Steve Davis

Fehr & Peers

San José, CA

s.davis@fehrandpeers.com

June 28, 2019

Introduction to the **ITE Guide**

- Planning Considerations
- Available Tools and Treatments
- Treatment Selection Process
- Performance Measurement
- Future Considerations
- Additional Resources
- Implemented Strategies and Projects

What is **Curbside Management**?

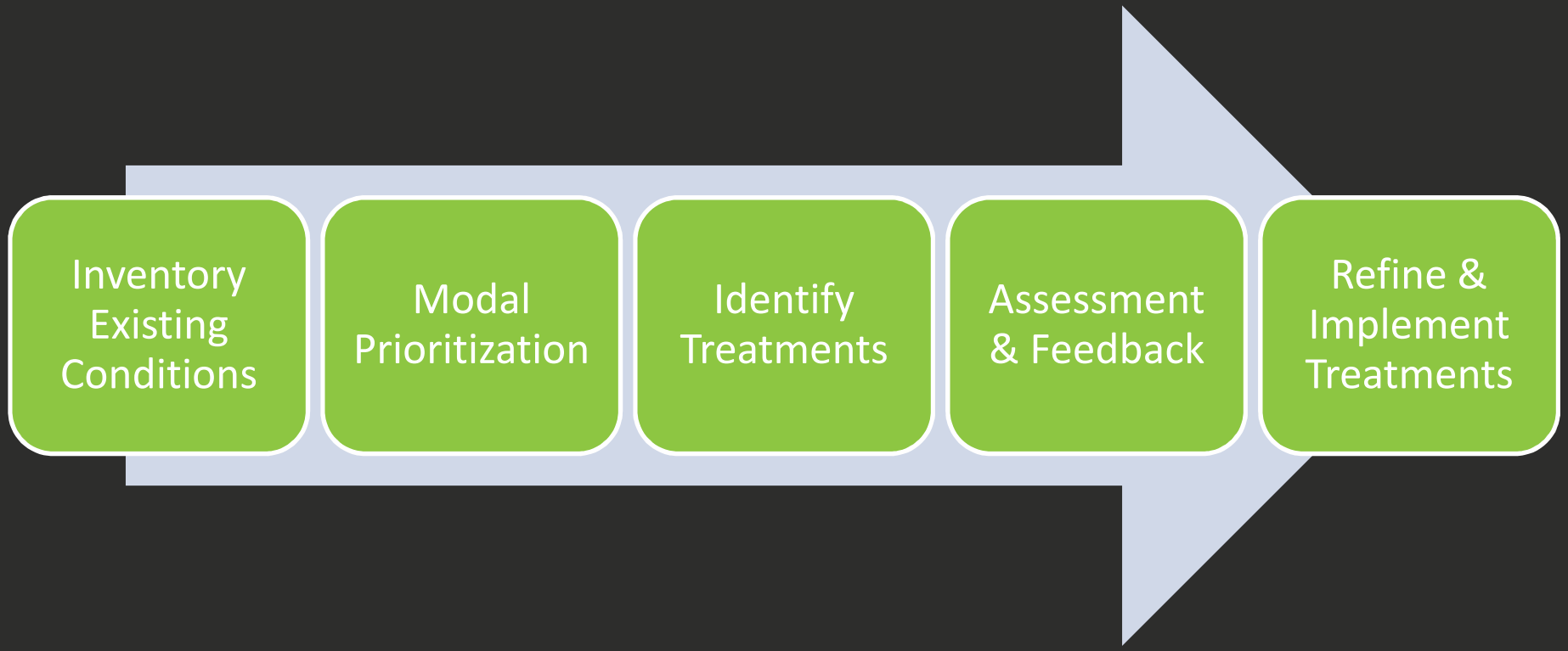
FUNCTION	DEFINITION	USES
 MOBILITY	Moves people and goods	• Sidewalks • Bus or streetcar lanes • Bike lanes • General purpose travel lanes – includes freight • Right- or left-turn only lanes
 ACCESS FOR PEOPLE	People arrive at their destination, or transfer between different ways of getting around	• Bus or rail stops • Bike parking • Curb bulbs • Passenger load zones • Short-term parking • Taxi zones
 ACCESS FOR COMMERCE	Goods and services reach their customers and markets	• Commercial vehicle load zone • Truck load zone
 ACTIVATION	Offers vibrant social spaces	• Food trucks • Parklets and streateries • Public art • Seating • Street festivals
 GREENING	Enhances aesthetics and environmental health	• Plantings - Boulevards - Street trees - Planter boxes • Rain gardens and bio-swales
 STORAGE	Provides storage for vehicles or equipment	• Bus layover • Long-term parking • Reserved spaces (e.g. for Police or other government use) • Construction

Source: City of Seattle

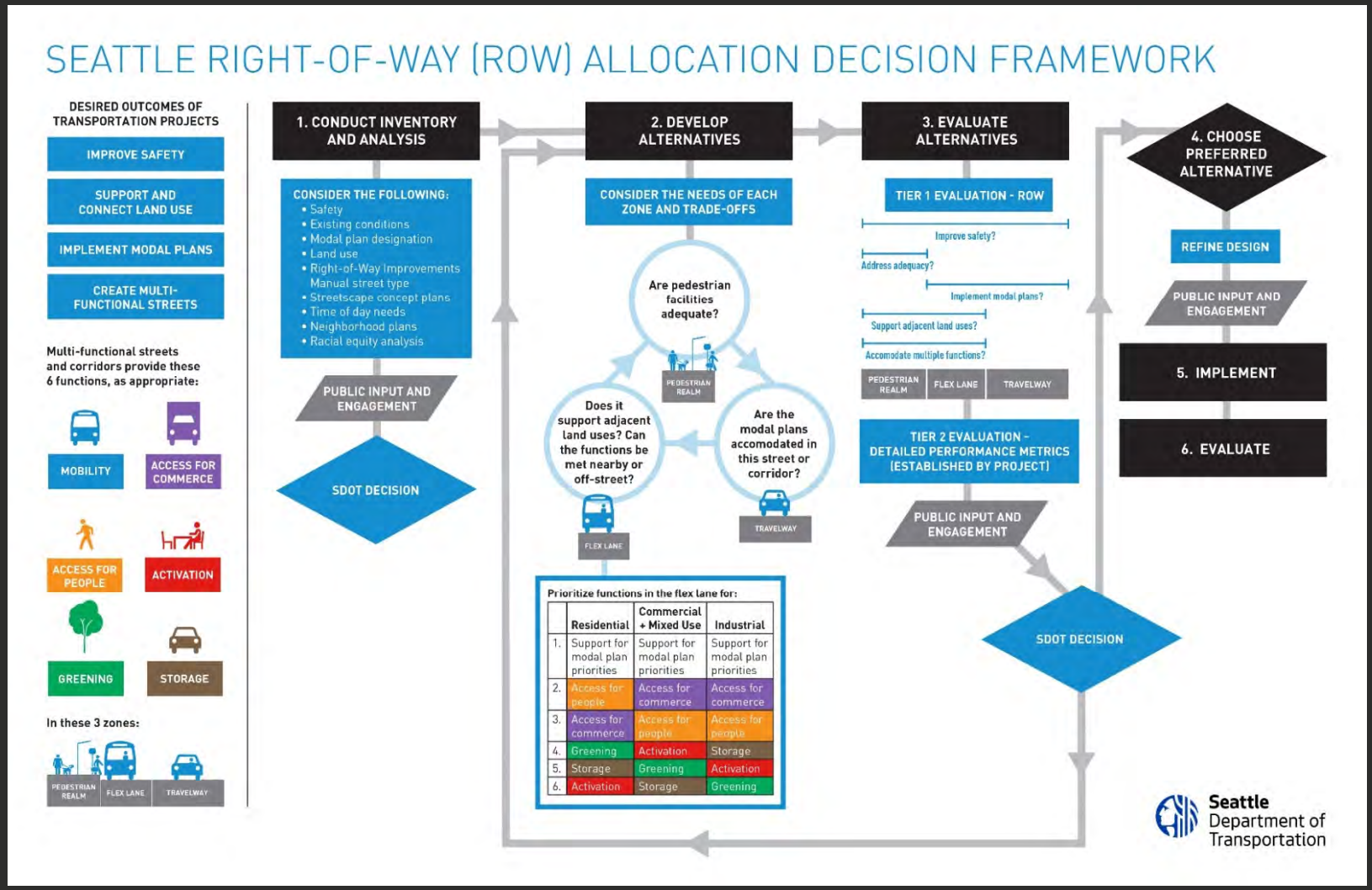
Available **Tools and Treatments**

- Planning and Implementation
- Access to Loading/Unloading Zones
- Parking
- Transit
- Bicycles
- Pedestrians and Activation

Treatment Selection **Process**



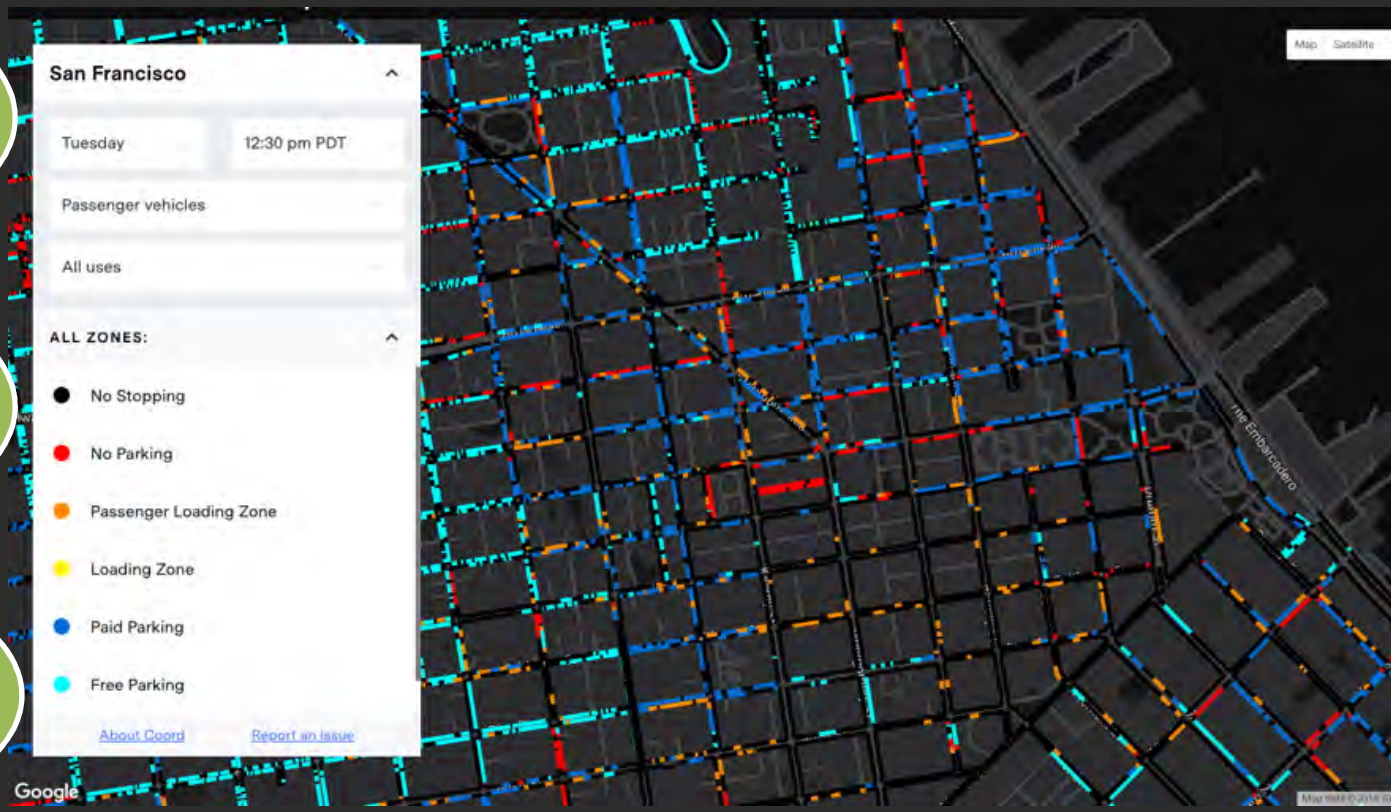
Treatment Selection **Process**



Source: City of Seattle

1. **Inventory** Existing Conditions

- Policies & Codes
- Supply & Utilization
- Needs & Opportunities



Source: Coord

2. **Modal** Prioritization

Sample Priorities

- Transit Priority
- Bicycle Priority
- Pedestrian Priority
- Major Thoroughfare
- Mixed-use Main Street
- Mixed-use Access

