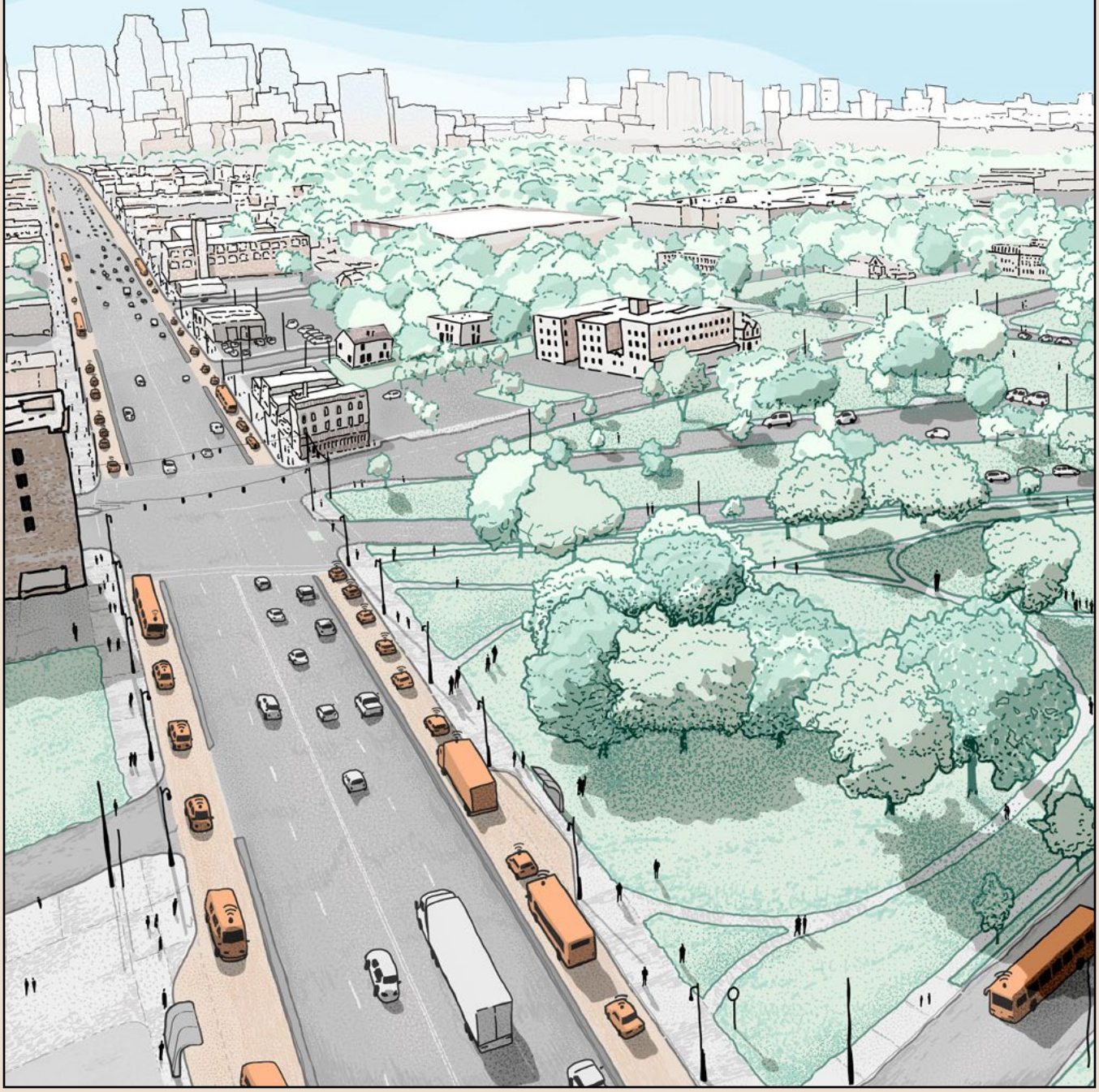
RESPONSE TO REQUEST FOR PROPOSAL:

Connected & Automated Vehicle Corridor Concept



SIDEWALK INFRASTRUCTURE PARTNERS

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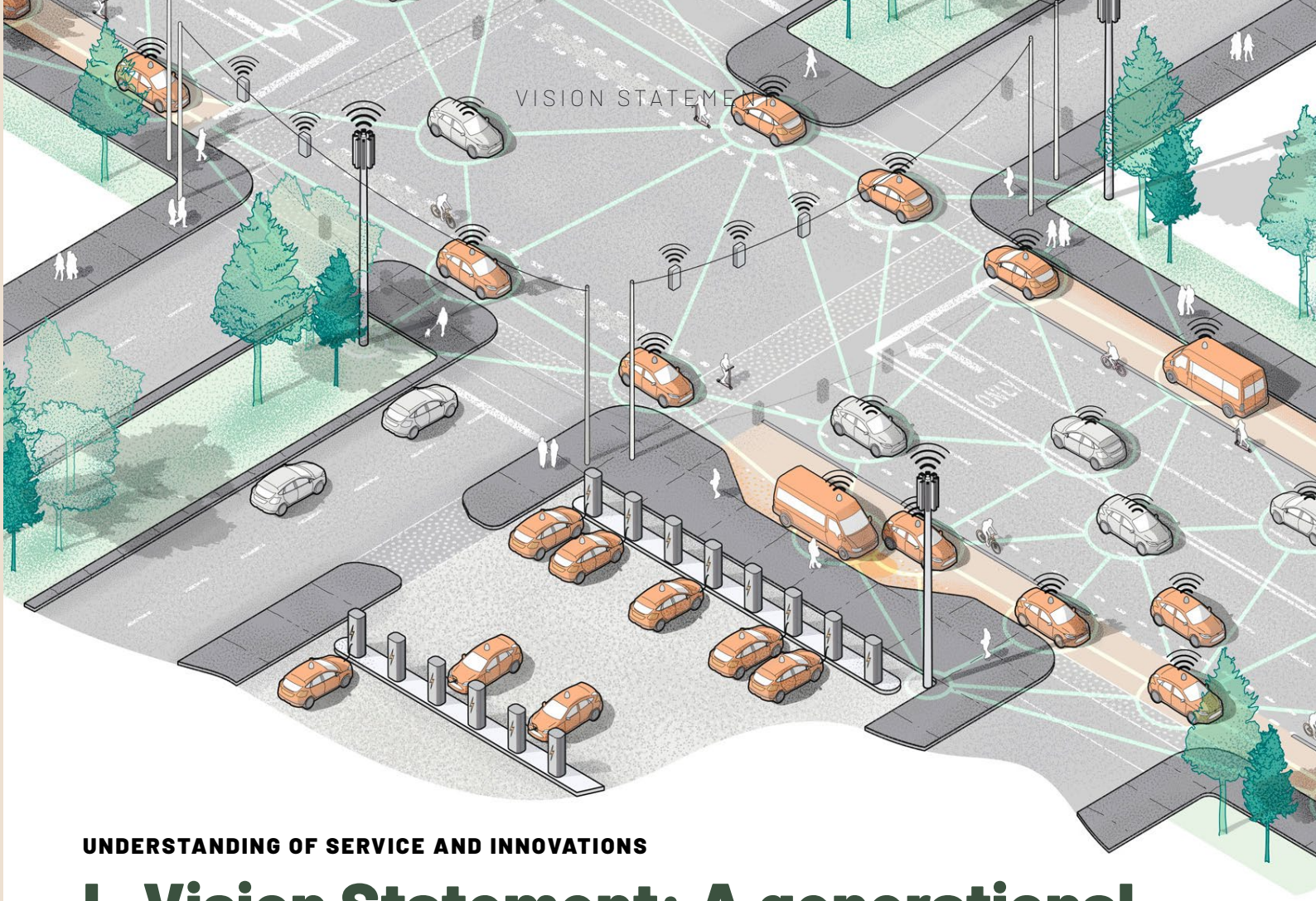


UNDERSTANDING OF SERVICE AND INNOVATIONS

I. Vision Statement: A generational investment for Michigan

The Connected and Automated Vehicle Corridor (the "CAV-C" or "Project") seeks to catalyze the use of connected and autonomous vehicles ("CAVs") and supporting infrastructure, as a practical model for safe, efficient, and adaptable mobility options.

The Connected and Automated Vehicle Corridor (the "CAV-C" or "Project") seeks to catalyze the use of connected and autonomous vehicles ("CAVs") and supporting infrastructure, as a practical model for safe, efficient, and adaptable mobility options. The Project would evolve over time into a dedicated CAV right-of-way, combining (i) physical infrastructure, (ii) digital infrastructure, (iii) coordination infrastructure, and (iv) operational infrastructure. Connecting vehicles to one another and roadway infrastructure, creating a digital twin of the road environment, and ultimately dedicating lanes to CAVs can enable high performance of even lower-level autonomous vehicles. A primary, or "anchor-use," of such a corridor would be to provide a public transit alternative – an autonomous shuttle service that may offer greater safety, throughput, and system-level efficiency than otherwise possible when compared with conventional vehicle or transit services, such as bus rapid transit ("BRT") or light rail transit ("LRT"). This way, the Project may dramatically achieve key policy goals on accessibility, affordability, and sustainability. Sidewalk Infrastructure Partners, LLC ("SIP") – a company that seeks to improve infrastructure through the application of technology – formed **CAVnue, LLC** (the "Master Developer" or "CAVnue") to develop technology and infrastructure for projects of this kind. CAVnue, as Master Developer of the Project – along with the Project Partners, including Ford Motor Company ("Ford") and the University of Michigan – is uniquely positioned to deliver this vision – to MDOT.

Overview

A first-of-its-kind connected corridor can shape the future of transportation.

America is beginning a profound mobility transformation with autonomous vehicles ("AVs") at the forefront. AVs have the potential to reduce thousands of traffic accidents caused by human error, cut the growing hours commuters spend stuck in traffic, and vastly increase access to personal and shared mobility. The U.S. automobile industry was born in Michigan, and the state is poised to continue to shape its future, with the leadership of the Michigan Department of Transportation ("MDOT") as one the most forward-thinking transportation departments in the world. The Project offers the potential to envision and implement pathbreaking physical and digital infrastructure that will integrate CAVs into roadways and support the larger cooperative automated transportation landscape. Just as the interstate highway system shaped transportation in the 20th Century, the Project can shape that of the 21st Century, while also seeking solutions that "future-proof" new infrastructure.

SIP solves generational infrastructure challenges and founded a dedicated company, CAVnue, to develop and integrate technology to accelerate CAV deployment.

SIP is an independent holding company that aims to transform infrastructure by harnessing the power of technology. SIP was formed by Alphabet Inc. ("Alphabet"), Google's parent company and a world leader in technology; Sidewalk Labs, Alphabet's leading "smart cities" innovator; and Ontario Teachers' Pension Plan ("OTPP"), one of the world's most respected institutional investors in infrastructure. In every project it pursues, SIP seeks to leverage these entities' deep reservoir of expertise in technology, capital, infrastructure, and urban innovation.

To deliver first-of-its-kind connected corridor technology, SIP founded CAVnue. Its mission is to pioneer advanced roadway infrastructure and related technology for an autonomous mobility future. The Master Developer will provide the technology development and integration to design, build, finance, operate, and maintain a world-class connected corridor in Michigan.

The team brings unparalleled capabilities, with compelling management and partners.

The SIP team supporting the Master Developer brings deep public-private partnership ("P3") experience and has deployed over $6 billion in capital toward infrastructure projects. Through SIP's shared services agreement with Sidewalk Labs, CAVnue can draw on the innovative master-development experience of Sidewalk Labs' CEO Dan Doctoroff, who formerly served as Deputy Mayor for Economic Development of New York, as well as over 100 planners, developers, designers, technologists, engineers, and policy and community outreach leaders.

The Master Developer also expects to draw on an unparalleled ecosystem of partner firms ("Project Partners") that bring global and Michigan-based capabilities in infrastructure and technology, planning and development, design and engineering, research, testing, financing and operations, and policy, legal, and community engagement, as well as other resources relevant to the Project. Initial Project Partners include Ford, which has pioneered mobility innovation in Michigan for more than 100 years and has a shared vision for a CAV corridor; the University of Michigan, the state's leading public university, with its world-class Mcity Test Facility, Transportation Research Institute ("UMTRI"), and campuses at both ends of the proposed corridor; and the American Center for Mobility ("ACM"), another world-class testing facility.

CAV infrastructure has unique challenges that require the specific expertise that the Master Developer possesses.

Despite $80 billion[1] invested in AV solutions, full autonomy is years, if not decades, away. However, this investment dwarfs the amount spent on supportive infrastructure that could accelerate the adoption of CAVs and allow them to operate even better than uncoordinated AVs. The Master Developer was founded to close this gap, by developing and implementing infrastructure for CAVs. **Implementing the Project requires capabilities that CAVnue is uniquely established to address:** a holistic approach to the systems integration challenge of combining digital, physical, coordination, and operational infrastructure, as well as the advisors, investors, Project Partners, and resources to apply digital innovation to large-scale roadway infrastructure.

Implementation of CAV corridor infrastructure builds on existing BRT concepts, and can evolve and expand over time, future-proofing infrastructure investments.

The Project builds on existing Southeast Michigan regional transit planning proposals to dedicate lanes to BRT. One potential deployment path is to initially utilize connected buses with current levels of autonomy as well as shared mobility. Over time, other AV types – public transit, shared mobility, freight, and private vehicles – can be introduced, with such lanes increasingly limited to vehicles that meet minimum, open standards as they become more widely adopted. Such a design offers many of the benefits of dedicated mass transit while optimizing considerations of cost, service, and future innovation.

Implementing the Project requires capabilities that CAVnue is uniquely established to address: *a holistic approach to the systems integration challenge of combining digital, physical, coordination, and operational infrastructure, and the advisors, investors, and resources to apply digital innovation to large-scale roadway infrastructure.*

The Project can achieve transformational outcomes aligned with stakeholder goals.

The Project can achieve key principles and policy goals, including improving safety, achieving neutrality among vehicle original equipment manufacturers ("OEMs"), enhancing accessibility, and aligning with regional planning, thus encouraging innovation, R&D, economic development, open data access and shared learnings, cybersecurity, and replicability. The Project can be both a highlight and cornerstone of Michigan Mobility 2045 ("MM2045"). In particular, a route from Detroit to Ann Arbor, connectivity to the airports and other key anchor destinations, represents a compelling potential location for the Project, given longstanding transit gaps, traffic congestion, and the ability to create replicable models. Further, the Master Developer would seek to engage Michigan-based partners wherever possible. It is expected that more than 50% of the work associated with the Project would be performed in Michigan.

Two Disparate Futures for CAVs:
Siloed and Integrated Approaches

There has been under-investment in the enabling infrastructure needed for integration of AVs.

There has been significant investment in self-driving technology,[2] and AVs have great potential to exceed human drivers in safety, throughput, and accessibility. However, there is now consensus that achieving high levels of autonomy (known as "Level 5" or "complete" autonomy) is more complicated than originally envisioned, and still many years away.[3]

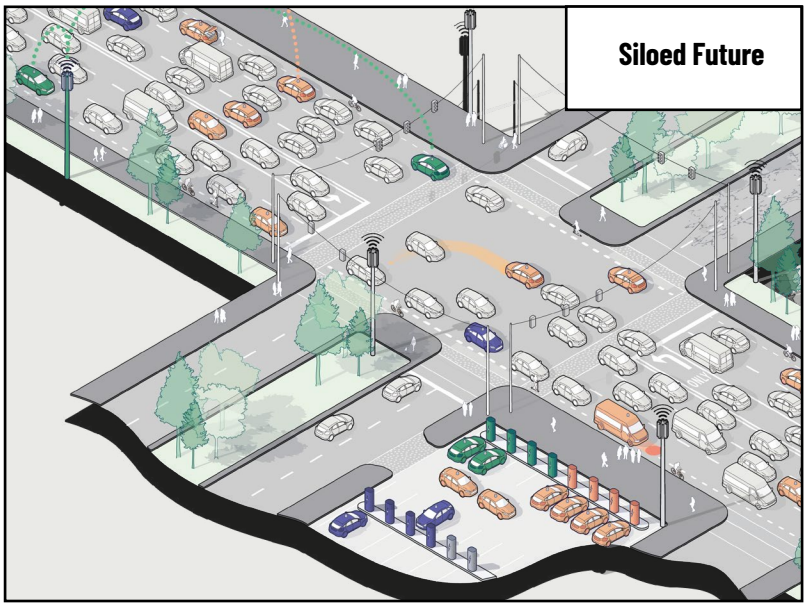
Additionally, despite the large amount invested in developing technology for greater vehicle autonomy, relatively little has been invested to date in developing supportive infrastructure that could help accelerate the scaled and efficient adoption of CAVs and allow them to operate even better than uncoordinated AVs. For example, use of on-board sensors like cameras or LiDAR to detect signage and traffic signals could be enhanced by having this information digitally transmitted from the roadway infrastructure, simplifying the problem.

Most AV companies make the assumption that the infrastructure is not evolving – and so do not plan for or invest in communications with infrastructure or other vehicles.

Given the gap between the benefits of CAV infrastructure and the comparative lack of investment in this field, there is a compelling need and an opportunity in the coming years for forward-thinking jurisdictions to prioritize such infrastructure for CAVs. There is an opportunity to build on MDOT's leadership in advanced infrastructure investment, including nearly 500 miles of connected roadways and one of the largest vehicle-to-infrastructure technology deployments in the U.S. Investing in enabling infrastructure for CAVs could be the difference between a "siloed future" – the course that we are on absent intervention – and an "integrated future" for mobility — the course that the Master Developer seeks to bring about, as described in the next sections.

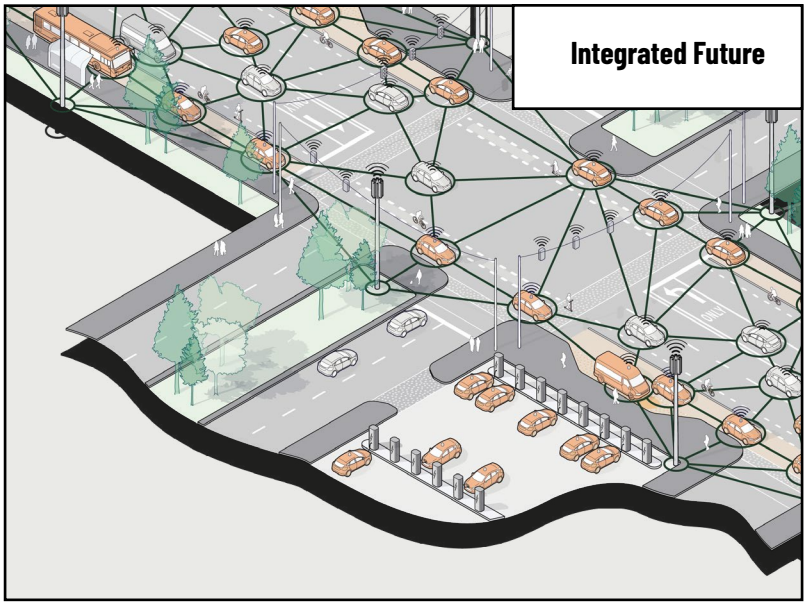
In a siloed future,CAVs are uncoordinated and may exacerbate certain transportation challenges.

The introduction of CAVs in mixed traffic may create unintended consequences, including induced demand without corresponding increases in road capacity, potentially leading to more traffic congestion and constrained road capacity.[4] Multiple, non-unified communications standards and data management challenges may prevent the adoption of valuable applications, such as coordinating braking or optimizing traffic intersections. There may be limited priority for transit and shared mobility.



In an integrated future, infrastructure supports the efficient and scaled deployment of CAVs to solve a range of mobility challenges.

In an integrated future, a combination of systems would support CAVs, in turn, improving the overall mobility environment. Ubiquitous, standardized connectivity can combine with more computational resources to enable real-time and secure sharing of information between vehicles themselves, and the infrastructure. This could, for example, enable alerting CAVs to nearby accidents, give certain modes signal priority to minimize congestion, or prioritize emergency vehicles.

