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The Case for the Driverless City

The NYUSPS Schack Institute of Real Estate Urban Lab develops new understanding of the economic and real estate trends that are shaping our cities.

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Preparing for the Driverless City |

The advent of driverless cars in our urban communities is imminent. In the last year, the ridesharing service Lyft has unveiled a self-driving pilot program in San Francisco, while its competitor, Uber, has rolled out similar programs in Pittsburgh, San Francisco, and Tempe, Arizona. Earlier this month, New York City Governor Andrew Cuomo announced that General Motors and Cruise Automation have applied to begin testing self-driving cars in Lower Manhattan as well.

While driverless cars have the potential to transform cities into more sustainable, economically productive places to live and work, they also have the potential to exacerbate urban inequality. The future impact of driverless technology depends largely on the ability of local leaders and public policy initiatives to prioritize these concerns. Recently, the [NYUSPS Schack Institute of Real Estate Urban Lab](#) convened a panel of experts to discuss both the risks and advantages of autonomous vehicles for cities and urban economies. The following are five key insights from their discussion.

Reduce car ownership, not public transit.

Perhaps the most significant advantage of driverless technology is eliminating car dependency in urban areas. A [recent report](#) from the consulting firms Arcadis, HR&A Advisors, and Sam Schwartz finds that driverless technology allows all cities—no matter their size or density—to reduce car ownership and congestion. According to Eric Rothman, the president of HR&A Advisors, a city like Los Angeles—which suffers from heavy traffic and fewer public transportation options—stands to benefit most from this technology. Indeed, his company’s report shows that L.A. would experience a 36 to 44 percent shift from personal vehicles to self-driving and public transit as a result of driverless cars. This falls somewhere in-between a sprawling metro like Dallas, which would experience a 22 to 31 percent shift, and a highly dense, walkable metro like New York, which would experience a 46 to 60 percent shift.

Still, many have expressed concern that driverless cars will decrease demand for public transit services like buses, subways, and light rail. For Jack Robbins, Principal of FXFOWLE, autonomous vehicles pose a “real risk” to transit in cities. This is especially the case as the cost of ride-sharing becomes more competitive with that of taking the bus or subway.

At the same time, driverless technology can encourage the use of public transit by revolutionizing the way cities approach their transportation infrastructure. “Traditional public transportation services in the U.S. are dominated by the 40-foot, 60-passenger bus with a unionized driver,” says Rothman. “In many places, the dominant cost [of transportation] is related to the cost of labor for that bus. ... Driverless technology will enable us to have different templates.” Indeed, cities like L.A. have already turned to micro-transit—specialized transit services based on local demand—as a way to reduce congestion and pricing. Transforming these specialized services into autonomous vehicles could further improve their efficiency while connecting outlying residents to downtown centers and employment hubs.

Repurpose empty space.

As cities become less car dependent, they will soon be left with a significant share of unoccupied land in the form of empty parking spaces, lots, and garages. According to Robbins, land set aside for cars makes up “a significant part of our publicly-owned territory that can be converted into something else.” Indeed, a [recent blueprint](#) from the National Association of City Transportation Officials predicts that car lanes will become much narrower in the driverless era, since autonomous vehicles are programmed to drive along a straight path. This creates an opportunity for what the report calls “flex zones,” or designated areas for driverless cars to drop off, pick up, or make deliveries. In this way, cities could designate curb space for Amazon delivery vans or apportion late-night street space for driverless cars outside crowded restaurants and bars.

In his “[Public Square](#)” design project—the recent winner of The Driverless Future Challenge—Robbins outlines a number of uses for this reclaimed public space, including playgrounds, retail kiosks, gardens, and bike shares. Much of this development will be made possible, he argues, through public-private partnerships that pool their resources and assist with regulation. According to Rothman (who served as a judge for the competition), the design is “brilliant in its incrementalism,” allowing cities to adapt different spaces to meet the changing needs of driverless technology.

