

FRAMEWORKS FOR MANAGING INNOVATIONS IN TRANSPORTATION POLICY

DANIEL J. EVANS SCHOOL OF PUBLIC POLICY AND GOVERNANCE



UNIVERSITY *of* WASHINGTON

INNOVATION FRAMEWORKS FOR SMART CITIES

A STUDY OF SIX CITIES TRANSFORMING TRANSPORTATION IN THE U.S.



MOBILITY
INNOVATION
CENTER

at the
UNIVERSITY *of* WASHINGTON

PROJECT SPONSORED BY:



IN PARTNERSHIP WITH:

Challenge Seattle
Daniel J. Evans School of Public Policy and Governance, University of Washington
Mobility Innovation Center, CoMotion at the University of Washington
Technology Information Leadership Team (TILT), Seattle Department of Transportation
C40 City Solutions Platform
CLEAN Cluster

ACKNOWLEDGEMENTS:

Kathleen Baireuther, Manager, Mobility Transformation, Rocky Mountain Institute (RMI)
Annick Beaudet, Assistant Director, Austin Department of Transportation, Austin
Samantha Bingham, Clean Transportation Program Director, Chicago Department of Transportation
Kris Carter, Co-Chair, Mayor's Office of New Mechanics, Boston
Michael Evans, Program Director, Mayor's Office of New Mechanics, Boston
Dr. Joseph Hoereth, Director, Institute for Policy and Civic Engagement, College of Urban and Public Affairs, University of Illinois – Chicago
Darton Ito, Director of Innovation, San Francisco Municipal Transportation Authority
Inbar Kishoni, Deputy Director of Public Engagement, New York City Department of Transportation
Edward J. Klock-McCook, Manager, Mobility Transformation, Rocky Mountain Institute (RMI)
Benjamin Luxenburg, Director of Lean Strategy, Massachusetts Bay Transportation Authority (MBTA)
Jeff Malamy, Director of Street Improvement Projects, New York City Department of Transportation
Colin Peppard, Innovation Manager, Metropolitan Transit Authority, Los Angeles County
Kamran Saddique, Founder and Executive Director, City Innovate Foundation, San Francisco
Dr. P.S. Sriraj, Director, Urban Transportation Center, University of Illinois – Chicago
Matthew Sweeney, Researcher, College of Urban and Public Affairs, University of Illinois – Chicago

AUTHORS:

Dr. Benjamin M. Brunjes, Assistant Professor, Daniel J. Evans School of Public Policy and Governance, University of Washington
Min Guo, MPA Candidate (2019), Daniel J. Evans School of Public Policy and Governance, University of Washington
Eugene Paul, MPA Candidate (2019), Daniel J. Evans School of Public Policy and Governance, University of Washington



INTRODUCTION

In 2015, the United States Department of Transportation (USDOT) launched the Smart City Challenge. The federal government asked cities to develop proposals for integrated, smart transportation systems that incorporated data and technology to reduce transportation costs, improve system-wide efficiency, enhance sustainability, and leverage transportation systems as drivers of economic growth. At stake was a one-time grant of \$50 million to support innovation efforts. Seattle, along with 77 other American cities, responded. In June 2016, USDOT announced that Colum-

bus, Ohio was the winner. Despite its limited disbursement of funds, the competition has spurred lasting discussion and policy changes across the United States. To this point, there has been little research on the different approaches to municipal transportation innovation. In Seattle, a city at the forefront of technological innovation and sustainability, decision-makers want to identify successful models of innovation and lessons learned as the city embarks on its own efforts to transform local transportation policies and infrastructure.



