Urban Land Institute

Boston/New England

Infrastructure Council Presents: The Future of Parking
January 23, 2018

A special thanks to McCarter & English for hosting and sponsoring this event

McCARTER &ENGLISH
ATTORNEYS AT LAW

Urban Land Institute
Boston/New England

Panelists

Joe Albanese, Founder and CEO, Commodore Builders

J.F. Finn III, Principal, Gensler

Kasia Hart, Transportation Policy Associate, MAPC

Art Stadig, Managing Principal, Walker Consultants

Moderator: Tim Logan, reporter, The Boston Globe

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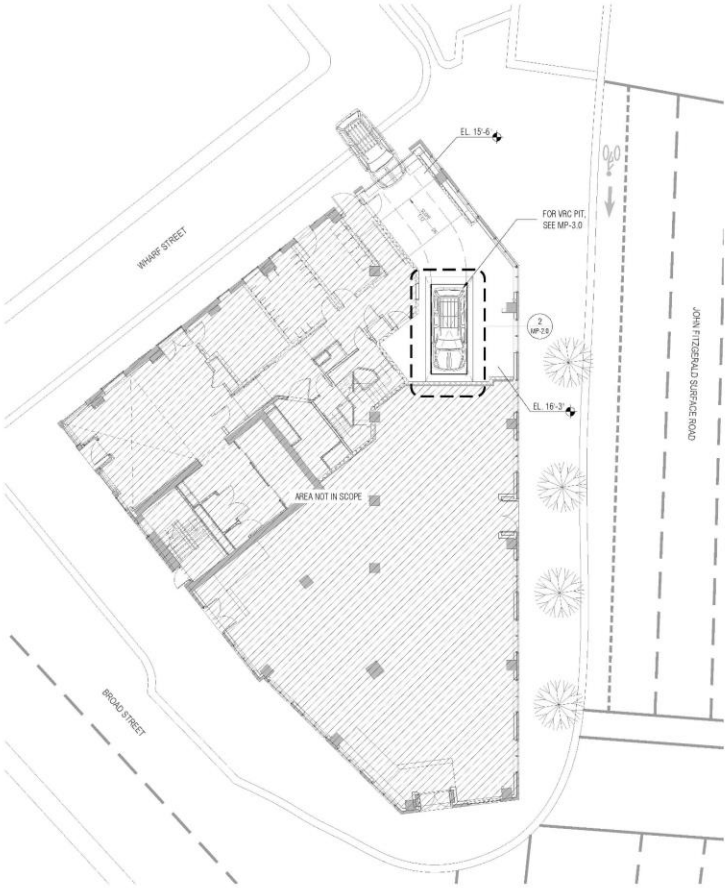
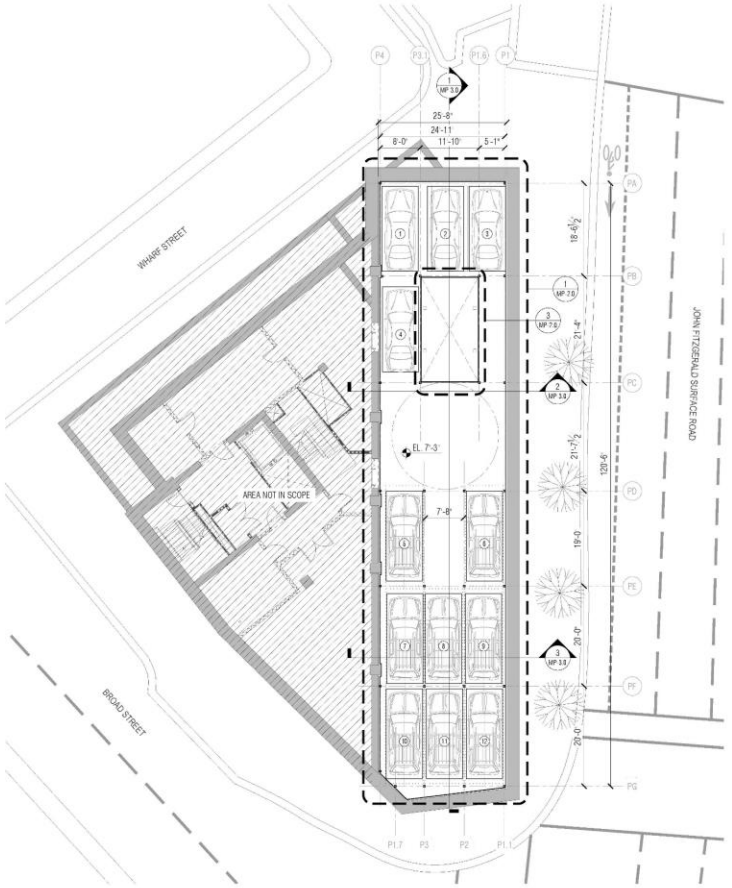
Joe Albanese, Founder and CEO,
Commodore Builders