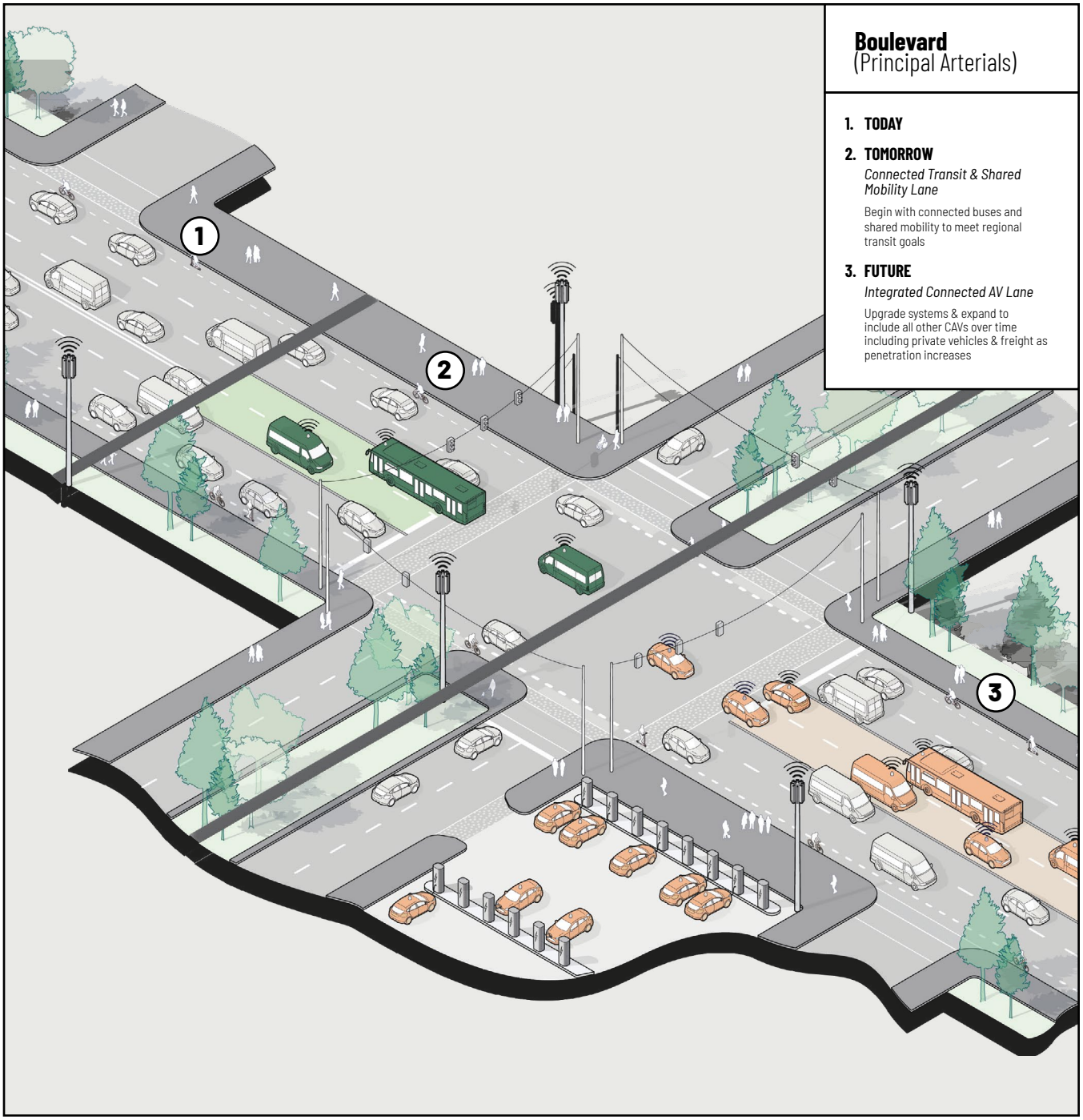


Such infrastructure systems can be combined to create dedicated lanes for CAVs. There are numerous benefits to having dedicated rights-of-way, such as reducing cut-ins and eliminating other corner cases. In addition, dedicated lanes can support high levels of coordinated driving. Coordination refers to the intelligent, shared decision making (otherwise known as path planning) between groups of vehicles to optimize execution of movements (e.g., steering and braking) and use of shared resources (e.g., intersections). Creating open standards, designed in an OEM-neutral manner, offers the opportunity for road operators to achieve key public policy goals.

Finally, these dedicated roadways would be better able to accommodate autonomous BRT and on-demand shared mobility. The public benefits of CAV corridors are described further in *"Key Benefits of the Project" on page 9*.

Implementation of CAV corridor infrastructure can evolve and expand over time, future-proofing long-lived infrastructure investments.

The Project could be delivered by either dedicating existing lanes to CAVs or adding new CAV lanes on existing rights-of-way to improve highways or high-throughput boulevards (principal arterials). Either upfront or over time, use of these lanes would be limited to vehicles that meet minimum, open standards for connectivity and autonomy.

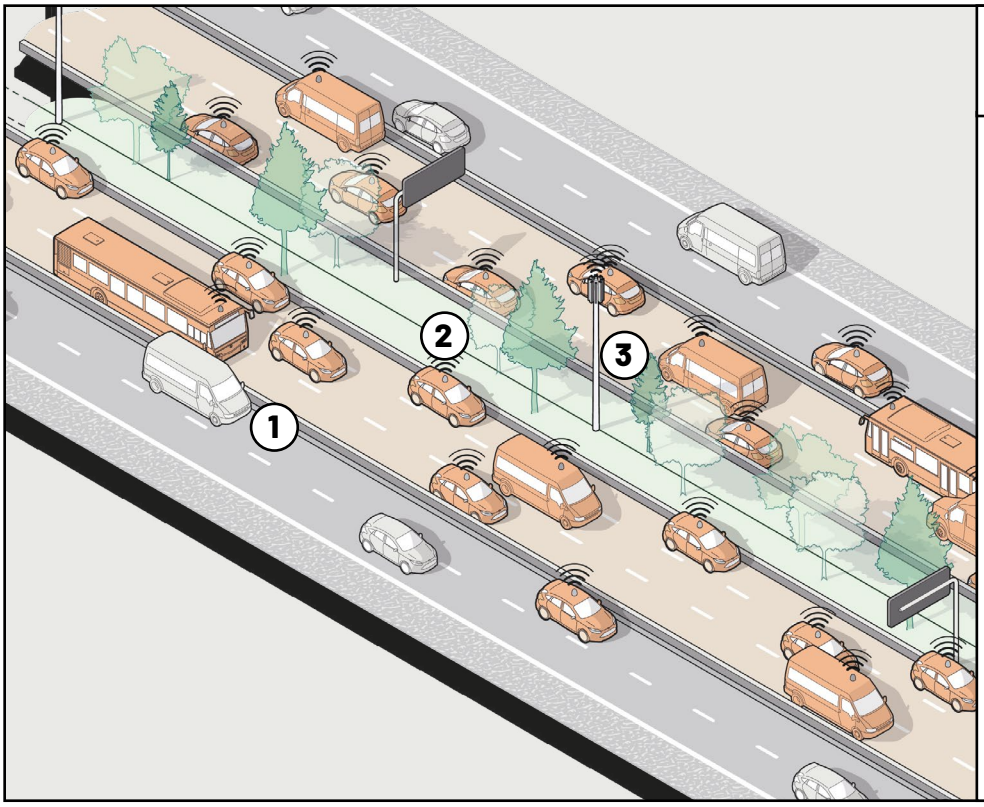


This can allow for higher vehicle density and narrower lanes, as well as higher average operating speeds – significantly increasing throughput potential for a given roadway.

In the highway context, a CAV laneway is similar to managed lanes that have access restrictions, such as express lanes or high-occupancy vehicle ("HOV") lanes. Examples of these can be found under *"Highway" on page 6*.

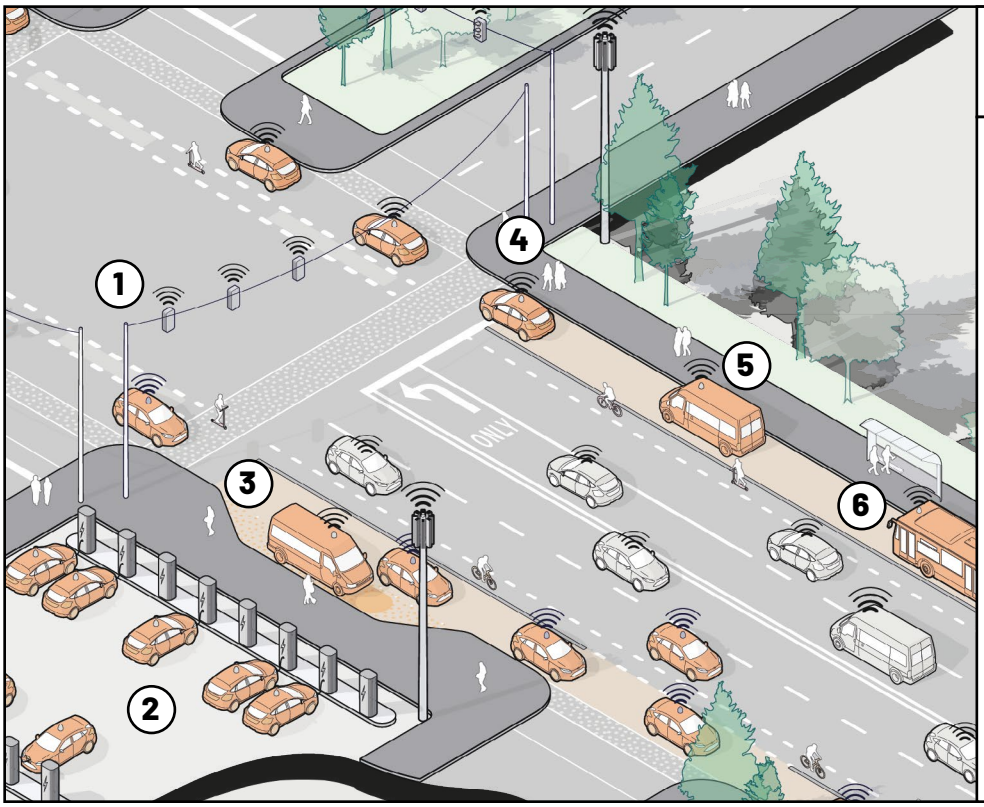
Research on the benefits of CAV laneways has indicated that, through advanced sensing, communications, and coordination, traffic throughput gains of over 200% are possible, while simultaneously increasing road safety.[5] Further, CAV- and technology-enabled infrastructure enable spatiotemporal intersection control and optimization, reducing vehicle delays and emissions by up to 24% and 14% respectively.[6] Such benefits, even with low CAV penetration rates (e.g., 10%), can create significant throughput increases.[7]

Example Components of Integrated Infrastructure Technology Framework for CAV Corridors



Highway

1. **PHYSICAL INFRASTRUCTURE**
   - Well-maintained roadways
   - Separation barriers to ensure efficiency and safety
   - Enhanced, machine-readable markings, digital signage and signaling
   - Enhanced maintenance to maximize pavement life, including levels of prediction and automation
2. **DIGITAL INFRASTRUCTURE**
   - Ubiquitous, highly reliable connectivity
   - High-definition ("HD") maps
   - High accuracy ground-based GPS
   - Road sensors for traffic, weather, road conditions
3. **COORDINATION INFRASTRUCTURE**
   - System to manage vehicle coordination and interoperability
   - Ability for transportation authorities to set policy goals to maximize mobility and accessibility, and track their impact



Boulevard
(Principal Arterials)

1. **PHYSICAL INFRASTRUCTURE**
   - Adaptive traffic signals with intersection priority, particularly for transit and emergency services
   - Intersection designs optimized for pedestrian safety
2. **SUPPORT INFRASTRUCTURE**
   - High-speed EV chargers
   - High-speed wireless or tether vehicle data download
   - Maintenance and cleaning
3. **SMART CURBS / STOPS**
   - Smart curbs at milestones able to identify available time/space reservations
   - Consoles at smart curb locations for mobility functions
   - Dynamic, digital signage
4. **COMPATIBLE CAVS**
   - Vehicles with certified AV / ADAS systems
   - Ability to share information with other vehicles and infrastructure for navigation and safety
5. **RIDE SHARING**
   - Passenger app integration with superior booking and boarding experience
6. **PUBLIC TRANSPORTATION**
   - Buses operating autonomously on loops
   - Frequent stops using smart curbs and/or bus stops

The Infrastructure Technology "Stack" of CAV Corridors

The Master Developer will pursue the development and systems integration of key technologies required to achieve the Project goals.

The Master Developer will function systems integrator, combining best-in-class hardware, software, and operational components required to facilitate CAV corridor projects, as described in*"Highway" on page 6*.

This technology vision goes beyond the adoption of point solutions, such as adaptive traffic signals (an important sub-component). ***It is an integrated approach that results in increased safety, lower congestion, and improved accessibility and affordability of public transit.***

The solution is composed of four layers, which together compose the complete CAV corridor technology stack. As described below, this stack includes augmenting the physical roadway; installing and integrating digital systems, including sensors and connectivity; integrating a "digital twin" system as a real-time representation of the environment and to coordinate CAV driving; and creating operational infrastructure, such as shared mobility systems.

This technology vision goes beyond the adoption of point solutions, such as adaptive traffic signals (an important sub-component). Instead, it is an integrated approach that results in increased safety, lower congestion, and improved accessibility and affordability of public transit. Enabled by a digital twin and secure data exchange, this vision will enable road operators, such as MDOT, to better manage their roads, optimizing for – and measuring – policy goals.

Example Infrastructure Technology "Stack"

LAYER OF TECH STACK	DESCRIPTION
Physical Infrastructure	Simplify and optimize the driving environment for CAVs. This would include significantly reducing the number of edge cases that a CAV may encounter, such as cut-ins.
Digital Infrastructure	Highly reliable connectivity between vehicles ("V2V"), the infrastructure ("V2I"), and the cloud (collectively "V2X"), supporting signaling and sensing technology to collect and transmit information beyond the field-of-view of on-board sensors. Together with HD maps of CAV corridors, this can be used to augment the perception and planning algorithms of CAVs, better enabling them to understand the corridor and their surroundings.
Coordination Infrastructure (Cyber-Physical)	Enable CAVs to act in concert with each other, beyond what a human or on-board sensors alone could observe. This is enabled by a digital twin of the entire corridor providing guidance to individual CAVs and groups of CAVs, as well as secure, accessible application programming interfaces ("APIs").
Operational Infrastructure	Enable mobility services aligned with policy goals, including: (i) smart curbs; (ii) support facilities offering EV charging, cleaning, and maintenance to enable mass deployment of fleets of CAVs and enhanced sustainability; and (iii) modified or purpose-designed connected autonomous buses or pods to greatly enhance the performance and passenger experience.

Technology Development and Implementation Strategy

The Master Developer will iteratively test, develop, and deploy the technology stack needed for MDOT's CAV-C concept.

The Project requires significant systems integration, and the Master Developer will seek to significantly reduce the technology and operations risks with the approach detailed below. While the framework would deliver all Project elements, it is expected to involve a range of technology inputs that could be developed independently and modularly. This approach enables multiple use-cases and expense management and suits an iteratively planned Project.

The Master Developer will work collaboratively with MDOT to ensure that its systems build on existing MDOT and other public investments in advanced infrastructure.

Example Implementation & Risk Management Strategy

DETERMINATION OF REQUIREMENTS	PROCESS OVERVIEW
Determination of Requirements	The Master Developer will seek to develop technical product and engineering requirements, leveraging existing MDOT technologies where appropriate, for each layer of the stack for this specific implementation.
Evaluation of Commercially Available Solutions	The Master Developer plans to leverage state-of-the-art technology components that exist on the market today wherever appropriate.
Development Integration of Selected Systems	For areas in which there are not commercially available solutions, the Master Developer expects to undertake a development process or contract for them. Additionally, the Master Developer intends to undertake the systems integration work required to deploy a fully functional solution.
Iterative Build and Deploy Approach with Key Stakeholders	The Master Developer has developed a strategy to de-risk the technology and ensure all requirements are met, as shown below. The Master Developer envisions utilizing two of the world's leading testing facilities located in Michigan, namely Mcity and ACM.

CAV Corridor Iterative Build and Deploy Approach

MONTHS 6 - 12

INITIAL TEST

Test all components of the tech stack in a piecemeal manner in a "lab" setting to ensure they meet specifications.

MONTHS 12 - 18

FULL TEST

Integrate the stack together in a limited but realistic setting and ensure the overall system operates as designed over a multi-hour / multi-day period.

MONTHS 18 - 24

PROTOTYPE

Deploy and debug the stack over a longer length of road, under real-world conditions and multiple edge cases, to ensure safety and reliability standards are maintained over weeks / months.

MONTHS 24 - 36

PILOT DEPLOYMENT

Deploy the fully tested stack on a dedicated laneway sub-segment in Michigan, with limited vehicles in a "commercial pilot."

MONTHS 36+

FULL SCALE DEPLOYMENT

Begin development and deployment of fully operational, multi-mile, commercially validated dedicated laneway in Michigan, with full vehicle capacity.

THEREAFTER

MULTI-SITE DEPLOYMENT

Fully deployed dedicated laneways with multiple mobility use cases in multiple commercially validated geographies.

Key Benefits of the Project

The Project will provide key benefits and adhere to core principles.

The Master Developer is committed to developing a Project that meets the following key principles and benefits.[8,9,10]

PRINCIPLE / BENEFIT	OVERVIEW
Safety	Improve safety conditions on the corridor. There have been almost 10,000 fatal automobile crashes in Michigan, generally attributable to driver error, over a decade.
OEM Neutrality	Pursue open standards, including following best practices by engaging multi-stakeholder standards organizations, such as SAE International, and federal agencies, such as the National Highway Traffic Safety Administration ("NHTSA").
Mobility and Transit Access	Broaden access to shared and personal mobility – increased coordination increases shared mobility service frequency; connect key regional job centers; and provide accessible vehicles to support seniors and people with disabilities.
Reducing Congestion	Materially reduce traffic congestion by increasing throughput and coordinating traffic at macro and micro scales.
Providing Upfront Capital	Provide significant upfront capital from the Master Developer and SIP or its affiliates for the Project, as described in *"II. Business Case" on page 13*, filling public funding gaps for transportation improvements.
Alignment With Regional Planning	Undertake careful alignment with regional transit plans and, as necessary, air quality modeling required for regionally significant projects, as described in *"III. Work Scope and Schedule" on page 16*.
System Operations and Maintenance	Improve operations and maintenance by coordinating CAVs across multiple modes and instituting predictive maintenance of Project systems.
Innovation and R&D	Affirm Michigan as a leading innovation hub of the future of mobility by locating project resources in Michigan and partnering with the state's public and private sectors.
Economic Development	Unlock job creation and growth through capital investment, improved transportation, and technology development.
Privacy-Preserving Open Data Access	Implement secure, accessible platforms and APIs, consistent with robust privacy and cybersecurity protections.
Replicability	Establish replicable systems to introduce CAV corridors broadly in Michigan, and throughout the U.S. and world.
Accessibility and Equity	Undertake a stakeholder-led design process that addresses technical and other requirements to ensure accessibility by design, and that the benefits of the corridor fairly and equitably reach all affected residents.

Key Project Challenges and Key Mitigation Strategies

The Master Developer has identified key challenges and initial risk mitigation strategies to strengthen the Project.

TECHNOLOGICAL

The technology could prove more difficult to develop and integrate than expected. In particular, the coordination infrastructure layer of the stack has not been previously developed and implemented at scale in a public setting.

Mitigation: The Master Developer has proposed a 36-month plan to gradually test and integrate these technologies, beginning with minimum viable-product requirements, that engineers have vetted and believe to be an achievable timeline. The technology architecture would incorporate multiple redundancies.

PHYSICAL

The Project contemplates redesigns of existing infrastructure systems and design and planning work, which may prove uneconomical or operationally challenging.

Mitigation: The Master Developer seeks to design and plan the Project, as described in *"III. Work Scope and Schedule" on page 16*, to address these risks. It will engage WSP, a leading professional services firm with deep expertise in physical infrastructure, to help to institute a process to resolve physical infrastructure risks.

MARKET

Projected CAV usage rates and ridership are uncertain, and incorporating multiple OEMs may entail integration challenges or require broad adoption of novel standards.

Mitigation: As described in *"II. Business Case" on page 13*, the Master Developer will initially focus on contracting for "anchor-use" cases, including shared mobility for key economic stakeholders, to ensure usage. The Master Developer will seek to create OEM-neutral solutions with common standards by working with OEMs and standards bodies.

OPERATIONAL

The Project envisions previously undemonstrated non-technical operational coordination of multiple CAV form factors to achieve key policy goals.

Mitigation: The Master Developer expects to benefit from Michigan's test tracks – such as Mcity and ACM – to test and prototype key elements of the technology capabilities.

FINANCIAL

As a first-of-its-kind project, the Project has an unproven business and financial model, which will require incremental and iterative validation.

Mitigation: Financial risks can be reduced with long-term contracts with anchor-use cases (e.g., for shared mobility) and other creditworthy parties, and long-term offtake agreements.

DEVELOPMENT AND PHASING

The Project would require a number of permits, approvals, and potentially even legislative or regulatory changes at the federal, state, and local levels. Budgets must be carefully aligned with key milestones.

Mitigation: The Master Developer expects to engage in a Co-Creation Process with MDOT and other key stakeholders to evaluate, inventory, and address each step of the Project process.

COMMUNITY

The Project requires a clear value proposition for the public and key stakeholders, as well as addressing concerns around privacy, security, and job safety.

Mitigation: Anchor-use cases will include shared and accessible mobility, which is expected to increase transit service frequency and broaden access. The Master Developer is committed to ongoing stakeholder and community engagement.

Data Exchange and Security Considerations

Development of secure and transparent data governance standards in partnership with MDOT is critical to the successful design and implementation of the Project.

The Master Developer seeks to pursue best-in-class resiliency and cybersecurity by incorporating systems that prevent and protect against disruptions, enable ongoing audits to ensure integrity and reliability, and employ robust and thorough preparedness and response processes. The Master Developer would also work collaboratively to adopt robust privacy protections, including thorough reviews of, and transparency regarding, the purpose

and impact of any data collection. The Project will draw on best practices involving data exchange in the public realm and consultation with stakeholders to ensure any data is used in a way that protects privacy, is beneficial to the public, and spurs innovation. Additionally, where possible and consistent with privacy protections, the Master Developer expects to utilize appropriate open standards and APIs to enable the ecosystem of participants, including residents, companies, organizations, and public entities, to develop technologies and policies that enhance mobility.

