

Myths & Messaging: Common Objections and Effective Responses for Active Transportation and Safety Projects

Congestion and Parking

Amalia Leighton Cody, PE Toole Design



PARKING AND CONGESTION CONVERSATIONS CAN BE EMOTIONAL



CURB SPACE MOSTLY FOR LONG TERM ON-STREET PARKING

Highly utilized on-street parking spaces may:

- Increase circling by vehicles looking for parking
- Result in increased Vehicle Miles Traveled (VMT) and higher vehicular crash exposure risk and greater motorized-non-motorized conflict



PLANNING FOR MULTIMODAL FACILITIES

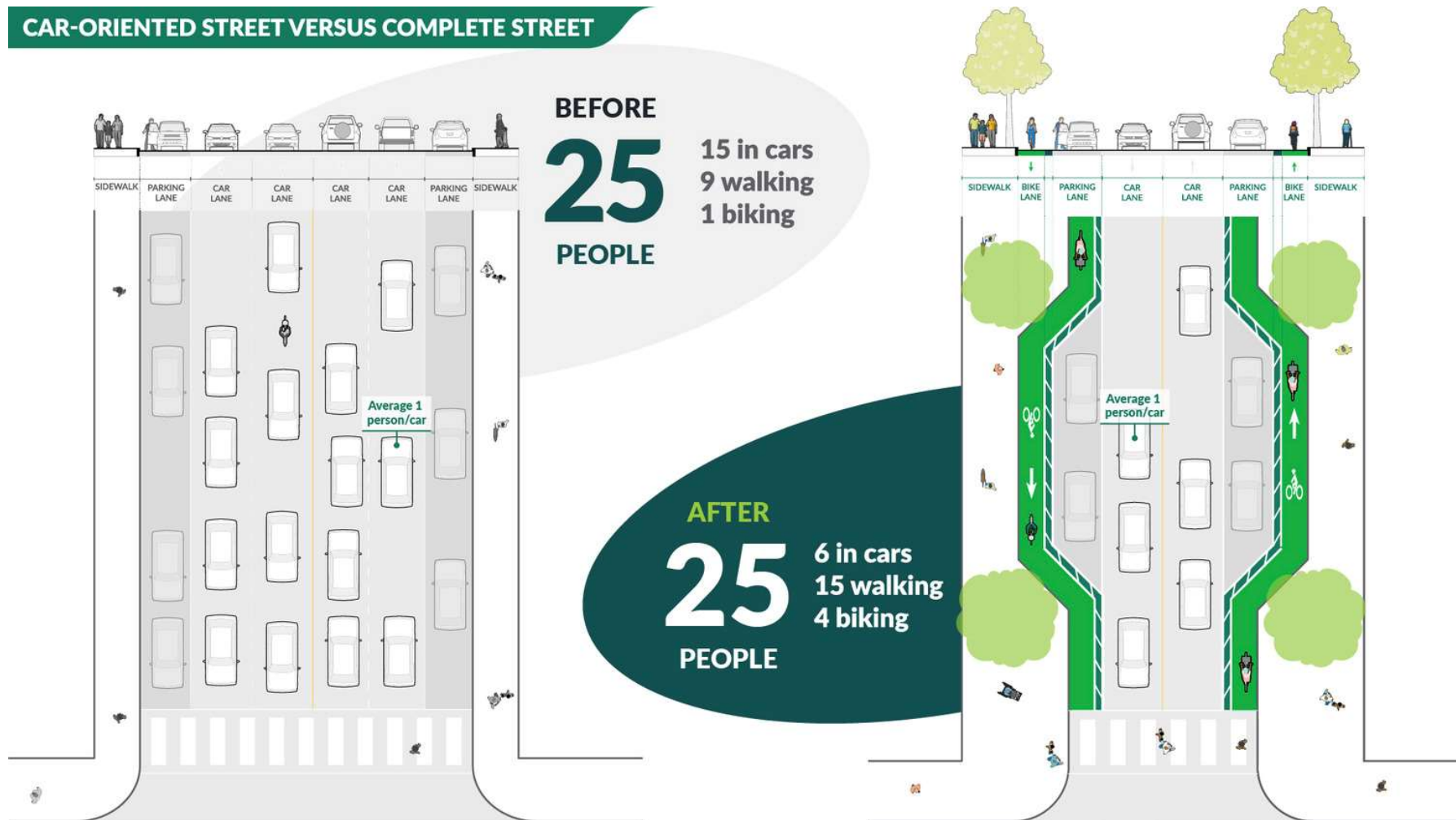
On-street parking should not be prioritized over bicycle facilities, transit lanes, and other multimodal facilities that better ensure the safety of these modes and can reduce residential parking demand.



Left to right: In-lane bus stop adjacent to on-street parking, Floating bus stop in line with on-street parking, fully separated bike lane in dense mixed-use neighborhood. *Source: Toole Design*

