Hosted by the Association for Commuter Transportation

The Association for Commuter Transportation is the leading advocate for the Transportation Demand Management (TDM) industry and premier association for TDM professionals and organizations.

ACT strives to get the most out of our transportation system by empowering the people, places, and organizations working to advance TDM to improve the quality of life of commuters, enhance the livability of communities, and support economic growth.

In Partnership with the Center for TDM

The Center for TDM is a charitable organization focused on research and the dissemination of information aimed at educating public and private stakeholders to advance the adoption of transportation demand management to improve our nation’s mobility.

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Emerging Mobility Summit Overview

With the future of mobility being shaped and reshaped at an ever-increasing speed, the time is now for the Transportation Demand Management (TDM) industry to gather and discuss how communities, service providers, and other stakeholders can develop the transportation system of tomorrow; while achieving our desired goals of increasing mobility options, improving the quality of life for people, and enhancing the livability of our communities through reduced congestion and improved air quality.

With the Emerging Mobility Summit, the Association for Commuter Transportation (ACT) brought together subject matter experts, community leaders, entrepreneurs, academics, and thought leaders for two days of in-depth discussions and networking; focused on the future of transportation and mobility to identify paths forward, opportunities for research, and what might be in store for TDM in our communities.

The Emerging Mobility Summit also featured the official launch of ACT’s Center for TDM, a non-profit organization that will focus on supporting TDM research and the dissemination of information to educate public and private stakeholders to advance the adoption of TDM programs and policies.

This hands-on two-day event would not be possible without our members and sponsors and we are truly grateful for their support. Special thanks to The Ohio State University for their provision of bus transportation and for hosting the group on campus on the final morning.

Facilitated Discussion Tables

The Emerging Mobility Summit featured an afternoon of simultaneous discussion groups, facilitated by subject matter experts or project managers with the intent to identify solutions to challenges or new insights on issues related to the advancement of emerging mobility and its interconnection with transportation demand management. Table discussions on the following topics are summarized on pages 8-18.

- Microtransit Impacts on Transportation and Why Your Community Should Care About It—Josh Cohen, TransLoc
- Embracing New Mobility Options to Improve Access for All—Mandy Bishop, City of Columbus
- Measuring the Evolving Mobility Landscape to Influence Mode Choice—Ryan Croft, TransitScreen
- Government as a Mobility Accelerator—Mark De La Verne, City of Detroit
- Integrating Dockless Bikeshare into Your Mobility Strategy—Kyle Rowe, SPIN
- Creating Mobility Options in Low Density & Internet Challenged Communities—Valerie Lefler, Feonix Mobility Rising
- Growing Low Car Living Through Car Sharing—Sabrina Sussman, Zipcar
- Developing Employer Commuter Programs Supporting All Modes—Sohier Hall, Luum
- Using Mobility Hubs to Enhance Transportation Demand Management—Thea Walsh, MORPC
- Mobility as a Service (MaaS) – Overcoming Implementation Obstacles—Pete Costello, Iteris
- Identifying Research Needs to Support the Future of TDM—Paul Mackie, Mobility Lab
The Local Story: Updates from Columbus

Mike Stevens, Chief Innovation Officer, City of Columbus
Matt McNair, VP of Economic & Corporate Engagement, The Ohio State University
Jordan Davis, Director, Smart Columbus
Rob Henry, ACT President, GVF (moderator)

As the central motivation for hosting the inaugural Emerging Mobility Summit in Columbus, the morning’s first panel focused on the implementation of Smart Columbus, the winning proposal for the US DOT sponsored Smart Cities Challenge. The panel brought together the three primary partners on the project to provide their thoughts and insights on how the City is moving forward with implementation and what is in development as the project continues to advance in the months and years to come as the city looks to build a dynamic transport eco-system for all residents.

Kicking off the panel, Mike Stevens, shared the vision of the program, “to empower our residents to live their best lives through responsive, innovative and safe mobility solutions.” He detailed the Smart Columbus Operating System, which will serve as the central core of the program and will focus on enabling technologies, enhanced human services, and emerging technologies. Specific programs include: Multimodal Trip Planning/Common Payment System, Smart Mobility Hubs, Mobility Assistance, Prenatal Trip Assistance, and Event Parking Management.

Matt McNair, shared with attendees The Ohio State University’s role as the primary research partner on the Smart Columbus project. The university’s Center for Automotive Research is invested in the optimization of mobility in order to create easier, safer, and cleaner methods of transportation.

