ROADMAP FOR THE FUTURE OF TRANSPORTATION AND MOBILITY IN CHICAGO

CHICAGO'S NEW TRANSPORTATION AND MOBILITY TASK FORCE

MARCH 2019

CITY OF CHICAGO
MAYOR RAHM EMANUEL

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Letter from the Mayor

Dear Residents:

Chicago is renowned for its world-class transportation system, but to maintain our leadership in mobility we will need to thoughtfully reinvent our City for the future. Chicago must immediately contend with challenges as substantial as global climate change and urban equity and facilitate the adoption of new and sometimes disruptive mobility innovations, like ride-hailing services and autonomous vehicles. We must continue evolving our infrastructure to serve all Chicago residents and finding new ways for transportation to catalyze economic opportunity.

I convened the Chicago New Transportation & Mobility Task Force to ensure Chicago remains on the forefront of urban transportation and mobility innovation. Our economy depends on it.

Chaired by former U.S. Department of Transportation Secretary Raymond LaHood, the New Transportation & Mobility Task Force provides a vision that supports a vibrant public transit system and effectively incorporates new mobility services and technologies into Chicago's transportation network. The Task Force identifies immediate actions and long-term strategies that support our City's larger goal of providing a multi-modal transportation ecosystem that is reliable, equitable, and environmentally-sustainable.

With this report, Chicago is equipped with a set of ambitious recommendations from creative, forward-looking thought leaders in transportation. Chicago will have to pioneer new solutions within a changing transportation landscape, and the strategies developed by this Task Force will guide Chicago in its efforts to lead the transformative change that is needed.

I look forward to watching the many innovative approaches recommended by this Task Force manifest in a 21st Century transportation system for all residents, visitors, and businesses—both now and in the future.

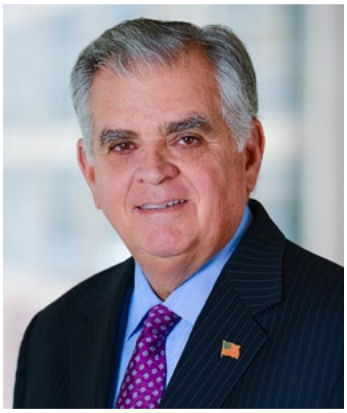
Sincerely,

Rahm Emanuel

Mayor

Letter from the Chairman

Mayor Emanuel:



I would first like to commend you for establishing the Chicago New Transportation & Mobility Task Force to ensure Chicago remains on the forefront of urban transportation and mobility innovation.

I also want to thank the Task Force members for developing this report and helping to lay the groundwork for a critical component of Chicago's future. In several meetings over the past few months, the Task Force has worked tirelessly to provide concrete recommendations that will benefit all Chicagoans and enhance the development of Chicago's leading transportation system.

To address the City's many complex, interrelated transportation challenges, the Task Force members leveraged their expertise from business to community engagement and government to craft over 50 meaningful recommendations. In addition, the Task Force engaged multiple advisory members from academic institutions, start-ups, well-known transportation providers, non-profits, foundations, and advocacy groups to further refine its approach.

To execute on the forward-looking vision set forth in this report, the City will need to build on common-sense funding sources to ensure the sustainability of our robust transportation system. Beyond funding, the City must also establish flexible policies that foster innovation and bring economic growth to all Chicago neighborhoods. From public-private collaboration in piloting new mobility options to studying the future impact of electric vehicle adoption, Chicago must continue seeking creative means to bring about the next generation in transportation.

As we go forward, we should continue to re-evaluate whether today's solutions will address tomorrow's challenges. The principles and recommendations set forth here will serve as important first steps in guiding the future of transportation, and the future of Chicago.

Sincerely,

Ray LaHood

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SECTION 1: EXECUTIVE SUMMARY

Mayor Emanuel created the New Transportation and Mobility Task Force in September 2018 to present a forward-looking and innovate roadmap for the future of mobility and transportation in Chicago. Chicago is renowned for its world-class transportation system, but in order to maintain its leadership in mobility, the City needs to thoughtfully address existing challenges and pioneer an innovative vision for the future.

The Task Force is comprised of 20 experts and thought-leaders from government, business, neighborhood and civic organizations, research institutions, and not-for-profits in the transportation, mobility and technology sectors. The Task Force met over six months to develop this report, and over 40 industry experts and stakeholders provided information and consultation to the report, ensuring this report is a comprehensive and focused vision for Chicago's transportation system.

To prepare this report, the Task Force examined existing challenges within Chicago's transportation system from accessibility concerns to rise in ride-hailing trips and congestion issues and the need for additional funding for infrastructure. The Task Force also discussed the future of transportation, including the advent of autonomous vehicles, expansion of electrification, implementation of new micro-mobility services, growth of freight delivery, and need for uniform data collection and data sharing. The Task Force is presenting recommendations that will allow the City to modernize and expand its multi-modal transportation system to ensure affordable, accessible, reliable, and efficient service options for residents, businesses, and visitors now and into the future.

The Task Force grounded its recommendations in a set of principles for government leaders and stakeholders to follow when developing policy, planning for infrastructure, launching programs and pilots, and studying new innovations and services. These principles are:

- A transportation system that is safe for all users;
- Mobility choices that are accessible, equitable, affordable and non-discriminatory;
- Economic development that is inclusive and innovative;
- A city that is efficient, smart and reliable;
- Communities that are sustainable, healthy, and built using universal design principles;
- Data and information that is actionable, transparent, shared, and secure, and
- Regulation of private providers that is guided by public benefits.

Based on these principles, the Task Force developed a set of seven interdependent recommendations to support an efficient, affordable, reliable, and accessible multi-model transportation system:

1. Streamline governance and management of transportation system and policies within and across city departments, agencies and private sector;
2. Develop uniform, detailed, and secure data sharing requirements between public and private entities;
3. Support investments in transportation infrastructure to meet the City's mobility goals;
4. Encourage reduced dependency on single-occupancy vehicle trips and increased use of higher-efficiency options;
5. Build an accessible, affordable, and convenient multi-modal transportation system;
6. Advance a transportation and mobility system that promotes the environmental health and sustainability and improves overall livability of the city; and
7. Prepare Chicago for Connected and Automated Vehicles.

These recommendations are supported by over 50 specific actions, policy changes or studies, including:

- **Increasing the State of Illinois' Motor Fuel Tax and look to develop alternatives (such as Vehicle Miles Traveled tax -- VMT) for future implementation.** Today, user taxes on gasoline are the most effective and reasonable method to raise significant and stable funds for infrastructure. The Task Force supports an increase in the federal and state motor fuel taxes in 2019, indexed to inflation, to fund statewide investments in infrastructure and transportation. The City and the region should also actively work with state and regional partners to pursue new methods, pilot or test various solutions to the gas tax for the future. For example, Vehicle Miles Travel tax.

- **Incentivizing businesses to provide public transit benefits to employees.** Many businesses in the downtown area offer parking incentives to its employees, which contributes to high levels of single-occupant vehicle use and congestion. A number of cities have developed "Travel Demand Management" programs in order to reduce overall demand for low occupancy vehicle trips. These programs include a variety of strategies, including working directly with employers to align incentives for employee travel choices with citywide transportation policy goals. The City and CTA should promote adoption of such strategies among corporate sector and large institutions, including expanding participation in existing CTA and Metra transit benefits programs, reducing the practice of providing free or subsidized parking which encourages employees to drive to work, and identifying other incentives.

- **Determining a governance framework for uniform data-sharing.** The future of mobility is rapidly evolving through new information and technology. Data systems have increasingly become as much a part of our transportation infrastructure as roads, bridges, and rails. The City should capitalize on this development by establishing more uniform and transparent data-sharing between public and private entities. A data-sharing and system integration model should realize the potential for mobility payment, pricing, and trip planning to be integrated and centralized in various ways; and provide for safe and easy testing, implementation and licensing of new mobility methods and leverage date to better manage infrastructure, improve planning and expand access.

- **Investing in critical infrastructure, establishing data sharing requirements and launching an autonomous vehicle (AV) pilot in Chicago.** The City must take a proactive approach to understanding and guiding development of AV technology, while stressing that deployment must be in a safe and reasonable manner, considering a wide range of stakeholder interests. The City should set a vision for how AVs can transform Chicago and actively work to promote awareness around this technology. This includes the City pursuing pilot opportunities to better prepare for the launch of AV technology. Specifically, the City should pursue an AV pilot in Chicago that will expose Chicagoans, visitors, and businesses to AV vehicles and help build trust of the technologies, while providing an innovative testbed for a myriad of stakeholders.

- **Ensuring micro-mobility services and new mobility options are accessible for all and do not impede the public way.** The City should work to expand the availability of shared bike and other micro-mobility programs to offer a range of accessible bikes and micro-mobility devices. With the growth in micro-mobility options, these options can impede access to the public way. Therefore, the City should develop clear policies around right-of-way placement and use of micro-mobilities in the public right-of-way. These policies will help to ensure shared bikes, scooters and other dockless mobility devices are not an impediment to access of the public way.

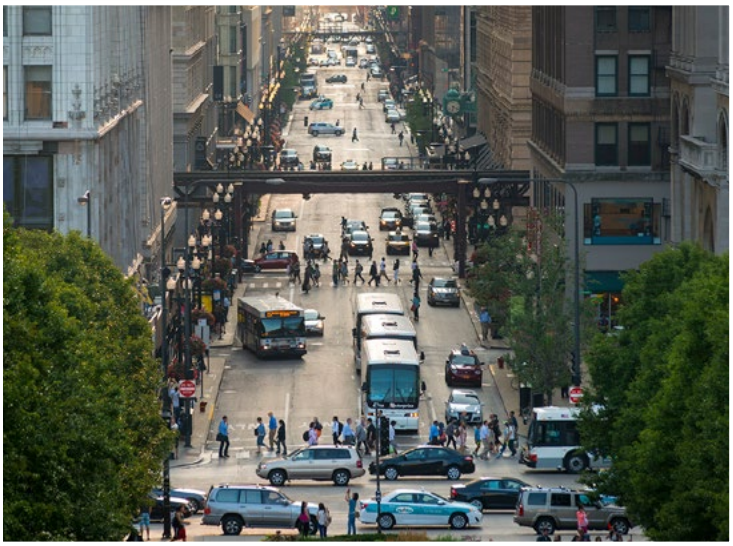
- **Requiring the City to lead in use of electric vehicles (EVs).** The City must enhance its role as a leader in the use of electric vehicles. This includes supporting the CTA as they transition to 100% electric buses by 2040, testing electric charging infrastructure in the City, and investing in a municipal EV fleet through Drive Clean Chicago.

- **Conducting a scooter-sharing pilot in 2019.** To expand micro-mobility options in Chicago, the City should conduct a modest pilot of scooter-sharing in 2019 in an effort to collect data to understand: (i) safety issues (scooters should be capped at 15 mph), (ii) impacts on the visually impaired and other people with disabilities (including sidewalk clutter, accessible right-of-way and building access, and low-levels of sound), (iii) operator performance in managing sidewalk clutter and storage and access to buildings and the street, (iv) best locations or uses for these services, including storage and parking, and (v) effects on the Divvy system, transit and commuting choices.

- **Evaluating the transportation-related taxes and fees to determine opportunities to restructure the rates to promote reduced reliance on single occupancy vehicles and encourage additional use of high-capacity, high-efficiency options (CTA, Pool Vehicles, Shared Vehicles, Bikes, etc.).** The City should evaluate a restructuring of its Ground Transportation Tax (GTT), car rental taxes, lease taxes, parking taxes, and other mobility-related taxes and fees. The evaluation should be focused on identifying changes to existing structures to promote public transit and shared trips, encourage equitable, accessible and clean mobility services, and reduce reliance on single-occupancy vehicles and single-passenger trips.

- **Establishing a Chief Mobility Officer.** The City of Chicago should establish a Chief Mobility Officer within the Mayor's Office to (1) coordinate transportation policy with identified mobility leads across city departments and sister agencies (2) lead engagement with mobility providers and (3) stay abreast of domestic and global initiatives to determine applicability to Chicago. A Chief Mobility Officer will provide the Mayor's Office a resource solely dedicated to coordinating across the municipal government and the broader region to better align policy decisions. The role would not displace basic operations performed by departments and sister agencies, but rather, it would leverage these existing resources to define and implement unified mobility strategies.

2 CHICAGO'S CURRENT TRANSPORTATION AND MOBILITY LANDSCAPE



Chicago has a world-class transportation system, offering a diverse set of options from a robust public transit system of buses and trains, walkable neighborhoods, an extensive bike land and trail network, taxis, new modes like Transportation Network Providers (TNPs) or ride-hailing services and Divvy—one of the country's largest bike sharing systems. Add in one of the busiest airports in the world and the largest freight rail hub, and it is clear why Chicago is well-known for having a high-functioning, multi-modal transportation system for its residents, visitors, and businesses.

To maintain Chicago's position as a world-class transportation hub, the City must continue to effectively manage the City's multi-modal system, make investments in infrastructure and services, and support the safe, equitable and sustainable adoption of new services. Transportation infrastructure and mobility in the City is primarily managed by the Chicago Department of Transportation (CDOT), the Chicago Transit Authority (CTA), the Department of Business Affairs and Consumer Protection (BACP), the Mayor's Office for People with Disabilities (MOPD), and the Office of the Mayor. These entities set the City's transportation policies and goals with input from aldermen, residents, businesses, not-for-profits, community advocacy groups, and research institutions. These departments and agencies also build and maintain infrastructure, deliver services, and regulate operators.