Source: David Smith, Chicago Department of Transportation

3. **Identify** Treatments

Source: Uber Curb Studies, Fehr & Peers

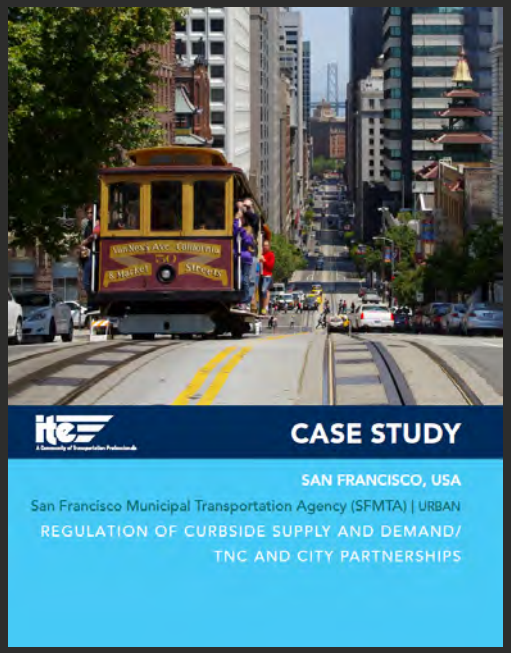
4. **Assessment &** Feedback

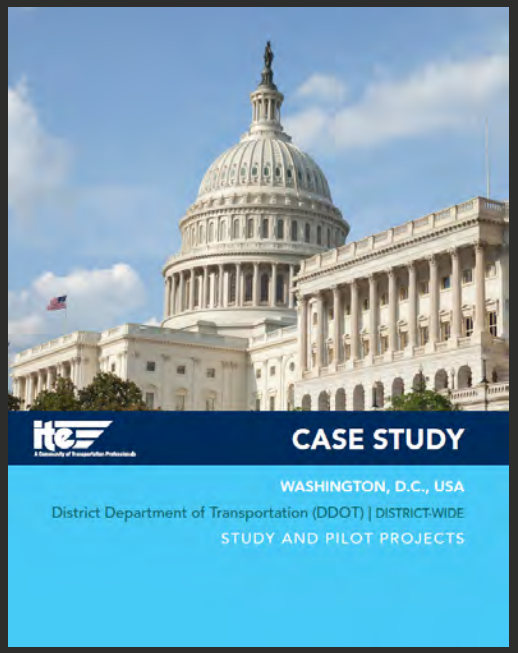
Source (Both): Fehr & Peers

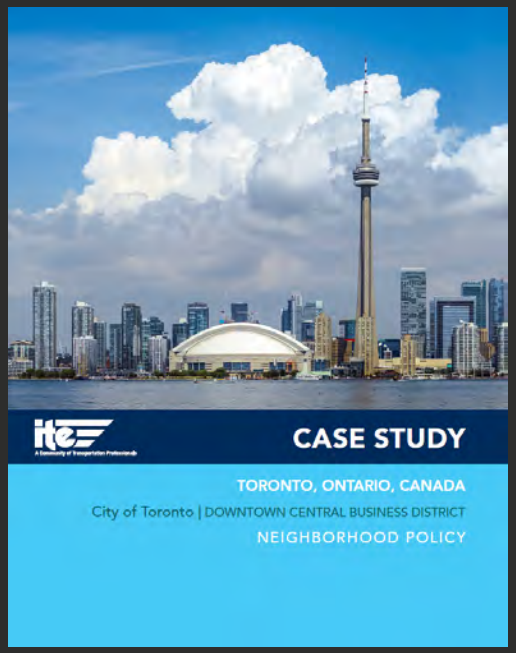
5. **Refine & Implement** Treatments

Source: Fehr & Peers

Additional **Resources**



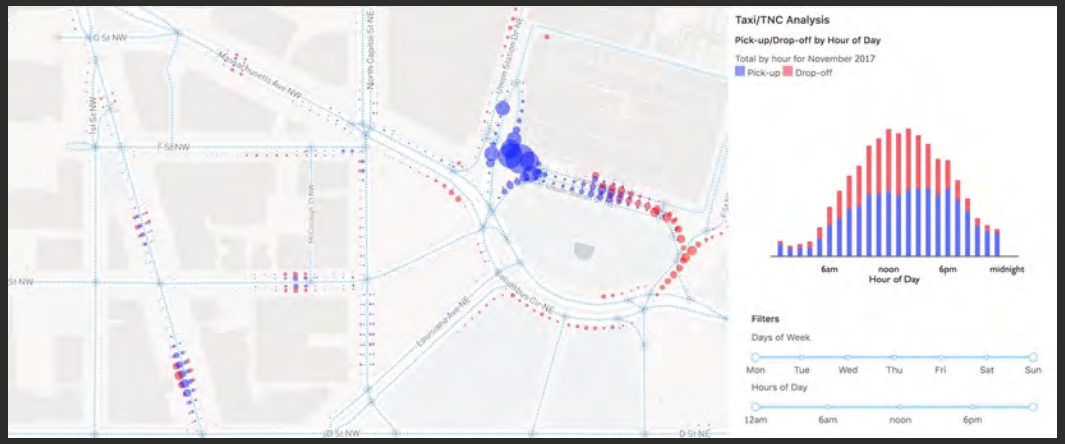




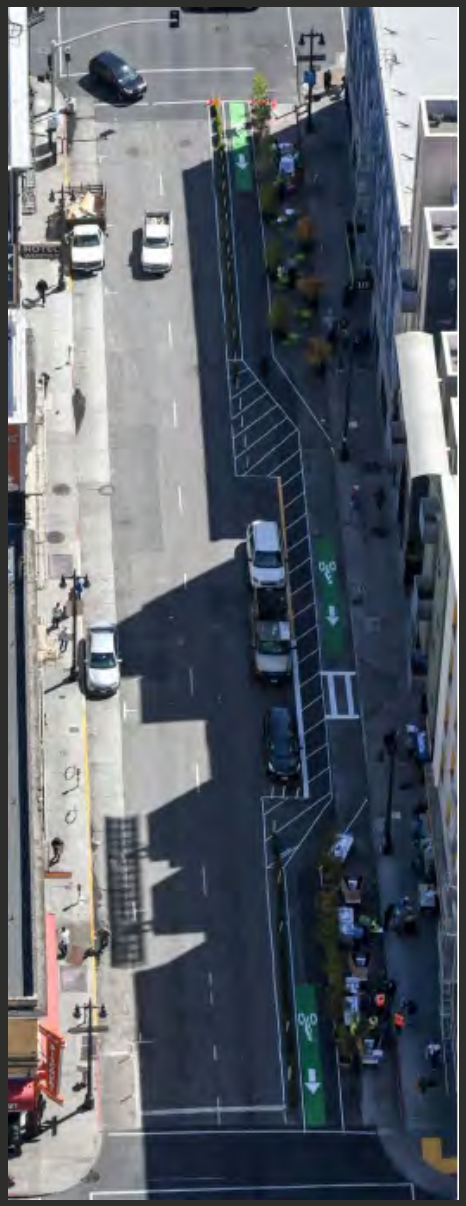
https://www.ite.org/technical-resources/topics/complete-streets/curbside-management-resources/

Potential **Next Steps**

- Data Collection Methods
- Tool Development
- Additional Case Studies
- Pilot Projects



Source: SharedStreets



Source: Fehr & Peers

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June 28, 2019

District Department of Transportation
Parking and Ground Transportation Division

Intro to Curbside Management

Tuesday, June 11, 2019

District Department of Transportation
Parking and Ground Transportation Division

Intro to Curbside Management: Downtown Core

DATE

District Department of Transportation
Parking and Ground Transportation Division

Intro to Curbside Management: Neighborhood Centers

DATE

District Department of Transportation
Parking and Ground Transportation Division

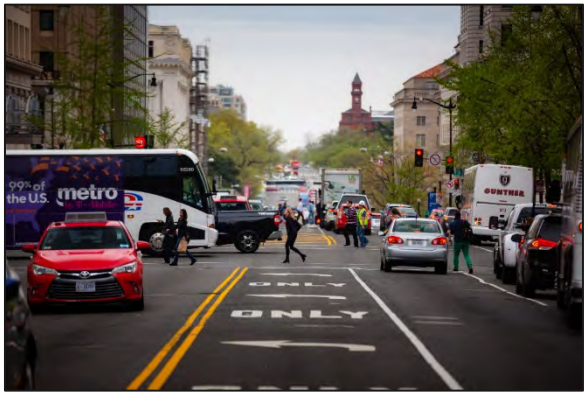
Intro to Curbside Management: Residential Areas

DATE

Background

The District Department of Transportation (DDOT) plans, designs, builds, operates, and maintains the public right of way.

- Curbside management
  (parking, pick-up/drop-off, freight, and other uses)
- Sidewalks and uses of the sidewalk
  (cafes, bike infrastructure, etc.)
- Street trees
- Major projects (e.g. South Capitol Street Bridge)
- Transit
  (Streetcar, DC Circulator, Capital Bikeshare, scooters)
- Development review
  (Curbside policy, streetscaping, accessibility requirements)



Picture it…DC's curbside…20th Century

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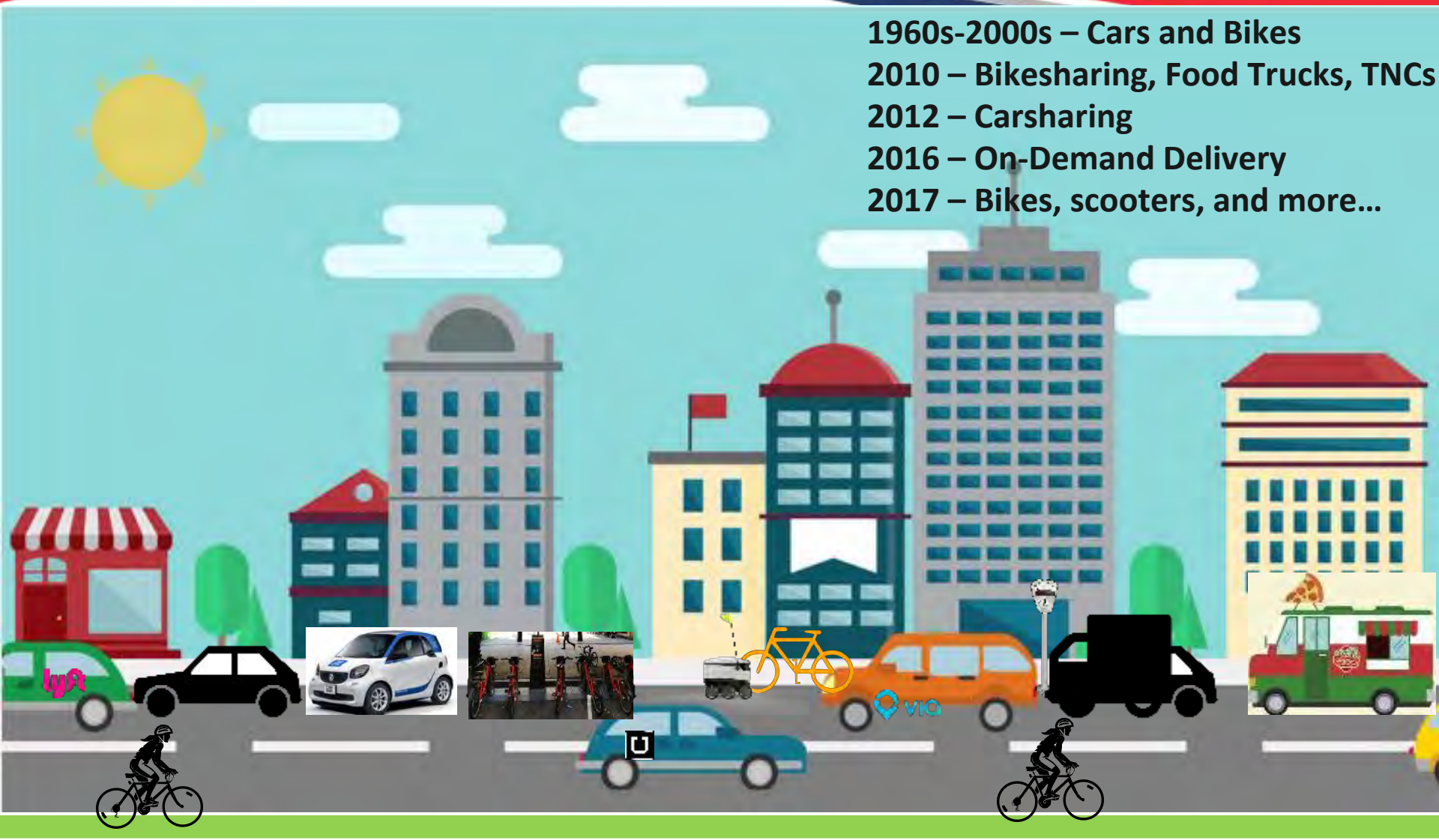
An evolving curb…