THE BOULEVARD
110 BROAD STREET, BOSTON, MA 02110

PARKPLUS HIGH DENSITY VEHICLE STORAGE | Commodore Builders



1 GROUND LEVEL
LOADING BAY SCALE: 3/32" 1'-0"



2 LEVEL 4
SCALE: 3/32" 1'-0"

ISSUE	DATE

PARKPLUS
HIGH DENSITY VEHICLE STORAGE
Leaders in high density parking systems

PARK PLUS, INC.
83 BROAD AVENUE
FAIRVIE, NJ 07022
TEL: +1-201-917-5778
FAX: +1-201-917-5774
www.parkplusinc.com

BEARING

LOCATION PLAN

PROJECT NAME
THE BOULEVARD
110 BROAD STREET
BOSTON, MA. 02110

PROJECT NUMBER C5435

TITLE
ENTRY AND LEVEL 1
OVERALL PLANS

DRAWN	CHECKED	CHECKED	DATE
FM	YF	VS	04/24/2017

SCALE: AS NOTED

DRAWING NUMBER: MP-1.0

FINANCIAL BENEFITS

- SAME SPACE, MORE PARKING
- REDUCED CONSTRUCTION COST & SCHEDULE
- LOW OPERATION & MAINTENANCE COSTS
- SPACE, TIME & TAX EFFICIENT

ENVIRONMENTAL BENEFITS

- REDUCED CARBON FOOTPRINT
- FEWER RESOURCES
- ENERGY & WATER EFFICIENT

SOCIAL BENEFITS

- LOCALIZED DROPOFF & COLLECTION
- SAFER & MORE CONVENIENT
- MINIMUM THEFT & ACCIDENT DAMAGE

AGV [AUTOMATED GUIDED VEHICLE]

The AGV parking system consists of free-roaming, battery operated, omni-directional units using traffic management software, markers, vision systems and lasers for self-guidance to manage the automated storage and retrieval of vehicles on trays.

- **MAXIMUM PARKING EFFICIENCY**
- **FLEXIBLE FLOORPLAN CONFIGURATION**
- **INTELLIGENT TRAFFIC MANAGEMENT SOFTWARE**
- **24/7 VIDEO MONITORING**

VIDEO: **PARK**PLUS AGV – 9 SPACES

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Boston/New England

J.F. Finn III, Principal, Gensler

Gensler

ULI Boston/New England Infrastructure Council: The Future of Parking

January 23, 2018

Presented by:
JF Finn III
Principal

260 million

CARS, MOTORCYCLES AND BUSES IN THE U.S.

The automobile as we know it, gasoline- and diesel-engine powered, will be largely obsolete by 2030.

Transportation & Logistics
Statista, 2015

Why Cars as We Know Them May Disappear by 2050
Fiscal Times, 2015

The average car in the U.S. is dormant

95%

OF THE TIME

5%

UTILIZATION

"Today's Cars Are Parked 95% of the Time"
Fortune, 2016

There are an estimated

500 million

PARKING SPACES IN THE U.S.