CDOT oversees and ensures the proper working conditions and environmental sustainability of the City's surface transportation network and public way. This includes over 4,000 miles of roadways, 413 bridge structures including 41 movable bridges, 292 miles of bike lanes, 300,000 street lights, and 3,000 signalized intersections, while also building portions of the CTA system and stations. CDOT is also responsible for education and outreach on traffic safety. The City is a nexus for road and rail freight, and CDOT plans for freight rail, truck routes, and grade crossings to support economic development.

CDOT's annual operating budget is over $160 million which is funded through the City's operating dollars including the Corporate Fund, the Vehicle Tax Fund, and the Motor Fuel Tax Fund. For capital funding, CDOT receives on average $200 million annually in federal and state grant funding and millions more through Tax Increment Financing and municipal bonds.

The CTA operates the nation's second largest public transportation system and maintains train lines and bus routes in the City of Chicago and 35 surrounding suburbs. CTA provides 1.5 million trips each weekday and 81% of the public transit trips in the six-county region. The train system has 8 lines, 224 miles of track, and 145 stations. CTA's bus system has 129 routes and over 10,000 bus stops covering approximately 1,500 route miles. CTA also manages the Ventra fare system for all three transit agencies, works with the City and region to develop and implement transportation policy, and manages construction work for major rehabilitation and expansion efforts. Since 2011 the CTA has completed, begun, or announced more than $8 billion in projects to modernize and upgrade the bus and rail system.

CTA is one of the most efficient transit systems in the country with an affordable flat fare structure that ensures equity for all users. CTA recovers 35% of its bus operating costs from

fares, the highest among peers in the country and the L recovers 50.8%. CTA is also supported by public subsidy, most of which comes from the regional sales tax, state funds, and Chicago's real estate transfer tax.

Supporting the CTA is the Pace Suburban Bus System and the Metra Commuter Rail System. The Pace Suburban Bus system operates all paratransit within the region, including within the City of Chicago, and the Metra commuter rail system has 77 stations on 11 lines within the city limits.

BACP licenses, educates, regulates, and empowers Chicago businesses to grow and succeed. They work with over 60,000 businesses, including licensing and regulating over 10,000 public passenger vehicles, 14,000 public chauffeurs, and over 100,000 transportation network vehicles and drivers. Licensed public passenger vehicles includes taxicabs, TNPs, livery vehicles, charter buses, horse-drawn carriages, pedicabs, and commercial passenger vessels.

MOPD promotes total access, full participation, and equal opportunity in all aspects of life for people with disabilities through education and training, accessibility compliance, public policy, and direct services. MOPD helps to ensure the City complies with accessibility requirements for both public and private services as well as assists with transportation policy development. MOPD works with CTA, CDOT, BACP, and other city agencies and departments to ensure accessibility and inclusion within the City's transportation ecosystem.

The Office of the Mayor sets the City's policy objectives for transportation and mobility and works to ensure alignment of these objectives across all departments and agencies. The Office of the Mayor is responsible for leading advocacy at state and federal levels around both policy and funding and seeks to ensure wide-ranging support among community stakeholders for its policies. The Office also leads collaboration between the public and private sector to develop forward-looking solutions that benefit residents and businesses across Chicago.

There are other departments and agencies within the City of Chicago that support transportation and mobility management. The Department of Finance is responible for parking enforcement and tax and fee revenue collection. The Office of Emergency Management and Communication (OEMC) assists with traffic and pedestrian management during major events.

Collectively, these departments and agencies manage the City's transportation system, set policy and coordinate with multiple stakeholders from all levels of government, advocacy groups, community organizations, and the private sector.

McKinsey & Company's *"Elements of Success: Urban Transportation Systems of 24 Global Cities"* provides a comprehensive review of transportation systems within 24 major global cities and compares these global cities on five metrics – availability of transportation, affordability, efficiency, convenience, and sustainability. (McKinsey & Company, June 2018) Chicago ranked 7th overall out of 24 cities, and 1st out of the 4 cities in North America. The report cites Chicago's position as a leader in road infrastructure, private transportation efficiency, public transit comfort and affordability, and the availability of digital ticketing as the main reasons for our high rank. The report also notes that "[d]espite having a well-developed transit system, the [Chicago] residents mostly rely on private vehicles". (McKinsey & Company, June 2018)

While Chicago is clearly a global leader in transportation, challenges persist and the rapid changes taking place in mobility offer the opportunity for new conversations, policies, and investments. Today there are several critical challenges to our existing transportation systems:

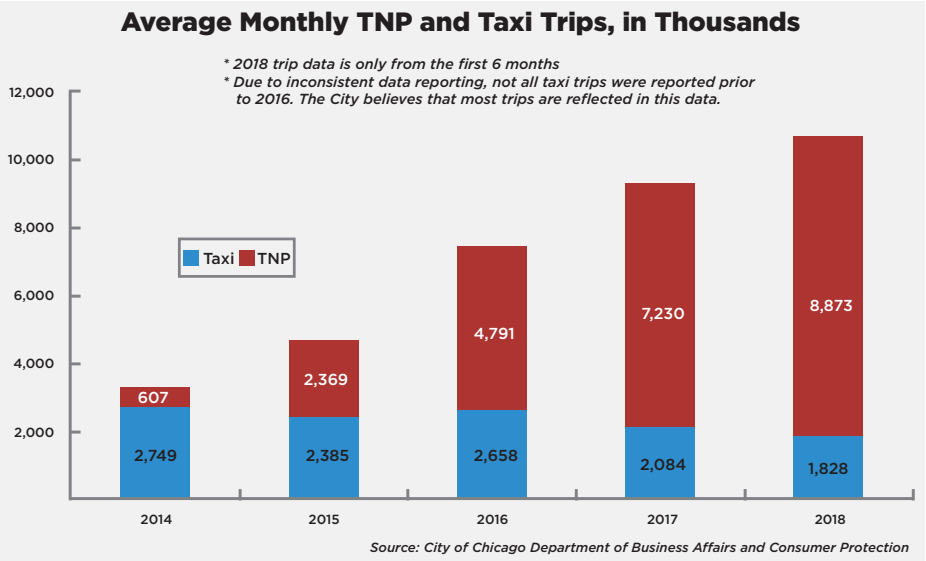
1. Lack of sufficient and sustainable funding. Underpinning each of the following issues is the availability of public funding to repair and maintain existing infrastructure, operate services, and to plan for future needs. State budget issues since 2015 have culminated in a cut of almost $50

million annually in CTA funding by 2018. Further, there has not been a state capital bill since 2009, and federal infrastructure dollars are scarce. The City and CTA have done remarkable work to invest in transportation infrastructure with limited resources, but without adequate funding, the City cannot maintain that momentum. This condition poses challenges for future planning with the need to invest not just in state-of-good-repair maintenance, but advanced technology and modernized mobility systems.

2. Decreasing public transit ridership. As with many transit agencies across the country, CTA has been experiencing ridership losses. While there are multiple potential reasons for this loss, including low gas prices, it's clear that the rise of TNPs and the changing mobility landscape are contributing factors. It is critical that CTA continue to be supported with policies that ensure its future growth and continued modernization.

3. Lack of clear principles to guide implementation of new transportation options. In addition to TNPs like Via, Uber, and Lyft, there are new modes entering the market at a rapid pace, such as electric-assist and dockless bikes, electric scooters, free-floating car sharing, and soon, the advent of autonomous vehicles. Boston Consulting Group (BCG) forecasts that by 2030 approximately 40% of all miles traveled in Chicago will be via shared autonomous electric vehicles (BCG, December 2017). Chicago needs a clear set of principles and future-looking policies to provide the proper framework for effective integration of such new transportation options.

4. Rise in lower-capacity, low-efficiency trips. Due to availability, ease-of-use, and relative-affordability in certain parts of Chicago, travel through TNPs, including pooled trips, has increased in Chicago from an average of 2 million monthly trips in 2015 to 9 million in 2018. Much of this travel occurs in the Loop and northern areas of Chicago where a robust public transit network already exists. McKinsey & Company estimates that "77 percent of trips [in Chicago] are made by car" (McKinsey & Company, June 2018) The increase of TNP trips coupled with Chicago's already high use of personal vehicles is causing further road congestion in already crowded areas of the city along with additional wear-and-tear on road infrastructure and greater vehicle emissions.



5. Need for a fully accessible mobility network. An equitable transportation system must consider accessibility, including the degree to which new modes impact overall access. Key stations in the CTA's rail system were made accessible in 2008, and CTA has developed a roadmap for making remaining rail stations accessible within 20 years, pending available funding. CTA and Pace vehicles are already 100% accessible, affordable, and provide extensive geographic coverage. Any change to this fully accessible and far-reaching bus network may have a larger impact on people with disabilities.

The accessibility story for non-transit options has shown clear progress, though much work

is left to be done. The City Council established the Accessibility Fund, which provides taxi medallion licensees a reimbursement to support the conversion of taxicabs to wheelchair accessible vehicles. While this Fund has supported the growth of wheelchair accessible vehicles, expansion of accessible mobility options and services is needed, and further focus is required on the needs of people with other disabilities, including visual and hearing impairments.

Further, TNPs have recently adopted and begun implementing City-approved accessibility plans and the City has provided financial incentives for TNPs to provide accessible trips to riders in need. The City continues to urge TNPs to reach a state of equitable service, where wheelchair users or people with any kind of disability can expect the same level of service (availability, wait times) as non-disabled users.

6. High-quality, real-time data is essential in new mobility—a roadmap to data-sharing and access is critical coupled with resources to support data collection and analysis. Data, and the supporting technologies that collect and analyze it, are a new form of infrastructure that is driving significant change and innovation in mobility. Currently, there is no uniform data-sharing partnership model across mobility providers in Chicago. In addition, real-time availability of data and integration of data into Application Program Interfaces (APIs) or other data sharing systems and trip planning platforms lack uniformity. Improved data access and transparency, as well as more uniform data sharing across departments and agencies with shared mobility goals will allow the City, sister agencies, and regional transportation providers to better understand mobility behaviors of residents, tailor transportation solutions to specific needs, and provide opportunities to collectively learn and advance the City's transportation system. Additionally, beyond collecting, aggregating, and sharing data, the City needs sufficient resources and IT infrastructure to support this effort.

7. Need to aggressively reduce carbon emissions through shift to low-carbon mobility options. Transportation emissions contribute approximately 25% to overall citywide carbon emissions and represent the greatest opportunity for reaching the City's ambitious climate goals. Emissions from transportation are down 2% since 2005, and the City must do even more to achieve our commitment to emission reductions in line with the Paris Agreement by 2025. The City must work to encourage and expand low-carbon mobility options for all residents, while continuing to build on the existing transit network.

By addressing these challenges with innovative policies and programs and developing effective guidance of the future of mobility, Chicago will be able to offer a transportation and mobility platform that can further elevate economic growth citywide, ensure infrastructure is efficiently and effectively planned, and leave a healthy and sustainable city for generations to come.

3 TASK FORCE PROCESS

While Chicago is currently a leader in transportation and mobility, with the evolution of new mobility technologies and solutions, Chicago needs a strategy to ensure the City's transportation assets are well positioned to serve as a key driver of the City's economy and residents' quality of life. Mayor Emanuel convened this Task Force to further advance the City's goals for its transportation and mobility network and guide the future of mobility to ensure an efficient, equitable, and environmentally-sustainable multi-modal transportation system that serves residents, visitors, and businesses.

Chaired by Raymond LaHood, former Secretary of the US Department of Transportation, the Task Force is composed of over 20 experts and thought-leaders from government, business, neighborhood and civic organizations, research institutions, and not-for-profits in the transportation, mobility and technology sectors. The Task Force met monthly from October 2018 to February 2019, engaging with key stakeholders and experts from academic institutions, start-ups, transportation providers, non-profits, foundations, advocacy groups and neighborhood development organizations to develop the recommendations presented in this report.

The following provides a breakdown of the Task Force meetings and discussion topics at each meeting:

- **Meeting 1 (October 25, 2018):** Current state of mobility and transportation in Chicago—current projects, initiatives, polices; opportunities for growth; challenges
- **Meeting 2 (November 16, 2018):** Expanding and ensuring equitable and sustainable access to high-quality, reliable, accessible public transit
- **Meeting 3 (December 12, 2018):** Guiding integration and prioritization of new mobility providers and technologies; presentation by nine private mobility providers
- **Meeting 4 (January 18, 2019):** Intersection of technology, data and innovation in transportation and mobility policies, services, and infrastructure
- **Meeting 5 (February 4, 2019):** Improving the City's overall accessibility, affordability, livability, and health through transportation and mobility innovation
- **Meeting 6 (February 20, 2019):** Discussion on Task Force outcomes; approve final recommendations

To further support the development of this report, the Task Force also convened an Advisory Group comprised of over 30 individuals from private mobility providers, the taxicab industry, technology sector, community organizations, academic institutions, and transportation and mobility consultants. This group met on November 6, 2018, for a moderated discussion on the topics before the Task Force. The Advisory Group provided suggestions for policy changes, pilot options, and areas for additional study and research. These suggestions were incorporated into discussions amongst the Task Force and informed sections of this report.

