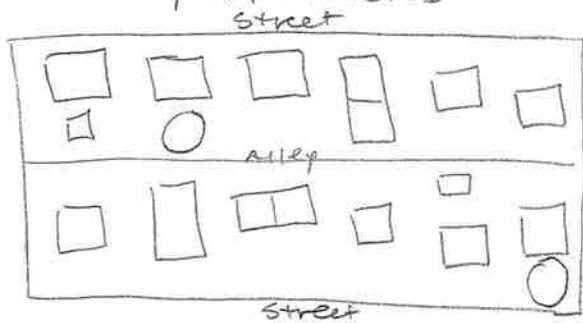
preserving more water within our watershed to meet needs

# Native/Near Native Vegetation

Here is an example block of single-family dwellings, duplexes, and ADUs.



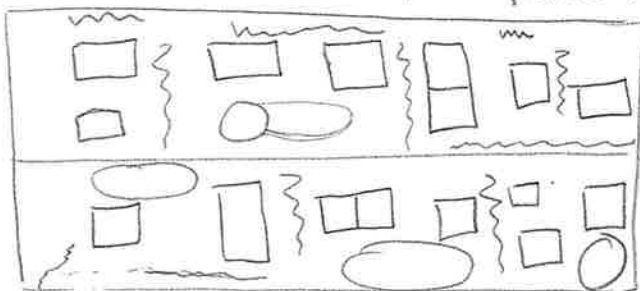
Two households have gone through the backyard habitat program, represented by the circles



Now, imagine you are a bird or a pollinator and most of the yards without backyard habitats have grass, an occasional tree, and shrubs with few blooms, seeds, or berries.

One day, the neighborhood holds a gathering. Around the meeting space are pictures, diagrams, and models of small scale native plant collections. In addition to full yard rain gardens, right of way + movable alternatives to lawn. Each example has simple visual signage outlining habitat, season attractive to birds/pollinators, ease of care, noise/wind breaks, edible for humans, water absorption, etc.

Neighbors share what they'd like to see in their block. The squiggles and ovals represent collectively-added features carried out over a few years with monthly shared care and cost on a sliding scale. Collectively, the features approximate the native near native vegetation (forest/wetland) that would have been here hundreds of years ago.



As a bird or pollinator or human, which block would you choose? What might be additional benefits of such an approach?

Fields and Forests Institute: Homesteading Practices for  
Urbanites, Suburbanites and All who seek to  
Deepen and Broaden Their understanding of  
Food by Hand for Fun and the Future

Sample workshops, courses, and projects bring together  
learning groups of individuals of varied economic  
means, motivations, and skills:

- Come scythe with us
- Will we weir it?
- Popcorn, potato boxes, playspace structures,  
and permaculture for preschooler fans
- Pitching Hugelkulture
- Fredgemony
- Neighborhood FruitLoop Preservation
- Mending neighborliness with shared edible fencing
- Press Those Sunflower Seeds  
(includes weekend watercolor workshop  
prior to harvest + veggie oil pressing)
- Spin that Flax
- Neighborhood soil shop cooperative
- Living room lemon trees

Whenever possible, and appropriate, participants will learn  
while helping small farmers increase their regenerative  
practices and agroforestry and providing direct  
farmer-eater supports.

Students include casual community learners and those  
working toward a certification or degree.

Depending on the activity, sometimes the kiddos of  
parents/grandparents/aunties/uncles will be invited along to  
frolic in the fields + forests.

Workshops and courses are in-person and designed around  
participants so that they may form bonds over the years,  
not just for the length of a workshop. Some groups may  
decide to practice on each others yards or co-purchase  
land + place it in a community farm trust.

## Idea: Urban Land Trust + Land Steward Housing

### Issues addressed:

- liveability: air, water, shade, calm, tree canopy
- restoration of land to closer to what was present before European settlers
- creating ecology-based community
- avoiding predatory landlord practices
- increasing biodiversity and habitat
- bringing together homeowners and renters
- modeling compact and comfortable housing units built/renovated with genuinely ecologically-sound practices
- preferencing ecologically-minded residents who are descendants of those disenfranchised by historic harms
- creating realistic ways for residents to create more durable living practices

### Possible Policy/Legislative Needs:

- Binding protections for lots and fractions of lots (similar to Legacy Lands?)
- Designation of housing resources possibility to be steward of protected natural space
- Mandatory education of historic harms and opportunities to correct at time of will-estate plan creation and property transactions

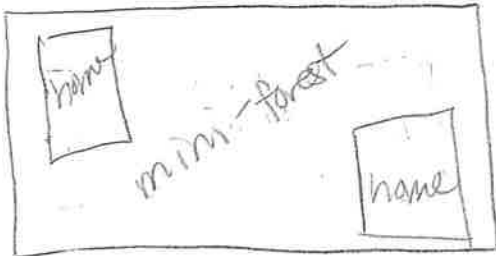
A few examples for vacant small lots or lots where a living structure needs to be dismantled.



≈ 5000 square foot lots

≈ 600 square foot dwellings

≈ 200 square feet near dwelling for hardscaping, plumbing/electrical, etc

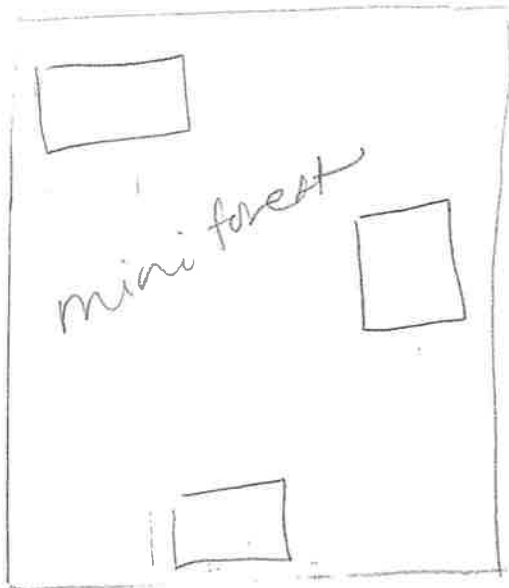


≈ 3400-4000 square feet for mini-forest and/or edible landscaping



Homes renovated/built with stringent standards for:

- minimizing ecological damage anywhere in the world
- repurposing materials from carefully deconstructed buildings in area
- compact and multi-purpose designs



Double lot? 10,000 sq feet  
Double the natural space and more land steward housing units.

## Equitable Home & Land Redistribution Group

In the mixed-wealth neighborhood where I live and in many parts of the city of Vancouver and Clark County, WA, even if a homeowner has mortgaged their property to the highest level possible, the land itself provides the homeowner with wealth equal to at least four or five times that of African-Americans in the country and other disenfranchised groups. The land once belonged to the indigenous people of this area, a tribe that I understand has yet to even receive federal recognition.

These disparities will not be solved by credit counseling, incremental increases in the minimum wage, or housing vouchers. Those measures and others help, but are insufficient.

In a process that is somewhat similar to aquifers that are drained at rates that are much faster than they can be replenished, the manners of living for those at and above the median level of wealth, it becomes impossible to lift all boats because our boats are always rising (until the waterways they travel dry up.) This process deliberately and unintentionally pulls us along and is supported by both laws and tradition.

Adding an approach that weaves a wealth that is more modest and evenly distributed, collectively and including small groups of homeowners is one some of us might be willing to take.

When I taught in middle schools, I spent an hour or two every month planning seating charts for my classes. Done well, this enhanced collaboration and avoided toxic interactions.

In housing, we expect people to only interact with a landlord, property manager, realtor, or homeowner before locating a place we may live for years, even decades. Laws that discourage discrimination such as redlining are important. How, then, might we design cross-caste neighborhoods that get along? How do we live more modestly and collaboratively so that more may have not only a place to live, but financial security such as those of us born into privilege have?

I'm aware of some related approaches, though I am not aware of any that try to build community-oriented living across wealth groups in an area or that are not adjacent properties in an intentional co-housing arrangement.

Because it is such a challenging action, I suspect it would be more possible for those of us who:

- Are not responsible for our own children or heirs about whom we worry
- Feel they have enough financial security that they likely will not need to sell their property for end-of-life care
- Would like to remain on or in the vicinity of their current home/property for years to come
- Have a gut feeling that their privilege is disturbing and are concerned about the inequality produced by continued accumulation of that privilege
- Are open to developing new practices for collaborative living
- Are open to considering alternatives to wills designating the sale of their home with proceeds funding a designated organization(s)

## Materials + Affordable Housing

Every build, every tear down, every renovation requires materials and energy that have caused and do cause depletion, pollution, and elimination of vital ecosystems whether in our own area or around the world.