COMPLETE STREETS

CAR-ORIENTED STREET VERSUS COMPLETE STREET



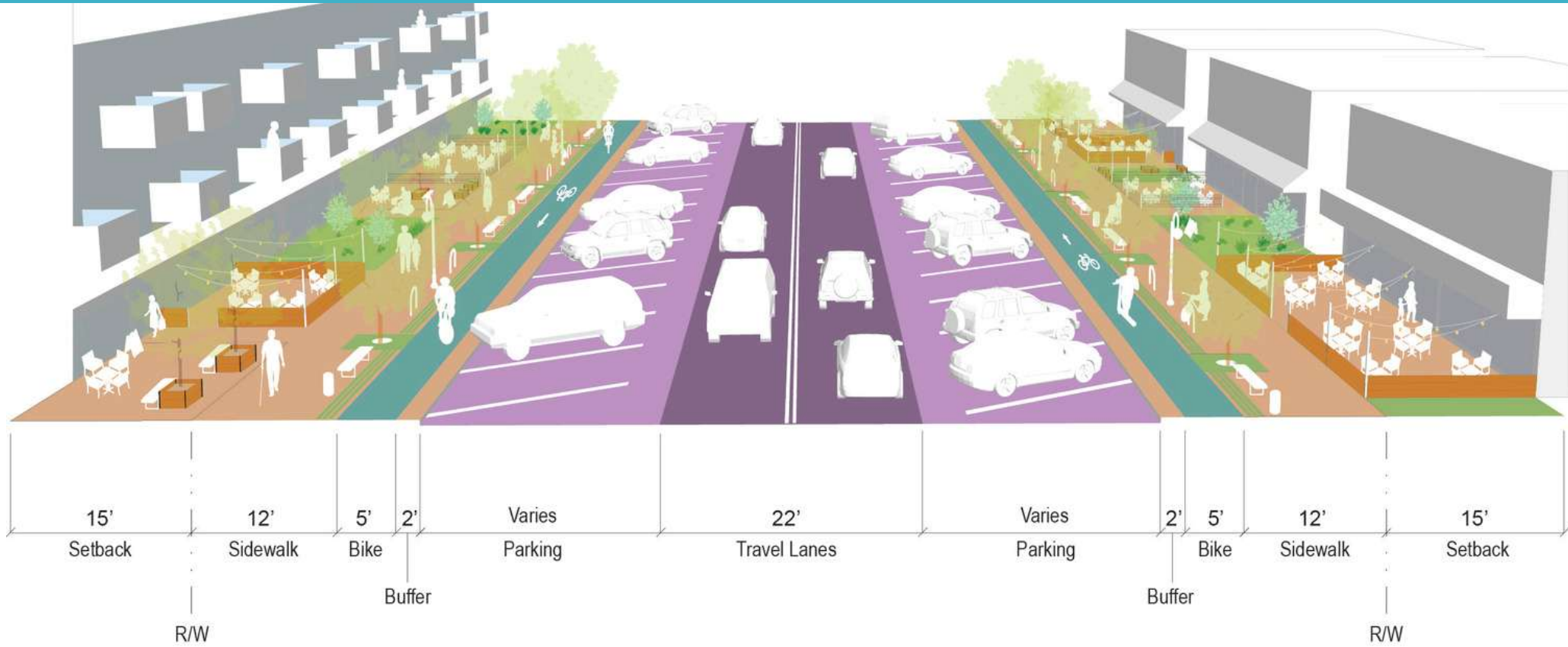
STREETSCAPE ELEMENTS

- Complete streets are typically better suited to accommodate on-street parking
- Roadway networks lacking sidewalks and people parking, walking, and potentially biking in shoulders or in shared conditions are less safe

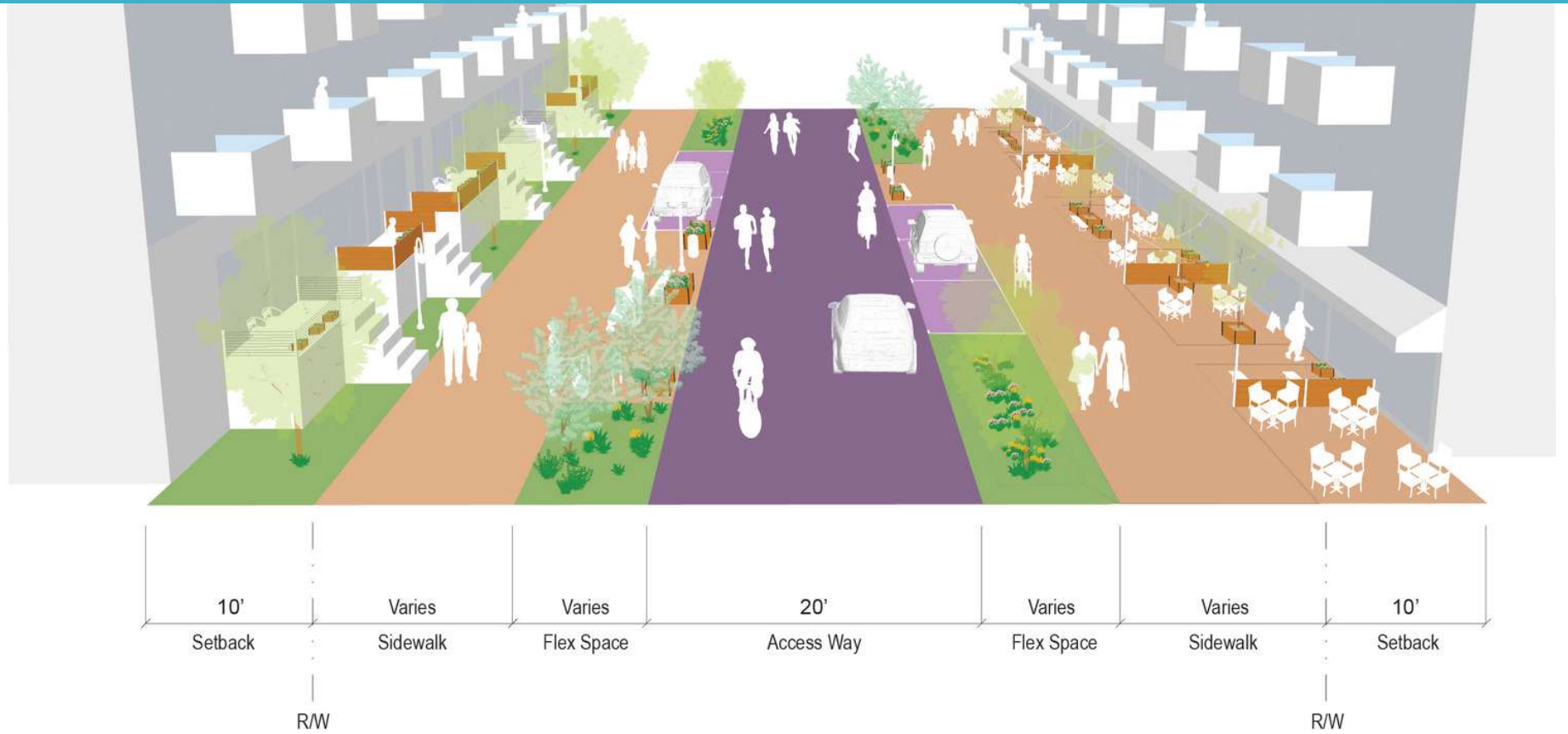


Example of street with an edge line and no sidewalk present. Source: Toole Design