Based on the work over the past six months, the Task Force created this report to provide specific, actionable recommendations to address existing challenges and encourage planning to ensure long-term positive change in Chicago's mobility landscape.

Following the publication of this report, the Task Force, Advisory Group, and other stakeholder partners will provide ongoing support to the City and its sister agencies to help implement the many recommendations included in this report and continue to guide the future of mobility and transportation in Chicago.

4 VISION AND GUIDING PRINCIPLES FOR TRANSPORTATION IN CHICAGO

The Task Force members first looked to define the collective vision for mobility-oriented policy and decision-making in Chicago. The recommendations presented herewithin are grounded in the following principles:

1. **A transportation system that is safe for all users;**
2. **Mobility choices that are accessible, equitable, affordable, and non-discriminatory;**
3. **Economic development that is inclusive and innovative;**
4. **A city that is efficient, smart, and reliable;**
5. **Communities that are sustainable, healthy, and built using universal design principles;**
6. **Data and information that is actionable, transparent, shared, and secure, and**
7. **Regulation of private providers that is guided by public benefits**

1. A transportation system that is safe for all users

Safety is paramount and a core consideration of any new transportation-related policy or program in Chicago. In 2018, Chicago had 121 fatalities on its streets (approximately one every three days). Like many urban environments, a significant proportion of those fatalities do not occur in vehicles, but because of crashes with pedestrians who are walking (41 of 121 fatalities) and biking (5 of 121 fatalities). Individual behaviors that most commonly contribute to traffic crashes include speeding, disobeying traffic signals and signs, failure to yield, and driving while distracted or impaired. The City is continually working toward its Vision Zero goals and seeking solutions to improve its streets and sidewalks, protect pedestrians, prevent crashes, and implement systems to lessen the severity of crashes when they do occur. Vision Zero brings together the policies, partnerships, and technologies that prevent death and serious injury from traffic crashes and is guided by the Vision Zero Action Plan.

2. Mobility choices that are accessible, equitable, affordable, and non-discriminatory

Chicago has a robust mobility system with city and regional public transit, a variety of on-demand mobility options (e.g. taxi and TNPs), an evolving shared mobility economy, and other emerging mobility choices. However, access to convenient and affordable options is not always available in every neighborhood, or to all incomes, ages, and abilities. The public transit system is the backbone of Chicago and must be supported and complemented by new mobility options. New modes, services, and technologies should prioritize making their services accessible and affordable to all Chicagoans, especially to the disability community and other underserved markets. This means prioritizing, from design through implementation, services to: people with all kinds of disabilities; individuals living throughout the city, including in areas of economic hardship; unbanked populations and individuals without access to smartphone technology. These new modes, services, and technologies will continue to have an outsized impact on how people move, shop, and have goods delivered, but access to resources and opportunity must be equitable for those without easy access to technology. The City must focus on high-capacity multi-modal forms of transportation, while also ensuring that user experiences are equitable, regardless of race, economic status, disability status, and other factors.

3. Economic development that is inclusive and innovative

Having an affordable, reliable, and diverse transportation system is critical for supporting the economic prosperity of Chicago, but most importantly, it is the critical lifeline for residents to access jobs and services, businesses to receive inventory and attract customers, and visitors to explore Chicago's neighborhoods and culture. Transportation investments can help drive economic growth and spur small business development in an area. Chicago recognizes that the adoption of new mobility solutions will create new industries and transform existing ones. For example, expansion of shared mobility services and trip planning technologies could help Chicago improve the connectivity across Chicago's 77 community areas, change shopping patterns in the City's major commercial corridors, and allow individuals to prioritize their transportation choices to limit the impact on the environment. The roles of drivers or vehicle operators may evolve or change entirely as software, robotics, and telecommunications

become an increasingly large part of our transportation system. The City will support the growth of new industries and the transformation of existing industries with a focus on inclusive economic access. As part of this support, the City must be responsive to shifting policy needs and infrastructure investments to guide equitable development.

4. A city that is efficient, smart, and reliable

Chicago has always been a leader in transportation innovation, and Chicago intends to continue that leadership. New technologies offer the opportunity to greatly improve efficiency, access, and mobility, but future success will require continued focus. Today, the region suffers from congested roadways, increasingly overcrowded curbsides, and an underfunded public transit system—all of which act as stressors on residents, visitors and businesses. The City seeks policies and programs that incentivize efficient modes of transportation to ameliorate these stressors, such as discouraging single-occupancy vehicles and promoting high-capacity, shared, and sustainable services. The lack of reliable and continuous funding for public infrastructure also has the potential to cause significant travel delays and unreliability. Congestion pricing, curbside management, and "smart city" investments will prove critical in solving these transportation challenges. Lastly, the City needs to foster innovation not just through its programs, technologies, and pilots, but in its own regulatory and organizational structure.

5. Communities that are sustainable, healthy, and built using universal design principles

Prioritizing health and environment as part of transportation planning is also essential for Chicago's communities. In 2017, Chicago brought together mayors from around the world to sign the Chicago Climate Charter, committing cities to fight climate change and set ambitious emission reduction goals in line with the Paris Agreement. While public transportation remains the most efficient and highest-capacity mobility option and biking and walking are highly efficient and non-polluting modes, the City should work to leverage new arrivals in transportation to further decrease emissions through shared use and cleaner fleets on our streets. Universal design goes beyond compliance with regulation; it means providing access to the widest possible range of users, regardless of disability, income, and location, as a centerpiece of transportation infrastructure planning. This allows universal accessibility to be incorporated and prioritized at the onset, eliminating the temporal and financial cost of retrofitting our infrastructure. Smarter and more efficient use of our roadways can better support bus service, which is already fully accessible, and will allow the City to continue upgrading streets and other elements of the public way.

6. Data and information that is actionable, transparent, shared and secure

Chicago, through its Open Data Portal, is at the forefront of establishing open and transparent data sharing-standards for local governments. Continued implementation and the evolution of technology and data-collection standards for private and public vehicles and smart infrastructure, is an opportunity to use data to more efficiently manage the public way, and provide better service to commuters, while protecting the privacy of our residents and allowing new business models to flourish. The problems the City hopes to solve with new mobility solutions require the City and private companies to share information and build on common platforms.

7. Regulation of private providers that is guided by public benefits

Chicago is renowned for encouraging advancements in urban mobility, opening doors to innovators, and allowing existing governance structures to channel such innovation to the broader public. The City will proactively foster partnerships with the private sector, set goals aligned with public interest, and develop clear criteria for measuring success. Chicago is especially cognizant of ensuring that historically marginalized communities are equal beneficiaries of public-private collaboration. Chicago will further pursue opportunities to promote innovation that benefit its surrounding region, and coordinate with locales beyond City limits to drive long-term progress in transportation.

As the City prepares for the future of transportation and mobility in Chicago, it is essential that these principles guide policy development, infrastructure planning, program and pilot launch, and research of new innovations and services. The following section provides the specific recommendations as guided by these principles.

5 TASK FORCE RECOMMENDATIONS

Over the past six months, the Task Force developed the following recommendations, with the aim of promoting a safe, equitable, accessible, adaptable, and environmentally-sustainable multi-modal transportation system in Chicago that serves the City's residents, visitors, and businesses.

Each of the recommendations presented in this report is categorized into one of the following seven objectives. The objectives point to themes that are interconnected and build upon each other, providing a roadmap to address existing transportation challenges and guide the future of mobility in Chicago. The Task Force is basing its collective recommendations on the principles detailed previously with each individual recommendation guided by one or more of the principles.

The Task Force recommendations are organized under the following objectives:

1. **Streamline governance and management of transportation systems and policies within and across City departments and agencies;**
2. **Develop uniform, comprehensive, and secure data sharing requirements between public and private entities;**
3. **Support investments in transportation infrastructure to meet the City's mobility goals;**
4. **Encourage reduced dependency on single-occupancy vehicle trips and increased use of higher-efficiency options;**
5. **Build an accessible, affordable, and convenient multi-modal transportation system;**
6. **Advance a transportation and mobility system that promotes the environmental health and sustainability and improves overall livability of the city; and**
7. **Prepare Chicago for Connected and Automated Vehicles.**

In detailing its recommendations, the Task Force also determined the steps the City of Chicago, its sister agencies, and other key stakeholders must take for each recommendation. The Report categorizes each recommendation as one of the following:

POLICY

1. Policy change (e.g. Municipal Code of Chicago amendments, changes to existing rules and regulations, development of new governance policies, etc.)

ACTION

2. Action item (e.g. launch a new program, pilot a new mobility method, build on existing programs and operations, etc.)

STUDY

3. Study (e.g. support for studies, research, and/or analysis to determine viability, impact and possible guided implementation of technologies, mobilities, and policies, etc.)

1. STREAMLINE GOVERNANCE AND MANAGEMENT OF TRANSPORTATION SYSTEMS AND POLICIES WITHIN AND ACROSS CITY DEPARTMENTS AND AGENCIES

Chicago is one of the largest, most-diversified economies in the world, and to continue to support our growing economy and advance our world-class multi-modal transportation system, Chicago must take steps to modernize its management of transportation and mobility operations. This modernization must maintain Chicago's "Home Rule" authority and ability to actively govern transportation infrastructure, mobility services, and funding within its jurisdiction.

As part of this effort, Chicago should implement measures to streamline the implementation and piloting of new mobility methods, while establishing policy and regulatory safeguards to ensure new entrants build towards the vision of a safe, equitable, efficient, and environmentally-sustainable system.

ACTION Recommendation 1.1: Establish a Chief Mobility Officer

The City of Chicago should establish a Chief Mobility Officer within the Mayor's Office to (1) coordinate transportation policy with identified mobility leads across city departments and sister agencies; (2) lead engagement with private mobility providers; and (3) stay abreast of domestic and global initiatives to determine applicability to Chicago.

A Chief Mobility Officer will provide the Mayor's Office a resource solely dedicated to coordinating across the municipal government and the broader region to better align policy decisions. The role would not displace responsibility for basic operations performed by departments and sister agencies or day-to-day issues for the Mayor's Office, but rather leverage these existing resources to define and implement unified mobility strategies.

Examples of duties may include:

- Directing the implementation of the Task Force's recommendations to ensure successful results;
- Creating and monitoring accountability metrics to measure progress toward scheduled outcomes;
- Evaluating and recommending policy and Municipal Code of Chicago changes to accommodate innovative solutions within an evolving transportation landscape;
- Enhancing the City's mobility and transportation public engagement strategies and online presence to assist in galvanizing greater public awareness and involvement in future City actions, pilots, and policies;
- Proactively adapting City transportation governance and policies to align with changing policy at the regional, state, and federal levels;
- Prioritizing equitable access, especially for people with different kinds of disabilities , and coordinating efforts to address existing or potential inequities in transportation;
- Assisting in the clarification of roles, responsibilities, operations, and governance across all City departments and sister agencies within Chicago's transportation ecosystem;
- Engaging with private providers, especially new entrants, to encourage continued innovation, and;
- Leading coordination with City Tech Collaborative to prioritize and implement pilots.

POLICY Recommendation 1.2:
Establish guidelines for mobility and transportation-related pilots undertaken by the City and its sister agencies in partnership with the private sector

Building on past successes, the City of Chicago should undertake short-term pilots to evaluate policy, technology, or new solution development to support recommendations made by the Task Force. Piloting can be motivated by the exploration of an emerging technology, market validation, and/or partnership development to enable a future mobility vision. These activities can help build stakeholder support, engage residents in new mobility advancements, address disparities in accessibility or affordability, and test integration points into existing transportation networks. Pilots should be conducted across multiple geographies and typologies to ensure diversity of context across residential neighborhoods and commercial districts and to assess the scalability of a new technology, policy, or other innovation throughout the city. Future pilot design should be guided by this Task Force's overarching principles, and be structured to include clear metrics in at least the following areas:

- **Policy:** Determine how potential solutions meet overall policy objectives and/or impact adjacent policy areas.
- **Partnership:** Work with new, non-traditional partners (or extend current partnerships) both within and surrounding the city to define future partnership arrangements.
- **Sustainability + Scale:** Engage with participants from the public, private, and non-profit sectors to understand how a Task Force recommendation will be sustained and scaled both within and/or external to the City.
- **Technology:** (i) Show that a given technology can contribute to a solution by testing it in a real-world context, (ii) combine a given technology with various additional technologies to develop a solution, or (iii) deploy existing technology in a novel use case.

Future pilot implementations should be oriented around defined problem statements articulated in the recommendations of this Task Force and initiated with clear next steps tied to measurable outcomes. Opportunities for the City to pilot independently or through partnerships with non-profits, universities, and industry partners should be advanced to help drive collective progress toward Task Force recommendations. Pilots should be designed to require minimal or no funding from the public sector to preserve existing resources that are critical for supporting, maintaining, and improving infrastructure and operations for existing public transit, vehicular, biking, and walking networks.

To help implement pilots and develop partnerships with the private sector, the City should further leverage the skills and resources available from the broad mobility ecosystem.

STUDY Recommendation 1.3:
Develop meaningful performance management framework for transportation and mobility investments and operations

Based on experiences with existing transportation services, micro-mobility pilots (e.g. dockless bikeshare pilot), and complemented with research from across the county, the City should develop a performance management framework for mobility services and transportation infrastructure to align outcomes with the City's mobility principles. Performance benchmarks could include objectives such as:

- Increasing public transit mode share and/or efficiency;
- Improving mobility options for underserved populations;
- Improving options and quality of life for people with disabilities;
- Reducing vehicle emissions and trips taken via low-efficiency modes;
- Customer service quality and performance oversight metrics;
- Improving management of the curb, prioritizing the health and safety of residents, and the ability of freight to move efficiently, and
- Improving durability/longevity/environmental impacts of infrastructure investments.

