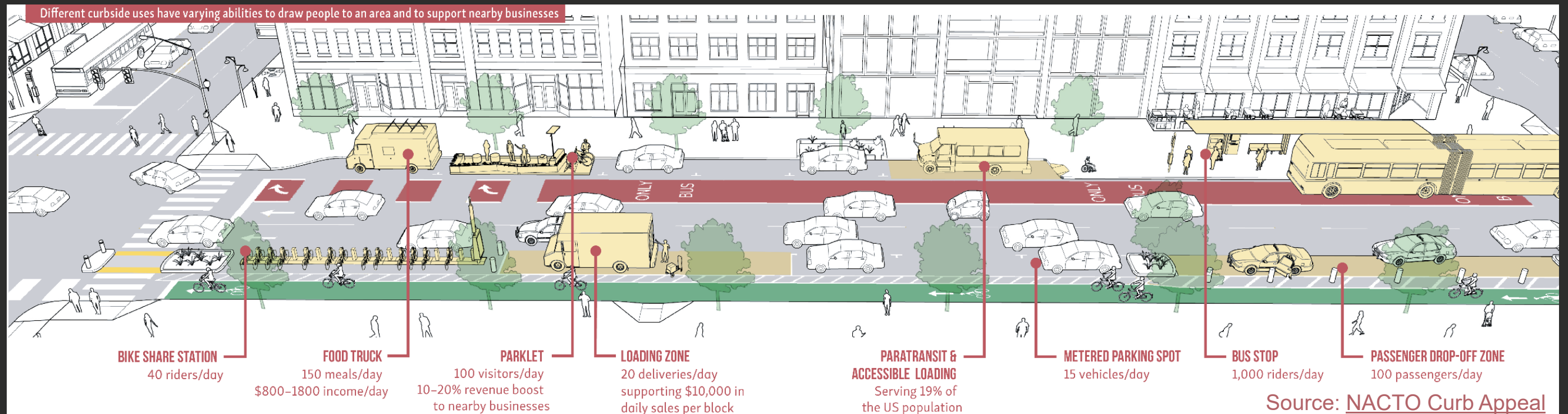


Managing the Curbside of a Complete Street



Session 3: Complete Streets Management

MTC Tech Transfer Seminar

Monday, February 3, 2020



Steve Davis, PE

Fehr & Peers

San José, CA

s.davis@fehrandpeers.com



Geoff Rubendall, PE

Fehr & Peers

San Francisco, CA







g.rubendall@fehrandpeers.com



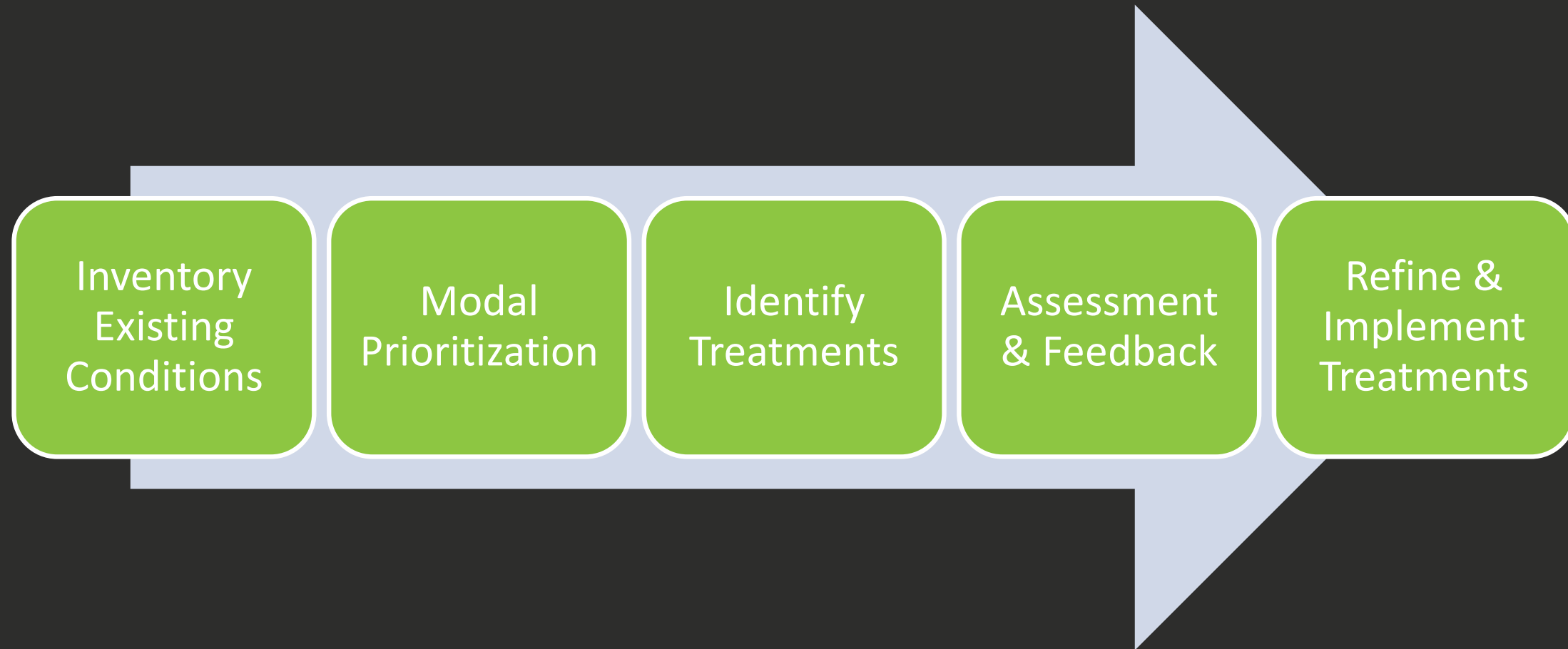
Introduction to the **ITE Guide**

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

What is **Curbside Management**?