STREETSCAPE ELEMENTS

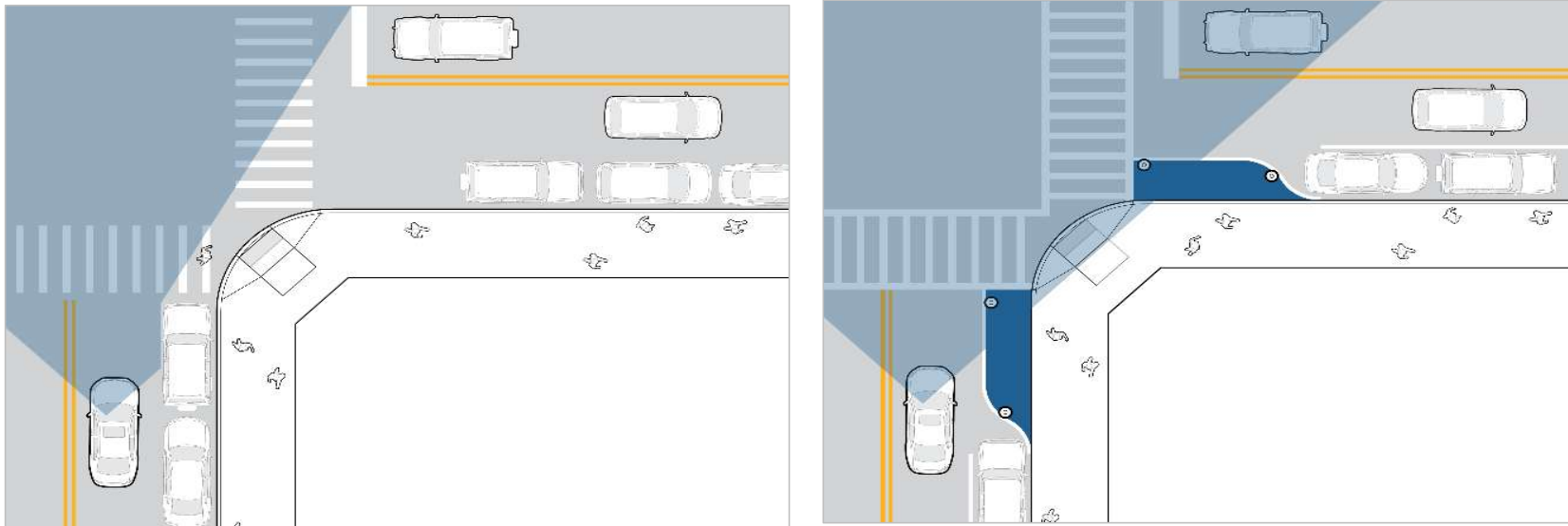


STREETSCAPE ELEMENTS



SAFETY FOR ALL USERS

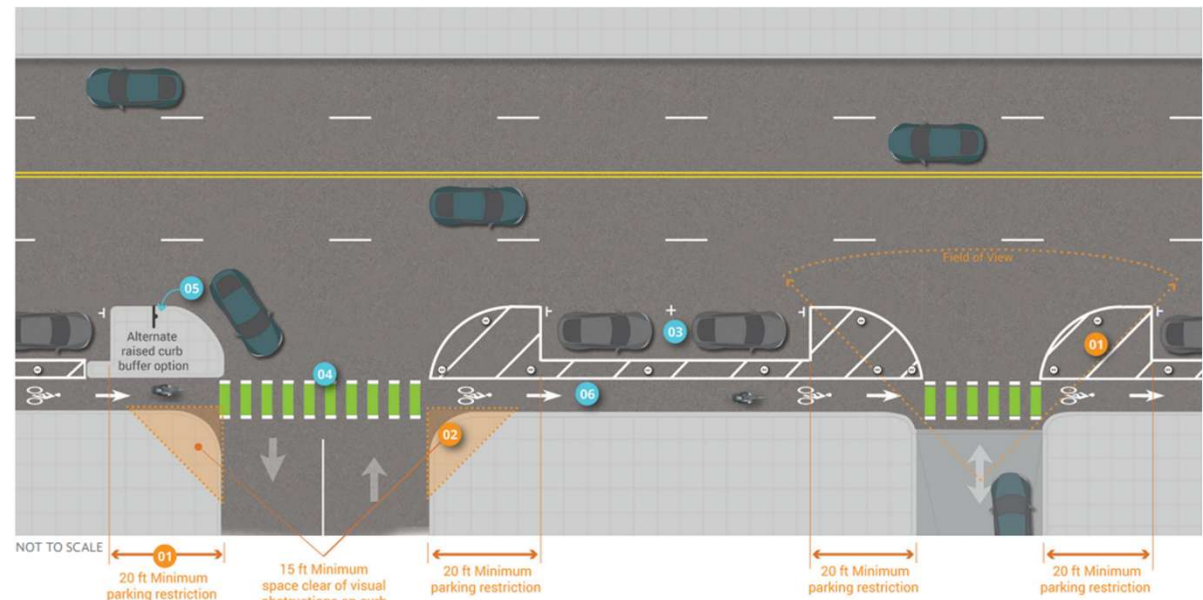
Visibility at crosswalks and intersections is reduced when parking occurs too close to intersections or crosswalks



Visibility at intersections without (left) and with (right) daylighting treatment. Source: Toole Design

SAFETY FOR ALL USERS

Consolidating vehicle movements to predictable driveway locations reduces potential conflicts compared to vehicles maneuvering in and out of on-street parking.



Visibility at driveways due to daylighting policy and treatments. Source: Federal Highway Administration

SAFETY FOR ALL USERS



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DESIGN

SAFETY FOR ALL USERS WITH CO-BENEFITS



SAFETY FOR ALL USERS – WITH CO-BENEFITS

How do bio-retention facilities work?

PLANTS WITH A PURPOSE

Stormwater Bioretention Facility for Water Quality

Plan gardens, lawns, and stormwater plants are beautiful as well as beneficial. These planted depressions are designed and maintained to help address water quality concerns for the wellness of the environment, animals, and people.

Common Pollutants in Stormwater Runoff

Oil	Ammonia
Pesticides	Metals
Phosphorus	Salts/Nutrients
Sediment	Antibiotics

1 COLLECT
The bioretention facility captures stormwater.

2 CONTROL
Plants, soil, and other site design elements help it settle.

3 TREAT
Soil and plants break up stormwater and they sink and break down pollutants.

4 RELEASE
Control water flows out of facility.

5 FLOWS DOWNSTREAM
Water enters creeks and other water bodies.

PARKING
ROADS & SIDEWALKS
ROOFS

Where does stormwater runoff come from?

Facility Benefits


























- Reduce flooding
- Improve water quality
- Reduce pollutants
- Improve aesthetics
- Improve stormwater management

ROCKWELL | **WATER** | **PLANTS** | **LANDSCAPE** | **ARCHITECTURE** | **CONSTRUCTION**

City of Seattle


























DYNAMIC CURB SPACE MANAGEMENT – RESIDENTIAL LAND USES

Table 7: Residential Curbside Use Prioritization Framework

		Time of Day				
		AM peak	Midday	PM peak	Evening	Overnight
		6AM-9AM	9AM-3PM	3PM-6PM	6PM-2AM	2AM-6AM
Priority Rank	1	 Mobility	 Parking and Storage	 Mobility	 Parking and Storage	 Parking and Storage
	2	 Loading People	 Public Realm	 Loading People	 Public Realm	 Public Realm
	3	 Public Realm	 Loading People	 Public Realm	 Loading People	 Loading People
	4	 Parking and Storage	 Mobility	 Parking and Storage	 Mobility	 Mobility
	5	 Loading Goods	 Loading Goods	 Loading Goods	 Loading Goods	 Loading Goods