CAV Policy and Regulation

Michigan is one of the most forward-thinking jurisdictions to enable CAVs, with 2016 laws enabling Phase 1 of the Project.

Allowing for CAVs on Michigan roads without drivers or other standard automobile components, as well as encouraging platooning, limiting liability, and preempting local restrictions, puts Michigan in the lead for fostering AV innovation. There is a need for careful consideration of laws (at the federal, state, and local level), regulations, permits, and approvals necessary to make the Project viable and in the public interest. As described in *"III. Work Scope and Schedule" on page 16*, the Master Developer would collaborate with MDOT and other key public stakeholders to identify, inventory, and carefully address key policy and regulatory issues.

Routes

The Master Developer plans to focus initially in Phase 1 on a route from Detroit to Ann Arbor.

This corridor is a compelling location for the Project. Both Michigan Avenue and Interstate 94 could serve as key routes. The corridor includes up to a dozen Opportunity Zones, where expanded mobility and economic development opportunities would connect individuals and small businesses to Michigan's most important industrial, technological, and academic clusters. The corridor provides the ability to leverage the existing resources of leading test tracks, universities, automotive companies, and key economic anchors.

A number of proposals to improve these transit gaps have been considered over the last several decades, but have yet to be implemented. The Project seeks to build upon and improve such proposals. Indicative segments and points of interest could include the following:

Detroit-Metro Airport: Connecting downtown Detroit to Detroit Metropolitan Wayne County Airport. This area is currently served by limited bus transit, which is much less reliable and time efficient than automobiles. Key points of interest include Ford's Corktown innovation campus, the University of Michigan's Detroit Center for Innovation, Ford's headquarters, and Waymo's production facility.

Metro Airport-Ann Arbor: Even with recent pilots, Ann Arbor residents have limited public transit connections to the Airport, downtown Detroit, and other points of interest, which could be expanded by the Project.

As described in *"III. Work Scope and Schedule" on page 16*, an extensive evaluation of any route would be required in Phase 1.

Stakeholder Engagement

A robust community and stakeholder engagement and feedback process is key to the Project.

The Master Developer has already carried out a range of engagements to understand the priorities of key stakeholders in Southeast Michigan and expects to continue to engage broadly across stakeholders and the public-at-large, including as it relates to relevant permitting and environmental processes.

STAKEHOLDER	OVERVIEW
Local & Federal Government Agencies	Engage with public entities to understand key policy goals and priorities for potential routes. Federal agencies include: The Federal Highway Administration ("FHWA"), Federal Transit Administration ("FTA"). Local agencies include: state – MDOT, and relevant state agencies; county – Washtenaw County and Wayne County; city – all cities and townships along and affected by the Project corridor.
Infrastructure Owners and Operators	Understand the mobility needs of and connecting to key infrastructure owners and operators, such as the Wayne County Airport Authority, and others.
Law Enforcement Agencies	Work with the Michigan State Police and other agencies to ensure comprehensive safety and enforcement of laws related to the Project.
Transit Providers	Build on the capabilities of key transit providers, including the Ann Arbor Area Transportation Authority ("AAATA"), Detroit Department of Transportation ("DDOT"), and Suburban Mobility Authority for Regional Transportation ("SMART"), and others.
Transit and Vulnerable Road User Representatives	Engage and work with residents of communities in transit and mobility gaps, people with disabilities, seniors, and other vulnerable road users and their representatives, to ensure the Project fairly and equitably meets their needs.
OEMs	Establish a consultation process involving a range of OEMs on standards and interoperability, including engaging with consortia such as the Automated Vehicle Safety Consortium, a program of SAE ITC that also includes Ford.
Academic	Engage with the academic community such as the University of Michigan, Michigan State University, Wayne State University, and others in research and analysis, testing, and connecting workforces and key points of interest.
Testing Facilities	Conduct initial testing, prototyping, and demonstrations at Mcity and ACM.
Communications and Technology Providers	Engage with leading communications and technology providers in order to understand and form relevant partnerships.
Business and Community Representatives	Engage with key stakeholders in business, labor, and local communities to understand key economic, workforce, fairness, and equity considerations in the Project.
Regional Planning Agencies	Build on the planning and analysis work of planning agencies including the Regional Transit Authority of Southeast Michigan ("RTA"), the Southeast Michigan Council of Governments ("SEMCOG"), and others.

The Master Developer will continue to update this list over time, and as described in *"III. Work Scope and Schedule" on page 16*, the Master Developer plans to engage individuals with Michigan-specific success in stakeholder and community engagement and will attend informational and community meetings related to the project.

Design, Engineering, and Environmental Status

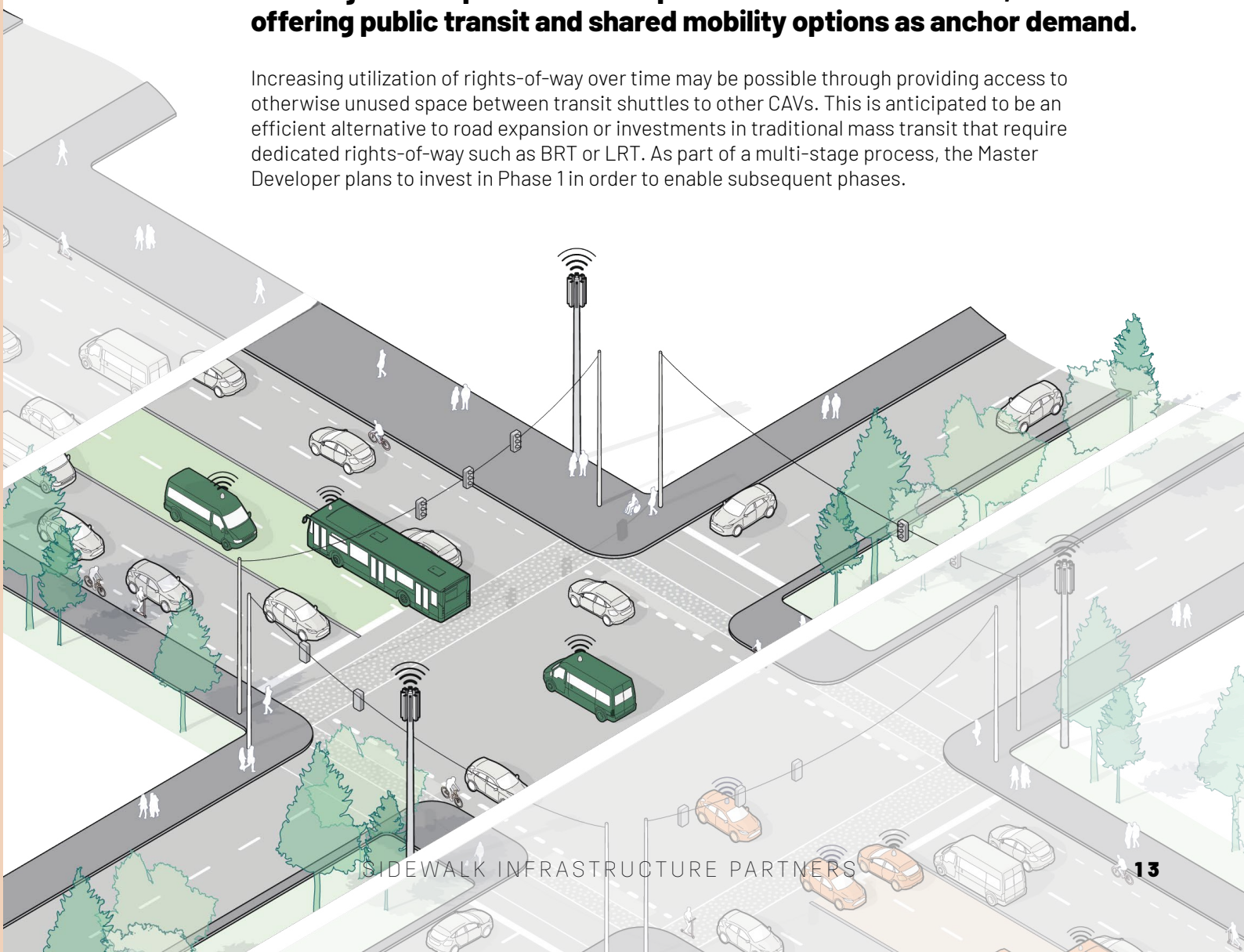
The Master Developer and its backers have active relationships with a range of leading design, engineering, and planning firms from executing on prior large-scale, complex infrastructure projects incorporating advanced innovations.[11]

To support initial planning and design efforts at the onset of Phase 1, including the preliminary design-level documents for Project engineering, the Master Developer would retain WSP, a leading architectural, engineering, and construction services provider ("AEC"), as a technical subconsultant. Additionally, the Master Developer has the potential to partner with other AECs at later stages of Phase 1 or beyond. These AEC resources can help to provide the technical expertise to support initial Project needs outlined in Section 2.2 of the RFP.

II. Business Case

The Project is expected to incorporate innovative elements, such as offering public transit and shared mobility options as anchor demand.

Increasing utilization of rights-of-way over time may be possible through providing access to otherwise unused space between transit shuttles to other CAVs. This is anticipated to be an efficient alternative to road expansion or investments in traditional mass transit that require dedicated rights-of-way such as BRT or LRT. As part of a multi-stage process, the Master Developer plans to invest in Phase 1 in order to enable subsequent phases.



Business Case Framework

CAV corridors may offer many of the benefits of dedicated mass transit while optimizing considerations of cost and service.

The Master Developer seeks to build on years of proposals for improvements in transit in Southeast Michigan, notably for dedicated BRT lanes. One such proposal studied as part of a regional transit plan[12] contemplated running buses from Detroit Metropolitan Wayne County Airport to downtown Detroit during peak periods every 10-20 minutes, and during off-peak periods every 20-60 minutes, with peak-hour BRT travel times of 69 minutes compared to peak-hour automotive travel times of 40-70 minutes. Such a BRT proposal, at an estimated capital cost per mile of $5.9 million, is significantly lower than equivalent commuter rail or LRT projects.[13] For instance, a new light rail is estimated to cost more than $1.5 billion between downtown Detroit and Detroit Metropolitan Wayne County Airport (approximately $65 million per mile).[14] As with most transit projects, BRT typically operates at a significant deficit – whereby ridership and farebox revenues are supplemented by federal, state, or local operational investment.[15]

While such proposals represent significant improvement over the status quo, deploying innovative or future-proofed infrastructure offers the potential – initially or over time – to achieve LRT-like levels of throughput and better service at a modest premium to BRT.

As part of a multi-stage process, the Master Developer plans to invest in Phase 1 in order to enable subsequent phases, including revenue from transit and shared mobility, baseload utilization, and excess capacity.

The Master Developer plans to invest in Phase 1 (development and design) to enable and subsequently pursue the development, design, testing, evaluation, implementation, financing, operations, and maintenance of the Project. The Master Developer (or an affiliated special purpose vehicle) envisions providing capital to finance development expenses and capital expenditures for the Project and would seek commercial viability across the Project's lifecycle. The Project, a first-of-its-kind CAV corridor, may face higher financing and operational costs, as well as technological and other risks, with less visibility into near-term commercial returns. As a result, the Master Developer is pursuing the Project in part to demonstrate its future benefit, which may also be utilized in subsequent deployments.

SOURCES	OVERVIEW
Project Finance Equity	A significant component of the investment is anticipated to come from project finance equity investments from SIP or an affiliated entity.
Grants	As noted in Section 3.2 of the RFP, grants may be pursued to fund upfront or ongoing expenses as necessary and reasonable.
Debt Financing	A portion of CapEx may be financed by dedicated infrastructure financing programs or bank, loan, or bond offerings from federal or other sources.
Additional Sources	There may be potential to benefit from additional forms of creative financing, supported by regional mobility requirements or economic development initiatives.
USES	**OVERVIEW**
Project Expenses & Assets	Investment in an iteratively designed Project, which delivers key objectives in mobility after a collaborative planning process with MDOT, under a P3 framework.

Long-term return on upfront capital is premised on base utilization and expanding use cases over time as the Project evolves.

The Master Developer would seek long-term return on investment based on several potential sources:

- **Transit and shared mobility.** The Project may increase ridership and revenues by deploying CAVs for transit and shared mobility, thus offering higher frequency and quality services. While providing services such as shared mobility, premium levels of service – such as direct, rapid transit between key points of interest – may generate incremental revenue. The delivery of these solutions would need to consider equity and accessibility.
- **Baseload utilization.** By serving partners with long-term transportation needs and defraying large fixed-cost investments (such as parking and commuting expenses), the Project can generate additional near- and medium-term demand, helping to bridge utilization until CAV penetration increases.
- **Excess capacity.** Traditional BRT – in which a bus may travel only every 15 minutes – leaves most of the capacity of a lane underutilized. A connected corridor may allow this significant unused space to be utilized by additional vehicles and form factors without degrading the core transit services. Providing access to compatible CAVs offers the potential to generate incremental revenues derived from dynamically priced road-usage charging of such excess space. This is anticipated to be a longer-term revenue stream as the penetration rates of CAVs increase.

Traditional BRT – in which a bus may travel only every 15 minutes – leaves most of the capacity of a lane underutilized. ***A connected corridor may allow this significant unused space to be utilized by additional vehicles and form factors.***

The Project is anticipated to address the following ongoing costs:

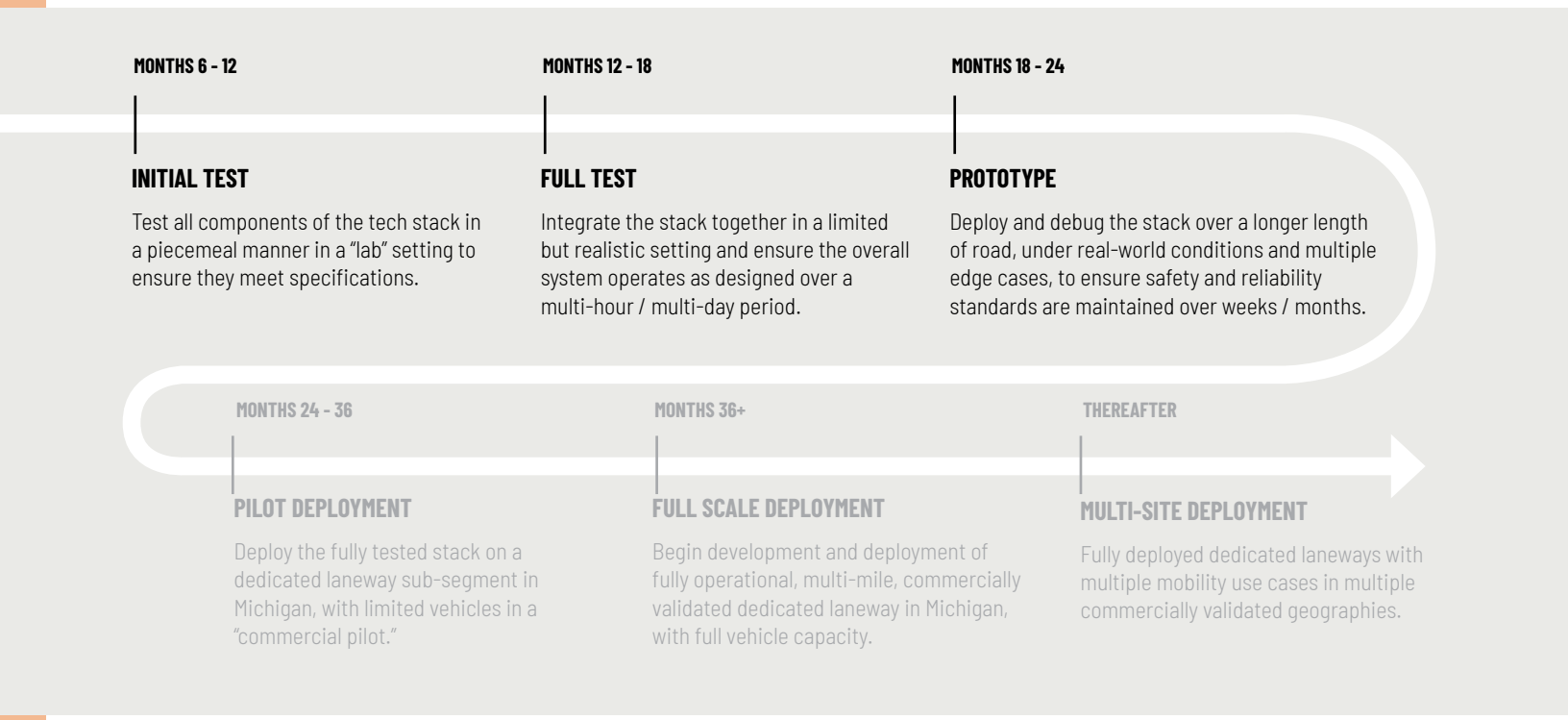
- **Operational and technology expenses.** The Project would incur operating expenses such as traffic management and routine maintenance. Through new digital tools, these expenses may be reduced compared to traditional traffic management and road management frameworks. The Master Developer also anticipates entering into long-term contracts to provide operations support and license technology to the Project.
- **Major maintenance capital expenditures and incremental investment.** The Master Developer also would make periodic investments into upgrades and rehabilitation of infrastructure systems in order to maintain high levels of service throughout the Project's duration.

Business Case Development

The Master Developer will collaborate with MDOT to develop a detailed and innovative business case.

During Phase 1 of the Project, the Master Developer will coordinate with the Financing and Operations and the Routes, Community Engagement, and Economic Development Working Groups noted in *"III. Work Scope and Schedule" on page 16* to scope and evaluate different business case alternatives, taking into account the routes, engineering, and operations, as well as the anticipated upfront and ongoing costs and benefits, and the needs of stakeholders across Southeast Michigan.

Given the unique nature of the Project, this may be an excellent opportunity to demonstrate the crowding in of private capital to deliver best-in-class mobility innovation.



III. Work Scope and Schedule

The Master Developer can deliver the key Project outcomes through an iterative process co-defined with MDOT.

The initial work of Phase 1 would be to convene with MDOT, the key stakeholder of this milestone-based process. The Master Developer expects to execute on deliverables identified in the process, informed by the working groups and its partnership with MDOT. Ultimately, should the Project proceed, the Master Developer would seek to execute Master Developer Agreements for future phases.

Co-Creation Process

The Co-Creation Process will include key stakeholders.

In order to perform Phase 1, the Master Developer, working closely with its Project Partners, expects to engage MDOT, key stakeholders ("Stakeholders"), and users in a collaborative Co-Creation Process ("Co-Creation Process") to iteratively identify and respond to important questions across all key work streams of the Project, and establish a timeline for key actions (each a "Deliverable") and milestones. This includes coordination with MDOT on an initial public announcement of the mutual intent to pursue the Project.

Stakeholders include relevant state and government agencies, infrastructure owners and operators, motor vehicle regulators and administrators, law enforcement agencies, OEMs, communications and technology firms, business and community representatives, testing facilities, academic institutions, regional planning agencies, and transit riders, bicyclists, pedestrians, and individuals with disabilities who use the corridor.

Establishment of Working Groups

The Co-Creation Process will establish Working Groups in key workstreams.

Within one month of finalizing the Master Developer Agreement ("MDA"), the Master Developer, working closely with MDOT, proposes to establish and lead five issue-specific working groups (each a "Working Group"). The Master Developer would determine a frequency of Working Group meetings to achieve Deliverables, working with MDOT. The Working Groups will include:

1. **Technology and Infrastructure. Responsible for:** (i) identifying the physical, digital, cyber-physical/coordination, and operational infrastructure necessary to support effective Project implementation, including an evaluation of current infrastructure and planned future investments to ensure safe and efficient operation of CAVs; and (ii) identifying data exchange and security requirements and solutions for what public and personal data is necessary to be captured, shared, and utilized to allow for the desired mobility functions. This includes how that data and its transfer are made secure against threats that harm public safety and welfare, preserving individuals' personal privacy and security commensurate with expectations of conduct within public spaces.

The Master Developer, working closely with its Project Partners, expects to engage MDOT, key stakeholders, and users in a collaborative Co-Creation Process to iteratively identify and respond to important questions.

2. **Policy and Regulation. Responsible for:** (i) aligning on key principles and goals, including for safety, throughput, transit access, affordability, economic development, accessibility, fairness, and equity (including alignment with regional transit plans), thus accelerating autonomous BRT and shared mobility; (ii) reviewing the current federal, state, and local policies, enabling legislation affecting the implementation of the Project, and identifying and inventorying necessary policy and regulatory considerations at the federal, state, and local levels as necessary to enable a safe and equitable implementation; and (iii) developing a framework for securing intellectual property, data privacy, and cybersecurity.
3. **Routes, Community Engagement, and Economic Development. Responsible for:** (i) identifying potential route opportunities for implementation of the Project that have the greatest impact on the movement of people and goods or potential to demonstrate a broad range of infrastructure technology and operations; (ii) considering the communities and industries served, as well as the opportunity to complement current mobility options, including identifying key points of interest along potential Project routes and engaging with businesses, landowners, developers, and others to understand their needs and ensure their support for the Project; and (iii) establishing and carrying out a community engagement process to ensure fairness and equity, and to hear the perspectives of all communities and residents along and affected by the Project.
4. **Financing and Operations. Responsible for:** (i) identifying operational capabilities that can be leveraged to improve the functional or cost effectiveness of existing and future operational investments, including providing for the equitable utilization of CAV technologies to fully realize the potential of the Project in support of personal mobility and accessibility; and (ii) identifying the potential business cases and funding models to support implementation and operation of the Project, including capital infrastructure investment, corridor operations, and life-cycle maintenance, P3s, and alternative innovative financing approaches.
5. **Planning and Design. Responsible for:** (i) determining the staging and phasing of the planning, construction, and development of potential routes; and (ii) identifying and inventorying necessary permits and approvals at the federal, state, and local level, and as otherwise necessary to proceed on the Project.

