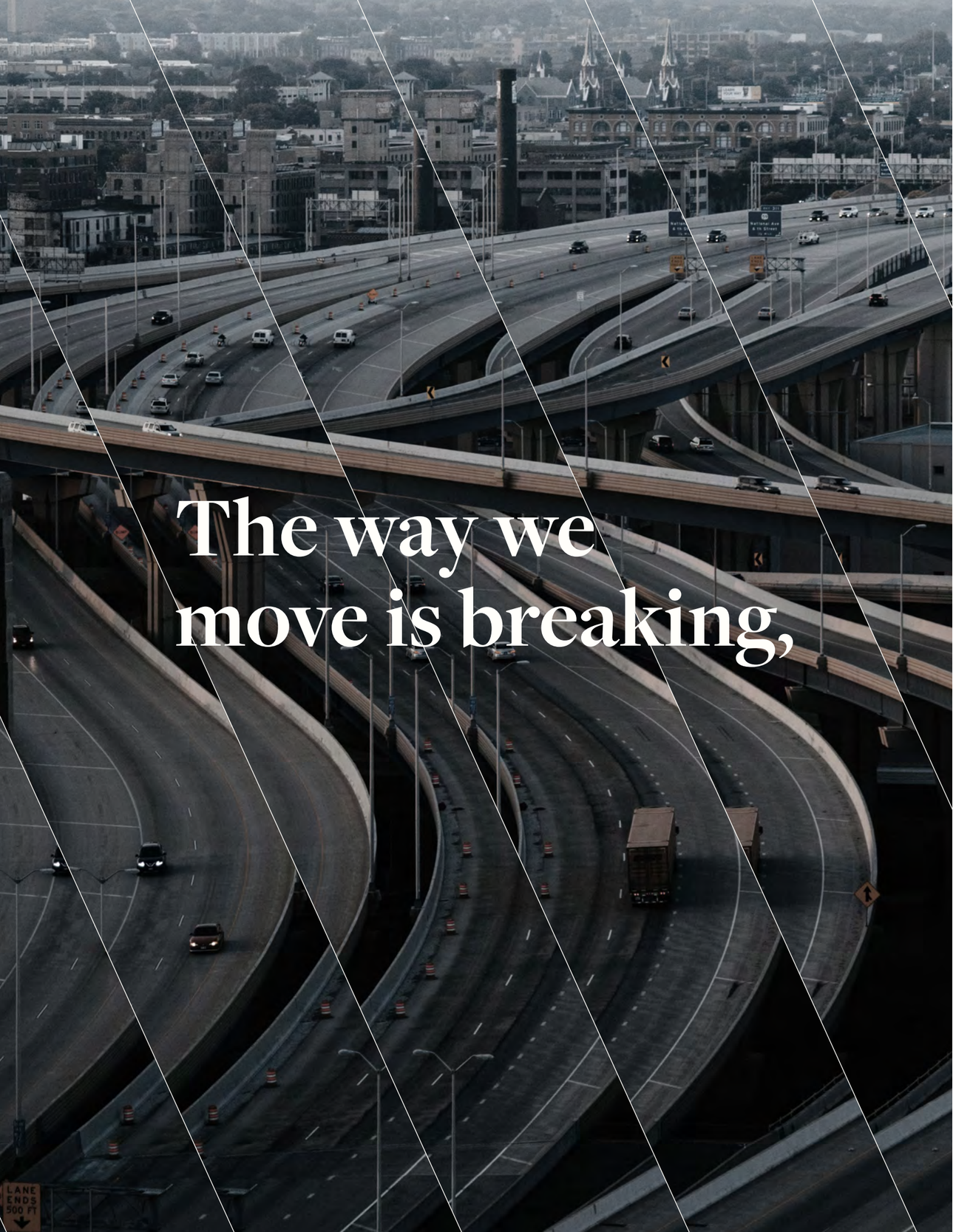
The Future Of Mobility



but we can fix it.

PHOTO BY TOM BARRETT
COVER PHOTO BY SAWYER BENGSTON

PHOTO BY MARK JEFFERSON PARAAN

Preface

MOBILITY SYSTEMS THE WORLD OVER ARE UNDERGOING RADICAL CHANGE. ADVANCES IN TECHNOLOGY HAVE RESULTED IN AN INFLUX OF NEW AND UNEXPECTED COMPETITORS ENTERING THE MARKETPLACE SUCH AS RIDESHARING, MICROTRANSIT, AND AUTONOMOUS VEHICLES, AND GROWTH AND PROFITABILITY ARE BECOMING HARDER TO SUSTAIN. CONSUMERS' EXPECTATIONS ARE ALSO CHANGING – NOW, MORE THAN EVER, THEY ARE FOCUSING LESS ON THE INDIVIDUAL FACETS OF THE TRANSIT ECOSYSTEM AND ARE INSTEAD MORE CONCERNED WITH THE ENTIRE EXPERIENCE SURROUNDING IT.

This demonstrates a shift from something that was previously simple to something that's more complex, involving multiple stakeholders, touchpoints, channels, and timeframes. Against such a backdrop, it can be difficult for public service and transit agencies to know where to begin looking for opportunities to harness change and position themselves at the heart of the new mobility ecosystem.

At Bridgeable, we believe strongly that employing service design methodology can allow organizations to capture value in a changing ecosystem and translate human understanding into real innovation opportunities. In the summer of 2017, we worked with MaRS Discovery District — one of the world's largest urban innovation hubs — to research and co-create solutions that solve the "first-mile, last-mile" problem for commuters, and ultimately work towards converting single-occupancy drivers to transit riders. This work is tied to MaRS's larger Urban Mobility Project, which aims to design, implement, and scale transportation solutions in the Greater Toronto Area over the next four years.

From this project, as well as our work with the Toronto Transit Commission (TTC), we have developed a deep, human-centered understanding of the issues currently faced by North American transit agencies and what is required to facilitate transformation. This magazine came about as a way for us to share that knowledge with you, the people best positioned to make a change.

In this publication, we'll give you insight into our top recommendations for creating an integrated and human-centered shared mobility ecosystem; we'll walk you through two potential futures for transit in the City of Toronto; and we'll learn how service design methodology can help to solve the "wicked problem" of shared mobility through design diplomacy. We'll also share with you our learnings from the people who interact with transit services every day, and we'll finish with a Q&A with experts in the fields of service design and integrated mobility to understand why it's important to take a systems-level view of the issue.

We hope you enjoy.

Published by Bridgeable

Contributors
Alex Dunne
Kaamil Ajmeri
Dr. Tim MacLeod
Zoë Worsnip
Danielle Sheahan
Kyle Schruder
Chris Ferguson

Special Thanks
Hillary Lorimer
Sampo Hietanen

Website
bridgeable.com

Twitter
@bridgeable

7 Ways To Win At Shared Mobility

STORY AND ART BY KAAMIL AJMERI

THIS SUMMER WE SPENT MORE THAN 70 HOURS IN THE FIELD WITH OVER 80 COMMUTERS FROM THE GREATER TORONTO AREA TO LEARN WHAT THEY CARE ABOUT MOST WHEN COMMUTING. FROM THIS, WE IDENTIFIED SEVEN WAYS TO WIN AT SHARED MOBILITY – OUR TOP RECOMMENDATIONS FOR A SURE-FIRE WAY TO CREATE A SHARED MOBILITY ECOSYSTEM THAT'S INTEGRATED AND HUMAN-CENTERED.

PHOTO BY DERICK ANIES

1 Give choice over information

HUMAN INSIGHT:

When faced with important or difficult transit decisions, especially ones that are time-sensitive, users don't want a bunch of information that they have to process. **They want a list of options and the key information they need to be able to compare them.**

IMPLICATIONS FOR SHARED MOBILITY:

Letting users know they are approaching a delay or are running behind schedule isn't enough. Users need to see what options they have to reroute, and the time and cost implications of each option.

2 Use planning tools as discovery engines

HUMAN INSIGHT:

Users are often committed to their chosen method of transportation. They rarely consider alternatives and are often unaware of the full array of mobility options available. Users' mindset about mobility is usually "if it ain't broke, don't fix it", so **when new mobility options become available, users aren't looking for them.**

IMPLICATIONS FOR SHARED MOBILITY:

Trip planning tools have the opportunity to become discovery engines for new mobility services. When users see their preferred planning tool refer to a service they are unfamiliar with, they are more open to trying it.

Multimodal planning tools also have the potential to present familiar mobility options in new contexts, making them more viable. For example, while commuting all the way from home to work on a bike may not be possible for many commuters, biking to the nearest transit hub might be an attractive option that users haven't considered before.