"Paved, but Still Alive"
The New York Times

Start with the Basics

Parking in Boston

~380,000

BOSTON OFF-STREET PARKING INVENTORY

61M SF

"Future of Parking in Boston"
A Better City, 2016

New Language of Road Transportation

ICE

Internal Combustion Engine

IO

Individual Ownership

EV

Electric Vehicle

TaaS

Transportation as a Service

AV

Autonomous Vehicle

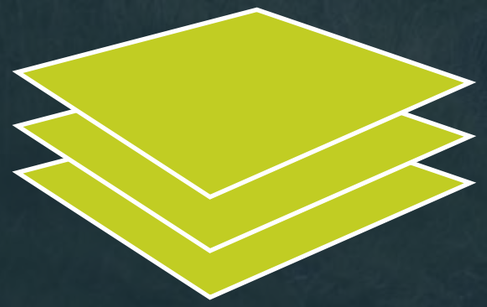
Impacts of the Driverless Car on Real Estate

Parking Typologies—Projected Footprint Reduction

Stand Alone Parking Structures

60%
footprint reduction

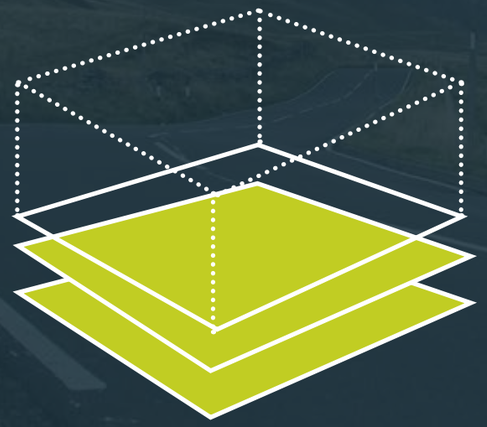
- Smaller stalls
- Narrower aisles
- No vertical connections
- Optimized structure
- Stall stacking



