Historically, increases in vehicle miles traveled (VMT) have been highly correlated with gross domestic product (GDP) growth. A growing economy means more travel for both work and recreation. At the same time, urbanization is increasing the concentration of transportation demand within dense city centers. In other words, as population, urbanization, and economic vitality in cities grow, so does traffic congestion.

Americans spend 14.5 million hours every day stuck in traffic and congestion costs the United States more than $160 billion annually in fuel, time, and productivity.

Despite these facts, many commuters still want to drive. According to the study *An Ecosystem Approach to Reducing Congestion* by PricewaterhouseCoopers (PwC), 85 percent of commuters drive to work, with about 15 percent using public transportation. This 40-year trend shows that both driving and public transit have stayed in the same proportion, and have grown as population numbers rise. The study also notes that there is no historical indication Americans are ready to embrace ride share, HOV, and shared transportation as a majority mode of transit.

**Citizen-Centered Ecosystem**

To reduce congestion, all modes of transportation—including parking—have a role to play in meeting the needs of travelers, tourists, and commuters. Livable cities in the future will be an ecosystem with citizens at the center—people surrounded by various transportation modes, accessible at key transportation and mobility hubs. Parking is one of those hubs.

Commuters bring economic activity and vibrancy into the city. It is integral to make it easy for citizens, consumers, and businesses to live, play, and work in the city. A multimodal, citizen-centered ecosystem that allows for consumer choice is the way to do this.

The ecosystem approach considers the interdependencies of the city across all levers and participants, including infrastructure wear and tear and the importance of traffic flow to help maintain equity within the city.

**Causes of Congestion – Six Mega Trends**

1. **Macroeconomic conditions.** Vehicle miles traveled (VMT) are directly correlated to economic growth. VMT is expected to grow by 14 percent from 2017 to 2030, driven by an expected growth in gross domestic product (GDP).

2. **Urbanization.** The U.S. population is growing and shifting from rural to urban areas. Eighty-one percent of the population lived in urban areas in 2010, and that is expected to rise to 85 percent in 2030.

3. **Transportation network company (TNC) growth.** Ride-hailing has grown substantially and is inducing demand for transportation, shifting demand from public transit which is putting more cars on the street and contributing to congestion at the curb.

4. **E-commerce growth.** Deliveries are increasing, and they are not reducing private-vehicle use (such as driving to shopping malls) as much as was once expected. E-commerce is on a rapid growth trajectory, rising from 0.3 percent of retail spending in 1998 to 8.7 percent in 2014.

5. **Infrastructure underinvestment.** U.S. public infrastructure was awarded a grade of D+ by the American Society of Civil Engineers (ASCE) and requires significant investment to be on par with that of other developed nations. The federal gasoline tax, which funds a great deal of transportation infrastructure expenditures, has not been raised since 1993.

6. **Policy and program development.** Current policies and programs have had mixed success in reducing congestion, with many leading to unintended consequences that can increase congestion, according to the PwC study.
Mobility Hubs: Park Once Approach

As cities evolve, traffic congestion can be alleviated by using the curb for drop-off lanes, and using the “park once” approach, where commuters park one time, using other modes of transportation (bikes, buses, subways, or rideshare) to navigate the city. Advances in artificial intelligence, vehicle-to-vehicle communication, and navigation automation will fuel a revolution in new mobility options.

Mobility hubs are the parking garages of the future, and will be the place where rideshare drivers meet their riders, consumers find storage space for package delivery and pickup, and where fleets of autonomous vehicles go when they’re not in use—complete with electric charging stations. Mobility hubs offer an opportunity to design buildings, city blocks, and boroughs with a focus on transit transfers using multiple forms of mobility and enforcing current laws to keep roadways open.

Mobility Hubs lend themselves to future adaptive facility design. This will include designated cashless ticket lanes, enhanced wayfinding navigation, and advanced reservations to find parking spaces quickly.

Mobility Hubs

In the future, parking garages will transform into mobility hubs that serve as an extension of the curb to reduce congestion. Commuters will park once at mobility hubs, then use intermodal options like bikes, buses, subways, or rideshare to move through the city.

The ways mobility hubs will serve as an extension of the curb include:
- Dynamic taxi or ride-hail stands.
- Short-term parking for TNCs.
- Car share parking.
- Drop off or pickup point for packages and loading zones.
- Valet services.
- Storage for shared bikes and scooters.
- Service amenities and retail.

Parking Makes Mobility Easier in the Last Mile

By moving cars swiftly off the street, off-street parking makes it easier for people to access businesses and travel from rural and suburban areas into cities, which boosts the economy.

Off-street parking:
- Eases congestion by moving cars swiftly off the street.
- Boosts the economy by making it easier for people to travel into the city and access businesses.
- Creates greener cities with less congestion and walkable streets.
- Clears the curb, allowing pedestrians to move safely and comfortably.
- Uses smart parking technologies to improve navigation and wayfinding.

Off-street parking:
- Eases congestion by moving cars swiftly off the street.
- Boosts the economy by making it easier for people to travel into the city and access businesses.
- Creates greener cities with less congestion and walkable streets.
- Clears the curb, allowing pedestrians to move safely and comfortably.
- Uses smart parking technologies to improve navigation and wayfinding.

NPA rendering of a future mobility hub. As a mobility platform, the next generation of parking will feature access zones for driver vehicles, valet services, TNCs, and autonomous vehicles. Enhanced curbs will ease congestion and promote safety.
“Congestion is a downstream effect of economic and population growth. Cities are thriving, but the concentration of people and businesses has increased traffic congestion.”

**Conclusion**

The future is bright for parking as part of the transportation ecosystem to reduce congestion. Urban transportation must include multiple modes of transit to meet demand for accessing the city. Now is the time to work together for a better quality of life that values all modes of transportation to get in and around the city. Rather than put roadblocks in front of commuters, practitioners must instead focus on mobility hubs that make mobility easy.

Christine Banning, IOM, CAE is the president of the National Parking Association (NPA), the nation’s leading parking trade group. NPA is comprised of more than 2,500 parking owner-operators, suppliers and consultants and supports advancing the interests of the private and public sector in parking, shared mobility, and transportation. She can be reached at christinebanning@weareparking.org.

**2019 EXCELLENCE IN HIGHWAY SAFETY DATA AWARD**

The Federal Highway Administration (FHWA) is pleased to announce the Excellence in Highway Safety Data Award, part of the Highway Data Analysis Excellence Awards Program, which is designed to encourage university students to use Highway Safety Information Systems (HSIS) data to investigate a topic that advances highway safety and to develop a paper to document the original research.

The goal of the award is to encourage university students to use HSIS data with the intent of introducing potential future highway safety professionals to good quality safety data, the application of appropriate research methods to derive recommendations, and the practice of using data to make decisions. More information can be found at https://www.hsisinfo.org.

**PAPERS DUE MARCH 1**