Background image from: https://realtyleadership.com/oh-the-places-youll-go/

Curbside Management Activities

- **Parking**
  - Policy (residential, commercial, carsharing, motorcoach)
  - Asset management (signs, meters, pay-by-cell)
  - Coordination of enforcement (DPW, MPD, DFHV)

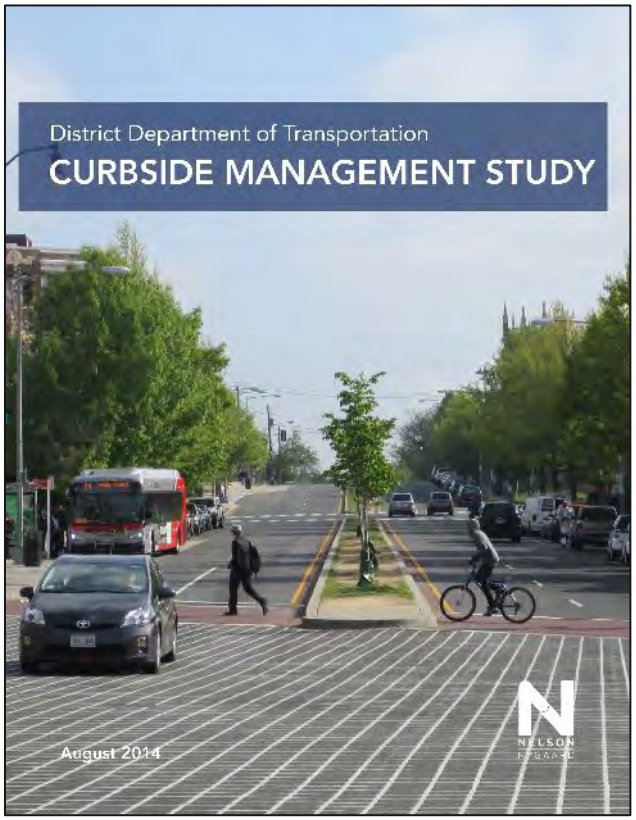
- **Curbside Access**
  - Passenger loading/unloading (pick-up/drop-off, Uber/Lyft/Via/taxi)
  - Goods loading/unloading (freight, parcel service, on-demand delivery)
  - Vending (stationary vendors, food trucks)
  - ADA Compliance (DDOT Office of Human Rights)

- **Multimodal Transportation**
  - Transit (Metrobus, DC Circulator, commuter bus)
  - Bicycle infrastructure (lanes, cycle tracks, multimodal paths, bike racks, etc.)
  - Dockless bike/scooter

Curbside Management Study

- **Vision**
  - The District's curbsides can support diverse commercial areas within the District.
  - Residents can generally expect to park within walking distance of home.
  - All modes of access are comfortable, efficient, and attractive.

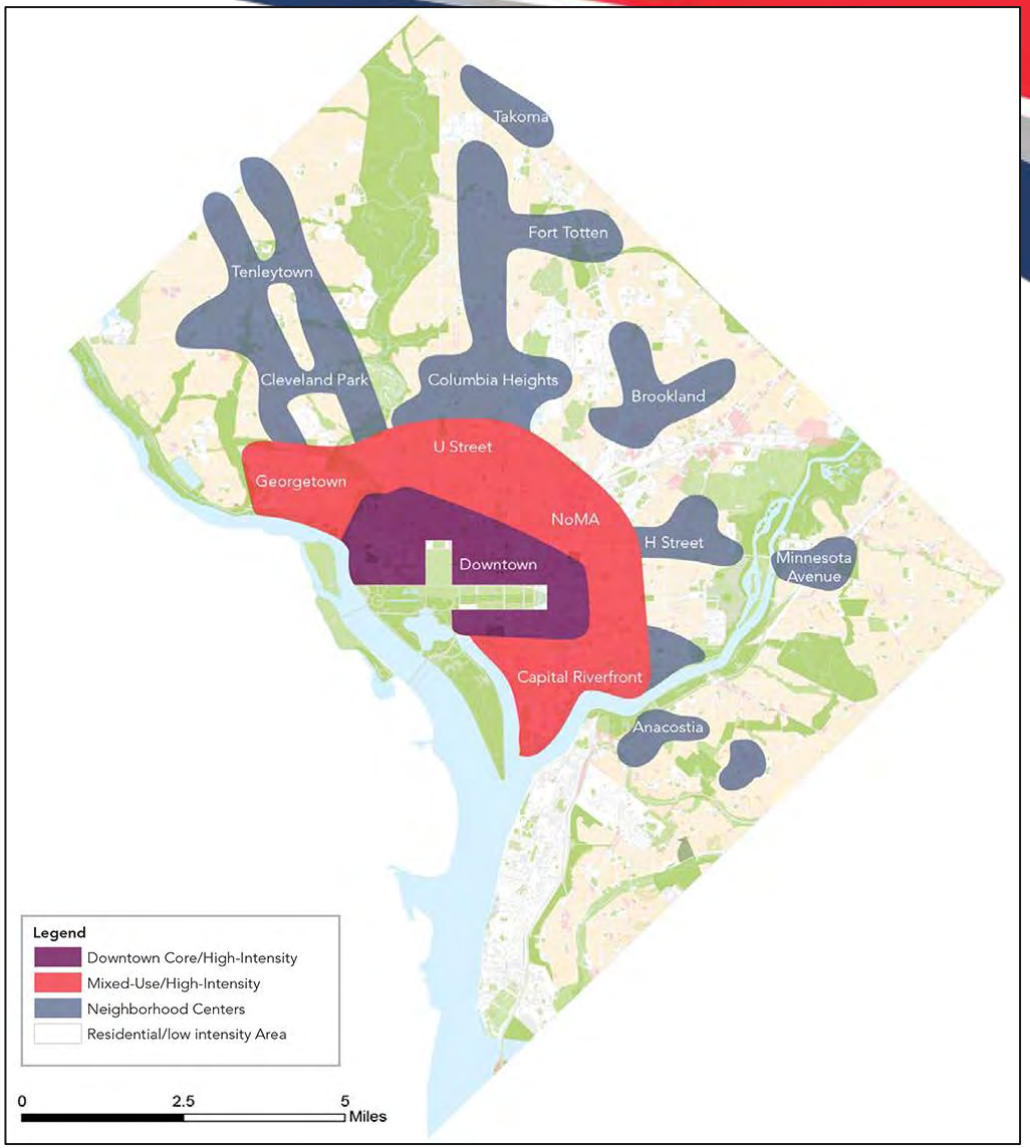
- **Goals**
  - Preserve residential access for residents.
  - Prioritize customers and commercial vehicles in commercial areas.
  - Ensure the safety of *all* transportation users including pedestrians, cyclists, transit riders, and motorists.



Curbside Management Strategies

- Different parts of the District have radically different land use and community contexts.
- Curbside management should respond to the native context, demands, and needs of the District's diverse neighborhoods.

- Although every neighborhood is unique, most fall into one of four broad context types:
  - **Downtown Core/High Intensity**
  - **Mixed-Use/High-Intensity**
  - **Neighborhood Centers**
  - **Residential/Low-Intensity**



Curbside Management Strategies

- DDOT's Curbside Management Study identifies general approaches to the different neighborhood types in pursuit of the vision.
- These approaches ensure the proper tools are used to properly manage the curbside needs of each community.

Zones	Managed Availability	Resident Protection	Equitable Access	Local Amenity Support
Downtown Core	X			
High-Intensity	X			
Neighborhood Commercial (established)	X			X
Neighborhood Commercial (emerging)			X	X
Residential Low-Intensity (high-demand)	X	X		
Residential Low-Intensity (low-demand)		X	X	

Curbside Management Strategies – Downtown Core/Mixed-Use

- **Loading and delivery**: right-sized loading zones; appropriate hours and pricing.
- **Mass access**: appropriate policy and infrastructure for transit and other mass modes/sustainable transport.
- **Metered parking**: demand-responsive pricing and appropriate hours; enhanced monitoring via new technology.

- **Residential parking**: limited RPP with demand-responsive pricing; exclude new residences.
- **Visitor parking**: limited and paid use for visitors; tech-facilitated registration and automated enforcement.

Curbside Management Strategies – Neighborhood Centers

Established Areas

- **Mass access**: policy/infrastructure for transit and other mass modes/sustainable transport.
- **Loading and delivery**: right-sized loading zones, hours, and pricing.
- **Residential parking**: escalating rates for permits; exclude new residences; pay-to-park for non-residents; smaller zones.

Emerging Areas

- **Metered parking**: smart meters, occupancy monitoring, price-managed occupancy.
- **Loading and delivery:** enforcement of loading zones.
- **Residential parking**: confirm demand with monitoring; demand-responsive pricing for non-residents.
- **Visitor parking**: free limited number allocation to residents; Flex-pass type permit.

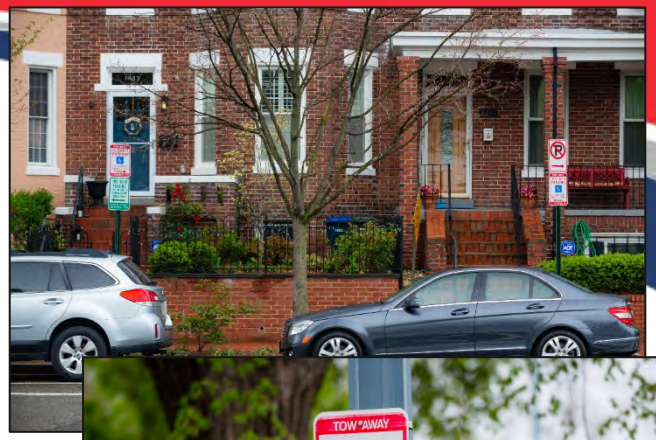
Curbside Management Strategies – Residential Areas

High Demand

- **Residential parking**: demand-based pricing; escalating rates for permits; maximum permits per household; smaller zones.
- **Visitor parking**: limited low-cost visitor passes; usage tracking; resident visitors and guests-only Flex-pass.

Low Demand

- **Residential parking**: confirm need for residential protection; remove curbside regulations where not needed, low-cost permit elsewhere.
- **Visitor parking**: free per day permits, Flex-pass type permit.