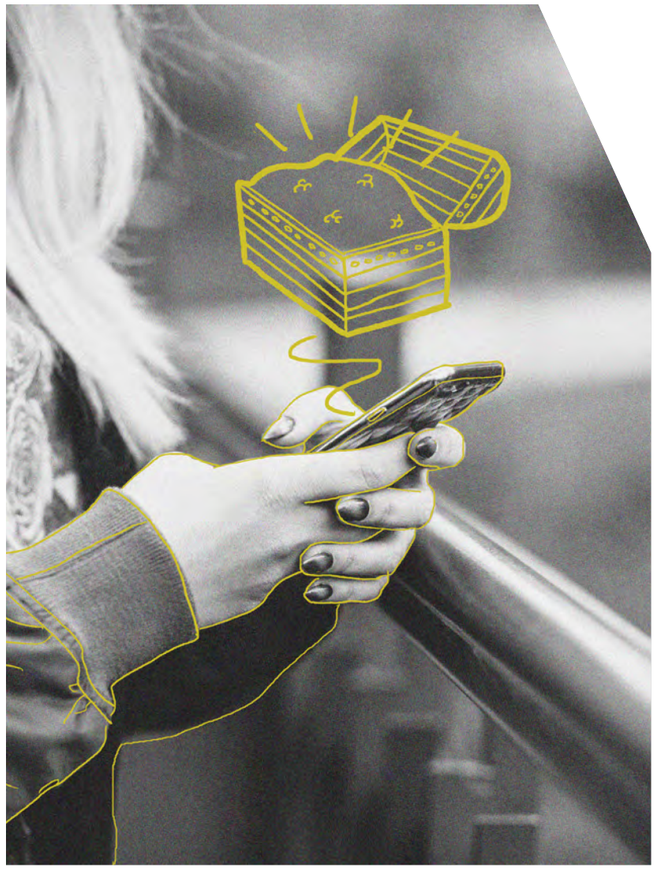


PHOTO BY FREESTOCKS

PHOTO BY JAROMÍR KAVAN

3 Fight the sunk-cost fallacy

HUMAN INSIGHT:

Commuters who own cars tend to consider the costs associated with driving as essential and unavoidable. As such, they consider driving "free mobility" because it is always at their disposal, whereas shared mobility has an associated cost per ride.

IMPLICATIONS FOR SHARED MOBILITY:

Because **drivers have difficulty seeing the true cost of driving**, shared mobility services should allow them to compare the cost of the service against the true cost of driving the same distance, accounting for gas, insurance, wear, and maintenance.

Services should also highlight the non-monetary costs of driving, including stress, traffic, and limited me-time to enhance their perceived value.

PHOTO BY JESHOOTS

Build trust with information

HUMAN INSIGHT:

Commuters who drive feel a sense of direct control from having their hands on the wheel and being able to choose how to navigate their route. **Users feel like they are losing this direct control when they take shared mobility**, so they have difficulty trusting that the service will meet their needs.

IMPLICATIONS FOR SHARED MOBILITY:

Users must be given the same level of information and transparency in shared mobility as they have when driving. This means that they need a clear, real-time picture of their route, the duration, the cost, and their expected arrival time, and this information needs to be accurate to build trust.

They also need to know what contingency plans are in place in case of delays and expect to be reimbursed if they are late as a result of a service failure.

Maximize “me-time”

HUMAN INSIGHT:

Users experience their commute as a buffer between their home-life and work-life, and this buffer serves as an opportunity for them to decompress and prepare for the next part of their day. Any delays or difficulties in the commute act as interruptions to this “me-time”, turning what was an opportunity to relax and reflect into a stressful and draining experience.

IMPLICATIONS FOR SHARED MOBILITY:

Users want to maximize their experience of “me-time”, so any shared mobility service that makes it easier to navigate unexpected delays and interruptions is extremely valuable.

In the case of planning tools, this means providing users with alternative route plans when they experience delays.

For mobility services, this means building in backups to the service in the event that things go wrong, as well as pointing users to alternatives when internal backups aren’t an option.

PHOTO BY VICTORIANO IZQUIERDO

Remember, trips are a single experience

HUMAN INSIGHT:

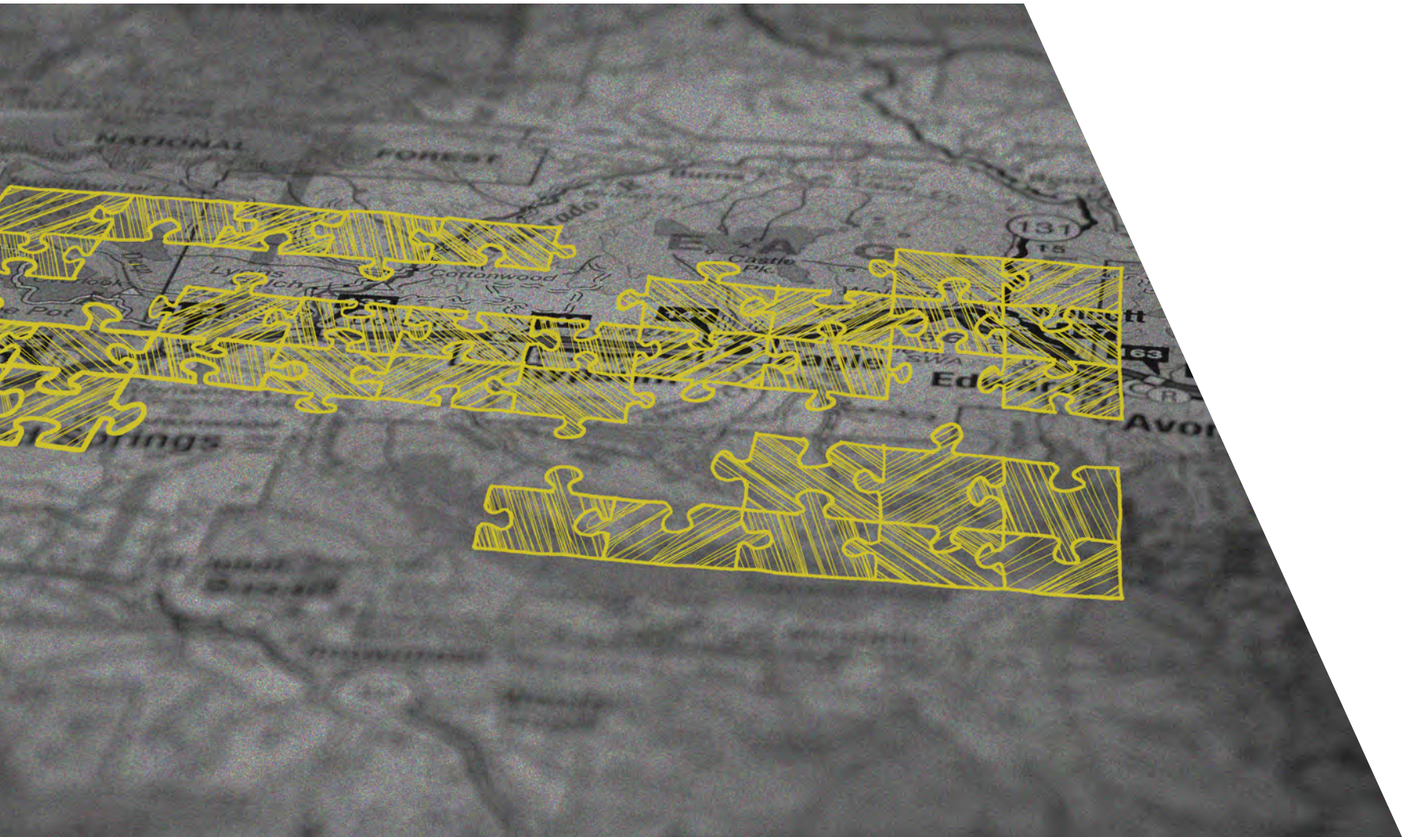
Users who have multimodal journeys think about their trips as single experiences, not the sum of smaller experiences with individual mobility services. When users experience delays or frustrations at any point in their trip, **it reflects poorly on their entire experience and every mobility service they use.**

IMPLICATIONS FOR SHARED MOBILITY:

Users expect local/municipal services to align their schedules to match those of higher-order transit, so that users traveling regionally can smoothly transition from local to regional transit without an inordinate wait time.

Mobility providers at all levels need to collaborate with one another to ensure they are aligned and providing a smooth experience to users.