DYNAMIC CURB SPACE MANAGEMENT – DOWNTOWN LAND USES

Table 5: Downtown Curbside Use Prioritization Framework

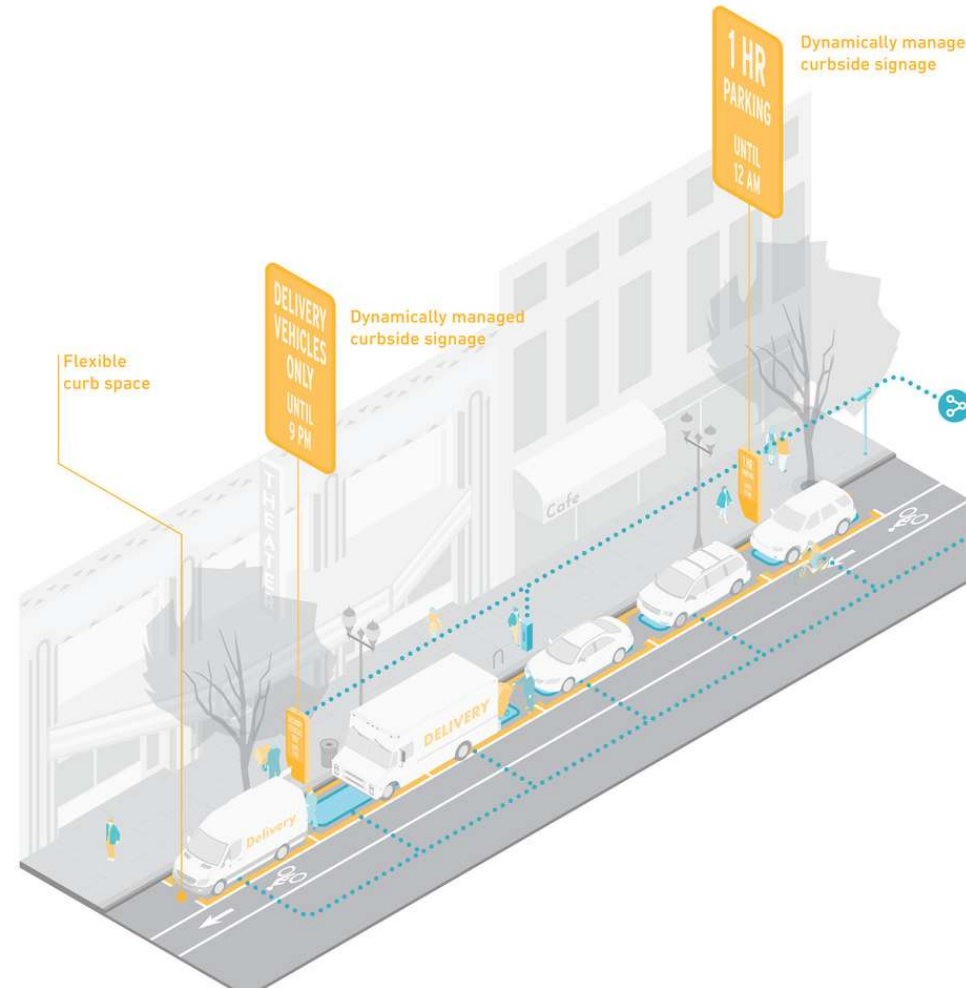
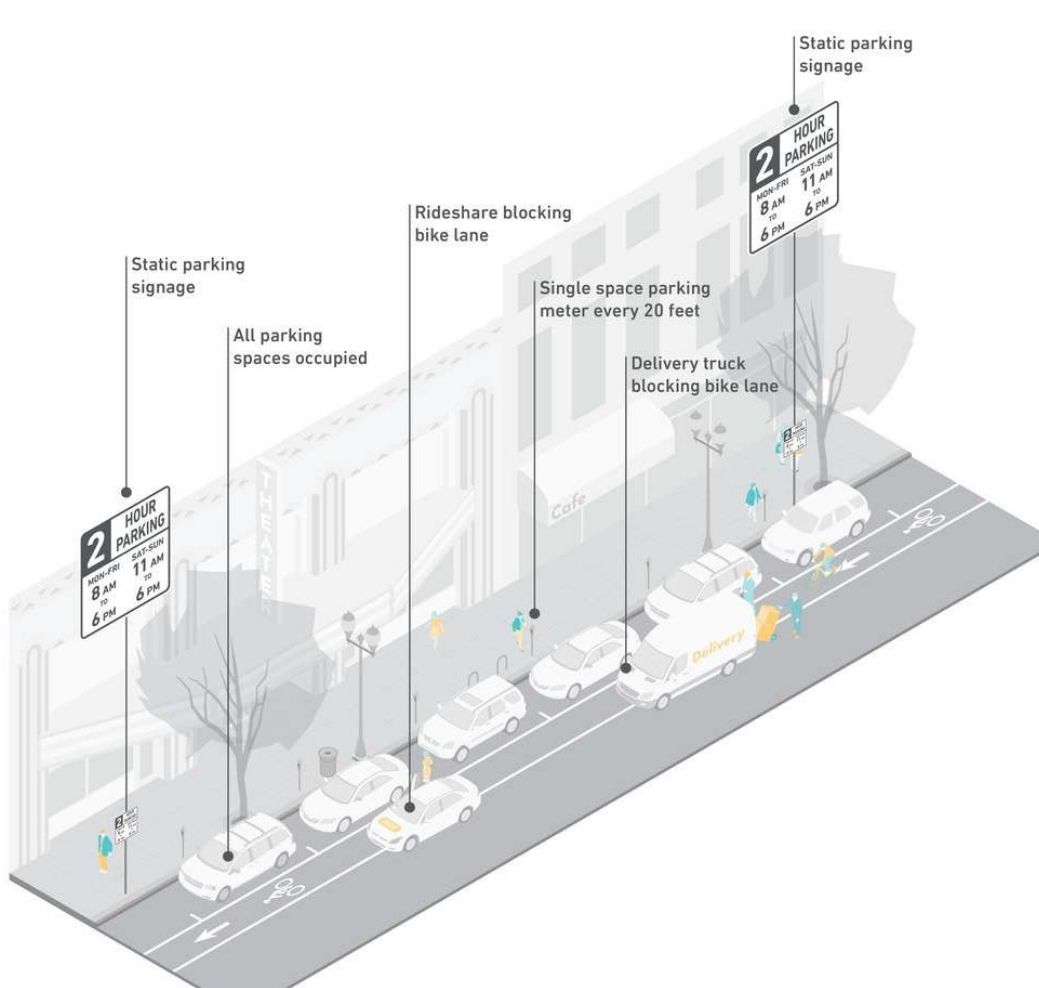
		Time of Day				
		AM peak	Midday	PM peak	Evening	Overnight
		6AM-9AM	9AM-3PM	3PM-6PM	6PM-2AM	2AM-6AM
Priority Rank	1	 Mobility	 Public Realm	 Mobility	 Public Realm	 Loading Goods
	2	 Loading People	 Loading People	 Loading People	 Loading People	 Mobility
	3	 Public Realm	 Mobility	 Public Realm	 Parking and Storage	 Loading People
	4	 Loading Goods	 Loading Goods	 Loading Goods	 Loading Goods	 Parking and Storage
	5	 Parking and Storage	 Parking and Storage	 Parking and Storage	 Mobility	 Public Realm

DYNAMIC CURB SPACE MANAGEMENT - INDUSTRIAL LAND USES

Table 8: Industrial Curbside Use Prioritization Framework

		Time of Day				
		AM peak	Midday	PM peak	Evening	Overnight
		6AM-9AM	9AM-3PM	3PM-6PM	6PM-2AM	2AM-6AM
Priority Rank	1	 Mobility	 Loading Goods	 Mobility	 Loading Goods	 Loading Goods
	2	 Loading Goods	 Parking and Storage	 Loading Goods	 Parking and Storage	 Parking and Storage
	3	 Loading People	 Mobility	 Loading People	 Mobility	 Mobility
	4	 Parking and Storage	 Loading People	 Parking and Storage	 Loading People	 Loading People
	5	 Public Realm	 Public Realm	 Public Realm	 Public Realm	 Public Realm

DYNAMIC CURB SPACE MANAGEMENT – DOWNTOWN LAND USES



OTHER CONSIDERATIONS

How parking enforcement, parking permit programs, physical improvements, enhanced enforcement and signage can improve safety issues instead of without parking requirement reductions