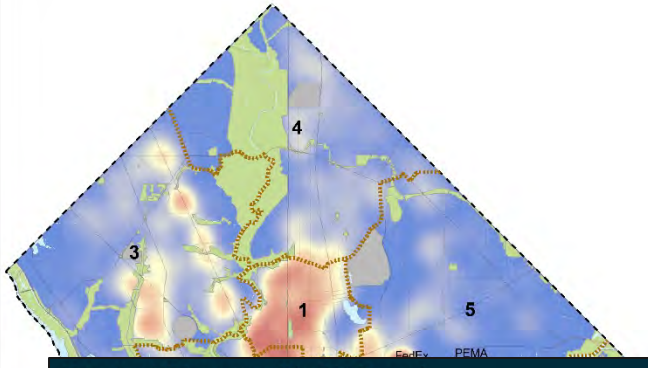
Sample Curbside Management Resources

DRAFT Dupont/Kalorama Neighborhood Parking Toolkit (6/20/2016)

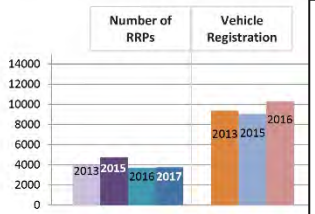
Data collection results	Recommendations	Implementation Action
NA	Identify opportunities for additional spaces with community walkthrough	Potential administrative actions for curb cut closures)
uration of RPP permits: PP vehicles in N Dupont is 170% more than RPP spaces in N. Dupont PP vehicles in Kalorama is only 5% less than the number of RPP spaces orama PP vehicles in S. Dupont is 258% more than the number of RPP spaces ernight occupancy in N. Dupont (more than 90%)	• **Define a ceiling for the number of RPP permits than can be obtained per household** • **Demand responsive permit pricing** ○ **Based on the number of permit per household** ○ Based on the ratio between the number of registered cars on the block and # of RPP spaces (operational implications) ○ Based on on-site parking availability (equity concerns)	**Requires legislation**
ehicles in North Dupont/Kalorama are intra-ward plated vehicles of Ward 2 RPP vehicles is 5.7 times more than RPP spaces in N. 15.5 times more than RPP spaces in Kalorama, and 43 times more than ces in S. Dupont	• **Revisit RPP Zone sizes (smaller RPP zones, or creation of ANC based subzones)** ○ **Residents can only park in their ANCs** ○ **Residents can pay an additional fee to be able to park in other Ward 2 ANCs**	Requires legislation

DDOT Curbside Inventory

Registered Vehicles Per Residential Parking Permit Spaces



Existing Conditions: Demand in Petworth



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Curbside Management…Like a Marathon, not a Sprint!

District Department of Transportation

DeAngelo Baynes - presenter
Curbside Manager
DeAngelo.Baynes@dc.gov
Prepared by:
David C. Lipscomb
Curbside Management Planner
David.Lipscomb@dc.gov

How New Mobility is Changing Parking and the On and Off-Street Curb

Chrissy Mancini Nichols
American Planning Association
June 27, 2019

WALKER CONSULTANTS

OBJECTIVES

- TNC and AV projections and planning for growth
- Lessons learned and design ideas for on and off-street curbs
- What we need to consider when implementing curb management plans and policies

Will Parking Become the Dept. of Loading and Unloading?

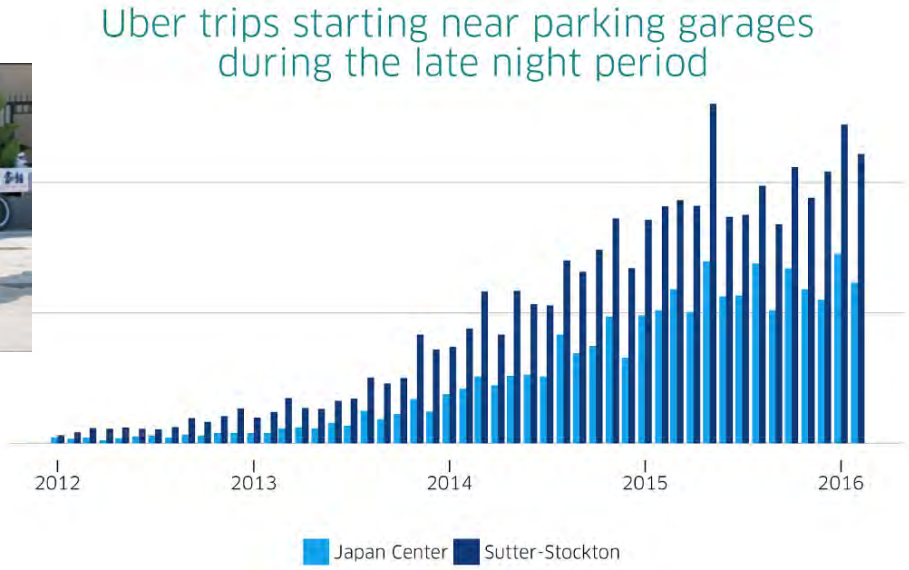
gt government technology

Uber, Lyft and Other Mobility Options are Shaking Up Parking

The 2018 Emerging Trends in Parking report by the International Parking Institute points to a growing need to think of parking facilities as more than just places to park cars.

The New York Times

Forget Tanning Beds. College Students Today Want Uber Parking.



Some project 90% of parking will disappear by 2030

Reality:

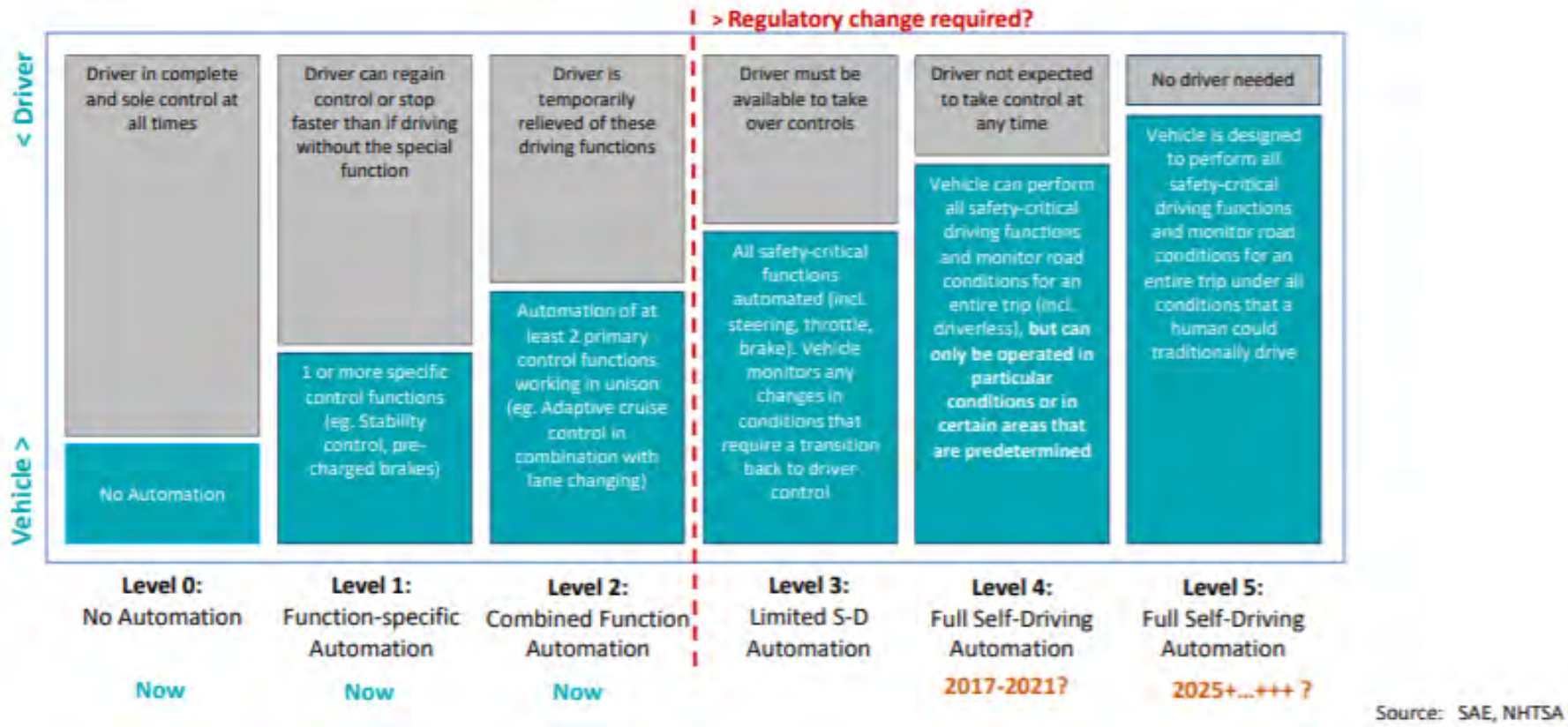
- Requires mass adoption of shared rides
- Most of the U.S. population lives in suburban areas
- Requires changes in federal and state law
- Requires fees and investment in smart infrastructure

BIGGEST CHALLENGE: HUMANS!

