

Moving forward on Tulsa's

MOBILITY

INNOVATION STRATEGY
Executive Summary - March 2022





March 23, 2022

I am proud to present the Tulsa Mobility Innovation Strategy—our City’s long term mobility plan. This plan was written by you—our residents, businesses, and innovation leaders—to address the most pressing transportation challenges that Tulsa faces. In its depth of analysis and breadth of projects, this plan reflects your passion, your expertise, and your creativity. We look forward to working with all of you to get it done.

Two years ago, we began a collaborative outreach that continues to this day. Beginning with leaders in government, industry, academia, technology and research, we carefully weighed the strengths of our region against the needs of our community. We hosted community events and spread the word about the opportunity to improve Tulsa with technology—moving our neighborhoods, institutions, workers and visitors more efficiently and smartly. We learned that there was much to be done but many innovators ready to make it happen.

We heard from you that too many of our residents are too far from reliable and affordable transit choices; this plan addresses that. We heard from you that our fastest growing job centers are tough to get to, especially from our neighborhoods with lower average incomes; this plan addresses that. We heard from you that, in some parts of our city, it is not comfortable to walk or bike—our greenest forms of transportation; this plan addresses that.

Because of this unprecedented engagement, we believe that we have a plan that will address long-term inequality, increase economic mobility, and improve livability within our neighborhoods, across the city, and throughout the region.

Best regards,



G. T. Bynum
Mayor
City of Tulsa



INNOVATION IN MOBILITY IS KEY TO THE SUCCESS OF ALL TULSANS

Tulsa is moving forward with its new Mobility Innovation Strategy!

The City has created this strategy to expand mobility options for all by embracing innovations that build economic opportunity, environmental sustainability, and equity. We have come a long way since 2017 when the Office of Performance Strategy and Innovation’s public, private, and philanthropic team was created to “develop a policy and technical action plan to lower barriers for deploying emerging transportation technologies in the city.” We are building a strong network of transit, biking, walking, shared rides, and shared vehicle options. Now, we look to expand those options to include microtransit, electric vehicles of all kinds, and eventually, autonomous vehicles.

These new components will enhance the city’s networks and better connect Tulsans to jobs, healthcare, education, healthy foods, recreation, and more. We understand that many Tulsans will still want to drive their car, regardless of other options. We also acknowledge that our current system does not serve all Tulsans well. We want a transportation system that all Tulsans can access and which leverages new advances in transportation technologies to improve our city for everyone regardless of age, income, or ability. To achieve this, we are launching an agile Mobility Innovation Strategy which includes four interlocking strategies in transportation, policy, economic development, and a new “P4” public, private, philanthropic, partnership. This strategy highlights five fundamental projects: a grocery store-mobility hub, microtransit which use on-demand scheduling and flexible service zones/routes, a campus-based set of automated vehicle (AV) pilots, establishing P4 partnerships, and an exciting Mobility Innovation Challenge.

With these projects—coupled with next generation planning, policy, and pilots—we will make Tulsa a hub of mobility innovation regionally and nationally, attracting talent, employers, and jobs that will transform transportation and our world.

RECENT BREAKTHROUGHS OF INNOVATION IN TULSA

223 EV CHARGING STATIONS

located throughout Tulsa, including first-of-its-kind 'ultrafast' (EV) charging stations

2,000 NEW JOBS

In June 2021, Canoo announced it will establish an electric vehicle manufacturing facility in Tulsa in 2023. In December 2021, 700 additional jobs were announced as Canoo also selected Tulsa for R&D, Software Development, Customer Support, and Financing Centers.

(Source: Canoo, Nov. 15, 2021)

