The Golden Age of the Curb

MANAGING THE EDGE OF THE STREET

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Curbspace Management

01 Pop Quiz

02 Values

03 Trends

04 Resources

05 Scoping

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Pop Quiz

How are the 30 incorporated cities managing the curb today?

01

How many SGV cities have **time restricted** curb parking?

27

02

How many SGV cities have **residential parking permits**?

12

03

How many SGV cities have **overnight or guest permits**?

17

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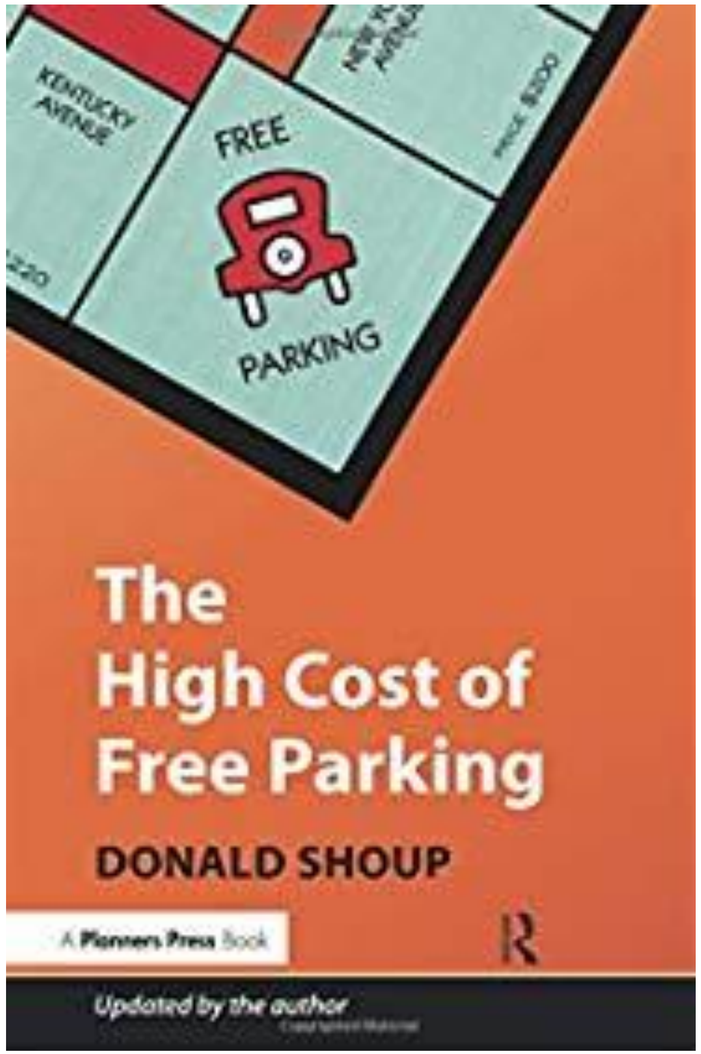
Community Values at the Curb

What does your community want at the curb?