Jordan Davis, spoke to the important role of the private sector in helping develop the winning proposal. Housed within the Columbus Partnership, an organization that represents the region’s private sector, the Partnership is responsible for the project’s Acceleration Fund, which is made up of a mix of public and private funding, totaling over $500 million, designated to support the implementation of the programs and projects.

“Mobility is the great equalizer of the 21st century.”
Mayor Andrew J. Ginther
The Rise of Microtransit to Expand Commuting Options

Eleanor Joseph, Director of Business Development, Via
Marc Klein, Director of Microtransit Government Partnerships, Chariot
Peter SerVass, Co-Founder and President, DoubleMap, Inc.
Steve Vozar, Chief Technology Officer & Co-Founder, May Mobility
David McMaster, ACT Treasurer, MTA of Harris County (Moderator)

Microtransit has been viewed by many advocates and transit agencies as a beneficial new model of leveraging private sector operators to deploy public transit services and panelists discussed their collaborations in communities San Francisco, Columbus, Arlington (TX), and other regions around the country and their desired goals to expand options for commuters. Steve Vozar stressed that “It’s all about putting your keys away.” A benefit for an RTA to partner with a microtransit provider, voiced by Marc Klein, is the ability to right-size transit vehicles on the road, noting that microtransit providers can perform better without using a 40 person bus in many cases.

Eleanor Joseph said that working with the public sector means that open and clear communication is key; other important factors mentioned were flexibility and a focus on improving the rider experience. Participants stressed the use of a zonal approach to transit, awareness of available curb space and appropriate curb management, and considering land use over time. There was agreement between all that making the business case for microtransit will vary according to the unique needs of the region or area to be served.

Underserved populations, rural communities, and the high cost of paratransit services were identified as key challenges that need to be more thoroughly addressed in order to support broader adoption of microtransit. While not yet known, the advancement of autonomous vehicles could play a significant role in the future of microtransit, enabling services to possibly be fully autonomous in the next decade.
Public Transit in an Autonomous Future

Joanna Wadsworth, Civil Engineer, City of Las Vegas
Maurice Bell, Vice President, Keolis North America
Chris Pauly, Director of Business Development, NAVYA
Chris Barker, ACT Board Member, Keolis (Moderator)

With each new innovation in transportation, the line between traditional public transit and the future of mobility gets thinner and thinner. This panel brought together leaders of public transit and autonomous vehicle companies to discuss how we can achieve a win-win future for commuters and our communities.

Joanna Wadsworth outlined the initial deployment of the autonomous shuttle in Las Vegas, noting that it was a pilot program being used for only a short distance, but received wide exposure as one of the first on-street pilot’s in the country. With the pilot taking place in the center of one of the country’s largest tourist districts, concerns about public safety were raised from the start. A strategic communications plan and regular briefings with stakeholders were conducted to address concerns and provide project updates.

Maurice Bell mentioned that autonomous shuttles are not intended to replace traditional transit but to extend and complement vehicles already in place. He highlighted the importance of investing in early and robust public education to address fear and resistance of potential users of an autonomous shuttle. Providing free rides to the public that focus on demonstrating to individuals how the vehicles operate and how to use them is necessary for successful deployment.

Chris Pauly addressed public safety concerns associated with the launch and use of autonomous shuttles, stressing that there is redundancy built into safety systems and that the industry is continuing to invest in the development of new technologies to further enhance the safety of vehicles.

It was discussed that communities considering autonomous shuttles should prepare themselves for a lengthy process that engages the public, customers, local agencies and the federal government.
Taking Innovations From Campuses into Our Communities

This session featured emerging mobility research initiatives on campuses around the country and how the TDM industry can collaborate to advance new solutions to mobility challenges within our communities.

Dr. David Williams provided an overview of the Transportation Research Center (TRC), the largest independent vehicle testing facility in the United States. The facility will be the site of a new Smart Mobility Advanced Research and Test Center for autonomous vehicles and smart infrastructure. In addition, Route 33, running between Columbus and the TRC is being outfitted as a smart corridor to enable real-life testing. He said that data analytics are critical to the successful integration of autonomous vehicles and smart infrastructure into our communities.

