



# REMIX > REBUILD > RECOVER

THE CASE FOR GOVERNMENT-FUNDED CIVIC TECH

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## ABOUT US:

OpenLocal, a not-for-profit organization developing open source software for “public good” digital services, with a goal to improve the quality of life and local economic opportunities in growing municipalities.

[Learn more at: www.openlocal.ca](http://www.openlocal.ca)

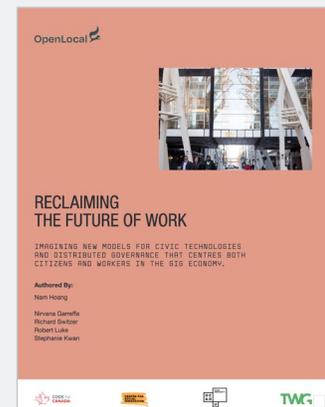
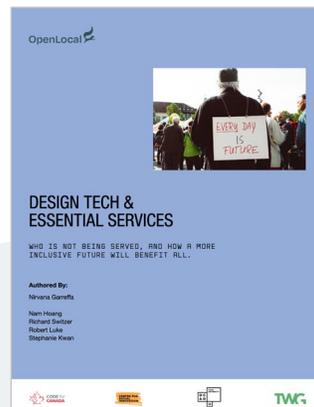
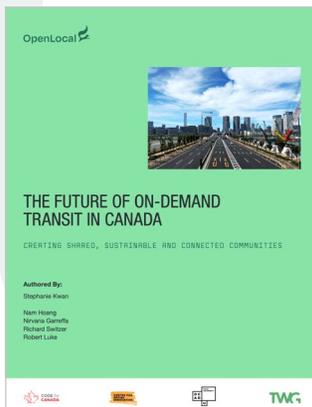
## RESEARCH SERIES:

**Remix Rebuild Recover** sets the context for a series of research papers produced by the OpenLocal team in 2020-21 to better understand how to develop equitable, human-centred service platforms and systems that benefit all Canadians.

Stephanie Kwan’s **The Future of On-Demand Transit in Canada** explores on-demand and microtransit projects across Canada, and how these emerging services are being leveraged to solve municipal and rural transit challenges.

Nirvana Garreffa’s **Design Tech and Essential Services** looks at the dramatic expansion of delivery services through the experiences of people living with disabilities, and how essential services can be made more accessible and inclusive.

Nam Hoang’s **Reclaiming the Future of Work** explores how digital technologies are shifting the nature of work, and how we might design software platforms that empower all stakeholders in the Future of Work.



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## REMIX >REBUILD >RECOVER

Silicon Valley investments created massively scalable platforms like Uber, Facebook and Airbnb. Here's how to engage governments and make the platform model work for everyone.

**Over the last few decades** we've seen an acceleration in the myriad ways software has changed how we work, eat, shop, socialize, learn and communicate. Our phones have become inextricably woven into the fabric of our lives, while software and new technology have enabled an incredible amount of wealth creation and accumulation of capital. For many, Silicon Valley represents not only the cradle of technological innovation, it's the embodiment of capitalism itself.

Yet as anyone who has lived in San Francisco for a few months can tell you, the benefits of capitalism have not reached the least fortunate among us. For all the Bay Area startups claiming to be "making the world a better place" the reality is, on balance, we've only widened the digital and economic divide between the haves and have-nots. Software has indeed made the world a better place, but for whom?

To be fair, you can't blame software or startups or Silicon Valley for these inequities. Software businesses, as it turns out, can be very good at capitalism. Without deliberate intent to do otherwise, profits flow to the owners of a business, and operating costs are kept as low as possible. The digital platform model has optimized this to the extreme. It costs Facebook or Netflix almost nothing to add a new customer, or for Google to serve paid ads along with every search result. These platform businesses, with effectively zero transaction, distribution and unit costs, have enjoyed incredible growth and effective oligopolies, arguably the only logical end game for [FAANG+](#) companies.

But for platform businesses like Amazon and Uber, the primary operating costs are people: warehouse employees, drivers and delivery workers. If the company objective is to maximize profit and growth, then finding new ways to drive down operating costs (e.g. increasing worker productivity or reducing the cost of labour) is a supporting innovation.