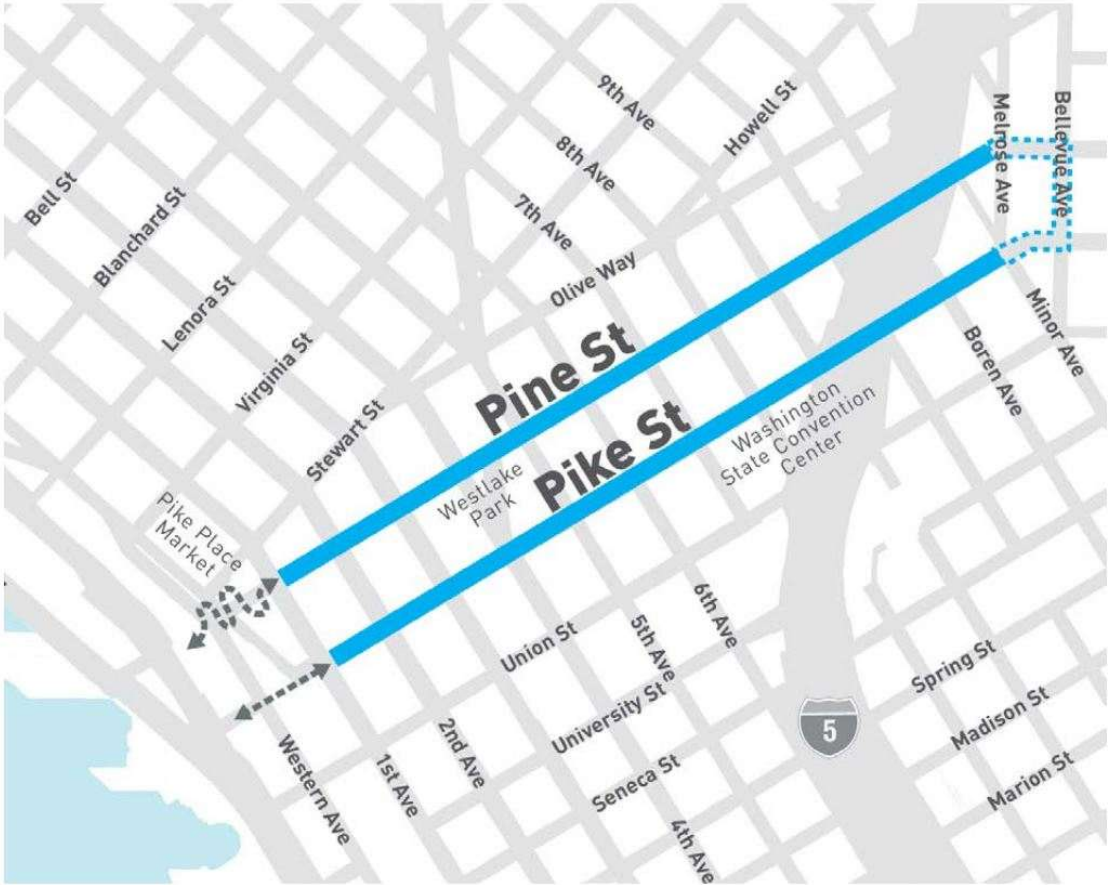


Programs. Pilots. Predictability.

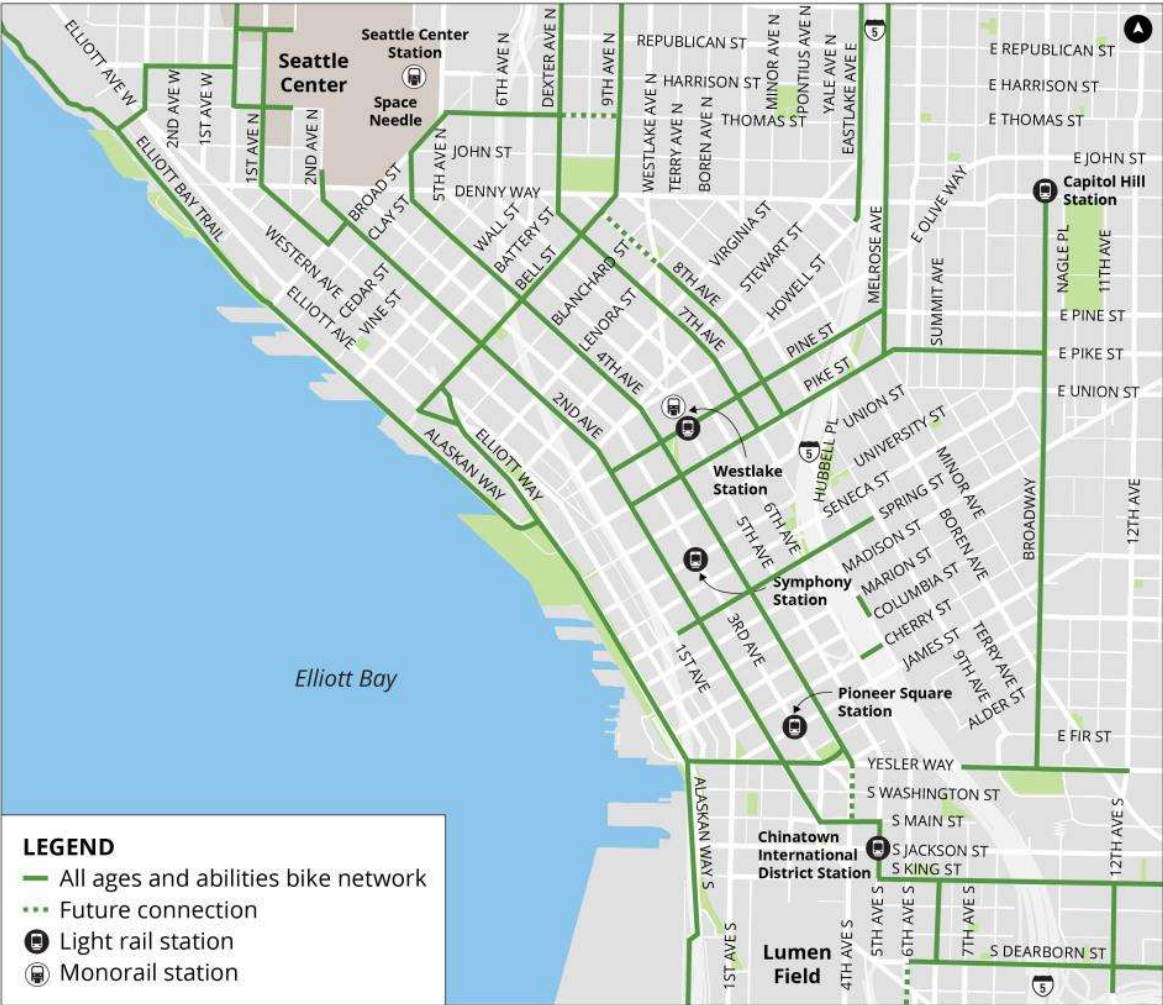
Case Study: Pike and Pine Corridors, Seattle, Washington



2008 PEDESTRIAN MASTER PLAN



2015 SEATTLE CENTER CITY BIKE NETWORK



2024 SEATTLE TRANSPORTATION PLAN

Table 1: Essential Functions of the Right-of-Way

FUNCTION	DEFINITION	EXAMPLES
MOBILITY	Moves people and goods	<ul style="list-style-type: none"> • Sidewalks • Bus or streetcar lanes • Bike lanes • General purpose travel lanes (includes freight)
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
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 outdoor dining • Public art • Street festivals
GREENING	Enhances aesthetics and environment 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; overnight parking • Reserved spaces (e.g., for police) • Construction