PHOTO BY STEPHEN MONROE



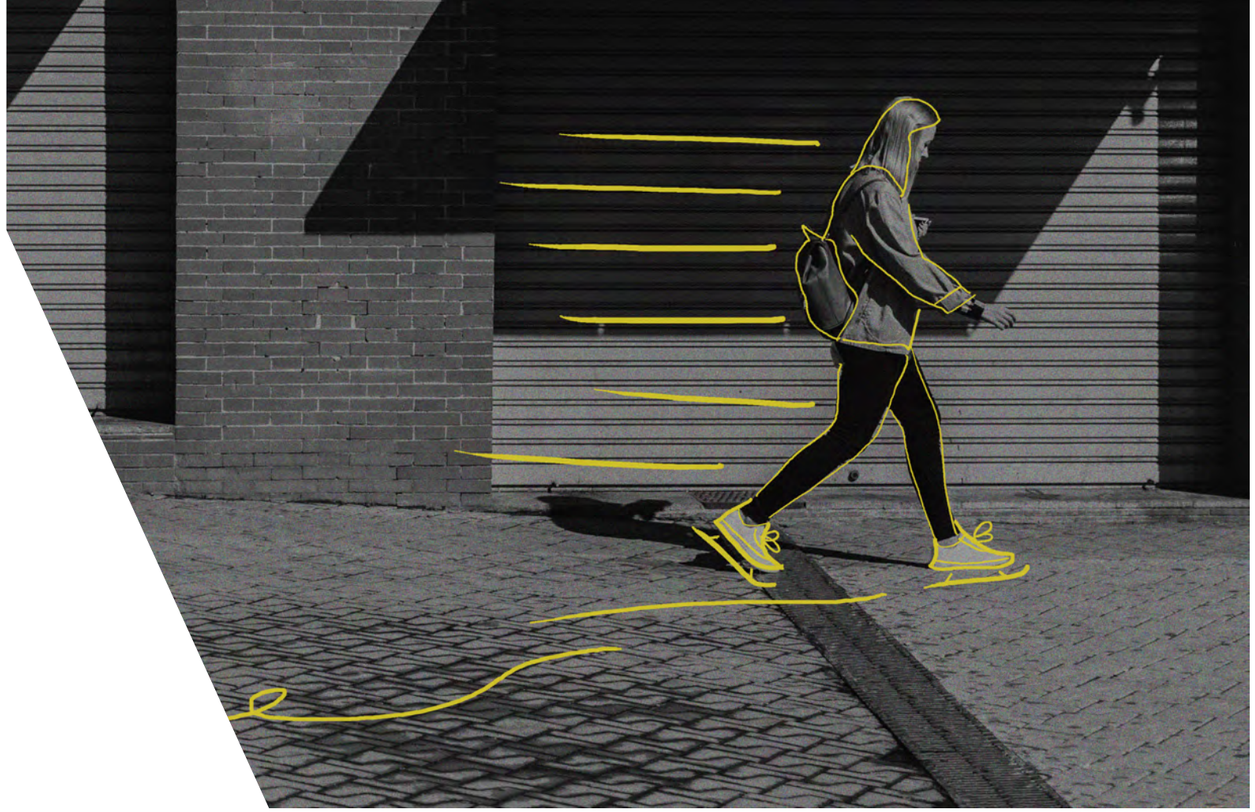


PHOTO BY JAVIER GARCIA

Enable frictionless planning

HUMAN INSIGHT:

Users who have multimodal journeys have to interface with multiple mobility providers to source information about routes and schedules, book trips, and pay for them. Planning complex trips becomes very difficult, because users have to manage the connections between services.

IMPLICATIONS FOR SHARED MOBILITY:

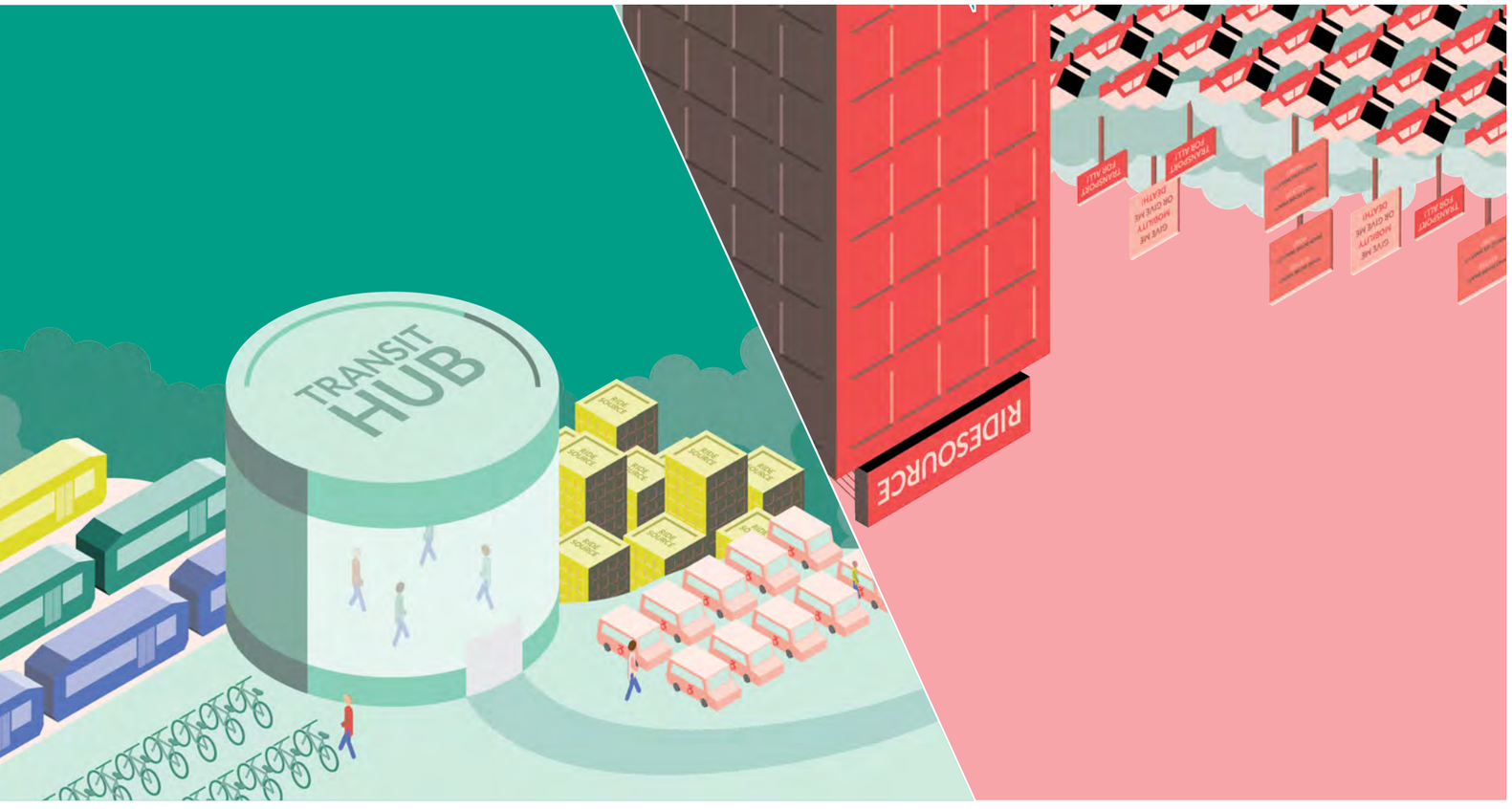
Shared mobility planning tools need to be able to **integrate numerous mobility providers and to allow trip planning** that incorporates as many or as few of these providers as users want.

The tool then has to manage how users will connect from one provider to the next. It should allow users to book and pay for external mobility services directly from the planning tool so that the experience of planning a trip is really a one-step, one-channel process.

Mind The Gap

THE POLARIZED FUTURE OF SHARED MOBILITY

STORY BY ZOË WORSNIP
ILLUSTRATION BY KAAMIL AJMERI



HOW PEOPLE MOVE AROUND CITIES IS CHANGING. THE EMERGENCE OF SHARED MOBILITY AND OTHER FORMS OF TECHNOLOGY-ENABLED MOBILITY MEANS THAT CONSUMERS NOW HAVE ACCESS TO MORE TRANSPORTATION OPTIONS THAN EVER BEFORE. MANY OF THESE NEW MOBILITY OPTIONS PROVIDE CONSUMERS WITH MORE CONVENIENT ALTERNATIVES TO TRADITIONAL SERVICES AND CAN FILL GAPS IN EXISTING TRANSIT SERVICES. SHARED MOBILITY HAS THE POTENTIAL TO MAKE PUBLIC TRANSIT MORE CONVENIENT, RELIABLE, AND ACCESSIBLE TO TRANSIT RIDERS.

However, alongside these advantages lies the potential for major disruption to the existing transit system, impacting everything from jobs to policies. This begs the question, is there a way for disruptive businesses to support higher-order transit rather than compete with it?