Dr. Katie Turnbull described Texas A&M’s Campus Transformational Mobility Plan, with the Rellis Campus being developed into an innovation center. The goal is walkable, connected spaces, with more green space, enhancing the experience for all. Innovative technology and increased services is also part of the plan. Various scenarios are under consideration, depending on variables such as land-use, shared vs. private, and autonomous vehicles. Additional factors include density, parking, and pick-up/drop-off. Some specific enhancements that are being incorporated into the campus are smart bus collision avoidance systems (with data analytics revealing hot spots) and a Dutch junction to improve bicycle safety. She also discussed the rich source of data that can be gathered from bike share providers.

Stan Caldwell reported that Traffic21, a university-wide initiative at Carnegie Mellon began in 2009, has no dedicated testing site, so it uses the community for testing. He detailed Metro21 Smart Cities Institute, a collaboration among CMU, the City of Pittsburgh, Allegheny County, and other government entities as a forward looking creative approach to bringing people, technology and policy together to improve the quality of life in the Pittsburgh region. Through these efforts, Pittsburgh has installed real time bus tracking and sensors mounted on signals at 50 intersections, with 150 more to be added in the next three years.

Mr. Caldwell also reported that the multi-state Smart Belt Coalition, a collaboration among Pennsylvania, Ohio, and Michigan, is an active testbed working on autonomous and connected vehicle projects.
Microtransit Impacts on Transportation and Why Your Community Should Care About It

A common theme in discussions held on this topic was that while microtransit is often discussed, there is no commonly agreed upon definition. The Department of Transportation (DOT) has a definition of what microtransit is*, but as most people don’t know it, confusion remains. This means that for communities and stakeholders to have real conversations about the implementation of microtransit, we need to make sure we’re all talking about the same thing.

To begin with, it may be helpful to specify what microtransit is not. It is not a silver bullet but is rather one tool in a larger mobility toolbox. It is not able to replace mass transit systems but in can be used in conjunction with them to create a more seamless experience for the user. Microtransit is also not universally applicable: although it may work well in one situation, it may not in another. Some municipalities or other entities may find success with microtransit, but that doesn’t guarantee success in other similar situations.

The emergence of Uber and Lyft as major players in the transit space has helped change rider expectations. People tend to expect an on-demand service, which is not always feasible. In response, many groups are working to develop a system with seamless integration among transit services; however, we are not quite there yet. There are often gaps in the system which microtransit hopes to address.

Large agencies, whether government or private, are often not seen as nimble and open to change. However, agencies are now hoping that microtransit will provide something that is tech-enabled and demand-driven. This openness signals willingness to try something new and may inspire confidence in users.

* Editor’s note: Definition of microtransit posted on the USDOT’s Federal Transit Administration’s webpage https://www.transit.dot.gov/regulations-and-guidance/shared-mobility-definitions

“IT-enabled private multi-passenger transportation services, such as Chariot, Split, and Via, that serve passengers using dynamically generated routes, and may expect passengers to make their way to and from common pick-up or drop-off points. Vehicles can range from large SUVs to vans to shuttle buses. Because they provide transit-like service but on a smaller, more flexible scale, these new services have been referred to as microtransit. [TCRP Research Report 188]”
Embracing New Mobility Options to Improve Access for All

To kick off the discussion, the facilitator quoted the Mayor of Columbus: “mobility is the great equalizer” and told the story of her first car and the sense of empowerment she experienced through it. She described how, through her work with the City of Columbus, she discovered not everyone had the same opportunity and there are those who view transportation as a barrier instead of a form of independence. The facilitator explained the projects Columbus is attempting to implement to improve access for all: the multi-modal trip planning app with common payment system, mobility assistance for the cognitively impaired, and the prenatal trip assistance for pregnant women. She then opened the discussion for others to share the challenges they face in their own communities, the solutions they have implemented, and their overall experiences.

While there was overlap, each group seemed to focus on different aspects of improving access for all. Using the examples from Smart Columbus as inspiration, the first group of participants provided examples of how they are trying to solve this problem within their own communities. A participant discussed how they identified a mobility challenge among low-income seniors in Chicago; and partnering with a local utility company through their Community of the Future program, were able to provide mobility to the seniors, subsidizing a majority of the cost to use the service. Through a user-friendly website, the seniors can order an EV to take them places during selected operating hours. In Cleveland, a similar project is in development. They have identified three middle- to low-income areas that are linked together where access to public transportation is limited. To help tackle this issue, they are attempting to create a mobility network through the implementation of an EV car sharing program.

In contrast, the second group focused on the challenges they are facing within their communities. A few participants from Buffalo, NY, expressed frustration with the major political and structural barriers they are facing with bringing new emerging mobility options into the city. The group agreed that an educational process is needed to get people to use public transit for the first time. An initial fear of not knowing what to do prevents people from taking that first step.

