

# Crowdsourcing in Policymaking: Value, Challenges and Motives

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**I Definition**

**II Value & Challenges**

**III Motives**

Crowdsourcing is a mechanism **for knowledge search**, with an open call online for the crowd to perform a task.  
**The locus of power** is within the crowdsourcer.

Vs. commons-based peer production  
(Benkler, 2002)



**The Finnish Experiment:  
Crowdsourced off-road  
traffic law**



Photo credit: Veikko Aitamurto

# Off-Road Traffic Act

## December, 22, 1995

### Chapter 1 General Provisions

#### Section 1 Aim of the Act

The aim of this Act is to prevent any harm to wildlife, the overall environment, indigenous livelihoods, general recreation activities or to other public or private interests arising from the use of motor vehicles in off-road terrain or on a snowmobile route, and to promote traffic safety.

In addition, what is provided elsewhere in the law shall be observed in order to prevent said harm and to promote traffic safety.

#### Section 2 *Restriction of the scope of application*

This Act shall apply to the use of a motor vehicle in off-road terrain and on a snowmobile route.

This Act shall not apply to aircraft, ships or boats.

2) official functions other than those mentioned in subparagraph 1, or for maintenance of power or telecommunications equipment and moving or working in terrain covered by snow for the above purposes or, for very pressing reasons, moving or working in terrain free from snow for the above purposes;

3) tasks involved with reindeer herding in an area referred to in the Reindeer Husbandry Act (848/90) or in the immediate vicinity of such an area while the terrain is covered by snow, or to perform necessary duties involved with reindeer herding in terrain free from snow;

4) driving a snowmobile by a person engaged in fishing, when the fishing forms a significant part of his or her livelihood, in terrain is covered by snow;

5) moving necessary to perform service and repair work on machines used in professional forestry when the terrain is covered by snow;

6) in difficult road conditions, the essential transportation of persons permanently residing in a remote location;

7) the essential transport in off-road terrain of severely handicapped persons and their escorts; or

8) the halting or parking of a motor vehicle outside an urban development in the close vicinity of a road, should safe parking so require and if no unreasonable inconvenience to the owner or holder of the land arises.

Anyone shall have the right to passage on ice-covered

- Protect nature from the harm caused by off-road traffic
- Ensure safety in off-road traffic

# In press

## Ympäristöministeri Niinistö kertoo, maastoliikennelaki joukkoistetaan

21/01/2013 | Add Comment

Ympäristöministeri Ville Niinistö kertoo, miten...



**VALTIONEUVOSTO**  
Statsrådet Finnish Government

[Etusivu](#) [Ajankohtaista](#) [Nykyinen hallitus](#) [Hallituksen toiminta](#) [Tietoa valtioneuvostosta](#)

[Viikko-ohjelma ja kalenteri](#) [fi](#) [sv](#)

**Tiedotteet** **Ympäristöministeriö** **Tiedote**  
21.1.2013 15.22

**Puheet**

**Päätökset**

**Verkkolähteykset ja allenteet**

**Julkaisut**

**Vireillä ministeriöissä**

**Maastoliikennelaki avataan avoimeen valmisteluun - Uraauurtavan joukkoistamisen toteutettavat ympäristöministeriö ja eduskunnan tulevaisuusvaliokunta**

Lakiesityksen valmistelu joukkoistetaan Suomessa ensi kertaa kansalaisten ja hallinnon yhteiseksi verkossa toteutettavaksi prosessiksi.

## Maastoliikennelaki kirvoitti eripuraa sijaan ajatustenvaihtoa



KOTIMAA | Turun Sanomat 4.8.2013 07:11 [Suosittelen](#) 3

– Tämä on lainsäädännössä paras idea pitkään aikaan, sanoo rovaniemeläinen Mikko Vanhatapio.

Moottoriharrastaja ja safariopas iloitsee siitä, että tavalliset kansalaiset ovat saaneet ensi kertaa sanoa, mitä mieltä ovat maastoliikennelaista. Vanhatapio on sitä mieltä, että moottorikelkkareitit pitäisi avata mönkijöille siltä osin kuin niistä ei ole kohtuutonta haittaa. Hänen mukaansa laillisten ajopaikkojen puute johtaa laittomaan ajeluun.

– Jos valtion mailla on keskellä metsää jängällä mönkijän ura, en ymmärrä miksi se haittaisi ketään. Vanhatapio toteaa.

# Crowdsourced law-making

## Maastoliikennelaista.

[Koti](#) | [Keskustelunaiheita](#) | [Ihmetteletkö tätä?](#) | [Yhteystiedot](#)

### Tervetuloa Joukkoistamista Suomessa -yhteisöön!

Tervetuloa keskustelemaan maastoliikenteestä ja sitä säätelevästä maastoliikennelaista.

Mistä on kysymys?

Mitä nyt tapahtuu?

Miten tämä toimii?



#### Mistä on kysymys?

Ympäristöministeriö uudistaa maastoliikennelakia ja haluaa siksi kuulla mahdollisimman laajasti näkemyksiä asiasta. Maastoliikenteellä tarkoitetaan mm. moottorikelkkailua ja mönkijälläajoa luonnossa. Laki säätelee esimerkiksi sitä, missä moottorikelkalla saa ajaa ja kuinka kelkkareittejä perustetaan. Lisää maastoliikenteestä ja nykyisestä laista voit lukea [maastoliikennelaki-sivustolla](#).

#### Vaikuta!

Pyydämme sinua osallistumaan jakamalla tietoasi, kokemuksiasi ja näkemyksiäsi maastoliikenteestä. Valitse keskustelunaihe sivun vasemmasta laidasta [Aktiiviset keskustelut-valikosta](#). Lähetä ajatuksesi klikkaamalla keltaista **'Lähetä uusi idea' -nappulaa**. Voit myös esittää kysymyksiä maastoliikenteestä ja sitä säätelevästä laista.

1. vaihe:  
Keskustelu

2. vaihe:  
Koonti ja palaute

3. vaihe:  
Jatkokeskustelu

4. vaihe:  
Koonti ja palaute



Submit a your idea about how to improve off-road traffic law, or a problem in the law

Categories:

- Safety
- Protecting the nature
- Age limits for driving
- etc.

## Submit Your Idea

Your Language \* English

Title \*

64 characters left in Title field

Description \*

Campaign \* User Interface

Tags (Optional)

Use commas to separate tags.

# Ideas

 **Samaa mieltä** RUOTSIN VAPAA MALLI SUOMEEN? »  Moderoi ideaa

Palautteen pisteet  
**22**  
+33 -11

 **Eri mieltä**

**Sijoitus listalla 54**

Idea# 386

## Valtion maat vapaaseen käyttöön

Tweet  Like 0  sähköposti  lähetä sähköpostia kirjoittajalle

 Seuraa

Ely keskus voi määrittää mitkä alueet sopivat maastoajoon valtion mailla. Jos merkittäviä suojelu-arvoja ei ole, kelkka ja mönkijäreittejä voisi perustaa tai koko alue voisi olla vapaata ajamiseen. Alueet, joissa on ajokielto täytyy merkata selvästi, tai aidata.

Avainsanat: vapaa ajo valtion maat

 Lisää avainsanoja

 Review Translation

 Kommentoi


Kirjoittanut Yhteisön jäsen 8 päivää sitten

Limited Liability Housing Company Law  
=  
Condominium Association Law




2.8 million  
people




# Palo Alto, California: Crowdsourced urban planning strategy




CITY OF  
**PALO ALTO**



[HOME](#) [INFO](#) [SIGN IN](#) [HELP](#)



 **What ideas do you have about the draft Transportation Element?**

## Policy T1: 6 Ideas, 3 Comments

### With a changing population, what other forms of transport should be included for discussion?

The programs associated with Policy T-1 are currently related to land-use decisions that encourage alternative forms of transportation.