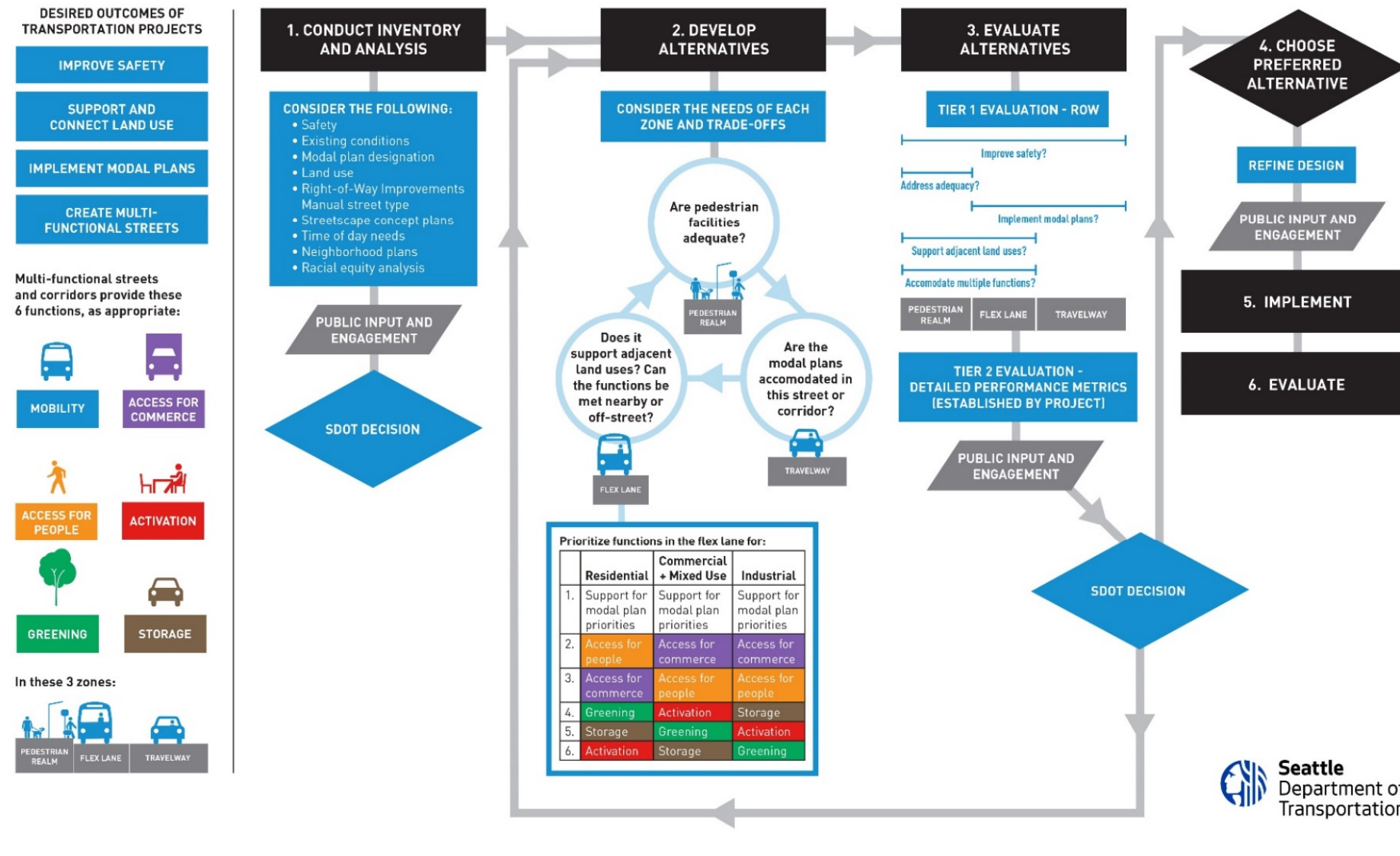
FUNCTION	DEFINITION	USES
 MOBILITY	Moves people and goods	<ul style="list-style-type: none"> • Sidewalks • Bus or streetcar lanes • Bike lanes • General purpose travel lanes - includes freight • Right- or left-turn only lanes
 ACCESS FOR PEOPLE	People arrive at their destination, or transfer between different ways of getting around	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Commercial vehicle load zone • Truck load zone
 ACTIVATION	Offers vibrant social spaces	<ul style="list-style-type: none"> • Food trucks • Parklets and streateries • Public art • Seating • Street festivals
 GREENING	Enhances aesthetics and environmental health	<ul style="list-style-type: none"> • Plantings <ul style="list-style-type: none"> - Boulevards - Street trees - Planter boxes • Rain gardens and bio-swales
 STORAGE	Provides storage for vehicles or equipment	<ul style="list-style-type: none"> • Bus layover • Long-term parking • Reserved spaces (e.g. for Police or other government use) • Construction

Treatment Selection **Process**



Treatment Selection **Process**

SEATTLE RIGHT-OF-WAY (ROW) ALLOCATION DECISION FRAMEWORK



Inventory Existing Conditions

- Policies & Codes
- Supply & Utilization
- Needs & Opportunities
- Variety of Data Sources
- More Guidance Coming from FHWA!