1. AV Technology & Smart Infrastructure

2. Consumer Acceptance

L0-L2 ARE ON THE MARKET; L4 IS IN TESTING; L5 IS MUCH LATER



Source: SAE, NHTSA

AV IMPACT ON PARKING DEMAND

Greatest Impact Will Be in Dense Urban Areas and Those With High Parking Costs

15% -40%

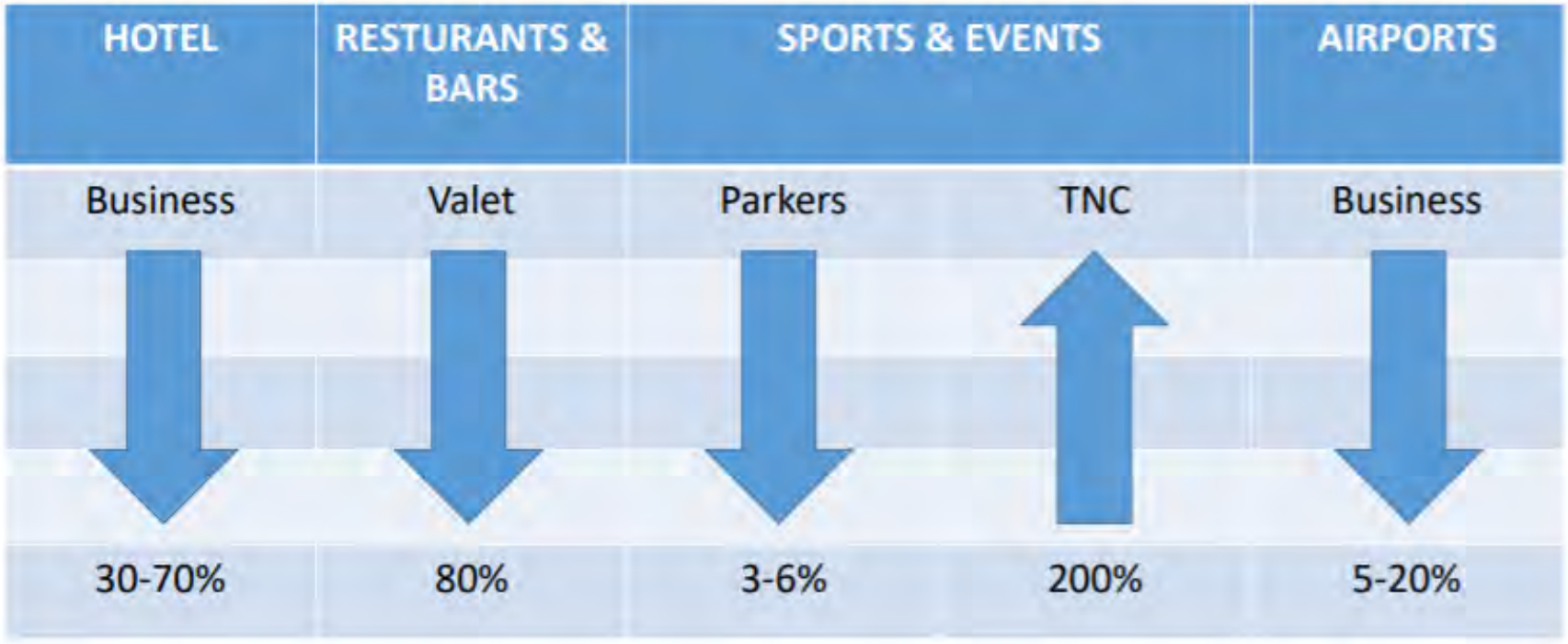
Decrease in Parking Demand*

2020-2040

Market Penetration Timeline

* Projection

TNC IMPACT ON PARKING TODAY = CURB CONGESTION IN THESE LOCATIONS

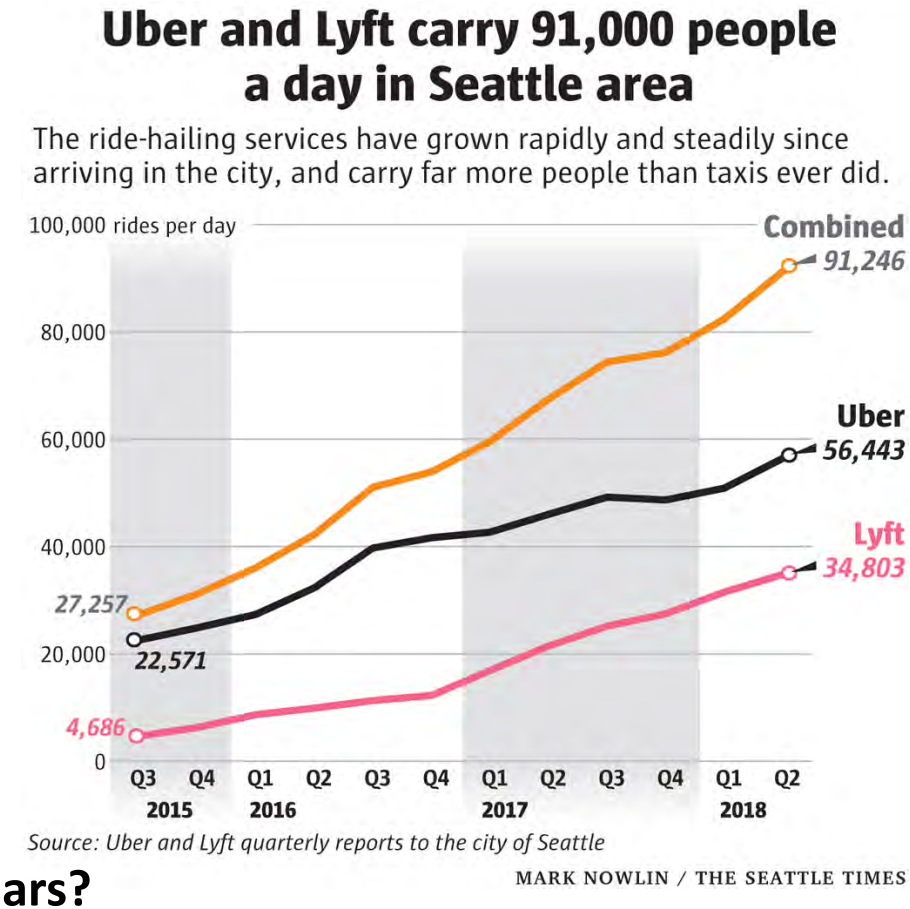


Source: Walker Consultants

HAVE TNCs REACHED MAXIMUM PENETRATION?

Not that we can tell!

- 36% of U.S. adults say they have used a TNC as of fall 2018 and only 3% have never heard of it (per Pew Research)
  - Just 15% of Americans said they had used it in late 2015, and one-third had never heard of ride-hailing before
- TNCs estimated to have provided more than 31 million trips in Seattle in 2018 (Seattle Times)
  - At their peak, before Uber and Lyft arrived, Seattle taxicabs provided just over 5.2 million trips in 2012
- By some estimates TNCs captures 2% of all trips in major metro areas today (Seattle, SFO, DC, NY)
- And TNCs grew 5 times in the last 3 years



What if TNCs grow to 10% of trips in the next 10 years?

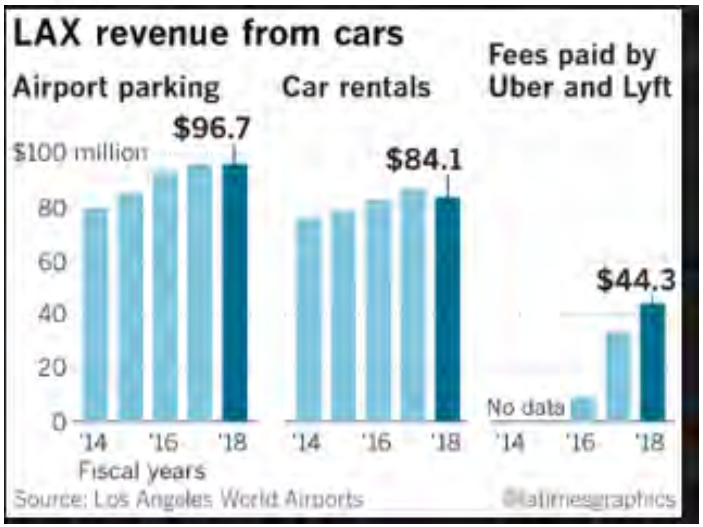
LESSONS LEARNED

The Economist

Not 'appy

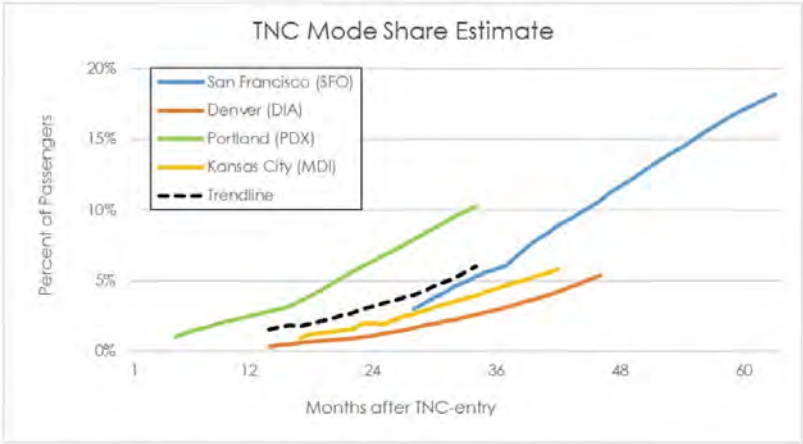
Airports have been hit by the rise of Uber and Lyft

They are looking at ways to make up falling revenues from car parking and car rentals



TNC IMPACTS AT AIRPORTS

- TNC impact on parking varies by airport
- Airports have not realized the impact of TNCs on parking revenues
  - Parking rates have increased and passenger enplanements are up
- Curb is congested
- Also impacting transit ridership to airports in major cities



Percentage of passengers using ride-hailing services when traveling to/from four major U.S. airports

Notes: Data indexed to peak (100%). Twelve-month running average, each month.

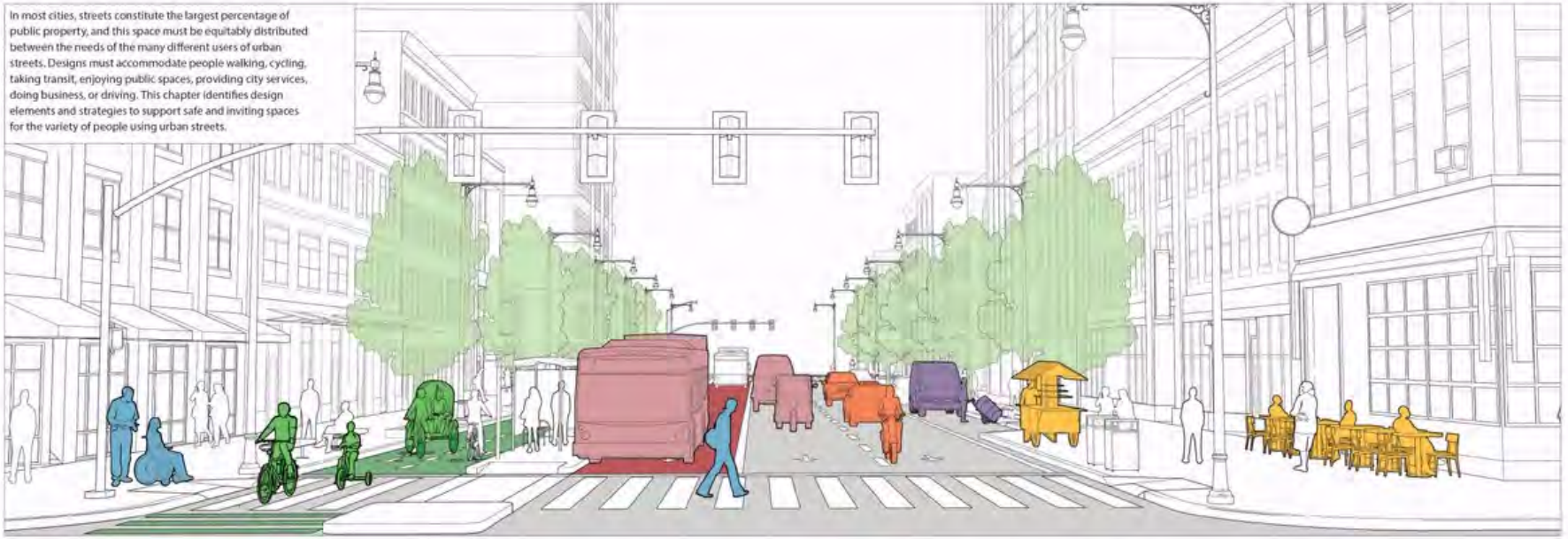
Source: National Renewable Energy Laboratory available at www.nrel.gov

AIRPORT TNC BEST PRACTICES

- Moving TNC pick-up off the curb to eliminate congestion and safety issues
  - Design pickup areas to expand should demand increase
- Contract agreement that defines TNC use
  - Pick-up and staging areas, vehicle and background checks, fees, compliance
- Annual and pick-up/drop-off fees that offset parking and other ground transportation revenue losses and associated TNC costs
- Limiting parking time and number of TNCs in staging area
- Audit TNC operations and compliance, real time data

New TNC Pick Up at SFO

MODES THAT SHARE THE STREET



Pedestrians

Pedestrians include people of all abilities and ages, sitting, walking, pausing, and resting within urban streets. Designing for pedestrians means making streets accessible to the most vulnerable users. Design safe spaces with continuous, unobstructed sidewalks. Include visual variety, engage building frontages, design for human scale, and incorporate protection from extreme weather to ensure an enjoyable street experience.

Cyclists

Cyclists include people on bicycles, cycle-rickshaws, and cargo bikes. Facilities should be safe, direct, intuitive, clearly delineated, and part of a cohesive, connected network to encourage use by people of all ages and confidence levels. Cycle tracks that create an effective division from traffic, are well coordinated with signal timing, and are incorporated in intersection design form the basis of an accessible and connected cycle network.

Transit Riders

Transit riders are people using collective transport such as rail, bus, or small collective vehicles. This sustainable mode of transportation dramatically increases the overall capacity and efficiency of the street. Dedicated space for transit supports convenient, reliable, and predictable service for riders. Accessible boarding areas promote safe and equitable use. The space dedicated to a transit network should be aligned with demand, meeting service needs without sacrificing streetscape quality.

Motorists

Motorists are people driving personal motor vehicles for on-demand, point-to-point transportation. This includes drivers of private cars, for-hire vehicles, and motorized two-and three-wheelers. Streets and intersections must be designed to facilitate safe movement and manage interactions between motor vehicles, pedestrians, and cyclists.

Freight Operators and Service Providers

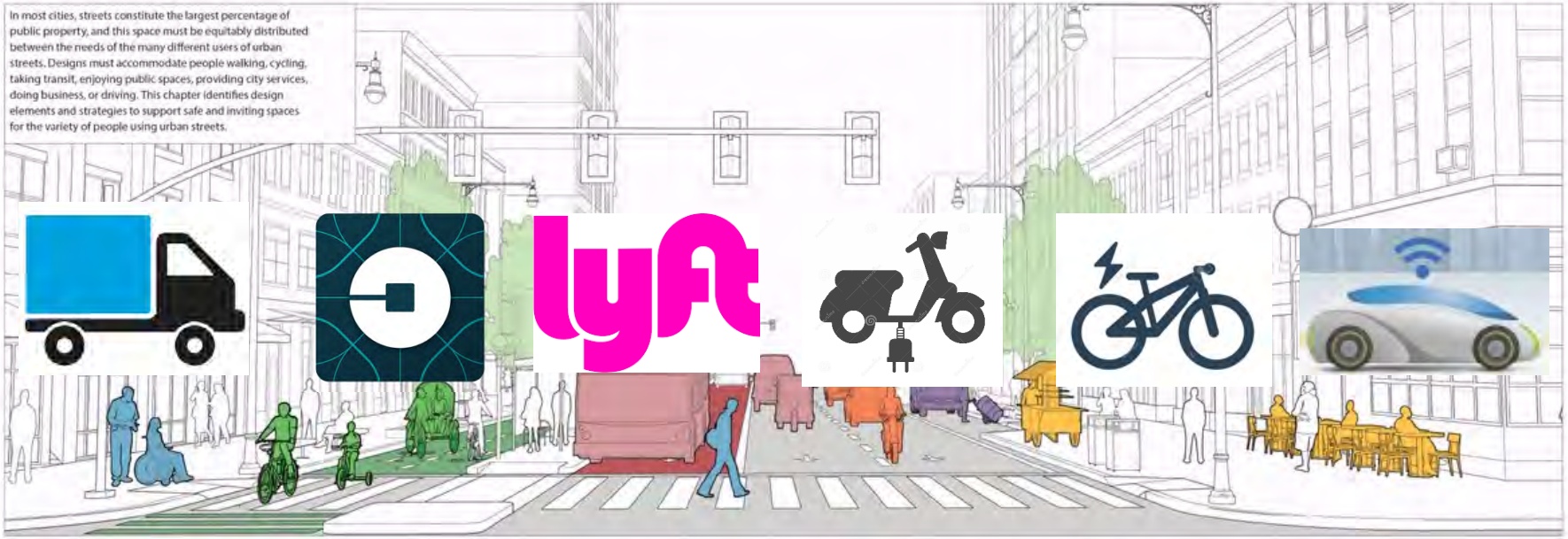
Freight operators and service providers are people driving vehicles that move goods or conduct critical city services. These users benefit from dedicated curb access and allocation of space for easy loading and unloading as well as dedicated routes and hours of operation. Emergency responders and cleaning vehicles need adequate space to operate, which must be accommodated while ensuring the safety of all other street users.