Mike Forster in Evergreen Park  
October 19, 2015, 8:30 PM

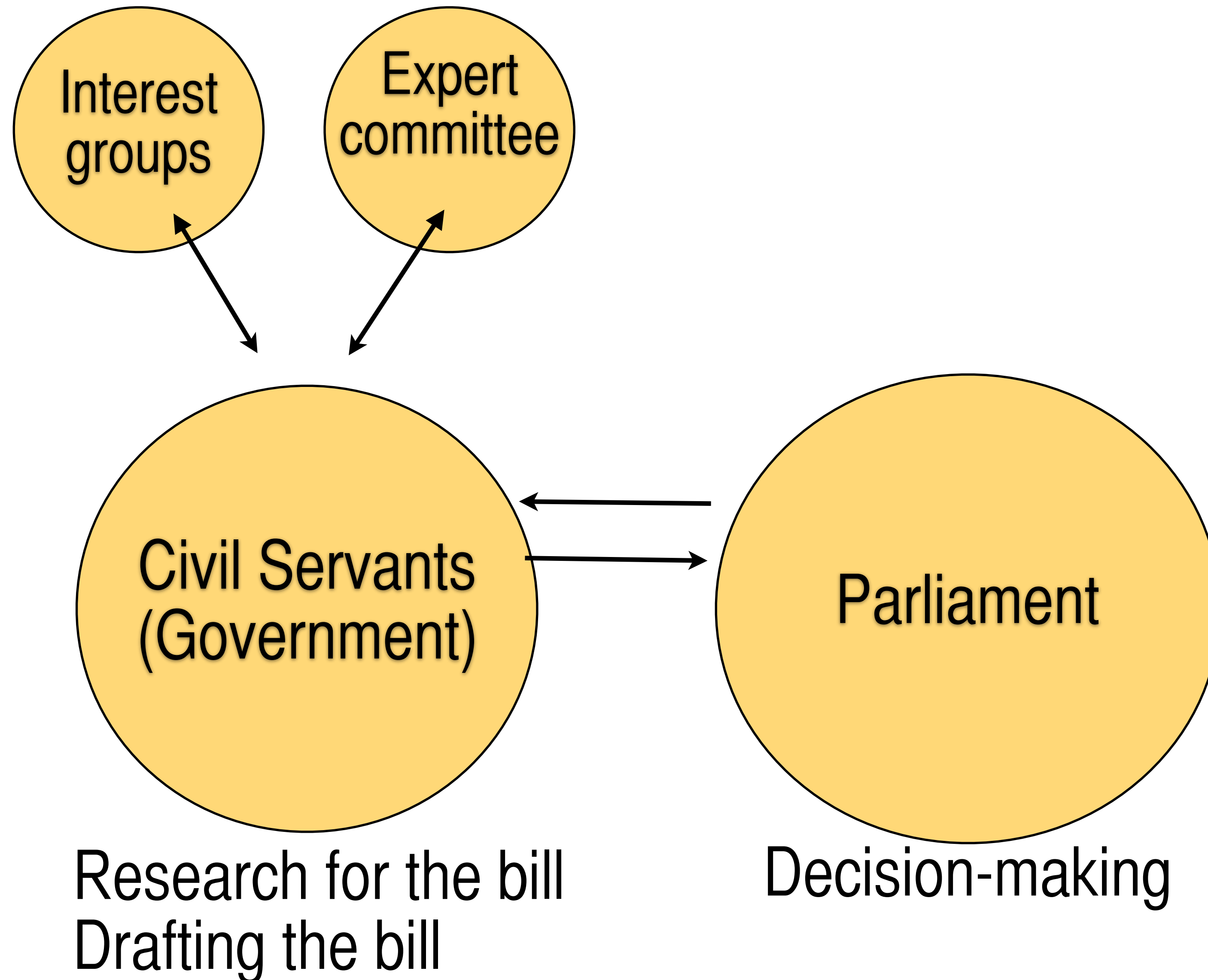
Palo Alto will have to increase density, not just because ABAG requires more housing units, but because when we add more housing units, at least some of those will be occupied by people employed here, thereby reducing auto trips. Palo Alto must also have additional low-income housing units, to enable at least some of the low wage earners to live nearby (e.g., especially caregivers for seniors). Single-level parking lots should have housing above them (e.g., behind the retail stores on California Avenue). Single family homeowners should be allowed and encouraged to add small in-law units (and be relieved of the current parking regulations for second units).

Programs T-1, T-2, and T-3 are all useful approaches.

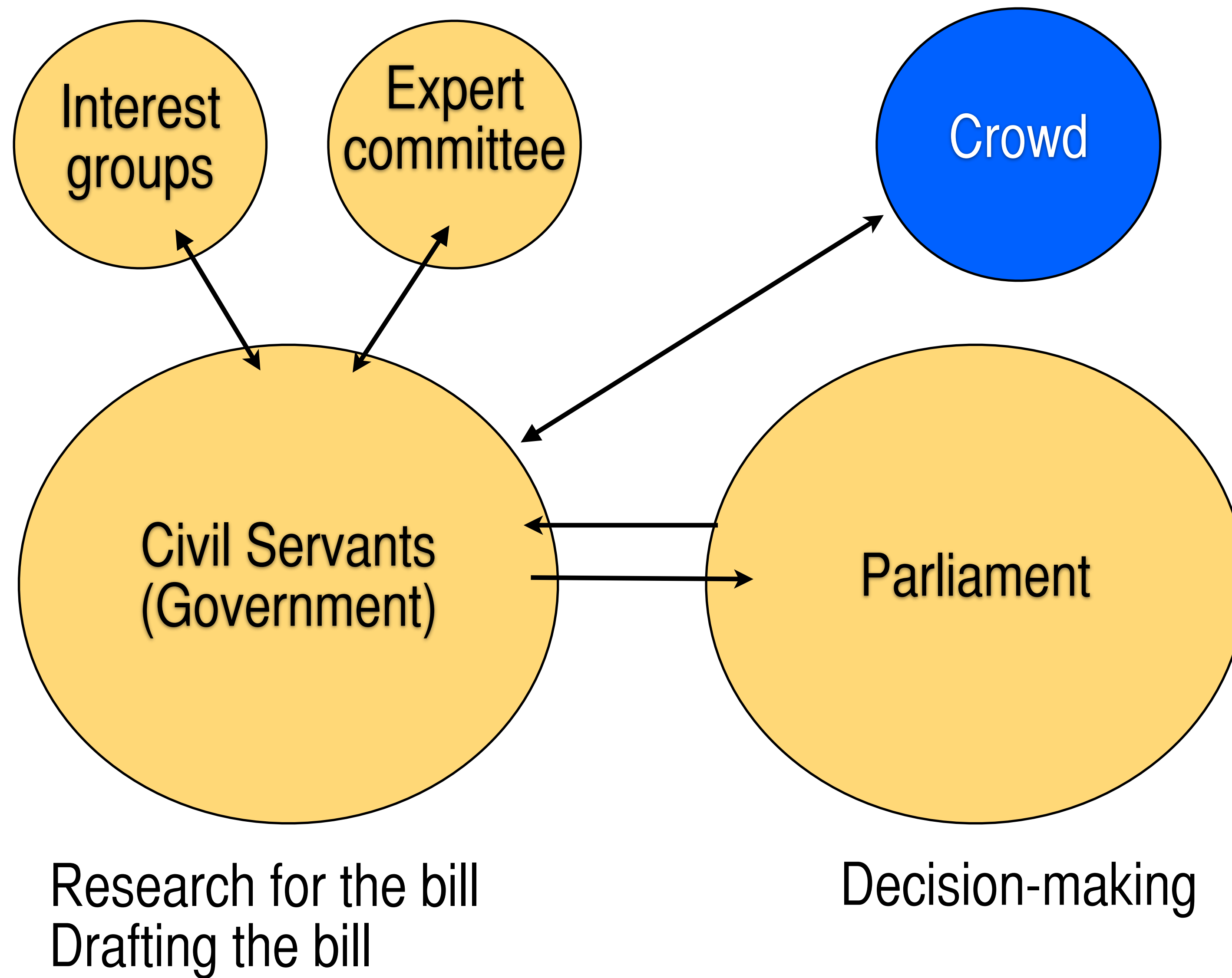
# Process stages

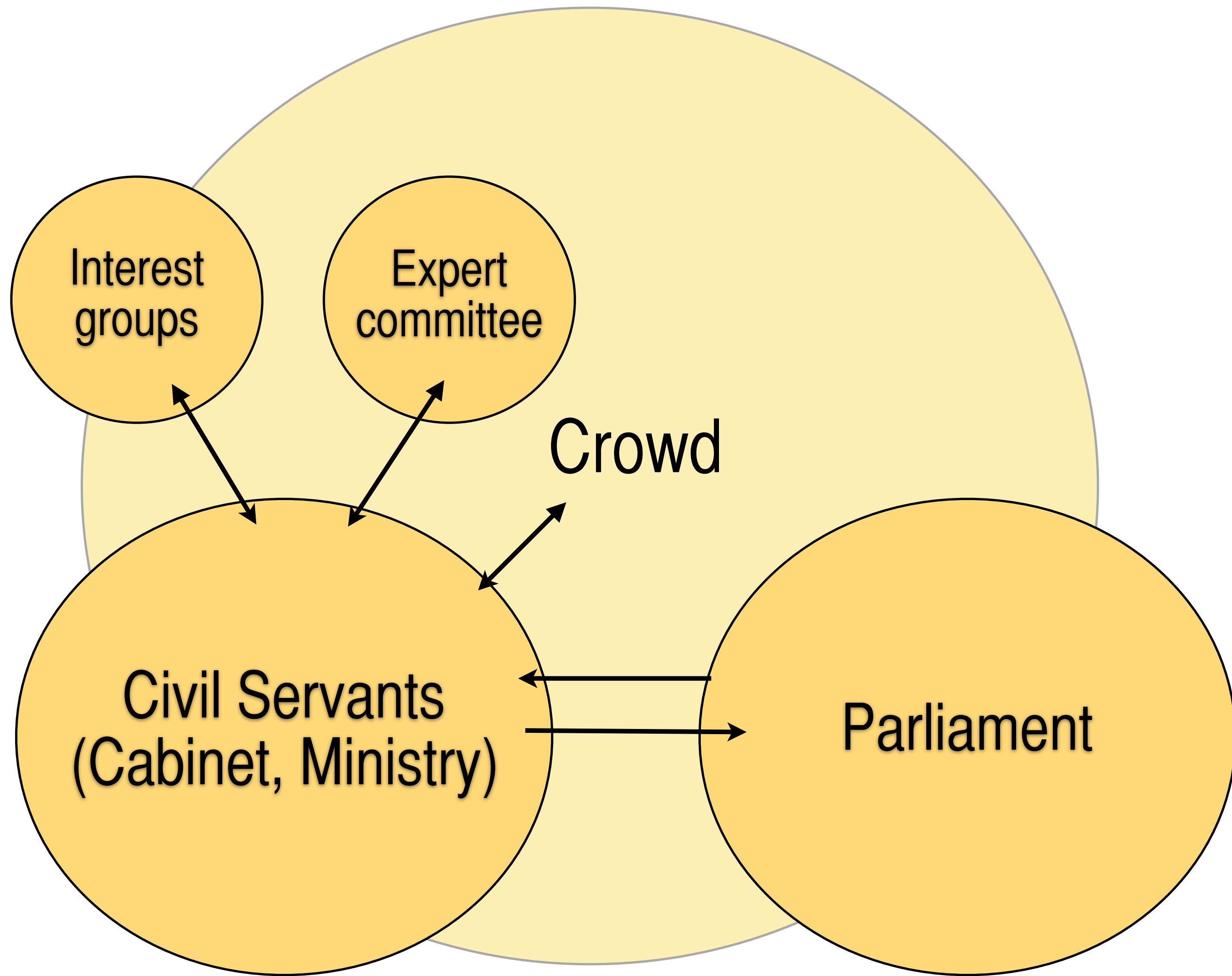


# Typical law-making process



# Crowdsourced law-making





Research for the bill  
Drafting the bill

Decision-making



# What crowdsourcing is not?

It's not a decision-making tool for direct democracy

It's not a public opinion poll  
- no preference aggregation



# Participatory budgeting = Direct democracy

Selected \$600,000 of \$1,000,000 total budget.  
You still have **\$400,000** left.