Above Grade Parking

25%–35%
footprint reduction

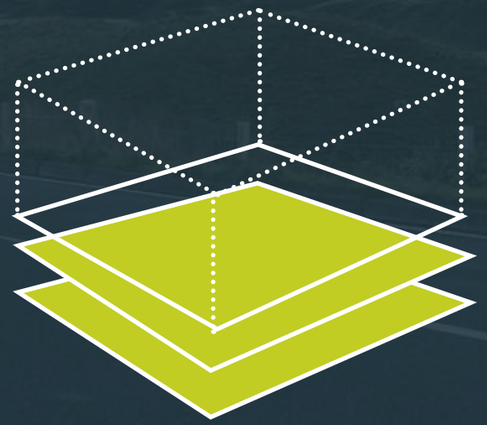
- Smaller stalls
- Narrower aisles



Below Grade Parking

25%–45%
footprint reduction

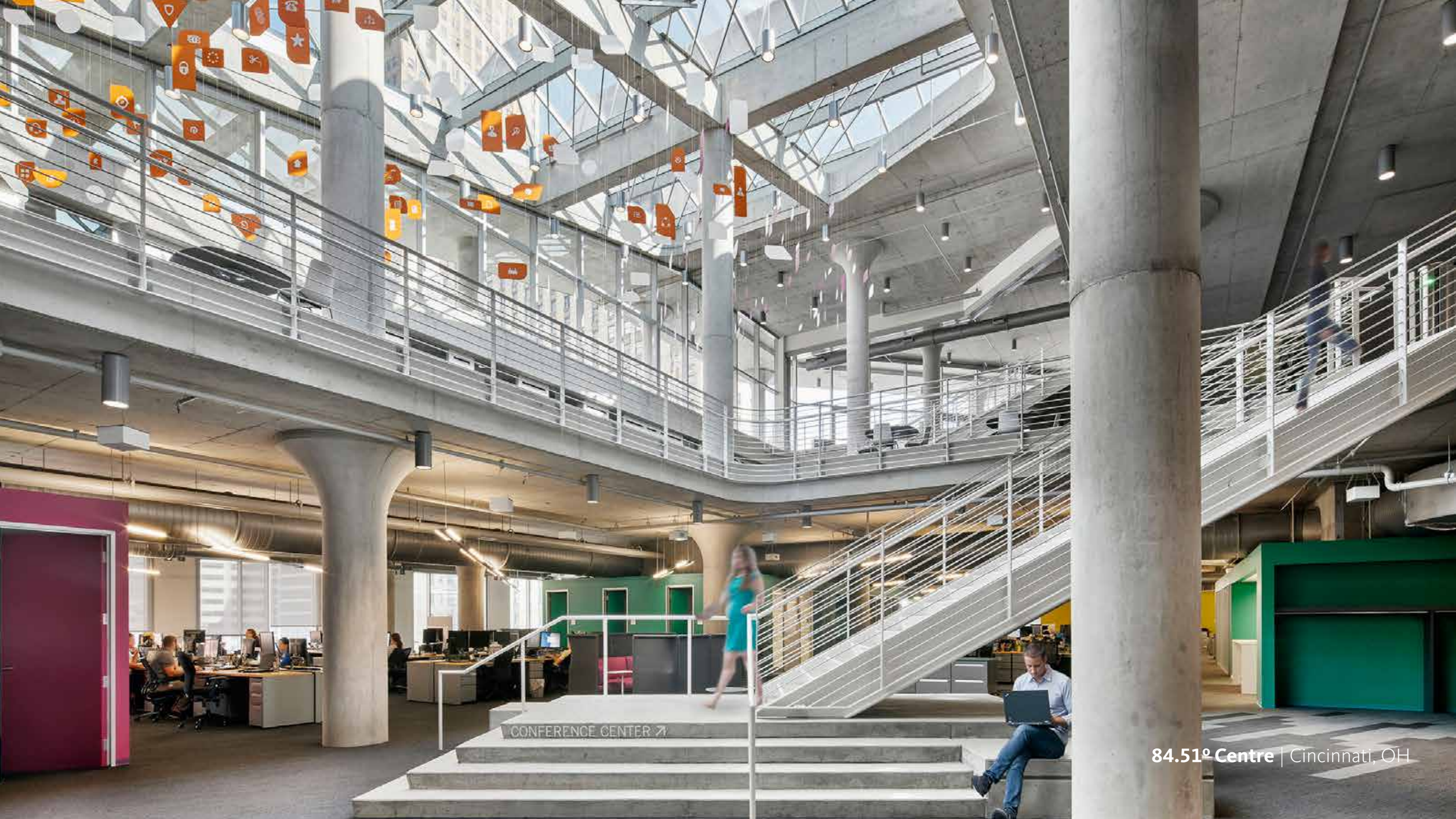
- Smaller stalls
- Narrower aisles
- Potential removal of vertical connections



Surface Parking

35%–100%
footprint reduction

- Smaller stalls
- Narrower aisles
- Elimination



84.51º Centre | Cincinnati, OH

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Boston/New England

Kasia Hart, Transportation Policy Associate, MAPC

Metro Boston Perfect Fit Parking Initiative

Phase 1: New Metrics and Models for Parking Supply & Demand

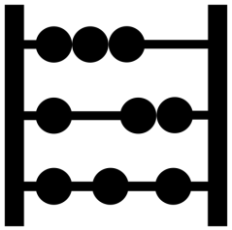
Kasia Hart, Transportation Policy Associate

Perfect Fit Parking:
Aligning Parking Supply and Demand

- Goal: collect data to gain insight into the existing relationship between parking supply and demand at **multifamily developments**
- Surveyed and conducted overnight counts at multifamily developments in **Arlington, Chelsea, Everett, Malden, and Melrose**.