This framework could also be used to prioritize not only new service investments but also infrastructure funding.

STUDY Recommendation 1.4:
Explore the implementation of "innovation zones" in Chicago

The City of Chicago should study the concept of "innovation zones" to promote testing and piloting of new, innovative mobility services and technology. Cities such as Las Vegas have established "innovation districts" — clearly demarcated geographic areas for testing new smart-city technology. These zones serve as a means of concentrating infrastructure investments from both the public and private sector, allowing for cross-sector collaboration and promoting open data-sharing. A similar approach in Chicago could streamline the City's administrative functions, including simplifying regulations and procurement processes as well as encouraging more trial-and-error-based testing, and iterative learning in the City's piloting efforts. Innovation zones in Chicago should be designed to promote equity and determine how each zone will expand access to new transportation opportunities. As part of this exploration, Chicago should evaluate the feasibility of such zones, both in terms of geographic location and infrastructure testing, as well as determining applicable policy and Chicago Municipal Code changes required.

2. DEVELOP UNIFORM, COMPREHENSIVE, AND SECURE DATA SHARING REQUIREMENTS BETWEEN PUBLIC AND PRIVATE ENTITIES

The future of mobility is rapidly evolving through new information and technology. Data systems have increasingly become as much a part of our transportation infrastructure as roads, bridges and rails. The City of Chicago, as manager of the public right of way and regulator of businesses that serve the public, needs access to these data streams to effectively protect the public good and set policies that achieve the City's mobility goals.

The City should capitalize on this development by establishing more uniform and transparent data-sharing between public and private entities. A data-sharing and system integration model should do the following:

- Support the protection, standardization, integration, and crowd-sourcing of data and systems;
- Realize the potential for mobility payment, pricing and trip planning to be integrated and centralized in various ways;
- Provide for safe and easy testing, implementation and licensing of new mobility methods and;
- Leverage consumer preference data and alternative information sources to better manage infrastructure, expand access to multi-modal transportation options, and improve service quality.

The following provides multiple actions and policy changes Chicago should make to improve data collection, management, and sharing to support integrated mobility planning.

Recommendation 2.1:
Establish uniform requirements for data sharing and collection for public mobility providers, while protecting the privacy and propriety nature of this data, and incorporate those requirements into all contracts, licenses, and permits.

POLICY Recommendation 2.1.1:
The City should ensure the most critical data points are received from all mobility providers to support the City's effective oversight and management of its transportation systems. Data points that should be collected include:

- Safety statistics
- Anonymous trip start and end locations and times;
- Vehicle occupancy-per-trip, including dead-heading and shared trips;
- Fares/trip cost, including surge pricing and discount information;
- Parking information (e.g. use, utilization, availability), including the storage of bikes and micro-mobility on the public way;
- Assets in operation and time in operation (e.g. bike counts, vehicles on the road and operational each day, peak times of operation, etc.);
- Customer service quality and reliability data (metrics on customer wait times, fleet availability, and customer ratings);
- Vehicle details (e.g. type, capacity, accessibility features, and emissions) and
- Data points that specifically monitor the quantity and quality of service offered to people with disabilities.

POLICY Recommendation 2.1.2:

Data security and protecting private or proprietary information is critical and should not be a barrier to collecting key data points. As part of requiring data sharing to support the effective management of the City's transportation system, the City must align on a clear operating model for storing and transferring data that (a) protects the privacy rights of residents and visitors to Chicago; (b) respects commercial proprietary information; (c) ensures the highest levels of security for the data; (d) complies with Freedom of Information Act (FOIA) requirements; and (e) provides maximum assurance that departments and sister agencies can use and share data to inform transportation planning functions and decision-making. Additionally, the City should provide high-level statistics and trends through the City of Chicago's Open Data Portal to inform the public on broader trends.

ACTION Recommendation 2.1.3:

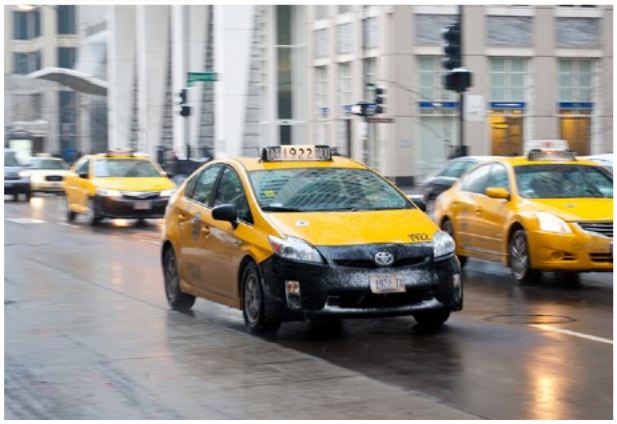
Comprehensive data collection and strong data protections are essential to improving infrastructure and policy planning, but must be coupled with resources to support the security and analysis of this data. Therefore, the City should invest in the staff, IT infrastructure, and analytic capabilities to manage data systems, develop the next generation of tools, and negotiate with the private sector on level footing.

ACTION Recommendation 2.2:

Support the build-out of technological capabilities that securely facilitate improved, real-time, accurate data and information sharing between City, governments, mobility providers, tech companies, researchers, and the public.

Along with requiring data-sharing with the City and sister agencies to support improved policy and infrastructure planning, the City should encourage direct, public data sharing to support trip planning and other services by:

- Continuing to support, improve, and expand upon the distribution of real-time public transit tracker data to the public.
- Expanding the delivery of more transportation, traffic, and mobility data streams via APIs and web services to provide more robust information to the public, and to ignite the City's developer community to build new apps, solve problems, and encourage new business opportunities in Chicago. City data such as curbside conditions and regulations, street and sidewalk closures, traffic conditions, bike lane impacts, and special and unplanned events should also be public. For those data sets the City does not have yet, the City should accelerate the development and maintenance of these data sets.
- Encouraging and in some cases requiring private mobility-related companies, as a condition of a permit, license or contract, to provide basic sets of data via APIs to do their part in accelerating the integration of mobility data and encouraging developers to produce new apps for the public.
- Integrating more mobility options with the Ventra system, including Divvy, and considering Ventra's potential to be a "Mobility as a Service" (MaaS) system for the Chicago area which offers the potential for centralized mobility payment and trip planning.



- Encouraging or developing platforms and accompanying software that provide tools for employers or building management companies to manage pertinent commuting patterns, increase transit use, and save money on parking costs or infrastructure.

ACTION Recommendation 2.3:

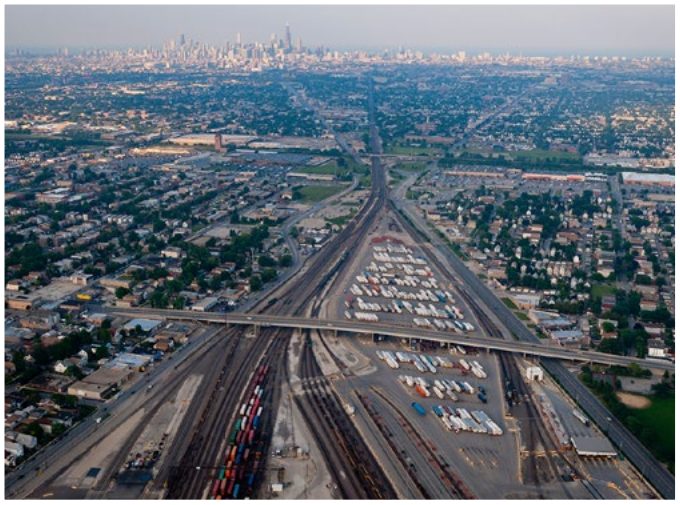
Work with stakeholders locally, regionally, and nationally to understand the changing data landscape and support increased collaboration around data sharing and data management by the public sector

The future of mobility continues to evolve towards one built on and driven by information and data systems. With sharing, aggregation, integration, and crowd-sourcing of data and systems and with the arrival of the concept of MaaS, the City should participate in and support national standards-based initiatives that align Chicago's efforts with its peers across the country. Examples include the Mobility Data Specification, Shared Streets, the General Bikeshare Feed Specification, and National Association of City Transportation Officials' (NACTO) City Data Sharing Principles.

The Task Force also recommends the development of a multi-sector working group to help guide the City's evolution in this space, with particular attention given towards deciding the proper role the City should take in owning and overseeing particular systems and functions (versus which are left to other levels of governments and which are best driven by the private sector) and to provide guidance over privacy and transparency concerns.

3. SUPPORT INVESTMENTS IN TRANSPORTATION INFRASTRUCTURE TO MEET THE CITY'S MOBILITY GOALS

To ensure Chicago continues to adapt to and evolve with the changing transportation landscape, the City and its stakeholders must develop a dynamic and integrated approach to infrastructure planning and investment. It must support public transit infrastructure as the backbone of high-capacity transportation in Chicago and support biking and walking as healthy and zero emission modes, while planning and developing infrastructure that manages the rise of freight delivery and advent of shared mobility services in Chicago.



The Task Force is recommending the following actions, policies, and studies for the City, its sister agencies, and other stakeholders to undertake to improve the overall planning of transportation infrastructure and to ensure Chicago has a multi-modal infrastructure system that is prepared to serve residents, visitors, and businesses into the future.

Recommendation 3.1:
Identify and implement dedicated, sustainable revenue sources to support public transit operations as well as transportation infrastructure at the state, regional, and/or City-level that are dedicated to modes that provide alternatives to low-occupancy vehicles (e.g., public transit, bike, pedestrian) as well as "state of good repair" upgrades to roadways and bridges.

ACTION Recommendation 3.1.1:
Today, user taxes on gasoline are the most effective and reasonable method to raise significant and stable funds for infrastructure. The Task Force supports an increase in 2019 in the federal and state motor fuel taxes, indexed to inflation, to fund statewide investments in infrastructure and transportation.

Illinois has not increased its gas tax in nearly 30 years and the federal government has not increased its tax in 26 years. According to the Civic Federation, 24 states have raised or reformed their gas taxes since 2013. *(The Institute for Illinois' Fiscal Sustainability at the Civic Federation, January 2018*) Further, there are recent calls by the Governors of Minnesota and Michigan to increase their statewide gas tax by 20 cents and 45 cents, respectively. Both Governors are proposing to increase their gas tax to fund critical infrastructure repairs.

From any increase in the statewide gas tax, the City and region must receive dedicated, predictable, and ongoing revenue streams on an annual basis. Additionally, the Task Force recommends that the greater Chicago region and the City of Chicago maintain the authority to further increase the gas tax or other transportation user taxes and fees to fund regional and local infrastructure improvements.

The City should advocate for all revenues generated by a statewide gas tax to be allocated by transparent, data-driven performance measures that recognize the enormous needs of transportation systems in the Chicago region. Further, projects funded with new revenues should be selected with analysis considering how those projects will help achieve the principles and goals outlined by the Task Force.

STUDY Recommendation 3.1.2:
In the future as the City moves away from gasoline as a fuel source, alternatives to the gas tax will be needed. The Task Force recommends that the City actively work with state and regional partners to research and test new methods of infrastructure and transportation funding. Potential solutions include tolling, carbon taxes, and other user fees that are fair, reasonably applied, protect privacy, and incentivize efficient, safe, and low-carbon transportation options.

By way of example, Oregon runs a voluntary user fee program, charging participants a fee of 1.7 cents per mile in lieu of a gasoline tax; California and the state of Washington are currently conducting a road charges study; and Connecticut, Delaware, New Hampshire, and Pennsylvania have all applied for federal support to test how a user fee could work across multiple states.

ACTION Recommendation 3.2:
It is critical that Chicago, Illinois, and the federal government support and increase investments in public transportation infrastructure that preserves the existing system, improves its efficiency and capacity, and expands the system's reach.

State and federal funding should go towards high priority transit projects that will support mode shift to high capacity service, such as investments in increased capacity (Blue Line capacity; future phases of Red and Purple Line Modernization; Brown Line capacity; street improvements to prioritize bus service), expansion of the system to new markets (Red Line extension, new Green line stop), the All Stations Accessibility Program, and ensuring existing assets continue to perform reliably (system-wide track and structure rehabilitation, signal and power system upgrades, vehicle replacements and overhauls, station repairs, subway life safety and communications upgrades, back-end facility rehabilitation, equipment replacement, and modernization of Chicago's Union Station).

Recommendation 3.3:
Promote efficient street design to improve flow of people and movement of goods.

There are multiple actions, pilots, and studies Chicago must take on to achieve the overarching goal of a well-planned right-of-way and developing an agile curb management policy. The street design and curb management policies should prioritize high-capacity vehicle travel (e.g. public transit), safe spaces for high-efficiency travel (e.g. walking, biking and use of emerging personal mobility devices), accessibility for wheelchairs and other individuals with disabilities, and efficient freight delivery.