Submit My Vote...

## Projects

### Performance Space in Chinatown

Replace seats and renovate the auditorium to support the theatre performances and church that uses the space throughout the week - Josiah Quincy School

Estimated Cost: \$300,000

Select



### Multi-use space for Chinatown

Fix the gym divider, scoreboard, and bleachers in order to make the space more usable for students and the community - Josiah Quincy School

Estimated Cost: \$500,000

✓ Selected

Remove



### Link Up: Digital Billboards in Schools

Install TV screens in schools that display information about jobs, programs, and other resources for students - BPS High Schools

Estimated Cost: \$100,000

✓ Selected

Remove



<https://voxpopuli.stanford.edu/>

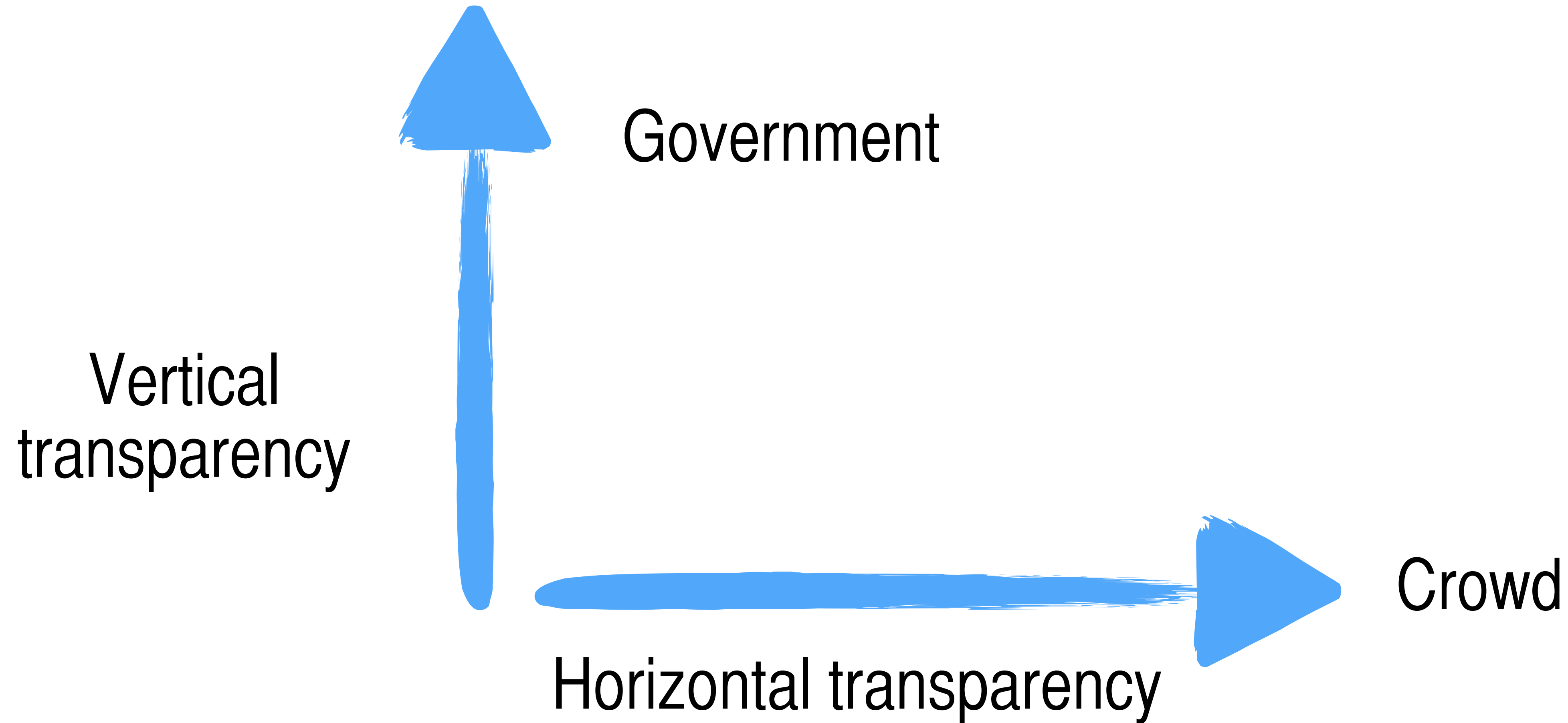
# **Value in crowdsourced policymaking**

- I Democratic value
- II Epistemic value
- III Economic value

# I Democratic value

- I Transparency
- II Accountability
- III Deliberation
- IV Empowerment

# I+II Transparency & Accountability



Aitamurto, Landemore & Galli, 2016. Unmasking the Crowd: Participants' Motivation Factors, Expectations, and Profile in a Crowdsourced Law Reform. *Information, Communication & Society*

# III Deliberation

- Peer-learning
- Quality of deliberation:  
Meets partially the threshold  
set by deliberative  
democrats  
(Aitamurto and Saldivar, 2017, CHI '17)

## Kommentoi (28)


Kommenttien lajittelu Päivämäärä

 [Yhteisön jäsen](#) sanoi: [POISTA](#)

Saamenkielisissä uutisissa oli hyvin kitkeriä kommentteja kelkkailun haitoista "vapaassa Ruotsissa", ja moni pohjoinen kunta siellä on jo päättänyt kieltää vapaan ajelun.

[Review Translation](#)


8 päivää sitten [Vastaa](#) [1](#) [Äänestä puolesta](#) [3](#) [Äänestä vastaan](#)

 [Sinä](#) sanoit: [POISTA](#)

Hei, olisiko sinulla linkkiä tähän mainitsemaasi uutiseen?

[Review Translation](#)


7 päivää sitten [0](#) [0](#) [Liitä tiedosto](#)

 [Petri Koskela](#) sanoi: [POISTA](#)

Niin, onko tuo nyt jotenkin kummallinen asia, kun Norjasta ja Suomesta (joissa kelkkailu on erittäin tiukasti säänneltyä) lappaa jonotolkulla autoja kelkkoineen pohjoisruotsiin?

[Review Translation](#)


1 päivää sitten [0](#) [0](#) [Äänestä vastaan](#)

 [Yhteisön jäsen](#) sanoi: [POISTA](#)

Tulee pikästi aidattavaa ja merkattavaa. monikymmenkertaisesti valtakunnanrajan pituus.

[Review Translation](#)

7 päivää sitten [Vastaa](#) [0](#) [Äänestä puolesta](#) [0](#) [Äänestä vastaan](#)

 [Yhteisön jäsen](#) sanoi: [POISTA](#)

Ei se Ruotsin malli mitenkään erityisen vapaa ole vaan tiukka ja asiallinen. Siinä on vain tällainen lähtökohta että kelkkailu on yleensä lumella sallittu, ellei ole jotain erityistä syytä kieltää sitä. Siellä on paljon kieltoalueita, mutta toisaalta kansallispuistoistakin uria löytyy. Perämeren rantakaupungeista löytyy tiheä uraverkko josta pääsee sitten tuntureiden urille ja vapaille alueille.

Kunnilla on siellä tosiaan mahdollisuus alueellaan kelkkailu, mutta toistaiseksi pohjoisen kunnat eivät ole tähän lähteneet. Keskustelua käydään tietenkin puolesta ja vastaan.

Suomessakin tulisi vähintäänkin valtion maat saada vapaan kelkkailun piiriin. Kieltoalueille

# IV Citizen empowerment

**“This is actually the first time in my lifetime when I feel that I’m really participating in making democracy and influencing decision-making in this society. It feels much more real than just voting for some person.”**