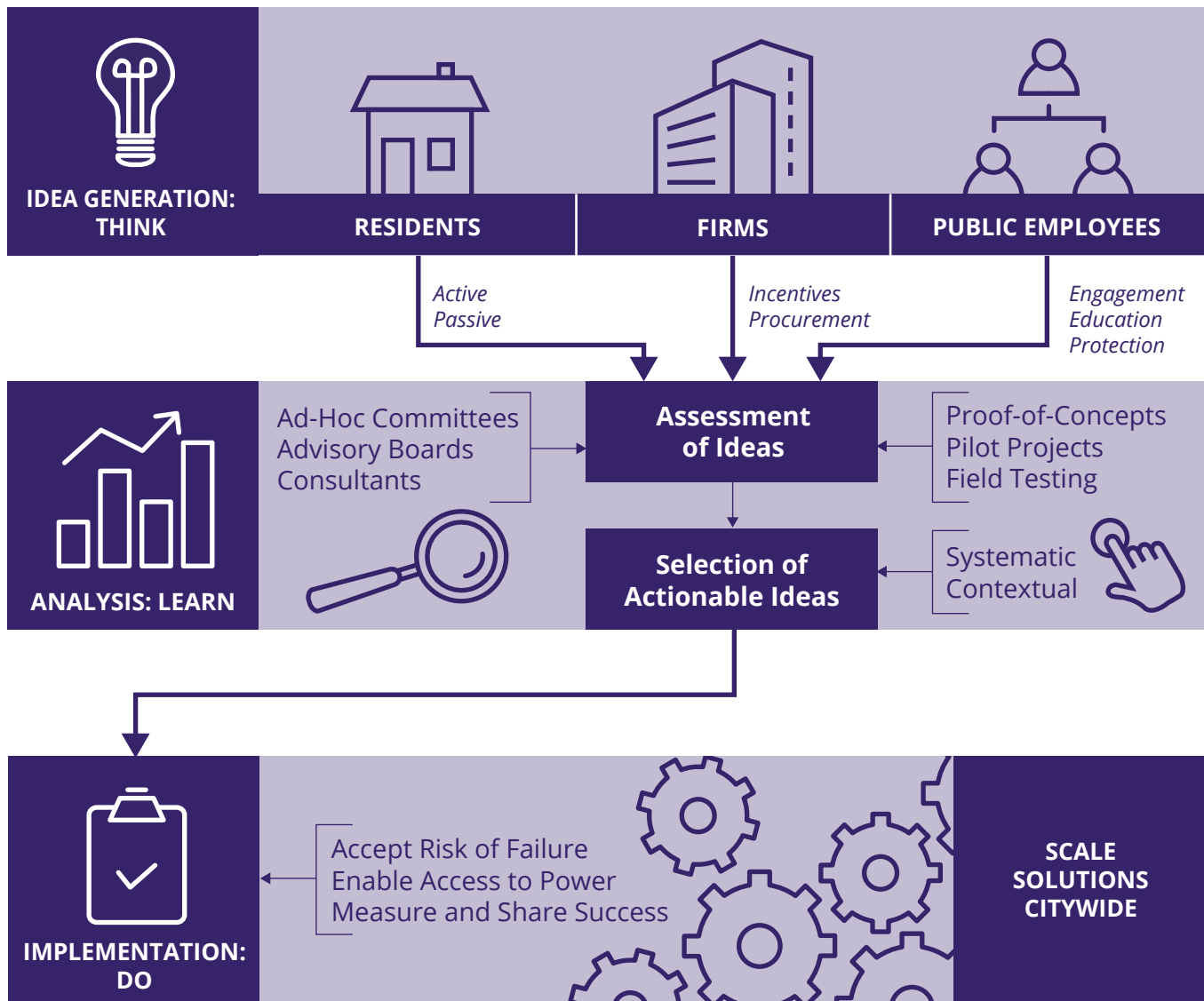
BACKGROUND

In September 2017, the Seattle Department of Transportation (SDOT) released its *New Mobility Playbook* which outlines the city's approach to blending the exciting possibilities of innovative technologies and policies with the department's commitment to equity and social justice. The Playbook includes the first steps that SDOT plans to take to advance new mobility – conceptualized as a transportation system that leverages emerging technologies, data integration, and a diverse set of public and private services to provide nearly door-to-door transportation solutions for city residents. Of the first steps identified in the Playbook, nearly all address some form of policy or technology innovation, ranging from increasing access to government information systems and actively gathering proposals from stakeholders to facilitating data flows between vendors and using pilot programs and promotions to test the potential of automated technologies. The Playbook concludes with a notice to potential innovators, inviting creative thinkers and firms to contribute ideas. This invitation highlights many of the challenges that governments have when attempting to innovate, including difficulties of preserving equity during periods of change and problems of marrying government's slower pace with the expectations of more agile technology innovation firms and a citizenry increasingly expecting immediate results.

Given the various pressures on government agencies and the breadth of possible transportation innovations that could be proposed, it is clear that SDOT needs a plan for managing the innovation process. In particular SDOT is interested in discovering how other cities are gathering transportation-related ideas and solutions, how those ideas are analyzed, and whether these approaches have led to implementation of promising innovations. This method of gathering, analyzing, and implementing innovative policies is referred to as a framework (see Figure 1). Innovation frameworks involve engaging stakeholders, identifying the region's political and managerial context, and determining how to structure innovation initiatives.

INNOVATION FRAMEWORK

A PROCESS FOR MANAGING INNOVATION
IN TRANSPORTATION POLICY



METHODOLOGY

To develop an understanding of the different approaches to transportation policy innovation, a team from the University of Washington's Daniel J. Evans School of Public Policy and Governance and CoMotion, in collaboration with SDOT, identified the U.S. cities of Austin, Boston, Chicago, Los Angeles, New York, and San Francisco as leaders in innovation frameworks. Using a combination of archival research and semi-structured interviews with program directors and key team members, the team investigated the frameworks used in these six cities.

The team focused on understanding and analyzing the innovation processes in each city, but also considered the impact of innovation on other public values, including efficiency, equity, representation, and effectiveness of the local system. SDOT's first priority is to "ensure new mobility delivers a fair and just transportation system for all," indicating that balancing public values is critical.

PUBLIC INSTITUTIONS: CHALLENGES TO INNOVATION

Public organizations may have difficulty innovating due to contextual constraints, including politics, path dependency, institutional rules, and high levels of accountability. SDOT is not immune to these challenges, and must consider how they might impact efforts to innovate in Seattle. Politically, the mayor, city council members, and municipal judges are all popularly elected officials serving four year terms. These officials are responsible for establishing budgets, legal rules, and managerial preferences for city agencies. Electoral pressures are likely to affect the ways that these officials handle decisions about innovation, particularly when risk of failure may expose them to criticism on the campaign trail. Under such circumstances, governments can be risk averse and follow established paths. In other instances, political actors can push for changes outside the scope of administratively-planned initiatives, leading to disruption of carefully crafted innovation strategies. Thus, political influence can limit innovation efforts in many ways.

Institutionally, public organizations are quite different from private firms, particularly in the areas of procurement and personnel management where rules exist to ensure accountability. This can mean that hiring and procurement may be slow or difficult. For innovation efforts, this is particularly problematic, as new personnel and purchasing are often required. Rigid processes can be a daunting impediment for innovation efforts. Though these processes are well-intentioned, they can limit flexibility and hinder the implementation of innovative programs or technologies.

Despite these challenges, SDOT is well-situated to become a leader in innovation in the city of Seattle. First, the organization is well-resourced, both in budget and personnel and the Seattle labor market has supplied a highly-qualified workforce. Second, there is broad support for innovative transportation policies in the Seattle community. Commuter bus routes, light rail trains, bike lanes, ride-share systems, and bike-share programs are in high demand. In addition, the population has adopted fuel-efficient and electric vehicles, indicating a vibrant market for innovative and sustainable transportation technologies. Finally, SDOT's recent efforts to develop a plan for new mobility in the city have spurred stakeholders across the region to consider how the transportation infrastructure in the community could change over the next century. The push for innovative transportation policies and solutions has momentum, recognition, and support from stakeholders who will play a key role in molding Seattle's next generation transportation system. Thus, understanding how other cities have approached innovation can help prepare SDOT as the department pushes to innovate.

CASE STUDY FINDINGS

The following summaries highlight elements of innovation frameworks from around the U.S. that have been effective at generating innovative ideas, developing rigorous methodologies for assessing the quality of those ideas, and translating the ideas into implemented policy changes.