POLICY Recommendation 3.3.1:

The City must modify the Municipal Code to allow for additional micro-mobility devices to be used in bike lanes (e.g. pedal-assist bicycles, scooters and electric scooters) and to clarify where such devices are not allowed to be used (e.g. on sidewalks). The language in any Code modification should allow for continuing evolution of devices, such as defining allowed users of bike lanes based on speed or size of device, not specific form factor. While changes should be made now, additional adjustments to micro-mobility access to the right-of-way may need to occur following a successful scooter pilot (see Recommendation 4.2.2). Please note that Recommendation 5.1.2 discusses the need to ensure micro-mobility devices do not create safety and access issues in the public right of way, such as sidewalk or curb impediments.

POLICY Recommendation 3.3.2:
The City should update its existing design guidelines to reflect changes in mobility and advancements in street design. Amendments could emphasize micro-mobility-sharing services, changes in vehicle ownership and parking, and innovations in curbside use management, all while reaffirming the paramount priority to protect and encourage pedestrian activity as well as the ongoing emphasis to support buses and other high-efficiency modes including bikes. There should be an emphasis on walkways and curbs that are accessible for wheelchairs and other mobility devices and are clear of clutter.

ACTION Recommendation 3.3.3:
Smart systems will enhance transit operations and improve safety for biking and walking. The Task Force recommends the City install and pilot more "smart" and intelligent traffic control signals and other smart city systems to better manage both traffic and curbside congestion. On top of congestion management benefits, these signals will allow collection of data on how streets are used, which will ultimately improve decision-making and planning.

ACTION Recommendation 3.3.4:
The City, in conjunction with the transportation industry, should develop a pilot to identify best practices for curb management in Chicago, focusing on short-term curb users, such as TNP vehicles, micro-mobility options, deliveries, and taxi cabs. The Task Force recommends the pilot entail the identification of separate locations for drop-off and pick-up in high congestion areas, which would reduce usage of bus lanes, bus stops, taxi spaces, and delivery locations. In return, TNPs or other users would be required to use geo-fencing to manage their operations.

ACTION Recommendation 3.3.5:
The City should identify a pilot to test curb infrastructure changes to improve access to curbs by wheelchair accessible vehicles, such as creating designated stripe zones for deploying ramps across bike lanes to create a safe path to the curb.

STUDY Recommendation 3.3.6:
The City should explore other innovative programs to improve curb access, including reservation-based technology to make curbside management more dynamic. This would include demand-side management for all vehicle types as well as all right-of-way types (e.g. curbs, alleys, loading zones).

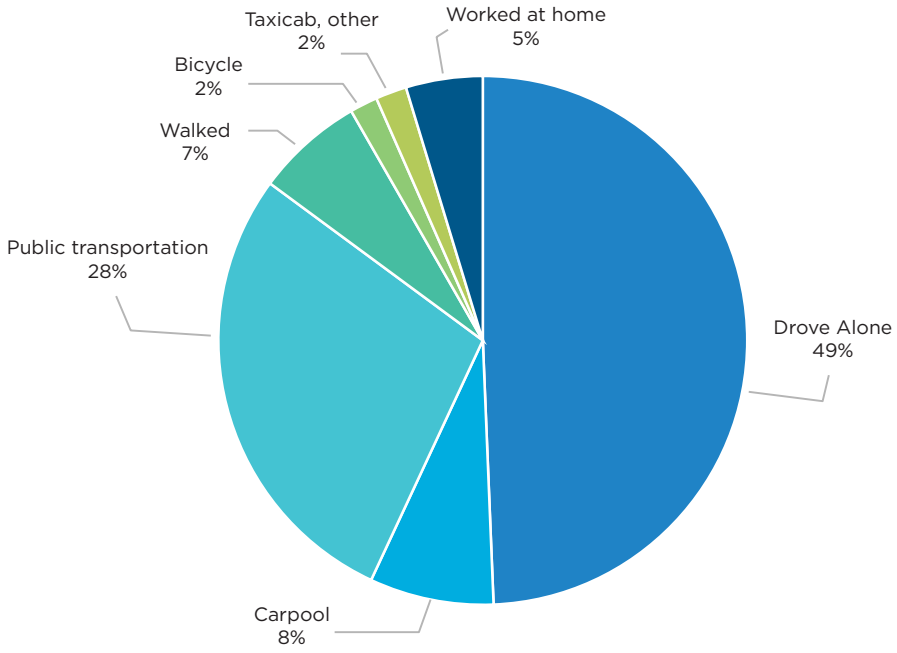
STUDY Recommendation 3.3.7:
Research and pilot the conversion of vehicle lanes to "smart lanes" that are dedicated to micro-mobility and bikes but also buses, vanpools, and other efficient shared rides that incentive more efficient travel modes. This will provide an option to mitigate congestion and improve safety and livability.

4. ENCOURAGE REDUCED DEPENDENCY ON SINGLE-OCCUPANCY VEHICLE TRIPS AND INCREASED USE OF HIGHER-EFFICIENCY OPTIONS

In Chicago and other urban environments, residents, visitors and businesses want transportation options that provide efficient, convenient, and reliable service across multiple different modes. In Chicago, our commuters are already multi-modal, but driving remains the primary mode of transportation to work despite a 7% reduction in residents driving to work from 2007 to 2017, which is equivalent to 90,000 commuters. However, in recent years, Chicago has seen growth in the use of ride-hailing services, resulting in increased congestion in commercial corridors and downtown. Individuals with disposable income are starting to move away from high-capacity options towards more convenient and marginally more expensive single-occupancy vehicle trips. According to a study of New York City traffic, it is estimated that approximately 20% to 30% of all TNP miles traveled are empty *(Schaller Consulting, December 2017)*.

The Task Force recommends that Chicago develop policies, programs and pilots to encourage mode shift to higher-capacity and higher-efficiency options, such as public transportation, biking, walking, and/or multi-passenger vehicles. This will have the overarching goal of decreasing single occupancy vehicle trips, reducing congestion, decreasing emissions, and ensuring that all residents, no matter their income level, have access to safe and affordable transportation options.

Percentage of Commuters by Mode in 2017



Source: U.S. Census, American Community Survey 1yr Estimates, Residents of the City of Chicago, commuting to work 16yrs and older.
* Drove alone includes TNP trips

STUDY Recommendation 4.1:
Align Pricing, Fees, Incentives, and Taxes to Achieve Expanded Policy Outcomes

The City should evaluate a restructuring of the City's Ground Transportation Tax (GTT), car rental taxes, lease taxes, parking taxes, and other mobility-related taxes and fees. The evaluation should be focused on identifying changes to the existing structure that could lead to desired policy outcomes of promoting public transit and shared trips, encouraging equitable, accessible, and clean mobility services, and reducing reliance on single-occupancy vehicles and single-passenger trips.

CITY'S EXISTING TRANSPORTATION- AND MOBILITY-RELATED TAXES AND FEES

Tax	Description	Rate	Last Increase
Title Use Tax	Tax imposed by the City of Chicago on use of titled personal property (i.e. vehicles) in the City of Chicago.	1.25%	0.25% increase in 2005
Ground Transportation Tax (GTT) - Taxi/Other	Tax imposed by the City of Chicago on the provision of hired ground transportation to passengers.	$98/month on medallions $22/month on medallions (accessibility fee) The Metropolitan Pier and Exposition Authority also imposes a $4 tax for airport taxi and livery departures	$20.00/per month increase (25.6%) in 2016
Ground Transportation Tax (GTT) - TNP	Tax imposed by the City of Chicago on the provision of hired ground transportation to passengers.	$0.60/trip $.10/trip (accessibility fee) + $5 for pickup and drop-off at airports, McCormick Place, and Navy Pier	$0.05/ per trip increase (9%) in 2019
Parking Garage Tax	Tax imposed on the privilege of parking a vehicle in any commercial parking lot or garage.	22% during the week, 20% on the weekends	2% in 2013 and a subsequent 2% in 2015
City Sticker	An annual fee imposed on the privilege of operating a motor vehicle in Chicago that is owned by a resident of Chicago.	$87.82/vehicle	1.3% increase in 2018
Motor Vehicle Lessor Tax	Tax imposed on the leasing of motor vehicles in Chicago to a lessee on a daily or weekly basis.	$2.75 per vehicle per rental period.	Unchanged since 1995
Auto Rental Tax	Tax imposed on the activity of renting vehicles in Chicago. State tax.	1% of gross receipts 5% of gross receipts (State)	Unchanged since 1995
Motor Fuel Tax	Tax imposed by the State on the sale of motor fuel within Illinois. A portion of the revenue is distributed to municipalities based on population.	$0.19/gallon of gasoline, $0.215/gallon of diesel fuel	Gasoline unchanged since 1990
Vehicle Fuel Tax	Tax imposed on the purchase of vehicle fuel purchased or used within Chicago.	$0.05/gallon	Unchanged since 1995
Lease tax (Divvy, ZipCar, Enterprise, Car2Go, etc.)	Tax imposed on the lease, rental or use of rented personal property in the City of Chicago.	9% of the lease/rental price	1% increase in 2014

While the Task Force advocates that existing revenue levels should be sustained, the City should restructure its taxes and fees to better align with its mobility goals.

Proposed changes to current transportation taxes that the Task Force recommends studying include:

- Create incentives for private providers to offer more first- and last-mile connections to transit;
- Incentivize transit trips and multi-passenger rides, while discouraging single-occupancy and empty vehicle trips, and trips that duplicate high-frequency public transit service;
- Implement demand-based pricing within the GTT to discourage low-efficiency vehicle trips in the downtown, during peak periods, or during special events;
- Disincentivize circulation (idle travel) from vehicle hailing services with no passengers;
- Incentivize services to people with disabilities, underserved markets, and areas of economic hardship, including replacement of the Underserved Area Tax Credit with an innovative structure that incentivizes operations to serve those most in need;
- Incentivize low or no-emission vehicles;
- Consider ending the lease tax currently applied to bike share and other micro-mobility sharing services;
- Restructure the taxes on car-sharing by ending car rental taxes on short-term rentals (e.g., under 12 hours) and replace with comparable fees to ride-hailing or taxis, while ensuring parity between car-sharing models that rely on private parking versus public parking, and
- Consider pilot programs for curbside user charges that balance the needs of deliveries, parking, and vehicle passenger loading and unloading.

Recommendation 4.2:
Prioritize bus improvements and investments to increase reliability and ridership

ACTION Recommendation 4.2.1:
The City should invest in street infrastructure to increase speed and reliability of CTA's highest-ridership bus routes. This includes identification of high priority corridors for future investments, and implementing a suite of investments, such as dedicated bus lanes, transit signal priority, queue jumps, and raised boarding platforms to improve service. These could also be used as spot treatments to relieve pinch points (like the "slow zones" work on 79th and Chicago), longer stretches of bus priority lanes (full day or peak only) or corridors where full bus rapid transit (BRT) would be appropriate.

STUDY Recommendation 4.2.2:
The City should support ongoing efforts to develop policies and technology to expand faster bus loading and fare collection (e.g. all-door and prepaid loading), complemented by strategies to protect CTA from revenue loss from fare evasion. To date, CTA has completed four prepaid boarding pilots, including one at the Belmont Blue Line, which is being made permanent as part of the station work currently underway. Additional study is required to understand options for scalability of prepaid and all-door boarding options.

ACTION Recommendation 4.2.3:
As part of the efforts to improve traffic efficiency, the City should pursue state enabling legislation to permit CTA and the City to enforce bus lane traffic and parking infractions using cameras. The legislation should ensure that penalties are fair and reasonably applied and that revenues are dedicated to supporting mobility and transportation infrastructure, particularly the enhancement of public transit.

Recommendation 4.3:
Expand and pilot more shared micro-mobility options and develop new policies to further promote these services

ACTION Recommendation 4.3.1:
The City must continue to build on the success of its existing Divvy bikeshare system by expanding service citywide and incorporating new technology and equipment, including pedal assist e-bikes, lock-to dockless technology, and adaptive and accessible bikes. The City should expand education around bikeshare to help increase adoption and usage rates in new geographies. The City should continue to invest in and expand its network of dedicated bicycle lanes in tandem with growing its bikeshare program and other potential micro-mobility modes. Revenue collected by the City from micro-mobility pilots or programs should be directed to support the administrative overhead of managing these programs, maintenance, improvement and construction of additional bike lane miles, and safety programs.

ACTION Recommendation 4.3.2:
To expand micro-mobility options in Chicago, the City should conduct a modest pilot of scooter-sharing in 2019 in an effort to collect data to understand: (i) safety issues (scooters should be capped at 15 mph), (ii) impacts on the visually impaired and other people with disabilities (including evaluations of sidewalk clutter, accessible right-of-way to buildings, and low-levels of sound), (iii) operator performance in managing sidewalk clutter and storage and access to buildings and the street, (iv) appropriate locations or uses for these services, including defined storage and parking, and (v) effects on the Divvy system, transit and commuting choices. While the pilot should begin in a defined area, this pilot should be scalable both in geography and number of scooters based on pilot success or challenges.

Recommendation 4.4:
Incentivize businesses to reduce car dependency for employees

ACTION Recommendation 4.4.1:
A number of cities have developed "Travel Demand Management" programs in order to reduce overall demand for low occupancy vehicle trips. These programs include a variety of strategies, including working directly with employers to align incentives for employee travel choices with citywide transportation policy goals. The Task Force is recommending that the City and CTA promote adoption of such strategies among corporate sector and large institutions, including expanding participation in existing CTA and Metra transit benefits programs, reducing the practice of providing free or subsidized parking which encourages employees to drive to work, and identifying other incentives.