Currently, the critical issue threatening shared mobility is fragmentation, with an essential need for coordination to bridge the needs and preferences of users into existing transit infrastructure. With this in mind, governments and policymakers around the world must adopt a flexible and collaborative mindset when it comes to shared mobility in order to effectively respond to the challenges that will undoubtedly arise.

The Mowat Centre, an independent public policy think tank based out of the University of Toronto, explored two possible scenarios for the future of mobility in the Greater Toronto and Hamilton Area (GTHA) in a 2016 report – one that outlines the threat of continued fragmentation by presenting a model of privatized monopoly, and another future of public coordination.

We have developed the following fictional case study outlining two futures for Toronto in 2025 where disruptive technologies have put mobility at a sharp crossroads, with publicly accessible, multimodal transit diametrically opposed to private unimodal transportation. The objective of this case study is to extrapolate current trends into potential future realities to understand the real impact of our current structures.

Worst Case

IN A WORLD WHERE PRIVATE COMPETITION TAKES THE CROWN, THE LACK OF IMPROVEMENTS AND EXPANSIONS NECESSARY TO MAKE THE PUBLIC SYSTEM COHESIVE RESULTS IN A MASSIVE FLIGHT TO PRIVATE ALTERNATIVES.

Peter sat back on his morning ride and sipped his coffee. Like many other urbanites preoccupied with getting across the city on a sunny Monday morning at 8:30, he had given up on hoping for less crowded streetcars, opting instead for a more reliable private ridesourcing company.

Granted, it was a bit of a jump in price from public transit to a private service, but getting to work reliably in a fraction of the time seemed priceless. Plus, with the autonomous fleet in action, the prices were sure to go down, he thought. He would share his ride with fellow business people, politely nodding as each entered and exited the vehicle. It had become his oasis, a place to collect himself.

Many people shared Peter's view and it was a big blow to public transit systems within the city when ridership decreased. Infrastructure projects were left unfinished or unkempt, service deteriorated, and legacy payment methods endured well beyond their expiry date. Service was at an all-time low, with many 10 minute networks rolling back to 30 minute increments due to large budget deficits. A significant portion of the population whose low income prevented the use of private mobility services suffered from the service disruptions. Peter had seen the accessible transport controversy in the papers, but hadn't felt its impacts first-hand.

The rest of the city dwellers had resigned themselves to using private services, valuing the flexibility all the while overlooking the increase in traffic on the roads as ridesourcing became the default. A monopoly was around the corner, and although in seemed comfortable for some, everyone would suffer.

Best Case

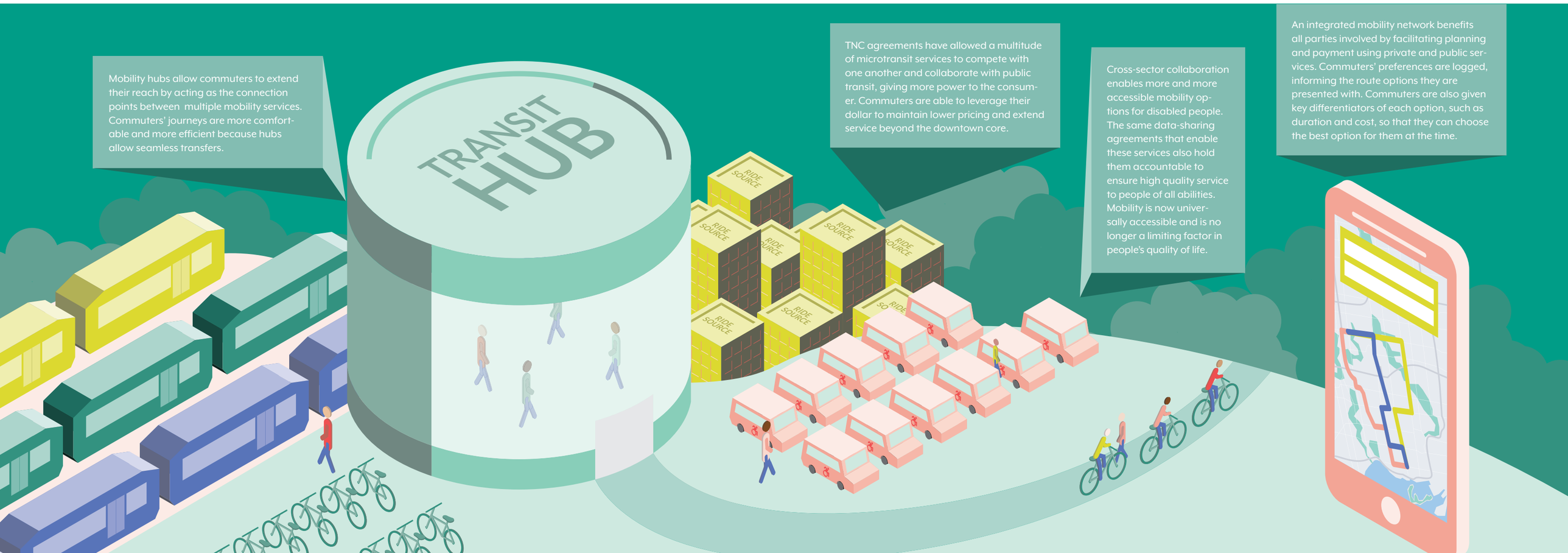
IN A WORLD WHERE PUBLIC COLLABORATION WINS OUT, A ROBUST SYSTEM OF SHARED MOBILITY THAT MIXES PUBLIC AND PRIVATE PROVIDERS ALLOWS ALL PEOPLE TO ACCESS RELIABLE, AFFORDABLE MOBILITY SOLUTIONS.

Terry bounded up the stairs of 100 Bay Street. She worked in the gig economy, and found that the flexibility of her schedule worked around her many passions. Her commute changed every few days, but the integrated mobility network made planning and paying for trips hassle-free. All she had to do was input her new destination and zoom across town on whatever route was the fastest. She remembers what a struggle shared mobility used to be and is relieved she doesn't have to go through that anymore.

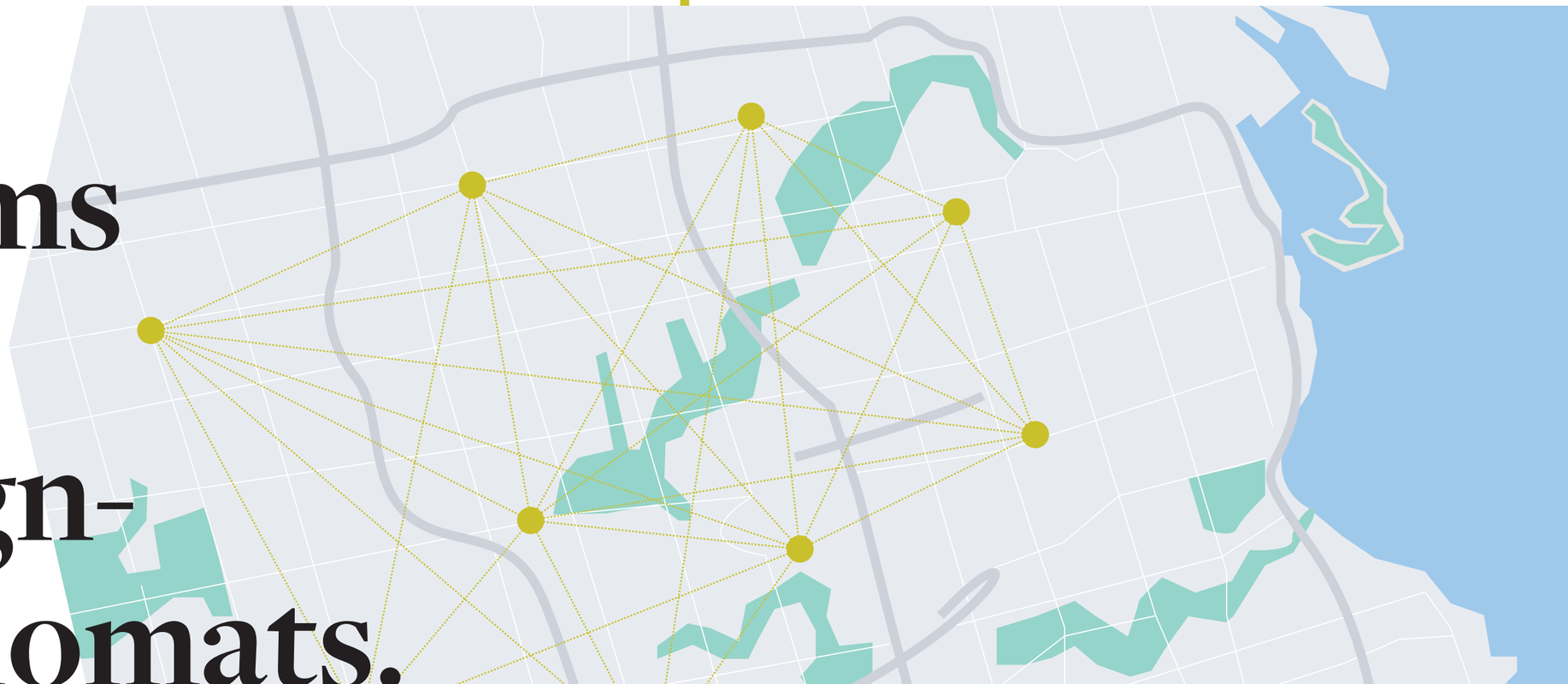
Terry remembers the days when getting to work on a Sunday meant taking one bus to a city stop, and then walking 15 minutes to another bus stop just to wait 20 minutes more for the next bus. The trip had her spending 35 minutes outside in the dead of winter. Now she could take an express shuttle to the mobility hub in her city, and choose from one of the many options available.