Six-Month Deliverables

Within six months of the formation of the Working Groups, the Master Developer proposes working to produce the following Deliverables, as part of the Co-Creation Process.

DELIVERABLE	OVERVIEW
Technology and Infrastructure	• Develop an initial draft scope and product roadmap for necessary technology and infrastructure. • Develop the technical requirements, initial draft architecture, engineering designs, and implementation plan for the initial-test and full-test phases. • Complete an initial evaluation of technologies to inform detailed technical architecture, which could take place at Mcity or ACM.
Policy and Regulation	• Finalize a set of key public principles and goals for the Project. • Develop a comprehensive inventory of necessary legislation and regulation required for advancing the Project. • Develop an initial framework for securing privacy, cybersecurity, and intellectual property.
Routes, Community Engagement, and Economic Development	• Finalize a set of key points of interest and route options. • Develop a process for community engagement with residents along and affected by the Project, including evaluating the need to engage an advisor or firm with a track record of success in Michigan community engagement. • Provide an initial analysis of critical factors on potential routes, including traffic patterns, demographics, physical characteristics, utility and contamination surveys, redevelopment, and land assemblage activities. • Identify key economic development objectives and opportunities.
Financing and Operations	• Provide an initial viable Project business case and financing model. • Analyze financing options to provide commercial viability for the Project, including those described in the business case. • Engage additional Project Partners as needed.
Planning and Design	• Inventory necessary permits and approvals at the federal, state, and local levels, and as otherwise necessary. • Provide illustrative renderings of the street-level plan for the initial CAV-C concept, including elevations and cross-sections. • Compose a roadmap for subsequent planning and engineering activities, which considers project phasing and the ultimate need for NEPA compliance, including the potential use of the Planning and Environmental Linkages ("PEL") process. • Based on initial roadmap, add or adjust Deliverables to ensure meeting the work scope, including the planning and design activities outlined in Section 2.2 of the RFP.

12-Month Deliverables

Within 12 months of the formation of the Working Groups, the Master Developer proposes working to produce the following deliverables, as part of the Co-Creation Process.

DELIVERABLE	OVERVIEW
Technology and Infrastructure	• Demonstrate in a test setting (Mcity or ACM) the individual components of the physical and digital infrastructure and technology. • Develop a system architecture and technology implementation plan for deployment in a limited public setting.
Policy and Regulation	• As identified as necessary, establish roadmap to progress relevant legislation and regulation for moving forward on the Project, including safety, enforcement, and financing. • Finalize a framework for data privacy, cybersecurity, and intellectual property.
Routes, Community Engagement, and Economic Development	• Begin an ongoing community and public engagement process to garner feedback and align on support by stakeholders. • Based on engagement with stakeholders, identify key opportunities for encouraging economic development.
Financing and Operations	• Provide an updated, detailed business and financing model, which will include an analysis of improved functionality and cost-effectiveness of operations. • Onboard additional Project Partners as needed for Project's development and evaluate suitability of existing partners for additional phases of work.
Planning and Design	• Contract for a traffic operations and travel demand analysis to include (i) high-level travel capacity and congestion analysis of routes, (ii) forecasted travel demand and associated operational conditions, and (iii) anticipated transit and shared mobility ridership forecasting. • Contract for preliminary engineering services to include (i) inventory and assessment of existing infrastructure conditions, (ii) preliminary identification of project constraints, and (iii) development of conceptual-level layouts of CAV-C concepts. • Prepare order-of-magnitude cost estimates. • Contract for a preliminary environmental analysis to include (i) assessment of property impacts, (ii) assessment of impacts to historic or environmentally sensitive areas, and (iii) qualitative assessment of environmental justice implications of the Project. • Contract for an economic impact analysis of the Project.

24 Month Deliverables

Within 24 months of the formation of the Working Groups, the Master Developer proposes working to produce the following Deliverables, as part of the Co-Creation Process.

DELIVERABLE	OVERVIEW
Technology and Infrastructure	• Demonstrate in a test setting the individual components of the physical and digital infrastructure and technology. • Deploy a prototype under real-world conditions with multiple edge cases to demonstrate safety and reliability standards are maintained over time. • Develop detailed technical designs and implementation plans for a commercial pilot deployment on a dedicated sub-segment of the Project within 12 months of the end of Phase 1, and full-scale deployment thereafter.
Policy and Regulation	• Make proposals regarding any potential changes to legislation, regulation or policy to implement the Project. • Continue compliance with safety and good driving standards on the Project.
Routes, Community Engagement, and Economic Development	• Complete Phase 1 community engagement, supporting alignment with residents along and affected by the Project. • Complete analysis of economic development opportunities. • Finalize a route and phasing proposal for the Project, drawing on civil engineering, environmental, and other key analyses.
Financing and Operations	• Finalize the business case and financing model for the Project. • Finalize the staging of capital commitments and financing by the Master Developer or its affiliates and other relevant parties. • Provide the ability of the Master Developer to utilize the right-of-way for initial implementation of the Project and its business model.
Planning and Design	• Complete a PEL-type process, which describes the overall preferred alternative, defines the infrastructure requirements, and identifies potential impacts and mitigation strategies. This information will be used to advance the subsequent NEPA process in phases. • Secure NEPA clearance (as required) for infrastructure modifications associated with the pilot deployment, and other permits and clearances as identified in the Co-Creation Process. • Complete a preliminary design for the pilot deployment area, including performing design surveys (as required). • Request that SEMCOG amend its long-range plan and Transportation Improvement Program to include the Project with required air quality modeling (as a regionally significant project) as necessary.

MDA and Implementation Agreements

The Master Developer and MDOT will negotiate an MDA, as well as Implementation Agreements governing subsequent phases of the Project.

The Master Developer, and/or certain of its affiliates and special-purpose vehicles, and MDOT will negotiate the terms of an MDA regarding the Co-Creation Process during Phase 1 of the Project as described above, and, if MDOT determines to pursue the Project, will have the opportunity to bilaterally negotiate one or more Implementation Agreement(s) and/or other Definitive Agreements (the "Implementation Agreements") for subsequent stages of development after Phase 1. The Implementation Agreements are expected to incorporate sufficient approvals, commitments, and clarity with respect to the business model to unlock any capital commitment for financing from the Master Developer and its Equity Member(s) or affiliates, and informed by the foregoing Co-Creation Process.

As part of the Implementation Agreements, the necessary public stakeholders would provide the ability for the Master Developer to develop and implement the Project in a manner consistent with the agreed business model and on the route chosen for the CAV Project. The Master Developer and its Equity Member(s) or their affiliates and any other co-investors would then begin to make capital commitments according to the budget and capital commitment schedule in the Implementation Agreements.

By submitting this response to the RFP, the Master Developer reserves and retains any and all rights to negotiate with MDOT regarding the protection and preservation of the Master Developer's and SIP's rights related to the intellectual property it, or any of its Project Partners, has developed or may develop in connection with the Project. Specifically, subject to negotiation with MDOT, each of the Master Developer and SIP and each of its affiliates: (1) intends to retain and preserve its entire right, title, and interest, in and to all intellectual property arising out of or relating to its work related to the RFP; and (2) expects neither MDOT nor any other government agency or body will acquire any ownership of its intellectual property developed as a result of or in connection with the Project.

QUALIFICATIONS OF TEAM

IV. Executive Summary

Project Partners

Key Members of the Proposer Team

SIP solves generational infrastructure challenges and founded a dedicated company, CAVnue, a purpose-built platform for master-developing CAV connected corridors.

SIP was founded to pioneer the future of infrastructure and has assembled a team of innovators, infrastructure professionals, and investors to pursue this future. SIP combines creative capital; Alphabet's technology capabilities; Sidewalk Labs' experience master-planning large-scale projects that integrate technology, real estate, and infrastructure, including integrated transportation and land use systems; and OTPP's infrastructure track record.

The Master Developer is dedicated to connected corridor projects and other CAV-enabling infrastructure and related technologies, with strong backing from a leading partner ecosystem.

To deliver first-of-its-kind connected corridor technology, SIP founded the Master Developer. Its mission is to transform infrastructure for an autonomous mobility future. The Master Developer will provide the technology development and integration to design, build, finance, operate, and maintain a world-class connected corridor in Michigan.

By transforming the way that infrastructure and vehicles work together, it is possible to accelerate the adoption of CAVs, which will deliver transformational benefits in terms of safety, personal mobility, congestion reduction, and other mobility ecosystem benefits. Because the Project is inherently first-of-its-kind, the Master Developer is uniquely structured for flexibility and adding capabilities as scale and needs evolve. The Master Developer's Project Partners, including Technical Subconsultants, bring global and Michigan-based capabilities in infrastructure and technology, planning and development, design and engineering, research, testing, financing and operations, and policy, legal, and community engagement, as well as other resources relevant to the Project.

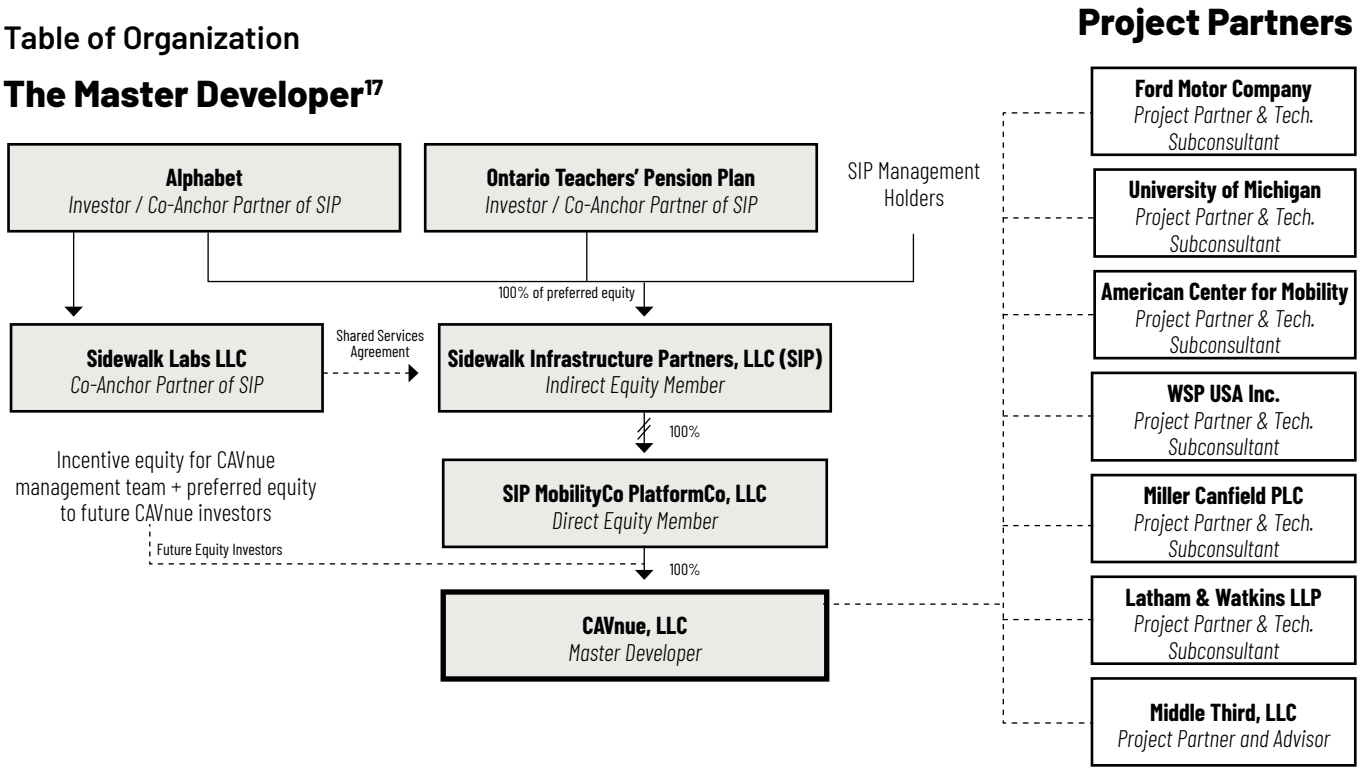
Further, the Master Developer would seek to engage Michigan-based partners wherever possible. It is expected that 50% or more of the work associated with the Project would be performed in Michigan.[16]

PROJECT PARTNERS	OVERVIEW
Ford OEM Project Partner and Technical Subconsultant	Ford Motor Company ("Ford") is a leading mobility innovator in Michigan – as it has been for more than 100 years. Ford shares a vision with SIP and the Master Developer for a connected corridor in Michigan. Ford believes that freedom of movement drives human progress and is committed to building "Smart Vehicles for a Smart World." Ford will leverage its technology, mobility, stakeholder and community engagement capabilities, and campus investments to support the Project. The Master Developer and Ford expect to collaborate together in a number of ways in connection with the Project pursuant to their collaboration framework MOU.
MICHIGAN Research and Technology Project Partner and Technical Subconsultant	The University of Michigan, a research and Technology Project Partner, is the state's flagship academic and research campus. The University of Michigan is also a leader in transportation research through its University of Michigan Transportation Research Institute ("UMTRI") and operates a premier CAV test track – Mcity. Pursuant to an MOU, the Master Developer and the University of Michigan plan to collaborate together on the Project.
American Center for Mobility Testing Project Partner and Technical Subconsultant	ACM is a one-of-a-kind global Smart City Test Center located at the historic Willow Run site in Ypsilanti, providing an incubation platform for the integration of emerging mobility technologies across multiple drivable environments. ACM offers state-of-the-art CAV testing equipment, over 20,000 sq. ft. of private vehicle laboratories, and support for passenger cars, trucks, transit, and low-speed shuttles.
WSP Planning, Design, and Engineering Project Partner and Technical Subconsultant	WSP USA Inc. and its affiliates ("WSP"), one of the world's leading engineering and professional services consulting firms, offers a global scale of multidisciplinary services combined with local knowledge of the communities in which we live and work. WSP's involvement in Michigan dates to the 1920s, when WSP led the design and construction of the Detroit-Windsor Tunnel as part of an early P3. More recently, WSP has played an integral role in the transformation of the mobility space in Michigan. WSP will be retained to support an initial portion of Phase 1 Project planning, design, and engineering services.
MILLER CANFIELD Local Legal Project Partner and Technical Subconsultant	Established in 1852, Miller Canfield PLC ("Miller Canfield") is one of the largest law firms in Michigan, with a national reputation in infrastructure development, construction projects, real estate, development and bond financing for economic development projects, and innovative P3 projects in the state of Michigan. Miller Canfield will be retained to provide legal advice to support the Project during its initial planning and design.
LATHAM & WATKINS LLP Legal Project Partner and Technical Subconsultant	Latham & Watkins LLP ("Latham") is a global law firm with approximately 2,700 attorneys, which over the last 20 years has represented sponsors, investors, developers, operators, lenders, and other financial institutions and government entities in more than 1,300 infrastructure projects worldwide. Latham is the top-ranked U.S. land use and zoning practice according to The Legal 500 U.S. 2019, and the top-ranked North American infrastructure finance advisor according to IJGlobal 2019. Latham will be retained to provide legal support in connection with the Project.
Middle Third, LLC Project Partner and Advisor	Middle Third, LLC ("Middle Third") is a mobility strategy advisory group, led by CEO Alisyn Malek. Leveraging experience across the automotive industry, venture and startup world, and urban mobility, Middle Third brings new perspectives on the future of the intersection of these industries. Middle Third has been engaged to provide advice in connection with the Project.

V. Structure of the Proposer Team

The Master Developer expects to add additional staff, Project Partners, and Technical Subconsultants during Phase 1 as required in the Co-Creation Process. The Key Personnel of the Proposer Team will be responsible for managing performance of the Proposer's work efforts under the MDA Phase 1 work scope, as determined in the Co-Creation Process. The Master Developer expects to retain the flexibility to modify its team, Equity Members, Partners, Technical Subconsultants, and Advisors over the course of Phase 1 to assemble the best possible team to execute on the Project. The Proposer Team expects to benefit from additional advisors from Project Partners, institutions, and firms supporting the Project, and leverage their resources, capabilities, and expertise as required, such as a Transportation Network Company ("TNC") or a road operator.

Table of Organization



CAVnue is dedicated to connected corridor projects and other CAV-enabling infrastructure and technologies, with strong backing from a leading partner ecosystem.

CAVnue, the Master Developer, was created specifically to develop and integrate technology for the advanced infrastructure needed to accelerate CAV deployment. In partnership with MDOT and its partners, the Master Developer also seeks to co-create the planning, design, delivery, operations, and maintenance of the Project.

The role of the Master Developer is to serve as the holistic systems developer and integrator in a Project that requires expertise and engagement from multiple stakeholders and significant technology development, systems integration, and implementation. This will utilize a "build-buy-partner" strategy, whereby many core components – such as intelligent transportation systems elements – will be selected and procured from a range of available commercial components and partners.

In addition to the Project, the Master Developer over time is expected to pursue technology partnerships for new greenfield CAV connected corridor projects and future-proofing of existing road and managed laneway assets to increase CAV penetration.

The Master Developer is uniquely positioned to fill this role, through leveraging the unparalleled resources and convening power of SIP and its equity holders, Alphabet and Sidewalk Labs as technology partners, and OTPP as a leading infrastructure partner.

Table of Organization

Role of Firms, Key Personnel, and Advisors

Institution	Role	Key Personnel	Advisors
MASTER DEVELOPER AND MASTER DEVELOPER INDIRECT EQUITY MEMBER			
Sidewalk Infrastructure Partners, LLC (SIP), CAVnue, LLC	Master Developer Indirect Equity Member "Master Developer"	**Jonathan Winer, Co-CEO** **Brian Barlow, Co-CEO** **Paul Brandley, Finance Director** **Ian Samuels, VP** **Mike Shapiro, VP (MDOT Contact, Project Manager)**	*(via shared services agreement with Sidewalk Labs)* Dan Doctoroff, CEO, Sidewalk Labs Rit Aggarwala, Head of Urban Syst. Willa Ng, Director, Streets
PROJECT PARTNERS			
Ford Motor Company	OEM Project Partner and Technical Subconsultant	**Amanda Roraff, Head, Mobility Engagement** **Jeff Jones, Director, AV & Mobility Partnerships** **Trey Wadsworth, AV Business Analyst**	
University of Michigan	Research and Technology Project Partner and Technical Subconsultant		Henry Liu, Prof. Civ. Eng., UofM James Richard Sayer, Director & Research Scientist, UMTRI Huei Peng, Director, Mcity Greg McGuire, Assoc. Director, Mcity
American Center for Mobility	Testing Project Partner and Technical Subconsultant		Mark Chaput, PE, CEO Kevin Kelly, Tech. Sales. Mngr.
WSP USA Inc.	Planning, Design, and Engineering Partner and Technical Subconsultant		Scott Shogan, PT, PTOE, VP Kurt Krauss, PE, SVP, Chief Proj. Officer John Porcari, President, U.S. Advisory Services
Miller Canfield PLC	Local Legal Project Partner and Technical Subconsultant	**Scott Eldridge, Principal, Managing Director**	Steven Chester, Senior Counsel
Latham & Watkins LLP	Legal Project Partner and Technical Subconsultant	**Steve Croley, Partner**	Tommy Beaudreau, Partner
Middle Third, LLC	Project Partner and Advisor		Alisyn Malek, CEO

Sidewalk Infrastructure Partners

SIP seeks to pioneer technology-enabled infrastructure to improve quality of life.

SIP is an independent company that aims to transform infrastructure by harnessing the power of technology.

SIP is structured as a holding company with permanent capital, allowing it to be a partner over the entire lifecycle of a project. SIP seeks to partner with the public sector, large infrastructure asset owners, and technology innovators on an ongoing basis to deliver transformative, first-of-their kind infrastructure projects.

The Master Developer will draw on the planning experience of Sidewalk Labs.

Sidewalk Labs is Alphabet's platform for large-scale urban project development, incorporating technology in mixed-use real estate and infrastructure. Sidewalk Labs has a team of more than 100 planners, developers, designers, technologists, engineers, and policy and community-outreach leaders, all focused on complex, large-scale smart city projects. As described further below, Sidewalk Labs is developing a first-of-its-kind urban district in Toronto, Ontario ("Sidewalk Toronto") after winning an RFP for an innovation partner in 2017, including pathbreaking incorporation of AV technology and infrastructure. SIP is able to access the capabilities and skills of the Sidewalk Labs team, including for the Project. To benefit the Project, SIP may leverage Sidewalk Labs' product and engineering team; its policy, political, and community-outreach team; and additional planning, development, and innovation resources.