The gig economy is largely an innovation of big tech, a software-enabled on-demand labour force managed by algorithms for peak efficiency. What began as a novel, flexible way to earn supplemental income has in some ways become a shadow safety net for the underemployed, and for many a primary source of income. That reality has put pressure on these companies to comply with labour standards and extend worker protections to their de-facto employees. Amazon's aggressive [anti-union activity](#) and Uber (with others) spending \$200M to get California's [Proposition 22](#) passed suggests these firms see existing employment laws as an existential threat. In other words - **the current laws designed to protect workers are incompatible with their business.**

Let's take a step back for a moment. Consider that maximizing value for shareholders is a conscious decision a company makes when it chooses [entrepreneurial capitalism](#) as it's operating model. Despite a 90% failure rate, VC-backed startups have fueled a powerful narrative of true business innovation and immense wealth for the investors and founders of the lucky few companies that succeed.

But there are other values companies can choose, different models that prioritize outcomes and partnerships that are not inherently extractive for the primary benefit

of owners and investors. The rise of [B Corps](#), microlending platforms and even notions of [nonprofit capitalism](#) (as a means of distributing [abundant technology resources](#)) are just a few examples.

Supporting these shifts is the commoditization of digital infrastructure. Ever since Amazon (almost accidentally) developed and commercialized cloud services, companies large and small have access to the same massively scalable application infrastructure at a marginal cost. Despite the anti-competitive tactics of Big Tech, the combination of ubiquitous smartphone penetration and cheap cloud infrastructure means the potential for software to have a positive influence on our lives has never been bigger.

As technology is subsumed into the fabric of our daily lives, as eCommerce becomes just commerce, as work-from-home is just work,



capitalism



4:08 PM · Sep 4, 2020

we should look at practical, meaningful ways to put software and its exponential power to work for everyone.

**Civic tech shouldn't be a patchwork of experiments in government innovation, it should be an integral component of service delivery.**

If tech is truly going to make the world a better place, we need to create systems that take advantage of almost-free digital infrastructure and support business models that aren't designed for centralized control and aggressive profit-taking.

This is why we created OpenLocal. We are adopting the incredibly efficient, rapidly scalable software platform model for public good, rather than private profit.

We are developing systems to enable technical innovation at the local level, empowering municipalities to develop their own digital services. We are also supporting models of job creation that prioritize fair wages and give workers a meaningful voice in their terms of employment.

**Like our healthcare system, and our education system, technology platform systems can be structured to provide a permanent framework to provide Canadians with quality of life improvements under a not-for-profit model. To paraphrase former Minister of Social Development Ken Dryden (in conversation with Finance Minister Chrystia Freeland): "Programs come and go. Systems come and grow."**

We are not necessarily talking about huge shifts here. An example relevant to OpenLocal is rethinking the idea that we should look exclusively to the private, for-profit sector for technology innovation. Historically when we think about government leadership on public goods, we think of traditional services like infrastructure, healthcare and education. Governments are not thought of as hotbeds of technical innovation. But that is not exactly accurate. In truth, government investment is often directly responsible for funding the magical technologies we've credited to big tech.

*"All the technologies which make the iPhone 'smart' are also state-funded ... the internet, wireless networks, the global positioning system, microelectronics, touchscreen displays and the latest voice-activated SIRI personal assistant."*

*– Mariana Mazzucato: The Entrepreneurial State*

Canada's investments in AI research through CIFAR in the early 1980's directly led to the pioneering work of Geoffrey Hinton, Yoshua Bengio and Yann LeCun, and has made Canada a world leader in the field of AI. Governments have a long history of funding the development of core technologies, from their role in foundational medical research, to GPS, even the internet itself, which grew out of ARPANET, a communication research project funded by the U.S. government.

Considering my earlier criticism of entrepreneurial capitalism it might be surprising to suggest that governments should be acting more like venture capitalists. If Silicon Valley VCs have been so effective in leveraging the startup model to

create fast-growing services, why shouldn't governments emulate the VC model to directly fund software that delivers on policy objectives? What if software platforms that provide 'public good' services like public transit, local delivery or in-home care are funded to deliver on government mandates of accessibility and quality of life, not extracting profits to provide a 10x return to investors?

There is physical infrastructure, like a national broadband network that the current government [has committed to](#), but we believe there are also big, cost-effective gains that can be made in 'soft' infrastructure. Software platforms to serve local residents and support community businesses, to create tech job opportunities in rural communities and enable them to build their own digital services, and create network effects between these communities by making the digital services developed by one municipality available to all.