A few years back, the city of Toronto voted to support Transportation Network Companies (TNCs), encouraging competition between various businesses and empowering commuters in the process by implementing regulatory frameworks. As a result, users had a multitude of options to pick from at any given time of day. Data sharing agreements between the city and TNCs made it easy for service providers to plan the most efficient routes, while mobility hubs aggregated transit solutions for people to explore.

As the primary caregiver to her aging mother, Terry used to spend so much time driving her mother to and from appointments that she had to turn down shifts at work. Now with a wider array of accessible transit options to choose from, her mother could meet her friends for coffee or go shopping across town whenever she liked. Her mother was happier living a more active, independent life, and Terry no longer had to choose between caring for her mother and earning for her family.



Wicked Problems Need Design-Diplomats.



STORY BY ALEX DUNNE, DR. TIM MACLEOD & CHRIS FERGUSON

The wicked problem of shared mobility

Over the past decade, the emergence of technology-enabled mobility solutions has ushered in an era of change and uncertainty for public transit systems in North America. Ten years ago, public transit providers had a virtual monopoly on pay-per-use mobility services in North American cities. Increasingly, public transit agencies find themselves threatened by the prospect of competition with services like Uber, Lyft, Car2go, and soon, autonomous vehicles.

As researchers at the Mowat Centre at the University of Toronto have suggested, "simply maintaining the status quo [of public transit] poses a significant risk" for North American cities, including increased congestion, fragmentation, and transit systems that don't meet the needs of citizens equitably. Changes in the new mobility ecosystem fit the textbook definition of a "wicked problem" outlined by the design theorists Horst Rittel and Melvin Weber.

Often, analysis of the changing mobility ecosystem focuses on how policymakers and transit agencies should integrate or regulate innovative new solutions like ride-sharing, micro-transit, and autonomous vehicles. However, the framing of new mobility as a "wicked problem" for transit agencies broadens the scope beyond technology and highlights the importance of sociopolitical factors including discrepancies in organizational problem-framing, barriers to collaboration, and competing political agendas.

Effective shared mobility policymaking

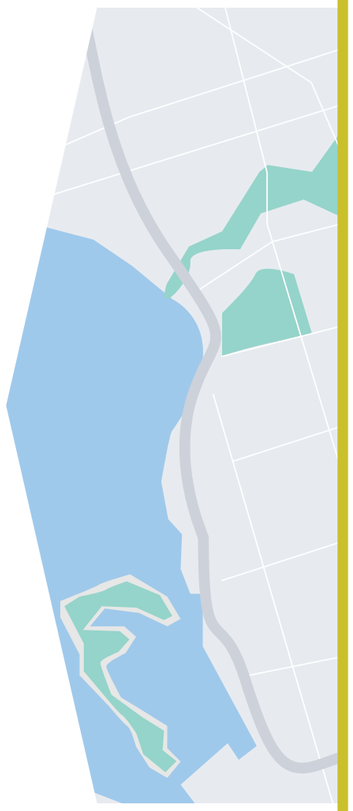
For public transit agencies to harness the promise of shared mobility, they need to adopt new strategies and frameworks to help drive consensus on problem-framing and remove the barriers to collaboration that stand in the way of effective solutioning. To this end, the authors of the Mowat Centre's *Sharing the Road* report suggest four key elements of effective shared mobility policymaking:

Proactive
Early action by policymakers is necessary to get ahead of and overcome the conflicts that the rise of shared mobility is likely to create. It would also be valuable for policymakers to incentivize certain behaviors among both users and providers while these emerging technologies are still new and patterns of use are still malleable.

Innovative
Embracing new technologies provides policymakers with opportunities to leverage the innovations associated with shared mobility – such as new transportation formats and sources of data – to improve the region's transportation system.

Flexible
Flexible frameworks provide an opportunity to act quickly in light of emerging and fast-changing models within the shared mobility landscape and to avoid unnecessarily inhibiting beneficial innovations.

Collaborative
Collaboration across governments will be critical to crafting a cohesive regulatory response to shared mobility. Coordination between governments and shared mobility providers will also be important to effectively incorporating these new models into the transportation system, including through public-private partnerships.

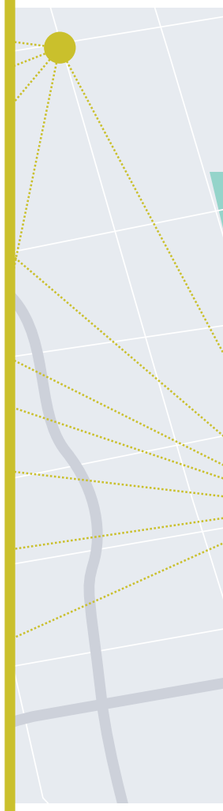


Service design and diplomacy

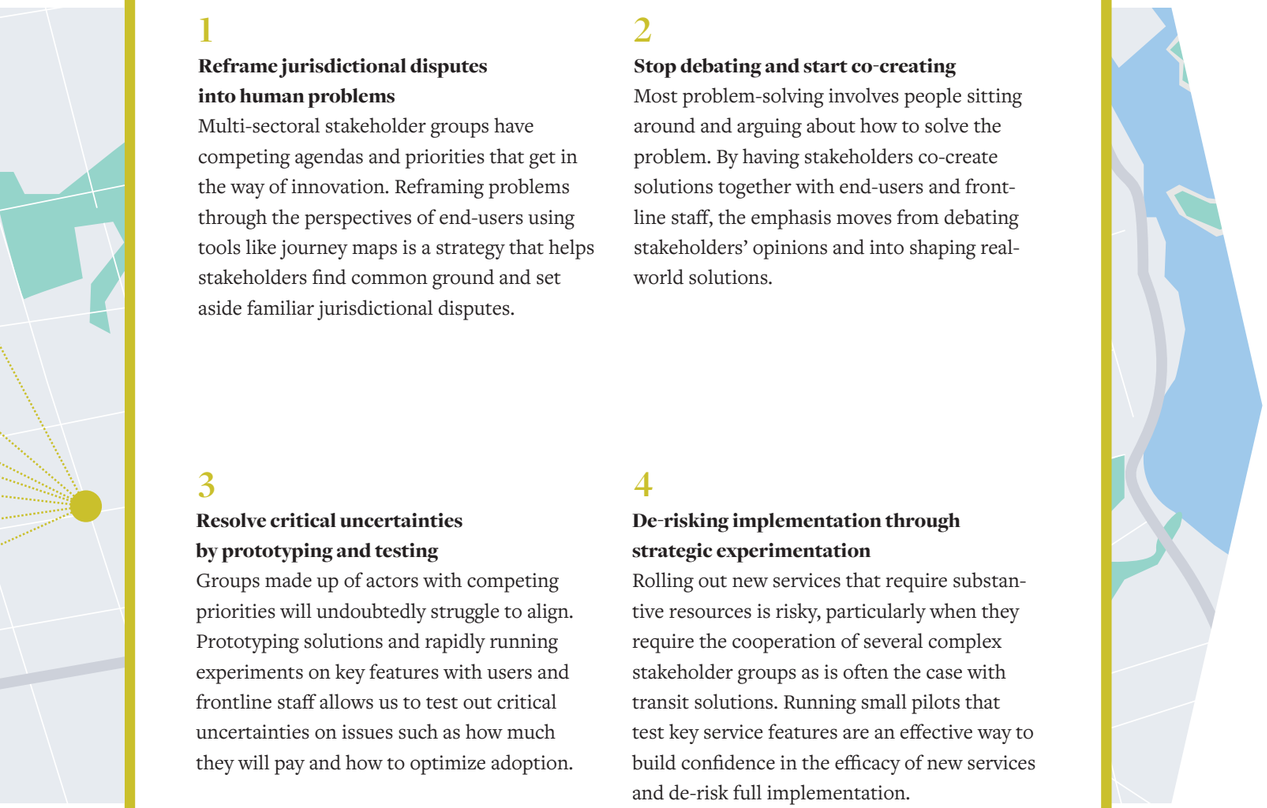
The policy elements suggested by the authors of the *Sharing the Road* report are integral to ensuring that public transit remains the backbone of North American cities. The challenge of implementing these elements is that they require substantive change in the way that public sector organizations behave and an appetite for risk in a sector that faces tremendous public scrutiny. When it comes to solving the "wicked problem" of new mobility, where multiple stakeholders with competing agendas, priorities, and values exist, we need a new set of tools and methods, and diplomats to wield them.