In my inquiries to understand the least harmful products and processes for necessary work on an older home, I have been met with a lack of information, and reluctance or refusal to discuss more ecological choices from many in the construction and design fields. And many professionals I've approached only work on new, upscale projects. Also, everything is done individually or by a municipality or non-profit, not in small groups of interested individuals who live in proximity to one another. Even at a building fair, the only environmentally sustainable booth (other than a wild restoration group) was the public utility with an EV charger.

One of my challenging questions of late has been, "If all 8 billion humans do \_\_\_\_\_ in this way \_\_\_\_\_, could the earth provide what's needed and for how many generations?" Consider the components in composite roofing, its longevity, and the number of buildings covered in that way.

If we let everyone who has the money (or debt collateral) build as large or embellished a roof as they want, won't that have an impact on the long term affordability for people who live in much smaller abodes?

Similar questions could be asked of any construction material. Policywise, I personally support several intersecting principles:

- building compactly and ecologically for everyone
- utilizing, repurposing, and designing with what we have <sup>already</sup>
- involving groups of humans in generating better practices + solutions (more holistic and personalized planning).

# Suggested Idea: The Ecological Building Workshed

Each municipality/county (depending on population) designates a small old building or part thereof and fills it with displays of materials, practices, and designs that we know are more sustainable and information about those with negative impacts through their extraction, manufacturing, transporting and installing.

The workshed would be a public-non-profit partnership so that it would remain independent of "the market" which is subject to multiple pressures contrary to actual ecological sustainability.

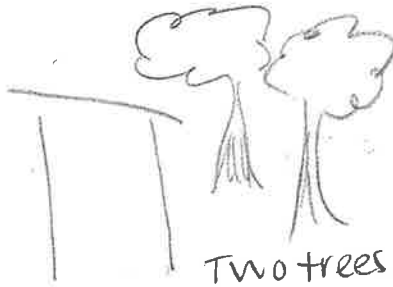
The workshed would be staffed by one or more employees and several retirees/volunteers with relevant knowledge and/or willing to be trained.

## Responsibilities:

□ research + create displays

Example

Extreme Heat



Two trees  
= cooling effect of one AC unit



mini-forest w/ understory + shrubs  
= more disaster protection, carbon + water sequestration, biodiversity and cooling of AC

Other displays could include:

compact room designs

turning old houses into multi-family units

flooring, roofing, siding options

how to obtain repurposed materials

how to seal + insulate vents from ductwork after switching from gas to heat pump

+ other ways to prevent heat loss + encourage passive energy

collections of samples of more ecologically sustainable products

## Responsibilities continued

- Developing repurposing practices and training young people to provide such services through micro-economies (deconstruction of buildings, salvaging, and "personal shopping" for repurposed items for the working class rather than fancy buildings for the elite)
- Providing ongoing, updated training on the products, practices, and designs recommended for ecological and social reasons which all in the building and design trades would be required to complete and to subsequently share with clients/customers
- Facilitate "introduction to co-housing" workshops in each neighborhood (see co-housing ideas)
- Answering questions from individual homeowners contemplating DIY projects

CO-HOUSING IDEAS

As a classroom teacher, I spent an hour or two each month coming up with seating arrangements. Every student was expected to be respectful of everyone and follow school and classroom rules, but pairs and groups tended to function (and therefore learn) better if carefully arranged and with some variation.

In grown-up life, most of us move into rentals or buy houses and live there for years or decades with very little attention to our "block" or "building" arrangement. And then, some authors become famous for describing how we do everything alone unlike most other cultures in the world.

"Affordable housing" has risen to the level of mantra. The solution—"build more housing." I went to a municipal meeting on the same topic in the early 1990s. I dubitfully rated dozens of slides from 1-10. At the time, townhouses close together built of brick and not too far from small shops with amenities seemed to be my preference.

Now, after having observed rapid gentrification in numerous cities and having lived in a few apartments and two houses in two different mixed-income neighborhoods for a couple of decades each, my understanding has shifted a bit.

Policymakers seem reluctant to stop gentrification. If no one had six figure salaries or weren't able to accumulate wealth or to pass on vast sums to their heirs, no one would be capable of outpricing. I gather my ideal of equal income and wealth for each isn't yet palatable. But there have got to be some ways to rein in the luxury and charge for the long term consequences on our ecosystems, resources, and peoples lives wherever the materials for luxury are extracted, processed, manufactured, transported, and maintained once installed.

This particular communication offers some ideas around co-housing that could be worked on by existing and potential neighbors with their housing structures.

## Co-housing

After having read a few books and spoken with one co-housing design firm, I get the impression most co-housing is founder-oriented. A group comes together and seeks out a large plot on which to build their units. Developers of multi-unit buildings (with the co-housing component) build units + sell or rent them.

My inquiries into distributed co-housing (not adjacent) has yet to turn up any examples, so I'll offer a couple of possibilities for using existing structures with some additions and a very important people component.

In this approach, neighbors already live in an area, and have an interest in co-housing for a number of reasons:

- rent and would like to own
- want to downsize / live on one level
- want to divide and sell half of their lot to increase housing availability or obtain some equity from their property, but want to make sure they're compatible with whomever buys in and/or do not want to be a landlord
- think it's more ecological to live in more compact spaces and have more shared spaces/items
- would like to have more community within the neighborhood
- share construction savings

There also could be a few people who would like to live in the neighborhood. It would likely be years and they understand or would be invited later in the process.

The group would first get to know one another and then brainstorm ideas. They would agree to try a practice or a few before meeting to plan (dinner collective, shared yard work, activity night, etc.)

Then they'd start planning a shared space - what it would include and how'd they use it (only all together and/or on a rotating basis). After that, they'd think about where cottages could be added (or existing homes reconfigured.)

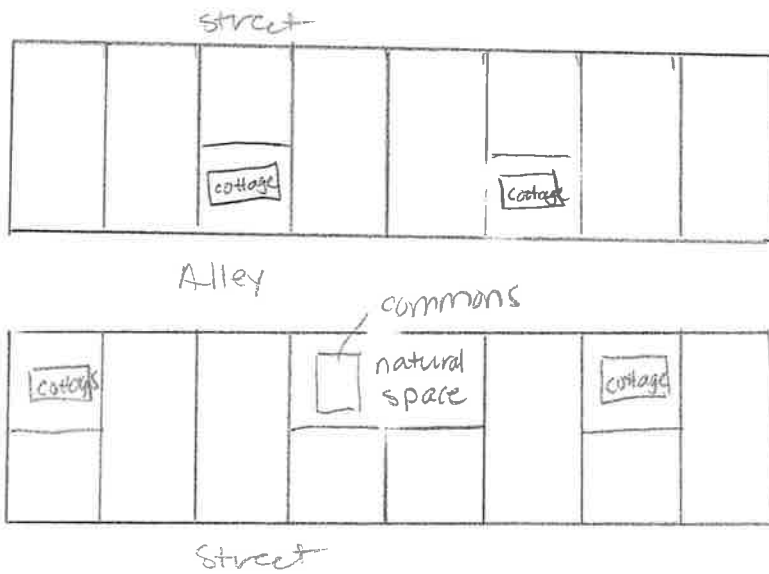
The following examples show how the building arrangements could work. The first is a fairly typical block in an older neighborhood of 16 single-family properties.

4 cottages and a commons/natural space are constructed. While arranged within a single block, they could be more spread out if that's where interested neighbors live.

Example

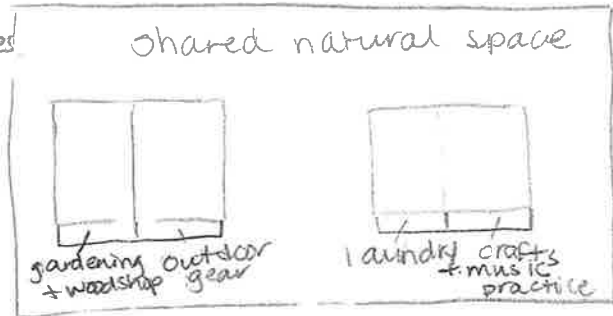
Six of the households decide to divide their lots in half

- 2 sell their half-lots to the co-housing group (of which they are members) for the commons/natural space
- 2 sell their houses and move into co-housing cottages (the home purchasers are also interested in co-housing and that's being tried out)
- 2 sell their cottages - 1 to longterm neighborhood renters, 1 to new residents who have been participating in the co-housing planning



Example

Two large houses on adjacent lots are divided into 4 indep. living spaces. Each garage serves a different purpose for all to share. This co-housing group rotates weeknight dinner hosting.