**This isn't a particularly radical idea. It simply asks us to expand the definition of 'government services' to include support for systems that use technology to deliver public goods, and in particular systems that are citizen-led and community stewarded.**

Organizations like the [Civic Digital Network](#) are helping establish frameworks with government to guide the development of a civic digital infrastructure. [Code For Canada](#) has a successful, well-established model for hands-on, project-focused engagement to improve the digital capacity of all levels of government. Most of the "how do we get there?" questions have ready answers.

**In the spring of 2020** members of OpenLocal (including myself) enrolled in *Platform Cooperatives Now*, an 8-week course taught by Trebor Scholz of The New School in New York, and Jose Mari Luzarraga Monasterio, co-founder of Spain's Mondragon Team Academy. This course was instrumental in informing how we could structure the service delivery aspect of a project run as a non-profit - managing networks of service workers - in a way that was both scalable and equitable.

As the name suggests, the focus of the course was on cooperatives, and in particular a technology-empowered evolution of the model known as a **platform cooperative**. A platform co-op is a business that uses technology to facilitate the exchange of goods and services where the providers or producers of the goods and services are also the owners. Platform co-ops are deliberately structured to provide an alternative to venture capital-funded platforms, which rely on an extractive business model to return a profit to investors. Like traditional co-ops, a democratic governance structure is key, with workers and essential participants having direct input into the management and financial operations of the business.

As OpenLocal's Nam Hoang writes in **Reclaiming the Future Of Work:**

*"Platform cooperatives take digital services and software platforms and put decision-making and ownership into the hands of workers, a software update for worker cooperativism for the digital age. Workers cooperatives in reality already employ vast amounts of people: 900,000 American workers are in cooperatives, to say nothing of more socialized economies such as Denmark or Spain (Scholz, 2016).*

*“Canada has a long history with cooperative business models. In the agricultural sector, dairy and wheat pools gave individual farmers the means to negotiate fair pricing and access to investment capital. Desjardins and the Co-operators Group are among the country’s largest insurance and financial services companies.*

*But this is dwarfed by the growth of co-ops in Western Europe in recent decades. Mondragon, a federation of nearly 100 worker cooperatives based in Spain employs over 70,000 people and has annual revenues of more than 12 billion euros. Italy’s Emilia Romagna, a region with nearly 4.5 million people, attributes nearly a third of the region’s GDP and new job creation to cooperatives.*

*“Though co-ops still function and compete within extractive capitalist contexts, democratic control can ensure that profits are not siphoned off to the few, but instead are used to create social benefits for workers. Cooperatives have a pedigree of protecting labour, and in today’s economies still operate in niche markets to take on low-income clients, workers, or consumers. They can be used by marginalized communities to build democratic and economic power.”*

Why would Governments be interested in funding platform cooperatives? An excellent answer comes - from all places - from former Fed chair **Alan Greenspan** who, in responding to a question in 2005 about privatizing retiree benefits programs, said:

***“There’s nothing to prevent the Federal Government from creating as much money as it wants...the question is, how do you set up a system which assures***

***that the real assets are created which those benefits are employed to purchase?”*** ([source](#))

In other words, monetarily sovereign governments should be less focused on their ability to fund programs and more on the ability of the programs they are funding **to deliver an intended benefit.**

**Platform co-ops directly benefit those that are typically squeezed by the gig economy or minimum wage service jobs, providing a business model for those that need help to help themselves.**

Opportunities for community-oriented software platforms extend well beyond the initiatives of public transit and local delivery that OpenLocal has proposed. Consider the needs of our retiring baby boomers, and the desire to keep them living comfortably and safely [in their own homes](#) for as long as possible. Personal support workers, meals, cleaning services — there are myriad local support services that could be better provided through well-built user-centred software platforms.

***“‘Fight the big fight and build systems...’ that is such excellent advice for being effective in government. If we can create systems we will have something that will last.”***

– Finance Minister Chrystia Freeland at the 2021 Liberal Convention

Early learning and childcare services are ideal for the platform cooperative model. Members are highly engaged and have a vested interest in quality of service and sustainability over

profitability. In places like Bologna, Italy, where the co-op model has been widely adopted, 85% of services for children, the elderly and vulnerable populations are provided by co-ops.