People Doing Business

People doing business include vendors, street stall operators, and owners or renters of commercial storefronts. These users provide important services that support vibrant, active, and engaging street environments. Adequate space should be allocated to these uses. Provide regular cleaning, maintenance schedules, power, and water to support commercial activity and improve local quality of life.

Global Designing Cities Initiative NACTO

PLUS NEW MODES THAT SHARE THE STREET



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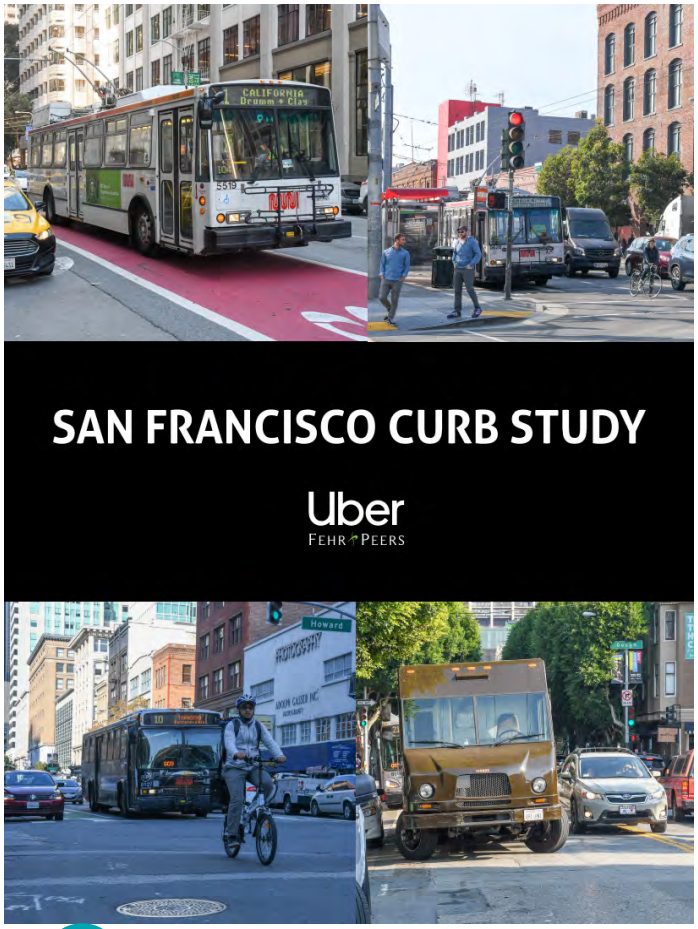
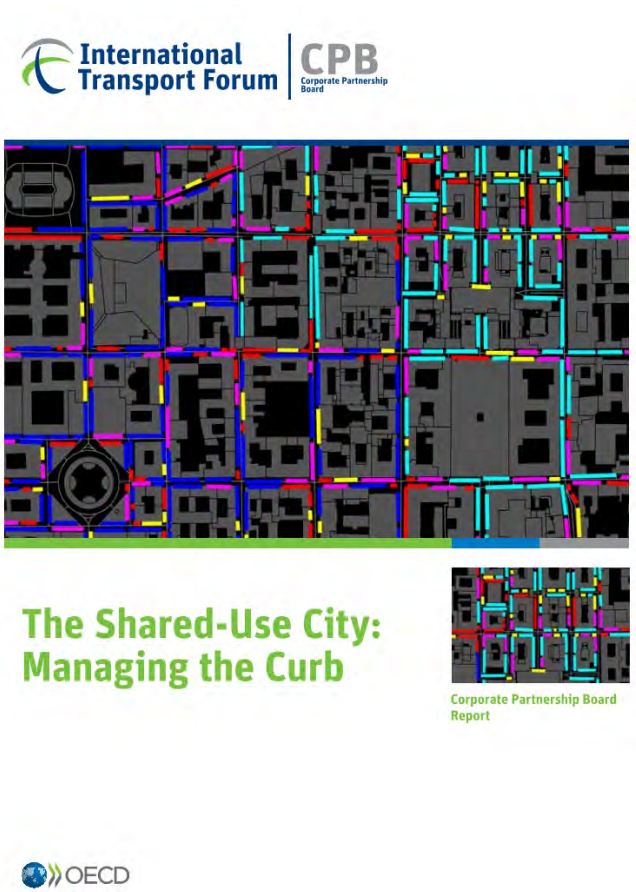
Global Designing Cities Initiative NACTO

RESOURCES

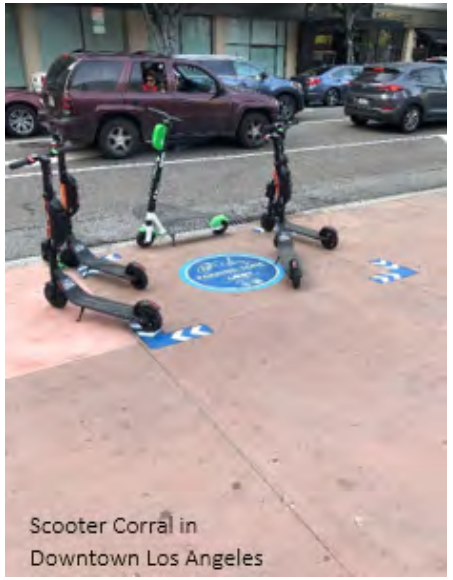

SAN FRANCISCO CURB STUDY
Uber
FEHR PEERS


International Transport Forum
CPB
Corporate Partnership Board
The Shared-Use City: Managing the Curb
Corporate Partnership Board Report
OECD


ite
A Community of Transportation Professionals
CURBSIDE MANAGEMENT PRACTITIONERS GUIDE

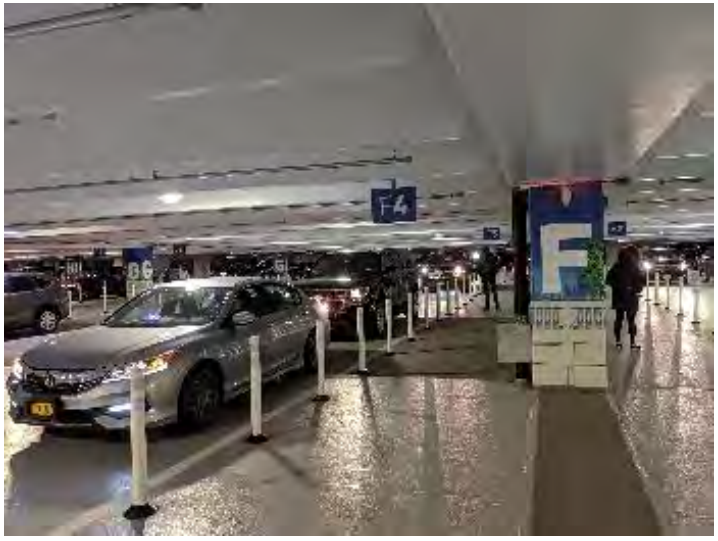
WE CAN…AND SHOULD… THINK/PLAN/DO NOW

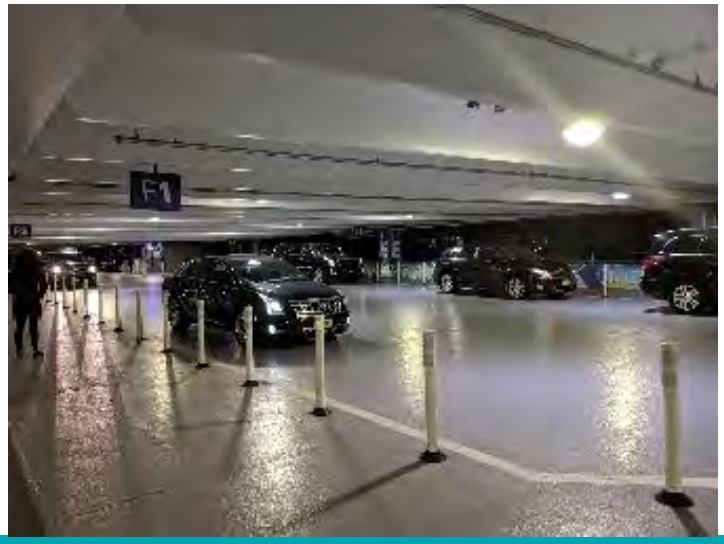
- Avoid over supply of parking
  - Provide just enough parking for commerce to thrive
  - Flexibility in planning
    - Shared parking, In-lieu fees, impact fees, TDM, parking districts, mechanical and automated parking
- Manage the curb
  - Street curb and garage curb
  - Plan for now and future demand
  - Flexibility is key
  - Fees for access
    - Analyze impact on parking revenues



Scooter Corral in Downtown Los Angeles

HOW MUCH CURB LENGTH?