18 MILES

of Aero BRT lines (with a 12 mile E-W route in the works) and 52 bus stations

60 MILES OF BIKE LANES

and 200+ This Machine bikes available at 45 bikeshare stations

19% INCREASE IN TECH EMPLOYMENT

between 2015 and 2020

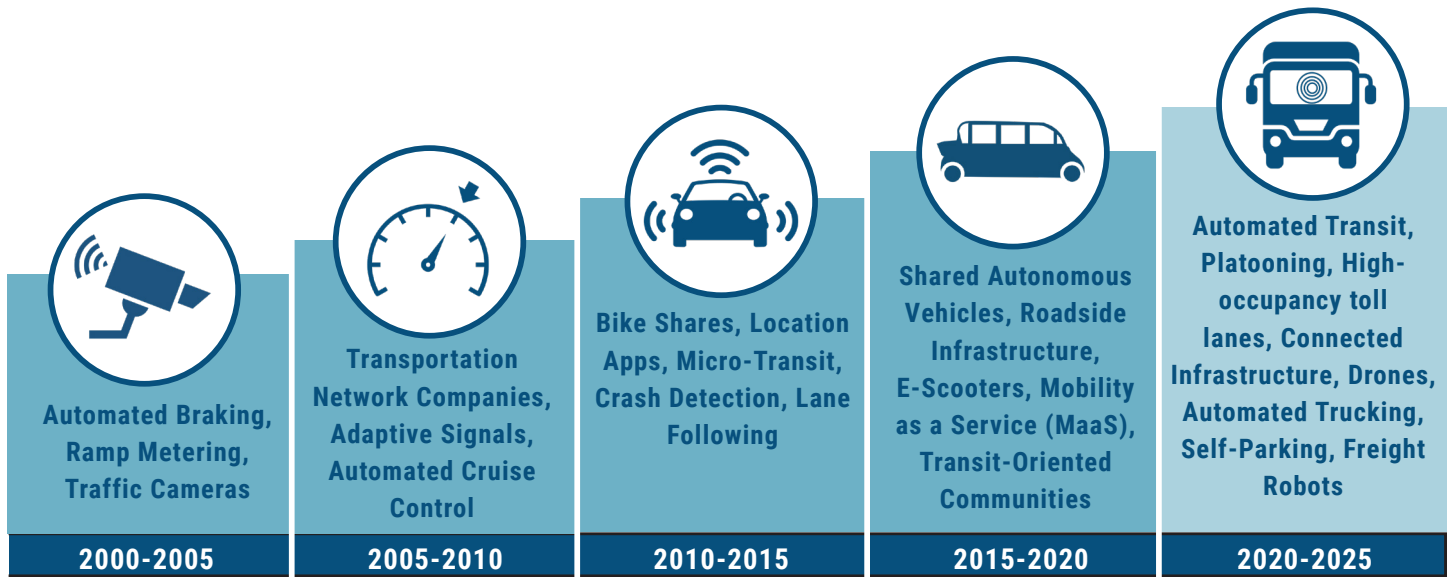
(Source: CBRE, July 13, 2021)

MOBILITY = SUCCESS

From ebikes, e-trucks, and e-shuttles to automation in the air, water, and on the road, Tulsa is getting ahead of the curve by tapping into a North American autonomous vehicle market that will be worth \$400 billion by 2025. Tulsa has advanced transit, micro-mobility, e-biking, electric charging, and soon will have development and production of electric and automated vehicles. Even during the challenging times of the last two years, we laid the foundation for smarter mobility and a smarter city. These building blocks include:

- ✓ Expansion of the **bus rapid transit (BRT)** network with a second corridor.
- ✓ Launching **GoPass**, giving Tulsans options to plan and pay for travels on BRT and beyond.
- ✓ Completion of 60 new miles of **bike lanes** and more **shared bicycles**.
- ✓ Adoption of state legislation allowing for AV pilots and **robotic delivery vehicles**.
- ✓ **Advancing policy infrastructure** with a parklet ordinance; a planned commission on data governance, sharing, and privacy; and a partnership with the Government Performance Lab to leapfrog City procurement practices.
- ✓ Announcement of a new **electric vehicle company** Canoo, which will site their factory at the MidAmerica Industrial Park, and R&D and software centers in Tulsa, bringing an estimated 2,700 jobs to the region. These workers will build the electric vehicles of the future.
- ✓ Formation of an independent **economic development agency**, the Tulsa Authority for Economic Opportunity (TAEO).
- ✓ Formation of an entity to manage the **Downtown Improvement District**, the Downtown Tulsa Partnership.
- ✓ Identification of partners for an **Innovation Challenge**.
- ✓ Planning a **Mobility Innovation Lab** designed to take emerging technology to scale.

Timeline of Smart Mobility Advancements



With the continual rise of smart technology, the familiarity with and diversity of its options will continue to expand.



Source: Francis Energy

Oklahoma is the fastest-growing EV market in the country. (Source: FreeWire Technologies, 2020)

WHAT CAN MOBILITY INNOVATION DO FOR TULSA AND THE REGION?

IMPROVE COMMUTES

- ! Free bike-share rides for clients of human service organizations will make it easier to get to work without a car.
- o Tulsa Transit's planned expansion of the Aero line along the Route 66 corridor will establish 15-minute connections between the University of Tulsa and downtown.
- o Microtransit zones with on-demand scheduling will provide cost-effective service for essential workers who do not work a traditional nine to five job.
- o Shared rides, shared vehicles, and microtransit service through expanded employer partnerships with Tulsa Transit will attract and connect talent to jobs across the region.