—> the feeling of empowerment

# Jaska

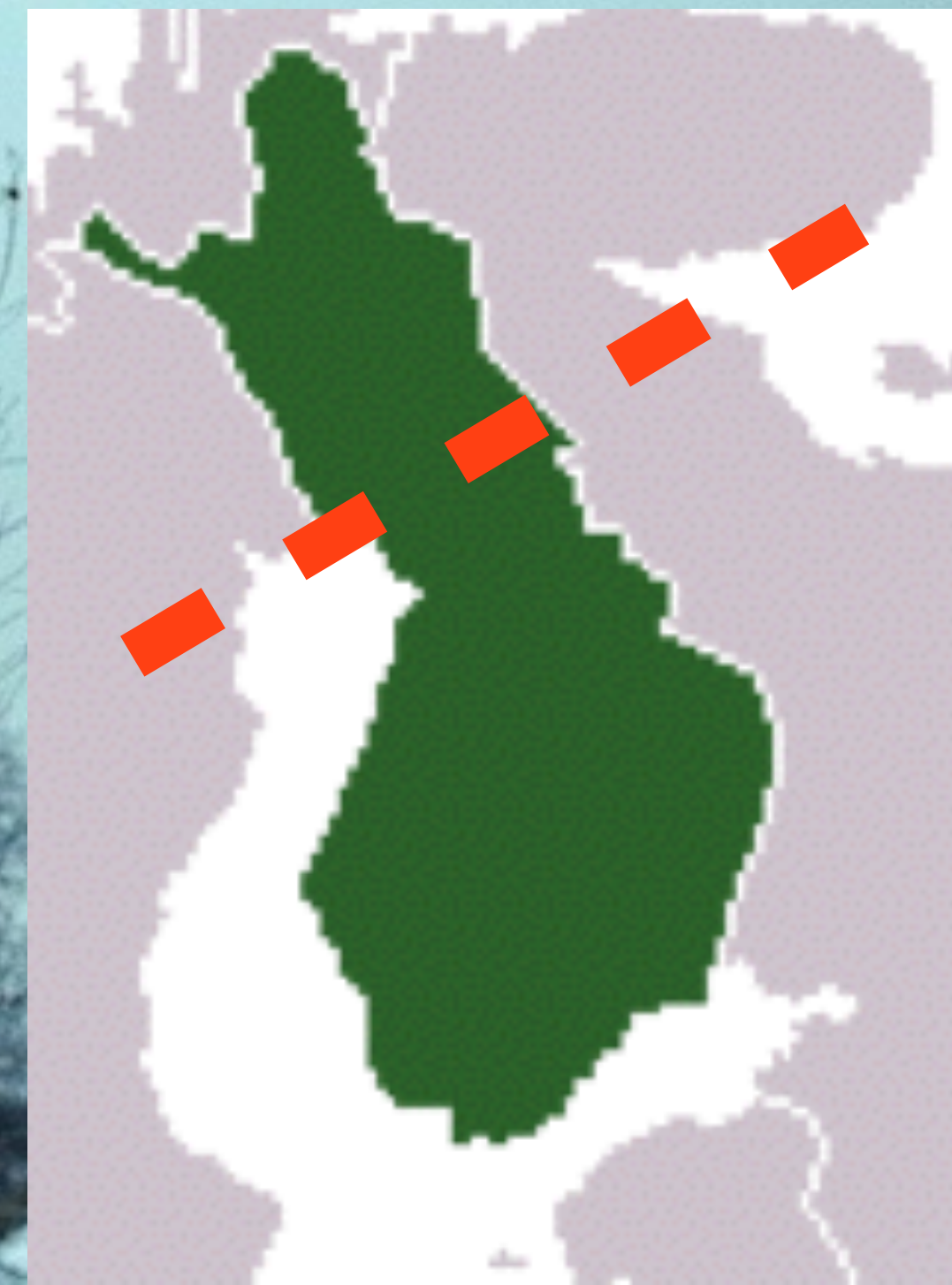
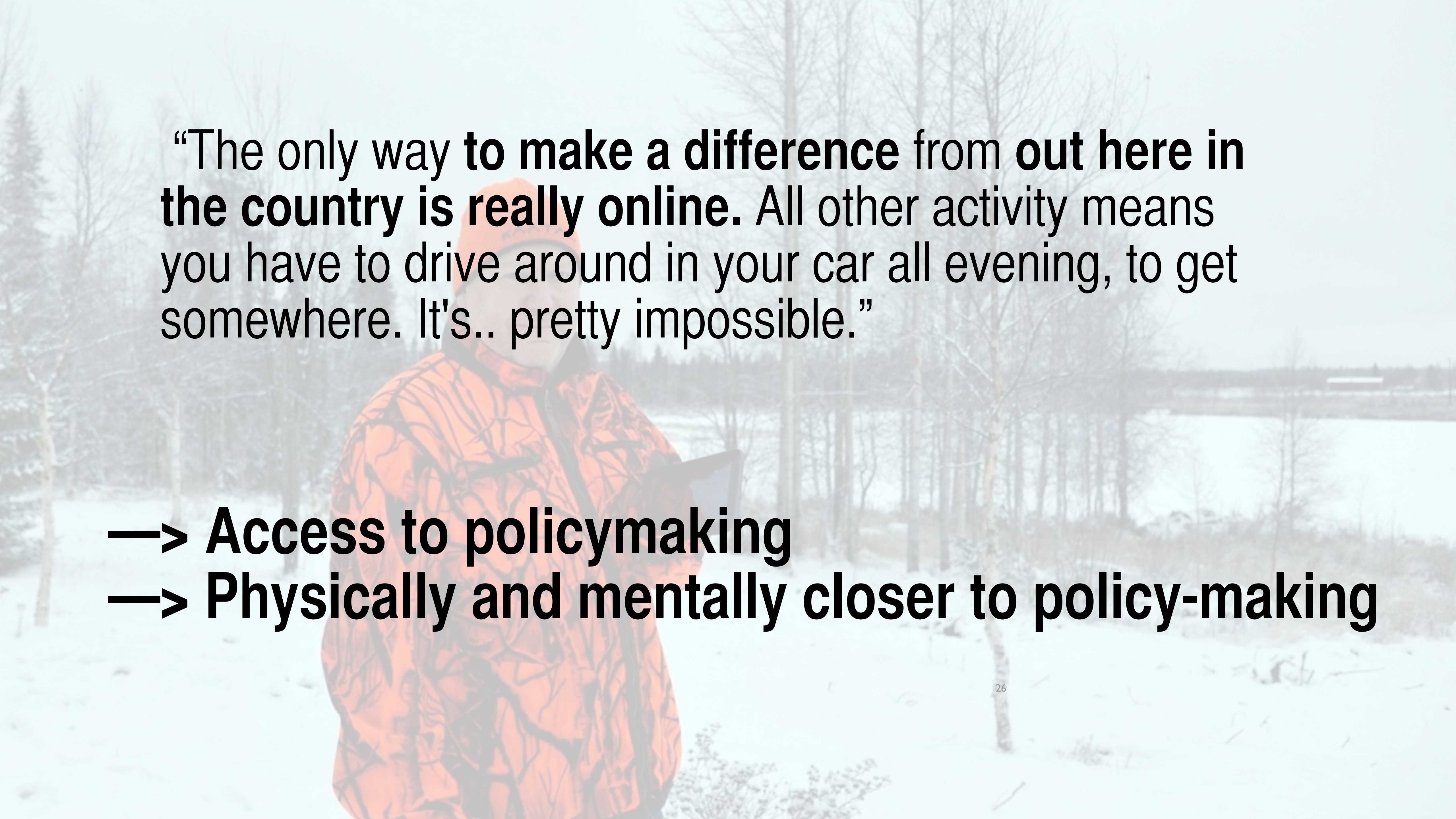






Photo credit: Veikko Aitamurto

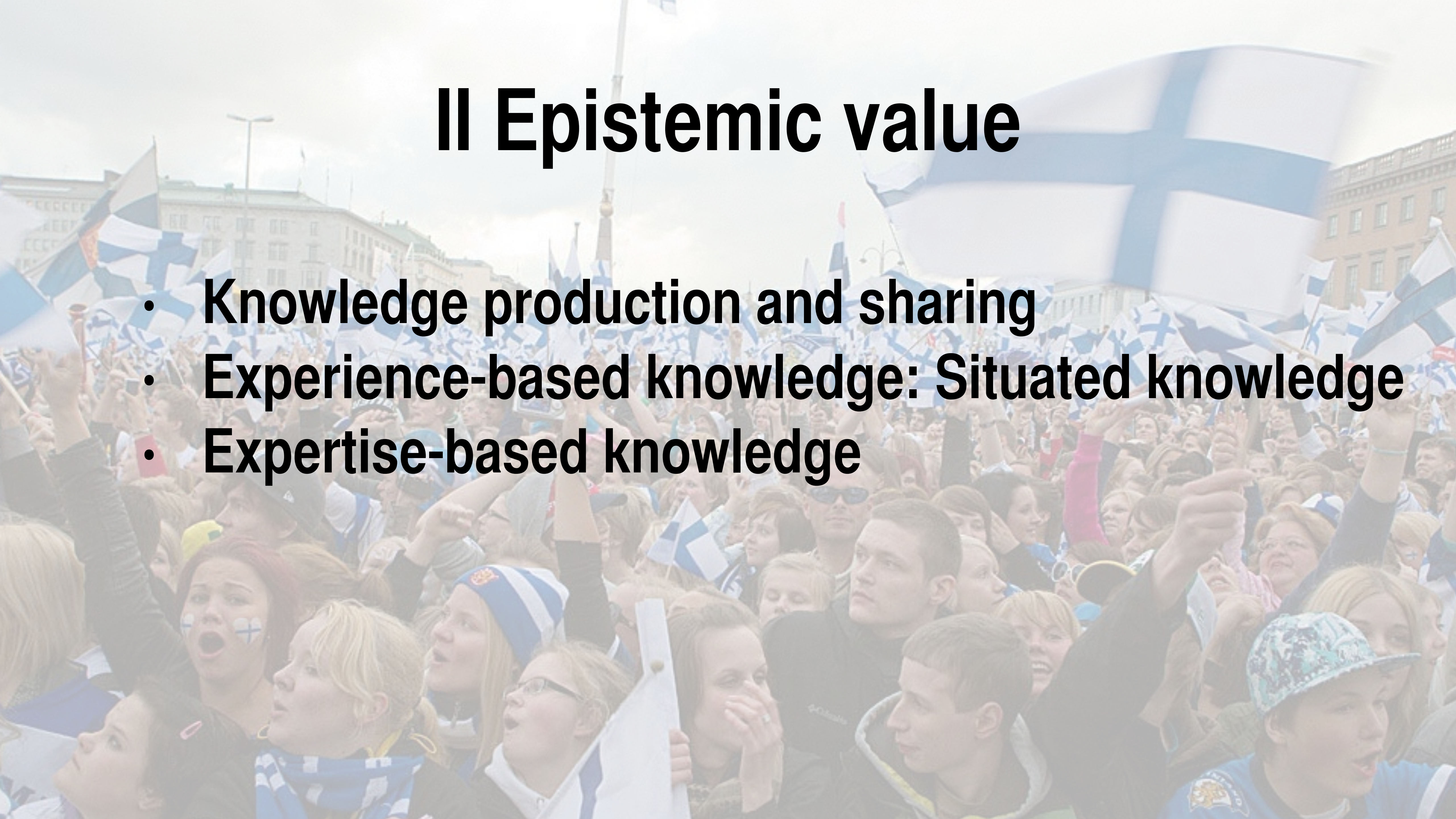
A person wearing a bright red winter jacket and a matching beanie is standing in a snowy, wooded area. They are holding a laptop computer. The background shows a line of bare trees and a body of water in the distance under an overcast sky.