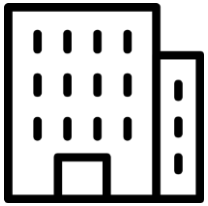
Data collection

Surveyed **126** properties



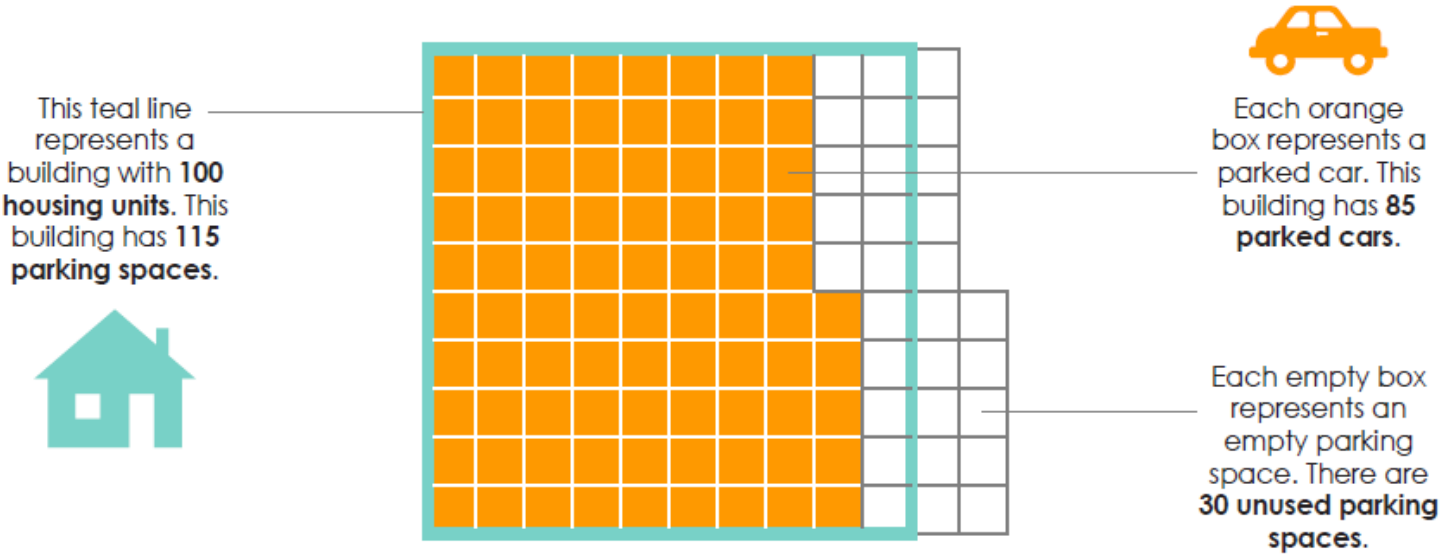
Conducted overnight counts at **80** properties

4,511 Parking Spaces Counted



Serving **3,913** housing units

On average, parking lots were **74%** full



Next steps

- Work with Phase 1 communities to implement recommendations
- Phase 2: expanding efforts into the Inner Core
- Long-term: online tool for easily accessible comparable data
- For more information, please visit: http://perfectfitparking.mapc.org/

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WALKER CONSULTANTS

Urban Land Institute Boston/New England

OVERVIEW OF FUTURE PARKING SYSTE

BUILDING ENVELOPE

CONSULTING

FORENSIC RESTORATION

PARKING DESIGN

PLANNING

CURRENT & NEW DIRECTIONS IN PARKING

- Continued push for “design”
- More use of technology
  - → PARCS
  - → APGS
  - → Apps
  - → Big Data
- More than just a “garage”
  - → Retail
  - → Flex space
- Continued search for sustainability
  - → Parksmart
- Future adaptive re-use
- Future increase in vehicle charging

DENSIFYING PARKING

Assisted, Valet, Mechanized Parking

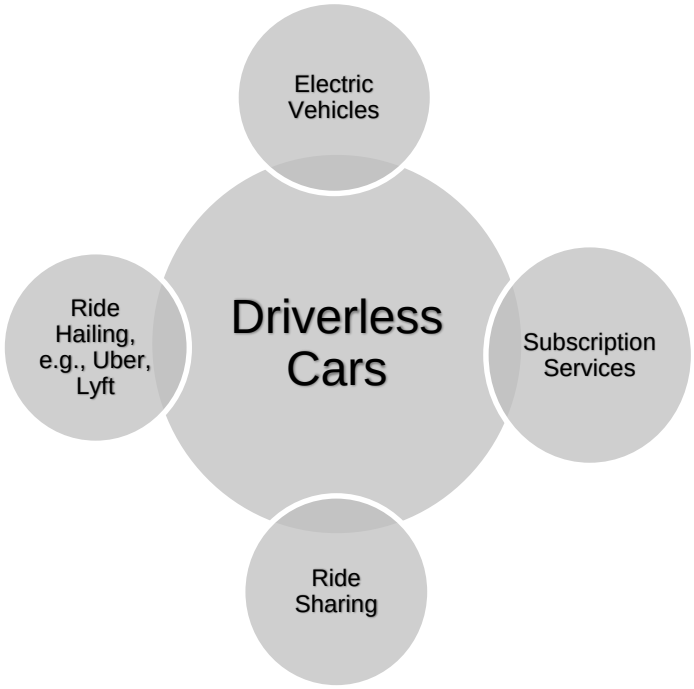
- Limited land or capital may require density
- Trade off between capital and operating costs
- Densify to assisted or valet layout
- Increase density with vehicle lifts
- Increase density with semi-automated parking