IMPROVE EQUITY AND ACCESS

- ✓ Tulsa Transit's new GoPass system allows users to pay for rides with a phone app or at a convenience store, making it easier for all to tap into transit services.
- ! Expanded micro-mobility hubs for shared bikes and e-scooters will bring transportation service to neighborhoods with low vehicle ownership.
- ? A grocery store mobility hub would connect people to places with fresh food, host secure delivery lockers, and eventually enable autonomous e-cargo delivery.

ATTRACT NEW BUSINESS

- ✓ The newly formed Tulsa Authority for Economic Opportunity, along with existing regional economic and community development partnerships, will together ensure that the benefits of advanced mobility industrial development are shared equitably across communities.

- ✓ Skyway36, the Osage Nation's technology innovation zone just north of downtown is one of only three urban drone ports in the world and will enhance recruitment of new firms in the field of advanced mobility technology.
- ? A Cyber District led by the University of Tulsa is being considered which could spur new partnerships among industry, federal agencies, and the University.

REDUCE VEHICLE EMISSIONS

- ! Shared rides continue to rise in demand and help reduce single ride trips.
- ! Increased availability of electric vehicles (EV) and charging stations are building consumer confidence in EVs, which continue to decrease tailpipe emissions as the technology scales.
- o Increased investments in two-way streets with wider sidewalks and protected bike lanes will make it easier and safer for Tulsans to choose walking and biking over car trips.
- ? Providing smart curb zones for passenger and freight pick-up and drop-off would reduce vehicle idling and traffic congestion while improving business access in busy districts.

MAKE ROADWAYS SAFER

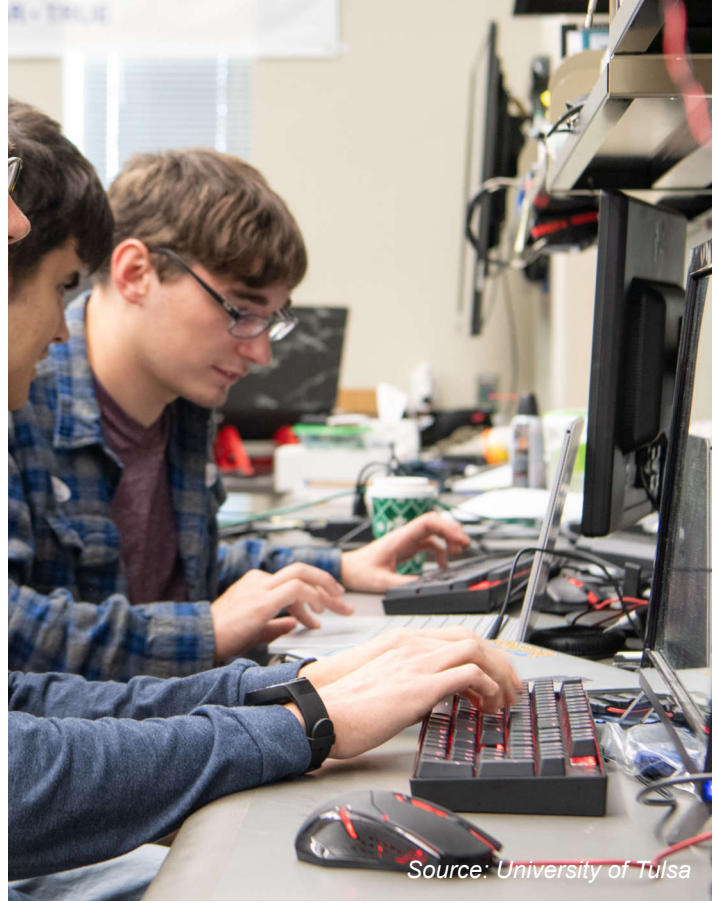
- o Taking the GO Plan for pedestrian and bike safety to the next step by prioritizing schools, mobility hubs, and at-need neighborhoods will make Tulsa's streets safer.
- ? Smart intersections with adaptive signal timing, radar-activated speed advisory signs, overhead pedestrian-activated lighting systems, and automated pedestrian detection will lessen conflicts for all travelers.

✓ COMPLETE ! COMING SOON o PLANNED ? POSSIBILITY



Source: Stantec

A protected bike lane in Tulsa.