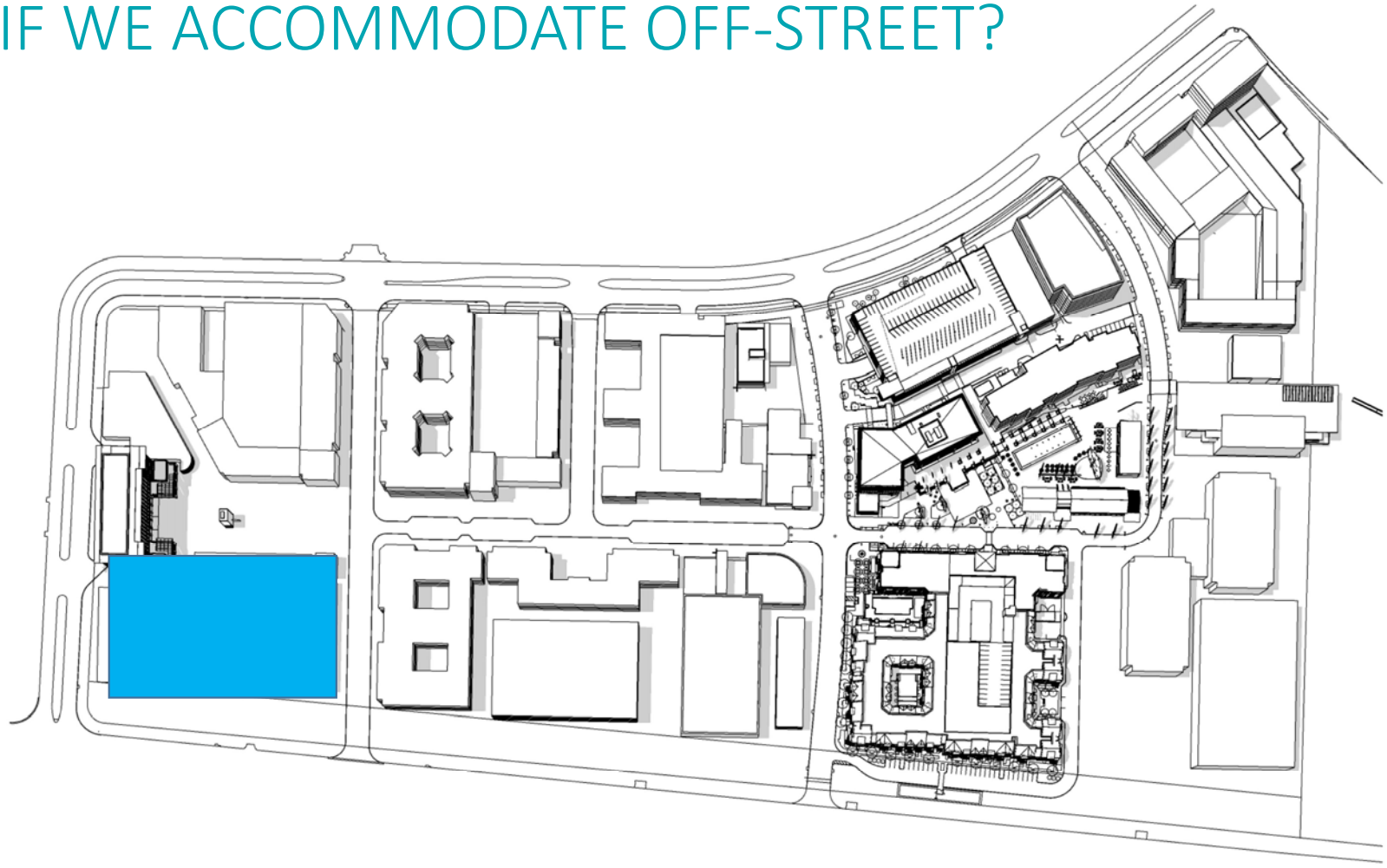



TERMINALS C/D

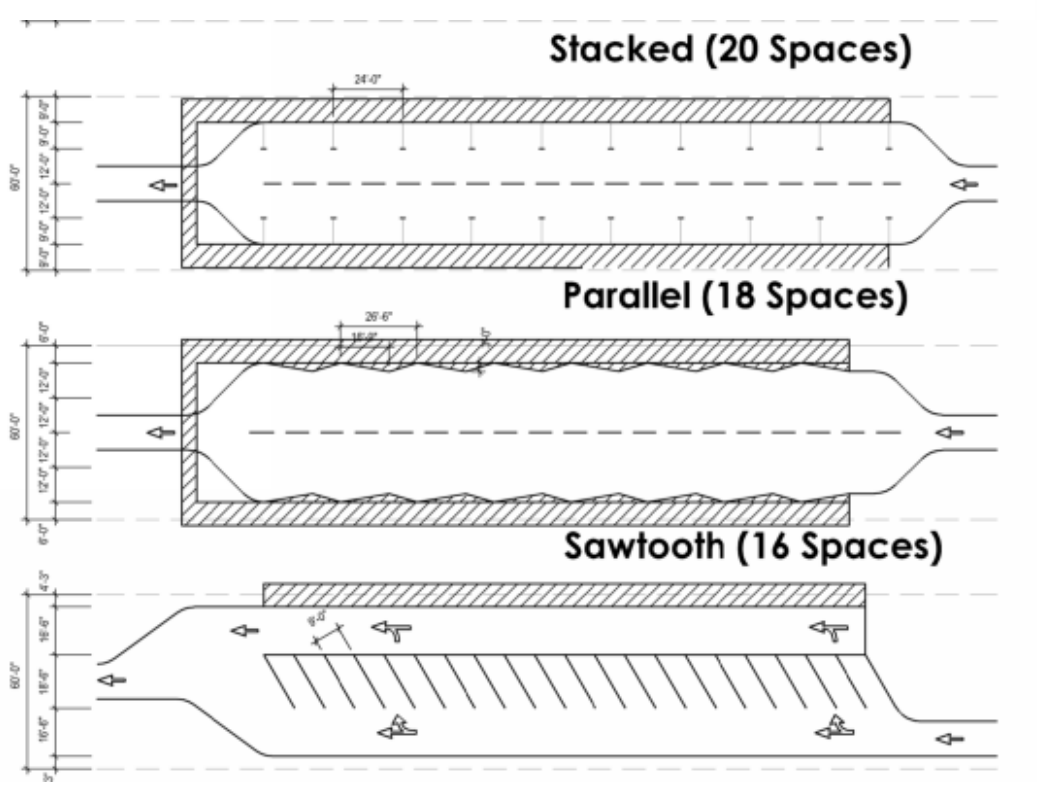
WHAT'S THE POTENTIAL DISRUPTION OF TNC?

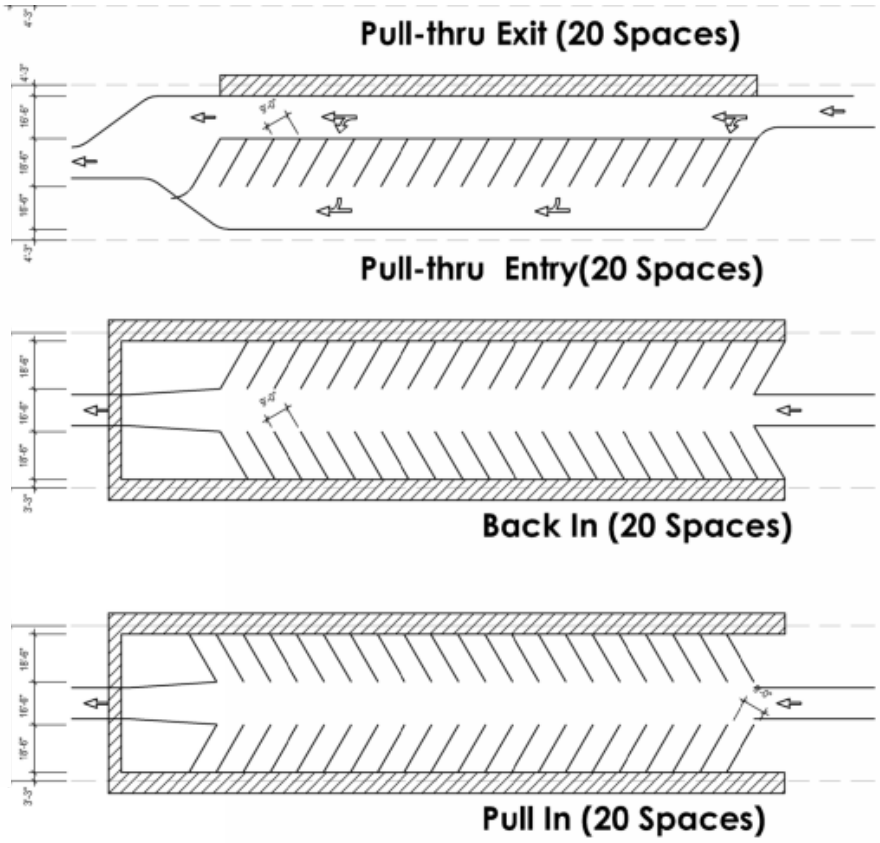
- Expected TNC current (600 linear feet)
- Potential TNC space future scenario (1,200 linear feet)

WHAT IF WE ACCOMMODATE OFF-STREET?

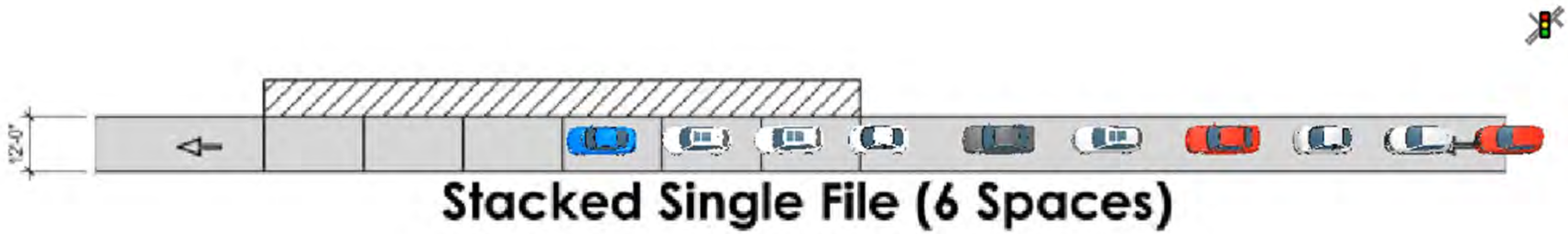


PARKING BAY CONFIGURATIONS

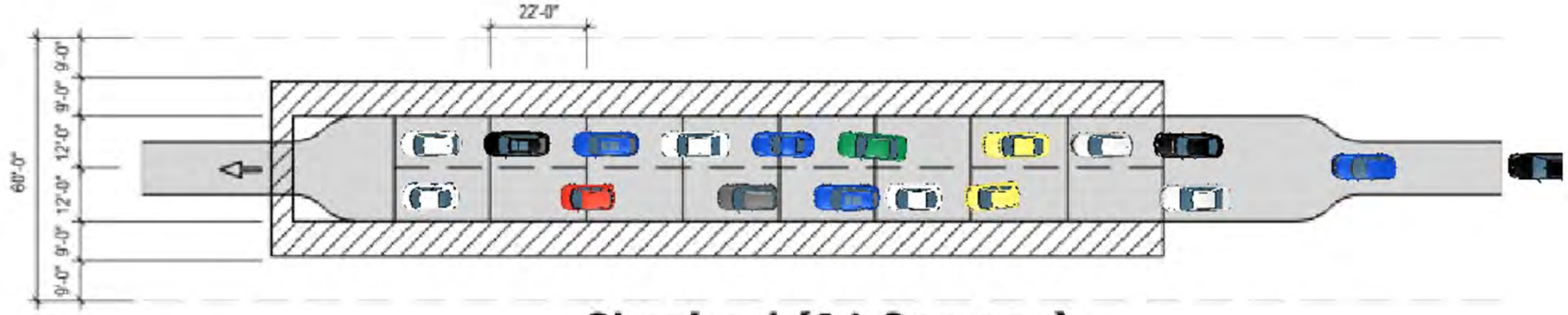




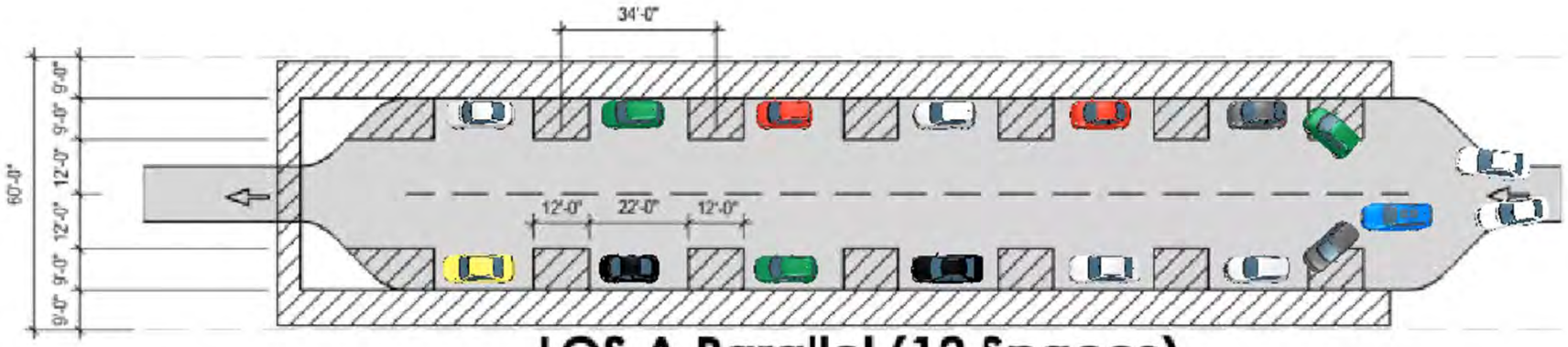
VIDEOS



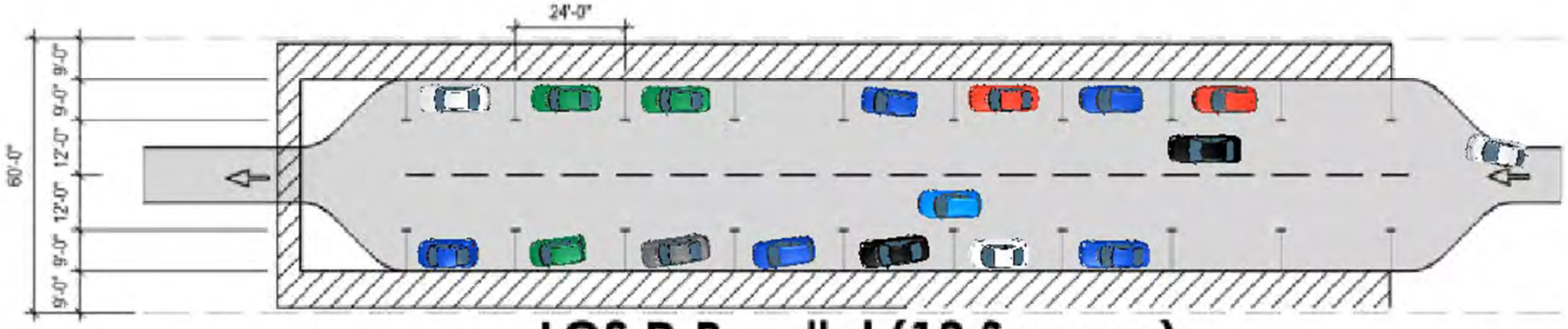
Stacked Single File (6 Spaces)



