AUTONOMOUS MOBILITY

THE MARICOPA ADVANTAGE

Autonomous mobility thrives in Maricopa, a young city that has come of age in the 21st century. Incorporated in 2003, Maricopa's young population, new and modern infrastructure, and business-friendly climate continue to propel the city's commitment to building a thriving, competitive and innovative community.

Propelling this progress are Maricopa's residents. The city has one of the most diverse populations in Arizona and a median age of 33.6. Residents also are highly educated, with nearly 65 percent having some college and 25.3 percent holding a bachelor or graduate degree.

Median Age

City of Maricopa	Phoenix Metro	United States
33.6	36.4	38.0

(Source: ESRI, Estimates July 2021)

Educational Attainment

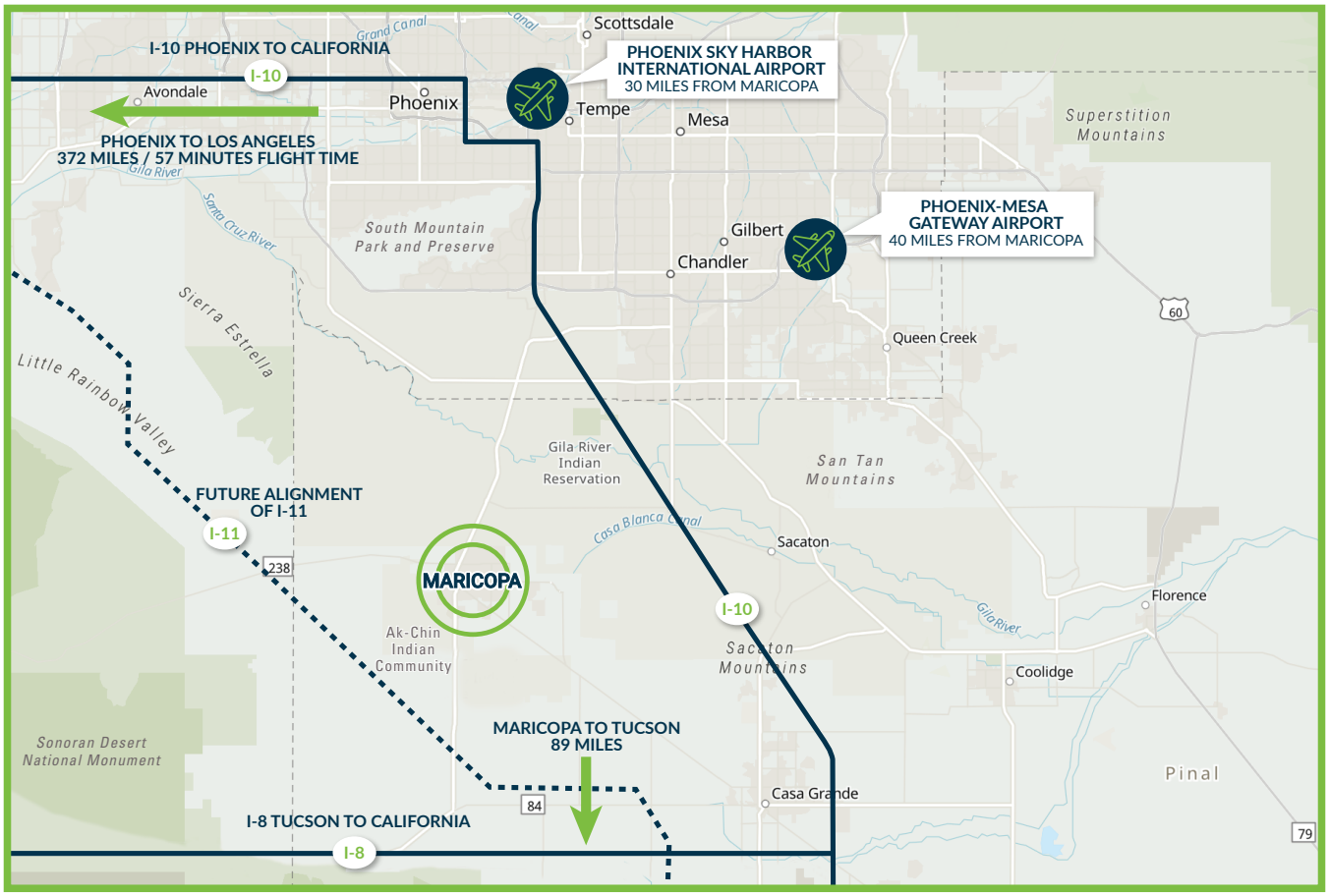
Associate's Degree	Bachelor's Degree	Graduate Degree	Some College
11.4%	16.5%	8.8%	27.8%

(Source: ESRI, Estimates July 2021)

Lucid Motors, Inc.