CAVnue, the Master Developer, was created specifically to develop and integrate technology for the advanced infrastructure needed to accelerate CAV deployment.

The Master Developer, with SIP, may draw on the technological expertise of Alphabet.

Beyond technical underwriting, SIP works closely with its founders to establish technology product roadmaps and digital master plans to take a holistic approach to implementing technology systems. The Master Developer would leverage these digital master planning capabilities for the Project.

SIP is an independent entity from Alphabet and Google. While SIP has opportunities to closely collaborate, benefiting from the scale of Alphabet's resources and diversity of business units, neither SIP nor the Master Developer are required to work with or use Alphabet or Google technology. In all instances, the Master Developer will evaluate technology options and partners and select the one that is the most suitable partner.

Alphabet has a market capitalization of more than $800 billion, eight products with more than 1 billion users, and products highly relevant to the Project, such as Android, Google Cloud Platform, Google Maps, Waymo, and Waze.

The Master Developer, with SIP, will also seek to draw on the infrastructure investment track record and experience of OTPP.

OTPP has more than C$200 billion assets under management, including a C$17.1 billion infrastructure portfolio. OTPP launched Teachers' Innovation Platform, through which it has invested in SIP, to focus on investments in companies that are disrupting traditional business models and creating new sectors. SIP and the Master Developer expect to benefit from OTPP's experience investing in technology and infrastructure, including SpaceX; Chicago Skyway; a 7.8-mile toll road linking downtown Chicago, eastern Illinois, and northwest Indiana; and Arco Norte, a 139.2-mile toll road that serves as a transportation link in the central Mexico region. OTPP's infrastructure and toll road track record is expected to benefit the Master Developer's development of the Project's infrastructure, business, and operating models.

Ford Motor Company, *an OEM Project Partner and Technical Subconsultant*

Ford is a leading mobility innovator in Michigan and has been for more than 100 years.

Ford has been one of the leaders in mobility innovation in Michigan for more than 100 years. Headquartered in Dearborn, Michigan, the company designs, manufactures, markets, and services a full line of Ford cars, trucks, SUVs, electric vehicles, and Lincoln luxury vehicles; provides financial services through Ford Motor Credit Company; and is pursuing leadership positions in electrification, AVs, and mobility solutions. Ford employs approximately 190,000 people worldwide. Ford is supporting the Project as an OEM Project Partner and Technical Subconsultant.

Ford shares a vision with SIP and the Master Developer for a connected corridor.

Ford believes that freedom of movement drives human progress and is committed to building "Smart Vehicles for a Smart World." As Ford invests in and develops smart vehicles, it is focused on serving new customers and local communities. Ford's vision, along with SIP and the Master Developer and other Project Partners, is to be MDOT's trusted partner to expand mobility along a Detroit-Ann Arbor corridor, connecting some of Michigan's most important industrial, technological, and academic clusters.

One of the anchors along potential key routes for the Project could be the Michigan Central Station in the Corktown neighborhood of Detroit, which Ford purchased in 2018. Corktown will be a launchpad for plans that are shared by the public and private sectors to make Detroit a global hub for mobility innovation, where companies from all over the world will develop, design, and test mobility solutions to shape the future of transportation.

Ford will leverage its technology, mobility, stakeholder- and community-engagement capabilities, and campus investments to support the Project.

Ford Corktown

One of the anchors along potential key routes for the Project could be the Michigan Central Station in the Corktown neighborhood of Detroit, which Ford purchased in 2018.

Through Ford's work with public, private, and academic partners, Ford has a clear plan to leverage its investments – particularly those in Corktown, Dearborn, and Ann Arbor – to activate the Project vision for the future of Michigan and mobility:

- From Corktown, Ford is developing self-driving vehicles for the movement of people and goods, in partnership with Argo AI, with a commitment to build the best self-driving system and create a safe experience for those inside and outside the vehicles. Ford's first homegrown Michigan-made AVs will be modified and finished at its Michigan Assembly Plant in Wayne, in the middle of this proposed corridor.
- From Ann Arbor, Ford has worked with partners including Ann Arbor Connected Vehicle Testing Environment, UMTRI, Mcity, and ACM. Ford will leverage and build on these existing academic and research relationships as the proposing team works with MDOT to safely develop the Project.
- Working with other automotive OEMs and university partners, Ford plans to engage the Crash Avoidance Metrics Partnership ("CAMP") to model and refine dynamic CAV usage scenarios, involving public-safety and emergency-response partners. In addition, Ford is actively participating in the SAE AV Safety Consortium ("AVSC") with other OEMs. The intent is to leverage the learnings from these organizations for deployment in the Project.
- Beyond vehicle technology, Ford is deploying new solutions for communities. In collaboration with PlanetM, Ford pioneered a new approach to community engagement to deploy innovative mobility solutions through the City:One Challenge. This engagement led to Ford's participation in the Michigan Mobility Collaborative, led by the city of Detroit and funded by the U.S. Department of Transportation, with other industry partners to design, test, and deploy new mobility solutions in Detroit. Ford also led the PlanetM-sponsored Ann Arbor Mobility Transformation Program, in partnership with Ann Arbor SPARK, which leveraged Ford's Safety Insights platform, visualizing crash, connected vehicle, and cell phone data all in one place to help keep citizens safer.

Ford plans to leverage these collaborations and platforms to inform the development of the Project. As stated by Executive Chairman Bill Ford, "[i]f you think of it, the corridor between Ann Arbor, Willow Run, Dearborn and Detroit, it becomes a really interesting corridor for us at Ford, where we can test all the autonomous vehicles. We can test on city streets around here. We can bring people to and from our facilities and build all the business models around autonomous vehicles. So I would love to see this area, Corktown, be the Sand Hill Road of the mobility space. I believe it will be."

University of Michigan, *a Research and Technology Project Partner and Technical Subconsultant*

The University of Michigan has been a leader in research, learning, and teaching for more than 200 years and is the state's flagship academic and research campus.

The Master Developer expects to benefit from the Michigan-based world-leading research, analysis, standards-setting, engineering, CAV testing, and footprint of campuses and resources along the entire proposed Project route of the University of Michigan. One of the nation's top public universities, the University of Michigan has been a leader in research, learning, and teaching for more than 200 years. The university's alumni body is one of the largest in the world and includes a U.S. president, scientists, actors, astronauts, and inventors. The university, which also boasts a world-renowned intercollegiate athletics program, has been the site of many important events in U.S. history, including President John F. Kennedy's announcement of the Peace Corps, President Lyndon B. Johnson's "Great Society" speech, and the clinical trials of the Salk polio vaccine. The main campus in Ann Arbor comprises 19 schools and colleges; there are also regional campuses in Dearborn and Flint, and a nationally ranked health system, Michigan Medicine. The university's campuses span the length of the proposed Project corridor, from the main campus in Ann Arbor to the planned Detroit Center for Innovation. In 2017, the University of Michigan celebrated its bicentennial, marking 200 years since its founding in the city of Detroit.

The University of Michigan operates one of the world's premier CAV test tracks at Mcity.

Mcity at the University of Michigan is leading the transition to CAVs. Home to world-renowned researchers, a one-of-a-kind test facility, and on-road deployments, Mcity brings together industry, government, and academia to improve transportation safety, sustainability, and accessibility for the benefit of society.

The University of Michigan Transportation Research Institute ("UMTRI") is a global leader in mobility research.

Founded in 1965, UMTRI is a global leader in transportation research and a partner of choice for industry leaders, foundations, and government agencies. With annual research expenditures of approximately $20 million, UMTRI is a unit of the university's College of Engineering. The institute has conducted over 1,000 research projects over the years. UMTRI's multidisciplinary research includes short- and long-term projects in areas involving social and behavioral analysis, accident data collection, traffic safety analysis, and standards development and testing, as well as the deployment and evaluation of new safety and mobility technologies.

UMTRI is globally recognized for its approach to research, as well as its implementation of large-scale projects in transportation and safety. Working with its partners including Mcity, the U.S. Department of Transportation, and the city of Ann Arbor, UMTRI currently maintains the world's largest connected vehicle and infrastructure deployment, the Ann Arbor Connected Vehicle Test Environment ("AACVTE").

Within UMTRI, the Center for Connected and Automated Transportation ("CCAT") is a consortium of the University of Michigan (lead), Purdue University, University of Illinois at Urbana-Champaign, Central State University, University of Akron, and Washtenaw Community College. CCAT focuses on overarching research issues and technology transfer related to connected and automated transportation system planning, design, and operations. Since 2016, CCAT has funded over $8 million in research and has over 40 active projects, including augmented reality for highly automated vehicle development and testing; detector-free dynamic traffic signal optimization with connected vehicle data; modeling that serves as a decision-support tool for highway administration; platooning algorithms to prevent pavement damage; and guidelines that will improve the way people with vision impairments will interact and use ride-sharing and CAVs.

American Center for Mobility, *a Testing Project Partner and Technical Subconsultant*

ACM is a one-of-a-kind global Smart City Test Center, providing an incubation platform for the integration of emerging mobility technologies across multiple drivable environments. With over 500 acres of variable road systems and customizable test environments, ACM offers 10 unique real-world test environments, including a comprehensive intelligent systems network with multiple static DSRC units located around the entire site, C-V2X testing and demonstration capabilities, and is implementing the world's first CAV specific 5G Network ("AT&T Global Test Bed"). ACM offers state-of-the-art CAV testing equipment, over 20,000 sq. ft. of private vehicle

laboratories, and support for passenger cars, trucks, transit, and low-speed shuttles. ACM also provides a product showcase center, conferences spaces, and office and convening capabilities.

ACM is positioned to provide support for a variety of components of the Project. ACM currently conducts a wide range of CAV testing services, including testing of transportation system operations alternatives, conducting supportive research, and supporting project data management through cloud-based data. ACM provides support for correlative public road testing with corresponding ACM on-site test activity, and public road infrastructure deployments. ACM is able to validate the effectiveness of ADAS Systems, support CV2X testing and V2I integration activity, and conduct comparative vehicle testing or ITS technology function evaluation between public roads and in closed environments at ACM, as well as supporting electric vehicle charging and electrification R&D activity.

WSP, *a Planning, Design, and Engineering Project Partner and Technical Subconsultant*

WSP is a leading professional services firm.

WSP, one of the world's leading engineering and professional services consulting firms, offers a global scale of multidisciplinary services combined with local knowledge. WSP provides technical expertise and strategic advice to clients in the transportation and infrastructure, property and buildings, environment, industry, resources (including mining and oil and gas), and energy sectors, as well as offering project and program delivery and advisory services. Its experts include engineers, advisors, technicians, scientists, architects, planners, surveyors, and environmental specialists, as well as other design, program, and construction management professionals. WSP provides the specialized expertise and responsiveness of a local firm but with the breadth and depth to successfully deliver complex projects.

WSP has done extensive work on innovative projects in Michigan.

WSP's involvement in Michigan dates to the 1920s, when WSP led the design and construction of the Detroit-Windsor Tunnel as part of an early P3. More recently, WSP has played an integral role in the transformation of the mobility space in Michigan. WSP has supported MDOT's CAV program since 2006, including developing multiple iterations of MDOT's CAV Strategic Plan, executing a transit technology pilot, developing connected vehicle application concepts, and supporting infrastructure deployment and integration. Further, WSP served as the lead infrastructure consultant on the Safety Pilot Model Deployment, a ground-breaking federal research project conducted in Ann Arbor to advance CAV technologies. WSP has long-established partnerships with both Mcity and ACM, supporting each test facility with planning and designing their technology deployments. WSP's experience further extends into shared mobility, where WSP staff have worked with the city of Detroit to pilot unique P3 arrangements to deliver late-night service to DDOT bus riders.

WSP will support initial Phase 1 Project planning, design, and engineering services.

As a Project Partner and Technical Subconsultant, WSP will support the team in helping to translate the project vision to implementation, building off of WSP's similar experience supporting Sidewalk Labs in establishing a vision for the Sidewalk Toronto initiative. The planning phase of this effort will couple WSP's expertise in emerging mobility and technology solutions with a deep well of local planning experience, including serving as on-call planning consultants for both the RTA and DDOT; conducting previous transit planning studies along the Ann Arbor-Detroit corridor; and currently conducting the Detroit citywide transportation plan, MDOT's long-range transportation plan, and a study of infrastructure alternatives along Michigan Avenue in Detroit.

WSP may support the team in identifying and assessing route options, scoping and carrying out NEPA-related analyses, and developing conceptual designs and cost estimates for infrastructure improvements required to support the Project concept. In addition, WSP may assist with execution of public outreach for the Project, building off of successful outreach efforts along the corridor associated with the Michigan Avenue study and I-94 Operations Study project in Ann Arbor.

Miller Canfield PLC, *a Local Legal Project Partner and Technical Subconsultant*

Established in 1852, Miller Canfield is one of the largest law firms in Michigan, with a national reputation in infrastructure development, construction projects, real estate, construction, development and bond financing for economic development projects, and innovative P3 projects in the state of Michigan. These projects include

an AV testing facility, roads, bridges, professional sports stadiums, airports, convention centers, mixed-use developments, and MDOT development and construction projects. Key members of the Miller Canfield team are well-versed and experienced in the most current and sophisticated issues involved in P3s, helping design structures in accordance with applicable local, state, and federal laws and that are politically viable.

Latham & Watkins LLP, *a Legal Project Partner and Technical Subconsultant*

Latham is a global law firm with approximately 2,700 attorneys. The Master Developer's legal team from Latham is led by Steven Croley, an alumnus of the University of Michigan who resides in Ann Arbor and is a member of the University of Michigan Law School faculty, with extensive experience in federal, state, and local law and policy.

The Master Developer expects to draw on Latham's broader team, which over the last 20 years has represented sponsors, investors, developers, operators, lenders, and other financial institutions and government entities in more than 1,300 infrastructure projects worldwide. Latham is the top-ranked U.S. land use and zoning practice according to The Legal 500 U.S. 2019, and the top-ranked North America infrastructure finance advisor according to IJGlobal 2019.

From the initial proposal to the financing and completion of construction, Latham's Project Siting and Approval lawyers assist developers and infrastructure companies in obtaining the crucial environmental, land use, and regulatory approvals from international, federal, state, and local agencies that are needed to build essential infrastructure facilities.

Latham's lawyers and environmental specialists in the group work in coordination with the lawyers in its finance, project finance, and real estate practices. This team approach allows for an efficient and all-encompassing strategy for major projects, including state environmental assessment requirements; U.S. EPA and state agency permits; NEPA reviews; right-of-way agreements; and leases and use permits for public and private facilities, land use zoning and planning, real estate, redevelopment, and land assemblage and acquisition, as well as other needs. Latham was ranked in the top band of leading U.S. environmental practices by Chambers USA in 2019.

Latham's lawyers provide industry experience along with technical and practical insight in sectors throughout the project finance market, including transportation infrastructure projects (e.g., ports, roads, bridges, and tunnels) and innovative infrastructure (e.g., solar and telecommunications).

Middle Third, *a Project Partner and Advisor*

Alisyn Malek is currently the founder and CEO of Middle Third. Middle Third is a boutique consultancy focused on the intersection of mobility services, startups, and the automotive sector. Leveraging more than 12 years of experience leading in automotive electrification, AVs, mobility services, and startup investing, the firm provides unique insights and expertise to their business partners, from speaking engagements to direct strategic consulting on projects, from industry education to technology adoption.

Alisyn Malek's unparalleled understanding of how automotive and innovative technologies work together inspired her to co-found May Mobility, building an AV transportation solution that would solve urban mobility challenges ahead of the competition. As COO, she grew the company from laboratory concept to AV mobility operations in three states with a strong pipeline for growth in less than three years. The deployments included extensive coordination with local and state regulators and policy groups to ensure proper and safe deployment of the technology on public roads.

Ms. Malek started her career as an engineer working on electric vehicle charging technology at General Motors before moving to its corporate venture arm, leading investments across electrification, connected vehicles, mobility, and autonomy.

VI. Experience and Qualifications of Master Developer Team

Projects of Master Developer Equity Member

SIP PROJECT 1

Sidewalk Toronto

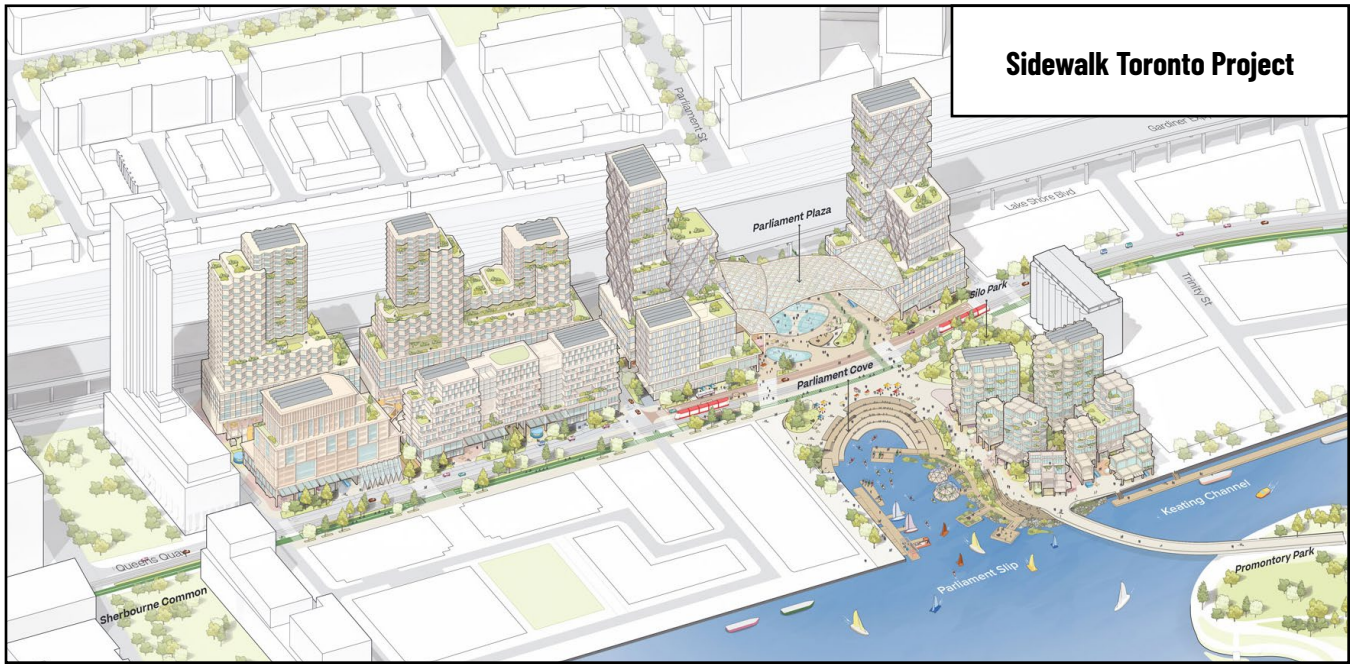
While at Sidewalk Labs, members of the SIP team played a key role in the negotiations, planning, and development of a first-of-its-kind advanced urban district at Sidewalk Toronto.

The Sidewalk Toronto project is an opportunity to fundamentally improve the quality of life in cities through incorporating advanced technology. The project envisions transformational outcomes for cities, including a climate-positive district that cuts greenhouse gases by 89%; an affordable, inclusive community with 40% of units at below-market rates; and advanced infrastructure that safely and affordability integrates CAVs with walking, cycling, and transit.

The Sidewalk Toronto project involves complex systems integration challenges and ambitious infrastructure goals.

The Sidewalk Toronto project involves complex systems integration problems applying innovation to a range of large-scale real estate, land use, and infrastructure projects. As envisioned in the comprehensive *Master Innovation and Development Plan* released in June 2019,[18] the project planned over time to incorporate several billion dollars worth of innovative infrastructure projects, including an advanced power grid, thermal grid, waste management, stormwater management, and a digital communications network. Combined and individually, implementing these systems requires a holistic approach to developing physical, digital, and coordination technology for advanced projects.

In order to ensure data privacy and security, government stakeholders will take the lead on data governance, enabling responsible data use throughout the designated waterfront area, as well as supporting trusted data sharing.