Furthermore, systems that support smaller municipalities and local organizations in developing their own platform co-ops - by providing access to technology, operating frameworks and direct support - can turn needs into solutions. Giving municipalities the tools to develop viable, homegrown platforms is a smart way to engage community-minded residents and respond to emerging needs for local services.

**One last, important caveat.** As we enter into the pandemic recovery period where the Canadian government is injecting billions into the economy, we need to provide frameworks that keep those funds circulating here at home. The economic benefits of CERB and other recovery support funding diminishes significantly if that money is spent on the products and services of multinationals and immediately leaves the country.

**This is why open-source digital platforms are so effective in this context — they can be operated for the sole economic benefit of local users, and there is no requirement for an extractive business model to pay back thirsty investors.**

The pandemic has thrust change upon us whether we want it or not. How quickly we recover from the pandemic will rely on having the wisdom and courage to let go of old ideas and embrace new ones.

GDP is being challenged (most notably [by the OECD](#)) as the key measure of a 'healthy' economy. Modern Monetary Theory (MMT) is challenging concepts of fiscal policy that have guided Western economies for nearly half a century. Full employment, not keeping inflation in check, is becoming the new North Star for government macroeconomists.

From this new perspective we can look at investments in digital infrastructure — systems of digital services supported by the government — as an essential public good, in the same way that we see roads, schools and broadband internet access as essential to the well-being of our communities.

Let's look for civic problems that can be improved by results-oriented investments in inexpensive commodity hardware and open-source software. Let's fund digital platforms designed to support tech workers in rural markets and create networks between them. Let's create community-run digital services that provide meaningful value to residents while improving resiliency, technical self-sufficiency and economic diversity.

The skills to accomplish these tasks are not unique to Silicon Valley insiders, and the infrastructure is available to anyone with a fast internet connection. This is an opportunity to align with governments at all levels, building relationships that empower them with new ways to make meaningful, transformative contributions to the public good. And let's build models to deliver these public goods that start with a deep understanding of the needs of the users: citizens, neighbours and you.



# How It Works

## The Platform:

*The platform is the core software that OpenLocal services run on.*

The platform is a suite of back-end services that provide core functionality to all open local applications, plus a number of customizable user-facing applications and mobile apps. The platform architecture is designed so each city or town operating an open local service runs on a suite of identical (but discreet) cloud services, ensuring that all data, APIs, user accounts, etc. operate in separate and secure environments.

## Services:

*Currently we have defined two OpenLocal services, a local delivery service called OpenLocal Delivery and a rideshare service called OpenTransit.*

These initial ‘matchmaker’ services connect local people who want to access a service with local people who want to provide the service. In keeping with OpenLocal’s social responsibility mandate, ride fares and delivery costs are based on paying a good living wage and basic benefits to all service providers. The model of decentralized, locally-run operations ensures that revenues, subsidies, jobs and benefits stay local, helping communities thrive.

## The Co-op:

*Wherever services are provided, they are delivered through a local co-op.*

As services scale to multiple municipalities, local operational activities will be managed by local co-operatives. These co-ops will be organized according to cooperative principles of fiscal transparency, democratic representation and equitable economic participation to ensure that all members are incented to act in the collective

interests of the co-op. Properly structured, these autonomous, self-managed co-ops provide an efficient and effective model to deliver OpenLocal services to dozens of locations without the bureaucracy of centralized oversight.

## The Structure:

*The structure of OpenLocal is explicitly designed to take advantage of network effects.*

From OpenLocal’s perspective, having five co-ops on the platform should be no different from having fifty, or five hundred. From a thousand transactions per day to a million, the cloud infrastructure is infinitely scalable. By abstracting the core technology platform from the logistics of service delivery, OpenLocal can focus on key activities:

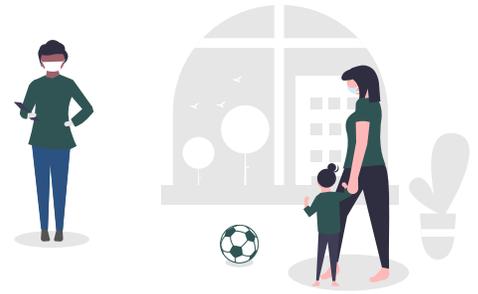
- Building and maintaining the critical software and applications that all co-ops rely on
- Defining and re-defining the co-op ‘playbook’ that provides guidance, best practices and training
- Providing & coordinating training (with partners like Code 4 Canada and CSI) to get new co-ops up and running
- Ensuring all co-ops are following privacy guidelines and compliance with the platform license terms
- Advocating on behalf of member co-ops and coordinating with government on digital service delivery initiatives

Meanwhile the day-to-day logistics, community relationships and unique aspects of each municipality are run by local co-op members who know the “lay of the land” and have the autonomy to adapt to local conditions.