Source: University of Tulsa

The University of Tulsa has been a leader in cybersecurity research and education for over two decades.



Source: Eastgate Metroplex

Tulsa Transit services will grow in demand with new waves of workers choosing alternative ways of commuting.



5 KEYS TO GENERATING THE NEXT ERA OF MOBILITY INNOVATION

The Mobility Innovation Strategy highlights five fundamental projects: a grocery store-mobility hub, a microtransit network powered by mobility on demand, a campus-based set of automated vehicle (AV) pilots, identifying new public-private-philanthropic partnerships, and an exciting Mobility Innovation Challenge. With these projects—coupled with next generation planning, policy, and pilots—we can make Tulsa a hub of mobility innovation regionally and nationally, attracting talent, employers, and jobs that will transform transportation and our world.

1. PILOT A MOBILITY HUB CENTERED ON FOOD SECURITY

Create a grocery store mobility hub partnership of public agencies, property owners, and retail stores, transportation providers and their technologies, and philanthropic interests. The hub would offer multiple transportation options for people of all ages, income levels, and abilities. The hub would integrate shared mobility for people traveling to shop, work, or access other services, and it would serve as a platform for multiple delivery options. Benefits include: reducing food deserts; improving resilience by providing a drop-off and pick-up point for essential supplies during times of need, such as weather events or another pandemic; and improving health through fresh food access and expanded active transportation. This hub would be part of a system of hubs at the termini of the BRT corridors and other transit system hubs.