Example

A single lot that needs to be rebuilt (housing beyond repair) and three households want individual cottages and a commons space



Each cottage is 15' x 25' w/ an open floor plan, mini kitchen + bath

The commons is 15' x 30' w/ full kitchen, 1/2 bath, storage, laundry + guest pull-out bed

w/ mini-forest + separate cottages = a little more privacy

This model could also be done by turning one of four duplex units into a commons

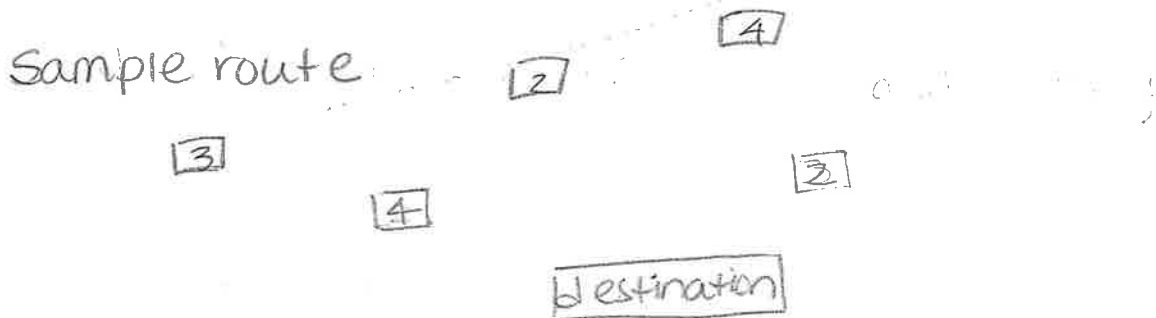
# Transportation Experiment Brainstorm

□ Rotating routes (for instance to different parks/natural areas)

□ Custom built routes

car drivers who have fairly regular + similar schedules agree to try a door-to-door (or nearby) route for a certain period of time and pre-pay

- commuters
- soccer kids, parents + grandparents
- dog park visitors w/ canine companions
- storytime attendees and their stroller pushers
- farmers markets shoppers
- senior citizens lunch along the international district



## Transit size and seating arrangement

- strollers or dogs? - sideways seats only
- commuter small group - ev mini bus like downtowner

□ Carpool commuter experiment to transit route

□ carpools for activities other than getting to/from work

□ Errandize hours

# Multiple Living Practice Experiment

## Suburban car-sharing: A Real Experiment with Our Transportation Habit Phenomenon

For a period of weeks or months, a few willing participant households in close proximity to one another, agree to try out a combination of shared vehicle use, public transit, and active transportation.

The owners of two vehicles - a small EV for getting around town or where there are chargers and a larger hybrid SUV, suitable for hauling people or things, even on unpaved roads - agree to share their vehicles for the duration of the experiment, preferably in a participating household's garage that can be accessed with a digital code or key.

Together, a few weeks before starting, they:

- learn about public transit and active transportation specific to their area
- decide on care and maintenance, charging and fueling of the shared vehicles
- complete insurance and liability forms
- create a process for resolving any concerns that arise
- schedule vehicle usage for the experiment's duration or agreed-upon time frames
- schedule once or twice-a-month meetings during which they will reflect on their experiences & problem-solve as needed
- start their transportation reflection journal

Participants who own other motorized vehicles agree to use them in emergencies only, just enough to keep them running, loan them out temporarily, or if multiple drivers own multiple cars, only use one during the experiment. At least once a week, the participants agree to try transit, active transportation, or carpooling.

Helpful supporting roles for this experiment would be:

- a people-oriented person to help form small workable groups who will get along
- a coordinator to offer an introductory workshop
- a manual with recommended procedures and information including neighborhood specific transit/active transportation information +

### Sample Participant Group with Results

Before the experiment, the participants owned a total of ten motorized vehicles:

- one small ev
- two hybrid vehicles, one car, one SUV
- three combustion-engine cars
- four combustion-engine trucks, vans, or SUVs

After the experiment, the participants owned a total of five motorized vehicles:

- one small ev
- one hybrid SUV > still available for car-sharing group
- one combustion-engine car
- two heavy combustion engine vehicles, truck + van (one offered to car-sharing group for one weekend/month)

Most participants report they:

- use public/active transportation more often
- travel fewer single-occupancy and total miles in a car
- built up savings from owning zero or fewer cars
- feel less worried about others who must use public/active transportation
- have learned shared-economy skills that could be applied to other aspects of living or to help another car-sharing group get started
- know their neighbors a whole lot better
- provided planners with a lot of useful data

one participating household decided the program didn't work well for their situation, but still learned a lot and would feel okay about asking for a ride in a pinch.

## Potential Advantages of a Neighborhood-Based Program

- Involves participants in co-learning and co-solving transportation habits (most important)
- more flexible for a small group's needs than a large for-profit business with spotty availability and lack of built-in group building + reflection
- uses existing vehicles + parking
- participants' worries could be eliminated or reduced
- minimal costs for the experiment even if some participants decide the approach won't work for their circumstances
- could build community + transferable shared-economy skills
- cost savings (individual, societal)

## Potential Disadvantages

- not uniform across an area
- challenging in areas where residents move a lot
- Jevon's paradox (saved transportation costs go to air travel, eliminating energy savings)
- new set of things for people to complain about
- more conducive for people with decent vehicles and garages
- might need more active transportation and transit routes + frequency

What do you think? Could we try this out or something similar?

## Policy issues?

For those attached to external rewards, how might car-sharing or machine-sharing be incentivized over individual ownership incentives?

Note: Market approaches like zip car (which I have used) are less tailored to a specific group of people, involve less certainty, and have a profit motive.

## Worries about Transportation Habits that might Arise

### Personal ownership of motorized vehicles.

- expense of purchase + maintenance, personally, societally, and globally
- availability + use discourages owners from using public/active transportation
- manufacturing, use, and afterlife of motorized vehicles cause many forms of environmental damage

### Relying on public/active transportation

- safety in bad weather or late hours
- infrequent service availability
- hauling things or traveling to remote areas is challenging, if not impossible

### Renting a vehicle

- may be inconvenient, unavailable, or feel expensive

### Sharing a vehicle with people in different households

- may argue over maintenance, scheduling, and/or flexibility in unforeseen circumstances
- may not know others nearby who would want to share a vehicle

### Feelings

- may feel less adult, independent, accepted by peers

### Planners

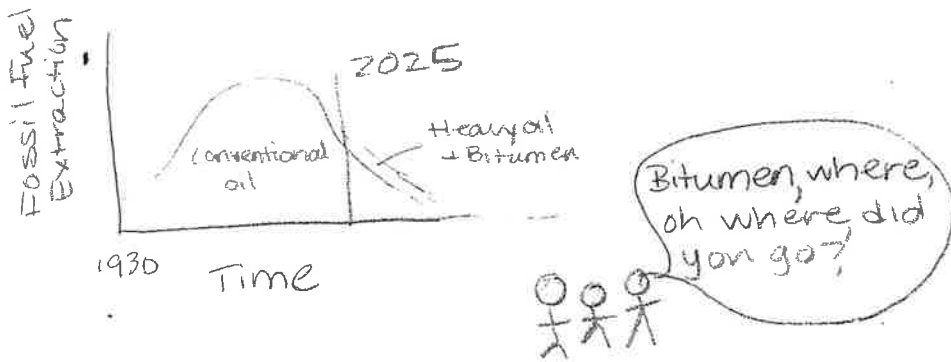
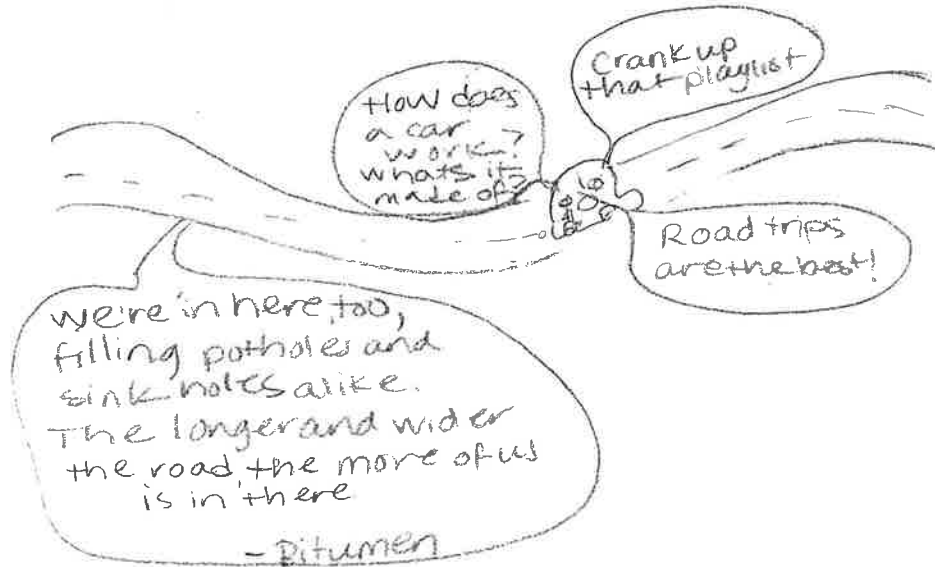
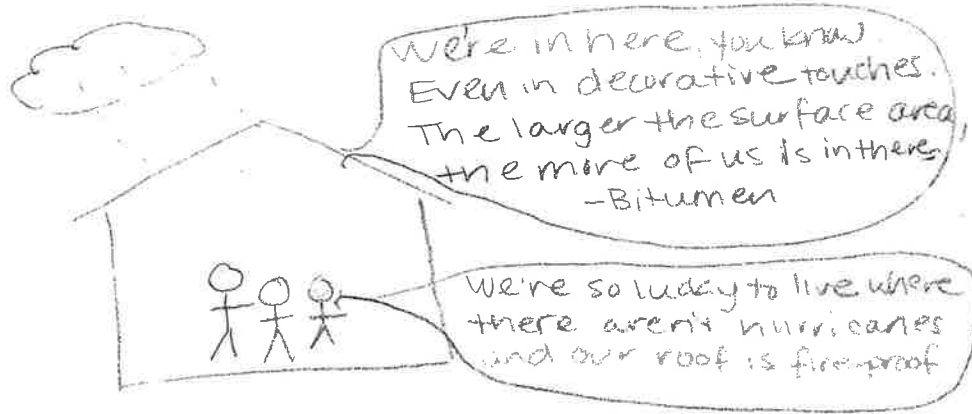
- costs to develop a manual and train a coordinator
- finding a good group farmer
- insurance, licensing, maintenance, garage lock liability + paperwork
- finding households willing to provide vehicles and garage
- push back from people attached to the status quo of personal vehicle ownership
- afraid won't have control