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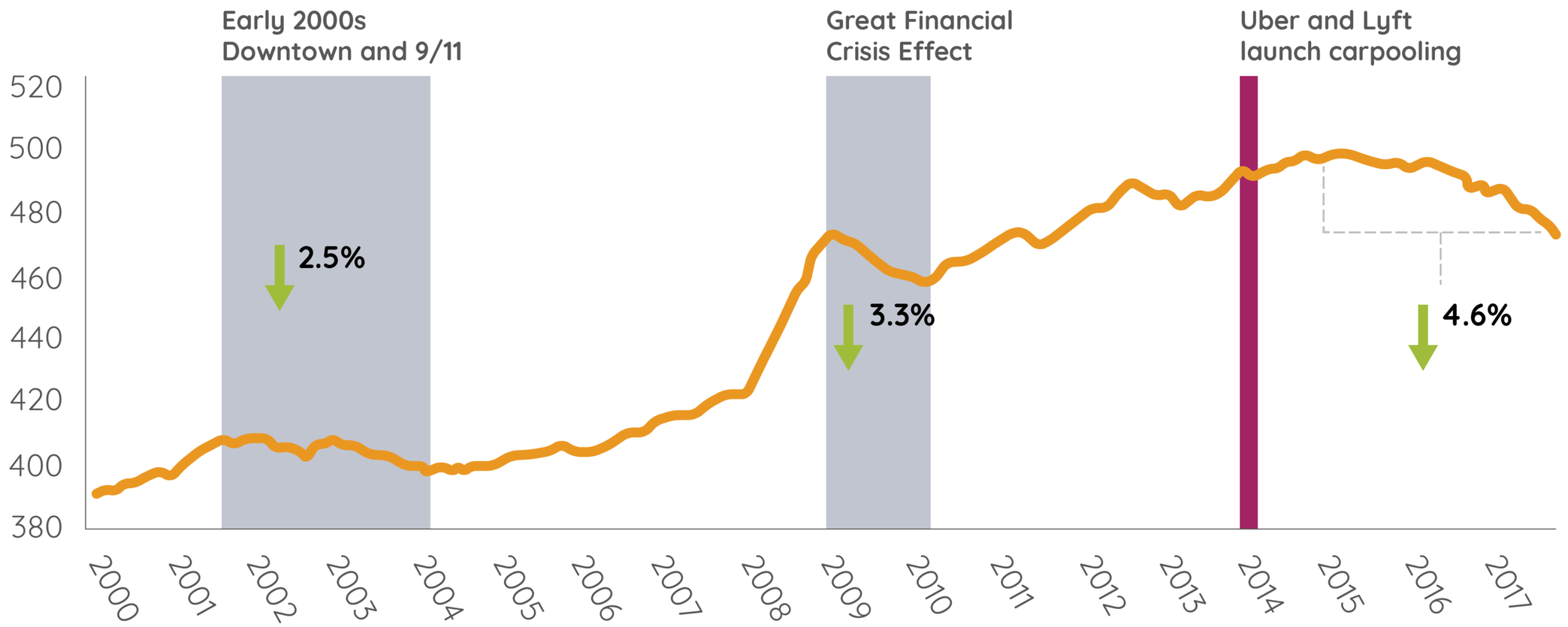
Trends at the Curb

Is transit ridership increasing demands at the curb?

U.S. Public Transit Ridership
(millions of rides per month, 12-mo trailing average, major metros)



Adapted from **MetLife Investment Management, American Public Transportation Association**
Note: Major metros include Boston, Chicago, Los Angeles, New York City, San Francisco, and Washington D.C.

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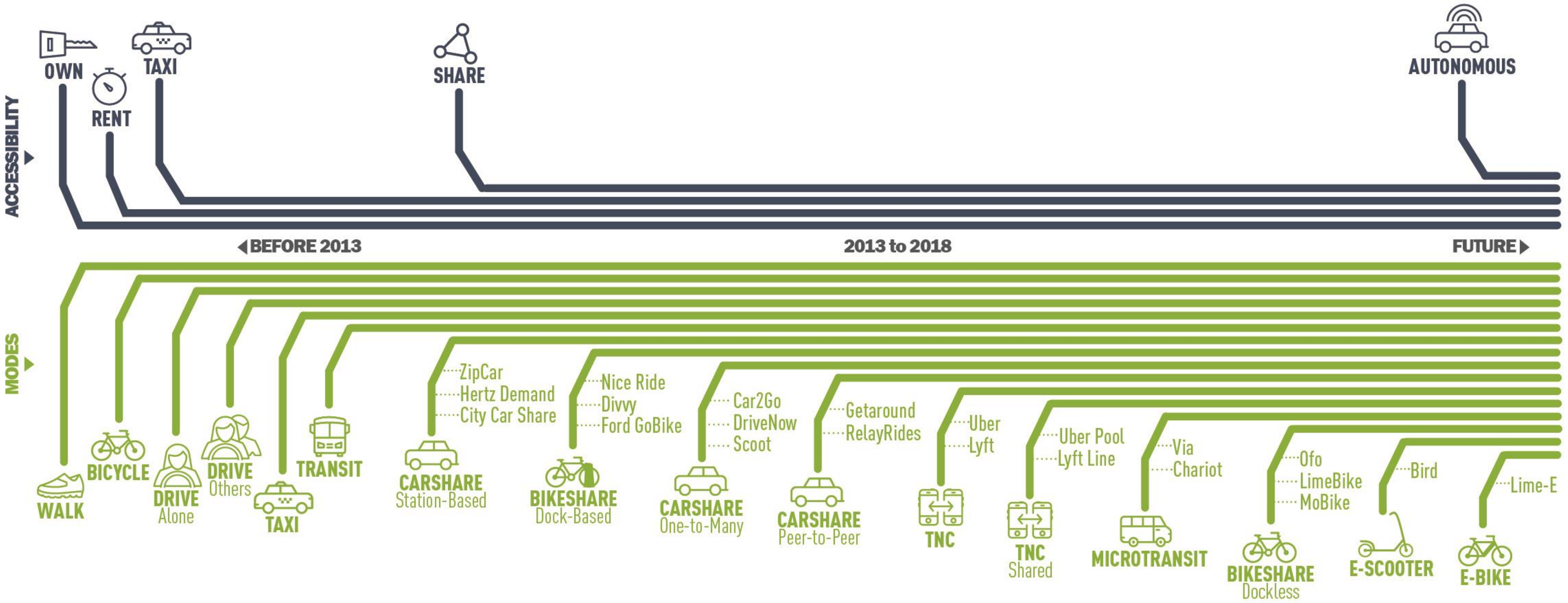
Trends at the Curb