AUSTIN, TX STRATEGIC PARTNERSHIPS

Austin is the capital of the Texas with a 2016 estimated population of 947,890. Like Seattle, it is one of the fastest growing large cities in the United States. The metropolitan region has an estimated population of more than 2 million. As of 2015, 854,000 residents of the Austin Metro Statistical Area commuted to work every weekday. The vast majority (79.8%) of commuters drove alone to work, while 10.8% carpooled, 4.1% took public transit, and the remaining 5.2% walked, biked, or arrived by other means. There are two transportation agencies in the region: (1) the Capital Metropolitan Transportation Authority which operates the regional transit system, and (2) the Austin Transportation Department (ATD), which is responsible for transportation and mobility.

Noteworthy Innovation // Partnering with Think Tanks

On March 2, 2017, Austin passed the New Mobility Resolution, a strategic plan directing the city manager to transition the mobility system to a system of shared, electric, and autonomous mobility services. The Rocky Mountain Institute (RMI) is assisting with this transition. To accomplish these goals, RMI is working in five general areas to transform mobility in Austin. First, to improve transit data RMI is working to establish multimodal transit data that can enable greater collaboration between the public and private sectors. Second, RMI is striving to provide mobility as a service. RMI works with local employers and providers to aggregate demand for shared commuting solutions. Third, RMI is supporting fleet electrification. RMI works with private sector service providers, such as utility companies, to convert their high-mileage vehicle fleets into electrified ones. Fourth, RMI is helping to accelerate the coming wave of autonomous vehicles by launching pilots to test,

enhance, and promote their commercial deployment and eventual adoption by consumers. Finally, RMI is working to improve mobility-oriented development. RMI focuses on land-use codes and innovative city design policy to encourage alternative forms of mobility. RMI is an important contributor to Austin's innovation efforts, but may neglect other public values in their strong devotion to modal shift and reduced personal vehicle use.

Noteworthy Innovation // Leveraging Private-Sector Competitive Mobility Solutions

Austin's tech incubator, Capital Factory, partnered with Moovel North America, an urban mobility company, to create a program called Mobility X in early 2017. Mobility X provides opportunities for startups to bring innovative solutions to the transportation sector, have their ideas tested, and receive industry advice, customer feedback, and possibly new business opportunities. Mobility X holds the "Solve for X" Pitch Competition to invite startups at all stages to join their annual hackathon. The first competition closed on November 15, 2017. The second competition concluded on February 22, 2018. The impact of these competitions remains to be seen, but they are generating excitement about mobility innovation in Austin. Under a tight budget, Austin is trying to engage outside resources to solve civic issues, and is thus facilitating this competition.



BOSTON, MA ELEVATING INNOVATION

Boston has a population of 673,184 and covers 48 square miles. The urban center grows by an estimated 600,000 additional commuters and visitors each day. The metropolitan region has a total population of approximately 4,794,447 as of 2016, making it the tenth-largest in the United States. In the city, there are eight departments that share responsibility for the planning and administration of transportation. These include the Boston Transportation Department (BTD) and the Mayor's Office of New Urban Mechanics (MONUM). In addition, the Massachusetts Bay Transit Authority (MBTA) operates the regional transit system of subway trains, buses, and shuttles.

Noteworthy Innovation // Engaging Innovative Firms and Residents through Open Solicitation

The MBTA's Innovation Proposal Policy openly invites "private sector companies (including start-ups and small businesses), nonprofits, academic institutions, labor unions, municipalities, and philanthropic foundations" to suggest a project or service that uses innovation to reduce costs or improve customer experiences. MBTA receives proposals electronically and assesses them for minimum qualifications. Of the approximately 40 proposals the MBTA received in the last year, only 10% were selected to progress to the second stage. The reasons for these rejections vary but include lack of fit, innovation, and available funds. If the proposal meets the minimum requirements, the MBTA assembles an ad hoc team comprised of experts from relevant city departments to evaluate the proposal. While an innovative procurement initiative, the solicitation is quite broad, leading to unfocused proposals. More work is needed to focus the solicitations on areas of need. L.A. Metro has had similar experiences with their open solicitations program.

Noteworthy Innovation // Centralizing the Innovation Program

Formed in 2010 as one of the first municipal innovation offices, Boston's MONUM was tasked with centralizing and prioritizing the innovation efforts. To that end, an interdisciplinary team of 12 serve as project managers while conducting research and design projects for the city that tackle a range of topics — from civic engagement to infrastructure to education. MONUM also works with partners, such as universities and think-tanks, to determine if ideas are worth scaling up. The office has had success testing automated vehicles due to their ability to bring together stakeholders from the state, the World Economic Forum, and international cities experimenting with automation. The team's location in the mayor's office has (1) empowered the organization to cut through government silos, (2) connected people or departments in new ways, and (3) promoted thinking about long-term innovation. To facilitate this, staffers have "permission to fail," allowing the office to assume risks that other city departments may not be willing to take. On the other hand, the office is exposed to the political influence and longevity of elected officials. In Philadelphia and Washington D.C., centralized innovation offices did not survive mayoral election cycles.



CHICAGO, IL COLLABORATIVE ENGAGEMENT

Chicago, with 2.7 million residents over 234 square miles, is the third most populous city in the United States. In the metropolitan area there are over 9.5 million people across 10,800 square miles. The Chicago Department of Transportation (CDOT) is the department responsible for public way infrastructure, including planning, design, construction, maintenance, and management. The department has approximately 1,250 full-time employees and an operating budget of \$554 million. CDOT is one of at least four departments that play a role in the planning and administration of transportation, and the agency serves as a critical connector in the region.

Noteworthy Innovation // Leveraging University Expertise

CDOT, with the Illinois Department of Transportation (IDOT), commissioned the Institute for Policy and Civic Engagement (IPCE) at the University of Illinois – Chicago to conduct a statewide engagement process in early 2017. This process informed the development of IDOT's 2017 Long-Range Transportation Plan (LRTP). In the first phase, regional residents used a wiki-based system to (a) compare and select their preferences from a series of CDOT and IDOT proposed transportation ideas and (b) propose their own ideas. As a result, the researchers developed a data set of resident-driven ideas. Then, researchers developed a public prioritization process for the ideas that ranked the ideas and indicated funding preferences. Of the top ten ideas that resulted from the process, five originated from the public. This partnership allowed the department to engage with the public for ideas in a meaningful yet innovative way. The project demonstrates that partnerships with academic institutions can allow access to a wide range of substantive qualifications and potentially generate innovative research at a lower cost.