The third group acknowledged that trying to fill in the gaps to provide mobility access to all was a necessary endeavor, but they focused on the real challenge of the sustainability of these programs. The group attempted devising solutions such as subscription models, but those were quickly discarded because low-income people typically follow a pay-per-use model. But again, with the pay-per-use model, the question arose whether enough subsidies would be available to make it affordable for everyone while making it sustainable. Unfortunately, there were no good answers to this question, as there are many moving pieces to this complex problem.

Although the three groups engaged in very different conversations, there were some clear underlying themes that resonated in each discussion. The most obvious was the need to engage with the community to discover their needs. You must first build a community of trust; only then can you fully understand the needs of the people. Once you identify the needs, then you can engineer a solution to the problem. All the groups agreed that too often we try to engineer a problem for a solution. These days it is easy to deploy the latest technology as quickly as possible. Unfortunately, if it’s not fulfilling a need, then it becomes an ostentatious display of technology for technology’s sake. Education and sustainability were two other recurring subjects. There needs to be set education processes to help people gain comfort with the services you want them to use. In addition, solution designers need to plan for sustainability and identify unique sources of funding to help subsidize the cost for the end user. While the ultimate solution is not clear, it is evident that partnership between the public and private sectors is critical. Any solution must be convenient, personal, connected, adaptive, and most important, it must be equitable for all.
Measuring the Evolving Mobility Landscape to Influence Mode Choice

Today’s mobility landscape is seeing macro-level trends, including the expanding desire for living in proximity to downtown centers. This increased urbanization is contributing to a mobility revolution in shared-use transit options. Originating with bike-share and rideshare, the shared economy is now seeing a second boost with e-bikes, e-scooters, and dockless bike-shares. With this shift in mobility, there are challenges that must be addressed. From a regulatory perspective, cities are imposing limits on the number of bike-shares in cities due to concerns with right-of-way complaints. From a bike-share business perspective, these businesses need to make money, and therefore they favor expanded adoption. Not only is there a disconnect between these perspectives, but cities also lack the appropriate infrastructure, and equity continues to be a concern when expanding these mobility options. Despite these challenges, what more can be done to help reduce the 70% single occupancy vehicle (SOV) problem?

The mobility choice spectrum includes a wide range of attitudes. At one end of the spectrum, there are individuals who will never reject the SOV, while at the other end of the spectrum there are individuals who will never reject bicycle transit. In between the two is a middle range of individuals who could be influenced to choose an alternative mobility option. Mobility choice should not be viewed as an “all or nothing,” but rather as a shift made from day to day. Rather than focusing on one big shift, taking smaller steps to encourage alternative mobility options will help grow the evolving mobility trend seen today.

Reduction of the SOV trend across the U.S. will come down to two factors: first, expanding existing alternative transit options and transit infrastructure, and second, incentivizing alternative mobility options and disincentivizing SOV usage. To reduce the SOV trend, existing transit options must be expanded to make multiple modes of transit available at all times. This involves not only expanding current infrastructure but also reducing the barriers that exist between different transit options. Mobility choice is weighted largely by convenience; therefore, developing a common payment method among mobility options will help grow first mile/last mile alternatives that would previously have been undesirable. Mobility as a Service (MaaS) would likely need to be implemented under one common platform that allows for seamless transitions from one mobility option to another.

From an employer perspective, reducing traffic, eliminating parking costs, increasing sustainability, and increasing employee retention are all huge factors in helping to incentivize alternative mobility options. By incentivizing alternatives through options such as monetary and employment benefit credit payments to employees, companies would not only increase employee retention but also save money on parking infrastructure. From a policy perspective, a stricter approach to congestion could involve imposing large fines for bringing a single occupancy vehicle into downtown urban cores.
Conversations around “advanced mobility” have been dominated by voices from the private sector. This is not only due to the new companies being formed around this industry, but also the perception that government is slow, bureaucratic, and not ready for change. This perception is not unfounded; city officials in the session expressed opinions that align with this general thought. In each session, city officials said that in the public sector, change is seen as scary. A prevailing fear of failure prevents city governments from adopting the philosophy of “fail quickly.” Officials expressed concern with the lack of consistent funding for mobility innovation projects, lack of leadership and political will, and the fact that city processes are institutionalized.