STUDY Recommendation 4.4.2:
The City should research how employers currently incentivize mobility for their employees (e.g. parking, pre-tax benefits, etc.), and Chicago Municipal Code amendments or statewide policies to drive employer-based mobility incentives that support public transit use. This may include subsidizing 30-Day transit passes, carpooling, incentivizing cycling, and discouraging subsidized parking in transit-rich locations.

Recommendation 4.5:
Develop a comprehensive land use and transit-oriented development policy to support transit and improve equity

The City prioritizes investments in neighborhoods through schools, parks, libraries, small business support, transit enhancements, and housing to promote economic growth and development. It is paramount that Chicago continue to incentivize development near public transit, compact development, and mixed-use patterns to help keep travel trips short, and ensure transit is an available, accessible, affordable and convenient option. While Chicago has already undertaken multiple improvements to its transit-oriented development policy, the Task Force is recommending the following:

POLICY Recommendation 4.5.1:
The City should continue development of land use policies that leverage public transit assets to reduce car dependency, and help to build ridership for public transit by encouraging development near transit. As part of this effort, there must be ongoing coordination across City departments, sister agencies, and civic organizations to expand the City's TOD policy to include tools for equitable development. There should be a focus on providing affordable units near public transportation in low-income communities of color, and for people with disabilities. Further, the City should implement modifications to the Zoning Code that encourage additional job or housing density near high quality transit, such as accessory dwelling units and upzoning to increase the housing stock at a lower cost per unit. By providing affordable units and reducing car dependency, such actions will help to reduce cost of living for residents.

STUDY Recommendation 4.5.2:
Increased funding to support transit is essential for its implementation in more corridors in the City. The Task Force recommends the City identify new funding sources to support expanding transit development efforts, using density bonuses generated from development in TOD zones to support public transit investments and TOD expansion throughout the City.

STUDY Recommendation 4.5.3:
The City should reevaluate and modernize its parking standards and requirements in the Zoning Code. This should include assessing appropriate off-street parking maximums.

ACTION Recommendation 4.5.4:
The City should study the impact of car-sharing on parking and its ability to reduce car ownership. Based on the outcomes, the City should incentivize car-sharing by including it as an option to lower parking requirements in the zoning process.

ACTION Recommendation 4.5.5:
As a part of the zoning process, the City should require developers to incorporate impacts of Vehicle Miles Traveled (VMT) and mode share projections in traffic impact studies. Today, most traffic studies rely heavily on measures of vehicle delay through Level Of Service (LOS) analysis, which is measuring the convenience to drive. VMT shows how a project impacts the City's goals to improve transit and active transportation options and to reduce emissions. Requiring developers to document and mitigate around VMT and mode share impacts will better align developments with the City's mobility goals.

5. BUILD AN ACCESSIBLE, AFFORDABLE AND CONVENIENT MULTI-MODAL TRANSPORTATION SYSTEM

Without policies, regulations, and laws that require equitable and accessible transportation options, portions of Chicago's residents can be left behind with the development of new technologies and mobility services, primarily low-income communities, individuals with disabilities, and the aging population.

The U.S. population is aging and requiring more accessible options. Concurrently, advances in medical science are permitting more people to live with a disability after surviving injuries that had once been life-threatening. Today, there are more than 46 million adults age 65 and older living in the U.S.; by 2050, that number is expected to grow to almost 90 million. *(Population Reference Bureau, February 2011)* Between 2020 and 2030 alone, the period when the last of the baby boom cohorts reach age 65, the number of older adults is projected to increase by almost 18 million. *(Population Reference Bureau, February 2011)* This means by 2030, 1 in 5 Americans is projected to be 65 years or older. *(US Census Bureau, March 2015)* The population of people with disabilities under 65 is also expected to continue to grow.

A recent study determined that while Chicago's transportation system is relatively affordable, there are still commuters in areas of Chicago that spend more than 15% of their income on transportation, with some areas spending more than 25%. *(McKinsey & Company, February 2019) While t*he City has made significant investments in providing affordable and accessible transit options for all, Chicago must continue to identify areas to improve its multi-modal transportation system.

By establishing policies and procedures from the start, Chicago can assure that affordability and accessibility are part of the development, testing, and implementation of new services, reducing the cost of future retrofitting and preventing the launch of discriminatory services. Prioritizing accessible and affordable transportation choices is also necessary to ensure access to employment, economic opportunity, and services, and must be equivalent in quality and frequency to those services available to higher-income individuals and those without disabilities.

Recommendation 5.1:
Continue investments in accessible and affordable public transportation services and identify areas for expanded or improved service options

ACTION Recommendation 5.1.1:
Preserving the affordability of CTA is critical to providing convenient, affordable and accessible transportation services throughout Chicago. Currently, CTA buses are 100% accessible. As the City's accessible public transit option, promoting the affordability and use of CTA is paramount in making sure this accessible transportation mode continues to be fast, frequent and reliable with citywide geographic coverage. Going forward, the Task Force supports CTA's efforts to maintain operating funding-levels for its services and support investments in additional accessibility.

ACTION Recommendation 5.1.2:
CTA developed the All Stations Accessibility Program (ASAP), which provides a roadmap to make all rail stations vertically accessible within 20 years. The Task Force supports fully funding ASAP, including support for future phases of the Red Purple Modernization program and the Blue Line Forest Park Branch reconstruction program. Together these projects will make the remaining 42 of CTA's 145 rail stations newly accessible to people with disabilities. The Task Force supports the aggressive pursuit of ASAP's goals and encourages efforts aimed at completing ASAP in less time than the current goal of 20 years.

ACTION Recommendation 5.1.3:
Pace and the Regional Transit Authority (RTA) are currently in a procurement process for a study to identify potential "innovations that can be piloted and, if effective, integrated into Pace's ADA Paratransit operations to improve sustainability and cost-effectiveness of the service into the future." Specifically, Pace and RTA are seeking to develop a thoughtful and comprehensive study that "will focus on new technologies, new mobility options, and new means for interacting with customers. It will identify key sustainability challenges facing the Pace ADA Paratransit program as operated today and explore how to optimize the use of ADA Paratransit with less-costly options including fixed route bus and rail service, as well as non-dedicated transportation such as Transportation Network Companies (TNCs) and taxi companies."

The Task Force fully supports this effort to integrate new mobility options and other improvements to paratransit that may be identified through this study. The process being undertaken by PACE and RTA could improve customer experience, while also improving the financial sustainability of the service. These opportunities can only be met by ensuring access for people with all kinds of disabilities, specifically by ensuring wheelchair accessible service.

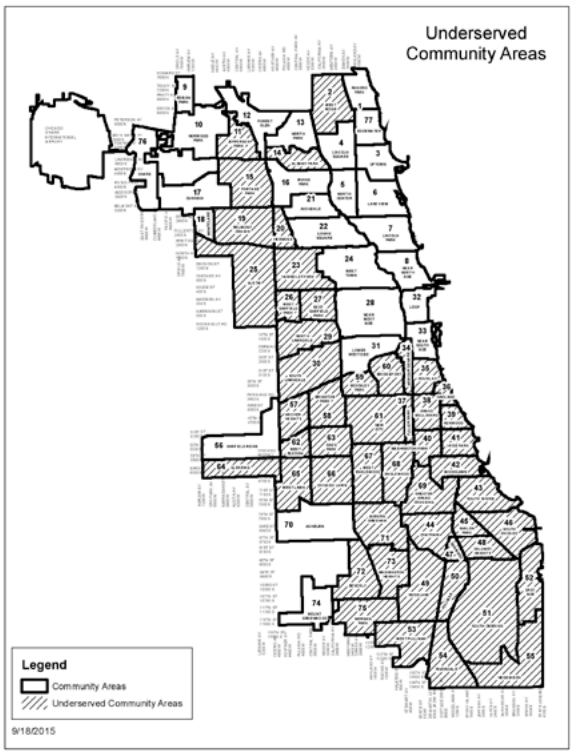
Recommendation 5.2:
Prioritize and maintain our commitment to providing affordable mobility options and encourage equitable fees and fines to promote inclusion

POLICY Recommendation 5.2.1:
The City should audit the existing Underserved Areas Tax Credit (UATC) and develop changes to support expanded access to TNP and taxis in underserved communities. The UATC was designed to incentivize taxi and rideshare companies to service community areas with high levels of transit dependent populations and areas not receiving high levels of taxi or rideshare service. Under the current UATC model,

- TNP Providers may claim a credit up to 50% of the Ground Transportation Tax on each qualified underserved area service ride (The GTT rate is currently $0.60/trip)
- Taxicab Medallion License Holders may claim a credit against their Ground Transportation Tax each month equal to the percentage of qualified rides in underserved areas, up to 50%. (The GTT rate is currently $98/month)

Historically, this credit is underutilized by both sectors, and when utilized the benefit goes back to the companies, instead of the transit user.

The City should consider changes to the UATC in tandem with the restructuring of the mobility and transportation-related taxes and fees, as discussed in Recommendation 4.1. Possible changes may include providing the UATC benefit directly to individuals, instead of the taxi or rideshare companies, and/or expanding this type of tax credit to other services (i.e. lease tax on car sharing)



ACTION Recommendation 5.2.2:
The City should encourage private mobility providers to pursue alternative, 'non-smart phone' (and/or non-credit card) ways to order and pay for mobility services. Additionally, the City should work to expand the Divvy for Everyone program and use it as a model of success by requiring other micro-mobility providers to establish fares and payment options that expand use by low-income and unbanked populations.

Recommendation 5.3:
Ensure micro-mobility services and new mobility options are accessible for all and do not impede the public way

POLICY Recommendation 5.3.1:
The City should work to expand the availability of shared bike and other micro-mobility programs to offer a range of accessible bikes and micro-mobility devices. This requirement should be considered as part of any expansion to existing micro-mobility services as well as future micro-mobility programs as discussed in Recommendation 4.3. Examples of accessible micro-mobility devices include adult trikes, recumbent bicycles, tandem bicycles, and hand cycles. In support of this initiative, the City should explore existing or new funding sources to 1) support individualized transportation services for people with disabilities and 2) fund a study that analyzes micro-mobility accessibility needs and challenges in Chicago.

POLICY Recommendation 5.3.2:
With the growth in micro-mobility options, there is the possibility of these options impeding access to the public way, especially sidewalks, curbs, and building entryways, for individuals with disabilities and the aging population. To further support Recommendation 3.3.1 – changing the City's Municipal Code to expand micro-mobility devices that can utilize bike lanes – the City should develop clear policies around right-of-way placement and use of micro-mobility devices in the public right-of-way. These policies will help to ensure shared bikes, scooters and other dockless mobility devices are not an impediment to access of the public way.

ACTION Recommendation 5.3.3:
The City must act to ensure technology used to hail or access mobility options complies with accessibility standards. New mobility options should be user tested by people with disabilities, which will ensure that the technology used to access new mobility options comply with accessibility standards for individuals who have limited dexterity or who are blind, low vision, deaf and/or hard of hearing, including Deaf Blind individuals.

Recommendation 5.4:
Improve transportation access to employment

The City's Resilient Chicago: A Plan for Inclusive Growth and a Connected City report, published in February 2019, highlights specific goals around improving the direct collaboration between different transportation providers to "bolster connections between residents and various education, training, and employment opportunities." The Task Force is supportive of these efforts and considers the recommendations included here as complementary of the vision, goals, and actions outlined in the Resilient Chicago Report.

STUDY Recommendation 5.4.1:
Transportation affordability and availability should not be a barrier to employment or work access. The Task Force is recommending that the City, in close partnership with the workforce development community, model and compare strategies for quick, affordable, and accessible connections between home and transit, and transit and work, including considerations of: Divvy-ride-as-transfer and fixed and dynamic pooling. Cities around the US offer these types of models, and the City can utilize those models to understand the possible impact these services may have on revenue and ridership, as well as service level impacts of different approaches. The study should also specifically investigate potential funding sources.

STUDY Recommendation 5.4.2:
The City should map commuting patterns from low-income neighborhoods to identify demand for routes that are not sufficiently served by existing mobility and transportation services, and then conduct feasibility analysis to identify new approaches for those routes, such as new pooling strategies or bus route changes. These new strategies must always ensure access for people with all kinds of disabilities and must consider potential costs and funding sources.

6. ADVANCE A TRANSPORTATION AND MOBILITY SYSTEM THAT PROMOTES ENVIRONMENTAL HEALTH AND SUSTAINABILITY AND IMPROVES OVERALL LIVABILITY OF THE CITY

There is a strong connection between overall livability and the safety and environmental sustainability of a city's transportation system. The role of public transit cannot be overstated. Strong public transit service creates a virtuous cycle whereby transit's efficient use of land supports transit ridership and enables people to move around more easily, in turn, creating more connected neighborhoods that can continue to thrive. Transit-rich neighborhoods tend to be great walking neighborhoods, further supporting that cycle of safety, economic activity, and community vibrancy. There is a risk that without policy interventions and future planning, the rise of single occupancy vehicle trips and the increased use of on-demand single package deliveries could trigger a wave of increased vehicle congestion and emissions, poor health outcomes, and less attractive neighborhoods.

Chicago must examine the relationship between emerging transportation and mobility services and the subsequent impacts on greenhouse gas emissions to make clear and direct policy changes to ensure overall sustainability and health of all its neighborhoods. The City has shown its commitment and leadership in reducing emissions through its global partnerships by initiating the 2017 Chicago Climate Charter. Further, the City is participating in the Bloomberg American Cities Climate Challenge, committing to expand bikeshare to 100% of the City, increase transit reliability, and encourage mode shift to transit through a high-frequency transit network. The City's Drive Clean programs have begun the work of incentivizing the adoption of cleaner vehicles on our roads.