Single and Tandem Lifts

Semi-Automated Parking

Automated parking

AUTONOMOUS VEHICLES



Advantages:

- Save lives
- Provide rides to people who cannot drive
- Reduce burden of driving
- Free up real estate such as parking lots

Obstacles & Concerns:

- Consumer acceptance

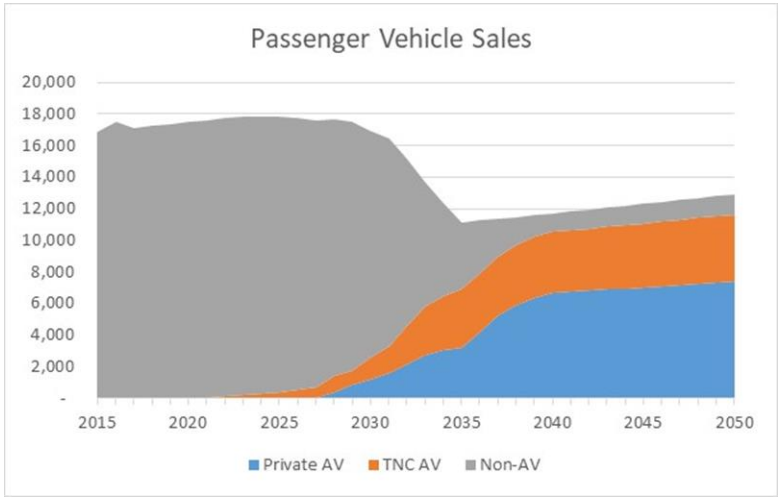
→Will it be affordable? When?

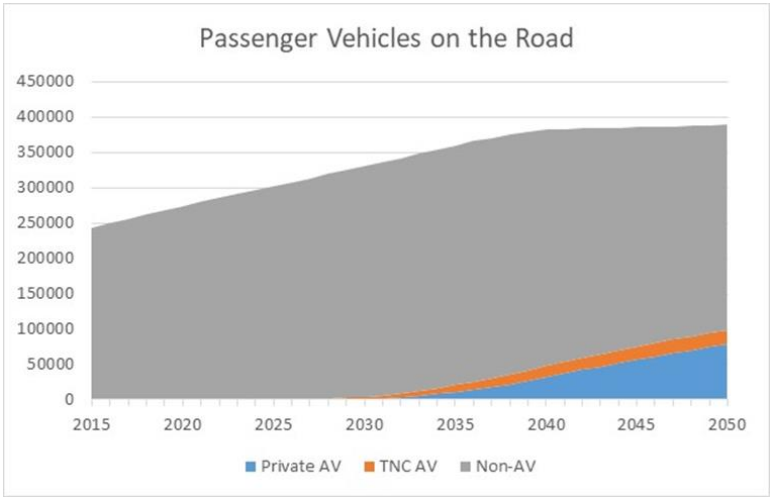
→How many want subscription services?

→How many will ride share?