While obstacles to government becoming a mobility accelerator seem high, officials and entrepreneurs from around the country have found success with some of their initiatives. Cities like Austin and Detroit have hired individuals to act specifically as “innovation directors” within city government, and positions emphasizing smart mobility in the public sector are opening around the country. However, questions arose as to exactly how smart mobility ideas and innovation could be integrated throughout a city’s projects. Some argued that a dedicated innovation group (conferred with authority from the top) in each city government would be able to share ideas and spark change throughout departments, while others thought that every department should have a dedicated “innovation director” as a source of knowledge. Another option is groups like the Texas Innovation Alliance which are external to government, but which bring together leaders from Houston Metro, VIA, HCAC, and Texas A&M to discuss provider solutions. Most session participants agreed that unless city leadership is open to change, groups like the TIA or city innovation groups will not be able to change much.

Much discussion was focused on procurement issues. There was a general distaste for the use of RFPs to accelerate mobility solutions in a city, as resulting contracts can harness a city to a provider’s solution for years. Referring specifically about bikeshare programs, one city official is seeing a move away from RFPs towards permits, pointing out that while an RFP allows negotiations by winners, a permit maintains standards. Another suggested that a move to permits for carshare initiatives could stipulate that “for every two spots downtown, a company will need to provide one outside of the city” to spur carshare growth equitably for all residents. Another solution proposed to recent procurement pains was the suggestion of “problem-based procurement,” getting rid of huge prescriptive documents in city proposals. Instead, the ‘problem-based procurement’ paradigm focuses on laying out a problem and allowing the private-sector to suggest how to solve it.

Some cities are working closely with the private sector, like COTA in Columbus. COTA was in discussions with Chariot, offering to share data in exchange for help with bus routes that they could not service themselves. COTA offered Chariot a grant if they could pick up a service, because there was no procurement process, and COTA could not officially contract out transportation services. Start-up companies like Sway are working in smaller cities like Akron, Ohio, to implement rideshare solutions, in hopes of scaling these solutions to larger cities. Smaller cities seem more willing to take risks, and this enthusiasm seems to be more attractive to the private sector.
Integrating Dockless Bikeshare into Your Mobility Strategy

Dockless bikes can fill gaps in mobility systems if they are well planned, regulated, and operated. Three benefits identified by participants included: door-to-door convenience, no cost to municipality/university, and serving the entire community (by avoiding the limitations of docked bikeshare).

No longer limited by the dock requirement, dockless systems are offering door to door convenience, a huge benefit in addressing first/last-mile barriers. Dockless bikeshare might be incorporated into a seamless multi-modal transit package through a common fee-card. Other considerations are the potential for cooperation among transit authorities, carshare, rideshare, and bikeshare operators and whether it is possible to design and develop useful multi-modal trip planning apps. The city mobility pass in Washington DC is an example of combining multiple transit modes into one payment method. Pricing zones for bikeshare based on proximity to transit stops (or other factors) could be possible.

There is no monetary cost born by cities or campuses to implement a dockless bikeshare program, but there are potential indirect costs, from regulations to wrangling, that need to be considered. Cities and campuses need to communicate their goals and expectations, so community members feel a sense of inclusivity and stewardship rather than mere consumers. Factors that make a community attractive for a dockless bikeshare operator could be size and density, bike culture, weather/climate, how welcoming the community is to electric vehicles, and number of annual tourists. One operator’s target is to identify areas that would support 2-4 rides per bike per day.

Dockless is a step toward expanding bikeshare to lower-density areas and traditionally underserved areas. Serving the entire community means serving people who may not be used to riding bikes on city streets and could require an education component built in to the dockless bikeshare model to help keep people safe. Engaging local groups to conduct workshops on safe urban riding and using the system may be necessary. Methods of payment by unbanked riders, discounted fees for disadvantaged riders, and employer-subsidized benefits to employees are other ways to expand reach. GIS and other location analytics are useful tools to plan system boundaries and bike fleet distribution.

Three challenges to implementing dockless bike share systems are bike parking, fleet management, and permitting/licensing. Nearly everyone understands where and how to park cars, yet this is not the case with parking bikes, especially if using bike racks is expected. Cities don’t have nearly enough bike racks to accommodate the parking demand if every dockless bike is parked at a rack, while universities tend to insist that bikes be parked exclusively at racks. Without appropriate bike parking guidelines, many dockless bikeshare riders left bikes where they finished riding them, ignoring the nuisance they were leaving for someone else. Many cities are now working on recommendations for proper dockless bikeshare parking.