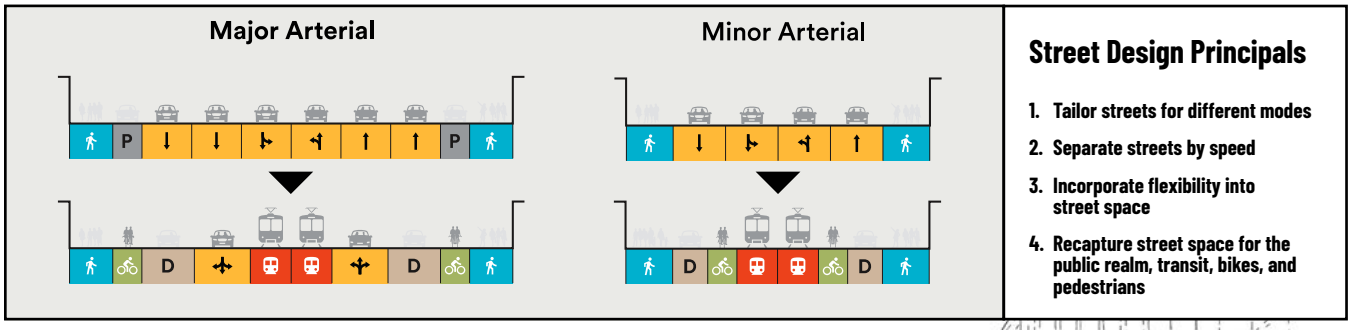


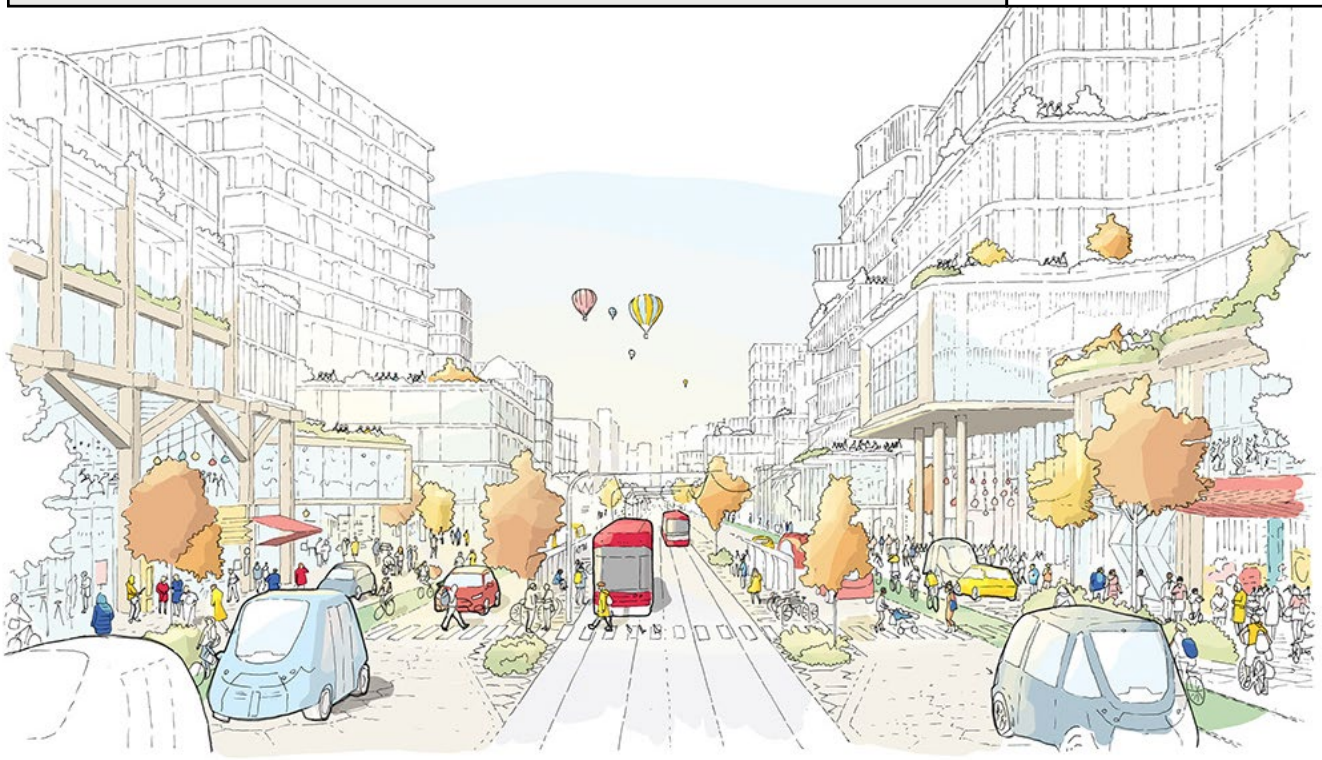
The Sidewalk Toronto project is accelerating ambitious innovations in transportation technology and infrastructure.

The Sidewalk Toronto project envisioned, planned, and designed ambitious mobility innovations highly relevant to a connected corridor,[19] including:

- The ability of CAVs to operate as fleets or shared services, enabling cities to recapture most of the street space once devoted to parking, and to repurpose this space for bike lanes, wider sidewalks, transit services, or pick-ups and drop-offs.
- A mobility management system using real-time information to coordinate travel modes, traffic signals, and street infrastructure, and apply pricing to curb and parking spaces.
- Adaptive traffic signals with the ability to give intersection priority to transit, cyclists, or pedestrians.
- Dynamic curbs with flexible pick-up and drop-off zones that can provide passenger loading zones during rush hour and become public spaces with low traffic.
- Wider sidewalks, heated bike lanes, and accessibility elements to encourage walking and cycling, and support people using wheelchairs and other assistive devices.
- A mobility subscription application incorporating transit, ride-hailing and AVs, bike-sharing, and micro-mobility options.

These advanced mobility goals were embodied in a set of "*Street Design Principals*"[20] for how cities can leverage new and emerging mobility technologies, such as CAVs, to make their streets safer, more comfortable, and more efficient – for all modes.





SIP PROJECT 2

Mobility Technology Incubation Projects

The SIP team helped incubate and grow multiple innovative mobility technology companies that are helping leading cities improve transportation.

SIP's establishment of the Master Developer is informed by a successful track record of incubating and scaling innovative mobility technology companies that are helping leading American cities improve their transportation systems. At Sidewalk Labs, the SIP team incubated Replica and Coord, two mobility technology companies, as well as a range of new technology companies in other verticals.

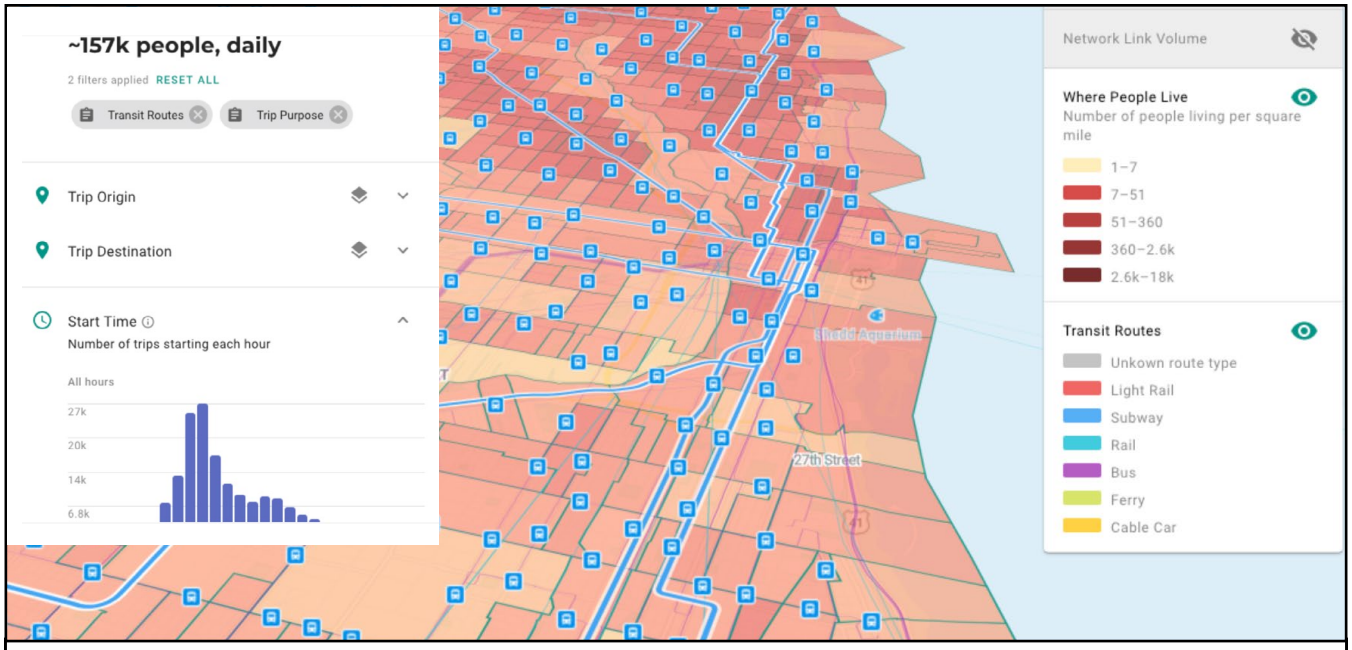
Replica leverages de-identified data to develop comprehensive city transportation simulations and has gained significant traction with public agencies.

Replica creates synthetic population models to create much more rapid and comprehensive planning models for urban transportation. Replica built relationships with public agencies around the world, learning more about the relevant data, tools, and processes. Replica's synthetic population modeling product has gained significant traction, including projects with Kansas City, Portland, Chicago, and Sacramento.

Replica's technology uses de-identified mobile location data to train a behavior model – a set of rules to represent movement in a particular place. These movement models are matched with a synthetic population to create (using samples of census demographic data) a broad new data set that is statistically representative of the actual population.

The combination of travel models with a representative population is a set of replicable trip patterns verified with real-world movement counts, which is an output that is useful for public agencies in a wide variety of planning purposes. For Kansas City, Replica has modeled the number and percentage of trips in each mode (private automotive, public transit, walking, biking, ride-sharing, and other) and changes in mode over time.

The company replicates trip data for every street, transit route, neighborhood, and census tract throughout the day, with protections to prevent traceability and de-identify data.[21]



Replica Digital Interface

Replica creates synthetic population models to create much more rapid and comprehensive planning models for urban transportation.

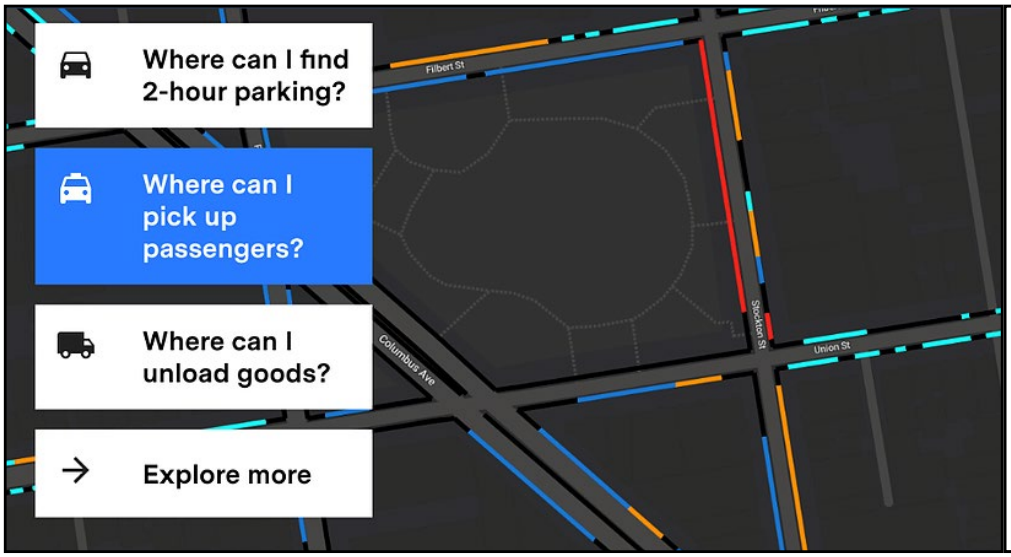
Coord combines technology that allows for inventorying, allocating, pricing, and improving curb operations for cities.

Coord combines data aggregation, data interoperability through APIs, analytics, and pricing to allow cities to manage one of their most valuable, underutilized assets: curb space on roads. Coord supports 209,000 curbs in 15 of North America's largest cities, including San Francisco, Los Angeles, New York, Seattle, Austin, Miami, Philadelphia, San Diego, Boston, Chicago, Atlanta, Denver, Vancouver, and Washington, D.C. [22]

Coord developed a "Surveyor" application that allows smartphone cameras to capture and accurately position curb assets on digital maps six times faster than traditional methods, without requiring manual data entry.[23]

Coord developed an API allowing for sharing and accessing aggregated data, enabling mobility companies and fleets to incorporate comprehensive curb regulation into their operations for safer and more efficient performance. Downtown Santa Monica used Coord to conduct an audit of its curbs, and used the data to improve planning for drop-off and pick-up zones, loading and unloading zones, and parking spaces for cars, bikes, and scooters, resulting in reduced congestion. AECOM used Coord technology to rapidly capture a digitized map of 101 Philadelphia curb miles, including 22,000 curb assets across six neighborhoods.

Coord offers an analytics tool that presents curb assets and regulations in a visual, interactive map along with tools to help curb managers at city agencies view, analyze, and interpret curb features and understand their impact on a city's mobility.



Coord Digital Interface

Coord combines data aggregation, data interoperability through APIs, analytics, and pricing to allow cities to manage one of their most valuable, underutilized assets: curb space on roads.

The SIP team was involved at each step of incubating and scaling Coord and Replica.

Coord and Replica were established as incubation projects within Sidewalk Labs in 2016 and 2017, respectively. SIP's Co-CEO, Jonathan Winer, then Head of Investments at Sidewalk Labs, was involved in the initial planning, including evaluating and determining the team and the business model of Replica and mapping out steps to an eventual capital raise. Mr. Winer worked with the team to execute additional capital raises, including in 2019, raising $11 million with participation from leading venture capital firms ("VCs") Innovation Endeavors, Firebrand Ventures, and Revolution's Rise of the Rest Seed Fund.

Mr. Winer coordinated the process of raising external capital and preparing the company to scale outside of Sidewalk Labs for Coord as well. This included hiring, financial analysis, establishment of the technology roadmap, development of investor materials, and outreach to third-party investors. Coord raised $5 million in August 2018 from leading mobility investors, including Alliance Ventures (a VC for the Nissan-Renault-Mitsubishi alliance), and Trucks, a major early-stage mobility VC (an investor in Cruise Automation, which was acquired by GM; May Mobility; and Zendrive).

Resumes of the Master Developer Equity Member and Proposing Team

Resumes of Key Personnel

Resumes of Key Personnel described in *"V. Structure of the Proposer Team" on page 23* of the Master Developer Equity Member, Project Partners, and Technical Subconsultants are included below in the dedicated "Resumes" section.[24]

Resumes of Advisors

Resumes of Advisors described in *"V. Structure of the Proposer Team" on page 23* are included below in the dedicated "Resumes" section.

Projects of Technical Subconsultants

Ford Motor Company Project Descriptions

Ford's work to advance technology in partnership with communities and government has been a key feature in Ford's CAV efforts. As further demonstrated by the examples below, city engagements are a vital part of Ford's vision of "Smart Vehicles in a Smart World," including collaboration with communities on CAVs. This collaborative approach could serve as a blueprint for the Project.

FORD MOTOR COMPANY PROJECT 1

AV Testing and Launch Markets

Ford Autonomous Vehicles LLC is developing and testing AV solutions in select cities across the U.S. Ford's strategy focuses on developing self-driving technology, understanding the supporting infrastructure, and designing the supporting business ecosystem in unison. This will allow Ford to deploy and scale a commercial service with a purpose-built self-driving vehicle beginning in 2021. In partnership with Argo AI, Ford is testing on public roads in complex urban settings in Detroit, Miami, Pittsburgh, Washington, D.C., and Austin.

Ford is focused on different aspects of its business in each launch market. Firstly, in Miami, Ford has developed a delivery proof of concept, piloting in partnership with local officials, leaders, and business. This has included prepared food, groceries, dry cleaning, and flowers, with local businesses and national enterprises such as Domino's, Postmates, and Walmart. Secondly, in Washington, D.C., Ford is working in partnership with local leaders to focus on equitable access to technology and workforce training. In Austin, Ford hopes to be an active partner in the larger mobility ecosystem that will support the city's mode shift goal of getting residents to choose new mobility options over the next 20 years.

Ford Corktown

As Ford reimagines its business for a new century, it has turned to Detroit's oldest neighborhood as a launchpad for its plans. In Corktown, Ford is creating an innovation hub in an urban setting to develop, design and test mobility solutions that will shape the future of transportation.

At the same time, Ford's active AV testing and refinement is providing insight on how coordination along a corridor is best designed. As a member of CAMP, Ford is working together with academic and other OEM partners to model and refine dynamic AV usage scenarios. These scenarios include public safety and emergency response partners, and CAMP will research ways to standardize and coordinate interaction in a safe way. Ford is also working with national and state departments of transportation ("DOTs") and other OEMs to develop consistent connected vehicle profiles, as well as processes and tools for validation to enable interoperability between connected intersections and production vehicles. This includes signal phase and timing ("SPaT") and map messages and security for applications such as red light violation warnings, which will be foundational for future connected automated applications. The insights from this work will help to inform how the connected environment will be designed along the corridor for the Project.

Reference: Dale Thompson, CAMP Consortium, Federal Highway Administration, *dale.thompson@dot.gov*, (202) 493-3270

FORD MOTOR COMPANY PROJECT 2

Connected Vehicle Capabilities

Ford is committed to deploying cellular vehicle-to-everything technology ("C-V2X") in Ford's new vehicle models in the U.S., beginning with 2022 launches. This innovation is expected to help make streets safer with vehicles that will better communicate with other connected vehicles, pedestrians, cyclists, and traffic infrastructure. Ford's Connected Vehicle Product and Platform team has been working with state-level DOTs to test and refine the technology and is focused on vehicle technology integration and roadway operations to move closer to full-scale C-V2X deployment. While initial work has been with Ford vehicles, the company's hope is that C-V2X solutions will become an OEM-agnostic industry standard as the technology is deployed more widely.

In 2018, Ford began partnering with the Colorado Department of Transportation ("CDOT") to create a commercial-scale connected vehicle and roadway environment using C-V2X technology. In this engagement, Ford installed the required instrumentation in an initial pilot fleet of state vehicles. The vision in Colorado is for more reliable trip times and increased throughput. Ford's C-V2X technology will allow CDOT to meet its needs by helping to improve safety and maximize the efficiency of existing roadway assets. To maximize interoperability with existing technology infrastructure, Ford has developed a "bridge" to be incorporated in roadside units ("RSUs"), allowing them to connect with both dedicated short-range communication ("DSRC") and C-V2X communication networks.

In this partnership, CDOT's network will be enabled with real-time communication technology to send safety- and traffic-related messages directly to drivers through infrastructure-to-vehicle communication and notify CDOT of crashes or roadway hazards. Ford's C-V2X technology has key advantages over existing alert systems by

Vehicle to vehicle and vehicle to infrastructure communication use cases

Vehicle to pedestrian and vehicle to infrastructure communication use cases

utilizing advanced wireless technologies alongside the rapidly expanding 5G cellular network, which will enable direct communication between connected devices without needing a cellular tower. This will help emergency responders quickly access crash sites, reduce roadside hazards, and minimize secondary crashes. For Colorado consumers, this will allow a traffic alerts application displaying real-time road status and traffic lights on the in-dash screen, assistance when negotiating right-of-way at an intersection, and alerts for pedestrians and scooters. The technology can also be used to integrate next-generation tolling options or simplify the consumer experience of interacting with various existing tolling platforms that use different systems. These real-time communication and transaction capabilities are essential for an effective connected vehicle corridor.

This work on integrating C-V2X technologies into real-world use cases allows Ford to help design standards around connected vehicle infrastructure and coordination. The CAV-C concept would be an extension of these efforts.

Reference: Ashley Nylen, Colorado Department of Transportation, Office of Innovative Mobility, *ashley.nylen@state.co.us*

University of Michigan Project Descriptions

The University of Michigan, through UMTRI and Mcity, has strong capabilities and deep roots in connected vehicles and infrastructure. The university has carried out relevant projects testing connected vehicle and infrastructure integration and deployment, and working across multiple OEMs on vehicle-to-infrastructure communications.

THE UNIVERSITY OF MICHIGAN PROJECT 1

Connected Vehicle and Infrastructure Integration and Deployment at the Ann Arbor Connected Vehicle Test Environment

In 2011, UMTRI was awarded the Connected Vehicle Safety Pilot Model Deployment ("SPMD") Test Conductor contract. This $30.3 million project deployed 25 RSUs and equipped over 2,800 vehicles with on-board units ("OBUs") – all of which were DSRC. From the data collected during the SPMD, NHTSA issued the notice of proposed rulemaking ("NPRM" for FMVSS No. 150) to make connected vehicle technology mandatory on new vehicles sold in the U.S. Moreover, the lessons learned from the SPMD were incorporated into industry standards for both DSRC and C-V2X. It also spurred the development of a national security credential management system and standardized testing for certifying that DSRC devices perform according to the industry standards.

In 2015, UMTRI began to transition the DSRC equipment in Ann Arbor to the newly revised 2016 industry standards, funded by cooperative agreement. The updated environment, the AACVTE, was completed in 2018 for $15.2 million. Mcity currently funds the day-to-day operations of the AACVTE, which costs roughly $1.2 million per year. There are currently 75 RSUs deployed and approximately 2,300 equipped vehicles in the city of Ann Arbor. Most recently, UMTRI has been working with industry partners on the deployment of C-V2X technology in AACVTE. It is UMTRI's close working relationship with the city of Ann Arbor and MDOT that has facilitated the ability to conduct the real-world deployment of connected-vehicles-infrastructure-based equipment and evaluate its efficacy.