- Technology readiness
- Potential safety issues transferring control from car to driver
- Laws permitting driverless cars
- Liability and insurance solutions

AV SALES AND PROJECTION, US





Time line for L4/5 AV sales:

- 15% AV by 2030, 10% TNC
- 90% AV by 2040, 33% TNC

Based on:

High Disruption Scenario per McKinsey, including

-2.3 personal car sold per TNC AV

Population growth per US Census Bureau

"On the road" will lag…..a lot:

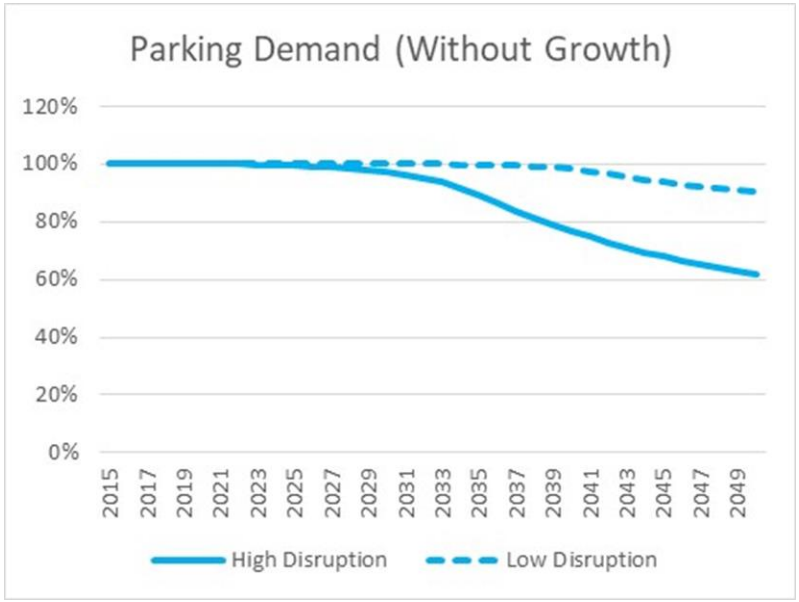
- 1.2% by 2030, 5.7% by 2035
- 12.5% by 2040, 19.5% by 2045
- 25% by 2050
- 90% not until well after 2060

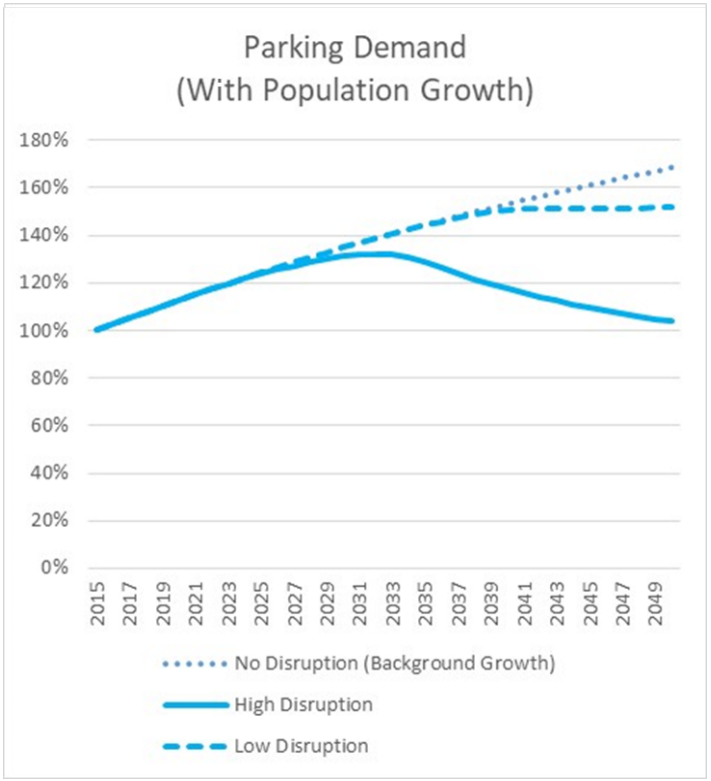
Scrappage = 4.3% per IHS

http://news.ihsmarkit.com/press-release/automotive/vehicles-getting-older-average-age-light-cars-and-trucks-us-rises-again-201

AV IMPACT ON PARKING DEMAND

Not 90% Reduction… Somewhere between -10% and -40%





- High uses 40% maximum impact
- AV sales and % TNC Private per McKinsey study
- Adjusted to vehicles on road
- Population growth per US Census Bureau

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