Source: [Coord](#)

Map interface showing a legend for curbside management zones. The legend is titled "ALL ZONES:" and lists the following categories with corresponding colored dots:

- No Stopping (Black dot)
- No Parking (Red dot)
- Passenger Loading Zone (Orange dot)
- Loading Zone (Yellow dot)
- Paid Parking (Blue dot)
- Free Parking (Cyan dot)

At the bottom of the legend, there are two links: [About Coord](#) and [Report an issue](#).



Modal Prioritization

Sample Priorities

- Transit Priority
- Bicycle Priority
- Pedestrian Priority
- Major Thoroughfare
- Mixed-use Main Street
- Mixed-use Access
- **Could Be Others!**



Source: David Smith, Chicago Department of Transportation

Refine & Implement Treatments

- “Flex Zones” can serve multiple needs
- Temporal curb assignments may be most productive
- Quick-build materials allow project refinement



Source: [City of Seattle](#)



Source (Both): [Fehr & Peers](#)



Data-driven Processes are Repeatable

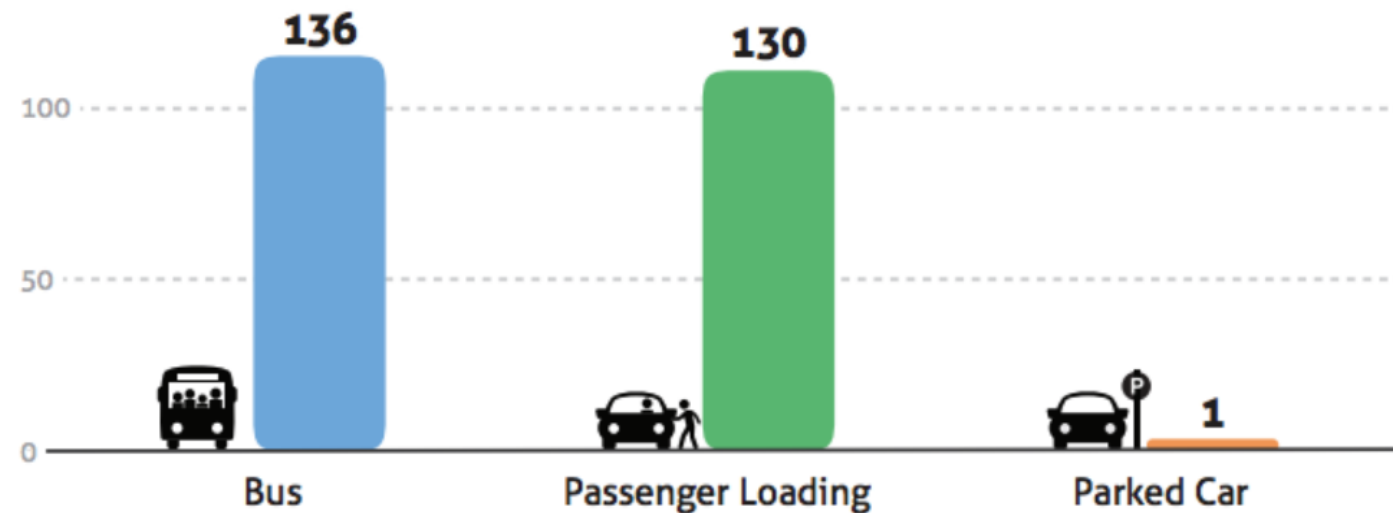
- Establishing goals, MOEs, and appropriate data needs allows effective evaluation of projects
- Basing decisions on goals and data allows agencies to stand behind decisions
- Data-driven projects allow more effective identification of lessons learned to improve future projects

Community identified solutions		Data collection results	Recommendations	Implementation Action
		NA	Identify opportunities for additional spaces with community walkthrough	Potential administrative actions for curb cut closures)
Residential	<ul style="list-style-type: none"> • Revisit RPP Program (permit distribution cost, eligibility) 	<ul style="list-style-type: none"> • Oversaturation of RPP permits: <ul style="list-style-type: none"> ○ # of RPP vehicles in N Dupont is 170% more than RPP spaces in N. Dupont ○ # of RPP vehicles in Kalorama is only 5% less than the number of RPP spaces in Kalorama ○ # of RPP vehicles in S. Dupont is 258% more than the number of RPP spaces • High overnight occupancy in N. Dupont (more than 90%) 	<ul style="list-style-type: none"> • Define a ceiling for the number of RPP permits than can be obtained per household • Demand responsive permit pricing <ul style="list-style-type: none"> ○ 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
	<ul style="list-style-type: none"> • Transportation Demand Management Strategies (TDM) 	<ul style="list-style-type: none"> • 30% of vehicles in North Dupont/Kalorama are intra-ward plated vehicles • Number of Ward 2 RPP vehicles is 5.7 times more than RPP spaces in N. Dupont; 15.5 times more than RPP spaces in Kalorama, and 43 times more than RPP spaces in S. Dupont 	<ul style="list-style-type: none"> • Revisit RPP Zone sizes (smaller RPP zones, or creation of ANC based subzones) <ul style="list-style-type: none"> ○ 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
		<ul style="list-style-type: none"> • 132 diplomatic vehicles were observed in N Dupont /Kalorama (a total number of 303 reserved embassy spaces) 	<ul style="list-style-type: none"> • Right size embassy parking 	Administrative
		NA	<ul style="list-style-type: none"> • Transportation Demand Management Strategies <ul style="list-style-type: none"> ○ Expand carsharing options 	Administrative