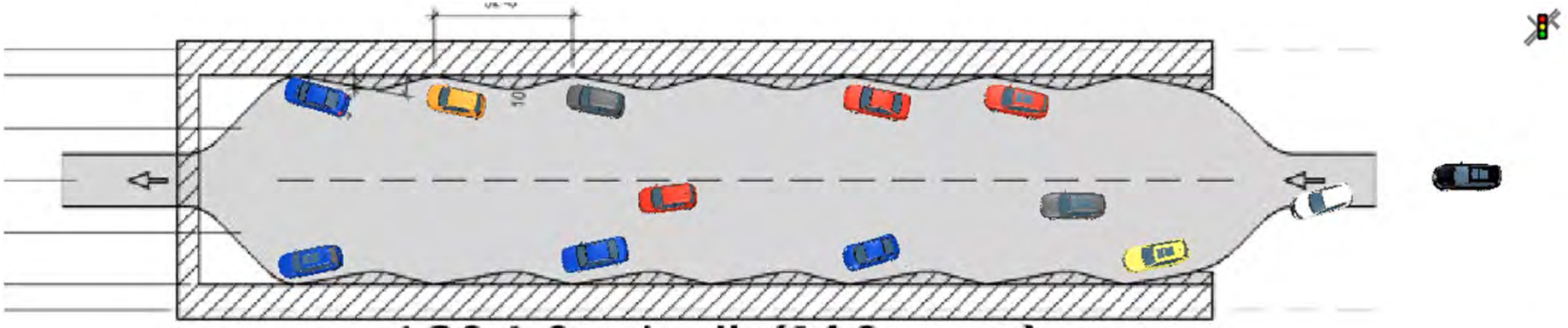
Stacked (16 Spaces)



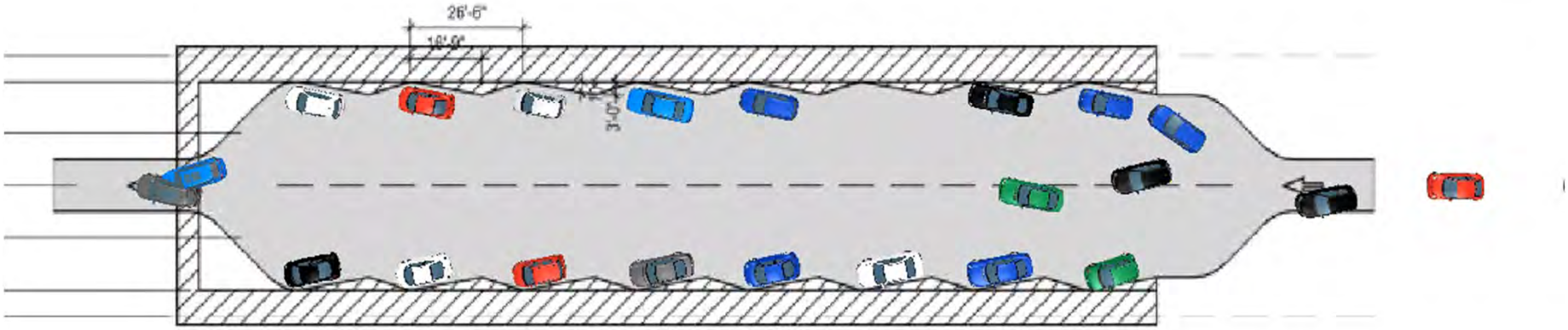
LOS A Parallel (12 Spaces)



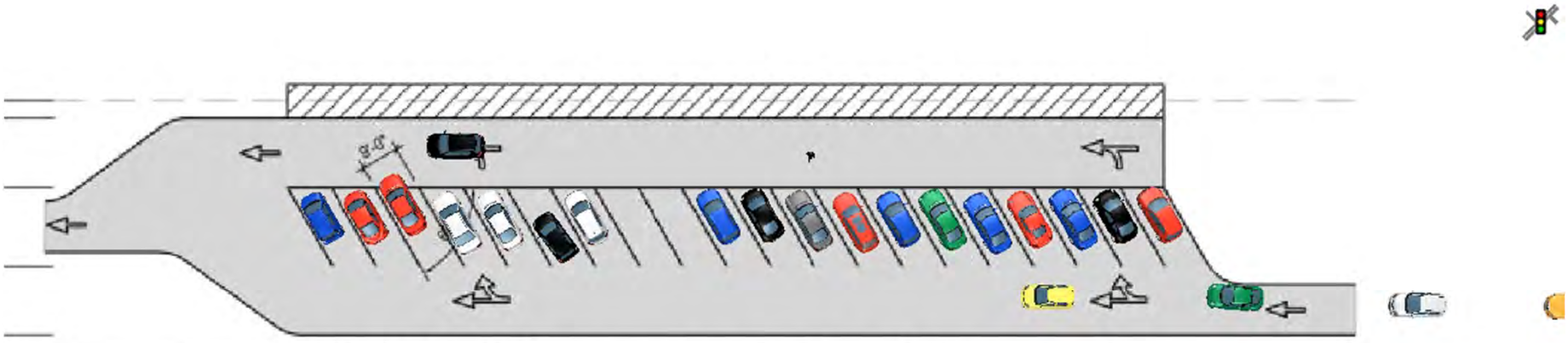
LOS D Parallel (18 Spaces)



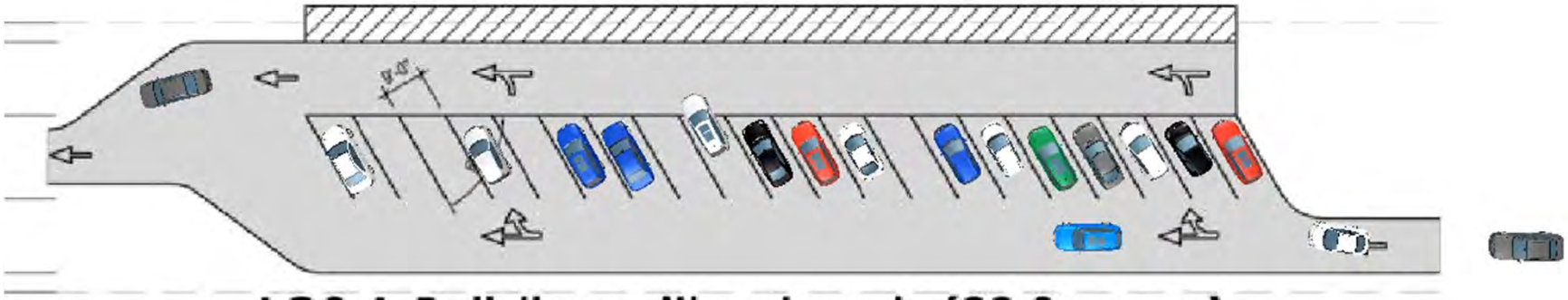
LOS A Sawtooth (14 Spaces)



LOS D Sawtooth (16 Spaces)



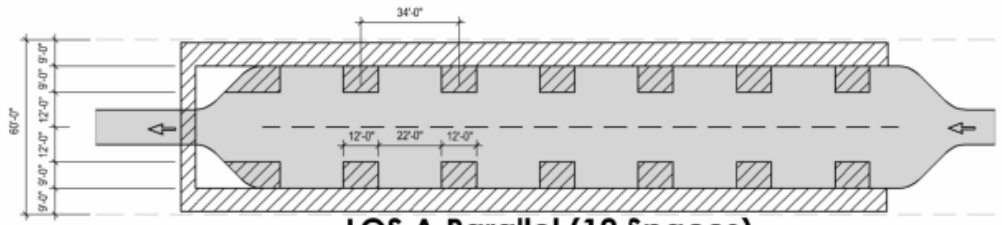
LOS A Pull-thru with peds (20 Spaces)



LOS A Pull-thru without peds (20 Spaces)

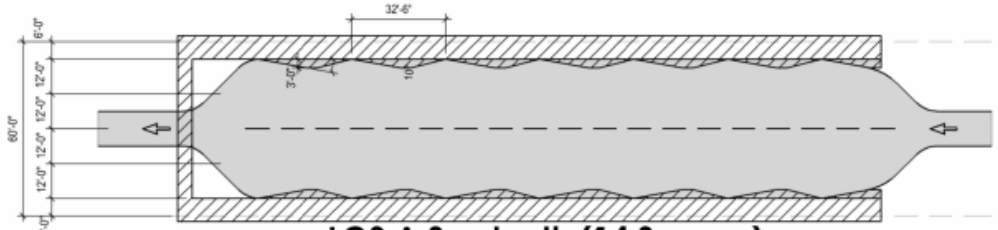
RECOMMENDATION: PULL THROUGH WITH PEDESTRIANS

- 12 spaces, 9’ waiting areas
- PLZ productivity index: 30



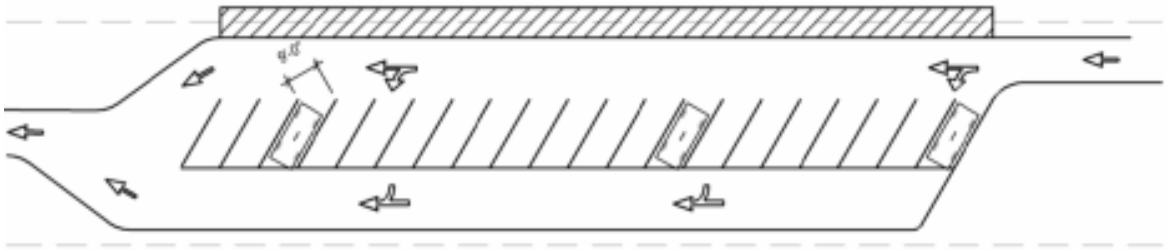
LOS A Parallel (12 Spaces)

- 14 spaces, 6’ waiting areas
- PLZ productivity index: 34



LOS A Sawtooth (14 Spaces)

- **20 spaces, 6’ waiting areas**
- **PLZ productivity index: 58**



Pull Through (20 spaces)

WALKER CONSULTANTS

SHARED RIDES

- Circulators
- Universities
- Office Parks
- Transit First/Last Mile

Greatest Potential for Consumer Acceptance and Congestion Relief

Space Required to Transport 48 People

Gas | Electric | TNC | AV | Shared

Source: Adapted from Cycling Promotion Fund

THANK YOU!

Chrissy Mancini Nichols

Parking and Mobility Consultant
AV and TNC Policy Lead
Walker Consultants

cmancini@walkerconsultants.com
walkerconsultants.com
mycuriouscity.com
Twitter: @Mancinichrissy

CONTACT INFORMATION

Steve Davis
Associate
Fehr & Peers
Transportation Consultants

S.Davis@fehrandpeers.com
FehrandPeers.com

DeAngelo Baynes
Curbside Manager
District Department of Transportation

DeAngelo.Baynes@dc.gov
ddot.dc.gov

Chrissy Mancini Nichols
Parking and Mobility Consultant
AV and TNC Policy Lead
Walker Consultants

cmancini@walkerconsultants.com
walkerconsultants.com