Expand Deployment of Applications for Vulnerable Road Users ("V2P") at AACVTE

One project leveraging AACVTE will determine the benefits of deploying a DSRC pedestrian detection system and compare two different detection technologies to provide guidance to infrastructure owners and operators. Under this project, four pedestrian mid-block crosswalks in the AACVTE have been equipped with pedestrian detection infrastructure. The infrastructure consists of an RSU, a traffic signal controller with a connected-vehicle co-processor card installed, and a GRIDSmart vision system. Additionally, 70 pedestrians will be recruited to use a phone app that will communicate position information when in range of one of the four RSUs.

Upon detection in the crosswalk, a personal safety message ("PSM") is broadcast. In the AACVTE, there are approximately 1,000 vehicles equipped with aftermarket safety devices ("ASD") that can receive PSMs, perform threat assessments, and warn drivers in the case of potential collisions with pedestrians. The phone app works in a similar fashion. In this case, the RSU receives the information directly from the phone and broadcasts the PSM. With the data collected, the team will be able to assess and compare the functionality and benefits of each system. To date, the project team has completed the infrastructure installation and has tested and verified that the system is ready for deployment and will be completed by January 29, 2021.

Reference: Shige Saigusa, Honda, *SSaigusa@hra.com*

UNIVERSITY OF MICHIGAN PROJECT 2

Conformance to Clarifications for Consistent Implementation ("CCI"), by Mcity and UMTRI

As more connected signalized intersections are deployed nationwide, there is an increasing desire for these to communicate with the upcoming transit, emergency, and production vehicle deployments of on-board applications. Connected vehicles should be able to transverse the U.S. seamlessly. Their onboard applications should work anywhere they go. Specifically SPaT-based applications, such as signal priority, signal preemption, and red light violation warnings should function the same, regardless of the deploying agency or region.

This project will provide a structured process for the industry to verify in the lab, then on the road, to demonstrate how we can deploy V2I applications nationwide. Currently there is no national mechanism to do this. The Mcity sponsored team is led by UMTRI and supported by WSP.

This team is referred to as the Ann Arbor Project Team. The Ann Arbor Project Team is working closely with CAMP (including several OEMS and Tier 1's, such as GM, Nissan, and DENSO), Aptiv, Toyota, Ford, and MDOT to test and verify the connected infrastructure currently deployed in the AACVTE. The Ann Arbor Project Team will be looking at the infrastructure side, while the CAMP team will be focusing on the vehicle side. The efforts are complementary and will be done in close collaboration with one another.

Reference: Bakhtiar Litkouhi at General Motors, *bakhtiar.litkouhi@gm.com*

ACM Project Descriptions

ACM has been in operation since December of 2017, providing a wide variety of CAV, ADAS & Mobility technology testing capabilities. ACM has created a state-of-the-art 500-acre test facility featuring 11 individual real-world test environments, a comprehensive ITS communications network and a compliment of supplemental advanced testing service capabilities. ACM supports testing and R&D activities in virtually every driving scenario that exists in the public transportation environment, with all vehicle types and multi-modal users. ACM can provide comprehensive testing experiences which will challenge and support validation of multiple functions of ADAS systems. ACM has built up an inventory of high-tech accessory testing equipment, including weather making equipment necessary to support a full range of CAV and ADAS functional testing and validation.

Over the past 27 months of operation, ACM has supported over 70 companies operating at various levels of technological maturity with testing and the development of various technologies. ACM's facility allows for our clients to develop, test, and validate technologies well beyond the levels achieved through research activities. In ACM's controlled environment, ACM also has the ability to support non-traditional testing including dangerous or unsafe driving scenarios necessary to confirm technology function at the limits of their capabilities.

Reference: Available upon request

WSP Project Descriptions

WSP brings international expertise in innovative mobility solutions, coupled with extensive on-the-ground experience in the transportation planning and engineering market in Michigan, and a working history with key project partners. This approach will allow WSP to successfully support the advancement of a unique vision for mobility in the region, while navigating the range of stakeholders and processes necessary to make this concept a reality. The following projects illustrate both WSP's role in some of the most high-profile advanced mobility initiatives in the country, as well as its deep knowledge of planning and design in the project area.

WSP PROJECT 1

SmartColumbus

The winner of the U.S. Department of Transportation's ("USDOT") 2016 Smart City Challenge, the city of Columbus, Ohio is ready to harness the power and potential of data, technology, and creativity to reimagine how people and goods move throughout the city, reshaping its transportation system to become a fully integrated city.

As part of the Smart Columbus consultant team, WSP is leading the systems engineering, design, procurement support, and test activities for both AV and connected vehicle projects within the city, a role WSP has served in since the original bid Phase 1n early 2016.

The planned connected vehicle elements in Smart Columbus include three interconnected Smart Corridors with 85 DSRC RSUs deployed at signalized intersections, school zones, and bus stops. Up to 1,800 vehicles, including the entirety of the local transit fleet operated by the Central Ohio Transit Agency ("COTA") will also be connected vehicle-enabled. The connected vehicle environment will support in-vehicle warning for red lights and school zones, along with transit signal priority ("TSP") and emergency vehicle preemption for select vehicles. SPaT data, along with all vehicle safety data messages, will be published to the city's open data portal.

During the early design phases of the connected vehicle project, WSP was responsible for systems engineering activities, including stakeholder engagement, development of the Concept of Operations and System Requirements, and supporting the program level Performance Measurement, Safety Management, Data Privacy and Data Sharing Plans. Support for the CV Project next included the development of the System Design Document, Interface Control Document, and Test Plans, and in parallel, prepared procurement specifications for both an RSU and an onboard unit system integrator. WSP further served as part of the technical evaluation and selection committee for the integrators. With the project now in the deployment phase, WSP continues to serve in the capacity of owner's representative and technical lead.

WSP's responsibilities include review of all integrator deliverables; leading acceptance test activities; and, with recent FCC NPRM ruling, leading the validation of exclusive channel 180 operations of DSRC. As a result of the state-of-emergency order due to COVID-19, local WSP staff have taken on many of the roles of the integrator, including setting up the test apparatus, exercising the devices under test, and implementing data capture. Remaining tasks include support of the full deployment, operations support, and final data analysis. As the connected vehicle environment has changed, WSP has also provided consultation to the city as they respond to Ohio and USDOT actions. In addition to the detailed system engineering activities and consultant support, WSP has also presented or co-presented on behalf of the city at many industry conferences and continues to represent the city in various national organizations and standards bodies.

The city's plan for AV deployment includes fully automated, connected vehicle-enabled electric vehicles, operating on public roadways and coordinated with the local transit agency to solve first/last mile challenges. WSP's earliest work, as with the connected vehicle project, included stakeholder engagement and systems engineering to include a concept of operations and the system requirements. This was followed by procurement support for two different pilots. An AV pilot with May Mobility has already completed as a one-year trial, and a second pilot was set to commence this winter until the COVID-19 challenges and NHTSA's decision to suspend AV operations occurred. WSP supported Smart Columbus by developing the initial RFP for the two pilots along with the standard operating procedures that are now in place. For the second pilot, leveraging the lessons learned, WSP developed the language associated with the Request for Information ("RFI"), the RFP, and an Operational Concept along with multiple route-planning and stakeholder engagement meetings.

Reference: Mandy Bishop, City of Columbus, 614-638-5908, *mkbishop@columbus.gov*

WSP PROJECT 2

Michigan Avenue PEL

MDOT is undertaking a PEL study to determine a preferred alternative for the future of Michigan Avenue within the city of Detroit. The study area spans a two-mile segment of Michigan Avenue, from Campus Martius in the city's central business district to I-96 in the historic Corktown neighborhood. The continued growth of downtown Detroit, coupled with Corktown's burgeoning business district, make Michigan Avenue a prominent corridor within the city. Furthermore, Ford's plans to renovate the historic Michigan Central Station in Corktown and relocate 5,000 employees to the area only heightens the need for a reimagined Michigan Avenue corridor.

WSP is leading a multidisciplinary team to develop the PEL report for MDOT. The scope of this work includes coordinating the project through a collaborative approach to select future transportation improvements that considers environmental, community, and economic goals; uses data to inform the environmental review process; and evaluates the infrastructure needs of the corridor.

WSP, through its role on several companion city efforts, is able to leverage its role as a collaborator to bring all of these studies into a unifying vision for the area. With so much attention on Michigan Avenue and Corktown for years, community engagement must be tailored to respond to the magnitude of change that will occur in the area while also honoring the community conversations that have continued to occur among its residents. Collaborating with MDOT, the city, Ford, local businesses, and neighborhood community groups, WSP is able to execute a dynamic engagement strategy that couples lo-fi, small-group conversations with digital engagement to reach a broader audience.

WSP has assembled a team of planners, engineers, urban designers, and environmental professionals to tackle the unique challenges associated with redesigning Michigan Avenue. WSP's team has developed dynamic evaluation criteria and a spectrum of alternatives that will foster an organized process for filtering ideas into an aspirational, but feasible, alternative.

Reference: Jon Loree, Michigan Department of Transportation, 313-573-0690, *loreej@michigan.gov*

MILLER CANFIELD PROJECT 1

Willow Run/American Center for Mobility

Miller Canfield played a key role in the development and construction of ACM, a national testing facility for CAVs located in Washtenaw County. Development included construction of a state-of-the-art research, education, testing, standards-proving, and education center surrounded by a 2.5-mile test track comprising decommissioned federal and state highways.

The testing facility is located on the 350-acre former GM site adjacent to the Willow Run Airport – the original "Willow Run Plant" – constructed by Henry Ford for production of the Model T and later commissioned to manufacture B-24 bombers in World War II.

The Miller Canfield Team represented Willow Run Arsenal of Democracy Land Holdings LP ("WRAD") in closing on the land purchase for the facility, which was funded with an initial investment of $20 million from the Michigan Strategic Fund. The firm assisted in negotiating the purchase from the RACER Trust and closed on the acquisition on November 4, 2016. ACM, in turn, leased the property from WRAD pursuant to a long-term ground lease. The firm also assisted WRAD with completing the Comprehensive Development Agreement with the township, a Prospective Purchaser Agreement from the EPA, extensive environmental due diligence, a Renaissance Zone approval from the Michigan Economic Development Corporation, and cooperation and support from MDOT and other state agencies.

This deal leveraged Miller Canfield's capabilities in real estate group, energy and environmental, and corporate transactions.

Reference: Linda R. Asciutto, Michigan Economic Development Corporation, *asciuttol@michigan.org*

MILLER CANFIELD PROJECT 2

FCA/City of Detroit Land Assembly for the Mack Avenue Plant Expansion

Facing a complex, high-stakes project with an unusually short timeline, Miller Canfield helped broker a deal that will enable construction of the first new automotive assembly plant in Detroit in almost 30 years. The firm leveraged its relationships with the key public and private players, and brought to bear extensive skills in public finance, real estate, and economic development.

The Miller Canfield team helped the city of Detroit successfully assemble, in just 65 days and without the use of eminent domain, nearly 215 acres of land from several private owners, providing the necessary land to FCA to move forward with its highly publicized Mack Assembly project, where it will manufacture new versions of the Jeep Grand Cherokee. FCA is investing $2.5 billion in this and an adjacent plant, creating around 5,000 jobs.

The city's aggressive accelerated timeline required simultaneously (i) negotiating and finalizing the necessary land acquisitions, (ii) conducting aggressive and proactive due diligence, (iii) designing and assembling a complex (and quite novel) financing, and (iv) negotiating the city-FCA development agreement.

Reference: Becky Navin, Detroit Economic Growth Corporation, *rnavin@degc.org*

Latham & Watkins Project Descriptions

LATHAM & WATKINS PROJECT 1

Sunrise Powerlink

Latham represented San Diego Gas & Electric Company in connection with the permitting and defense of the Sunrise Powerlink Project, a 120 mile 500/230 kV transmission line across southern California.

Latham successfully navigated environmental reviews, permits and rights-of-way, and consultations under a complex set of federal requirements, including under National Environmental Policy Act, the Endangered Species Act ("ESA"), the Federal Land Management and Policy Act ("FLPMA"), the National Forest Management Act ("NMFA"), the Clean Water Act, and the National Historic Preservation Act ("NHPA"), among others.

Latham also successfully defended federal approvals for the project in litigation, including numerous challenges under the ESA to the biological opinions issued for the project.

Latham also represented SDG&E in obtaining state entitlements and in litigation before the California Court of Appeal and the California Supreme Court, defending challenges to the California Public Utilities Commission ("CPUC") decision approving the project.

Reference: Available upon request.

LATHAM & WATKINS PROJECT 2

Texas Central Railroad

Latham is advising on the permitting and development of the Texas Central Railroad, and the world class high-speed rail network between Dallas and Houston, potentially one of the largest transportation infrastructure projects in the U.S.

The approximately 240-mile high-speed rail line will offer a total travel time of less than 90 minutes and will require approvals and regulatory (including rulemaking) action by U.S. Department of Transportation and other federal and state agencies. The Latham team is advising on the environmental aspects, regulatory issues, and due diligence as well as the financing aspects of this monumental development in Texas.

This development could potentially be the largest project financing in the U.S. to date. The innovative new high-speed passenger train line will connect the fourth and fifth largest economies in the country. The project will create an estimated 10,000 direct jobs per year during peak construction and more than 1,500 direct permanent jobs when the train is fully operational. Over the next 25 years, this project will have a direct cumulative economic impact of $36 billion.

Latham is advising on all aspects of the project development, including federal and state environmental reviews, consultations under the Endangered Species Act and National Historic Preservation Act, federal safety regulatory requirements, and other complex permitting issues.

Reference: Available upon request.

VII. Location

The Master Developer would seek to engage Michigan-based partners wherever possible. It is expected that 50% or more of the work associated with the Project would be performed in Michigan. The Master Developer team has already partnered with or engaged leading Michigan-based Project Partners including Ford, University of Michigan, ACM, Miller Canfield, Michigan-based staff of WSP and Latham, and Middle Third, indicating its commitment to locating work in Michigan. Over time, the Master Developer expects to scale up Project-related staff located in Michigan to execute on the Project.

RESUMES

VIII. Resumes of Proposer Team

Resumes of Key Personnel

The Key Personnel of the Proposer Team will be responsible for managing performance of the work efforts under the MDA Phase 1 work scope, as determined in the Co-Creation Process. The Master Developer expects to retain the flexibility to modify its team, Equity Members, Partners, Technical Subconsultants, and Advisors over the course of Phase 1 to assemble the best possible team to execute on the Project.

Sidewalk Infrastructure Partners, LLC *(Master Developer Indirect Equity Member)*

Jonathan Winer, Co-CEO, SIP

Brian Barlow, Co-CEO, SIP

Paul Brandley, Finance Director, SIP

Mike Shapiro, VP, SIP

Ian Samuels, VP, SIP

Ford *(Project Partner and Technical Subconsultant)*

Amanda Roraff, Head of Mobility Engagement, Ford

Jeff Jones, Director, AV & Mobility Partnerships, Ford

Trey Wadsworth, AV Business Analyst, Ford

Miller Canfield PLC *(Project Partner and Technical Subconsultant)*

Scott Eldridge, Principal, Managing Director

Latham & Watkins LLP *(Project Partner and Technical Subconsultant)*

Steve Croley, Partner

Resumes of Advisors

The Proposer Team expects to benefit from additional advisors from Project Partners, institutions, and firms supporting the Project, and leverage their resources, capabilities, and expertise as required.

Sidewalk Labs *(through shared services agreement with SIP)*

Dan Doctoroff, CEO, Sidewalk Labs

Rit Aggarwala, Head of Urban Systems, Sidewalk Labs

Willa Ng, Director, Streets, Sidewalk Labs

University of Michigan *(Project Partner and Technical Subconsultant)*

Henry Liu, Prof. Civ. Eng., UofM

James Richard Sayer, Director & Research Scientist, UMTRI

Huei Peng, Director, Mcity

Greg McGuire, Assoc. Director, Mcity

ACM *(Project Partner and Technical Subconsultant)*

Mark Chaput, PE, CEO

Kevin Kelly, Tech. Sales Mngr.

WSP USA Inc. *(Project Partner and Technical Subconsultant)*

Scott Shogan, PT, PTOE, VP

Kurt Krauss, PE, SVP, Chief Proj. Officer

John Porcari, President, U.S. Advisory Services

Miller Canfield PLC *(Project Partner and Technical Subconsultant)*

Steven Chester, Senior Counsel

Latham & Watkins LLP *(Project Partner and Technical Subconsultant)*

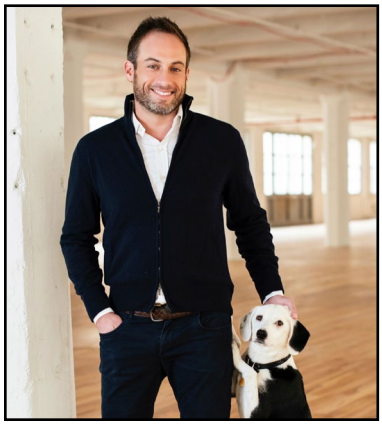
Tommy Beaudreau, Partner

Middle Third, LLC *(Project Partner and Advisor)*

Alisyn Malek, CEO

Jonathan Winer

Co-CEO



CAREER SUMMARY

Jonathan Winer is Co-Founder and Co-CEO of Sidewalk Infrastructure Partners (SIP). With over two decades of experience in private equity, Jonathan has led investments of over $2 billion across sectors including technology, infrastructure, real estate, and media. Prior to SIP, Jonathan was Head of Investments & Partnerships at Sidewalk Labs, an Alphabet company focused on urban innovation, where he managed dedicated investment funds related to technology, real estate, and infrastructure, and was responsible for Sidewalk Labs' business model and financing strategy. He previously founded Nereus in 2009, a private equity fund that invests in alternative energy infrastructure in Asia. Before Nereus, Jonathan worked at the D. E. Shaw group where he built the private equity team across venture capital, growth equity, and structured finance. Jonathan started his career by founding startups in natural language processing and computational biochemistry

YEARS OF EXPERIENCE

20 years of investing and executive management experience

EDUCATION

B.S./B.A. from Yale University in Philosophy and Computer Science

PROFESSIONAL EXPERIENCE

Sidewalk Infrastructure Partners: Jonathan is the Co-Founder and Co-CEO of Sidewalk Infrastructure Partners

Sidewalk Labs: Jonathan was recruited by Alphabet to establish and run Sidewalk Labs' investment team which focused on the application of digital technology to real assets, where he served as Head of Investments & Partnerships. At Sidewalk Labs, Jonathan ran transactions for Alphabet across technology, advanced infrastructure, and real estate/smart cities including the incubation of multiple early-stage technology companies. He also led the business aspects, including underwriting and negotiation, of the Sidewalk Toronto project, an innovative P3 between Alphabet/Sidewalk Labs and all three levels of the Canadian government

Nereus Capital: Jonathan founded Nereus Capital, an alternative asset manager that provides flexible financing for distributed energy infrastructure in Asia. With Nereus, Jonathan invested in projects as solar matured down the cost curve from early-stage ventures to utility-scale deployments.

TheD. E. Shaw Group: AtD. E. Shaw, Jonathan served as a Director where he establishedD. E. Shaw's illiquid investment practice, grew it to $5.0 billion in assets under management (AUM), and founded niche strategies across asset classes and geographies. Jonathan also establishedD. E. Shaw's Indian illiquid investment group, personally running deals with significant technology, energy, and real estate components

Krypteian Systems: Jonathan founded Krypteian Systems, a venture-backed machine learning company that developed specialized natural language processing technology for enterprise email

SELECTED TRANSACTIONS

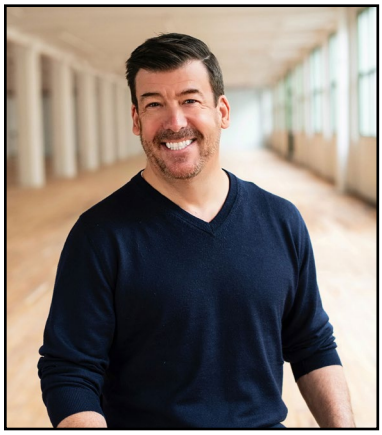
Sidewalk Toronto: The Sidewalk Toronto project, a first-of-its-kind P3 between Sidewalk Labs and three levels of government in Canada, is an opportunity to fundamentally improve the quality of life in cities through incorporating advanced technology. The project envisions transformational outcomes for cities, including a climate-positive district that cuts greenhouse gases by 89%; an affordable, inclusive community with 40% of units at below-market rates; and advanced infrastructure that safely and affordability integrates CAVs with walking, cycling, and transit. As Head of Investments and Partnerships at Sidewalk Labs, Jonathan conducted business negotiations that led to winning the RFP for Sidewalk Toronto, and establishing a framework for planning, development, and unlocking financial commitments

Mobility technology incubations (Replica and Coord): As Head of Investments and Partnerships at Sidewalk Labs, Jonathan incubated and scaled two mobility technology companies - Replica and Coord. Replica creates synthetic population models to create much more rapid and comprehensive planning models for urban transportation. Coord combines data aggregation, data interoperability through APIs, analytics, and pricing to allow cities to manage one of their most valuable, underutilized assets: curb space on roads. Jonathan was involved in the initial planning, including evaluating and determining the team and the business model of Replica and mapping out steps to an eventual capital raise. For Coord, Jonathan coordinated the process of raising external capital and preparing the company to scale outside of Sidewalk Labs. This included hiring, financial analysis, establishment of the technology roadmap, development of investor materials, and outreach to third-party investors

Brick & Mortar Ventures: Brick & Mortar, founded by Darren Bechtel (of the Bechtel family, owners of the Bechtel Group), is a prominent architecture, engineering, and construction-focused venture capital fund. The Fund operates under a "Preferred Industry Partner" model, in which it matches its LPs - large architecture, engineering, and construction companies - with technology companies offering solutions directly relevant to their needs for pilots and partnerships. Additional LPs include: United Rentals, Autodesk, Hilti, Bechtel, Cemex, Knauf, FMI, and Glodon. Bechtel approached Jonathan, who led the Sidewalk Labs deal team investing in the fund, consistent with the strategy of applying technology to hard assets

Brian Barlow

Co-CEO



CAREER SUMMARY

Brian Barlow is Co-Founder and Co-CEO of Sidewalk Infrastructure Partners (SIP). With a 27-year investing track record with over $4 billion deployed in private equity and public markets transactions in the infrastructure, energy, real estate, technology and credit derivatives markets, Brian's career has focused on identifying unique investment strategies in infrastructure and real assets and building investment teams and platforms to execute competitively-advantaged strategies. Brian was educated as an architect and urban planner with an advanced degree in Finance and Real Estate. Brian is an entrepreneurial leader having successfully built three previous private investment platforms, including the hiring and management of investment teams, IR departments, back office finance & accounting and compliance staff

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Board Member, Cornell Program in Infrastructure Policy ("CPIP"); Executive Program - Computer Science and Artificial Intelligence Lab ("CSAIL") at M.I.T.