If Bitumen and Humans  
could communicate

Dear Readers,

Let's choose a realistic  
adventure for our future.

- Bitumen, in collaboration  
with Mother Earth,  
who knows her limits



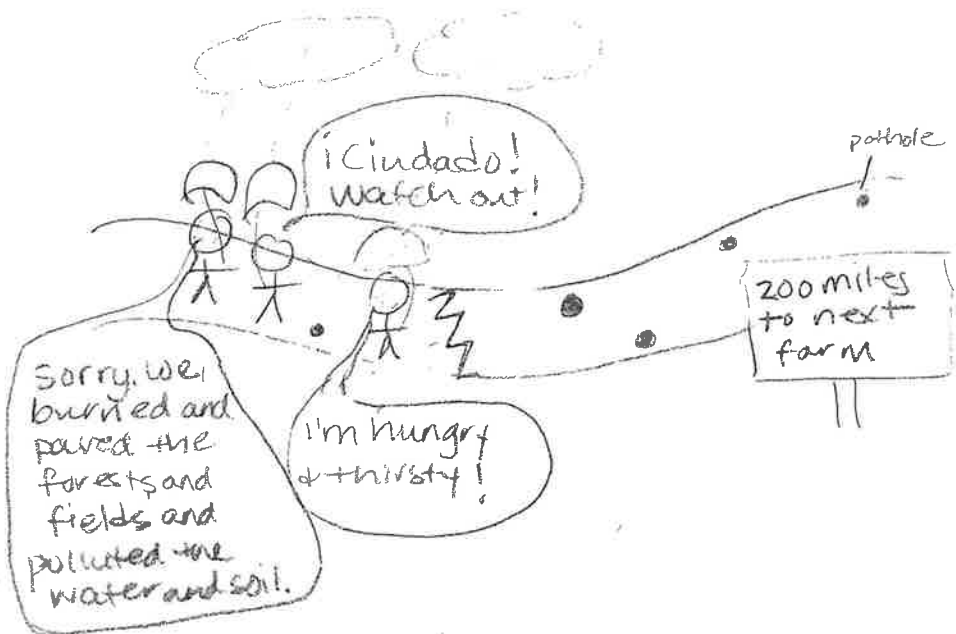
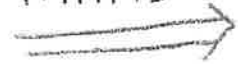
### Depletion Adventure

If we continue constructing homes + roads the way we have been for decades



### Sufficiency Adventure

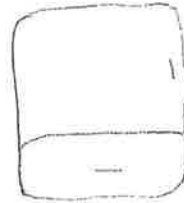
If we design + construct homes and ways of moving around with full understanding of limits





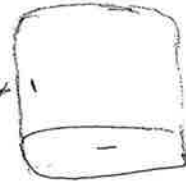
Intellectual and artistic property of Kelly Cannard  
2025

# If Refrigerators, humans, and Mother Earth could communicate



Did you hear that if all 8 billion humans on the planet had a refrigeration system like in the United States, there would be no way to meet United Nations climate Agreement goals?

You mean everybody doesn't have an umpteen square foot refrigerator in their home?

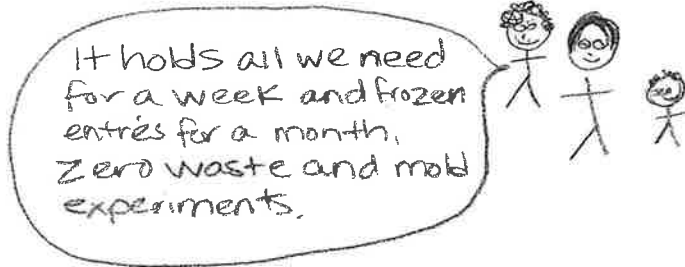
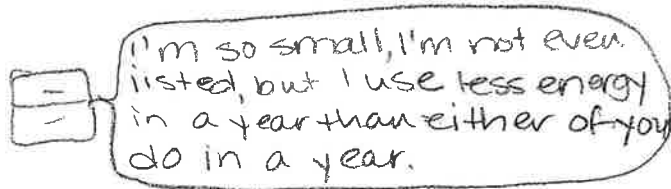
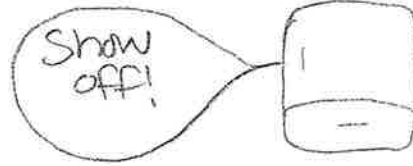
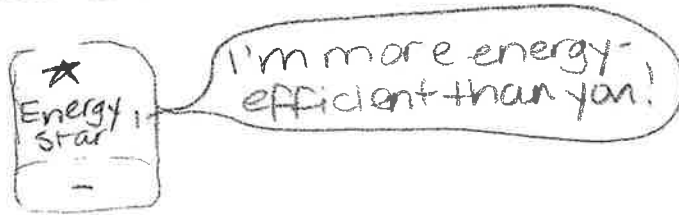


## MANY SOMEWHERE'S IN THE GLOBAL SOUTH



Our entire village doesn't have a refrigerator or even the electricity to run one. A lot of our produce rots quickly. We have no way to store some medications.

NEARLY EVERYWHERE IN THE UNITED STATES



I only have so much of the materials used to manufacture and run a refrigerator, most of which is not or cannot be repurposed or recycled. That's not helpful for future generations of humans.

Questions for the union of concerned citizens of the world who think all humans should have a sufficient sustainable amount of refrigeration.

What could we, mostly in the global north, do collectively?

- change, reduce, let go of certain industries, such as refrigerating beverages at every point of purchase and transport?
- construct smaller refrigerators with parts that can be easily repurposed?
- create adjustable refrigerator furniture to add/subtract drawers?
- share refrigerators among households?
- per person refrigerator space limits + change Energy Star sticker to show per person limits?
- eat less that needs to be refrigerated (weekly produce for a family fits on one shelf)?
- transport refrigerated produce shorter distances (more local & regional food systems)?
- partner with global south villages to share redirected refrigerator wealth?

- 
- 
- 

what behavioral norms will need to change and how will we re-acculturate ourselves?

We can do this. It will take more than political will alone.

## Long-term Planning

- The true remedy for mistakes is to keep from making them.  
- Wendell Berry

We cannot eat, drink, or breathe the products of data centers or artificial intelligence.

I urge you to support farms, forests, wetlands, and waterways; they have fed, hydrated, and oxygenated us for millennia.

While we do need housing, we do not need luxury houses. We need to have healthy food to eat (grown nearby), clean air to breathe, and clean water to drink. Many civilizations developed methods for living in and with our ecological environment. We can, too.

At the age of two, I moved into a newly-constructed house on an infill plot with lots of forward-thinking features: heat pump, multi-purpose rooms, rainwater guided to soil, covered bicycle parking, and a path that allowed neighbors to walk across our property to safely reach another part of town without walking over a mile to do so.