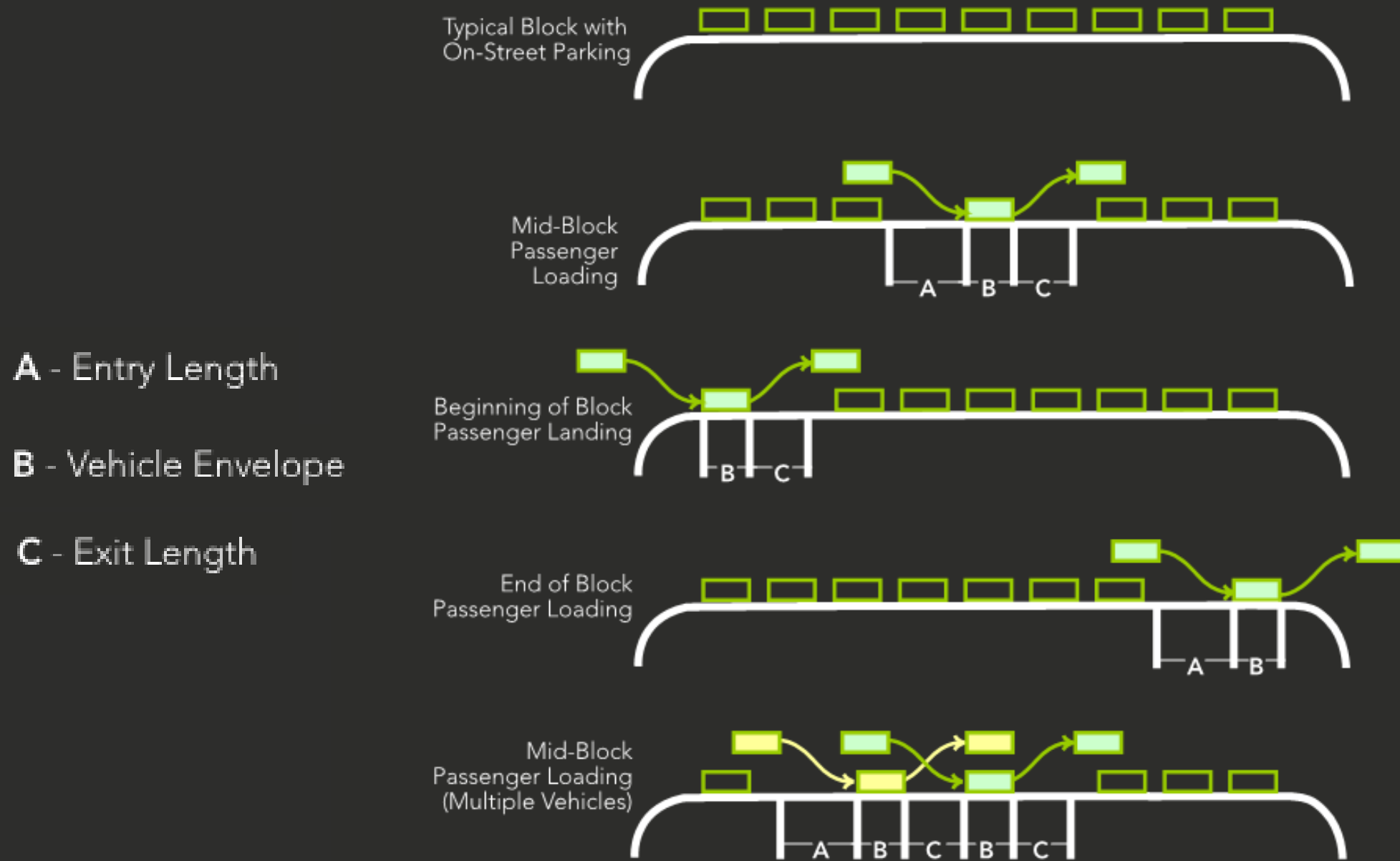
Curb Studies Curb Productivity

$$\text{Curb Productivity Index} = \frac{\text{Activity}}{\text{Time} \times \text{Space}}$$

Curb Space Productivity (Passengers per space-hour)



Curb Studies Space at Curb



Curb Studies Strategies

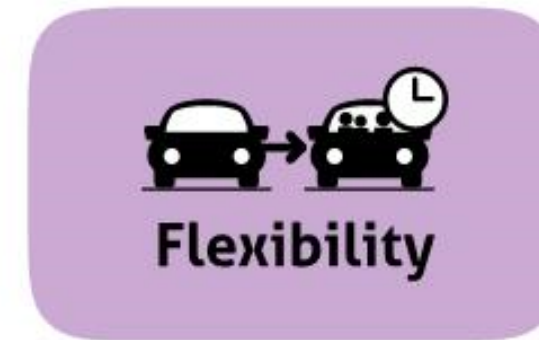
Re-allocating Curb Space



Relocate curb spaces to better utilize the curb zone.