Service design is often framed as a set of tools and methods that are leveraged to understand and orchestrate all of the factors needed to deliver win-win interactions between a service, its provider, and users. However, we might also think of service designers as diplomats who deploy their tools and methods to help negotiate and steer stakeholders with competing agendas.

As diplomats, service designers focus on organizational behavior – identifying organizational silos, aligning competing organizational agendas, and using prototyping and iteration to build organizational momentum. In this broader context, design diplomats use the design process as a Trojan horse to orchestrate solutions that change entrenched organizational behavior, clarify organizational strategies, and build new capabilities.



4 Ways that design creates diplomacy



1

Reframe jurisdictional disputes into human problems

Multi-sectoral stakeholder groups have competing agendas and priorities that get in the way of innovation. Reframing problems through the perspectives of end-users using tools like journey maps is a strategy that helps stakeholders find common ground and set aside familiar jurisdictional disputes.

2

Stop debating and start co-creating

Most problem-solving involves people sitting around and arguing about how to solve the problem. By having stakeholders co-create solutions together with end-users and front-line staff, the emphasis moves from debating stakeholders' opinions and into shaping real-world solutions.

3

Resolve critical uncertainties by prototyping and testing

Groups made up of actors with competing priorities will undoubtedly struggle to align. Prototyping solutions and rapidly running experiments on key features with users and frontline staff allows us to test out critical uncertainties on issues such as how much they will pay and how to optimize adoption.

4

De-risking implementation through strategic experimentation

Rolling out new services that require substantive resources is risky, particularly when they require the cooperation of several complex stakeholder groups as is often the case with transit solutions. Running small pilots that test key service features are an effective way to build confidence in the efficacy of new services and de-risk full implementation.

Making transit work in the 21st century is undoubtedly a wicked challenge, but not an impossible one. The complex sociopolitical factors and competing political agendas of transit agencies and policymakers requires all players in the transit ecosystem to embrace new ways of working. They must become more collaborative, more open to experimentation, and more willing to try and to fail. Service design is perfectly positioned to help facilitate this change. By deploying design diplomacy, we can more effectively negotiate and align stakeholders towards designing solutions that meet the needs of all citizens.

What We Learned

FROM PEOPLE EXPERIENCING RAPID CHANGE IN MOBILITY

STORY BY DR. TIM MACLEOD

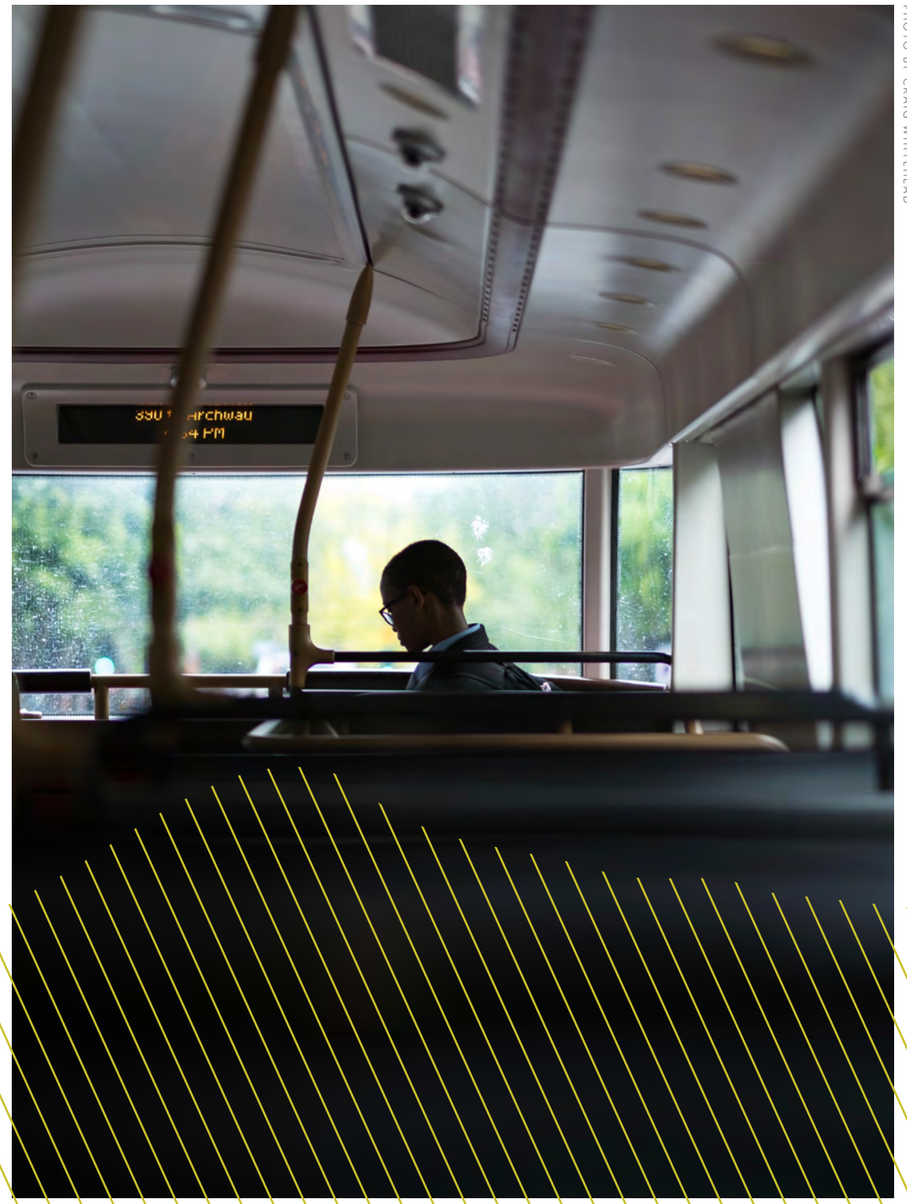


PHOTO BY CRAIG WHITEHEAD

PHOTO BY ADELIN PREDA

For transit agencies and planners looking to become drivers of change, they must first foster a deeper understanding of commuters' motivations, decisions, and pain points.

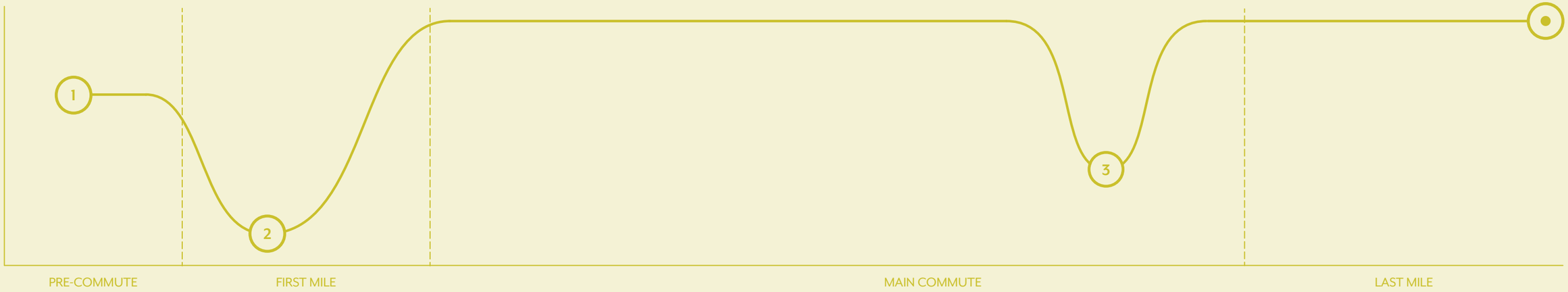
The mobility ecosystem is full of uncertainty, particularly for planners and transit agencies who are trying to protect their core services and ridership in a rapidly-changing marketplace. Under these circumstances, it can be challenging to know where to begin looking for opportunities to direct change rather than respond to it.