Strategically located less than 45 minutes from Downtown Phoenix, Maricopa is able to offer existing and emerging firms the full range of expertise and support available from universities, research labs and other resources in the Greater Phoenix region. The regional and state ecosystem for autonomous mobility is well-established and growing, and Maricopa is uniquely able to be an active partner in driving innovation in this sector including:

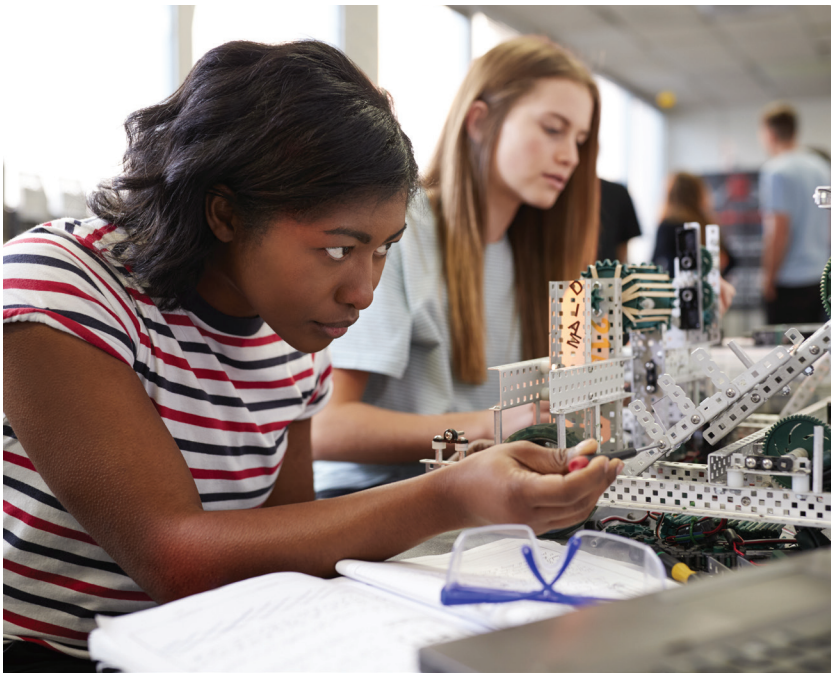
- Development of the long-haul transport industry
- Research and development of battery storage technologies
- Installation of smart cities technology, like traffic management systems and roadway sensors



ENGINEERING EDUCATION IN ARIZONA

Arizona's Board of Regents (BOR) oversees three top tier research universities, all with Colleges of Engineering:

- Arizona State University (ASU)
- University of Arizona (UArizona)
- Northern Arizona University (NAU)



Additionally, Grand Canyon University (GCU), located in Phoenix, and University of Advancing Technology (UAT), located in Tempe, have multiple undergraduate and graduate engineering programs. UAT is one of the few universities in the country dedicated solely to STEM degrees with programs in artificial intelligence, data science and network engineering.

This robust educational ecosystem means Arizona's workforce is on the cutting edge. In the 2018-2019 school year alone, 3,144 and 2,424 undergraduate degrees were awarded to engineering and computer science graduates, respectively, at Arizona's universities[1]. In the same year, 1,364 and 929 master's degrees were awarded to engineering and computer science graduates, respectively[2].

Innovation is a bedrock of state, regional and local higher education institutions. ASU has ranked as the world's #1 most innovative university by U.S. News and World Report for six consecutive years. In addition, ASU recently ranked number six in the National Science Foundation's Higher Education Research & Development rankings for total spending among universities without a medical school; its 2019 R&D expenditures totaled $639.6 million, an increase of nearly $22 million over 2018[3].

Arizona's universities also work to prepare the next generation of professionals in the autonomous mobility industry. In 2020, UArizona received over $400,000 from the National Science Foundation to renew the CAT Vehicle[4] program. CAT Vehicle is an undergraduate research experience where students work on machine learning and sensing for an on the ground autonomous vehicle.

In addition, the Arizona Advanced Technology Network[5] (Network) is building the future high-tech manufacturing workforce. A partnership between Central Arizona College (CAC), and Maricopa and Pima Community Colleges, the Network provides industry-recognized curriculum to prepare students for advanced manufacturing jobs through stackable certificates and associate degree offerings.