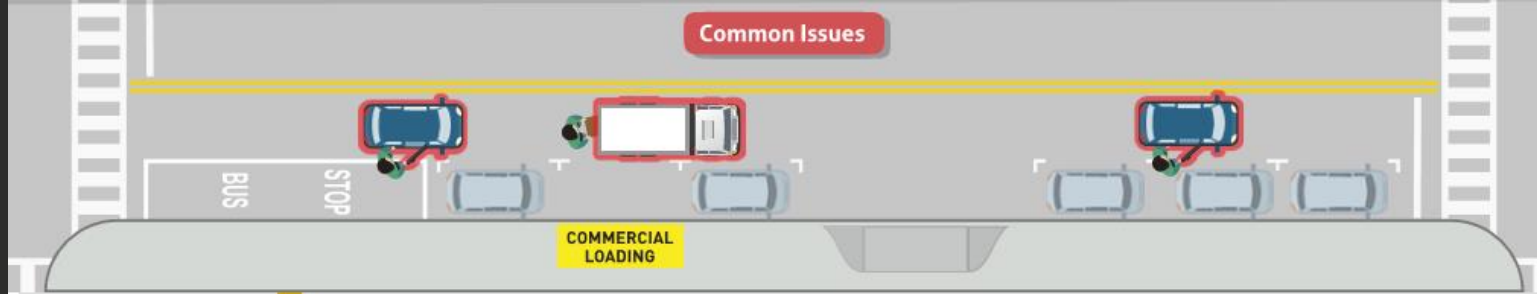


Convert curb space to different uses to better utilize the curb zone.

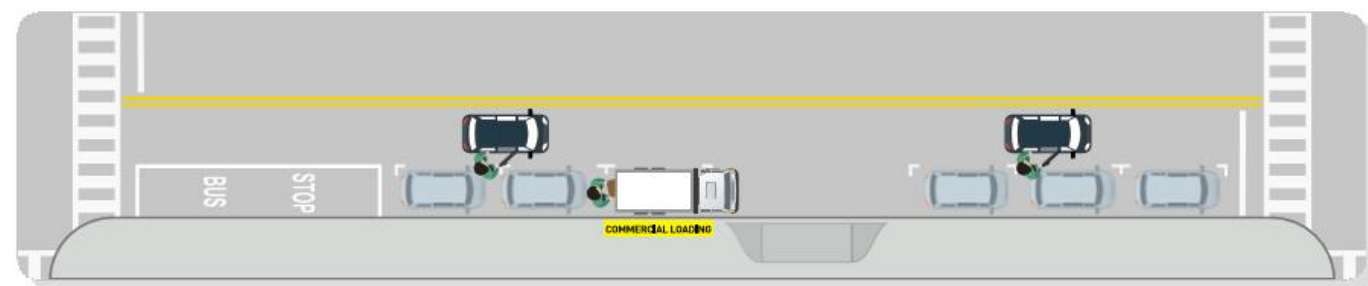


Convert curb spaces to **flexible time of day zones** to meet demand-based uses throughout the day.