**“The only way to make a difference from out here in the country is really online. All other activity means you have to drive around in your car all evening, to get somewhere. It's.. pretty impossible.”**

- Access to policymaking**
- Physically and mentally closer to policy-making**

# II Epistemic value

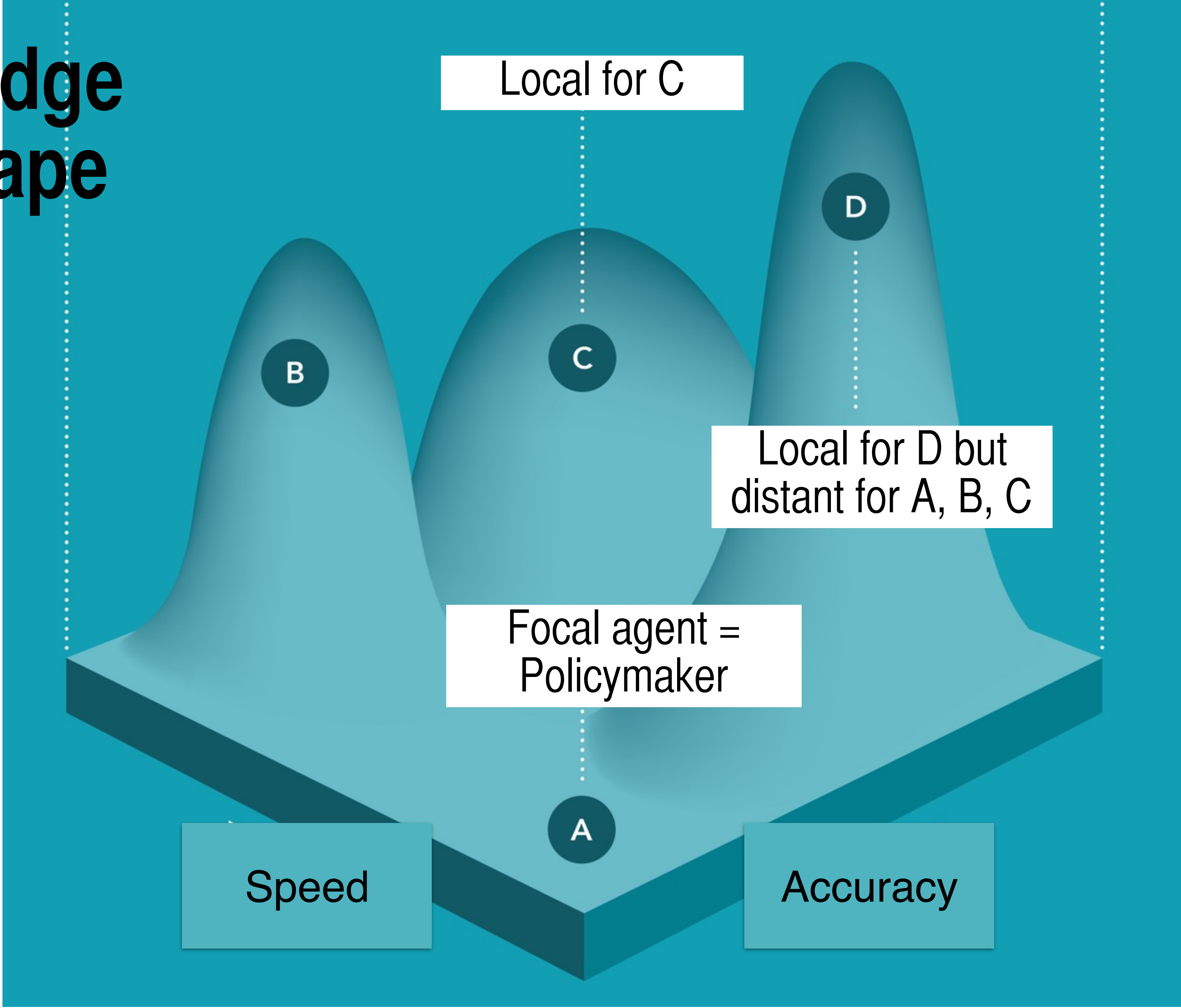
- Knowledge production and sharing
- Experience-based knowledge: Situated knowledge
- Expertise-based knowledge





