PARKING PLANNING FOR AUTONOMOUS VEHICLES

Joint Texas and Western District Annual Meeting
June 25, 2018
OVERVIEW

Autonomous vehicles (AVs) will have an impact on the transportation industry in the years to come. There has been much discussion about what these impacts may potentially be, including impacts on roadway networks. But what about parking? And in what way may this disruption affect parking and what should we do as transportation professionals to plan for it? This session will discuss two primary areas, planning and design. The planning section of the presentation will discuss what research has been conducted by notable and recognized international consulting firms, as well as academia, in the area of predicting how parking demand may be reduced as a result AVs. Based on this research, the presentation will discuss what triggers will cause the greatest impacts on parking demand related to AVs. Designing for the future will also be discussed including the design strategies that should be considered when there is a need for infrastructure today. The strategies discussed will include the design considerations related to future adaptive reuse of parking facilities and infrastructure planning for the future.
WHAT WE’LL ANSWER ABOUT AUTONOMOUS VEHICLES IN PARKING

- What We Know
- What Are The Impacts On Parking Demand
- What To Do Now
- What To Plan For
TRANSPORTATION PROFESSIONALS ALREADY KNOW A LOT

The Investment in AV is Staggering

- GM paid $1bn to acquire driverless startup, Cruise
- Ford investing $1bn in Argo, its new driverless car unit
- Toyota committed to $1bn in self-driving research in Silicon Valley
- Qualcomm’s pending $47bn acquisition of automotive chip outfit NXP Semiconductors
- Intel buys Mobileye for $15bn
- Feds investing $4bn in developing standards
- Worldwide market for AV semiconductors grew to $30 bn in 2016

Its’ Coming...

The Impacts will Vary Depending on the Industry – For Better or Worse
NOTABLE RESEARCH ON AUTONOMOUS VEHICLE IMPACTS
WALKER’S CONCLUSIONS OF PARKING DEMAND IMPACT

Greatest penetration in dense urban markets and those with high parking costs

15% - 40%
Decrease in Parking Demand*

Future Parking Demand (Before Growth)

2020-2040
Market Penetration Timeline

Demand variability a projection*
WHAT TO DO NOW

TNC MANAGEMENT

Image: The Points Guy

PICK-UP / DROP-OFF

Image: Shutterstock

CURBSIDE MANAGEMENT
PLANNING FOR ADAPTIVE REUSE

10% - 25% Construction Cost Premium

- Charging Stations
- Taller floor-to-ceiling heights.
- Place ramps on the edge of the floor plan.
- Increase durability design of key structural elements, for a longer service life.
- Build internal cores for future stairs or elevators.

- Build additional empty utility infrastructure like duct banks and bank panels.
- Build oversized or additional mechanical, electrical, and plumbing rooms.
- Build wider stairways to accommodate more occupants in the future.
- Flat Floors
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