Significant analysis has been performed on the implications of new mobility for transit agencies in North America. This analysis has been high-quality and documents many of the tensions of rapid change to services that are a vital public good. However, one perspective that's often lacking is that of transit riders themselves.

Understanding the needs and desires of transit users is essential for the public sector because the changing mobility ecosystem is fundamentally altering the expectations and behavior of transit riders. Making sense of transit riders' motivations, and pain points will help transit agencies direct behavior as opposed to responding to behavioral change. Directing behavior is key to a future in which transit is the backbone of North American cities.

Last summer, we spent time in the field observing and interacting with over 80 suburban commuters in the Greater Toronto Area (GTA). We drank coffee with commuters, ran with them to catch their trains, and brought them into our studio to co-design solutions. Through careful analysis, we observed three behaviors that are vital for understanding how to direct the behavior of commuters.

The Suburban Commuter Experience



1 The sunk cost fallacy

During our ethnographic research at suburban rail stations, we observed a group of commuters who arrive at the train station very early in the morning. One woman told us that she arrives at the train station at 6:15 am every day. She waits in her car for 45 minutes playing Candy Crush before heading to the platform to embark on her train. People told us they arrive early in order to secure a coveted free parking spot. They don't like getting up early and organizing their day around parking but feel they have no other choice. While commuters have the option to pay $90.00 a month for reserved parking, they don't perceive this as a good value.

Suburban commuters are anchored to their cars to get to and from rail stations. This anchoring will be a major barrier to adopting shared mobility services. Part of the adoption challenge will be what behavioral economists call the "sunk cost fallacy" in which people tend to overvalue the things they own. Commuters talk about their cars as "free mobility" and don't consider the monetary cost of maintenance, fuel, and insurance. Alternatives to driving are pay-per-use; therefore, commuters tend to overvalue their cars and want to avoid paying additional money for mobility. We learned that even though most commuters don't pay for parking, they know what it costs and will weigh the costs of mobility options against this price. New services will need to use discounted trials (an evidence-based counter to the sunk cost fallacy) and create price models against existing consumer financial anchor points (monthly parking) to drive behavior change.

2 Parking lot runners

If you go to any suburban rail station in the GTA during evening rush hour, you will observe grown men and women sprinting from the train to their cars, their power suits paired with running shoes they have packed specifically for this purpose.

When you ask commuters about transit parking lots they will tell you two things: Firstly, that parking at transit stations is the worst part of their commute, if not their day; secondly, people will tell you that building more parking spaces is the obvious solution to their difficulty with parking lots. These two insights are contradictory, if people hate parking why do they desire more of it? These seemingly counterintuitive insights gesture towards the deep interdependence of cars and suburbs to maintain and enable social and economic life. While people may resent the experience of parking lots, it's difficult for them to imagine solutions that don't involve driving because they are anchored to their cars.

The commuters we observed are desperate to avoid parking – this desire to avoid can be productively harnessed to change behavior. Commuters will be more likely to change their behavior and adopt alternatives if the value proposition of alternatives is messaged around skipping the hassle of parking.

3 "Me-time"

If you've taken public transit in the last year, you've observed "me-time". You walk onto a subway car and see people reading newspapers, listening to podcasts or music on their headphones, filling in a Sudoku, or taking in the scenery out the window. When we accompanied commuters during their daily trips they repeatedly talked about "me-time" as the best thing about their commutes.

For suburban commuters, the twice daily commute is an entrenched ritual that geographically and psychologically divides the space between work and home. In our contemporary social world, career is an important lens through which many people make sense of their selves, the world, and their place within it. What emerged from the theme of "me-time" is that commuters value the division between their professional identity where they are one self, and their home life where they are another self (mother, sister, son, roommate). Anthropologists and psychoanalysts talk about the concept of "liminality" as the space of ritual in which the self becomes disorganized before becoming reorganized. The experience of commuting might be thought of as an experience of micro-liminality in which people gather and ungather as they transition from one psychological and geographic space to the other.

The "me-time" phenomenon is important because its interruption is a source of pain. When people are trying to protect "me-time" to focus inwardly or complete specific tasks, interruptions that demand their attention (e.g. encountering a delay and having to find a new route to the office) are jarring because they get in the way of what people are trying to accomplish. Solutions that integrate existing mobility options, and help people make seamless decisions about their mobility will help commuters protect "me time".

Conclusion

New mobility services require significant behavior change to ensure success. For transit agencies and planners looking to become drivers of change, they must first foster a deeper understanding of commuters' motivations, decisions, and pain points. It is only through an empathetic understanding of their users' needs that transit services can successfully leverage the opportunities offered by the changing ecosystem and remain at the forefront of urban mobility.

Q + A

A Systems Approach to Shared Mobility

WITH CHRIS FERGUSON & SAMPO HIETANEN

URBAN MOBILITY IS SITTING AT A CROSSROADS. THE EMERGENCE OF RIDESHARING SERVICES AND AUTONOMOUS VEHICLES HAS CHANGED THE WAY THAT PEOPLE TRAVEL AROUND CITIES AND, AS A RESULT, AFFORDABLE AND ACCESSIBLE PUBLIC TRANSIT IS BEING THREATENED.

We wanted to know how service design and systems thinking can help transit agencies manage disruption and compete with private mobility while remaining accessible to the majority of riders, so we brought together two experts to discuss these challenges.

Chris Ferguson is a leading service and experience design strategist. As founder and CEO of Bridgeable, Chris leads a highly-skilled multi-disciplinary team delivering projects to corporate, NGO, and government clients. He teaches design in the Faculty of Business at the Rotman School of Management and the Law School at the University of Toronto and is the co-founder of Service Design Canada.

Sampo Hietanen is the founder of MaaS Global, which recently launched the Whim app and service in Helsinki, Finland. Whim allows users to access any kind of mobility (public transit, bike, etc.) for a monthly subscription fee and to connect these different forms of mobility to easily plan trips.

Traditional transit agencies struggle with adapability and risk-taking, making it difficult to keep up with the rapidly changing transit ecosystem in North America.

PHOTO BY ADELIN PREDA

Question 1

Over the summer we worked with several public sector agencies in Toronto, and one of the things we learned was that planners and transit agencies are having a really hard time making sense of the rapid change of mobility in the last decade. They are struggling to know where to begin looking for opportunities in a rapidly-changing ecosystem. Based on your experience, where's the best place for them to get started?

Ferguson

The challenge facing these organizations is that they're fundamentally structured to be successful at doing certain things. If you look at the 20th century model of what a transit system is meant to do, it's a very predictable, scalable model. The cultures, organizational design, and structures of these organizations, including what people are trained to do, are all fundamentally different from what they need to do in a 21st century context. The ability to scale and deliver consistently differs from the ability to reimagine, advance, and experiment – those cultures are actually at odds with one another. Where organizations need to start is by finding opportunities and safe spaces to experiment and try new things. They also need to engage with their end-users to find new forms of delivering value. The challenge for these organizations will be giving themselves permission to experiment, to imagine new methods of delivery that require different kinds of labor, infrastructure, and systems than those in place now. This means allowing themselves permission to fail.

Hietanen

There are two ways that shared mobility or MaaS (mobility as a service) might happen. Either transit is the backbone of it, or the car is the backbone of it. This is where transit agencies tend to go wrong – they think that they need to manage their users more. People tend to value user choice quite a lot. If you keep managing them to a higher degree they will push back and say, "Sorry, we're not going to do this". You're not going to solve the issue. How transit agencies could become the backbone of this future is not by thinking "It's our ecosystem and we should be controlling it", but by trying to be the most adaptable part within it. The more adaptable they are, and the more open they are to letting third-party service providers use them as the platform, or the go-to point for their mobility services, the better future they will have.

Focusing on the point of view of the user is the best way to create shared vision and overcome structural barriers. These templates are one of the ways we learned about the user's point of view this summer.