**Search in crowd's knowledge  
neighborhoods**

# Knowledge landscape



Local for C

B

C

D

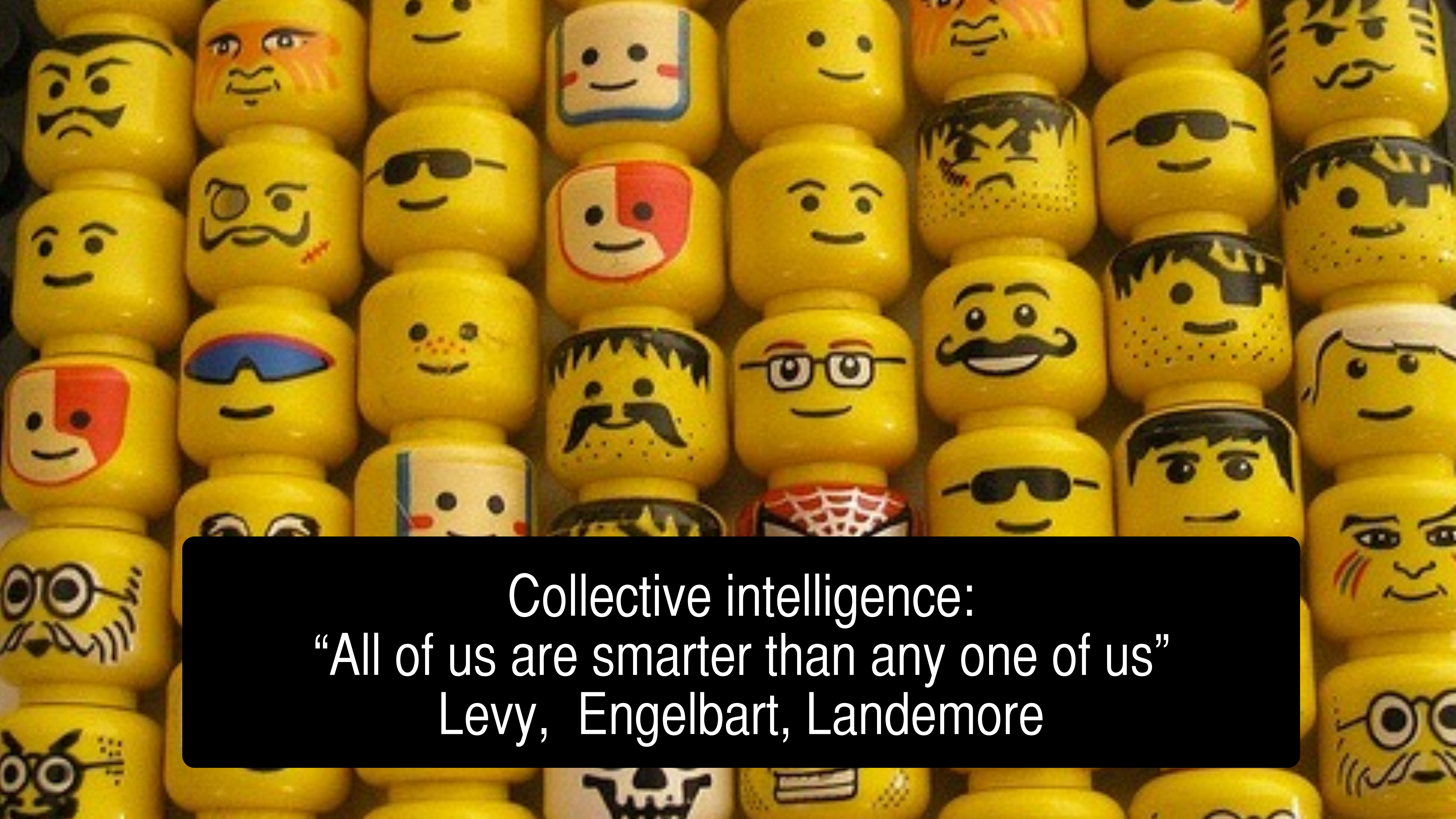
Local for D but distant for A, B, C

Focal agent = Policymaker

A

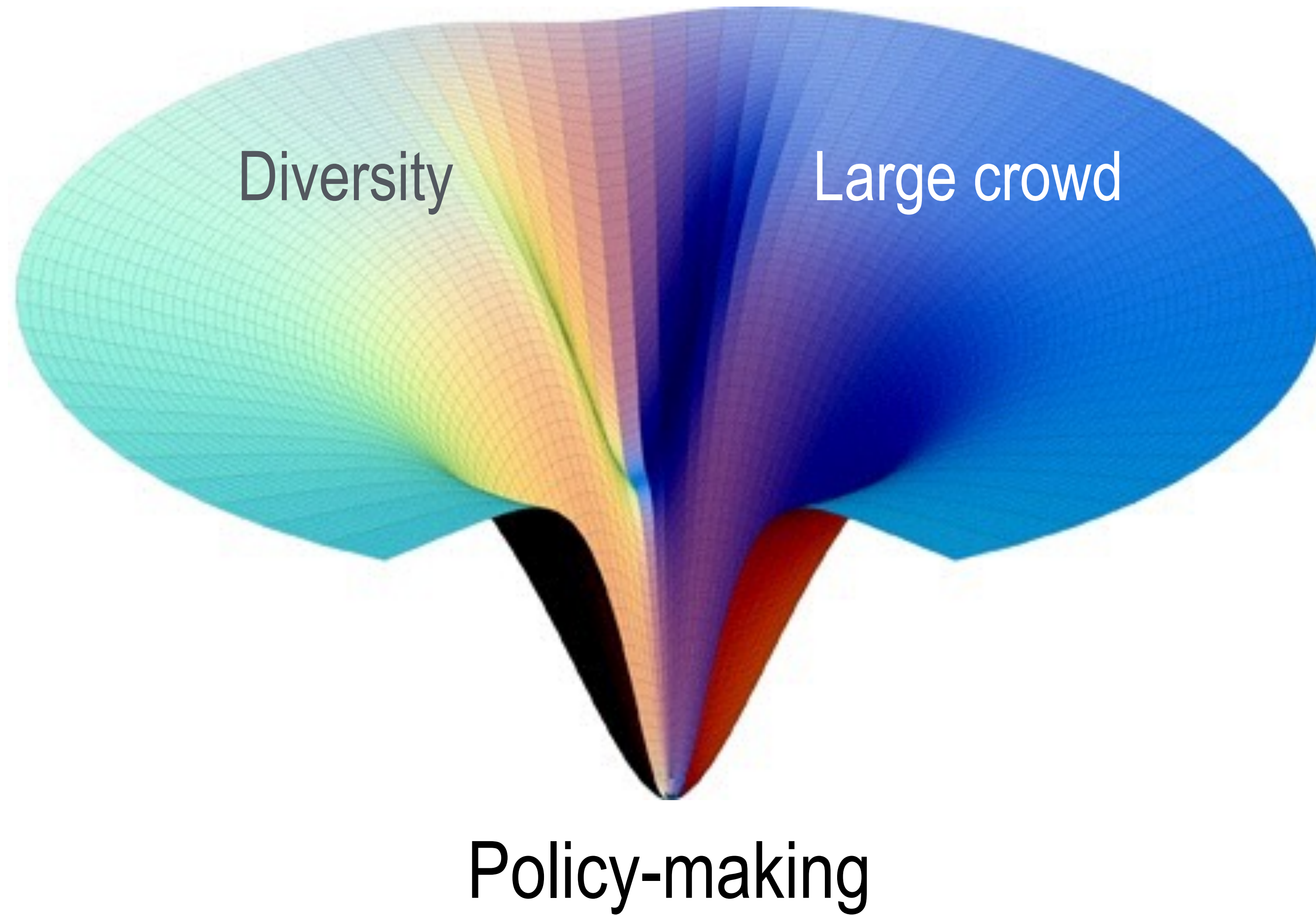
Speed

Accuracy



Collective intelligence:  
“All of us are smarter than any one of us”  
Levy, Engelbart, Landemore

# Virtues of collective intelligence



# III Economic value

- **Accessing citizens' needs in fast and efficient manner  
—> Harnessing crowd capital (Prpic & Shukla, 2013)**
- **More efficient service delivery**
- **Stronger commitment to decisions**



# InnoCentive: Crowdsourced innovations



## New Elastomer Material for a Spray Can Gasket

TAGS: Engineering/Design, Chemistry, Physical Sciences, Requests for Partners and Suppliers, RTP

AWARD: **\$40,000 USD** | DEADLINE: **6/24/15** | ACTIVE SOLVERS: 93 | POSTED: 3/26/15

Spray cans are used for the direct application of a wide variety of substances including sunscreen, insect repellent, deodorant, and topical medications. The shelf life of the product is correlated to the leak rate of the materials within the pressurized canister. Chemical reactions may occur when the contents come in contact with gasket seals, an undesirable outcome that also decreases the product's life span.

# Challenges

- **Analysis & synthesis**
- **Quality & quantity of participation**
- **Design & innovation management challenges**

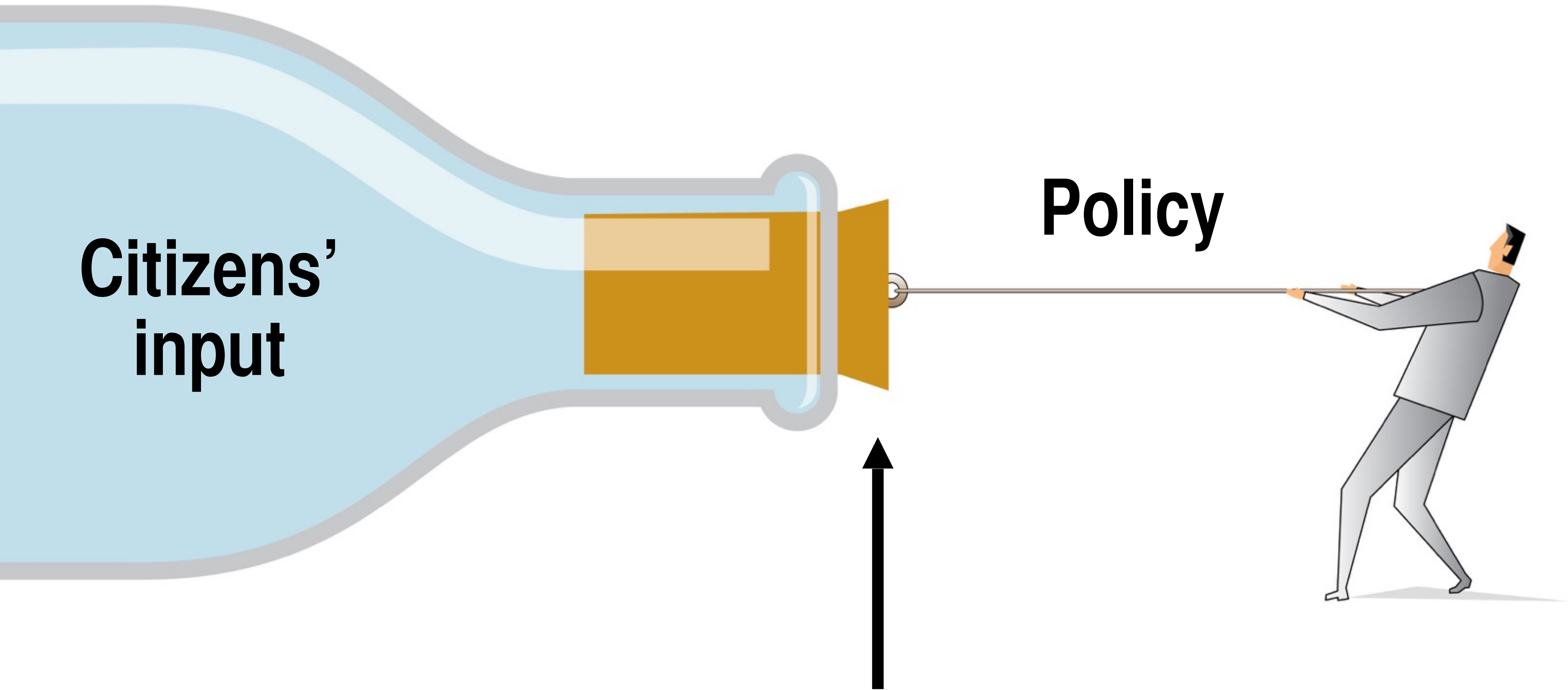
# Piles of unstructured data

What ideas do you have about the draft Transportation Element?							
Statement ID	Signature	Location	State	Created At	Section	Body	Belongs To
=====IDEAS=====							
122843	Theresa Chen		on forum	10/19/15 10:37		Build multi fl	115115
122842	Theresa Chen	in Old Palo A	on forum	10/19/15 10:33	annotation_	Expand public transportation system with increase availability and stops, particularly at clinics and hospitals.	
122840	Theresa Chen	in Old Palo A	on forum	10/19/15 10:29	annotation_	Connect the city shutter system with the VTA bus system on schedule and stops. Publicize the changes. The will encourage more bus riding even for short distance errands.	
122816	John Mark Ag	in College Te	on forum	10/18/15 21:20	annotation_	As for "not compromising the needs of pedestrians and bicycles" , a better use of under- and over- passes on major thoroughfares would both increase vehicle "Level of Service"	
122815	John Mark Ag	in College Te	on forum	10/18/15 21:07	annotation_	Here's a more ambitious high-tech solution: Plan for and design high-density lanes that are limited to self-driving vehicles that take advantage of inter-vehicle communication	
122812	John Mark Ag	in College Te	on forum	10/18/15 20:50	annotation_	a bit	
122811	John Mark Agosta		on forum	10/18/15 20:32		There are go	115303
122809	John Mark Agosta		on forum	10/18/15 20:08		".. markedly	115406
122807	John Mark Agosta		on forum	10/18/15 19:59		One small fix	118051
122806	John Mark Agosta		on forum	10/18/15 19:54		Yes "synchro	119869
122791	Theresa Chen	in Old Palo A	on forum	10/18/15 15:37	annotation_	To connect the city shuttle with VTA bus system-both on schedule and stops.	
122768	Name not shown		on forum	10/17/15 22:52		I'm 66-1/2 ar	122766
122766	Name not shown		on forum	10/17/15 21:15		riding my	122745
122748	Name not shown		on forum	10/17/15 13:03		Ask employe	115115
122746	Name not shown		on forum	10/17/15 12:46		We need to c	118706
122745	Name not shown		on forum	10/17/15 12:41		It's really eas	118891
122579	Name not sh	in Green Acro	on forum	10/15/15 18:06	annotation_	We should have a door-to-door shuttle for seniors, similar to the one that serves Menlo Park. We should also design shuttle routes around destinations that seniors need, e.g.	
122578	Name not sh	in Green Acro	on forum	10/15/15 18:03	Traffic calmir	I live on El Camino near Arastradero. The traffic calming (i.e., lane reduction) on Arastradero has been a nightmare. It is now extremely time-consuming to get to or from the f	
122577	Name not sh	in Green Acro	on forum	10/15/15 18:00	annotation_	We need better transportation options for people heading into San Mateo county. For example, we used to have an inexpensive bus that went to SFO. Now it's much more di	
122575	Name not sh	in Green Acro	on forum	10/15/15 17:55	annotation_	We need better transporation connections so that people will use mass transit more. It's difficult for residents in South Palo Alto to access the routes they need. Not everyone	
122500	Name not shown		on forum	10/14/15 22:38		Is it possible	119454
122499	C Lilienstein	in Barron Par	on forum	10/14/15 22:34	annotation_	Underground the tracks from Mountain View to RWC and make it possible to get across towns safely and efficiently: this is the only effective way to satisfy state and federal l	
122498	C Lilienstein	in Barron Par	on forum	10/14/15 22:22	annotation_	Institute a city-wide resident-only parking program on all residential streets. (Excluding service vehicles) in order to encourage employers to participate in alternate transport	
122497	C Lilienstein	in Barron Par	on forum	10/14/15 22:13	annotation_	Underground the tracks. Stop commercial office space development until programs that claim to diminish car use are proven successful. If we then see DIMINISHED traffic, we	
122496	C Lilienstein	in Barron Par	on forum	10/14/15 22:04	Policy T-30	should be	
122493	Name not shown		on forum	10/14/15 21:45		I doubt man	115366
122491	C Lilienstein		on forum	10/14/15 21:28		units:	116136
122461	Brent Barker	in College Te	on forum	10/14/15 13:48	annotation_	Long Term -- put train tracks in a deep trench with an overlay, then capture the surface space for soft impact transportation -- garden lined pathways for walking, biking, and	
121740	Name not sh	in Downtowr	on forum	10/8/15 11:50	Traffic calmir	Middlefield Road, a residential arterial roadway, (downtown) is a parking lot at peak commute times in the morning and evening--especially between University Avenue and V	
121736	Name not sh	in Downtowr	on forum	10/8/15 11:38	annotation_	mph sign on	
121526	Name not sh	in University	on forum	10/6/15 20:56	annotation_	there need	
121520	Name not shown		on forum	10/6/15 20:41		Company bu:	116393
121215	Name not sh	in Southgate	on forum	10/5/15 8:31	annotation_	A rail system that encircles the bay should absolutely be a goal. At this point this would mean bringing BART to the peninsula or bringing a complete new system that would re	