How are vehicle accessibility & travel modes changing?



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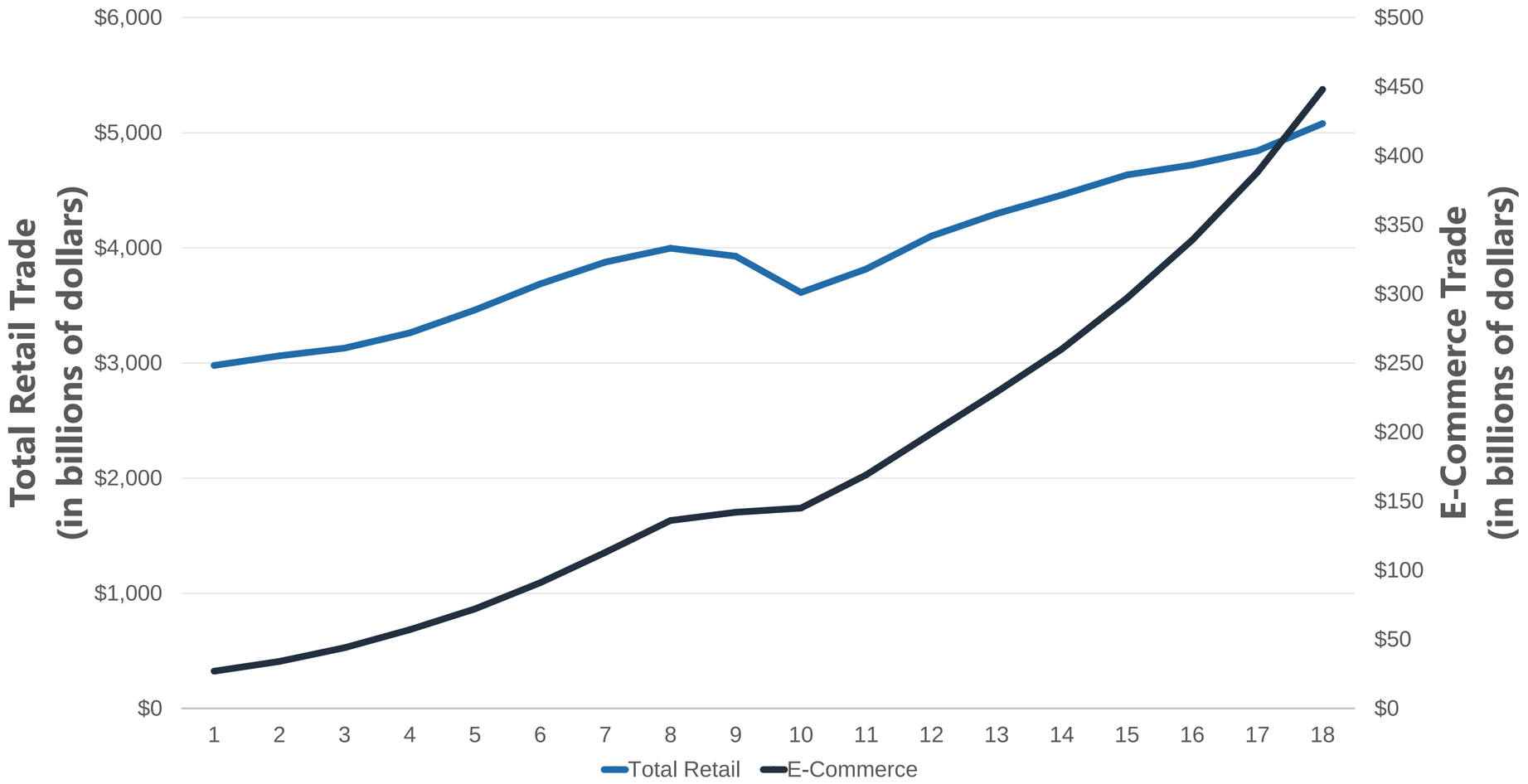
Trends at the Curb