Compared to docked systems with service level agreements and guarantees of service, today’s dockless systems are more like land use agreements. There are various merits of working in single-operator vs multi-operator environment. Concerning rules, in a multi-operator situation, cities act as referees between the vendors, which works best if everyone in the relationship understands the rules and expectations from the beginning. The primary advantage of multiple-vendor systems is that market competition leads to better pricing for consumers. A single-vendor system, on the other hand, creates a single point of contact for city or university; it also minimizes effects of the uglier side of market competition, bike clutter, and refereeing vendor disputes. Permitting and licensing issues are perplexing to many cities and universities. Most cities do not have regulations in place, let alone infrastructure or support staff, to be prepared for a rapid implementation of dockless bikeshare.
Discussions began with a conversation of what “low density” meant. For some, a population of 800 was considered low density, yet for others, a community of 80,000 was considered low density. With the wide range of perceived density, mobility solutions that are effective in each of the communities also vary greatly.

How to get people to/from medical services in rural areas is an issue. A solution was to “flip the system” and have medical services go to the people. Last mile would still be an challenge, but potentially having an autonomous vehicle take height, weight, etc. and allow a person to talk with doctors remotely could solve a major challenge. If a medical issue appeared to be present, emergency services could be dispatched to the site or the patient could be transported in the vehicle.

Keeping and improving mobility options in rural areas is also a challenge. Underutilized busses or limited requests for on-demand services result in these options disappearing. Introducing a car-share to a neighborhood would be a great solution, but operational costs are often too high to make the option sustainable. New vendors are working to get employees to work, but these solutions are not well suited for rural areas. Could a company provide vehicles and insurance or for owners of vehicles to receive a portion of the ride fare (along the lines of sharable assets)?

Most rides in low density communities are not documented and come from friends, religious groups, and other personal networks. Can we quantify the need for ride solutions and tap into the willingness of community members to help? A solution suggested was similar to an “eharmony” for transit where community members are prequalified, have payment information stored, and can schedule directly by simply logging in. Additionally, there would be an on-demand request/accept function among the prequalified users to connect.

Trust and reliability of the options is also required. Users must know that whatever mode of transportation they are attempting to use will be where it is supposed to be when it is supposed to be there. Without this, it is almost impossible to increase the use of any mode of transportation. Other important goals are serving farmers and refugees and overcoming the language barrier.

Defining “internet-challenged” communities is important. Urban areas typically have internet access or at least the ability to access a wireless plan, but dead zones still exist. There is a stereotype that rural communities are technologically behind and may not desire transportation options. Having access to internet services, an email address, and the necessary banking options are required to access most tech based mobility options. The combination of low density, internet-challenged, and low-income communities is a trifecta of problems that is extremely difficult to overcome. Who is going to foot the bill to avoid an economy of haves and have-nots?

Finally, there is the question of barriers for adoption of technology within 15 years, specifically in rural areas. The main barriers mentioned were language, trust, cost per service, access to charging stations, lack of congestion and the supply of free parking. It was the belief of some participants that low density and internet-challenged communities will not change much, if at all, in the next 30+ years. One point, agreed upon by all, was that there must be champions in each community to tackle the unique problems present.
Growing Low Car Living Through Car Sharing

Growing low car living can be accomplished by offering mobility solutions that allow users to feel that they have options available to meet their needs. Car sharing is one piece of the puzzle and can give reassurance that a vehicle is available when needed and reaffirms that it is not necessary to own a vehicle and pay for all related vehicle costs to have one sitting in front of your residence.

Participants in this discussion group focused on how to convince individuals within urban areas and/or university campuses to utilize car sharing services rather than their own vehicles. This is no small challenge as many people, especially those outside of large urban areas are not yet fully supportive of a sharing environment and still feel a requirement to have access to their own vehicle. Before we can convince families to reduce car ownership we need to be able to address their concerns of accessible transportation options that meet their needs.

Depending on where people live and the options available to them, it may take them longer to ride a bus or walk to the location of a car sharing vehicle than to just hop in their vehicle and drive to their destination. People will only walk so far to pick up a car sharing vehicle before they feel that this is not a valid option for them, and only so many vehicles can be placed and still be profitable for the car sharing company. In the future, this may be accomplished by autonomous car sharing vehicles that will drive to your location and pick you up, instead of you having to get to the vehicle’s location to pick it up.