[1] U.S. Department of Education, National Center for Education Statistics Table 319.30: Bachelor's degrees conferred by postsecondary institutions, by field of study and state or jurisdiction: 2018-19
[2] U.S. Department of Education, National Center for Education Statistics Table 319.40: Master's degrees conferred by postsecondary institutions, by field of study and state or jurisdiction: 2018-19
[3] https://ncses.nsf.gov/pubs/nsf21314#data-tables; Table 35: Higher education R&D expenditures at all institutions, ranked by all non-medical school R&D expenditures, FY 2019
[4] http://catvehicle.arizona.edu/
[5] https://www.azcommerce.com/programs/arizona-advanced-technology-network/

AUTONOMOUS MOBILITY WORKFORCE IN THE GREATER PHOENIX REGION

The autonomous mobility industry[6] requires forward thinking, experienced individuals to drive innovation and development. The Greater Phoenix region is home to a highly concentrated and growing automotive and engineering industry with close to 1,000 engineering and scientific research and manufacturing firms that employ about 25,000 Arizonans.

AZ Big Media

Arizona continues to innovate when it comes to workforce development and Drive48 is the newest public-private partnership supporting training for the automotive manufacturing industry[7]. Led by the Arizona Commerce Authority and announced in March 2021, Drive48 is a cutting-edge training facility with multiple advanced robots and opportunities for individuals to learn to program, troubleshoot and problem solve in a real manufacturing facility. Working in close partnership with industry, Drive48 will train and prepare the talent needed to support Arizona's automotive manufacturing industry and has the flexibility to support the industry as it evolves.

Further supporting Arizona's manufacturing and autonomous mobility workforce is the state's Manufacturing Extension Partnership (MEP) run by the ACA[8]. Arizona's MEP provides critical technical support as manufacturers keep pace with global innovation and they have provided critical financial support during the COVID pandemic to keep manufacturers operating.

Maricopa has a ready workforce of professionals that directly supports the autonomous mobility industry. Currently, Maricopa's overall labor force is 26,423 and is projected to grow by nearly 54 percent over the next decade[9]. The Greater Phoenix labor market is 2.4 million[10].

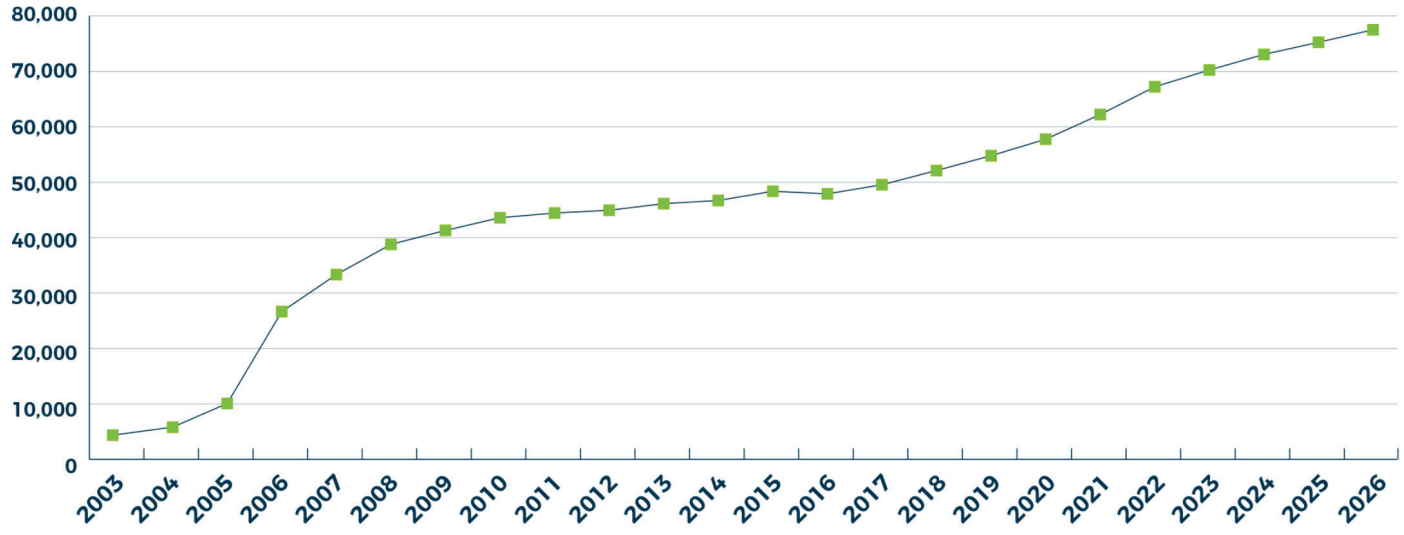
RESEARCH CENTERS

- **Institute of Automated Mobility**[11]

  The Institute of Automated Mobility (IAM) was created via executive order by Governor Doug Ducey in October 2018. IAM is focused on improving the technology and safety policies required to make autonomous mobility ubiquitous in Arizona. IAM's leadership team includes the presidents of ASU, NAU and UArizona, who keep Arizona on the cutting-edge of autonomous mobility technologies. IAM shows the support of the state's political, business and academic leaders to the autonomous mobility industry.