Prepare for a service sector shift.

While driverless cars will most certainly incite a paradigm shift in the service sector, the nature of this shift is difficult to predict. On the most basic level, autonomous vehicles threaten to deplete the number of transportation-related service jobs in cities, all but eliminating the need for taxi drivers and reducing the need for related professions like delivery and car repair. As a [recent report](#) from the Regional Plan Association points out,

these are some of the few well-paying jobs that do not require a college degree. Because of this, driverless technology threatens to widen the gap between high-tech employees and a city's service and blue-collar workers.

Many feel that the service sector is already equipped to handle these challenges. "Our point of view is that the need for human drivers is never going to go away entirely," says Evan Cohen, Regional Director for Lyft. According to Cohen, there are "all sorts of new roles that may emerge" from driverless technology that can fill new gaps in the labor force. But Rothman is less optimistic about the future of transportation-related jobs. "We need to prepare ourselves for a great transition that may happen much more rapidly than many of us expect," he says.

Perhaps the best way for cities to prepare is by developing a plan to employ workers whose careers have been replaced by autonomous vehicles. Indeed, the RPA report finds that, without a strategy for job creation, union workers could become a major obstacle to implementing driverless technology in cities. According to Rothman, this should encourage companies to institute buyouts for union workers or set aside yearly contributions for their non-union transportation employees.

Prioritize inclusion and affordability.

Driverless cars have the potential to create deep-seated divides not only between low-income and affluent communities, but between individual residents as well. This makes the role of car-sharing and ride-sourcing apps all the more critical as they pioneer the future of urban transportation. "Historically, we do a bad job of supporting people whose lives are affected by big changes in technology," Robbins says, adding that local government must "take the lead in making sure that transit is as equitable as it can be." But ride-sharing services like Lyft and Uber have a responsibility as well.

While car services have a tendency to avoid disadvantaged areas, where demand is lower, they should instead consider how to incorporate these communities into their larger business strategies. By implementing a dynamic pricing model, for instance, companies like Uber and Lyft, and even private shuttle services, can help subsidize rides to and from low-income areas. Many of the panelists also expressed interest in a congestion pricing scheme, where customers in low-demand and lower income areas pay less for their rides. According to Cohen, autonomous vehicles can also be programmed to hover in outlying neighborhoods rather than returning to dense urban cores. In the long run, he predicts, driverless cars will make ridesharing more affordable, reliable, and easier to scale.

Use driverless technology to unlock new revenue streams.

Earlier this year, Austin's transportation director, Robert Spillar, gave an [interview](#) to *Governing* magazine in which he expressed concerns about the city's driverless future: "It struck me," he said. "Half my revenue for transportation capacity and operations improvements is based on a parking model that may be obsolete in a dozen years." Indeed, with fewer cars on the road, cities will no longer be able to rely on parking fees as a major source of revenue. According to *Governing's* [own analysis](#), the 25 largest cities in the U.S. took in \$5 billion in 2016 from vehicle-related revenue sources, including \$1.5 billion from parking fees and taxes and another \$1.3 billion from parking citations.

Driverless technology allows for the formation of new revenue streams that are just as, if not more, lucrative. For Rothman, the biggest opportunity lies in road networks, which can be taxed as a public utility. Robbins also predicts that driverless technology will spur economic development in outlying communities or transit deserts. Just as the invention of the elevator transformed top floors into a desired real estate amenity, so too can driverless technology transform underserved areas into coveted destinations to live and work.

"With driverless technology, when we get it right, there's going to be a huge societal gain," Rothman says. While cities are still decades away from integrating driverless cars into their transportation networks, the time to starting planning is now. At the moment, Robbins says, local policymakers should leave every solution on the table, while recognizing "the need to be really clear about what our priorities are."

Author Bio |

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NYU SPS SCHACK INSTITUTE OF REAL ESTATE

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