# The Benefits of OpenLocal

## LOCAL SERVICES

OpenLocal's [platform cooperatives](#) help turn local needs into local jobs, enabling community-minded individuals to build sustainable, self-managed businesses. From daycare and in-home elder care, to ridesharing and local delivery, [OpenLocal provides the technology and business model frameworks](#) to create and manage sustainable self-run local services.



## IMPROVING MOBILITY

Access to efficient transportation is a key 'quality of life' factor for people across the economic spectrum, impacting access to job opportunities and essential services. Particularly in rural areas, fixed-route, fixed-schedule public transportation is often an option of last resort. [Our OpenTransit platform was developed to work with existing bus and rail transit systems](#), significantly improving service and efficiency by providing integrated first and last-mile service. By bringing the urban convenience of ridesharing to rural public transit, we increase the mobility of rural citizens, enable individually-targeted transit subsidies and provide a viable alternative to private vehicle ownership.



## RURAL JOBS

In addition to supporting the creation of full and part-time jobs for service providers, OpenLocal provides rural regions and smaller municipalities with a foundation for well-paid, local technology jobs which [aligns with rural migration trends](#). Each participating municipality will support the operation of a local 'node' of the OpenTransit network, responsible for managing the policies, billing and operation of the local services. The common software platform enables digital services developed for one community to be shared by all.



## REDUCING EMISSIONS

OpenLocal's transit and delivery platforms provide direct mechanisms to deploy - and track the impacts of - vehicle electrification subsidies. Our platform software manages trip data, vehicle type and driver payments, creating an opportunity to incentivize drivers and transit agencies to purchase zero-emissions vehicles. OpenLocal provides detailed historical data that can track the [direct impact of EV subsidies](#) on carbon emission reductions.

Weekly Statement:

April 25 - May 2, 2020

**\$2,405.75**

Total Fares:	\$ 762.50
City Subsidy:	\$ 1,698.25
ZEV Premium:	\$ 0.00
<b>Total Earnings:</b>	<b>\$2,405.75</b>

KM's Driven: 487 km

*With a Zero-Emission Vehicle you could have earned an additional **\$249.00** this week [learn more](#)*



Weekly Statement:

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City Subsidy:	\$ 1,698.25
<b>ZEV Premium:</b>	<b>\$ 249.00</b>
<b>Total Earnings:</b>	<b>\$ 2,644.75</b>

KM's Driven this week: 519 km

CO<sub>2</sub> emissions saved: 130Kg  
Total CO<sub>2</sub> saved: 2.76 Tonnes

**Total ZEV Premiums paid:**  
**\$6,459.00**

## DIGITAL INFRASTRUCTURE

OpenLocal's mission is to provide municipalities with a platform to develop locally-run services that ensure [revenues and subsidies stay within the community](#).

Typically community-run cooperatives struggle with a lack of technology and support frameworks. OpenLocal provides the technology, organizational expertise and community partnerships to deliver digital, civic infrastructure at scale. OpenTransit is our initial project, but our platform cooperative model is well suited to a range of local services.



## Who We Are

OpenLocal's founders are technologists, startup founders and academics that have built software businesses and understand the effective application of technology, but also strongly believe in the importance of government and the digital empowerment of cities and towns. We work with all levels of government on vision and strategy while designing, prototyping and launching software that improves cities, supports businesses and provides quality of life improvements for all citizens.

We are currently developing two interconnected platforms. OpenTransit is a turnkey ridesharing platform for municipalities interested in adding ridesharing to their public transportation services. OpenLocal Delivery is an open-source platform that provides communities with the software and tools to support local businesses with fast, local delivery.

[www.openlocal.ca](http://www.openlocal.ca)

**For more information, please contact:**

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