YEARS OF EXPERIENCE

27 years of investing and executive management experience

EDUCATION

B.A. from the University of Washington, College of Architecture and Urban Planning; M.B.A. in Finance and Real Estate from Columbia University

PROFESSIONAL EXPERIENCE

Sidewalk Infrastructure Partners: Brian is the Co-Founder and Co-CEO of Sidewalk Infrastructure Partners

Sidewalk Labs: Brian was recruited to Alphabet/Sidewalk Labs to develop an infrastructure finance and investment strategy to support advanced infrastructure systems in urban redevelopment projects. At Sidewalk Labs, Brian was part of the leadership, focused on innovative infrastructure financing and development for the planning of Sidewalk Toronto, an innovative P3 between Alphabet/Sidewalk Labs and all three levels of the Canadian government

American Infrastructure Funds (AIM): An original member and Managing Director at American Infrastructure Funds, Brian led strategic initiatives including new investment approaches, innovative tax-efficient capital formation and investment theme development, investments and portfolio management, and value creation. Brian also raised three separate fund strategies totalling approximately $3 billion of assets under management (AUM) and over $2 billion of planned strategies (in market)

Scion Capital: At Scion Capital where he was a Director, Brian joined as the fourth employee. There, he built an institutional multi-strategy private investment platform and helped grow the company to $750 million AUM in equities strategies and over $5 billion in credit derivatives strategies

Broadview International: At Broadview International, Brian served as a Principal where he raised $250 million from technology CEOs and institutional investors and led $128 million of investments across 5 portfolio companies

Brian began his career covering the then-emerging asset classes, including Real Estate Investment Trusts (REITs) and Master Limited Partnerships (MLPs), as well as Telecommunications & Technology

SELECTED TRANSACTIONS

Tunnel Hill Partners: Tunnel Hill Partners (THP) was formed from a single reclamation project at Oxford Resource Partners that was developed into one of the nation's largest Subtitle-D landfills. Over the course of six years THP was built into the largest waste-by-rail company in the U.S. including disposal assets, transfer stations, recycling centers and supporting rail and transloading infrastructure

United Bridge Partners and New American Bridge Fund: New American Bridge Fund (NABF) is a $1.0 billion sector-focused private infrastructure fund sponsored by American Infrastructure Funds to build, own and operate private toll bridges across the U.S., meeting the needs of under-funded state and municipal governments to replace failing bridge infrastructure. United Bridge Partners currently owns and operates two toll bridges, the New South Norfolk Jordan Bridge in Norfolk, Virgina and the CLine Avenue Bridge in East Chicago, Indiana

Landmark Infrastructure: Landmark Infrastructure is a digital infrastructure platform created by American Infrastructure Funds in 2013. It initially acquired a large portfolio of real property interests and critical infrastructure leased to tower companies and wireless carriers in the wireless communication industry but has since expanded into outdoor advertising sites, and land leases under renewable power generation facilities as well as municipal digital infrastructure assets. It currently holds over 1,900 discreet assets in 48 U.S. states as well as assets in the U.K. and Australia. Its assets are leased under long-term contracts by blue chip customers including AT&T, T-Mobile, Verizon, American Tower, Crown Castle, Outfront Media and Southern Cal Edison

Mike Shapiro

Vice President

CAREER SUMMARY

Mike Shapiro is a Vice President at Sidewalk Infrastructure Partners (SIP), where he is responsible for origination, diligence and execution of transactions

Previously, Mike was a member of Sidewalk Labs' investment team, where he led investments in advanced mobility and social infrastructure and worked on the formation of Sidewalk Infrastructure. Prior to joining Sidewalk Labs, he worked for MassAve Group, a family office in Washington, D.C. focused on long-term investments in business and health services companies

Before that, Mike was Economic Policy Advisor for Hillary Clinton's 2016 presidential campaign, where he led economic policy on job creation, competition policy, fiscal and tax matters, healthcare, and manufacturing and trade. He previously served as a Senior Policy Advisor at the White House National Economic Council in the Obama Administration and held roles at the Office of Management and Budget, the Council of Economic Advisers, and the Treasury Department

YEARS OF EXPERIENCE

11 years of experience in the public and private sector, including senior policy positions at the White House, and in innovative private equity investing

EDUCATION

J.D. from Yale Law School, and B.A. from Princeton's Woodrow Wilson School of Public and International Affairs

PROFESSIONAL EXPERIENCE

Sidewalk Infrastructure Partners: Mike is a Vice President at Sidewalk Infrastructure Partners (SIP)

Sidewalk Labs: Mike was an associate on the Investments and Partnerships Team at Sidewalk Labs, where he focused on investing across sectors including infrastructure, real estate, and technology

MassAve Group: Mike was an associate at MassAve Group, a family office focused on private equity investments in health care and business services

Hillary for America: Mike was Economic Policy Advisor for Hillary for America, Hillary Clinton's Presidential campaign, where he led economic policy

The White House, National Economic Council: Mike served as a Senior Policy Advisor, developing economic policy related to job creation, infrastructure, health care, and fiscal and tax matters. In this role he prepared policy materials for and briefed the President, senior White House staff, Members of Congress, and other key public officials

The Executive Office of the President, Office of Management and Budget, and Council of Economic Advisers: Mike held roles in key economic policy agencies in the Executive Office of the President, preparing the President's Daily Economic Briefing, and contributing to the Economic Report of the President, as well as carrying out and developing policy research and analysis

Paul Brandley

Director of Finance and Operations

CAREER SUMMARY

Paul Brandley is the Director of Finance and Operations at Sidewalk Infrastructure Partners. Previously, Paul was the CFO and Treasurer of the Massachusetts Bay Transportation Authority, the oldest and fifth-largest mass transit authority in the country. At the MBTA, Paul balanced the Authority's budget for the first time in a decade and issued the nation's first tax-exempt Sustainability Bonds. Paul was also the CFO of Neighborly Corporation, a company focused on delivering information infrastructure to communities across the United States.

Paul began his career on Wall Street trading desks. He designed investment and hedging strategies for institutional clients of Bear Stearns, Barclays Capital, and Goldman Sachs

YEARS OF EXPERIENCE

16 years of finance and management experience in the public and private sectors

EDUCATION

B.A. from Georgetown University; M.P.A. from Harvard University, John F. Kennedy School

PROFESSIONAL EXPERIENCE

Sidewalk Infrastructure Partners: Paul is Director of Finance and Operations at Sidewalk Infrastructure Partners (SIP)

Massachusetts Bay Transportation Authority: As CFO of MBTA, Paul led the stabilization and turnaround of the oldest mass transit authority in the country, closed a significant operating deficit through revenue enhancements, cost savings initiatives and productivity improvements and developed a long-term capital reinvestment strategy to systematically reduce the Authority's deferred maintenance backlog. As the Treasurer of MBTA, Paul managed the Authority's liquidity position and financing sources to support $8 billion capital investment plan and $2 billion operating budget, issued first ever tax-exempt Sustainability Bond in the United States, and closed a $700 million public-private partnership

Neighborly: Paul served at the Chief Financial Officer at Neighborly, a start-up that delivers information infrastructure to communities across the United States and provides investors direct access to high-quality, world-positive investment opportunities, where he oversaw financials, controls, and operations for all Neighborly entities, including Neighborly Networks, which delivers open-access fiber infrastructure to underserved communities

Goldman Sachs: At Goldman Sachs, Paul served as a Vice President of Fixed Income, Currencies and Commodities where he designed investment and hedging solutions for a diverse client base, including central banks, private banks, asset managers, endowments and foundations; solutions spanned developed and emerging markets currencies, interest rates, inflation, and commodities; Paul spearheaded new product development, acting as a liaison between legal, compliance, operations, tax, and risk management

Barclays Investment Bank: Paul was a Manager in Fixed Income at Barclays where he created customized investments for private banks, regional banks and broker dealers, placing in excess of $2 billion notional in currency and commodity-linked securities. Paul partnered with large and medium sized corporations to improve liability and net investment hedging, and acted as the product specialist for Barclays multi-asset sales force in the Americas

Bear Stearns: Paul began his career at Bear Stearns where he was an Associate Director of Fixed Income. At Bear Stearns, Paul developed tailored investment products and other applications of Fixed Income derivatives, and priced and marketed bonds linked to interest rates, currencies, commodities and inflation

Ian Samuels

Vice President

CAREER SUMMARY

Ian Samuels is a Vice President at Sidewalk Infrastructure Partners (SIP), where he is responsible for origination, diligence and execution of transactions. Previously, he was a Principal at Centerbridge Partners L.P., where he worked on financial services, technology, and industrials investments for the firm's private equity and credit funds. Prior to that, Ian helped to establish Nyca Partners, a venture capital fund focused on financial technology investments. Ian joined the U.S. Department of the Treasury in 2009 as a member of its financial crisis response team and as a Senior Policy Advisor focused on financial reform, federal credit, and other projects. Ian began his career in investment banking at the Blackstone Group

YEARS OF EXPERIENCE

13 years of financial services and public policy experience

EDUCATION

B.S. from the Wharton School of the University of Pennsylvia in economics.

PROFESSIONAL EXPERIENCE

Sidewalk Infrastructure Partners: Ian is a Vice President at Sidewalk Infrastructure Partners (SIP)

Centerbridge Partners: Ian was a Principal at Centerbridge Partners focused on investing in technology, industrials, and financial services

Nyca Partners: Ian helped to establish Nyca Partners, a venture fund focused on financial services technology

U.S. Department of the Treasury: Ian joined as a member of the financial crisis response team and subequently was a Senior Policy Advisor in the Office of Capital Markets focused on financial reform, federal credit, and other projects

The Blackstone Group: Ian was an analyst in Mergers and Aquisitions, and was a member of the Structured Products group

Dan Doctoroff

Chairman and CEO

CAREER SUMMARY

Dan Doctoroff is the founder, Chairman, and CEO of Sidewalk Labs, an Alphabet company focused on urban innovation. Prior to launching Sidewalk Labs, he served as CEO and President of Bloomberg L.P., the leading provider of financial news and information. From 2002-2008, Dan served as New York City's Deputy Mayor for Economic Development and Rebuilding. Prior to joining the Bloomberg Administration, Dan was Managing Partner of the private equity investment firm Oak Hill Capital Partners. While at Oak Hill, Dan founded NYC2012, the organization that spearheaded efforts to bring the Olympic Games to New York City.

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Culture Shed: Chairman of the Board, **University of Chicago**: Member, Board of Trustees, **Bloomberg Philanthropies:** Board Member, **World Resource Institute:** Board Member

YEARS OF EXPERIENCE

37 years of executive management experience in public and private sectors

EDUCATION

B.A. from Harvard University; J.D. from University of Chicago

PROFESSIONAL EXPERIENCE

Sidewalk Labs: Dan Doctoroff is Chairman and CEO of Sidewalk Labs, an Alphabet company. Sidewalk Labs was formed to accelerate the integration of digital technology into urban environments. Its team uniquely combines technologists and urbanists who build products and services with the ultimate aspiration of developing a new district that can serve as a model for 21st-century urban life

Bloomberg LP: Before launching Sidewalk, Dan was President and Chief Executive Officer of Bloomberg L.P., the leading provider of news and information to the global financial community. Dan led the company through the most severe financial crisis since the Great Depression by pursuing an aggressive strategy of investment focused on enhancing the company's core Terminal product; expanding into enterprise products and services; creating new businesses in government, law and energy; and building the company's news operations, including its acquisition of Businessweek. Despite the financial crisis, Bloomberg's organic revenues nearly doubled during the seven years that Dan led the company

City of New York: Prior to joining Bloomberg, Dan served as Deputy Mayor for Economic Development and Rebuilding for the City of New York. With Mayor Michael R. Bloomberg, Dan led New York City's dramatic economic resurgence, spearheading a five-borough economic development strategy to reverse the city's post-9/11 fiscal crisis and launching the most ambitious transformation of land use in the city's modern history. Dan's plan rebuilt the World Trade Center site, inaugurated the largest ever affordable housing program in an American city, formed new Central Business Districts and Industrial Business Zones, and proposed and oversaw the creation of some of the most ambitious projects in New York City, including Hudson Yards—the biggest private real estate development in North American history—and the High Line, an abandoned, elevated freight line turned into a 1.5-mile park. Dan also oversaw the creation of PlaNYC, the city's pathbreaking sustainability plan designed to address long-term challenges, including a growing population, increasing climate change, a changing economy, and aging infrastructure. The program has been hailed as one of the world's leading sustainability plans

Oak Hill Capital Partners: Before joining the Bloomberg Administration, Dan was Managing Partner of the private equity investment firm Oak Hill Capital Partners. While at Oak Hill, Dan founded NYC2012, the organization that spearheaded efforts to bring the Olympic Games to New York City

Rohit Aggarwala

Head of Urban Systems

CAREER SUMMARY

Rohit T. "Rit" Aggarwala is Head of Urban Systems at Sidewalk Labs. Throughout his 27 years of extensive and progressive design and management experience in sustainability and urban development for public and private projects, Rit has held key leadership roles in strategy and devlopment.

YEARS OF EXPERIENCE

27 years of experience in urban systems and sustainability

EDUCATION

B.A., M.B.A., and a Ph. D. in U.S. History from Columbia University; M.A. in Canadian History from Queen's University in Ontario

PROFESSIONAL EXPERIENCE

Sidewalk Labs: Rohit T. "Rit" Aggarwala is Head of Urban Systems at Sidewalk Labs

Bloomberg Philanthropies and Bloomberg Associates: Previously, Rit spent five years at Bloomberg Philanthropies in several related roles. He headed the sustainability practice at Bloomberg Associates, a philanthropic consulting firm that serves city governments; was Special Advisor to the Chair of the C40 Cities Climate Leadership Group during Mayor Bloomberg's chairmanship of the organization, spearheading its transformation into a global leader; and he inaugurated the Bloomberg Philanthropies environment program, which grew to a total of $145 million in grants under his management

City of New York: From 2006 to 2010, Rit served as Director of New York City's Office of Long-Term Planning and Sustainability, where he led the creation and implementation of "PlaNYC: A Greener, Greater New York." PlaNYC has been hailed as one of the world's best urban sustainability plans, leading New York City to a 19% reduction in its carbon footprint since 2005

McKinsey & Company: Rit began his career at McKinsey & Company where he was a management consultant

Willa Ng

Director of Mobility - Streets

CAREER SUMMARY

Willa Ng is the Director of Mobility - Streets at Sidewalk Labs where she leads Street Design, which explores how new technologies such as connected and autonomous vehicles, digitized pavement and signs, and smart traffic management, can power a fundamental redesign of streets for people. Throughout her 17 year career in public transportation and mobility, Willa has held pivotal roles at the nexus of public and private partnerships for shared solutions. She has a long track record of strong leadership and finding innovative solutions to complex problems.

YEARS OF EXPERIENCE

17 years of experience in Public Mobility and Transportation Planning

EDUCATION

B.S. in Civil Engineering and Management from M.I.T.; M.S. in Transportation Engineering from UC-Berkeley

PROFESSIONAL EXPERIENCE

Sidewalk Labs: At Sidewalk Labs, Willa holds the role of the Director of Mobility - Streets

City of Berkeley: With a background in transportation engineering and community engagement, Willa was a Principal Transportation Planner for the City of Berkeley where she implemented multiple projects that redesign streets for transit, walking and biking through pilot implementations that graduate to capital programs

New York City Department of Transportation: Willa served as a Senior Project Manager where she led work on demand-responsive parking programs, parking technology pilots and the 2008 New York City congestion pricing environmental review

AECOM: Willa began her career as a transportation engineer at AECOM

ENDNOTES

1 The Brookings Institution, *Gauging Investment in Self-driving Cars*, 2018.

2 McKinsey, *Start Me Up: Where Mobility Investments are Going*, 2019; The Brookings Institution, *Gauging Investment in Self-driving Cars*, 2018.

3 Gartner, *Gartner Hype Cycle for Emerging Technologies*, 2019; JD Power, *Mobility Confidence Index Study*, 2019; Green Tech Media, *Not So Fast. Fully Autonomous Vehicles Are More Than a Decade Away*, Experts Say, 2018.

4 Robin Chase, *Will a World of Self-Driving Cars be Heaven or Hell?*, 2014; Sam Schwartz, No One at the Wheel, 2018; NACTO, *Blueprint for Autonomous Urbanism*, 2019.

5 Zachary Vander Laan et al., *Operational Performance of a Congested Corridor with Lanes Dedicated to Autonomous Vehicle Traffic*, 2017; Lanhang Ye et al., *Impact of Dedicated Lanes for Connected and Autonomous Vehicles on Traffic Flow Throughput*, 2017; Steven Shladover et al., Impacts of Cooperative Adaptive Cruise Control on Freeway Traffic Flow, 2012.

6 Yiheng Feng, Chunhui Yu, Henry X. Liu, *Spatiotemporal Intersection Control in a Connected and Automated Vehicle Environment*, 2018.

7 Yiheng Feng, Jianfeng Zheng, Henry X. Liu, *Real-Time Detector-Free Adaptive Signal Control with Low Penetration of Connected Vehicles*, 2018.

8 Regional Transit Authority of Southeast Michigan, Michigan Avenue Corridor Study, Locally Preferred Alternative Report, 2016.

9 Zachary Vander Laan et al., *Operational Performance of a Congested Corridor with Lanes Dedicated to Autonomous Vehicle Traffic*, 2017; Lanhang Ye et al., *Impact of Dedicated Lanes for Connected and Autonomous Vehicles on Traffic Flow Throughput*, 2017; Steven Shladover et al., *Impacts of Cooperative Adaptive Cruise Control on Freeway Traffic Flow*, 2012.

10 On prior projects, the SIP team has engaged Black & Veatch, Arup, WSP, AECOM, Stantec, and Leidos, the majority of the top ten technical advisors in league tables maintained by Inframation, for example, which tracks major infrastructure financing.

11 Criminal Justice Information Center, *Michigan Traffic Crash Decade-At-A-Glance*, 2019.

12 Regional Transit Authority of Southeast Michigan, Michigan Avenue Corridor Study, Locally Preferred Alternative Report, 2016.

13 Of note is that this proposal contemplates utilizing existing right-of-way without reconstruction of the existing road surface and does not include dedicated rights-of-way for the entirety of the route. Depending on the specific route and configuration, the capital costs could be significantly higher or lower. For instance, the Federal Transit Administration's Capital Costs database suggests that a median to 75th percentile BRT project can cost $11 to $33 million per mile, whereas LRT can cost $51 to $88 million per mile.

14 WSP internal analysis.

15 U.S. Department of Transportation, Federal Transit Agency, 2018 National Transit Summaries and Trends, 2019.

16 Because the project is wide ranging, the Master Developer anticipates reviewing required technical capabilities on an ongoing basis, and making determinations as to which categories are going to be necessary to execute the project at different points in time. The level of go-forward participation would be determined by the Master Developer in consultation with MDOT.

17 While CAVnue is expected to act as Master Developer for Phase I and significant portions of any subsequent phases of the Project, any equity financing is likely to be done through a separate special purpose vehicle.

18 Sidewalk Toronto, *Master Innovation and Development Plan*, 2019.

19 Sidewalk Labs, *Master Innovation and Development Plan: Mobility*, 2019.

20 Sidewalk Labs, *Street Design Principles v.1*, 2019.

21 Nick Bowden, CEO, *Replica, Announcing Replica's spin-out and Series A*, September 2019.

22 Jacob Baskin, *Coord, Curb Analytics: A New Way to See Your City's Curbs*, 2019.

23 Coord, Surveyor, Accessed 2020.

24 Mike Shapiro, Vice President at Sidewalk Infrastructure Partners, will serve as the primary point of contact for MDOT (email *mshapiro@sidewalkinfra.com*).