Through the recommendations presented below, the Task Force is establishing a framework for identifying and mitigating mobility impact areas at the intersection of livability, environment, and health.

Recommendation 6.1:
Promote and implement the paramount safety goals of the City's Vision Zero strategy to reach zero traffic-related deaths and serious injuries by 2026 as detailed in its Vision Zero Action Plan and related documents.

Traffic safety is a public health issue and a safe system is a livable system. The City has made significant accomplishments to further this commitment towards protecting the most vulnerable users of the public way. Focus areas include pedestrian and bike infrastructure improvements such as curb extensions, median refuge islands, protected bike lanes, and concentrating resources in high crash corridors. The City has also undertaken targeted outreach to develop community-driven recommendations for improving traffic safety. Further, the City has been a leader in adopting standards for large vehicles in the City fleet and used by contractors performing City work to install safety equipment to reduce pedestrian and bicyclist fatalities. The Task Force is a proponent of the Vision Zero Action Plan and encourages the City to continue to prioritize the Vision Zero goals.

VISION ZERO CHICAGO

Recommendation 6.2:
Prioritize efforts to improve and encourage walkability of the city

STUDY Recommendation 6.2.1:
Consider implementing "Car-Free Zones" where certain streets are closed to cars and open to pedestrians and bikers. New York City offers "Summer Streets" on the first three Saturdays in August, where almost 7 miles along Park Avenue are opened to the public. Activities sponsored by city departments, museums, businesses, and cultural organizations occur along the 7-mile stretch. While Chicago has carried out similar, smaller-scale efforts with Bike the Drive and through art and cultural fairs across the City, implementing a street closure of this size with more frequency or extended periods of time requires communication amongst the City, businesses, and residents, and fiscal resources to manage the closures, so strategic coordination and planning is necessary.

ACTION Recommendation 6.2.2:
The City should prioritize infrastructure changes in the public way to improve the overall safety and walkability of a city. The City must continue making investments in traffic signals that improve pedestrian safety and walkability as well as increase investments in sidewalk infrastructure, especially around transit, schools, and high crash corridors and areas. The City should study signal prioritization options biased to pedestrian traffic as compared to vehicular traffic. The City should also identify low-cost opportunities to re-use parking spaces and excess roadway space to create expanded pedestrian spaces (e.g., expansion of the Make Way for People Program).

ACTION Recommendation 6.2.3:
The City should continue investments in streetscapes and other placemaking activity in neighborhood commercial centers to encourage increased economic activity and walking.

STUDY Recommendation 6.2.4:
The City should look to update Chicago's Pedestrian Plan with guidance from the Mayor's Pedestrian Advisory Committee to develop a Pedestrian Master Plan. This plan will define a vision of a highly walkable city that is easy to move around and where safe pedestrian mobility supports transit access, including investments and programming around transit stations. It will establish a prioritization framework and performance measures to achieve the vision. It will define a program for pedestrian counts so trends in walking can be tracked and measures pedestrian safety.

Recommendation 6.3:
Enhance City's role as a leader in the use of electric vehicles

ACTION Recommendation 6.3.1:
The Task Force supports CTA in the transition of its bus fleet to 100% electric by 2040. CTA announced its commitment to purchase between 20 to 30 electric buses (e-buses), with the option to purchase up to 45 e-buses over the next several years. The Task Force encourages CTA to pursue various funding opportunities, including Federal Congestion Mitigation and Air Quality (CMAQ) Program dollars, to complete its transition. The Task Force also encourages CTA to further examine the underlying economics and replacement cycle of CTA buses to potentially complete its transition by an earlier date.

ACTION Recommendation 6.3.2:
The City has set an ambitious goal of converting 25% of its fleet of cars and vans to EV by 2023. To support this, the City identified $15.5 million in CMAQ Program grant funding that allows for investment in 182 EVs for the City's vehicle fleet, nine DC-Fast Charging stations, and 182 Level 2 charging stations. Disbursement of these funds from the U.S. Department of Transportation

has not occurred and the timing has not been solidified. Given the timing uncertainty, the Task Force encourages the City to explore alternative funding options. The City should also explore converting the City's operations fleet (i.e. garbage trucks, street sweepers, snow plows) to EV.

STUDY Recommendation 6.3.3:
As part of the City's leadership in electric fleet infrastructure, the City should explore partnering with private industry to pilot public-private funded deployment of EV charging stations, including high-speed charging. For the City to effectively convert to EV vehicles along with the public, the City must lead in electric charging infrastructure investments.

Recommendation 6.4:
Support launch of available electric vehicle (EV) technology in private buildings

ACTION Recommendation 6.4.1:
The City must look for opportunities to incentivize private deployment of EV technology. The City should encourage zoning changes to require new parking locations to be EV ready and designate EV-specific parking spaces. Additional incentives for logistics operators, for example "last-meter" curbside access for EV trucks in their fleet, should also be developed.

ACTION Recommendation 6.4.2:
According to the U.S. Department of Energy and ComEd, the home is the primary charging location for most electric vehicles, and because of this, the City, through its Department of Buildings, should identify opportunities to expedite the home charging permit process for EVs. Building managers, personal vehicle owners and commercial fleets can benefit from incentives to make the investment cost-effective. To promote additional installation of EVs in homes, the City should streamline the processes for permitting, installation, and provision of financial incentives.

Recommendation 6.5:
Test freight and delivery policies that improve delivery efficiency, decrease impacts on infrastructure and environment, and help Chicago to maintain it's position as a national freight hub.

Chicago must maintain its position as the national hub for inter-modal freight transportation and logistics. It is important to understand the current dynamics of the freight sector and key priorities for the major carriers (FedEx, UPS, USPS, etc.), the trucking companies, and many of the new players. Today, the freight industry faces multiple challenges from reliance on outdated technology to capacity pressures and daunting customer expectations. There is a clear need for new programs, innovative partnerships, and reformed policies to address these challenges head-on and sustain Chicago as a key transportation and logistics hub. Because many of the same factors that enable people to move seamlessly around Chicago also extend naturally to freight transportation, the City must use curbside management, technology pilots, and pricing tools to maximize public benefit when it comes to such deliveries.

The Task Force recommends the following specific freight-related actions, studies and policies to ensure deliveries -- whether large shipments through the city or the last mile delivery to a home or business -- are operating efficiently throughout the City while ensuring the impacts on residents are addressed.

ACTION Recommendation 6.5.1:
The Task Force continues to support the City's efforts to fund infrastructure improvements, including grade separation projects funded by the CREATE program, ongoing viaduct repairs, and other road and bridge repairs. With the growing importance of urban logistics, the City should pursue the creation of distribution centers, new pilot programs, and public-private

partnerships in ways that address environmental justice considerations for residents. For example, a pilot program that encourages EV light- or medium-duty trucks, provides favorable curbside access to reduce idling, and routes trucks away from residential areas should be explored.

STUDY Recommendation 6.5.2:
Some former freight districts in Chicago are transitioning to other uses, while others may grow as freight and manufacturing centers. To support emerging freight and e-commerce needs, the City should broadly identify freight priority areas for preservation, potentially a freight-industrial policy plan. The City can follow up with area specific plans to renew industrial development, reduce local impacts and plan for environmental justice and other community impacts. Any such plan should leverage the new Industrial Corridor Fund generated by transitioning Planned Manufacturing Districts to improve capacity and conditions in the City's 25 designated Industrial Corridors.

STUDY Recommendation 6.5.3:
Along with supporting curb-management policies that reduce congestion referenced in Recommendation 3.4 of this report, the City should work closely with the delivery and the commercial industry to study current shipping and transfer locations and identify centralized distribution locations in high-density locations to simplify last mile deliveries and reduce inefficient trips at congested times. The City should also consider using pricing and incentives to achieve the City's goals.

POLICY Recommendation 6.5.4:
The City must proactively engage with truck freight to pursue policies designed to mitigate impacts of trucks, exhaust, and noise on neighborhoods. As part of this engagement the City and freight stakeholders should consider policies, including: noise mitigation efforts; incentives to adopt an EV fleet; last-meter curbside access for EVs; opportunities to encourage off-peak hours of operation, and re-routing trucks away from residential areas. Additionally, the Task Force supports ongoing efforts by the CDPH to establish a baseline of environmental conditions as well as health and social vulnerabilities at the community level to inform decision-making. The assessment will help the City become more proactive in addressing community concerns.

STUDY Recommendation 6.5.5:
The City should identify truck freight bottlenecks in the City. Subsequently, the City should analyze and implement supportive routing changes, infrastructure improvements, communication, and data solutions to reduce congestion around yards, and other innovative strategies to reduce truck congestion, support freight movement, and minimize community impacts.

7 PREPARING CHICAGO FOR CONNECTED AND AUTOMATED VEHICLES

Connected and Autonomous Vehicles (CAVs or AVs) are an exciting transformational technology that offers the opportunity for the City to increase safety on its roads, improve traffic flow, increase accessibility and reliability, and provide an engine for economic expansion by freeing up numerous hours of lost productivity each year. Conversely, if not carefully managed, the technology could also result in increased vehicle-miles traveled and increased sprawl, cause more riders to forgo public transit options, and exacerbate existing equity issues, including through lost jobs and unequal access.

The Task Force recommends the City take a proactive approach to understanding and guiding development of this technology, while stressing that deployment must be in a safe and reasonable manner, while considering a wide range of stakeholder interests. The City should set a vision for how AVs can transform Chicago and actively work to promote awareness around this technology. The City should be practical and incremental in its approach and should evolve its policies and investments as the technology evolves. Without active engagement, the technology deployment will likely be disjointed, poorly organized and exacerbate existing tensions or gaps in the transportation system.

It is critical for the City to manage AV implementation and set priorities, targets, goals, pilots, and restrictions where needed, yet promote and advocate for positive outcomes and partnerships when available.

ACTION Recommendation 7.1:
Empanel an AV working group to define Chicago's AV vision, lead outreach to the public, and guide implementation of future AV policies, pilots and/or operations.

Chicago is behind many other cities in AV technology deployment and it will take active engagement across the City's transportation network – private and public sectors – to ensure Chicago's world-class transportation system remains in line with ongoing innovations. To help ensure a guided implementation of AVs, the City should convene an AV working group comprised of a diverse set of stakeholders (e.g. government, private industry, researchers, community organizers) to develop Chicago's vision for an AV future. Essential to the AV working group's function is the utilization of pilots, studies, information sessions, and experiences from other cities to develop appropriate policies to support AV deployment and understand the impact of AV technologies. This should include understanding AVs ability to displace driving professionals and developing solutions to mitigate this affect. This working group should be responsible for advising the City on opportunities to work collaboratively with the State around licensing, curbside use, and other Home Rule concerns to ensure the City is able to maximize management and control of AV implementation in the City.

The working group will be responsible for guiding the implementation of the remaining recommendations within this section.

POLICY Recommendation 7.2:
Promote data-sharing and establish a base-level set of requirements for system integrations among fleet owners, mobility providers, and the public sector

As previously discussed in the Task Force report, the City must establish uniform and coherent data sharing requirements. This is essential to ensure a multi-modal system which allows customers to optimize travel across various options. It is critical for the City to manage this process and set priorities, targets, goals, pilots, and restrictions where needed, yet promote and advocate for positive outcomes and partnerships when available. The AV working group should be involved in the development of the data sharing and collection policies to ensure they align with the City's goals of a guided deployment of AV technology as discussed in Recommendation 2.

Further the AV working group should support the research and policy development around restructuring the City's existing transportation -related taxes -- as discussed in Recommendation 4.1 -- to ensure any restructuring supports the City's AV vision.

STUDY Recommendation 7.3:
Pursue increased investments and deployments of intelligent and connected vehicle infrastructure

AV technology is in the not so distant future and through the AV working group, the City should identify possible investments in intelligent infrastructure to support the integration of AV technology in our city. This may include smart and advanced traffic control devices, traffic sensors, smart parking, traffic messaging, and 5G 'small cell' deployments. Additionally, the City should begin to research possible street infrastructure improvements for CAVs, including curbside management, drop off zones, and holding areas. These intelligent systems are the foundation for streamlined traffic management and will be critical for enabling data driven policy and the effective management and monitoring of driverless fleets. Innovation zones, discussed in Recommendation 1.4, could serve as a location to test deployments of intelligent and connected vehicle infrastructure.

STUDY Recommendation 7.4:
Pursue research and analysis opportunities that will assist in AV policy development at the city-level

Reshaping Urban Mobility with Autonomous Vehicles – Lessons from the City of Boston was a multi-year, in-depth report by Boston Consulting Group studying how AVs "could reshape the future of urban mobility." *(Boston Consulting Group, June 2018)* While the case study was in Boston, the report provides thoughtful insight for policy-makers to start identifying critical investments and developing policies and procedures to guide implementation of AVs. The report provides insights from opportunities to better manage congestion caused by AVs to future conversion of on-street parking and active and engaged data management and data collection processes. As Boston and other cities have done, Chicago should pursue research and study opportunities related to AV impact on our economy and workforce, accessibility and affordability, congestion and sprawl, city services, consumer behavior patterns, and wear and tear on infrastructure. These studies should also identify positive outcomes and additional economic, workforce, safety, and analytical opportunities created by AV technology.