Noteworthy Innovation // Building Coalitions the Old-Fashioned Way

CDOT is also responsible for managing a coalition of stakeholders, the Chicago Area Clean Cities (CACC), which is focused on transportation innovations that promote the use of clean fuel and clean vehicles in the metropolitan area and beyond. The CDOT-led CACC is a voluntary and locally-sourced collaborative effort with over 200 active stakeholders from government, business, academia, and nonprofits. The group seeks to reduce petroleum consumption through a variety of efforts, including projects that implement clean energy solutions, legislative efforts to promote clean fuels and reduce the effects of petroleum-based energy, new infrastructure for alternative fuels, and education and outreach efforts. These have resulted in 157 alternative fueling stations and 250 electric vehicle charging stations in the city, over 7,000 alternative fueled vehicles in various fleets, and the reduction of gasoline usage by 58 million gallons. Outside of Chicago, CACC is currently working to bring alternative fueling stations to the Interstate 94 corridor from Detroit to Montana. The CACC program is evidence that, even in an era of innovation, impacts are still possible through traditional administrative means, such as down-and-dirty collaboration.



LOS ANGELES, CA INNOVATION THROUGH INTEGRATION

With a population of 3,976,322, Los Angeles is the second most populous city in the United States. The metropolitan area has more than 13 million residents. In 2011, Los Angeles had among the highest number of commuters traveling from other counties, with more than 471,000 workers commuting into Los Angeles County daily. Over 72% of these commuters drove to work alone, while 7.3% of workers used public transportation, and less than 1% commuted via bike. The Los Angeles County Metropolitan Transportation Authority, commonly known as the L.A. Metro, is the region's transportation planning agency. It operates 4 rail lines, 2 heavy rail subway lines, and the county's bus rapid transit system. In 2016, Metro launched its transit innovation office, the Office of Extraordinary Innovation (OEI) to identify the best ideas in transportation and help to test, refine, and implement them at L.A. Metro.

Noteworthy Innovation // Actively Encouraging Input from Public Employees

Since 2015, the Office of Extraordinary Innovation (OEI) has actively engaged with Metro employees for transportation innovation ideas. Projects that have been taken on originating from Metro staff ideas include: (1) Wi-Fi and cellular reception on buses and trains; (2) sponsorship for bike-share; (3) fare payment and wayfinding technology integration; (4) procurement innovation; and (5) improving data collection practices for first and last mile planning. In addition, OEI has two ongoing staff development initiatives. First, OEI provides a Ride-Along Program for Metro HQ Staff that offers employees "the opportunity to get out from behind [Metro HQ employees'] desks and ride a mile in their customers' shoes" (Office of Extraordinary Innovation 2017). OEI aims to use this program to encourage Met-

ro staff to help identify new solutions to old problems. Second, OEI hosts a Metro Fellowship Program, through which Innovation Fellows from Metro's Operations and Communications Departments work side-by-side with OEI staff. This cross-agency engagement within Metro, especially from the staff on the front lines who have daily contact with consumers, has given OEI teams practical insight into daily problems and has informed staff about OEI's policies and programs, slowly planting seeds of innovation across the entire organization.

Noteworthy Innovation // Integrating Contractors through a Technology Bench

Innovative firms often have to work closely with public transportation agencies to develop unique technologies or programs tailored to regional needs. Traditional procurement processes may force "arms-length" relationships with vendors. However, this approach can reduce a critical partner's trust in government, increase the time needed to establish a contract, and ultimately can undermine the potential for innovation. L.A. Metro is working to establish a "bench" of innovative contractors that have been competitively sourced but are contracted using longer-term contracts that integrate the vendors into a strategic network of innovation partners. This approach allows for competition while incentivizing private investment in public problems. If successful, "bench contractors" will be able to build knowledge of public priorities, provide innovative solutions quickly in response to emerging needs, and lower administrative costs. A "bench" is an excellent way to reduce transaction costs, as long as legal and equity requirements are fulfilled during the procurement.



NEW YORK, NY CROWDSOURCING INNOVATION

New York City is the most populous city in the United States with an estimated 8.5 million residents distributed over 302 square miles. The metropolitan area includes an estimated 20.2 million people and is the nation's largest urban center. The New York City Department of Transportation (NYCDOT) is the primary transportation agency in the city. Over 5,000 employees are engaged in managing the \$900 million annual operating budget, the \$10.1 billion five-year capital budget, as well as 6,000 miles of streets and highways, 12,000 miles of sidewalk, and 794 bridges and tunnels. There are at least seven other city agencies that assist with these functions. Outside of the city are two important transit organizations, the Port Authority Trans-Hudson (PATH) and the Metropolitan Transportation Authority (MTA), that provide vital connections to regional commuter populations.

Noteworthy Innovation // Using Public Resources to Spur Innovation through Competition

Seeking innovative solutions to help modernize the subway, the MTA created the Genius Transit Challenge in July 2017. The challenge, open to domestic and international individuals, businesses, non-profits and academic institutions, offers up to \$1 million for the winner of three challenges. After receiving 438 submissions from 23 countries, teams of judges vetted initial submissions. 64 were deemed worthy enough to progress to the second phase of the contest, wherein the contestants received additional guidelines and were given the opportunity to refine and expand their submissions. After another round of reviews, 19 submissions were selected to become finalists. These finalists are currently under evaluation with the results expected in 2018. The competition has increased interest in innovation. By offering a substantial monetary incentive,

the MTA received 438 distinct innovative ideas and advancing the conversation about transportation innovation, replicating the benefits of the Smart City Challenge in the NYC metropolitan region.