The summer before the building was finished, we lived in our travel trailer next to my grandparents' forest cottage. About the length of a station wagon, it had just about everything we needed. The forest and unpaired lane for running, playing, biking, grandpa's produce patch, and a grandparent's lap when we skinned a knee provided the rest.

Every item we construct or manufacture requires the burning of fossil fuels and depletes clean air, clean water, forest, and arable land for humans who also need to breathe, hydrate, eat, and house themselves. That all weighs very heavily on the **con: corrected** many of us.

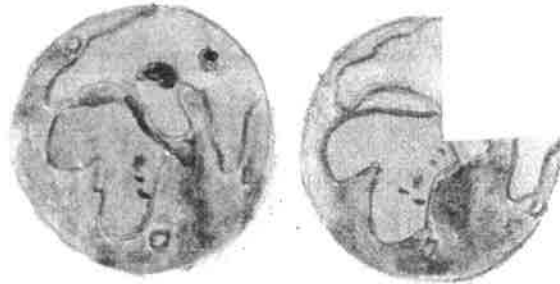
Personally, I spend an enormous amount of time and concentration deepening my understanding of extraction, water, energy, regenerative agriculture, ecosystems, human learning and behavior change, and cooperative economies based on sufficiency rather than over-consumption. I hope you do, too.

# The overall Math Problem

The United States uses the equivalent of  $4\frac{1}{2}$  earths.



The entire world uses the equivalent of  $1\frac{3}{4}$  earths.



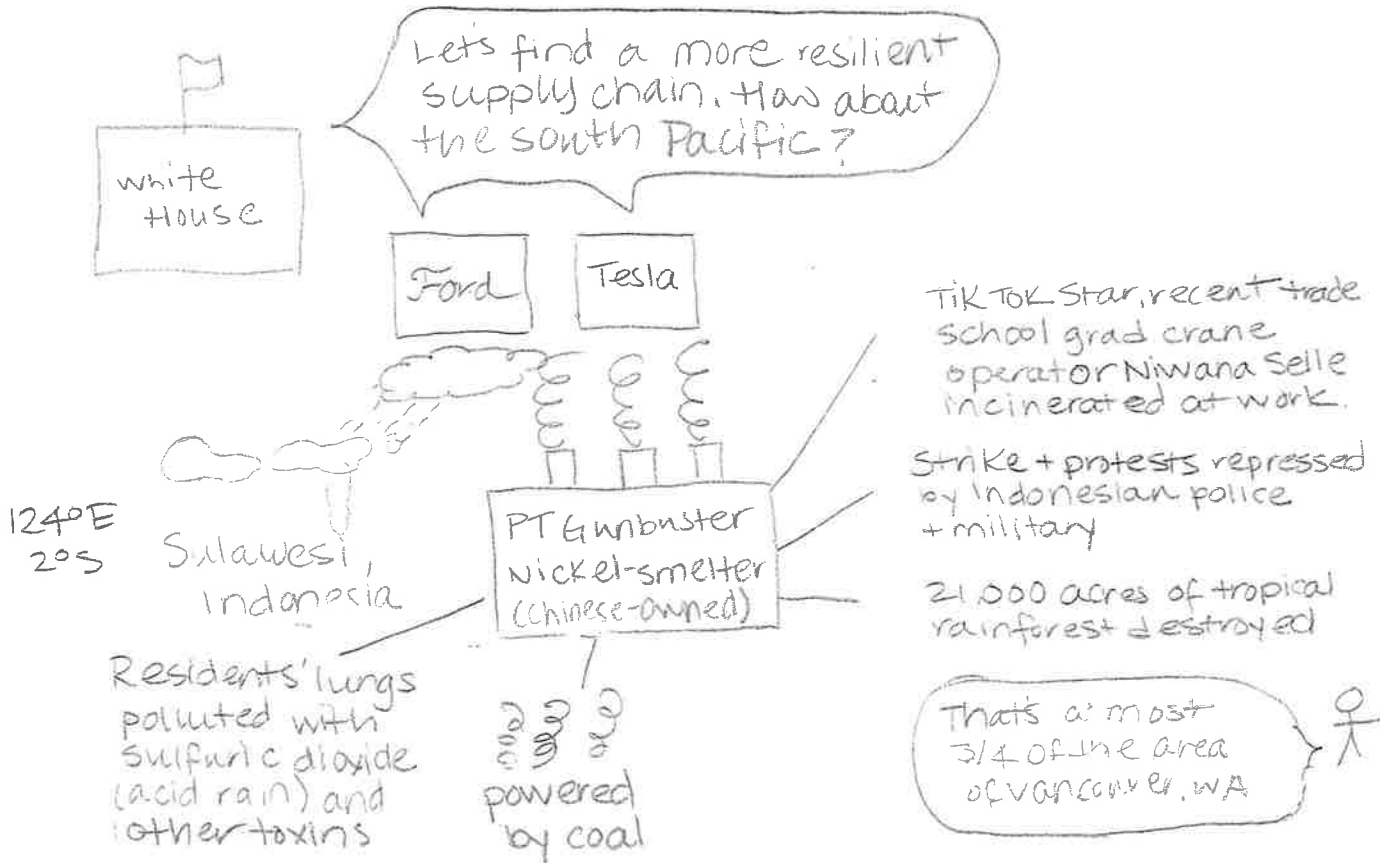
Fact check: There is one earth.



Source [earthovershoot.org](http://earthovershoot.org) cited in Juniper, Tony (2018).  
How we're f\*\*\*ing up our planet NY: Penguin Random House  
Artwork by Kelly Cannard 2025

Until the spring of 2024, the U.S. + European companies continued to purchase nickel from Nornickel, despite sanctions against Russia for invading Ukraine.

(various journalists)



What about recycling nickel, metals engineer Philippe Bihouix?

"Depletion comes fast." About half is lost in each round of recycling. Rusty pins will be among the least of our problems... after we've switched from cars to bicycles or horses..."

So much pain in a pin before even getting to the steel

Sources:

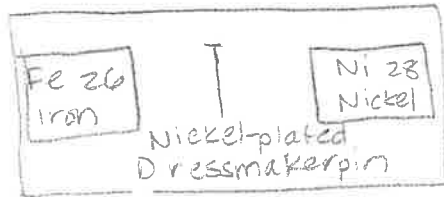
Beiser, V. (2024). Power metal: The race for the resources that will shape the future. New York: Riverhead.

Bihouix, P. (2014) Nickel and zinc: Twin metals of the industrial age in U. Bardi Extracted: How the quest for mineral wealth is plundering the planet. White River Junction, VT: Chelsea Green.

Conway, E. (2023). Material world: The six raw materials that shape modern civilization. New York: Knopf.

Hahn, Truch Nhat (?) cannot remember or locate exact source.

# Understanding Depletion + Need; Reading Reflection by Kelly Cannard



Recently, I purchased a tiny box of pins to replace the dull, bent, and rusty ones used since childhood.



I followed the field trip practice of the Buddhist monk Thich Nhat Hanh, when he took a group of children from Plum Village to buy a few needed nails, he led them in a contemplation on the pain caused in making of the items they saw in the store.

Back at home, I re-researched the nickel industry



### Uses:

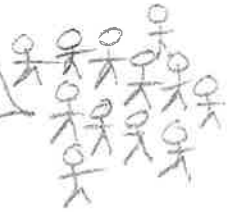
- high-temperature engines
- strengthening steel (buildings, ships, ammunition)
- faucets, fixtures, knives + appliances
- dyes + pigments
- ev batteries (80% of the weight)

### Damages:

- deforestation
- air + water pollution
- labor repression
- destruction of indigenous lands

My name is \$30 billion networth Vladimir Potanin, owner of Nor Nickel in Noril'sk, Russia, Arctic, former site of Stalinist labor camp.

We are indigenous people of the Arctic who wrote to Elon Musk to stop buying Nor Nickel nickel. He ignored us.