We need to be ready to challenge how people think about transportation. Some residents think more about whether driving a car is the right decision, while others are programmed to think of using a personal car as their first option. It is likely people will not be willing to quit car ownership “cold turkey”, but they may be willing to reduce to one vehicle at first. This allows people to see the benefits of not owning a vehicle. We also tend to notice what others are doing. If “car lite” or no cars becomes part of our culture, people will think, “the neighbors are able to live without a car, why can’t I?” Thus, people come to think that no car living may be an option for them.

One way to start the change in culture is to get support from developers and the city code to build mobility options into the development process. Instead of developers having to build parking for residential buildings, the code could instead state that parking could be reduced or not built if other mobility options are made available, such as car sharing spaces at the building. Such options may help incentivize locations that offer mobility options.
Discussions focused on new ideas and successes of employer led commute programs; and employee motivations to use them. This led to a deeper conversation about how to motivate an organization to understand the need and build internal support for a comprehensive commuter benefits program that incorporates all options available. Key factors that were identified as necessary for a program to succeed at a work site included:

Having an executive sponsor for the commute program

Having a senior executive advocate and promote internally the benefits to the organization and the positive impacts on employee satisfaction, cost savings (reduced parking needs), and positive community/social benefits can smooth the deployment of a program.

Having a business imperative and measurable goals

An impending challenge or target goal should be used to align the need for establishing a program with the goals of senior leadership. Examples could be competition to recruit top talent, removal of parking to build a new facility, air quality/environmental goals.

Ensuring the program is ROI positive

Calculating the return on investment of a proposed commute program will help proponents and the organization’s leadership understand all costs associated with employee transportation needs (parking, transit, productivity, etc) and how the organization should invest its resources accordingly.

Having rich data about employee commute activity

Gaining insights about how, when, where, and why your employees will allow organizations to develop more viable commute choices and direct resources to where the most benefit can be achieved.

Having rich communications and employee engagement

Having the ability to deliver targeted and regular communications is important to drive effective promotion efforts that lead to behavior change.

Ensuring all options are available and promoted

Organizations should think of their commute programs as the new, most sought-after employee benefit that provides flexibility and choice for all generations, and all employees. It helps manage a valuable business resource – parking spots – and measurably changes employee perceptions about the care that their employer has toward employee satisfaction and well-being.

Another point concerning employer-sponsored commute programs was that companies must be flexible in different markets because there is no “one size fits all” answer. A commuter program that works well in one community may not be as successful in another. To help with differing needs, commuter programs should be designed to be flexible.
Using Mobility Hubs to Enhance Transportation Demand Management

Participants made the points that virtual and physical locations can work in tandem and that both are needed. Creating a physical mobility hub will give people a more personal interaction that could accompany online tools.

The Gohio Commute system (https://morpc.gohio.com/) is a platform for people to find mobility options. Mid-Ohio Regional Planning Commission (MORPC) owns the contract and incorporates all mobility options statewide including car share, bike share, Central Ohio Transit Authority (COTA), carpool, vanpool, the Ohio-wide bus system (GoBus) which connects college campuses, electric vehicle charging stations, and emergency ride home. MORPC collects all data through the hub.

There is a significant advantage for all Ohio MPOs to be on the same system, both in cost savings to the MPOs for sharing the same system and the increase in the potential pool of commuters for ridematching. One cautionary detail is that Columbus employers do not automatically know how to incentivize employees to use mobility options but the outreach to employers and the tools provided made a difference. To remove the barrier, employers need an entry level program for the first 18 months, with someone to manage the process and build internal demand. Finally, MORPC is missing the payment option, although University Circle, which is on the Gohio Commute system, has created a cash-out incentive program.

In the past, Central Ohio didn't focus efforts on how commuters got to work. However, now through the Columbus Partnership and Smart Columbus program, they are now pledging to reduce drive alone commutes and they are working directly with employers to implement programs. In exchange, employers are able to receive detailed data about the programs impacts. Employees record every commute option and log their own trips and incentives for each employee can be supported through any employer, not just MORPC.

One question brought up by participants is how the app can be centralized to link to all transportation options, including Lyft and Uber, when these companies and other mobility providers don't want to lose the customer service experience from their own branded apps.
Mobility as a Service (MaaS) – Overcoming Implementation Obstacles

The definition of MaaS is unclear and can mean different things to different people. MaaS can imply mobility-on-demand, all modes appearing in one mobile app, and the ability to pay for a selected service, with funds flowing to various vendors. It may even enable mixing and matching mobility packages and identify occupancy – of parking spaces, seats on a vehicle, and rideshare. Finally, MaaS could involve pushing dynamic pricing to drive behavior changes. Some even suggested, congestion pricing could also be implemented on highways or in other situations.

