Photo credit: Getty Image

How to keep cities moving: Ideas for America's urban leaders

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There are signs that America's city dwellers are beginning to change the way they get around. Here is how city leaders can plan ahead.

American cities are facing urgent challenges when it comes to a fundamental aspect of urban living: getting around. Heavy traffic, long commutes, and environmental concerns, especially air pollution, are giving US city dwellers good reasons to consider alternative modes of transportation. At the same time, new models are emerging that offer appealing

options. In the future, advanced automotive technologies could mean that people will use cars much differently than they do today.

Together, these factors are bringing urban mobility to a tipping point. US cities have the chance to provide people with easier and better ways to travel, while making their communities more livable and sustainable. Seizing that opportunity will require leaders to rally transit-system operators, infrastructure investors, urban planners, private firms, and technology providers.

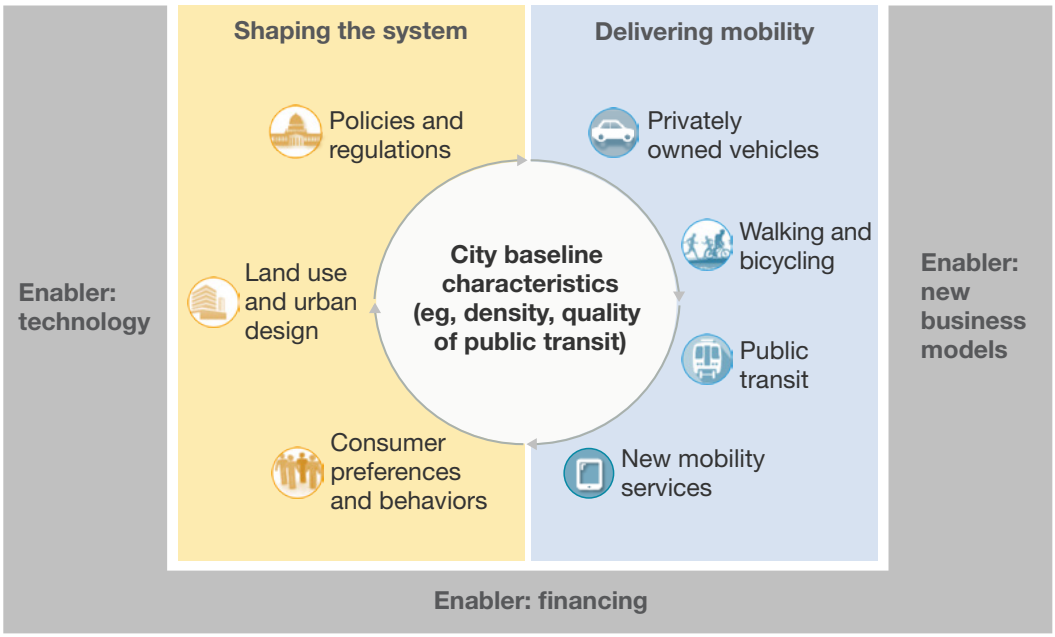
In this article, we look at the forces that are reshaping urban mobility, and we consider how these forces are playing out in different types of cities. We conclude with a set of ideas for how US city leaders can help improve travel—and the lives of their residents.

Understanding urban mobility: Seven factors

For city leaders, it is risky to make decisions about infrastructure investments and other matters related to mobility without considering how these choices affect entire transportation systems. To help think through underlying forces and how they interact, we consider seven factors that will define how cities move in the future (exhibit).

Exhibit

Seven factors affect urban mobility systems.



Source: McKinsey Analysis

1. Privately owned vehicles

Four major technological trends could improve urban mobility. In-vehicle connectivity, combined with real-time analytics, could reroute drivers to avoid traffic congestion and even prevent congestion from forming. Electric power trains can make cars more energy efficient and reduce local air pollution from tailpipe emissions. Car-sharing services could allow each vehicle to be used more intensively, perhaps reducing the number of cars on the road. Advanced driver-assistance systems that provide precollision warnings, blind-spot monitoring, emergency braking, and other safety features are proliferating—and clearing the way for autonomous vehicles (AVs), or self-driving cars, to gain wide acceptance. AVs could cut accidents by as much as 90 percent, according to preliminary estimates, saving thousands of lives and up to $190 billion a year in the United States by 2050. Autonomous driving could also improve the flow of traffic, leading to better use of existing road capacity and reducing the need to build or widen roads, and could free passengers to perform other tasks.

2. Walking and bicycling

While pedestrian zones are not new, cities such as New York are closing more areas to vehicle traffic and implementing other pedestrian-friendly changes. Many cities are also trying to make bicycling safer, easier, and more popular. Bike-sharing systems have proliferated—more than 70 are in place across the United States—and some large cities are setting aside more of their roadways for cyclists.

3. Public transit

Light rail is making a comeback in some parts of the United States: construction on nearly 20 projects across the country was scheduled for 2016.[1] Public transit in US cities also faces competition from new private-transit models. To preserve options for city dwellers and prevent more vehicles from taking to already-clogged streets, some cities are using data to improve public-transit performance and developing software to help riders plan trips on mass transportation.