My name is Marianne Lavelle. In 2021, I reported on the horrific ecological damage caused by Nor Nickel:

- Sulfur dioxide pollution (more than throughout the entire U.S.)
- a diesel spill into rivers + streams; the Russian government fined the company \$2 billion
- destruction of carbon-sequestering boreal forest

8. George Monbiot, "A Lethal Solution," *Guardian*, March 27, 2007.
9. Yi Yang, Junghan Bae, Junbeum Kim, and Sangwon Suh, "Replacing Gasoline with Corn Ethanol Results in Significant Environmental Problem-Shifting," *Environmental Science and Technology* 46, no. 7 (March 2012): 3671-78.
10. International Water Management Institute, "Water Implications of Biofuel Crops," *Water Policy Brief* 30.
11. Navigant Research, *Biofuels Markets and Technologies*, 2011.
12. Lavelle and Grose, "Water Demand for Energy."
13. David Schneider, "Biofuel's Water Problem: Irrigating Biofuel Crops on a Grand Scale Would Be Disastrous," *IEEE Spectrum*, June 2010, <http://spectrum.ieee.org/green-tech/conservation/biofuels-water-problem>.
14. Kenneth Mulder, Nathan Hagens, and Brendan Fisher, "Burning Water: A Comparative Analysis of the Energy Return on Water Invested," *Ambio* 39, no. 1 (February 2010): 30-39.
15. Constanza Valdes, *Brazil's Ethanol Industry: Looking Forward* (Washington, DC: U.S. Department of Agriculture Economic Research Service Division, June 2011).
16. David Pimentel, ed., *Global Economic and Environmental Aspects of Biofuels* (Boca Raton, FL: CRC Press, 2012).
17. P. W. Gerbens-Leenes and A. Y. Hoekstra, *The Water Footprint of Sweeteners and Bio-ethanol from Sugar Cane, Sugar Beet and Maize*, Value of Water Research Report Series No. 38 (Delft: UNESCO-UNU Institute for Water Education, November 2009).
18. Karin E. Kemper, Eduardo Mestre, and Luiz Amore, "Management of the Guarani Aquifer System: Moving Towards the Future," *Water International* 28, no. 2 (2003): 185-200.
19. Erik German and Solana Pyne, "Rivers Run Dry as Drought Hits Amazon," *GlobalPost*, November 3, 2010, <http://www.globalpost.com/dispatch/brazil/101102/amazon-drought-climate-change>.

### BIOFUELS WASTE PRECIOUS WATER

In the past decade the production of biofuels has increased exponentially. Intended to decrease the use of fossil fuels and cut greenhouse gases, the notion of biofuels has found support across the political spectrum. It was a well-intentioned policy move with ill-considered ramifications. In the United States, 40 percent of the corn crop is currently diverted to make fuel for cars. Lester Brown, of the Earth Policy Institute, says that corn would have fed 350 million people.<sup>6</sup> Cornell University professor of ecology and agriculture David Pimentel, who has studied biofuels extensively, reports that corn is

Manda Barlow (2013)

BLUE FUTURE

NY: The New Press

175

the number one cause of soil erosion in the United States, and its overdependence on nitrates, herbicides, and insecticides is the prime reason for the dead zone in the waters of the Gulf of Mexico.<sup>7</sup>

Concerns are also growing about the amount of energy it takes to produce biofuels. The *Guardian's* George Monbiot quotes a UN report on the rapid destruction of the Indonesian rainforest due to clearing for planting palm oil for biofuels over the next decade. As the forests burn, both trees and the peat they grow in are turned into carbon dioxide. He also quotes a Dutch study that shows that every ton of palm oil results in thirty-three tons of carbon dioxide — ten times as much as petroleum produces.<sup>8</sup>

But even more alarming is the amount of water consumed in the production of biofuels. It takes 1,700 litres of water to produce one litre of corn ethanol in the United States. A study published in *Environmental Science and Technology* says that the U.S. congressional mandate to produce 60 billion litres of corn ethanol a year by 2015 would require an estimated 6 trillion litres of additional irrigation water annually, and even more in direct rainfall — a volume that exceeds the yearly water withdrawals of the entire state of Iowa. The highly respected scientist authors note that replacing gasoline with corn ethanol results in significant problem shifting and causes greater damage than gasoline: "Our study indicates that replacing gasoline with corn ethanol may only result in shifting the net environmental impacts primarily toward increased eutrophication and greater water scarcity."<sup>9</sup>

According to the International Water Management Institute, in areas where the only water source for biofuel production is irrigation, the amount of water consumed is even higher. For example, a litre of ethanol in India requires 3,500 litres of irrigation water. In China it requires 2,400 litres.<sup>10</sup> Yet despite its heavy water footprint, the production worldwide of biofuels is growing, having risen in one year by 17 percent, to 105 billion litres, in 2010. The International Energy

Agency expects biofuels to meet more than one-quarter of world demand for transportation by 2020. In its report *Biofuels Markets and Technologies*, Navigant Research, a technology consulting company, predicts steady growth in the biofuels industry through to 2021, when production will reach 260 billion litres.<sup>11</sup>

The International Energy Agency warns that this will place an intolerable burden on the world's available water supplies. In its report on world energy production, the agency anticipates a 242 percent increase in water consumption for biofuel production by 2035, from 12 billion cubic metres to 41 billion cubic metres annually, and says biofuels will account for 72 percent of the water used for primary energy production.<sup>12</sup>

Several recent studies comparing different types of fuels used in cars found biofuels to be by far the worst water guzzlers. Carey King and Michael Webber, of the University of Texas, found that for every kilometre driven, electricity from the grid uses 0.56 litres of water, while gasoline from petroleum uses 1.5 litres of water. But fuel from irrigated corn or irrigated soybeans uses 35 litres of water. And because they are from agricultural products, the biofuels have much larger consumption levels -- that is, the water is not returned to the source.<sup>13</sup> Three American scientists published similar findings in a study called "Burning Water: A Comparative Analysis of the Energy Return on Water Invested." The scientists say that developing large-scale biofuels to help counter the world's fossil problem "may produce or exacerbate water shortages around the globe and be limited by the availability of fresh water."<sup>14</sup>

A critique of biofuels in no way endorses the use of fossil fuels or detracts from the urgent need to cut their emissions. It is, however, an urgent wake-up call for the world not to pit air against water and to assume that the latter has the carrying capacity to sustain this level of consumption.

## BRAZIL IN THE LEAD

Brazil and the United States produce almost 90 percent of the world's biofuels. Brazil is the leading manufacturer and exporter of sugarcane ethanol, and most cars in Brazil now run on a mixture of ethanol and gasoline. Brazil currently produces 28 billion litres of sugarcane ethanol (2 billion litres of which is exported) and wants to be producing 200 billion litres by 2020, although the U.S. Department of Agriculture predicts that it will likely be closer to 44 billion litres.<sup>15</sup>

It takes a great deal of water to produce this biofuel. Cornell professor Pimentel estimates that it takes 2,655 litres of water if the crop is irrigated (1,720 litres if it is rain-fed) to produce one litre, counting the water used to grow the sugar cane as well as that used in the production process.<sup>16</sup> Scientists A. Y. Hoekstra and P. W. Gerbens-Leenes corroborate this figure in a study for UNESCO.<sup>17</sup> Currently 7 trillion litres of water are extracted every year to produce ethanol in Brazil. In less than a decade this figure could reach an astonishing 65 trillion litres of water.

Biofuel production in Brazil destroys forests, which are cut down to make way for the vast sugarcane fields; threatens the savannahs and the Amazon River Basin; and contaminates the water and soil with chemical fertilizers. Small farmers and indigenous landholders have been forced off their land to make way for the new agribusiness. Two-thirds of the Cerrado, the world's most diverse savannah -- it lies between the Amazon and the Atlantic rainforest and is known by the locals as the "Father of Water" -- has been degraded for cattle ranching and sugarcane production. The Ipojuca River in northeastern Brazil has been contaminated by nitrate leaching, acidification, and oxygen imbalance from biofuel production. Many rural streams and rivers have dried up as large biofuel farms move in and draw from them.

All this places the Guaraní Aquifer -- the world's largest, lying

beneath Brazil, Argentina, Paraguay, and Uruguay—at risk. Water is being extracted from the aquifer faster than it can be recharged. High salt levels and reduced water pressure result, possibly rendering the extraction process very difficult in the future. Heavy metals, toxins from the mining and forestry industries, urban sprawl, poorly treated sewage, phosphorus, fertilizers, agro-chemicals, and multi-point contamination combine to spill a witch's brew of poison into the aquifer. Karin Kemper, a senior water resources specialist with the World Bank, says, "The Guarani is a striking example of an international water body threatened by environmental degradation. Without better management, the aquifer is likely to suffer from pollution and rapid depletion. Uncontrolled exploitation could reduce it from a strategic water reserve to a degraded resource that is a focus of conflict in the region."<sup>8</sup>

The big agro-companies are given preferential access to the waters of the region over local needs. Global agribusiness companies such as Cargill, the world's leading sugar producer and trader, and energy giants such as Royal Dutch Shell and BP, are piling into Brazil in anticipation of huge growth in the biofuels industry. Meanwhile, potable water and sanitation services are not reaching at least 25 percent of the people of the region. As elsewhere, it is the indigenous, the poor, the *favela* dwellers who are left behind in the rush to use the region's water resources for export and profit.