How is E-commerce affecting demand?



Source: U.S. Census Bureau's 2017 Annual Retail Trade Survey.

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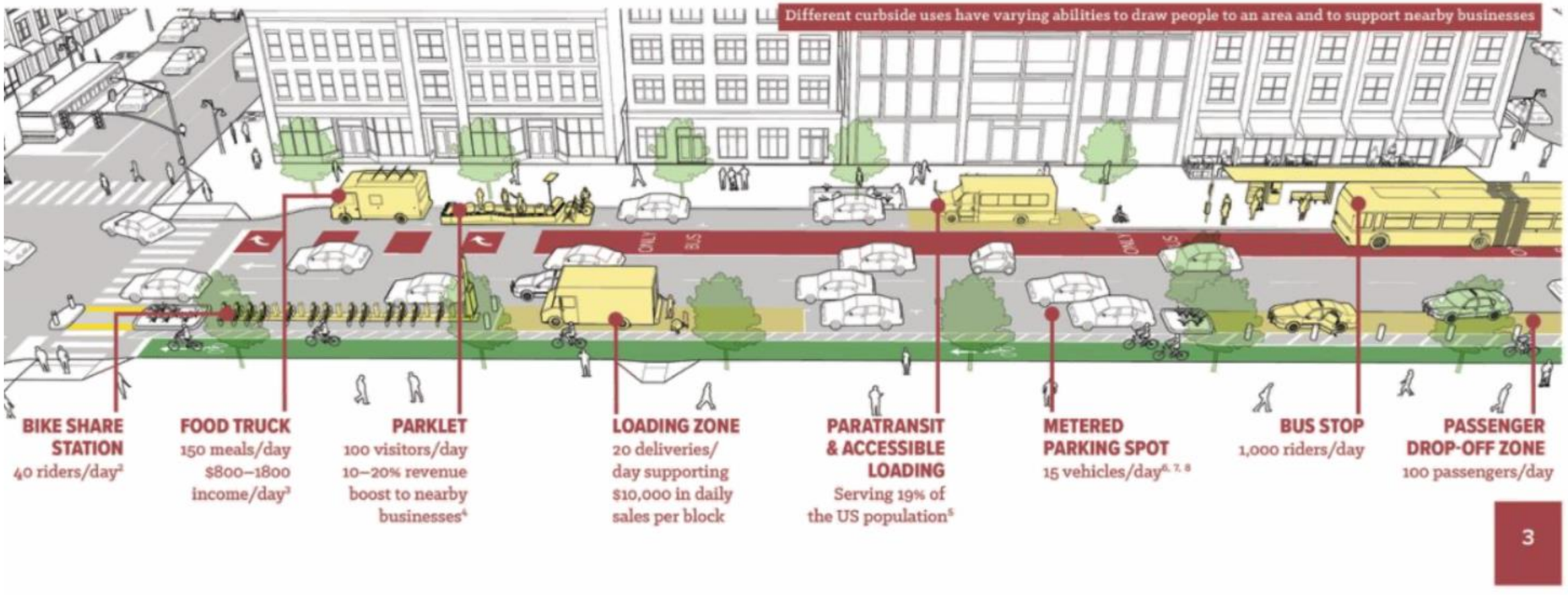
Resources

NACTO Curb Appeal

- Shifting from Parking Lane to Flex Zone
- Clearing the Way for Transit [including autonomous]
- Moving Loading and Access Nearby, and
- Looking Beyond the Corridor

Resources

NACTO Curb Appeal



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Resources

ITE Curbside Management Practitioner's Guide

- Planning Considerations
- Available Tools & Treatments
- Treatment Selection Process
- Performance Measurement
- Future Considerations