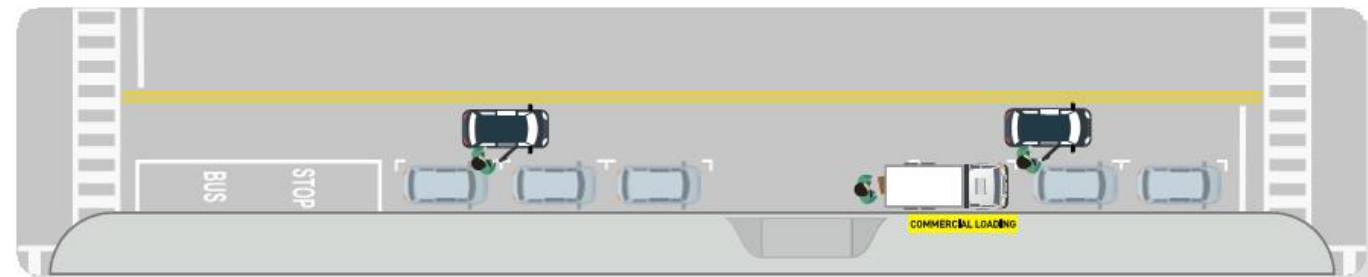
Common Issues

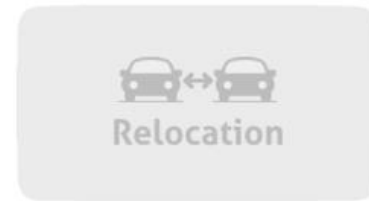
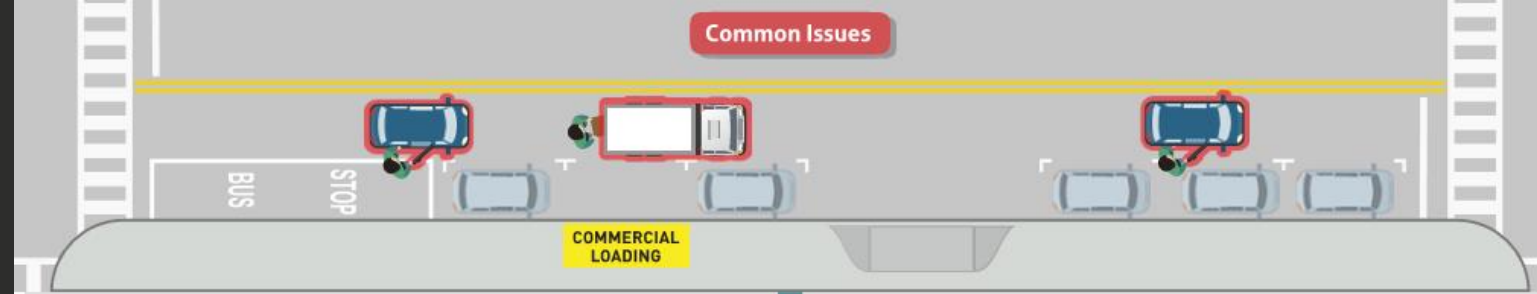


Possible Solution Relocate **COMMERCIAL LOADING** to allow trucks to *back into zone*.

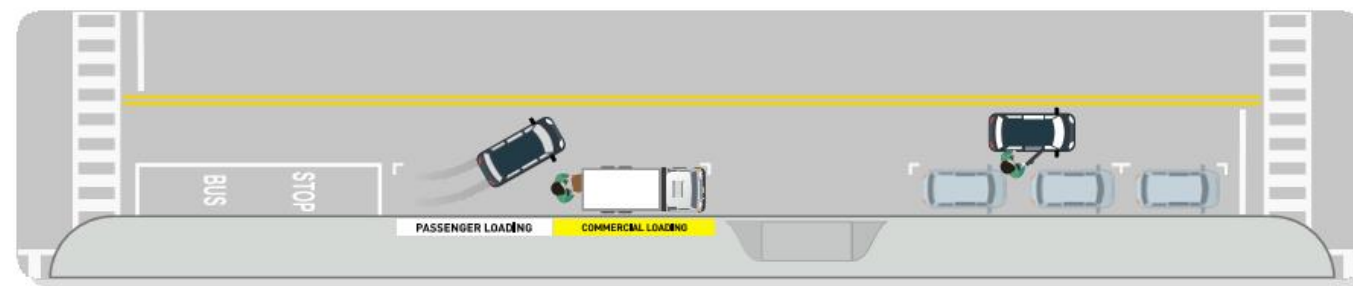


Possible Solution Relocate **COMMERCIAL LOADING** to allow trucks to *drive into zone*.

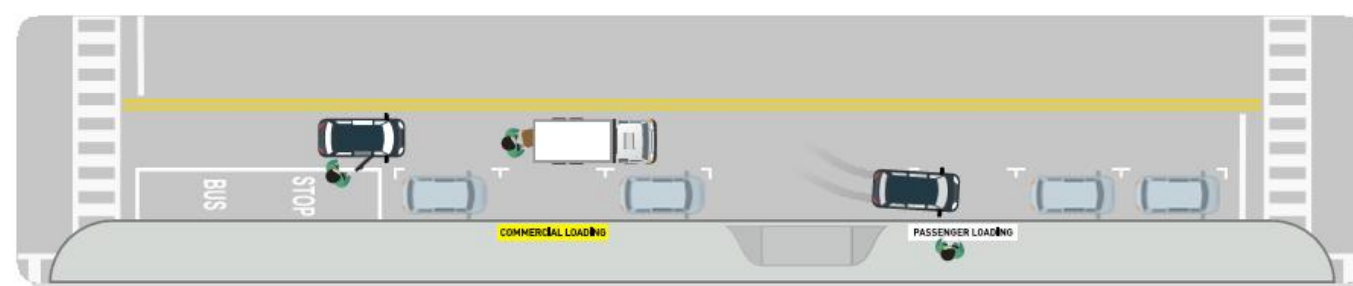


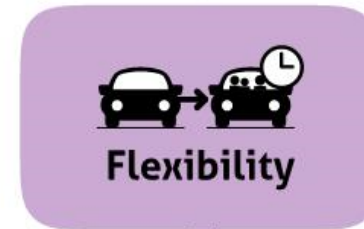
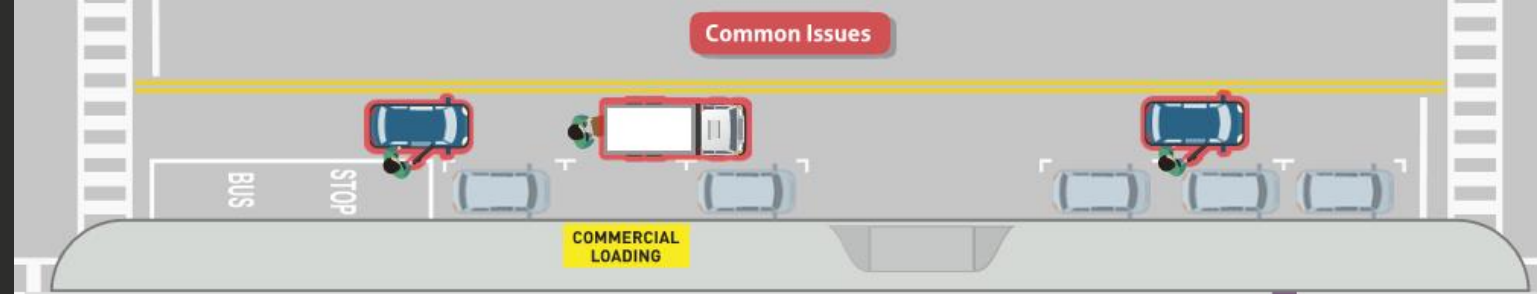