# Civic data overload



# Bottleneck in participatory channel

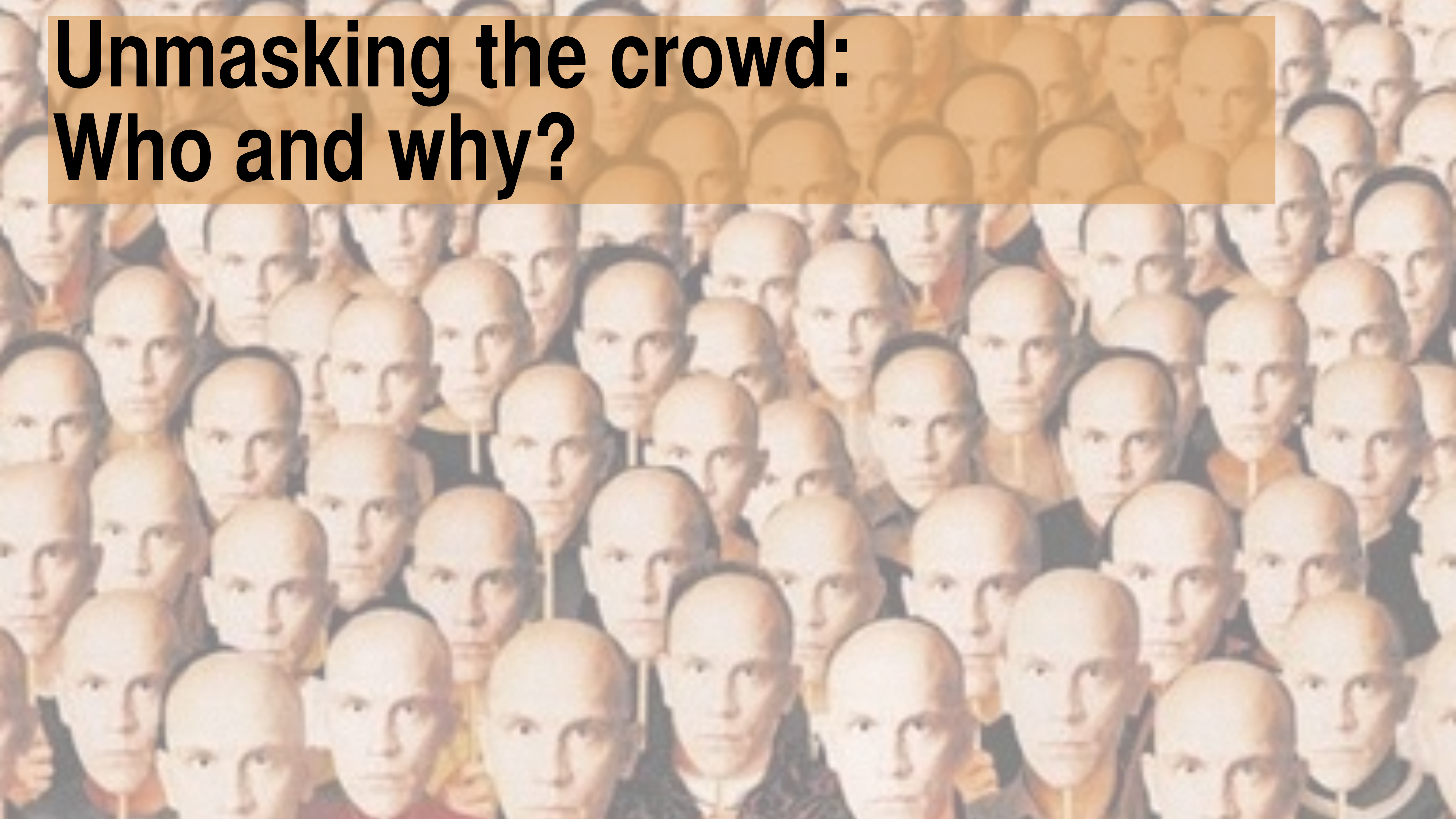


**Citizens' input**

**Policy**

**Lack of analysis and synthesis methods**

# Unmasking the crowd: Who and why?



# Jaska

Role of participation in his life?