There are numerous barriers to MaaS integration, starting with software/hardware decisions. Hardware companies and proprietary hardware and software can create barriers if a credential must be shared among providers, such as an access card. In addition, MaaS software is usually sold as a service and licensing fees can become cost-prohibitive, especially for non-profits. In-house development can also be costly and requires dedicated resources to manage changes of APIs and payment options.

Data standards and licensing need to be defined up front. Common data standards would be helpful so that vendors do not have to negotiate with each customer individually. There are potential issues with data ownership as trip tracking may be viewed by the public as a challenge if a government or municipality has access to it (private companies such as Uber and Lyft holding such information doesn’t seem to be as concerning). Opening up access to rider data through Freedom of Information Act requests may also need to be addressed. Data expectations should be carefully articulated in advance according to what questions need answers; overly general requests for data may not produce useful results.

There are potential barreiers surrounding payment. A common payment platform, which is a very technical endeavor, will need to be developed at a reasonable/affordable cost or in an open architecture. Trust can be a barrier over whether money collected in a central payment system will get back to the service provider and whether reports can be provided to demonstrate alignment in sales with funds transferred. There is no known ability to use a mobile payment platform to apply fees to an account for services consumed and get reimbursement on the back end. Finally, in a dispute, there could be questions to whom payment should be made to: the app owner, the mobile payment provider, or the service provider.

In addition, the business case for MaaS is challenging when the need is to address human services (access to options) but demand exceeds supply. Dealing with government agencies, whether for procurement or for new build can be problematic as processes are not yet easy for technology issues. Another question revolves around when interoperability is helpful or just causes more noise. Reliability issues can arise as poor or inconsistent service from one provider included in the app reflect poorly on the entire MaaS service.

As far as ownership, a city or large driver of the service may want to own (and brand) the app. The app must remain public to an extent and allow private providers to integrate with the app seamlessly to reach customers and to ensure the app is comprehensive and easy to use.

Opinions varied on whether MaaS will modify behavior. Normally, change in behavior is best driven by adjusting price to reflect demand. However, dynamic pricing tends to initiate an equity discussion and has the potential to adversely impact lower income individuals. Incentivizing behavior by offering transportation credits on other modes if X happens could be more impactful. In general, how the transportation mode is designed may influence expectations; if it is designed to look like a public space, people are less inclined to feel it should be a solo ride.
Identifying Research Needs to Support the Future of TDM

Common themes emerged from the three discussions focusing on behavior change, decision-making, need for standardization of measures and data across the industry, and university engagement. The groups all highlighted the importance of data in making the case for support and funding of TDM efforts to their respective governing bodies.

The need for more research on the psychology of behavior change received special attention. Participants were interested in knowing how people make decisions when faced with a suite of options, how people’s aversion to sharing versus their need to be social impacts transit decisions, and how altruism and selfishness factor into their decisions. They were also interested in the psychology of choosing one mode over another, in hesitancy of adoption and in learning whether hesitancy is mode-specific. The groups all noted the need to take pointers from more successful industries in creating behavior change, i.e. smoking rates reduction and automotive industry/car sales.

Participants were interested in the price elasticity of car ownership and parking, specifically, in finding the price points for parking and public transit that would induce people to leave their cars. However, concern was raised that the industry may be focusing too heavily on price and ignoring the benefit of ease of use. The groups noted the need for research on mobility benefits (pre-tax deduction, preferred parking) and how they impact adoption.

All three groups highlighted the need for standardization of what to measure, how to collect it, and how to record the data so that it could be aggregated into a central repository accessible to all practitioners. It was shared that Mobility Lab will be rolling out the TDM ROI set of calculators to analyze ROI for investments in TDM. Participants were interested in how the data could be aggregated and put into a publicly accessible database to help make the case for TDM. Additionally, they noted the importance of engaging academics and students in data collection and analysis efforts. They noted that many practitioners lack the skillset and time to properly analyze the data they receive.

The main barriers to research identified by the groups were lack of funding for research, lack of funding to drive behavior change through marketing campaigns, lack of knowledge on how to engage university faculty and students for research projects, and what to do with the research to make it accessible to a national audience.