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Resources

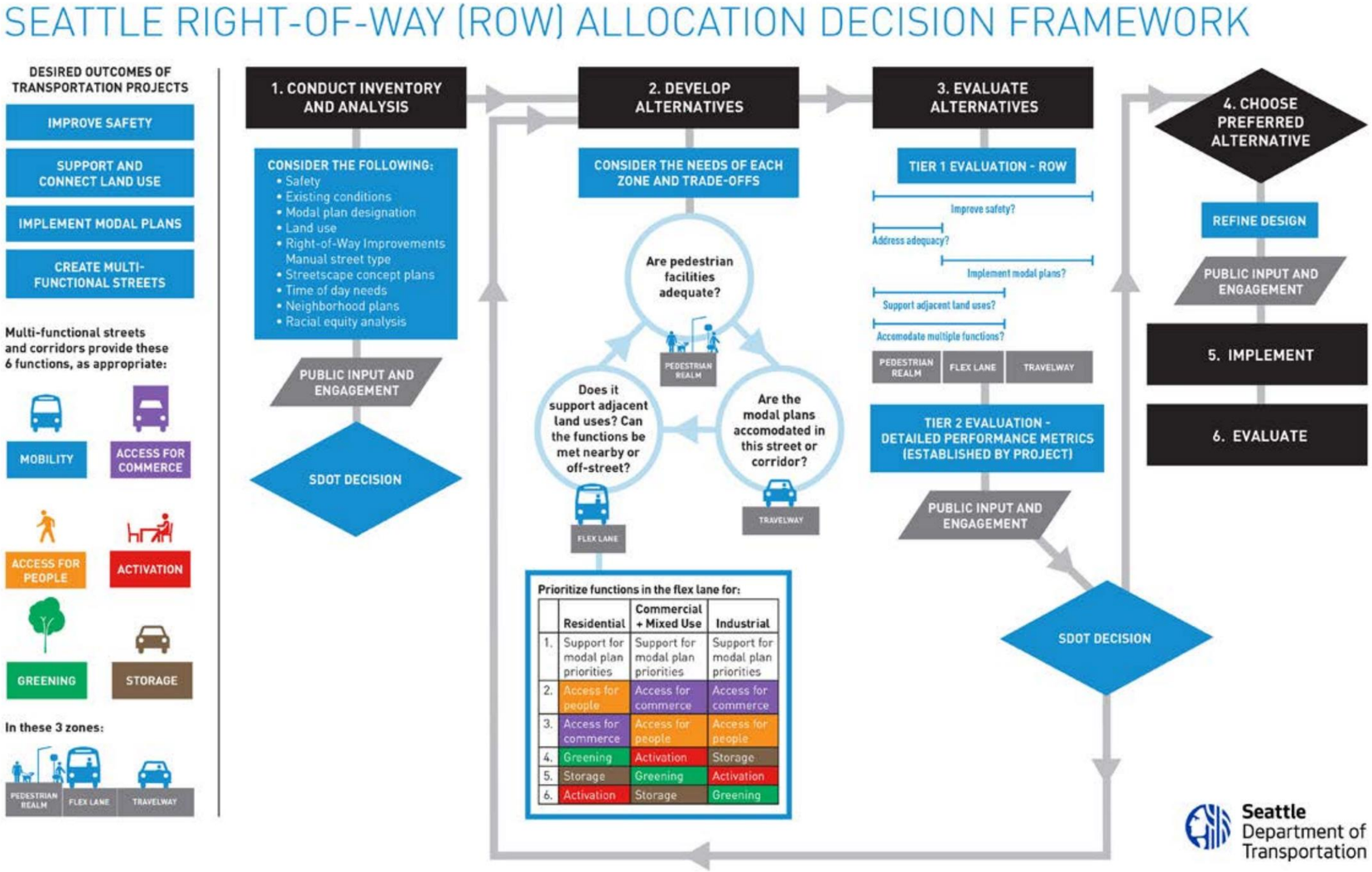
ITE Curbside Management Practitioner's Guide

- Mobility
- Access for People
- Access for Commerce
- Activation
- Greening
- Storage

Resources

ITE Curbside Management Practitioner's Guide

Treatment Selection



An example framework for decision-making processes pertaining to right-of-way allocation utilized by Seattle Department of Transportation.