As part of this recommendation, the Task Force recommends the City pursue pilot opportunities to better prepare for the advent of AV technology. Specifically, the City should pursue an AV pilot in Chicago that will expose Chicagoans, visitors, and businesses to AV vehicles and help build trust of the technologies, while providing an innovative testbed for a myriad of stakeholders. Through an AV pilot, Chicago will create unique opportunities for new knowledge of application use cases, traveler behavior interactions, technology and system operations, and data collection and management employing AI and predictive analytics. The pilot may include opportunities to test multi-passenger vehicles, microbuses, and other passenger vehicles to understand possible impact on existing public transit and inform development of a dynamic pricing modes. If applicable, this pilot should also test design opportunities for purpose-built wheelchair accessible AVs and help set general parameters for ensuring that an autonomous transportation future remains accessible for all. There are existing grant programs through the US DOT that the Task Force recommends the City and its stakeholder partners utilize to help quickly and efficiently launch a pilot.

Studies and pilots will be essential to Chicago's adoption of AV technology. They will ensure policy-makers in the City are making well-informed decisions and able to perform effective outreach and engagement with residents on this transformative technology.

6 IMPLEMENTING THE TASK FORCE RECOMMENDATIONS

The following provides clear and actionable next steps that City departments, sister agencies and stakeholders must take to continue the momentum behind this Report. Next steps are identified and detailed for each recommendation section within this Report and are intended to be completed within the next six-months.

These next steps are only a sub-set of the many recommendations included in the Report. These actions were chosen because they are essential to ensure ongoing progress and implementation of the vision detailed in this Report and lay critical groundwork for the implementation of additional recommendations beyond the next six months.

The stakeholder partners listed for each next step are only an initial list of possible partners in this work; it is not an exclusive or exhaustive list.

#1 Streamline governance and management of transportation systems and policies within and across city departments and agencies

- Mayor's Office will convene CDOT, CTA, DoIT, BACP, and Department of Procurement Services (DPS) to study potential frameworks for innovation zones based on innovation or sandbox zones established in other cities as well as discussions with businesses around challenges to launching mobility and transportation-related pilots/testing

  Department Lead: Mayor's Office

  Department Support: CDOT, CTA, DoIT, BACP, MOPD, and DPS

  Stakeholder Partners: City Tech, Shared Use Mobility Center

- City to utilize pilot guidelines detailed in the report to develop, launch and validate pilots resulting from the Task Force report (i.e. scooter pilot and curb management)

  Dept. Lead: Mayor's Office

  Dept. Support: CDOT, CTA, DoIT, BACP, MOPD, and DPS

  Stakeholder Partners: City Tech, Shared Use Mobility Center

#2 Develop uniform, comprehensive, and secure data-sharing requirements between public and private entities

- CDOT will lead the following next steps to make progress around data sharing requirements:
  - Inventory the City's existing mobility and transportation-related data;
  - Conduct outreach with mobility providers and other municipalities to detail current data sharing requirements that exist nationwide and learn what data is currently shared with other cities and the public;
  - Augment the existing secure data platform in preparation to receive additional information from multiple providers and develop uniform sharing requirements with the City, and
  - Start developing framework for uniform data-sharing requirements.

  Dept. Lead: CDOT

  Dept. Support: DoIT, BACP, MOPD, CTA and Mayor's Office

  Stakeholder Partners: Shared Use Mobility Center

#3 Support investments in transportation infrastructure to meet the City's mobility goals

- Mayor's Office to work with regional partners and civic leaders to advocate for statewide gas tax increase and regional funding from the increase. Any increase should be coupled with a reform in how those funds are spent, with new transparent, data-driven, performance measures driving funding and project decisions.

  Dept. Lead: Mayor's Office

  Dept. Support: CDOT and CTA

  Stakeholder Partners: CMAP, MPC, Civic Committee, Active Transportation Alliance

- CDOT, Department of Finance (DOF), and BACP work with City Tech to expand upon City Tech's existing curb management and freight congestion pilots and implement new curb management pilot focused on short-term curb users

  Dept. Lead: CDOT, DOF and BACP
  Dept. Support: Mayor's Office, CTA, DoIT
  Stakeholder Partners: City Tech

#4 Encourage reduced dependency on single-occupancy vehicle trips and increased use of higher-efficiency options

- Mayor's Office to convene Office of Budget and Management (OBM), Department of Finance (DOF), CDOT, and BACP to inventory all transportation-related taxes and fees and develop a detailed framework of existing mobility and transportation-related taxes and fees to include revenue history, last increase/decrease in tax or fee, available credits, and current/past payers. The framework should provide possible changes to these taxes and fees as part of the City's 2020 and 2021 budgets.

  Dept. Lead: Mayor's Office
  Dept. Support: OBM, DOF, CTA, BACP, MOPD, and CDOT
  Stakeholder Partners: City Accessible Taxi Committee and Shared Use Mobility Center

- CDOT to continue identifying opportunities to expand the City's bikesharing program citywide

  Dept. Lead: CDOT
  Dept. Support: BACP, MOPD and Mayor's Office
  Stakeholder Partners: Shared Use Mobility Center

- City to develop scooter pilot framework to launch as early as summer 2019

  Dept. Lead: Mayor's Office, BACP and CDOT
  Dept. Support: CTA, DoIT MOPD
  Stakeholder Partners: Active Transportation Alliance and Shared Used Mobility Center

- CTA to work on developing a program to encourage mode shift to high capacity public transit. This would involve, among other things, promoting and expanding participation in existing CTA transit benefits programs for large corporations and institutions

  Dept. Lead: CTA
  Dept. Support: Mayor's Office
  Stakeholder Partners: RTA, Active Transportation Alliance, Metropolitan Planning Council and Shared Use Mobility Center

#5 Build an accessible, affordable, and convenient multi-modal transportation system

- As part of the scooter pilot, the City should develop clear policies around parking of scooters, right-of-way placement, and sidewalk clutter.

  Dept. Lead: CDOT and BACP
  Dept. Support: Mayor's Office and MOPD
  Stakeholder Partners: Shared Use Mobility Center

- Mayor's Office and BACP to work with DOF and OBM to study the existing Underserved Area Tax Credit and make recommendations for adjustments to the tax credit designed to improve reach of the credit and meet goals of improving access, affordability and convenience of Chicago transportation system.

  Dept. Lead: Mayor's Office and BACP
  Dept. Support: DOF and OBM
  Stakeholder Partners: Shared Use Mobility Center

#6 Advance a transportation and mobility system that promotes the environmental health, sustainability, and overall livability of the city

- To support the transition of CTA's Bus Fleet to 100% electric by 2040, CTA will undertake an analysis evaluating full transition to electric bus, including identifying infrastructure requirements, technology evolution, bus routing considerations, equity, costs, and funding sources.

  Dept. Lead: CTA
  Stakeholder Partners: Joyce Foundation, Civic Consulting Alliance

- OBM and Fleet and Facility Management (2FM) with policy leadership from the Mayor's Office Sustainability Team must continue to work to identify funding, including available money for the VW settlement, to support the transition of the City's fleet to 25% electric by 2023.

  Dept. Lead: 2FM
  Dept. Support: CDOT, Mayor's Office, and OBM

#7 Prepare Chicago for Connected and Automated Vehicles ('CAV' and 'AV')

- Mayor's Office and CDOT working in close partnership with other city departments, agencies, and stakeholders will provide a framework for an AV working group.

  Dept. Lead: CDOT and Mayor's Office
  Dept. Support: BACP, DoIT, CTA, MOPD, and DPD

- Mayor's Office and CDOT will work with City departments, agencies, and partners to develop a response to the US DOT Automated Driving System (ADS) Demonstration Grant. This grant will support projects that test the safe integration of automated driving systems on our nation's roadways. These grants aim to gather significant safety data to inform rulemaking, foster collaboration amongst state and local government and private partners, and test the safe integration of ADS on our nation's roads. By applying for this grant, the City will help shape national and state laws, policies, and rules around AV deployment in urban areas.

  Dept. Lead: CDOT and Mayor's Office
  Dept. Support: BACP, DOIT, CTA, MOPD, DPD
  Stakeholder Partners: Bosch, City Tech, Argonne

APPENDIX – TASK FORCE MEMBERS

New Transportation and Mobility Task Force Members

Raymond LaHood, Chairman, *former Secretary, US Department of Transportation*

Brenna Berman; *Executive Director, City Tech Collaborative*

Marca Bristo; *President & CEO, Access Living (Represented by Adam Ballard)*

Ron Burke; *Executive Director, Active Transportation Alliance*

Dorval Carter; *President, Chicago Transit Authority*

Brian Collie; *Senior Partner and Managing Director, The Boston Consulting Group (BCG) / Global Leader, Automotive & Mobility Sector*

Rosa Escareno; *Commissioner, Department of Business Affairs and Consumer Protection*

Sharon Feigon; *Executive Director, Shared-Use Mobility Center*

Jacky Grimshaw; *Vice President, Center for Neighborhood Technology*

Stefan Gspurning; *Head of Urban Mobility, Bosch USA*

Ronnie Harris; *Visionary Lead, Go Bronzeville*

Sandy Hogan; *Senior Vice President and General Manager of Americas HERE Technologies*

Tom Kotarac; *Vice President of Transportation and Infrastructure, Civic Committee of the Commercial Club of Chicago*

Angel Mendez; *Chief Operating Officer, HERE Technologies*

Robert Rivkin; *Deputy Mayor, City of Chicago*

Rebekah Scheinfeld; *Commissioner, Chicago Department of Transportation*

Ann M. Schlenker; *Director, Center for Transportation Research at Argonne National Lab*

Dr. Joe Schwieterman; *Director, DePaul University's Chaddick Institute for Metropolitan Development*

Joseph Szabo; *Executive Director, Chicago Metropolitan Agency for Planning*

Karen Tamley; *Commissioner, Mayor's Office for People with Disabilities*

Mike Tomas; *Executive Director, Garfield Park Community Council*

Audrey Wennink; *Director of Transportation, Metropolitan Planning Council*

B

APPENDIX – ACKNOWLEDGMENTS

SPECIAL THANKS TO:
Advisory Group Members
who provided tremendous insight and support to the Task Force

John Attanucci (MIT), Aamer Baig (McKinsey & Company), Brandon Bordenkircher (Car2Go), Kevin Brubaker (Environmental Law & Policy Center), Denise Casalino (AECOM), Kelley Coyner (MobilityE3), John Criezis (Via), Ted Fetters (Bird), Bob Gallo (AARP), Christopher Hall (Skidmore, Owings, & Merrill), Ted Hamer (KPMG), Adam Hecktman (Microsoft), David Katcher (Lyft), Vig Krishnamurthy (Ford Smart Mobility), Roman Kuropas (Innova EV), Jill Leary (Regional Transportation Authority), Jong B. Lee (Sun Taxi Association), Hani Mahmassani (Northwestern University Transportation Center), Kate McCormick (Natural Resources Defense Council), Brandon Mendoza (Arity), Adam Milliszewski (Illinois Department of Transportation), Elan Mosbacher (Spot Hero), Justin Oberman (Apple Cart Ventures), Rich O'Toole (ComEd), Nico Probst (Lime), Jerry Quandt (Illinois Automated Vehicle Association), Joe Renz (New Mobility Consulting), Moritz Rittstieg (McKinsey & Company), Fred Salvucci (MIT), Chloé Spano (Transdev North America), PS Sriraj (UIC Urban Transportation Center), Lakshmy Subramanian (McKinsey & Company), Augustin Wegscheider (BCG), and Cami Zimmer (Glympse)

SPECIAL THANKS TO:
staff, presenters and organizations
who hosted meetings and advised on the development of this report

Business Affairs and Consumer Protection
Rupal Bapat and Isaac Reichman

Carrier Direct
Justin Oberman, Peter Rentschler and TJ Travelbee

Chicago Department of Transportation
Luann Hamilton and Kevin O'Malley

CMAP
Melissa Porter and Elizabeth Schuh

Chicago Transit Authority
Mike Connelly, Jennifer Henry, Nora Leerhsen, Leah Dawson Mooney and Maulik Vaishnav

City Tech Collaborative
David Leopold and Jamie Ponce

Department of Innovation and Technology
Nicholas Lucius

Illinois Autonomous Vehicles Association
Jerry Quandt

Illinois Institute for Technology
Jeanne Atens, Cristina Bragalone, Barbara Pollock, Jane Seder and Jacqueline White

Mayor's Office
Cara Bader, Sarah Bloom, Margaret Decker, Benjamin Lazaroff, Mary Nicol, Molly Poppe and Stefan Schaffer

McKinsey and Company
Aamer Baig and Moritz Rittstieg

SPECIAL THANKS TO:
mobility providers who presented at December Task Force Meeting

Bird: Ted Fetters, Sr. Manager, Government Partnerships
Car2Go: Brandon Bordenkircher, General Manager
Chariot: Justin Camarada, General Manager of the Midwest
Lime: Katie Steves, Sr. Director of Strategic Development
Lyft: Jonathan Buckner, Public Policy Manager
Transdev: Dick Alexander, EVP of Business Development and Innovation
Uber: Robert Kellman, Head of Policy for Bikes and Scooters
Via: John Creizis, Chicago General Manager
ZipCar: Sabrina Sussman, Manager of Public Partnership