4. New mobility services

New options, such as e-hailing, could profoundly change the way people travel. Investment is pouring into this sector—more than $9 billion of venture capital globally in 2015—and consumers have proved receptive. While not all start-ups will survive, their collective efforts will likely improve technologies, business models, and user experiences. AVs could also play a role in making such services more appealing. It is difficult to predict how fast autonomous cars will make their way into the marketplace, especially given uncertainty about regulation. Ultimately, though, driverless vehicles

[1] Yonah Freemark and Steven Vance, "Transit Explorer," *The Transport Politic*, January 6, 2016, thetransportpolitic.com.

could almost halve the cost of e-hailing and shared e-hailing by eliminating the cost of the driver.

5. Policies and regulations

Urban-policy decisions made today will determine how mobility evolves for decades. Having reviewed the long-term transportation plans of more than 25 major cities in the United States and elsewhere, we see a trend toward making public-transit, biking, and shared-transportation options more attractive.

6. Land use and urban design

Urban planners are in a position to pursue transit-oriented development: high-density, mixed-use environments organized for easy access to public transit. As new services become more popular, city officials will need to think beyond principles of transit-oriented development and come up with urban designs that allow traffic to flow smoothly and protect pedestrians and cyclists.

7. Consumer preferences and behaviors

Consumers are learning to make practical trade-offs when comparing the costs, convenience, and environmental effects of various transit options. In the United States, where a love of cars runs deep, vehicle-ownership rates have declined in recent years. Surveys have found that American millennials use public transit almost three times more often and are 23 percent less interested in owning a car than the generation that precedes them. They are also more likely to use services like car sharing and e-hailing.

Different cities, different changes

Cities will not all develop in the same way. The pace of transformation is going to differ; the forces at work are not the same. But some cities are akin to one another and therefore face common challenges and opportunities. Within the United States, we see three major city types in which technologies, business-model innovations, policies, and consumer preferences seem likely to play out in similar ways.

Established megacities are large, prosperous metropolises that are densely populated, with relatively low car ownership and well-functioning public-transit systems. New York is a good example. Many of these cities are trying to manage traffic with new road designs and restrictions and to encourage walking and cycling. New services such as e-hailing are already routine. The result is likely to be less reliance on individually owned vehicles—but another possible result is less public-transit use as convenient private-transit options expand.

Mature, advanced cities are also prosperous and feature good public transit but tend to be smaller. Think of Portland, Oregon (population: 620,000), which has a well-established transit system, including buses, streetcars, light rail, and commuter rail. Riders can buy and use tickets with a smartphone app, and a fully electronic fare system is planned to be launched in 2017. The city is also home to a number of formal van-pooling services and an extensive network of bike lanes and paths.

Car-dominated, mature cities include most large US cities, particularly those that developed in the second half of the 20th century. Los Angeles may be the ultimate example. In cities like these, past decisions have established a status quo that all but requires people to own cars to get around. Fundamental change could take decades. In the meantime, e-hailing companies are becoming popular. As in-vehicle connectivity spreads, that technology could help ease congestion and improve safety.

The road ahead: Considerations for city leaders

As the US urban population grows, so will the demand for urban mobility. There are several ways to get on the right track.

One is digitizing public-transit systems so bus and train travel can be coordinated with private on-demand services. Los Angeles recently launched an app called Go LA that combines information about different kinds of transit to let users seamlessly plan trips that fit their preferences regarding affordability and speed. Organizations working with the app include taxi companies, ride-hailing services, and parking providers.

City leaders can also begin to consider how to incorporate new technologies and transit businesses in ways that improve urban environments, especially by reducing traffic and pollution. Regulations are needed to protect consumers, but policies that were created before the advent of e-hailing and other new services can inadvertently bar those services from operating. Thinking about issues like data sharing and ownership; equitable access to transportation, competition, and licensing; and the use of infrastructure can help officials expand options for city dwellers.

As more people take advantage of new services and public transport, city planners can use urban design not only to accommodate these ways of getting around but also to make transit systems more efficient and to put land and infrastructure-investment capital to better use. In some cities, parking lots take up one-third of all land area. Some of that land could be turned into bike lanes and places where on-demand vehicles can pull over to pick up or drop off passengers. Encouraging transit-oriented development can create the population density that creates demand for public transit.

When it comes to optimizing decisions about land use, urban design, and infrastructure investment, new technologies can provide city officials with the data and analytics they

need to understand transit-use and movement patterns and even to make adjustments in real time. The US Department of Transportation recently announced a partnership with Sidewalk Labs, a unit of the technology company Alphabet that aims to help cities manage traffic by analyzing data from smartphones, remote sensors, and other sources. Seven US cities will take part in the initial development effort.

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Unless US cities change the way they think about mobility, rising demand will stress their infrastructure, as well as their residents' nerves. There is a better way. By rethinking rules written for a different era, municipal authorities can make getting around more flexible, more affordable, faster, and safer.

Download the full report on which this article is based, *Urban mobility at a tipping point*, on McKinsey.com.

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