Resources

ITE Curbside Management Practitioner's Guide

Performance Evaluation

Measure Of Effectiveness (MOE)	Dataset(s)
Fewer blocked bike facilities	In-field observations (anecdotal) Video data collection Citations (medium term)
Fewer blocked transit lanes	
Target loading zone utilization and turnover levels achieved	In-field observations (anecdotal) Video data collection Parking/ curb space sensors (if present)
Improved transit reliability	Transit schedule adherence data
Improved transit ridership	Transit ridership (APC data)
Improved average transit speed	Transit schedule adherence data Average travel speeds from GPS/AVL data
Higher occupancy in TNCs (i.e., increased use of shared TNC rides)	In-field observations (anecdotal) Video data collection TNC-provided data (if required/leveraged)
Reduced cruising behavior	In-field observations (anecdotal) Video data collection
Reduced congestion and pollution levels	Traffic Counts Cell phone data (big data) Sensors or detection (if available)
Improved vehicle LOS	Analysis of count data
Improved emergency vehicle response time	Reported response times Modelled response times
Improved wayfinding and user experience	User feedback via surveys, focus groups, etc.
Reduced private vehicle ownership	Census data
Reduced parking demand	Anecdotal reduction in parking requests Parking utilization rates from sensors or observations
Improved vehicle travel time on designated "THRU" streets	Sensors Field observations (anecdotal, video, or tubes) Cell phone data (big data)

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Scoping Curbspace Projects

Setting up curbspace projects for success

Project Initiation Questions

- ❑ Is the concern area-wide or site-specific?
- ❑ Who will be affected by changes we consider?
- ❑ How much controversy do we expect?
- ❑ Are the values and priorities for the location well established? How will we resolve trade-offs?
- ❑ How will we estimate peak demands, space needs, and revenue implications?
- ❑ How will we measure curbside performance?
- ❑ How will we explain the value of curb uses to stakeholders?
- ❑ How much budget and time do we have to assess conditions, engage stakeholders, develop options, implement changes, and monitor outcomes?

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Scoping Curbspace Projects

Setting up curbspace projects for success

Curbspace Management Checklist

- ❑ AV and TNC activity as a function of parking limits
- ❑ Space needs for maximum accumulation
- ❑ AV goods delivery frequency, and location and operational needs
- ❑ Operational efficiencies to reduce supply needs
- ❑ Safety design to minimize risky maneuvers
- ❑ AV and TNC layover needs to enhance sharing
- ❑ Infrastructure and technology for dynamic allocation of curbspace
- ❑ Wayfinding, staging areas
- ❑ Pricing, monitoring and enforcement
- ❑ Surrounding area active transportation, traffic, parking, and transit
- ❑ Data collection, sharing, privacy, and storage