Possible Solution Convert 2 parking spaces and commercial loading to a **larger PASSENGER LOADING** and **COMMERCIAL LOADING** zone.

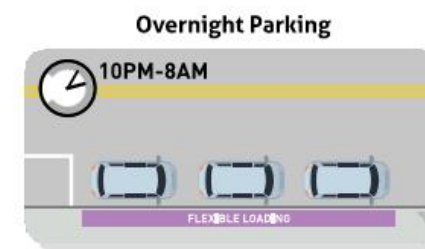
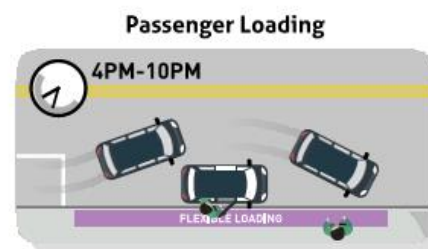
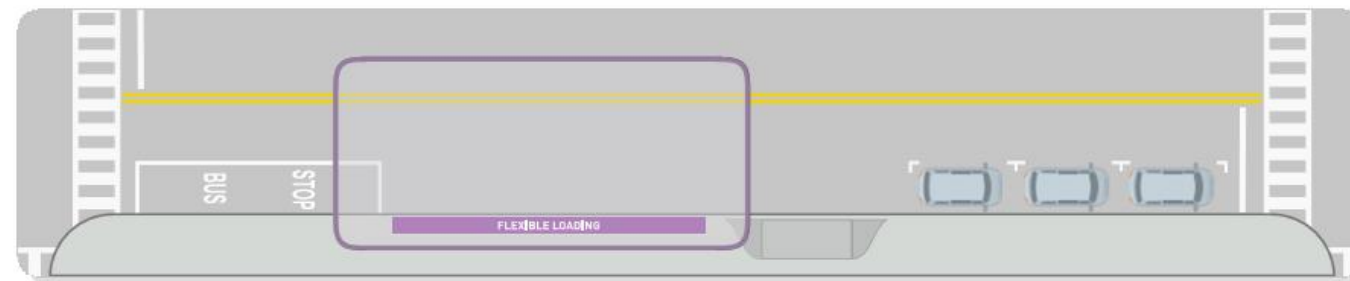


Possible Solution Convert parking space to a **PASSENGER LOADING** zone.