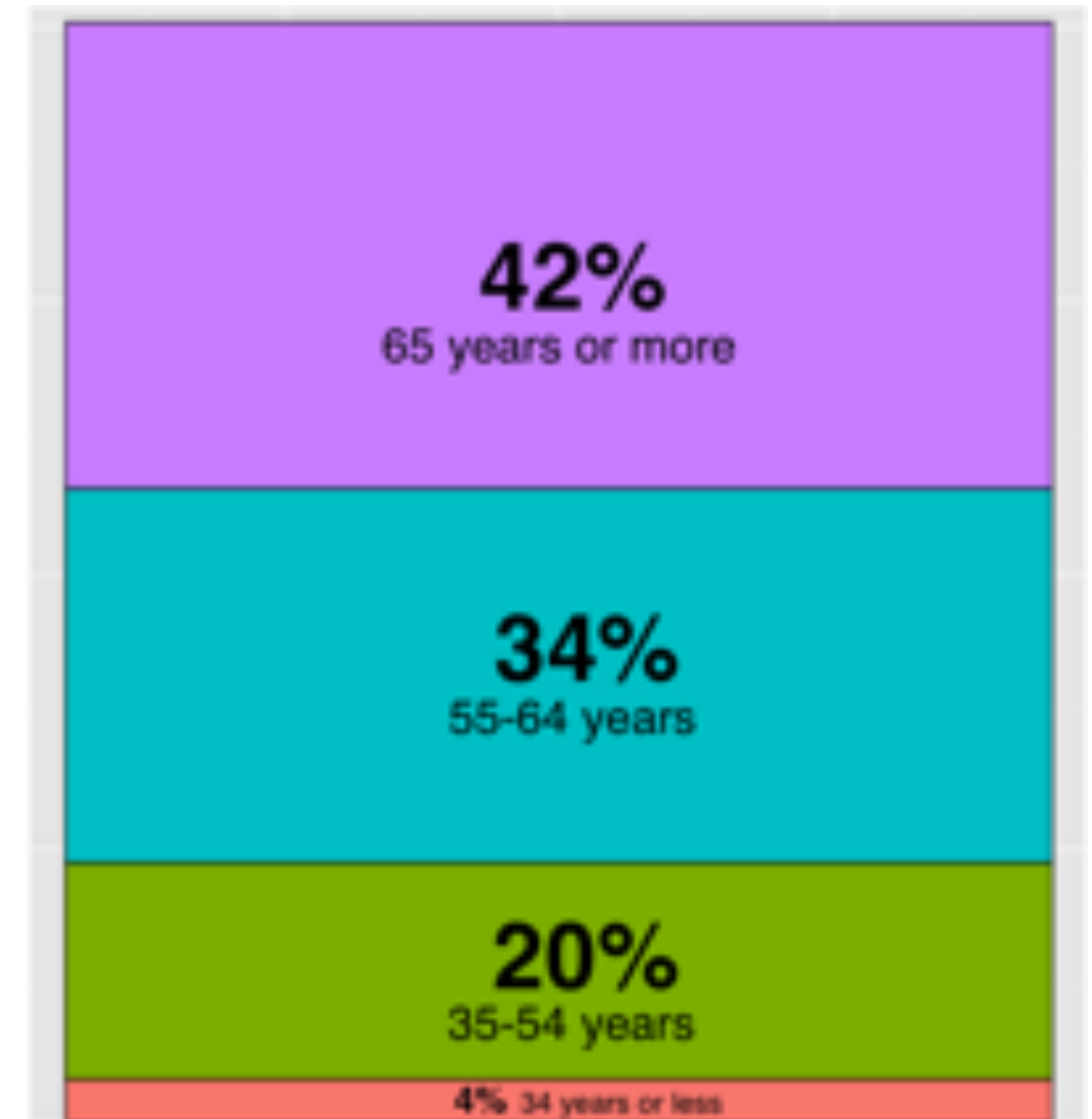
Policy



# Participant profile: Demographics

**Mostly educated men (60–80%)**

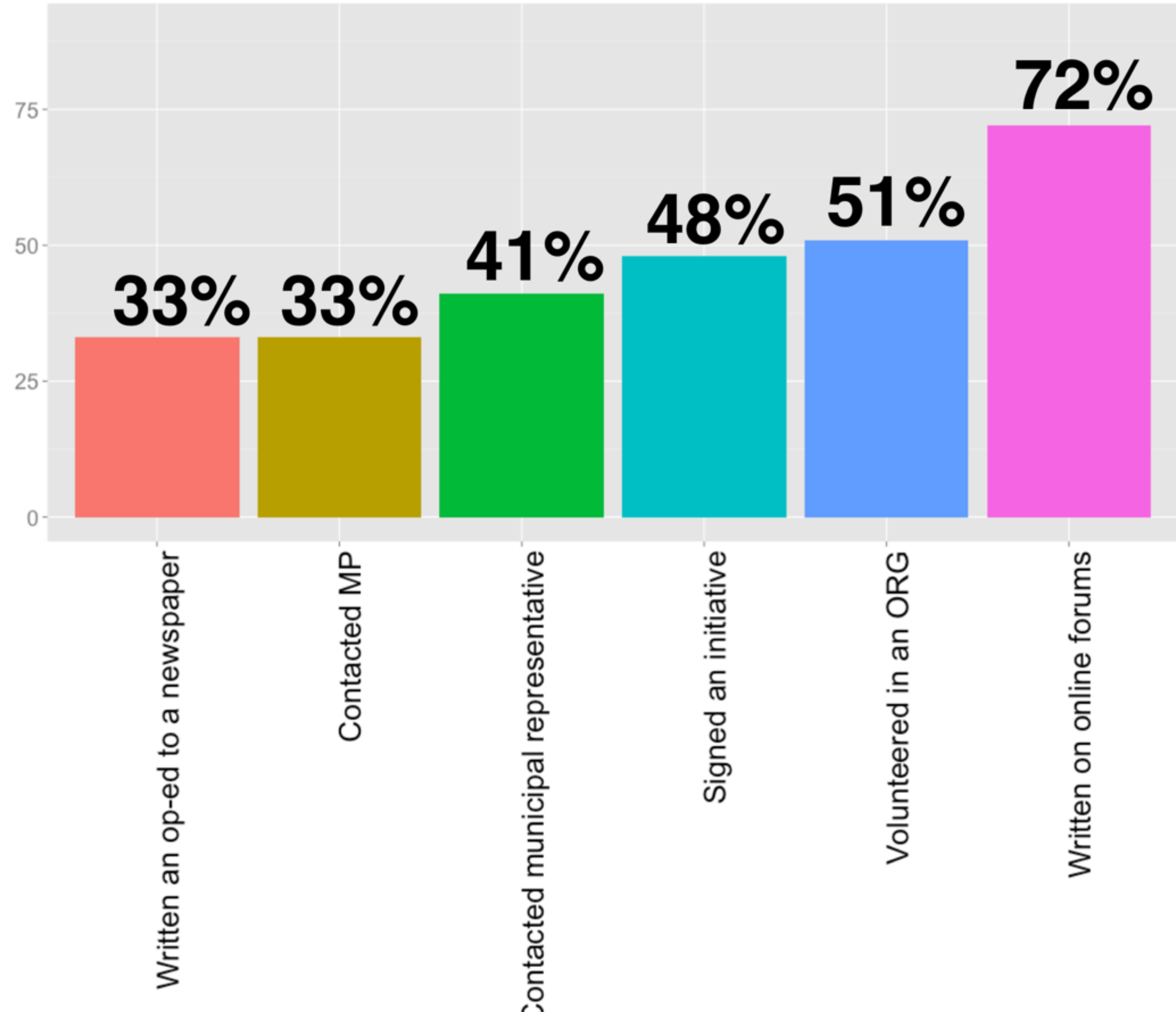
**Age distribution varies: even seniors participate**





# Participant profile: Civic activity

**Mixed bag:  
Usual suspects  
and unusual  
ones**



# Motivation factors in crowdsourced policymaking



## **Extrinsic**

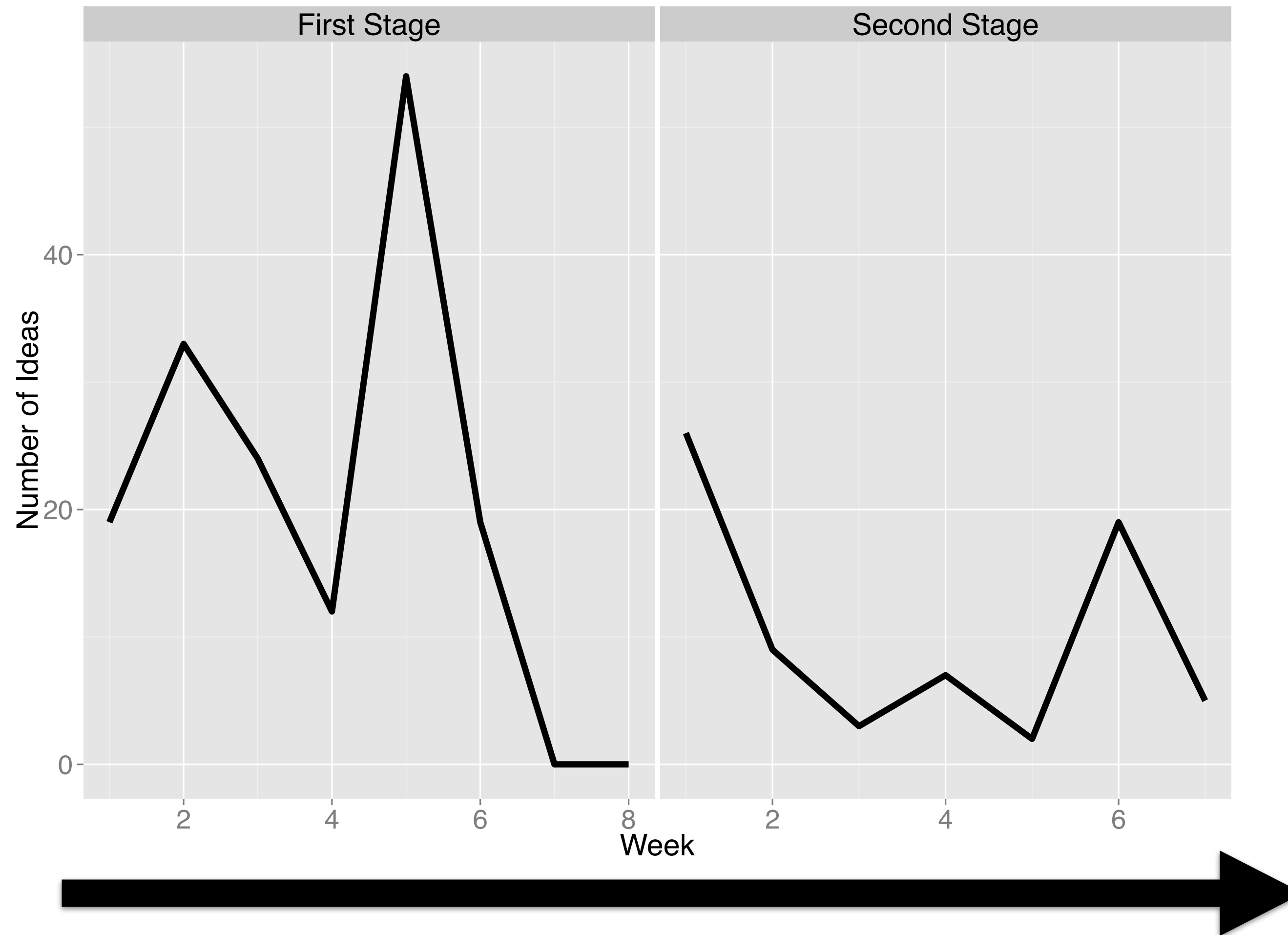
**Improving the law**  
**Solving issues in housing companies**  
**Discussing with others**  
**Learning**

## **Intrinsic**

**Sociotropic reasons**  
**Altruism**

**Epistemic and interactive factors**

# Saturation point, motives weaken



**Crowdsourcing process**

# Reality strikes! Diversity, complexity



# **Learning is the strongest factor**

**Design processes and technologies supporting learning:**

- Peer learning**
- Expert learning**
- Materials**
- Long-term knowledge commons**

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

# Enter the world of collective intelligence.

## Design for Crowdsourced Policy-Making

How should crowdsourcing be deployed in policymaking? We developed five design principles, which give a

## Crowdsourced Off- Road Traffic Law Reform

The Ministry of the Environment and the Committee for the Future in the Finnish Parliament

## Crowdsourcing for Democracy: New Era in Policy- Making

The book 'Crowdsourcing for Democracy: New Era in Policy-Making' shows how

Thank you:

**The crowd  
who participate and cares about society**

Co-authors and mentors:

Kaiping Chen, H el ene Landemore, Jorge Saldivar Galli,  
Beth Noveck, the Committee for the Future in the Finnish  
Parliament, City of Palo Alto, Josh Cohen, Larry Diamond,  
Terry Winograd, Vivek Srinivasan, Ken Goldberg,  
Camille Crittenden, Brandie Nonnecke, Oras Tynkkynen,  
Juho Lindman, Joonas Pekkanen, Matti Nelimarkka,  
Ashish Goel, David Lee, Sukolsak Sakshuwong

Thank you.

[tanjaa@stanford.edu](mailto:tanjaa@stanford.edu)  
[@tanjaaita](#)



# Crowdsourcing in policy cycle