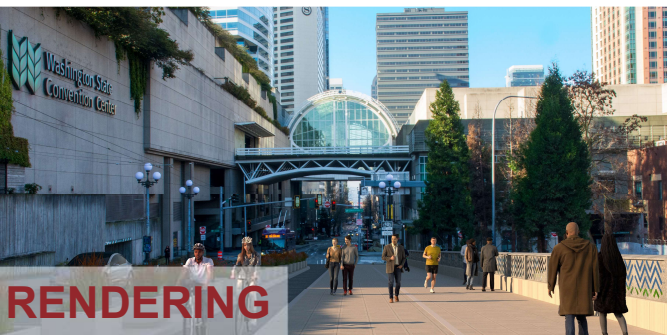
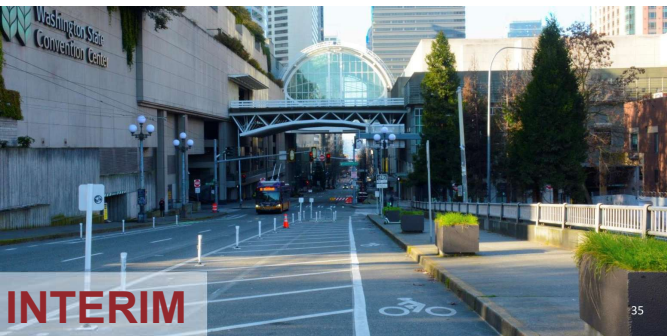
PIKE AND PINE INTERIM BIKE LANES (2011 AND 2018)



PIKE AND PINE OVER TIME: 3RD AND PINE



PIKE AND PINE OVER TIME: PIKE STREET BRIDGE OVER I-5



PIKE AND PINE OVER TIME: PINE STREET BRIDGE OVER I-5





100 BLOCK OF PIKE: 2014



©2015 Google

100 BLOCK OF PIKE: 2015



100 BLOCK OF PIKE: 2020

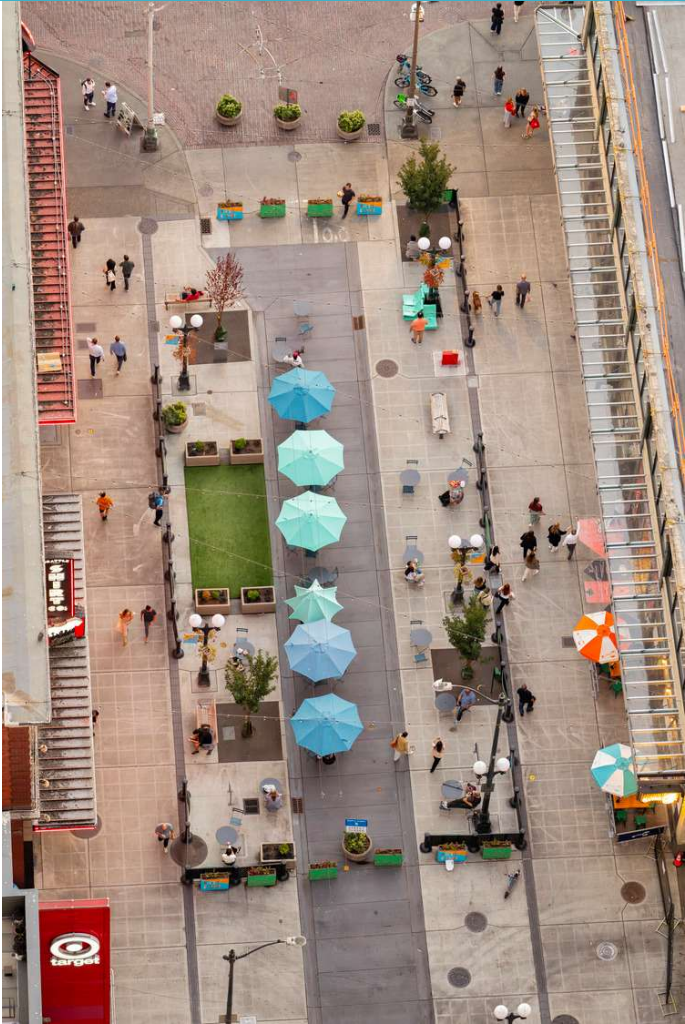


100 BLOCK OF PIKE: RENDERING

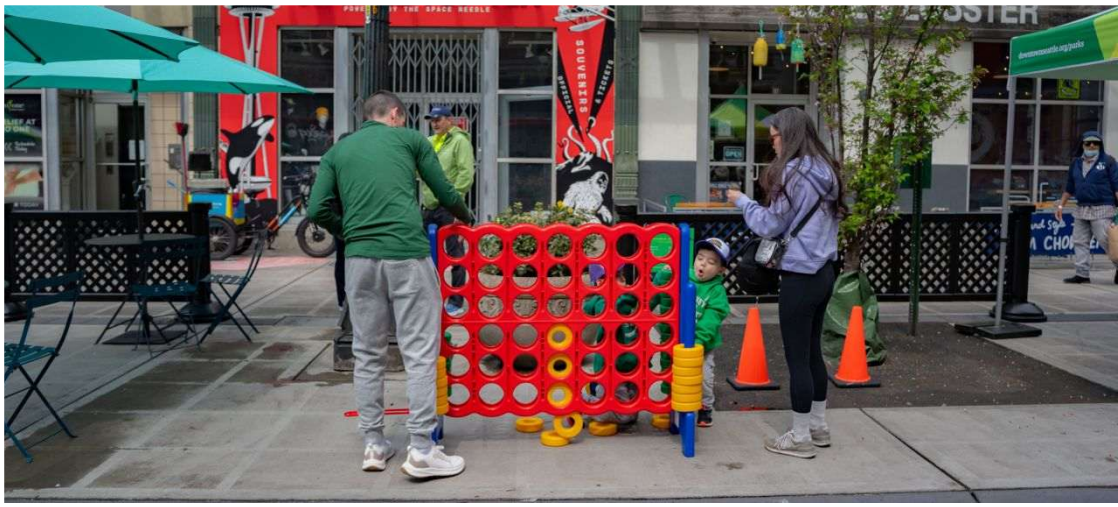


100 BLOCK OF PIKE: FINAL

MAKE PEOPLE FEEL DIFFERENTLY



MAKE PEOPLE FEEL DIFFERENTLY





THANK YOU!

TOOLE
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Myths & Messaging:

Common Objections and Effective Responses for Active Transportation and Safety Projects

E-bike safety myths and objections

Calvin Thigpen, PhD
New Mobility Practice Lead
Toole Design Group

Why should we care about e-bike myths and objections?



Travel longer distances

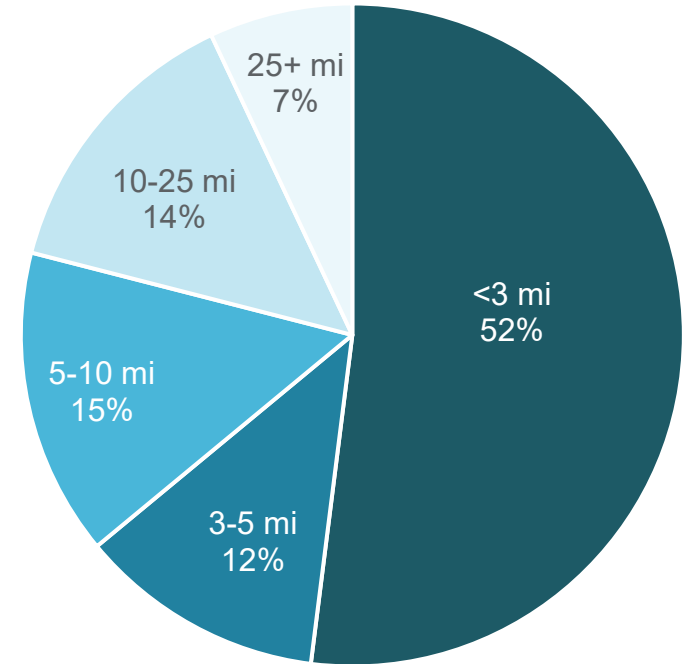


Ride uphill



Haul cargo

Nationwide Trips by Distance



Source: 2022 National Household Travel Survey



Myth busters: e-bike edition

01

“*E-bikes* **MYTH!** are dangerous”



Myth Busters: What is an e-bike? What is an e-moto?