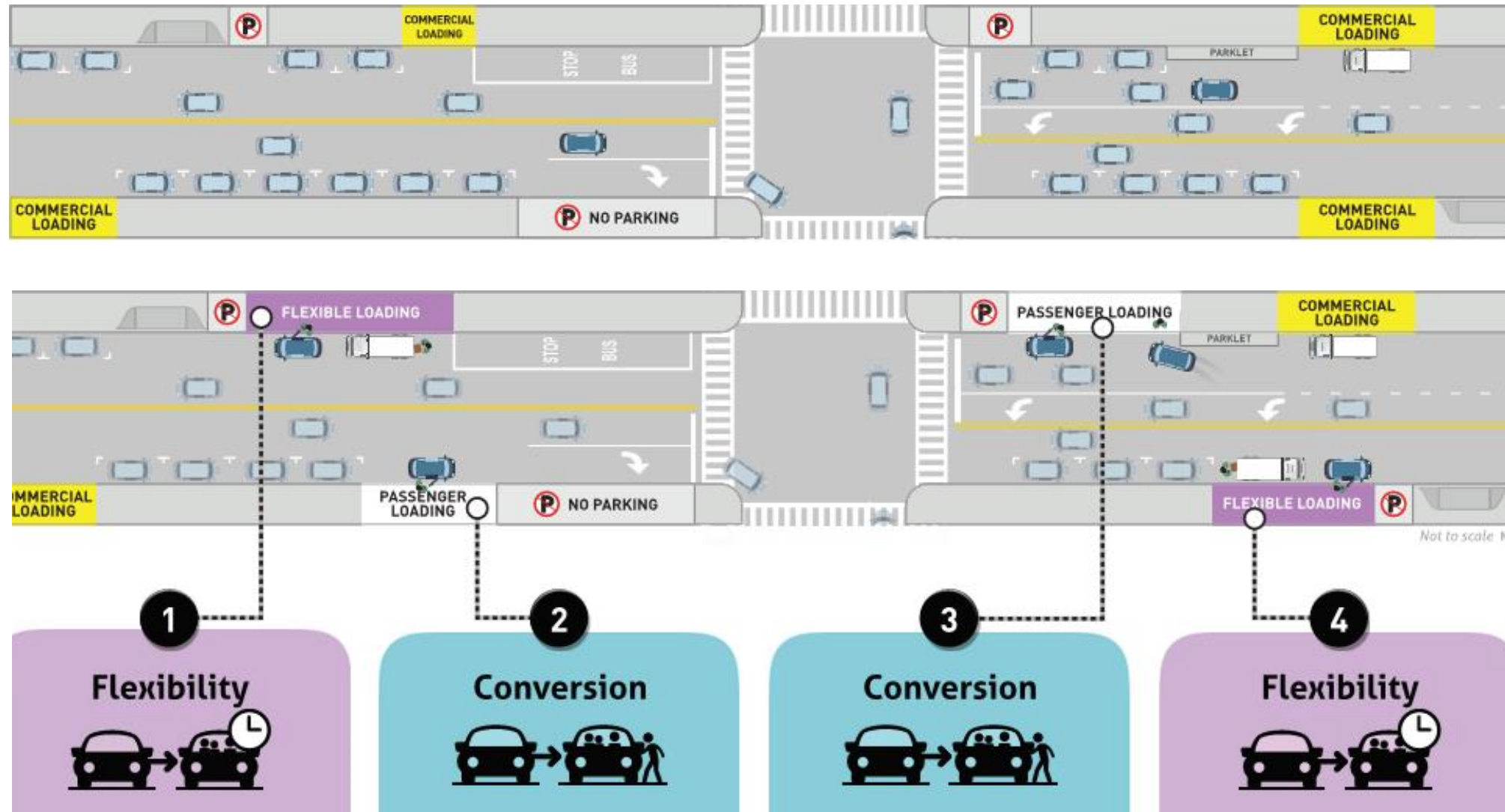


Possible Solution Convert parking and commercial loading to a **FLEXIBLE LOADING** zone.




Curb Studies Recommendations

Re-allocating Curb Space



Additional **Resources**



ite
A Community of Transportation Professionals

CASE STUDY


SAN FRANCISCO, USA
San Francisco Municipal Transportation Agency (SFMTA) | URBAN
REGULATION OF CURBSIDE SUPPLY AND DEMAND/
TNC AND CITY PARTNERSHIPS



ite
A Community of Transportation Professionals

CASE STUDY

WASHINGTON, D.C., USA
District Department of Transportation (DDOT) | DISTRICT-WIDE
STUDY AND PILOT PROJECTS



ite
A Community of Transportation Professionals

CASE STUDY

TORONTO, ONTARIO, CANADA
City of Toronto | DOWNTOWN CENTRAL BUSINESS DISTRICT
NEIGHBORHOOD POLICY

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

Additional Resources

NACTO National Association of City Transportation Officials

NACTO TRANSIT LEADERSHIP RESOURCE PAPER NOVEMBER 2017

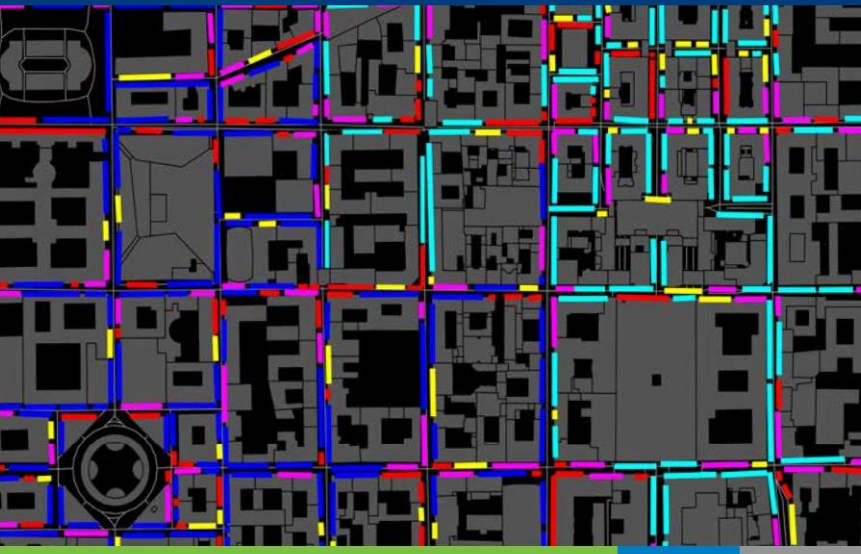
CURB APPEAL

CURBSIDE MANAGEMENT STRATEGIES FOR IMPROVING TRANSIT RELIABILITY

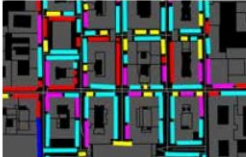


O'Farrell Street, SAN FRANCISCO, CA


International Transport Forum | **CPB**
Corporate Partnership Board



The Shared-Use City: Managing the Curb



Corporate Partnership Board Report

 OECD

Curb Studies SF & Cincinnati



SAN FRANCISCO CURB STUDY

Uber
FEHR PEERS



CINCINNATI CURB STUDY



Uber
FEHR PEERS

Questions & Discussion

Managing the Curbside of a Complete Street



Steve Davis, PE

Fehr & Peers

San José, CA

s.davis@fehrandpeers.com



Geoff Rubendall, PE

Fehr & Peers

San Francisco, CA

g.rubendall@fehrandpeers.com