Noteworthy Innovation // Conducting Targeted Outreach to Engage Under-Represented Residents

The NYCDOT Street Ambassadors Team is focused on increasing public participation from under-represented communities. Comprised of former parking meter attendants whose jobs were eliminated by high-tech meters, the team is also an example of innovative use of municipal human capital. The team is a customer service-oriented group that deploys to community locations to provide information and elicit feedback from traditionally underrepresented groups. They do this by not only going to busy places during rush hour and weekends but also presenting material in multiple languages. The team members currently speak four languages in addition to English and have done projects in five other languages with the support of volunteers and the city's Language Access translators. In one instance, the team conducted outreach on pedestrian safety for 17 days, engaging over 3,350 people and 92 businesses and collecting over 1,200 comments and surveys that provided valuable data for the project managers. The Street Ambassador concept is unique across the examined cities in its conceptual design and goals. While other engagement efforts may attempt to find members of under-represented groups who do not attend public meetings or have the ability to participate in online surveys, none of them build it into the very design of the team the way the Street Ambassador concept does. Actively locating those without a voice on their own ground and ensuring their inclusion as part of the planning process is truly innovative.



SAN FRANCISCO, CA PROCURING RELATIONSHIPS

San Francisco has an estimated population of 870,887. Almost half a million Bay Area residents commute in and out of San Francisco each day. Roughly the same percentage drive alone as take public transit, while others bike, walk, and carpool. The San Francisco Municipal Transportation Agency (SFMTA) oversees Muni (the Municipal Railway), parking and traffic, bicycling, walking, and taxis. The policy innovation division under SFMTA is called the Office of Innovation and was created in late 2015. The office's mission is to “[develop] the city’s forward-looking approach to emerging transportation technologies and public/private partnerships” (San Francisco Municipal Transportation Agency 2017). At the county level, the San Francisco County Transportation Authority (SFCTA) serves as the congestion management authority and is responsible for long-range transportation planning and capital grant programming.

Noteworthy Innovation // Creating Links between Public Employees and Innovative Firms

The Mayor’s Office of Civic Innovation created the Civic Bridge program in 2015. The program is designed to bring city employees and professional volunteers from the private sector together to work on policy issues. “Pro-bono, private-sector support can increase the City’s capacity to identify and analyze pain points, provide agile and iterative solutions, as well as increase interest in cross-sector collaborations” (SF Mayor’s Office of Civic Innovation). The two main groups of participants are city government employees and volunteers from the private sector. The program runs two cohorts per year, in fall and spring. City employees and private sector professionals work together, bringing their areas of expertise together to help solve problems that public organizations in San Francisco face. In 2016, Civic Bridge connected the SF Municipal Transportation Agency (MTA) worked with a team of volunteers from

Adobe. The partnership helped MTA better respond to residents that were contacting the MTA via Twitter and let residents know that their feedback is contributing to ongoing service improvements. This program helps the government and major private partners build collaborative relationships while finding innovative policy solutions.

Noteworthy Innovation // Increasing Procurement Efficiency

The STIR (“Startup in Residence”) program was established in 2014 by the SF Mayor’s Office of Civic Innovation. STIR is an effort to both alter the speed of procurement and create lasting relationships with new, innovative providers. In a traditional procurement process, governments release requests for proposals (RFPs) for individual projects. This process can be time consuming, as new RFPs need to be written for each contract and the legal requirements in the procurement process (often thought of as “red tape”) have to be obeyed multiple times. Through an approach called RFP Bus, CIF bundles procurements to reduce some of the administrative requirements associated with procurement and speed up the process. Operationally, STIR runs within a timeframe of 24 weeks. This begins with a 16-week program during which “government departments work with the startup to co-create, working through four phases: discovery, design, build and user testing. At the end of the 16-week residency, startups deliver a prototype, and the startup and the city agency will work another 6-8 weeks to prepare for the demo day, presenting the product and solution to the city. The goal is for cities to access new technologies that help them improve quality of life for residents while not risking entering into a contract to procure an outdated or impracticable product. Though potentially promising, bundling of RFPs has the potential to undermine other public values at stake in procurement processes, like equity and accountability.

SEATTLE, WA

EQUITY-DRIVEN INNOVATION

With an estimated 705,000 residents in the city and a metropolitan population of 3.8 million, Seattle is the 15th largest metropolis in the United States. According to Forbes, Seattle was the second fastest growing major city in the U.S. in 2017, with the highest rates of wage, gross metropolitan product, and home price growth. The city grows by nearly 200,000 commuters (more than 25 percent) during the work week. Transportation in the region is the responsibility of three primary agencies: King County Metro (Metro), Sound Transit, and the Seattle Department of Transportation (SDOT). Metro manages a growing system of buses, while Sound Transit controls the light-rail train and regional bus service. SDOT manages the streetcar, roads, traffic lights, and curbs, and new mobility services within the City limits.

Noteworthy Innovation // New Mobility Playbook

In response to and in anticipation of the rise in new mobility options available to Seattle residents, SDOT went through the process of creating a New Mobility Playbook in September 2017. This process engaged public employees from within the City of Seattle and surrounding transportation agencies, industry experts and researchers, and consultants to align on a common set of threats and opportunities. The process ultimately led to a document that articulated the core values of the Department, set a vision for how existing and future technology can and should interact equitably within the City, and identified a series of initial “plays” to help frame a practical approach to new mobility and technology. By rooting strategies within a core set of values, the Department can take a flexible and adaptive approach to policy and permit approaches. Along those lines, the New Mobility team launched two innovative permit programs in 2017: a Free-Floating Bikeshare permit and Electric Vehicle Charging in the Right of Way permit. Both permit programs allow for private entities to enter the Seattle market and compete for customers and market share with minimal government intervention, but within the confines of clearly established parameters (e.g. data requirements, equity considerations, etc) that are rooted in the values espoused in the New Mobility Playbook.

Seattle is providing more mobility options to more people and electrifying the transportation system at little to no cost to taxpayers.

Noteworthy Innovation // Transportation Equity Program

In alignment with the City of Seattle’s Race and Social Justice Initiative (RSJI) goals and to address concerns associated with Seattle’s rapid and dramatic growth, SDOT established a Transportation Equity Program in 2017. The Transportation Equity Program aims to provide safe, environmentally sustainable, accessible, and affordable transportation options that support communities of color, low-income communities, immigrant and refugee communities, people with disabilities, people experiencing homelessness or housing insecurity, LGBTQ people, women and girls, youth, and seniors. The guiding principles of the program are to build community trust through engagement and accountability, provide affordable transportation options, and create opportunities for communities to thrive in place. To that end, the program is working on a number of initiatives such as convening a Transportation Equity Committee to provide a direct line between the Department and community members and building outreach programs that provide affordable access to transit including ORCA LIFT, a reduced fare transit pass program, and income-eligible car share, a subsidy program that will provide free minutes and memberships to qualifying participants.