1. What are the 3 key factors that define a legal e-bike in California? In other words, what distinguishes an e-bike from other e-devices seen on the roads (“e-motos”)?
2. What are the definitions of the 3 e-bike classes?

“E-bikes are dangerous”
MYTH!



Myth Busters: Frequency and severity of e-bike crashes

1. Are e-bikes safer or more dangerous than traditional pedal bikes?
2. What is the most common way e-bike riders get seriously injured?



Myth busting strategies

02

E-bike myth busting strategies

Policy

New Jersey Passes Most Restrictive E-Bike Law in the U.S.

By: Dr. Ash Lovell, Vice President of Government Relations



BIKES

Oregon Lawmakers Lower Age for Riding an E-Bike From 16 to 14

The transportation bill HB 4007 passed the Oregon Senate on March 5.

By Rachel Saslow | Published on March 06, 2026 2:57PM PST

The law sets New Jersey up to become the unfriendly state for bicycling in the country, requiring registration and a driver's license to ride a state with an additional insurance requirement and 3 e-bikes.



Bike E-bike Nature Stand Ebike Photo Landscape IMAGE: Max Pixel (<https://www.maxpixel.net/>)

Young teens can finally ride e-bikes legally, thanks to legislation that just passed the Oregon Senate last night. The transportation bill, House Bill 4007, passed with 28 ayes, two excused absences, and zero dissenters after its third reading March 5.

Data



Engineering





Case study: OCTA

03

Myth-busting in the OC: convening diverse stakeholders



Strategy Area Groups

Participants

Education and Enforcement

Policy and Legislation

Data

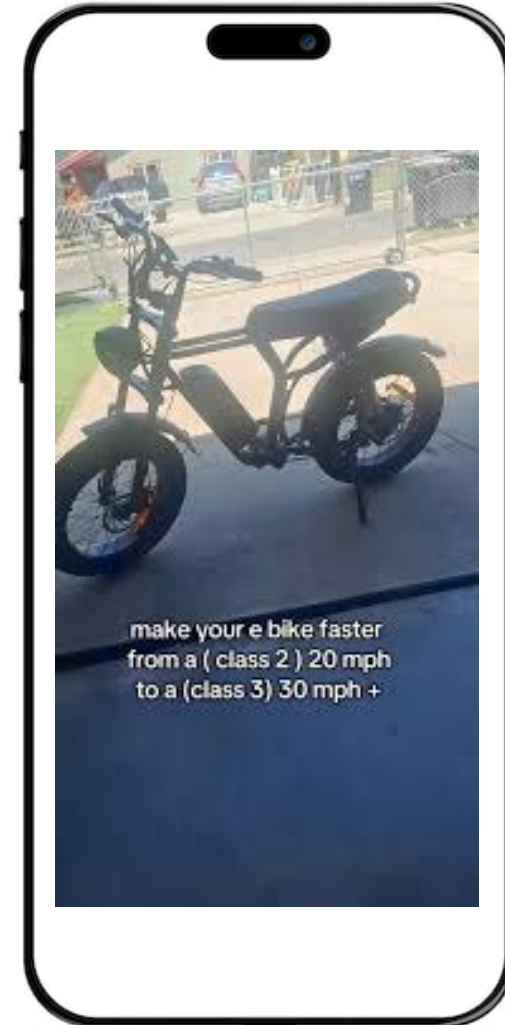
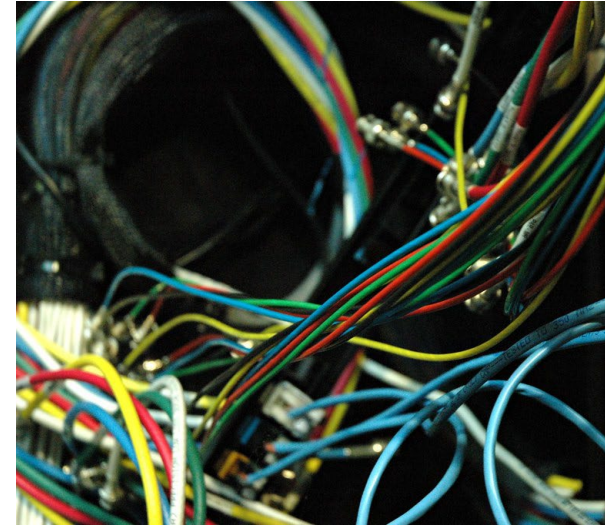
- City staff
- Law enforcement
- ER doctors
- Parents
- Public health professionals
- School staff

Myth-busting in the OC: right message, right audience - parents

Learning e-bike basics and understanding age restrictions

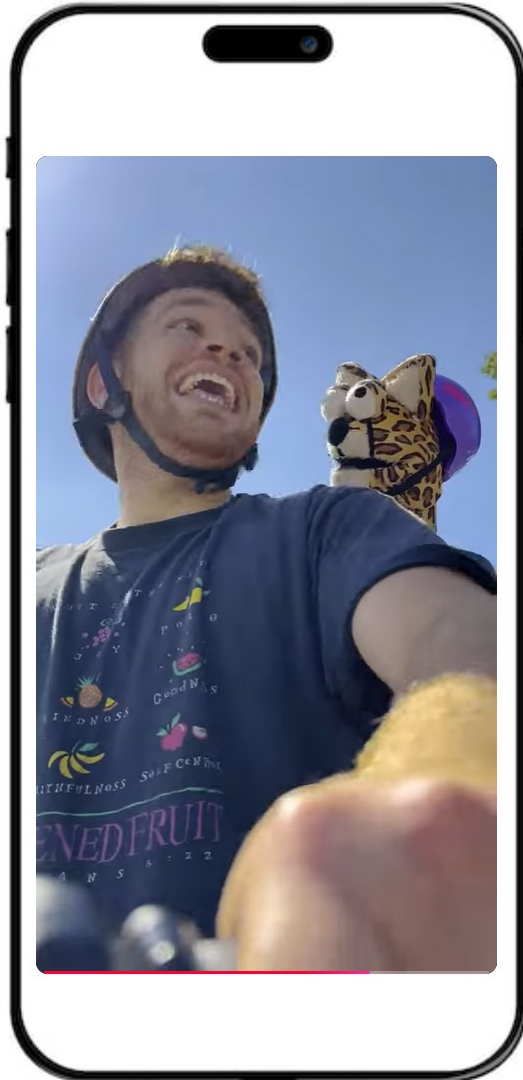
	Class 1 E-Bike	Class 2 E-Bike	Class 3 E-Bike
Max motor-assisted speed	20 mph	20 mph	28 mph
Throttle assist?	No	Yes	No
Additional state regulations			
Minimum age?	No	No	16 y.o.
Driver's license?	No	No	No
Helmet required?	< 18 y.o.	< 18 y.o.	All riders