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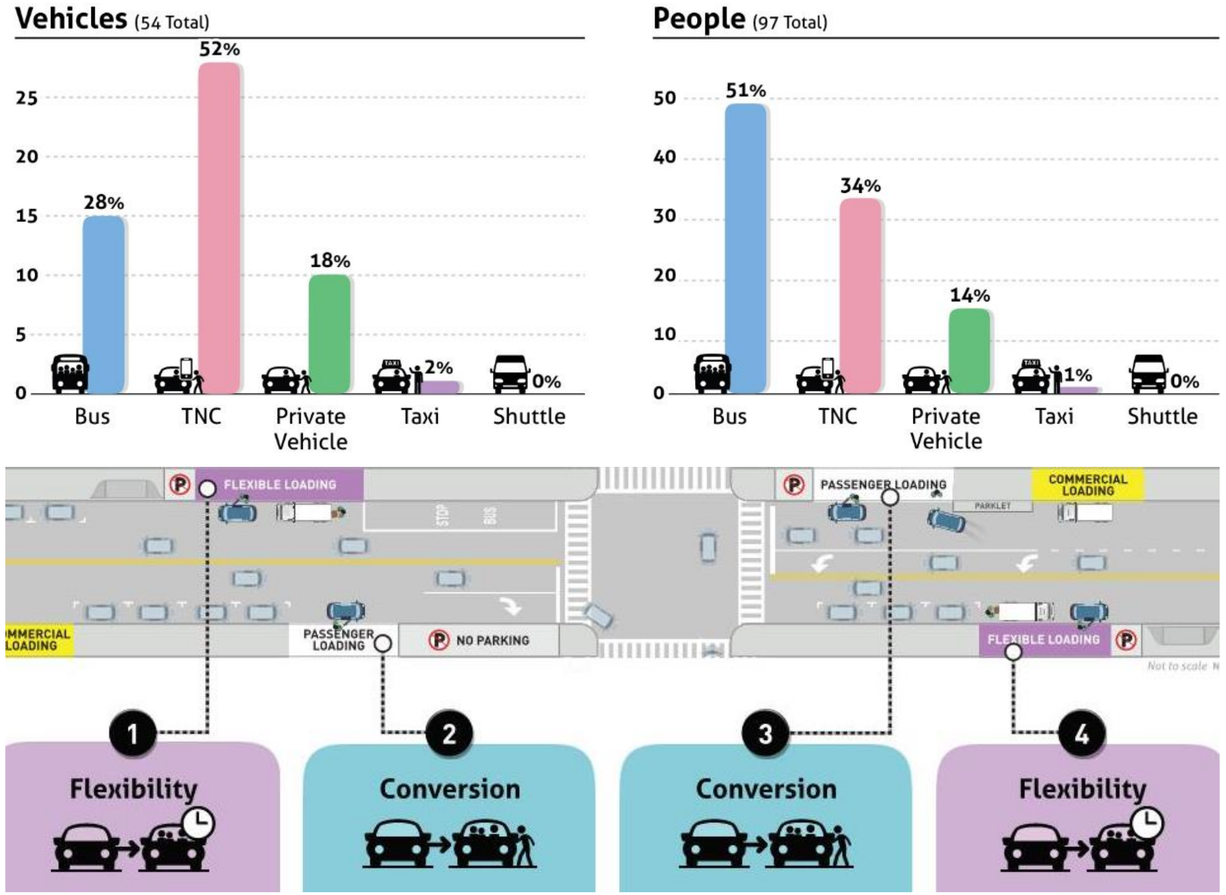
Curbspace Project Examples

Curbspace projects changing the landscape

Uber Curb Studies

Cincinnati, San Francisco



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Curbspace Project Examples

Curbspace projects changing the landscape

Safer Taylor Street

San Francisco

Bus/Bike Interface

LA Metro

Colorado Esplanade

Santa Monica

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Future Considerations (now!)

Curbspace technology evolution

SELF-DRIVING TOMATOES —

Kroger will use autonomous vehicles to deliver groceries this fall

Self-driving delivery startup Nuro scores major deal with Kroger.

TIMOTHY B. LEE - 6/28/2018, 8:13 AM

TOPICS

Los Angeles Times

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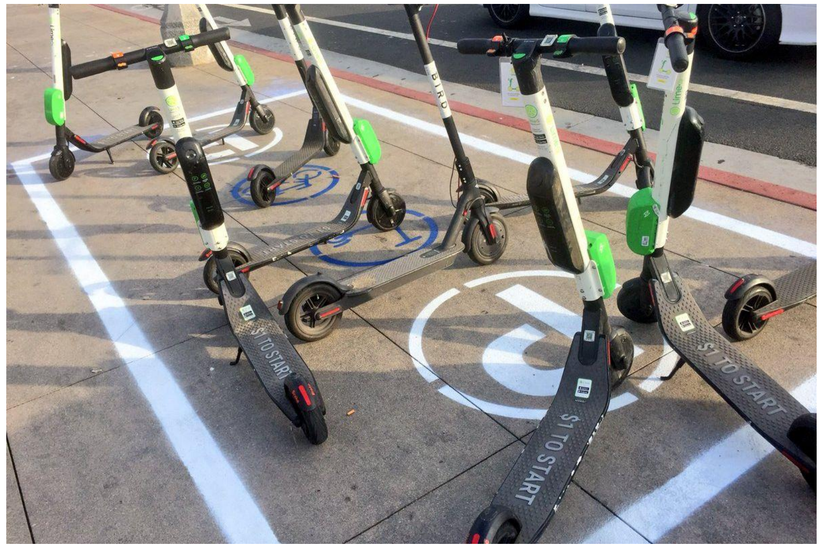
Nipsey Hussle hac for South L. with a trip t

San Diego is chosen to be test bed for autonomous drone deliveries

By JENNIFER VAN GROVE
MAY 11, 2018 | 3:00 AM

A remote aerial vehicle that online retailer Amazon.com hopes to develop to deliver goods to customers takes flight. (Amazon / Getty Images)



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