Finally, all Transportation Equity Program engagement activities are supported by a cohort of 16 Community Liaisons, a group of trusted local community leaders that speak multiple languages from under-represented communities in Seattle that interpret and translate materials. The Liaisons are trained and funded by SDOT through our partnership with the Department of Neighborhoods, the City’s lead agency on outreach and engagement.

ELEMENTS OF INNOVATION FRAMEWORKS

Based on these case studies, there are a number of elements of successful innovation frameworks that are worth considering as SDOT develops its own innovation framework. The specific context in Seattle will determine how well each of the approaches just discussed will fare. The considerations below are presented to allow SDOT to make informed decisions based on their understanding of the options available and their own assessment of contextual constraints and innovation priorities.



1 Identify the purpose of the innovation effort:

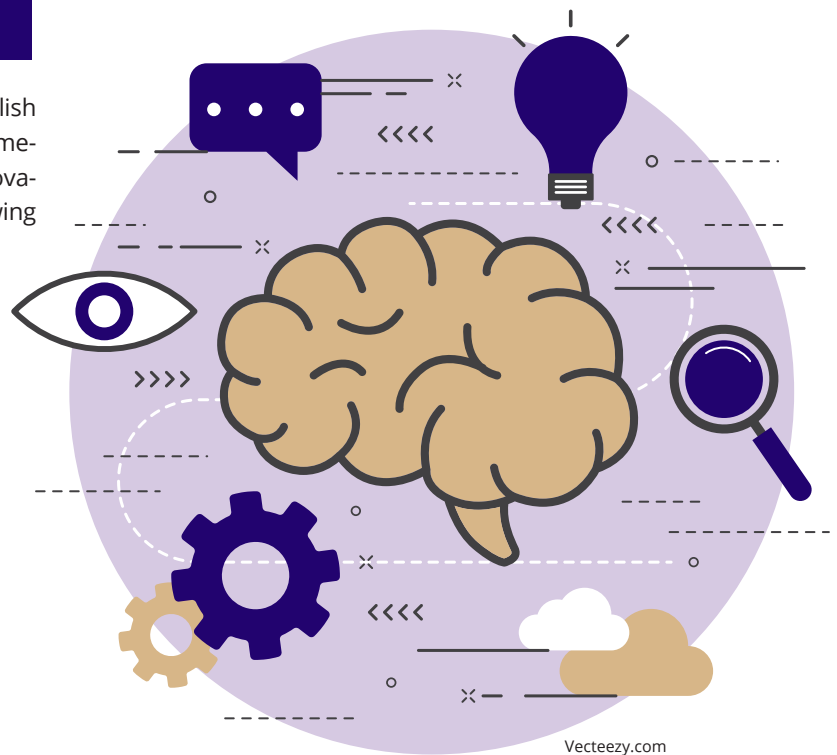
Innovation frameworks have been designed to accomplish myriad objectives. When developing an innovation framework it is necessary to consider what is driving the innovation effort, including developing answers to the following questions:

- > *Whose idea is the innovation framework?*
- > *What are their priorities? What are they seeking to get out of the effort? Consider personal, organizational, and output/outcome motivations.*
- > *What other stakeholders, inside and outside of government, care about the program? What are their priorities?*
- > *What other factors might be important in the initiative? Specifically, is this the result of other forces, such as those pushing for change based on equity, budgetary, or sustainability concerns?*



2 Determine where to locate the innovation initiative:

Innovation frameworks can be independent, can be co-located with administrative agencies, or can be exported to third-parties (such as think tanks). The decision over where to locate the initiative or team should depend on achieving the desired balance of access to political power and technical expertise. Regardless of the structure adopted, the municipal government should retain a central decision-making role. This includes (at minimum) maintaining control of the purpose and oversight of the framework, identifying priorities for specific research and development projects, and carefully reviewing and evaluating the performance of all parties involved.



Vecteezy.com



3 Actively engage key stakeholders to generate ideas:

Innovative ideas come from residents, firms, and public employees. Each must be engaged differently to ensure the best results.

a. Residents: Residents can be quite helpful in innovation programs, as they possess detailed knowledge of local conditions, often have interesting ideas, and can be quite creative in the solutions that they propose. Residents can be excellent sources of micro-level, or project-specific, information. However, they have a hard time seeing bigger picture transportation issues, and may not be appropriate to include in all innovation efforts. Interacting with them requires special skills, particularly for those holding town hall meetings or interviewing residents on the street.

b. Firms: Firms may have innovative ideas due to the effects of market forces, which drive them to innovate to survive. However, firms may move faster and expect more agility than public organizations can offer and may not have values and mission alignment with governments. As a result, governments should work to adapt procurement processes to facilitate innovation. This can be done through the use of open RFPs, bundled RFPs, indefinite delivery vehicles, and other types of competitions. In doing so, ensure that changes to the procurement process have limited effects on other public values. This requires active management of firm expectations.

c. Public employees: Municipal employees are important stakeholders in innovation frameworks. Due to their knowledge of the policy area and the specifics of the locality, they form a cadre of some of the best-informed stakeholders available. This unique expertise is often ignored, but should be more carefully leveraged to spur innovation efforts. Employees can be utilized either through internal idea generation processes or by matching them with interested external parties to attempt to ignite a spark of innovation in the cross-sector interaction. Since their proposals may run counter to current policies, employees may require protections.



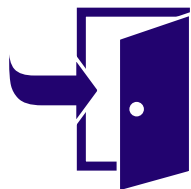
4 Balance innovation with other public values:

Innovation often comes at the expense of other public values, particularly equity and representation. In a desire to move quickly, public organizations can neglect the effects that new technologies and policies may have on under-represented populations. Seattle has been mindful of this, constructing their entire first play in the New Mobility Playbook around the need to balance innovation with equity and fairness concerns. Moving forward, any discussion of changes, particularly to procurement and public outreach should carefully consider the impact of innovations on equity objectives.