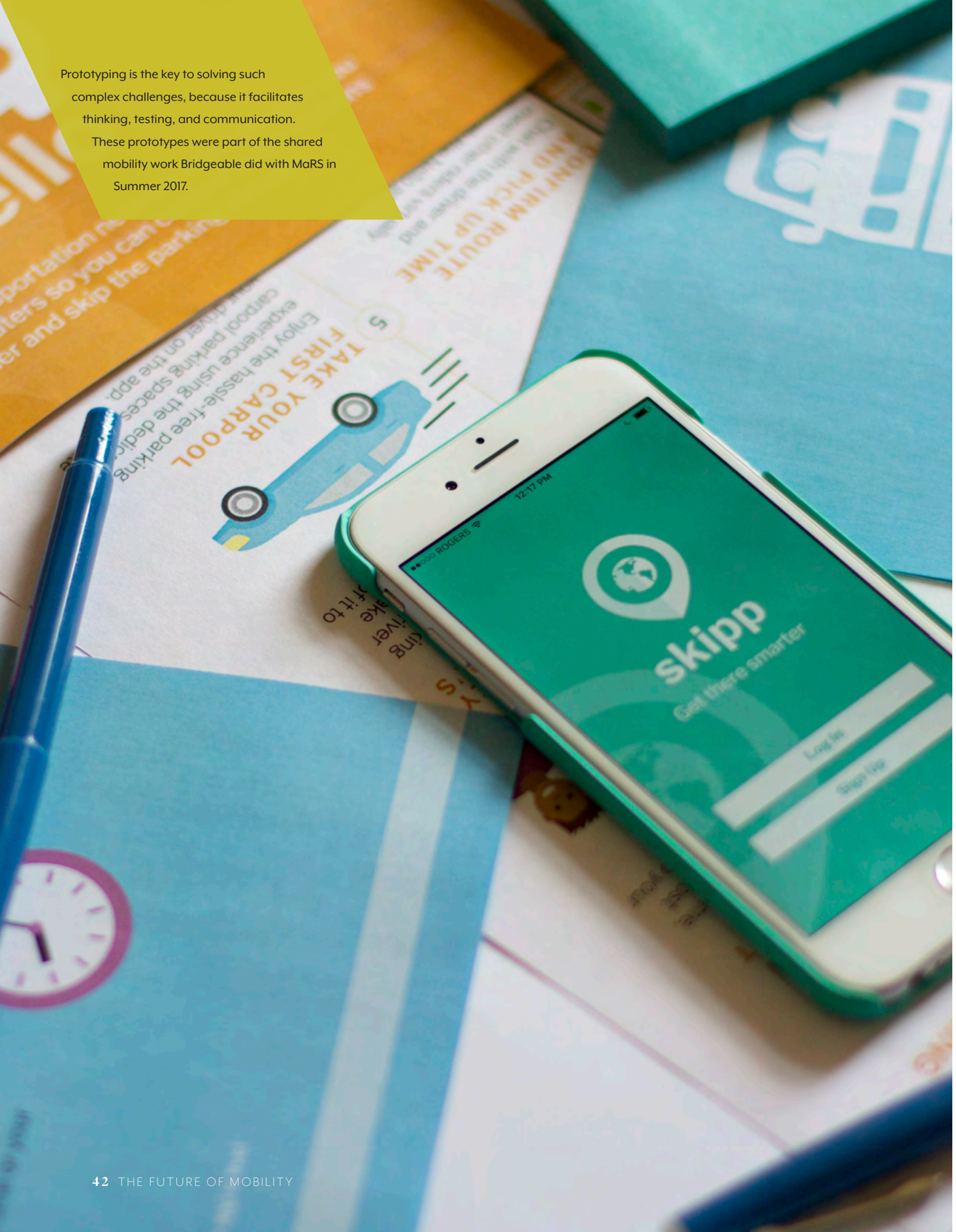
PHOTO BY ZOË WORSNIP

Question 2

It seems like one of the things that transit, and certainly federal and provincial government in Canada, struggles with is collaborating with other people and finding a shared vision to start moving in the same direction. In your experience, what's been helpful or useful in creating a shared vision amongst parties that are often at odds, and getting them to collaborate?

Ferguson
When you have a complicated variety of stakeholders, it's about understanding things from the point of view of the end-user. Understanding their journey, how that journey works now, and then envisioning that journey in the future. This is really compelling because once you start to anchor in the end-user of your service, all of a sudden the political differences between these different groups become a bit of a moot point. What is more important is understanding whether people are going to use the service; is it beneficial to them? It is very easy to lose sight of that in complex multi-stakeholder situations. Being rooted in end-users' needs and having a common understanding of that is one way to build shared vision.

Another way is to use prototyping, conceptualization, and experimentation to really understand how you bring a service to life. Seeing a service from end-to-end that involves all the different components is a very compelling way for people to visualize what their role is in it. If you can bring to life an end-to-end service, people can start to understand not only their part in it, but how the service as a whole is greater than the sum of its parts. Prototyping and using quick experiments to show how services can work is a really compelling way to share that with stakeholders.



Prototyping is the key to solving such complex challenges, because it facilitates thinking, testing, and communication. These prototypes were part of the shared mobility work Bridgeable did with MaRS in Summer 2017.

PHOTO BY DANIELLE SHEAHAN

Question 3

One of the things we noticed with transit agencies is that, because they're under so much public scrutiny, there's not really a culture of minimal viable products or prototyping to learn about problems due to the risk of failure. What do you think the value of prototyping and minimal viable product is, and how has that enabled success?

Hietanen

Prototyping is the only way to get this kind of thing off the ground, because you cannot plan ahead for everything. All we can do is try and fail, and try and fail. We do it all the time. We have design sprints, we engage with users from the beginning, we have focus groups, we test so many things, we look at the data, we ask them for interviews before they go. We have spent a lot of money on this, and we'll keep on investing in it, because it's the only way to get any understanding.

We've seen it with our app, Whim. Governments can say, "Okay, this app is just one of many and if we screw it up, well, there are others." In a way, this can be a bit of a risk evasion for them. Protoyping has gone quite well for us with all of the trials and errors.

Ferguson

It's critical to think about prototyping as a way of holding quick and cheap experiments where you can fail early to succeed sooner. If you think about investment in transit infrastructure, it's years in the making, it requires a lot of money and a lot of people are involved. By the time it's ready to implement, it's 18 months later and things have radically changed. The great thing about prototyping and taking more of a design approach is the ability to get something in front of people in a really quick way. This way of trying things can be powerful. For example, when we were working on a regional transit project, looking at how we might get more suburban commuters to connect to a new interregional train line, within a matter of weeks we were able try out some different services. We were rapidly able to mock them up and go out to these suburban communities and get them in front of people. By doing so, you can quickly understand things like, "Is this meeting the user's needs?", "Have we addressed the right kinds of needs?", "Does it fit into their mental model of how they're thinking about transit?" All of these things were possible by quick, rapid prototyping.

Another less articulated and less understood benefit of the prototyping approach is "making to think". It's very different to come up with a list of requirements or a list of bullets on a PowerPoint slide than it is to actually make something. Whether it be a microtransit service or a trip planning app, once you start putting pen to paper and you've figured out how these things would work, you start to think through the problem in a much more meaningful and tangible way. Many considerations and trade-offs that you wouldn't have thought of when it was a more conceptual conversation come to light. It's important for people to think about applying these things. Particularly in the context of a rapidly evolving ecosystem.

Focusing on the systems-level view and understanding the impact on citizens is key to fostering collaboration between the public and private sectors.

PHOTO BY RYAN TANG

Question 4

If you work in the public sector it's easy to see Uber and self-driving cars as a threat, but there actually is a lot of opportunity in an evolving system. How can transit organizations and policymakers find opportunity there?

Ferguson

In the city of Toronto, the TTC actually started as a private institution, or more accurately, a variety of private buses that worked in different neighborhoods. Interestingly, they have this legacy of bringing a bunch of disparate parts together in what, at the time, probably felt like a very disruptive system, and amalgamating them into a new and different value proposition for citizens. Similarly, imagining how these different mobility providers can fit in by taking a systems-level view, and understanding the broader ecosystem of how end-users get around is important. There are opportunities for new and different ways of combining services or of extending the value of these traditional services so that they work better.

There are simple things here in Toronto like putting bike shares at subway stations. We've also seen it around London where they're thinking about how to get people to the outskirts of the Tube network, particularly during off-hours when there isn't as much ability to do so. Again, it's about understanding what the systems-level view is, what are the different pieces required, and are there new and innovative ways of creating partnerships and relationships between different players to create a meaningful benefit to citizens.

Hietanen

The reason why Whim went over so well in Finland had nothing to do with transport, it had to do with the government understanding that when there's a disruption, there's also a reshuffle of businesses and jobs, and the organizations that are the early adapters are the ones that tend to win. You can wait it out. You might avoid making mistakes, but you'll miss out on the opportunities as well.

bridgeable

Bridgeable is an award-winning service design firm that employs a human-centered approach to understand and address complex challenges and the people affected. Working with clients across the world, we bridge the gap between what is known (data, analytics, insights, strategy) and what we might do (services, interactions, customer experiences).

With extensive experience in sectors ranging from healthcare, financial services, consumer, and public sector, our multi-disciplinary team of strategists, designers, and researchers help our clients solve complex problems by translating human understanding into real innovation opportunities for their customers.

To get in touch, contact:

Jim Muzyka
jim.muzyka@bridgeable.com

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