The argument made by the Brazilian government, the industry, and biofuel proponents is that Brazil has an abundance of water, so this usage is an acceptable trade-off. But this is a short-sighted view and does not take into account the growing evidence that even regions blessed with water plentitude can go dry if they abuse (and export) their water heritage. Not surprisingly, Brazil has started experiencing something fairly rare: serious, frequent, and prolonged droughts. The country had a fierce drought in 2005 that caused a massive die-off of trees in the rainforests, and another in the fall of

2010 that marked one of the worst on record for the Amazon. The Rio Negro, a major tributary of the Amazon River, dried up. A nineteen-month drought that stretched from 2011 into 2012 reached across Argentina, Paraguay, and Brazil, hitting Brazilian soybean producers hard. In early 2013 the northeast suffered its worst drought in fifty years, threatening hydro power supplies, plunging Rio de Janeiro's airport into darkness, and wiping out 30 percent of the region's sugarcane production. Dams were at one-third capacity, and 20 million people living in the semi-arid region needed government aid.

Scientists point to the destruction of natural vegetation, the pumping of ground- and surface waters, deforestation, and the drying out of the Amazon rainforest as causes of Brazil's droughts, all to some extent caused by the biofuel craze. "Every ecosystem has some point beyond which it can't go," says Oliver Phillips, a professor at the University of Leeds who has spent decades studying tropical forests and climate change. "The concern now is that parts of the Amazon may be approaching that threshold."<sup>9</sup>

## DOWN AND DIRTY IN THE TAR SANDS

While coal-fired electricity and biofuels top the list, oil and gas exploration and production will still account for 10 percent of the water consumed for energy production by 2035. And much of this production presents its own unique threat to local water supplies. As the world is running out of conventional oil and gas, it is looking further afield to less conventional and more environmentally dangerous methods, such as deep-sea drilling, oil or tar sands, and fracking. Tar sands are a type of petroleum deposit containing sand, clay, and water saturated with a dense form of petroleum called bitumen. It has the consistency of molasses, and the challenge is to remove the oil from the rest of the mixture. While there are deposits in other

## Partial Bibliography

Bardi, U. (2014) *Extracted: How the quest for mineral wealth is plundering the planet*. White River Junction, VT (Chelsea Green).

Bihouix, P. Nickel and zinc: Twin metals of the Industrial Age, pp 135-140.

Rosa, R.N. Copper: The near-peak workhorse, pp. 97-101

Beiser, V. (2018) *The whole world in a grain: The story of sand and how it transformed civilization*. New York: Riverhead.

Beiser, V. (2024) *Power metal: The race for the resources that will shape the future*. New York: Riverhead.

Conway, E. (2023) *Material world: The six raw materials that shape modern civilization*. New York: Knopf.

Egan, P. (2023). *Phosphorus and a world out of balance*. New York: W.W. Norton.

Marshak, S. (2022). *The essentials of geology*, 7th edition. New York: W.W. Norton

Juniper, T. (2019). *Rain forest*. Washington, DC: Island.

Lewis, H. (2022). *Mini-forest revolution: using the Miyawaki method to rapidly rewild the world*. White River Junction, VT: Chelsea Green.

Simard, S. (2021). *Finding the mother tree*. New York: Knopf

Barlow, M. (2013) *Blue future: protecting water for people and the planet forever*. White River Junction, VT (Chelsea Green)

Giles, E. (2022) *The water always wins: Thriving in an age of drought and deluge*. Chicago: University of Chicago.

Leahy, S. (2014). *Your water footprint: The shocking facts about how much water we use to make everyday products*. Buffalo, NY: Firefly.

Webber, M.E. (2019) *Power trip: The story of energy*. New York: Basic Books

MATERIALS

FORESTS

WATER

ENERGY

Bibliography continued

George, D.B. (2025). copper. The worldbook encyclopedia (vol A), pp. 1040-1044  
International Copper Study Group (n.d.) The world copper factbook 2024.

International Organization of Motor Vehicle Manufacturers (n.d.) 2024 statistics. [www.oica.net](http://www.oica.net)

S and P Global (n.d.) 2025 auto sales forecast; 89.6M vehicle sales worldwide [www.spglobal.net](http://www.spglobal.net)

Note: Web-based sources located by public library staff.

MATERIALS

## Copper

I haven't yet completed a similar reflection on copper. Here is what I understand:

- About  $\frac{1}{3}$  of all of the earth's copper is in use, about  $\frac{1}{3}$  is recycled (and capable of being recycled after no longer in use) and  $\frac{1}{3}$  is extracted from rock.
- Extracted copper requires removing 99.5% of the rock to obtain .5% copper. This requires massive amounts of fossil fuels to move mountains and dump them on peoples' towns whose residents have to move out of the way and to break up the rock, process, transport, and manufacture copper. The process uses massive amounts of water leaving behind toxic slurry lakes that leak into drinking water.
- Copper is so valuable some places, that an electricity transformer guard was murdered to steal it. Apparently, a transformer contains about nine miles of copper wire.
- Each combustion-engine car contains over one hundred pounds of copper; an electric vehicle has four times that amount. Overall, the world manufactured 92.5 million vehicles in 2024, 73% of them non-commercial.
- Some of the copper used in machines is sloughed off through use. Some of it cannot be recycled.
- One small meeting room may have as many as 32 double-outlets, designed to all be in use at the same time.
- Nearly every wall in any room of a residence has a double outlet and most rooms have multiple light switches and lights, many of them often with LED bulbs. The gases within are finite and we do not know how to recycle them.

(Bihouix, P., 2014: International Copper Study Group (n.d); International Organization of Motor Vehicle Manufacturers (n.d); Rosa, R.N., 2014, Worldbook Encyclopedia, 2025)

## MAJOR USES OF COPPER: TRANSPORTATION



All major forms of transportation depend on copper to perform critical functions.

Copper-nickel alloys are used on the hulls of boats and ships to **reduce marine biofouling**, thereby reducing drag and improving fuel consumption.

Automobiles and trucks rely on copper motors, wiring, radiators, connectors, brakes, and bearings. Today, the average internal combustion engine contains about 22.5 kg (50 lbs.) of copper,

while luxury cars on average contain around 1,500 copper wires totaling about 1.6 km (1 mile) in length.



Images courtesy of the Copper Development Association and the European Copper Institute.

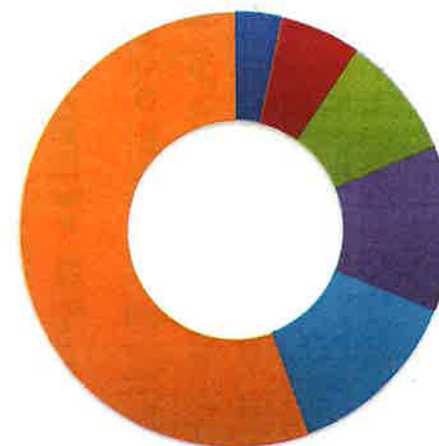
## ELECTRIC VEHICLES

**Electric vehicles (EVs)** contain approximately four times more copper than conventional cars. It is used in batteries, windings, and copper rotors used in electric motors, wiring, busbars, and charging infrastructure.

### Copper Use in EVs

- Conventional cars 23kg
- Hybrid electric vehicles (HEV) 40 kg
- Plug-in hybrid electric vehicles (PHEV) 60 kg
- Battery electric vehicles (BEVs) 83 kg
- Hybrid electric bus (Ebus HEV) 89 kg
- Battery-powered electric bus (Ebus BEV) 224-369 kg (depending on the size of battery)

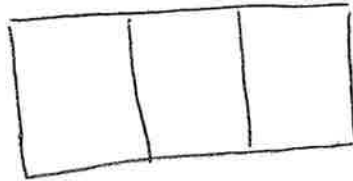
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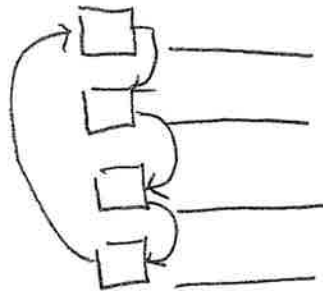
Almost 14 million new electric cars were registered globally in 2023, bringing their total number on the roads to 40 million. Electric car sales in 2023 were 3.5 million higher than in 2022, a 35% year-on-year increase. This is more than six times higher than in 2018, just 5 years earlier. In an effort to reduce carbon emissions, the use of EVs will continue to rise. The demand for EVs is also expected to increase as a result of technology

Once or twice this week,  
please check the storm  
drain and curb cut  
closest to your household.  
& clean up any debris.  
Here's why:

Here's how:



On the Monday after  
your week ends, please  
hang this card and  
grabber on the next  
address in your group



doorhanger

Storm Drain/CurbCut  
Caretaker  
lives here this week

Thank you for  
helping out!