5 Establish a tolerance for increased risk:

Innovation presents a paradox for public agencies. Generally, governments are established with rules designed to maximize accountability to reduce the likelihood of catastrophic failure. Since resources are generated through taxes, failure is viewed quite negatively. Yet, by its very nature, innovation is likely to fail. Trying something new is hard and often does not work. Thus, due to the context of public organizations expect innovation to (a) increase risk of short-run performance problems, (b) take time – another paradox, and c) require careful management of the expectations of elected officials and residents.



PROCUREMENT MODERNIZATION IS CRITICAL FOR TRANSPORTATION INNOVATION

In transportation, private firms are not just vendors

– they are partners that leverage critical expertise and technology to attain short- and long-term public transportation goals. How a local government “procures” goods and services from these private firms is critical—public officials must balance speed, cost, and quality with public values of fairness, equity, and transparency. For cities that want to innovate in transportation, creating a modern procurement process that is flexible and responsive to the rapid pace of technology change is a must.

This research indicates that creative and well-managed procurement processes facilitate transportation-sector innovation. Local governments are currently undertaking three main approaches to procurement innovation.

1

First, governments are developing strategic partnerships with key vendors and advisors.

These partnerships tend to belong-term engagements through blanket contracts or public-private partnerships. The long-term nature of the partnership facilitates the establishment of relationships and trust between the agency and the partner, creating an environment in which the parties can have detailed, honest discussions about strategy, policy design, implementation, and outcomes. Generally, cities have engaged two primary types of partners: think tanks and universities. Both provide analytic capacity that can help municipalities develop and implement innovative transportation strategies and solutions.

2

Second, cities are developing new ways to leverage market forces.

Historically, competition has been attained through the request for proposal (RFP) process. The RFP process preserves accountability and reduces the likelihood of ethical problems, but the process moves slowly and can advantage established firms. Local governments have been using competition in new ways with the goal of providing faster solutions and procurement processes in the public sector. In Seattle, the values-based permitting process for bike-share is a recent example of how procurement (and the use of competition) has been reinterpreted. In some cities, open solicitations – broad RFPs asking for innovative ideas – have been used in an effort to seek input from firms and residents. Other cities have used public resources to create compensation-based competitions through which firms and individuals can submit ideas for new technologies or system-wide solutions. Each of these approaches leverage market competition as a method to generate innovation, while taking new approaches to the procurement method that is used to engage innovators.

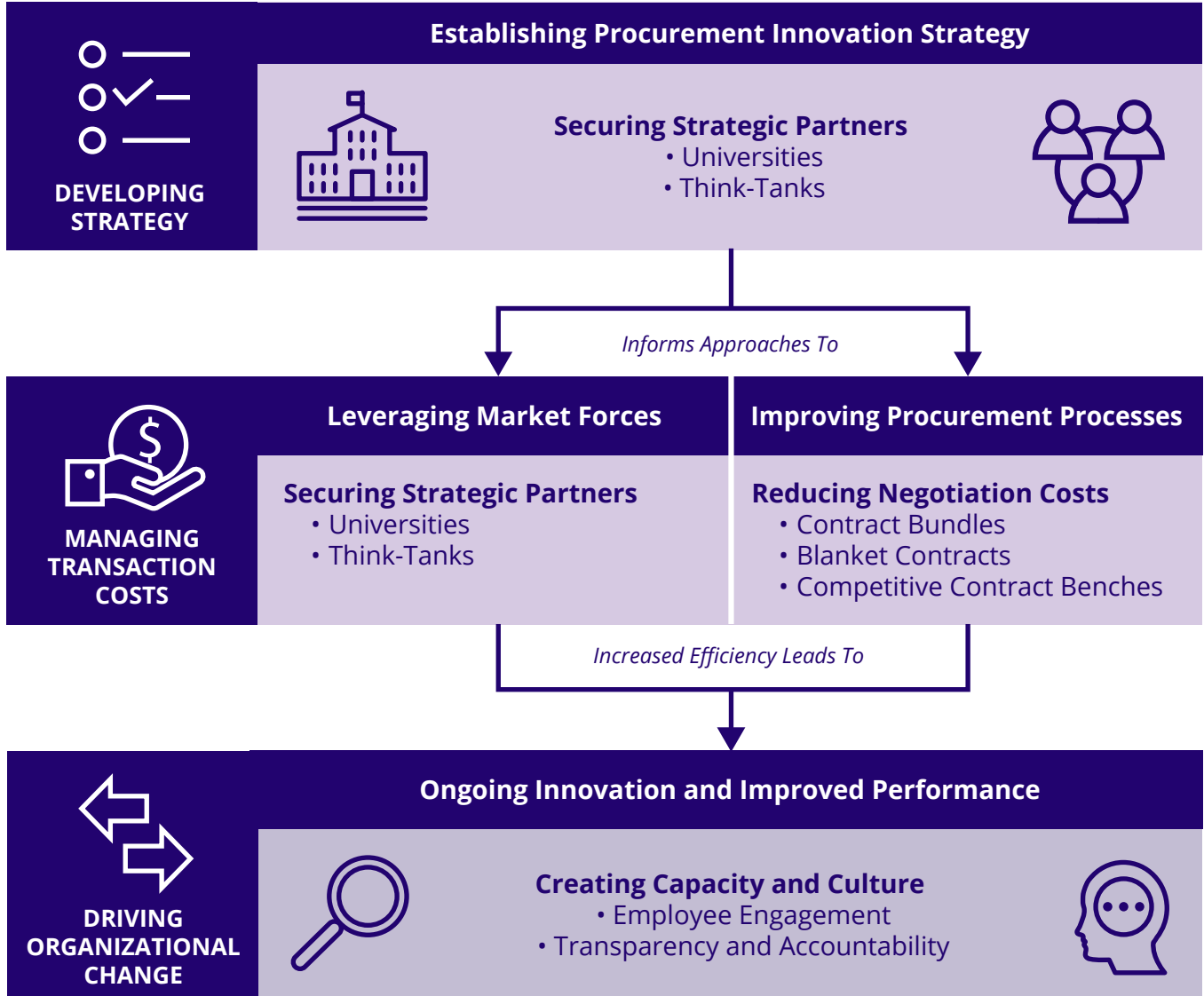
3

Finally, cities are also making internal procurement process improvements.