[6] Using the following NAICS codes to define industry: 334511, 335312, 335911, 336320, 541330 and 541715
[7] https://www.azcommerce.com/news-events/news/arizona-launches-state-of-the-art-advanced-manufacturing-training-center/
[8] https://www.azcommerce.com/programs/arizona-mep
[9] ESRI, Estimates July 2021
[10] U.S. Census, American Community Survey 1-year estimates, 2018
[11] https://www.azcommerce.com/iam/

City of Maricopa Historical and Forecasted Population



(Source: ESRI, Estimates July 2021)

City of Maricopa Workforce by Select Occupations

Occupation	Employed	% Total
Management	**3,178**	**12.6%**
Business / Financial Operations	**1,371**	**5.4%**
Computer / Mathematical	**1,172**	**4.6%**
Architecture / Engineering	**557**	**2.2%**
Transportation / Material Moving	**2,231**	**8.8%**

(Source: U.S. Census Bureau; ESRI, July 2021; Forecasts for 2021)

- **University of Arizona Transportation Research Institute**[12]

The University of Arizona Transportation Research Institute (TRI) has positioned itself to be a national leader in multimodal transportation systems to leverage transportation efficiencies for economic gains. Autonomous mobility technology and policies are included in the Institute's research efforts which are financially supported by all levels of government. Additionally, the Institute is focused on technology transfer to ensure research has a real-world impact.

Nikola Corporation

[12] https://transportation.arizona.edu/

- **Arizona State University Institute for the Future of Innovation in Society**[13]

  Arizona State University's Institute for the Future of Innovation in Society's (IFIS) Center for Smart Cities and Regions focuses on policies and governance to adequately capture the societal benefits of emerging technologies. One of the Center's initial focal points is the governance of autonomous vehicles. The Center is already working with municipalities in Arizona on autonomous vehicle policies, demonstrating both Arizona's and Maricopa's forward-thinking nature to embracing emerging technologies and bridging the divide between industry and government.

- **Greater Phoenix Smart Region Initiative**[14]

  Also known as The Connective, the Greater Phoenix Smart Region Initiative brings together business, local governments, economic development organizations and academia to build the nation's most connected region. The Connective is an applied research partnership encompassing ASU, the Greater Phoenix Economic Council (GPEC), Maricopa Association of Governments (MAG) and other civic and private organizations focused on implementing smart city technologies to drive sustainable innovations and encourage economic gains in the region.

  The Smart Region Initiative is complemented by Arizona's Smart State Initiative which is headed by the ACA. The drive at all levels of government to embrace new technologies makes Arizona and Maricopa prime partners in growing the autonomous mobility industry.

[13] https://ifis.asu.edu/
[14] https://www.greaterphxconnective.com/

AUTONOMY COMPANIES IN ARIZONA

The automotive industry has deep roots in Arizona, dating back to 1955, when companies such as General Motors, Toyota, Ford, Volkswagen, Nissan and Caterpillar Tractors created technical research and testing centers in the state.

Maricopa is home to Volkswagen Group of America's Arizona Proving Grounds and Nissan's North America Technical Center.

In 2015, Arizona was the second state to authorize legislation for roadway testing of autonomous vehicles and was supported by Governor Doug Ducey via executive order. Pioneering companies across the spectrum and especially companies in the autonomy sector need and appreciate the state's unparalleled business-friendly environment that encourages and supports innovation.

Arizona's support for autonomous mobility is evident by the many ongoing and growing operations in the state. In the summer of 2020, TuSimple, a self-driving truck company, launched freight trucking routes including stops in Phoenix and Tucson. Waymo, the ride hailing subsidiary of Alphabet Inc., launched fully autonomous ride hailing operations in multiple cities in the east valley in October 2020. Lucid Motors, Inc. and Nikola Corporation are building the next generation of electric vehicles, and many of Maricopa's highly educated, trained and skilled residents are contributing to the advancement of this technology and the ramping up and production of these new vehicles.

Nissan Technical Center North America – Arizona Testing Center (ATC)

WHY MARICOPA?

Maricopa's strategic location and modern infrastructure, as well as its highly educated residents and forward-thinking government, offer a winning combination of talent and opportunity for the autonomous mobility industry. Proximity to autonomous mobility and electric battery firms, world class universities and training institutes, and access to global supply chains via Phoenix Sky Harbor International Airport, and multiple freeways, enable Maricopa to bring together these industries with strong government and community support. Maricopa looks ahead to building the future of autonomous mobility on its roadways.

Are you ready to benefit from The Maricopa Advantage?

Contact the Maricopa Economic Development Alliance (MEDA) to start the conversation today!

Please visit WhyMaricopaAZ.com.

Your best future is here.

MEDA
Maricopa Economic Development Alliance