

Announcing Cavnue

Building the Future of Roads

At the 1939 World's Fair in Flushing Meadows, Queens, the "World of Tomorrow" exhibit gave Americans their first glimpse of interstate highways, with cloverleaf exits and stacked interchanges. Decades of private and public investment followed. Interstate highways came to define mobility in the second half of the 20th century.

Now, mobility in America is changing again. And we believe 21st century mobility will be defined by intelligent and autonomous vehicles.

With billions already invested, huge advances have been made in intelligent, connected and autonomous vehicle technology. Manufacturers from Ford to GM to Toyota offer vehicles with semi-autonomous, hands-free driving for the freeway. And by 2025, Bloomberg estimates that more than half of new vehicles will have this level of autonomy.

Yet it has recently become clear that full autonomy—cars safely and reliably driving themselves in all roadway and environmental conditions—remains many years away. Rather than wait for what the Society of Automotive Engineers calls "Level 5" autonomy, we can unleash the full power and promise of existing technological advancements for near-term, practical benefits through connected and autonomous vehicle ("CAV") corridors. These corridors are lanes, or right of ways, used exclusively by autonomous vehicles, whether personal cars or autonomous shuttles or buses that provide a public transit alternative.

In dedicated CAV lanes, digitally mapped and outfitted with sensors and communications technology, today's autonomous vehicle technology can enable transit solutions that are smarter, safer, and more efficient than traditional transit offerings. They have the potential to save lives by reducing accidents, boost productivity by cutting time wasted in traffic, and expand opportunity by increasing access to personal and shared mobility — all while accessing new revenue models to pay for it.

Cavnue, a company founded by Sidewalk Infrastructure Partners (SIP) to pioneer the future of roads, is embarking on a journey to create a first-of-its-kind CAV corridor in southeast Michigan. With partners spanning sectors — state and city government, academia, and the automotive industry — we're starting work on the Connected and Autonomous Vehicle Corridor ("CAV-C") that will connect downtown Detroit, the Detroit airport, and Ann Arbor. Cavnue will draw on an advisory committee of automotive and autonomous mobility companies, including Ford, GM, Argo AI, Arrival, BMW, Honda, Toyota, TuSimple, & Waymo.

Building on existing dedicated bus lanes, our first step is to create a system for autonomous buses and other shared vehicles on the route, eventually opening it up to personal vehicles and freight. The CAV-C will yield greater safety and accessibility while allowing existing roadways to handle more passengers.

In order to achieve these benefits, Cavnue is developing technology to integrate CAV technology with the physical world. We're mapping a digital "twin" of the roadway, a virtual environment that tells the vehicles everything they need to know about the road, from traffic controls to speed limits to entrances and exits. Autonomous vehicles operating in these lanes use that information on their surroundings and communicate with each other to move faster, more safely, and at closer distances, allowing more capacity in the same space. As more technology is introduced and the system develops, capacity will increase. Eventually, private vehicles with CAV technology will use the same, efficient lanes.

It's a future-proofed investment that accounts for changing habits and technologies. As CAV systems are developed, in Michigan and across the nation, they'll provide transit access that is more efficient and higher quality than traditional public transit options. Dynamic pricing for access to CAV lanes will ensure affordability and provide a more reliable revenue stream for highway funding than the current dependence on regressive gas taxes.

And smart planning for integrated CAV networks will ensure that governments are ready for the autonomous vehicle revolution, avoiding the problems caused by the last big breakthrough in mobility, ridesharing, which crippled airport access and increased traffic in many urban cores. If we don't invest now in coordinated CAV infrastructure, we could face consequences much thornier than rideshare-induced airport chaos. Without adequate systems in place, the introduction of CAVs in mixed traffic could lead to congestion and constrained road capacity, and a failure to reap the benefits of valuable CAV opportunities, such as coordinated braking that prevents bottlenecks.

As these projects advance nationwide, the Michigan example is showing that the right partners make a difference. Our partner, the Michigan Department of Transportation, is one of the most innovative transportation departments in the world, and the CAV-C project will serve as both a highlight and cornerstone of its ambitious Michigan Mobility 2045 project. The Ford Motor Company, another key partner, has been an iconic leader in mobility innovation for more than 100 years. And our academic partner, the University of Michigan, is home to the Mcity Test Facility, the world's first purpose-built proving ground for testing the performance and safety of connected and automated vehicles and technologies.

SIP, through Cavnue, is bringing them all together. We have the capital to fund it, the technology to make a difference, and the relationships and convening power to get the job done. Our work begins in Michigan, but we envision a future with thousands of miles of CAV corridors connecting communities across the nation.



Michigan was the birthplace of the automotive industry that helped shape our nation's character in the last century. Autonomous vehicles are coming — and intelligent vehicles are already here. With this new project, Cavnue is positioned to deliver an efficient, intelligent, integrated, and safe highway system for the new century.

Visit www.cavnue.com to learn more.