Note: Ask neighbors to  
donate grabber tool bags  
+ coordinate if not all  
have organics bin

Sample of what each neighborhood could design

# Neighborhood Association Calendar

Welcome to \_\_\_\_\_  
Neighborhood

About us:

Description  
+ mission  
statement

contacts:

Neighborhood Mailbox at \_\_\_\_\_

Maintenance-yard + home

We tend to be |-----●-----|  
fastidious relaxed

while we cannot accept liability,  
the following small, local firms  
have been used successfully  
by several neighbors

|       |       |
|-------|-------|
| ~~~~~ | ~~~~~ |
| ~~~~~ | ~~~~~ |
| ~~~~~ | ~~~~~ |

There is also a maintenance  
collective that co-shares  
basic tasks. Contact:

### Emergency

Nearest urgent care

Hospitals

Neighborhood volunteer transport for medical care (when ambulance not appropriate)

~~~~~ car driver

~~~~~ bicycle driver

~~~~~ runs errands while you're in need

Keeping delivery vehicles to a minimum

Location: _____ (so+so's garage)

Day of week Neighbor pick-up time

If unable to walk, a volunteer will deliver your order.

Socializing + Doing Collectives

The following collectives are open to new members after a brief interview.

Collective Meets contact

Dinner

Bulk Food ordering

Fruit Tree Care, harvesting + preserving

Homemade Percussion Jam

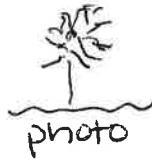
Natural area carpool

Multilingual conversation

Child care relief co-op (background check + first aid required; aunts + grannies welcome!)

Manual available to add a collective

To: Our Neighbor at



Oh, no! We spotted
Tree of Heaven starts
in your yard

Tree of Heaven can become very problematic
It would be awesome if you could help
us all by removing them. Here's how:

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

If you are unable to do the work
yourself, would it be okay for a
neighborhood volunteer or city employee
to stop by and remove them?

Questions/volunteer/donate

360-487-

_____ @

We/I live at _____

We/I are/am unable to remove the
Tree of heaven starts because of:

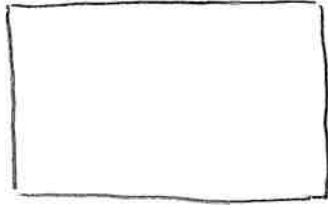
- physical issues
- lack of equipment
- landlord concerns
- _____

A trained volunteer or employee
(clearly identified) is welcome to
stop by and complete the work.



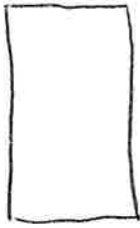
City of Vancouver
Neighborhoods/
Maintenance
P O Box
Vancouver, WA

C-Train welcome to the neighborhood guide



closest stops

Routes and schedules

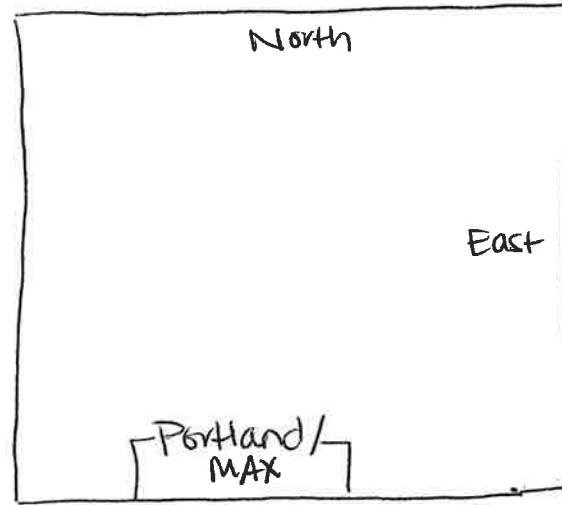


connects to:



connects to:


System Map and Connecting Systems



About Tri-Met

Other Potential C-Tran welcome guides

- Congratulations, you're working from home
- Congratulations, you're retiring
- Congratulations, you learned how to walk
- Congratulations, you bought a bicycle

 Time to become a transit rider

Here's why
Here's how

C-Tran
The vine

The current

Taking your bicycle on transit

Specialty routes and schedules

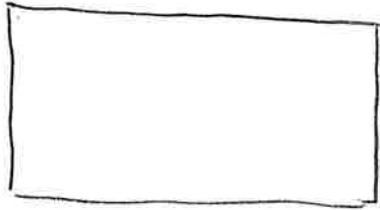
- Nature bus
- Storytime bus
- Dog park bus (leashed + behaved)
(canines welcome)
- Farmers Market bus
- Community Band
practice bus

Fares

Tickets

Passes

complimentary one day family pass
for your household to try out
our exemplary service



Note: Include
separately
so folder
info
remains

From: [City Council](#)
To: [Our Vancouver 2045](#); [Dollar, Sarah](#)
Subject: FW: OPPOSITION TO PREFERRED REZONING PLAN
Date: Wednesday, April 1, 2026 7:05:40 AM

Good morning,

Please see the below public testimony.

Sarah Dollar | Executive Assistant to the City Council
Pronouns: She/Her/Hers
CITY OF VANCOUVER, WASHINGTON
City Manager's Office (CMO)
Primary (Cell): 360-624-2949 | **Desk:** 360-487-8641
www.cityofvancouver.us

From: Vaughna Cochenour [REDACTED] >
Sent: Tuesday, March 31, 2026 5:13 PM
To: City Council <council@cityofvancouver.us>; City Mayor General Delivery <mayor@cityofvancouver.us>; Kennedy, Rebecca <rebecca.kennedy@cityofvancouver.us>; Be Heard Vancouver <BeHeardVancouver@cityofvancouver.us>
Subject: OPPOSITION TO PREFERRED REZONING PLAN

FORMAL PUBLIC COMMENT: OPPOSITION TO PREFERRED REZONING PLAN

To: Mayor McEnerny-Ogle, Vancouver City Council, and Planning Department Staff

From: Vaughna Cochenour, Southcliff Resident

Date: March 31, 2026

Subject: Formal Objection to Rezoning of Southcliff and Historically Significant Parcels

I am writing to submit my final and formal opposition to the proposed rezoning of the Southcliff neighborhood from single family lots to low and medium density designations.

1. Disregard for Historical Significance and Master Builders

The City's plan fails to protect verified historical assets. As confirmed by the DAHP, Southcliff is a repository of mid-century mastery, featuring homes by master builders **Rex Pruitt, Karl Fisher, and Robert Wonderly**. Rezoning these lots invites the demolition of homes that meet National Register **Criteria B and C**. The City is effectively choosing to erase its architectural heritage in favor of generic density.

2. Conflict in Planner Testimony vs. Official Mapping

There is a disturbing lack of transparency regarding the "permit-ability" of proposed lots. Planning Staff with Community Development Department of City of Vancouver, WA have verbally stated to residents there are lots currently designated for rezoning that would not be permitted for development due to site-specific constraints. Specifically:

- **Easement Conflicts:** Numerous lots under **PUD/Bonneville Power (BPA)** high-voltage lines are being rezoned for medium density.
- **Regulatory Contradiction:** Promoting rezoning on lots that the City knows cannot be built upon is a direct conflict with **GMA (Growth Management Act)** mandates, which require cities to plan for *actual* achievable capacity, not illusory density on unbuildable land.

Additionally, the Planning Staff have stated residents of neighborhoods with high values have little to worry about because it doesn't financially pencil for developers, there's not enough profit. These statements are concerning and offer little comfort.

3. Failure of Disclosure and Administrative Accountability

The City's outreach has been fundamentally flawed. When I contacted the **Office of Neighborhoods in February 2025** regarding any CC&Rs, Bylaws, etc. before purchasing my home in Southcliff, the "Be Heard Vancouver" rezoning initiative—which had already been active since 2023—was **not disclosed**. There was no mention of, nor an active hyperlink to City of Vancouver's Comprehensive Plan.

- This omission of material information stripped me of the ability to make an informed investment.
- The City cannot claim "transparency" while its own neighborhood office fails to provide prospective residents with active, neighborhood-altering plans.

Formal Recommendation:

I request that the City Council **completely remove Southcliff** from the Low and Medium-Scale designations and honor the **2001 Southcliff Neighborhood Action Plan**. At a minimum, the City must pause all rezoning in this area until a formal **Historic Overlay District** assessment is conducted to prevent the irreversible loss of Vancouver's cultural identity.

Kristin Abell and Vaughna Cochenour

██████████ Vancouver, WA 98661

████████████████████

████████████████████