Source: Stantec

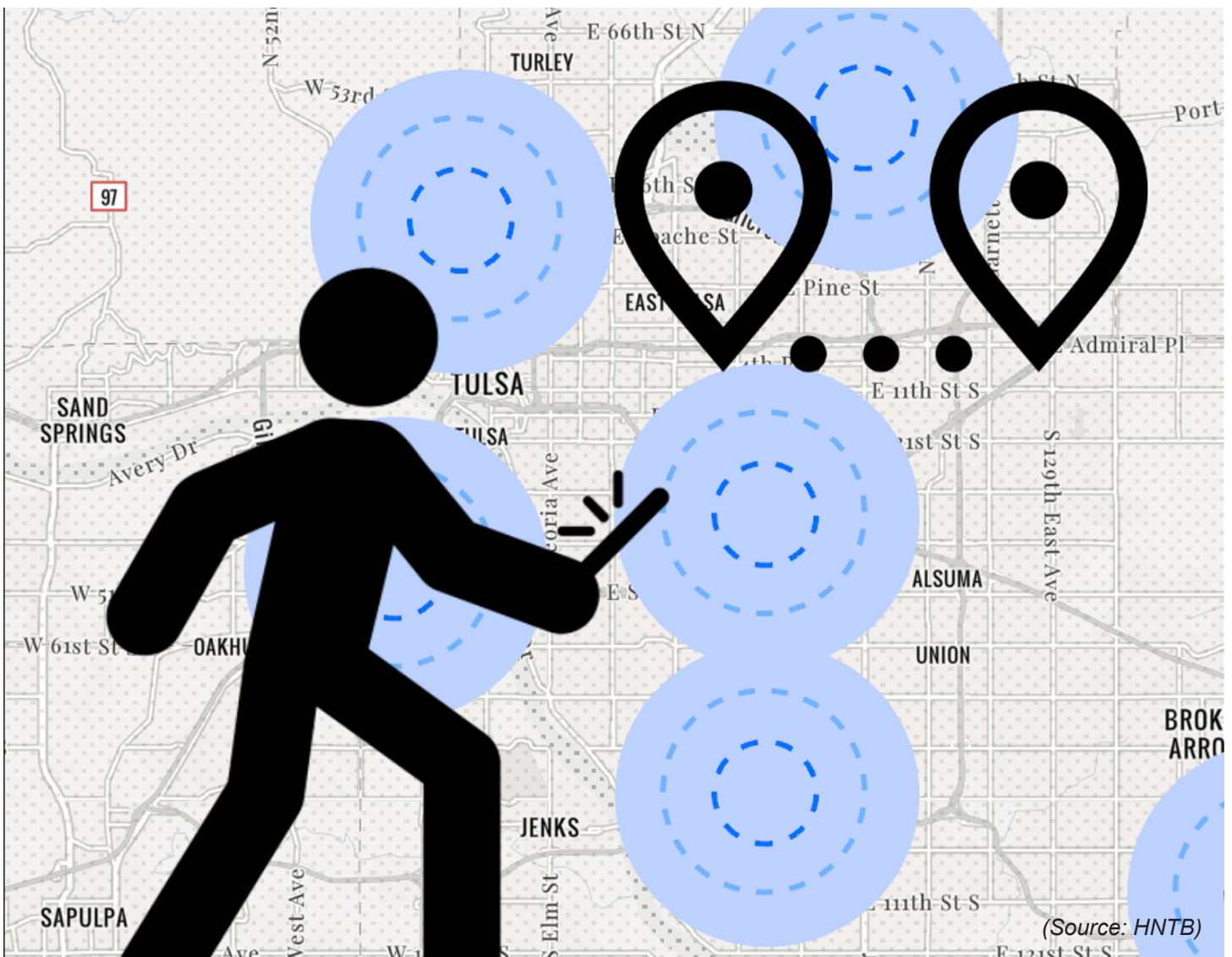


Source: AWG Corporate

Rendering of potential grocery store mobility hub (top); Tulsa's Oasis Fresh Market opened in May 2021 in an effort to enhance access to healthy food in North Tulsa (left).

2. DEVELOP A MICRO-TRANSIT NETWORK

Beginning with a pilot or set of pilots, test microtransit pilot zones which use on-demand scheduling and routing to efficiently connect riders to fixed-routes or provide curb-to-curb service in areas with lower ridership demand. This might start with overnight service and build to include e-mobility or AV corridor services. Planning would be coordinated with employers, social service agencies, and nonprofits to prioritize service to employment centers and health care facilities (particularly in areas farther from transit service). Microtransit might leverage transit by providing first- and last-mile feeder service to BRT hubs, expanding service to areas not currently served by transit.



Potential sites for microtransit being investigated by Tulsa Transit.

3. CREATE A CAMPUS TESTBED FOR AUTOMATED SHARED MOBILITY

Create a multimodal campus-based testing ground of automated transportation. A campus venue could pilot different use cases for shared AVs, from pod cars to shuttles to mid-size buses. Use cases might include paratransit, nighttime transportation, and circulators. A campus could also be a place to trial sidewalk robots and “over-the-road” delivery vehicles. Tap Tulsa Transit as a key partner. Task appropriate City departments and INCOG with alignment to state-wide policies.



Renderings of AVs in a campus setting.

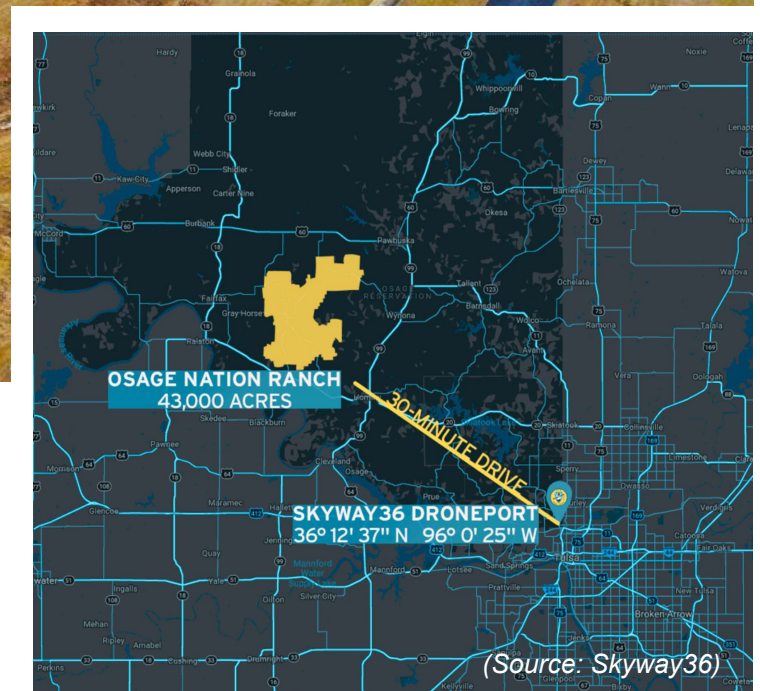
4. ESTABLISH NEW “P4s”- PUBLIC-PRIVATE-PHILANTHROPIC PARTNERSHIPS

Create a vetted database of funding resources—both cash and in-kind—from public, private, and philanthropic partners that can be used to leverage federal funding opportunities. Identify or create a template of P4 memorandums of understanding for new P4 participants and projects. Promote partnership benefits across the region.