Again, municipalities are attempting to find ways to make their procurement processes more efficient. The traditional approach to procurement is time consuming and costly, as governments are required to follow a prescriptive set of rules. To reduce the transaction costs associated with public sector contracting, local governments are introducing contract bundling, business incubators, blanket contracts, and the use of competitive contractor benches, among others. These ideas come from strategic partners as well as the active engagement of internal employees who are familiar with process problems and able to offer useful solutions.

These approaches have the potential to make procurement more efficient, while also maintaining the commitment to important public values, such as inclusion, accountability, and transparency.

LINKING PROCUREMENT INNOVATION





RECOMMENDATIONS FOR SDOT

Seattle has clearly established innovation as a center-piece of the New Mobility Playbook. Play 3 includes fostering an innovative culture, making the agency nimbler, and attracting and building strategic partnerships with key private sector partners. Play 4 stresses the need to facilitate and protect the flow of data, develop analytical tools to put the data to work for Seattle residents, and ultimately to ensure that data is used to serve the public good. Notably, Seattle has maintained a focus on values outside efficiency, by engaging the community to ensure that innovations are cognizant of and designed for less fortunate residents, regardless of financial, language, or health-related accessibility issues. These strategies indicate that SDOT is already planning to work toward an innovation framework that is consistent with the process model that we have developed, and is utilizing many of the leading approaches from around the nation.

As SDOT considers how to proceed with developing Seattle's innovation framework, we have four initial recommendations based on the foregoing analysis. These are general recommendations, as contextual factors will be critical for determining exactly how our findings should be interpreted. However, all of the successful initiatives investigated were predicated on the following steps.

1

Establish Goals for the Innovation Framework:

Develop a detailed explanation of the purpose of the innovation framework, along with both short- and long-term objectives for the program. This includes identifying key stakeholders and their priorities, finding a source of resources (including personnel), and developing a strategy for innovation. SDOT could begin this process by establishing a specific innovation goal, socializing that goal with stakeholders, and building out other elements of the framework collaboratively. This will require formalizing (or at least coordinating) collaborative relationships between SDOT teams and other teams in non-transportation agencies also focused on innovation.

2

Base Framework Structure on Innovation Goals:

Innovation offices can be located in various places throughout the organizational chart of an agency or city, or can be exported to a partner organization. The structure matters, as the location of the organization establishes the framework's authority and purpose. To ensure stability over time, try to protect the office from political cycles if possible. Exporting to specific agencies or third parties provides protection, but SDOT would need to clearly define its role should this be done. SDOT's responsibilities should go beyond implementation, and should involve establishing strategy, providing resources, and assessing performance based on an established schedule and measures. At the same time, political support from the highest levels can be critical. Having support from the elected executive and legislators can increase access to important stakeholders, financial resources, and the media. Finding this balance between the need for power and expertise will be critical, as will project management skills.

3

Manage Expectations:

Innovation takes time and there will be failures. Explain this risk and work to educate career managers and elected officials on the benefits. Develop a plan to overcome the focus on short-term costs, as innovation is a long-term project. Doing so will likely require support from organizations and individuals outside the traditional governmental hierarchy, including taxpayers.

4

Preserve Public Values:

Innovation sounds good, but if done without careful planning can influence other priorities that residents and the local government value highly. Seattle is clearly cognizant of these risks, as the New Mobility Playbook indicates. However, the city needs to continue to be aware that efforts to move faster and reduce red tape can have consequences. In particular, assess and monitor ethical considerations associated with procurement modernization, be mindful of the effects that innovation can have on the continued (and expanded) access of disadvantaged groups, and take the time to balance innovation with traditional administrative efforts to improve stakeholder coordination.

THINK // LEARN // DO
IDEATION TO IMPLEMENTATION

For SDOT to take these learnings to the next level, they will need to determine the feasibility, cost, management structure, business plan, goals, and expectations of setting up an Innovation Framework. This work should engage other frameworks operating around the world.

SDOT must carefully consider whether the Innovation Framework should reside within in the City or in a neutral site (like a municipal corporation or non-profit) where the City is a stakeholder and funder. This “neutral site” model is used extensively in the Nordic nations and should be investigated further.

Table 1: Approaches to Innovative Idea Generation

City	Strategic Partnerships	Crowd-Sourced Engagement	Open Solicitation	Innovation Competitions	RFP Bundling	Employee Solicitations	Staff Fellowships	Innovation Structure
Austin	Yes	Yes	No	Yes	No	No	No	Central + Departments
Boston	No	No	Yes	No	No	No	No	Central
Chicago	Yes	No	No	No	No	No	No	Departments
Los Angeles	Yes	Yes	Yes	Yes	No	Yes	Yes	Central
New York	No	Yes	No	Yes	No	Yes	Yes	Central + Departments
San Francisco	Yes	Yes	No	No	Yes	Yes	Yes	Departments
Seattle	Yes	Yes	No	No	No	No	No	Central + New Mobility Team

About the Daniel J. Evans School of Public Policy and Governance

The Daniel J. Evans School of Public Policy and Governance was created in 1962 as one of the nation's first schools of public policy at a public university. Over the past 50 years, the Evans School has built a reputation as one of the elite public policy schools in the nation. The school is defined by a tradition of rigorous study, innovative research, and, most importantly, a commitment to public service. Our graduates and faculty provide the ideas, expertise, and leadership that guide government agencies, nonprofit organizations, and private companies around the country and throughout the world.

About the Mobility Innovation Center (MIC)

A partnership between Challenge Seattle and the University of Washington, the Mobility Innovation Center tackles specific transportation challenges, using applied research and experimentation. Housed at CoMotion, University of Washington's collaborative innovation hub, the multi-disciplinary center brings together the region's leading expertise from the business, government, and academic sectors to use technology and innovation to find transportation solutions. Challenge Seattle is a private sector initiative led by many of the region's CEOs working to address the issues that will determine the future of our region—for our economy and our families.

> evans.uw.edu

> mic.comotion.uw.edu