Emerging Trends in Personal Mobility and the Future of Structured Parking

Michael T. App
Director of Architecture
Timothy Haahs and Associates
mapp@timhaahs.com

Introduction:
Objectives and Goals

1. Understand our HISTORY. Where are we/how did we get here?
2. Review MIGRATION patterns. Where will we live and work?
3. Review MOBILITY TECHNOLOGY. How is our access to mobility changing?
4. Review PARKING TECHNOLOGY. What is changing about how we park?
5. Anticipate the FUTURE. What are the trends leading to?

History:
How Did We Get Here?

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How Did We Get Here?

The LaSalle Hotel Parking Garage, 1919. Designed by Holabird & Roche.


The "Cage Garage" patented by Samuel Eliot, Boston, 1931. Designed by Coolidge, Shepley, Bullfinch and Abbott and built in 1933.
Millennials' Mass Migration To Cities Is An Urban Myth, CBRE Says

Migration: Where Will We Live, Work, and Play?

Youth Movement
Millennials' domestic migration, by age group in 2014

- 20-24
- 25-34
- 35-44
- 45-54
- 55+

Performance of office markets*

- High Performing
- Medium Performing
- Low Performing

Mobility: Technology Changing How We Move

WHAT IS BRT?
LIGHT RAIL ON TIRES

Components:
- Convenience
- Speed
- Comfort
- Cost
- Environmentally friendly
- Energy efficient

Modality:
- Light rail on tires
- Integrated with public and private transportation systems
- Accessible for all, including people with disabilities

Benefits:
- Reduced traffic congestion
- Improved air quality
- Lower greenhouse gas emissions
- Increased mobility for residents
Mobility: Technology Changing How We Move

Autonomous Cars

Parking: Technology Changing The Garage

Electric Vehicle Charging Stations
Mobility: Technology Changing How We Move

Pay Per Mile Roads

OReGO is a revolutionary pay-per-mile program.

Future: Emerging Trends

On Demand Service

“Vehicle-To-Everything” Connectivity

car-to-smartphone
car-to-money
car-to-business
car-to-car

car-to-transit
car-to-home

car-to-content
Enhanced Lobbies

Introduction: Objectives and Goals

Assumption: Typical Garage Ramp is 180' long (11'-4" floor-to-floor = 6.3% grade)

Self-Park Scenario:
- 9’ wide parking stalls
- = 20 stalls each side of parkable ramp
- = 40 cars each module
- x 3 Modules (center ramp) = 120 cars
- + 20 cars each end bay
- = 2 ends per tier = 40 more cars
- 120 + 40 = 160 cars each tier
- x 6 tiers = 960 cars

Autonomous Car Scenario:
- 7’ wide autonomous car parking
- = 25 stalls each side of parkable ramp
- = 50 cars each module
- x 3 Modules (center ramp) = 150 cars
- + 25 cars each end bay
- = 2 ends per tier = 50 more cars
- 150 + 50 = 200 cars each tier
- x 5 tiers = 1,000 cars

And a ground level that is passenger drop-off and retail!
Future: Emerging Trends

The Hecht's Warehouse Parking Structure, Washington DC. 
Douglas Development / Antunovich Associates.

Future: Emerging Trends

Collins Park Parking Structure, Miami, Florida 
Architect: Zaha Hadid.
Thank you for attending this session! If you have questions or would like to continue the discussion, please do not hesitate to contact me.

Michael T. App at mapp@timhaahs.com

thanks!

QUESTIONS AND COMMENTS

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