(Source: Skyway36)

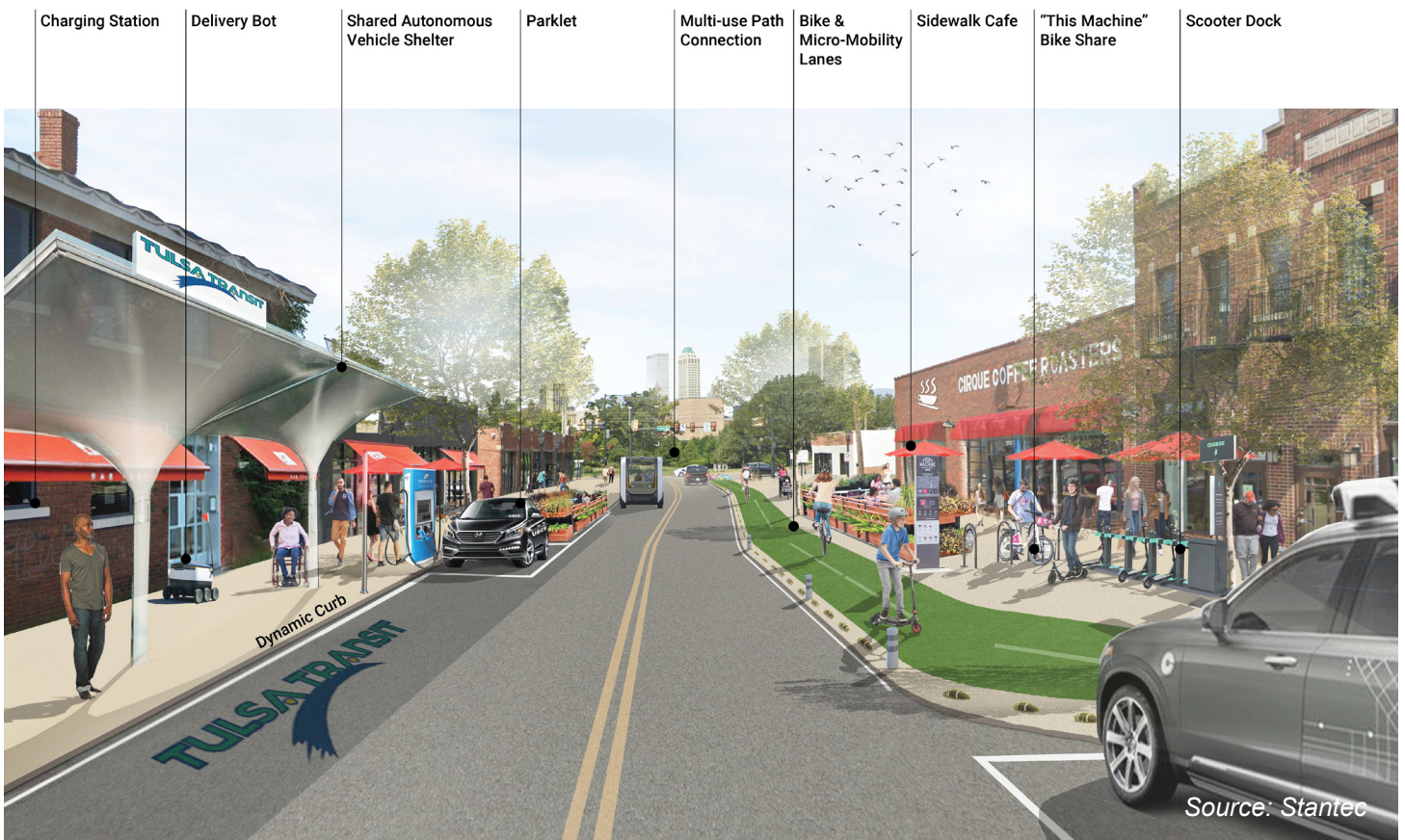
Osage Air Park and Industrial Park.



(Source: Skyway36)

5. HOST AN INNOVATION CHALLENGE

Host an innovation challenge that is a “reverse pitch” seeking solutions to Tulsa’s mobility innovation needs. In collaboration with academic and industry partners, a “Tulsa Mobility Challenge” could construct approaches to launching new mobility projects. These may include a new Mobility Innovation Lab in Downtown Tulsa; new corridors focusing on AV freight, river, and unmanned aerial systems; or the expanded use of EVs and EV infrastructure.



This rendering reimagines a street in Tulsa as a hub that links all available modes and provides people with transportation options to best meet their needs.