Recognizing e-bike modifications



Myth-busting in the OC: right message, right audience - youth

- TikTok video with local social media influencer



- Youtube video:
“The Talk”



OCTA E-Bike Safety: The Talk

Myth-busting in the OC: e-bike test rides



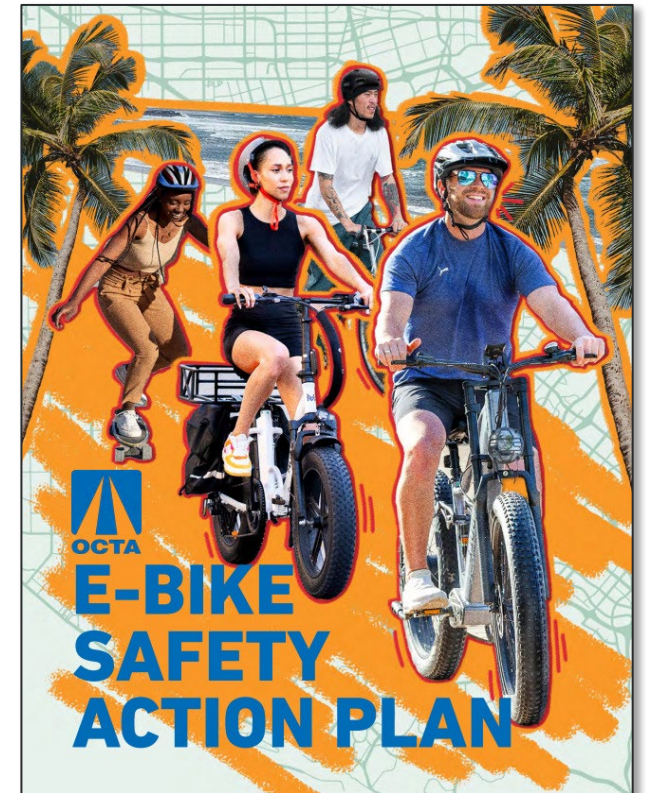
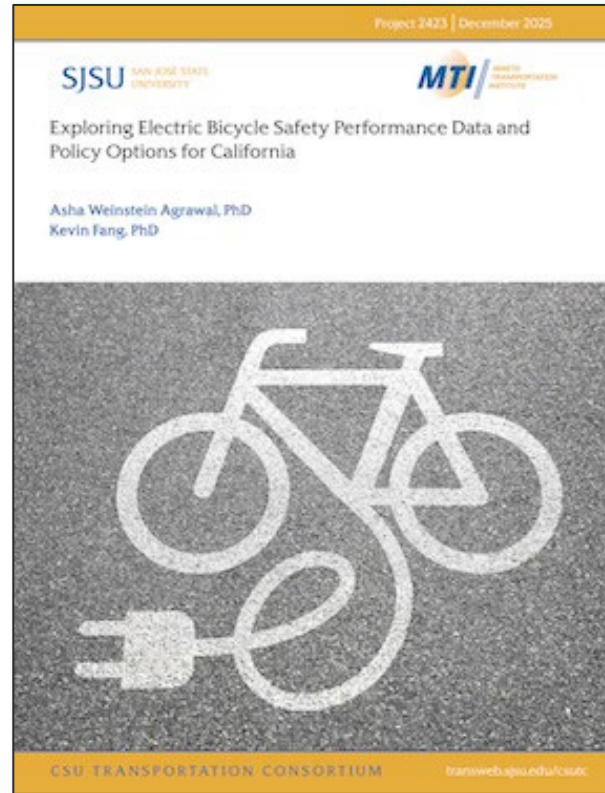
E-bike myth-busting: a summary

- E-bikes offer many benefits:
 - reaching new, diverse users
 - replacing car trips
 - encouraging physical activity
- E-motos ≠ E-bikes! They have very different capacities and regulations.
- Our active transportation facilities can evolve to better serve people riding e-bikes.
- Education and awareness campaigns can help people make safer and better-informed decisions about purchasing and riding e-bikes.



Thank you!

Calvin Thigpen, PhD
New Mobility Practice Lead
cthigpen@tooledesign.com



Bike/Ped Design and Emergency Operations *Myths and Movement*

COLLABORATION BETWEEN OAKDOT AND OAKLAND FIRE ON STREET
DESIGN PRINCIPLES IN OAKLAND, CA

My goals with this presentation

1. Discuss the myths I've uncovered in facilitating collaboration between OakDOT and OFD on roadway design and emergency operations
2. Illustrate how a deep understanding of emergency operations (from the OakDOT side), and of street design (from the OFD side), can bust myths and lead to compromises.
3. Walk through a few recent case studies.

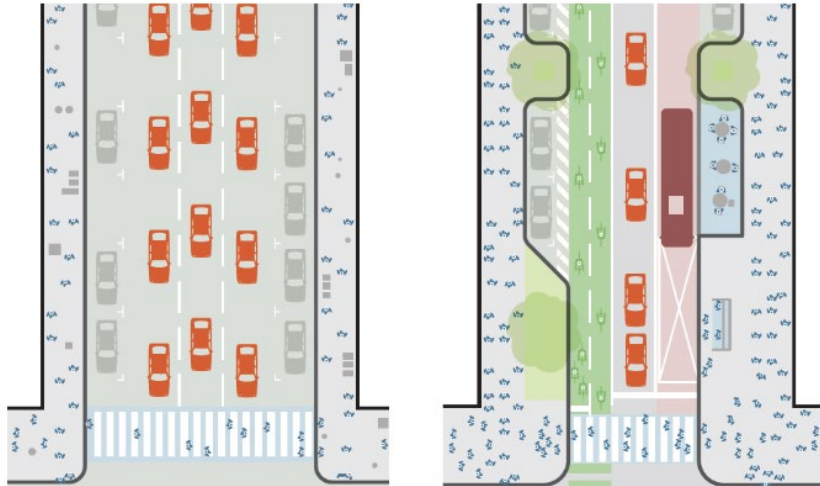
Hopefully, this can foster similar conversations around the Bay!

Myth 1: Everyone must agree

DOT

“How can we make things narrower/slower?”

- Slow motor vehicles down?
- Provide separated spaces for people biking?
- Create safe crossings for pedestrians, etc?



Fire Department

“How can we maintain existing service levels?”

- Quickly respond to emergencies and save lives?
- Keep our operators and responders safe?
- Meet our NFPA response time requirements?



Myth 1 Takeaway: Agencies think differently about roads, and that's OK.



Myth 2: It's all there in the Fire Code

Section 503.2.1 - Dimensions.

Fire apparatus access roads shall have an unobstructed width of not less than **20 feet**, exclusive of shoulders

OPTIONAL APPENDIX D: SECTION D105 AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Where the vertical distance between the grade plane and the highest roof surface **exceeds 30 feet**, approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

D105.2 Width. Aerial fire apparatus access roads shall have a **minimum unobstructed width of 26 feet** exclusive of shoulders, in the immediate vicinity of the building or portion thereof.

Myth 2: It's all there in the Fire Code

20

(Short
buildings)

feet

26

(Tall
buildings)

feet

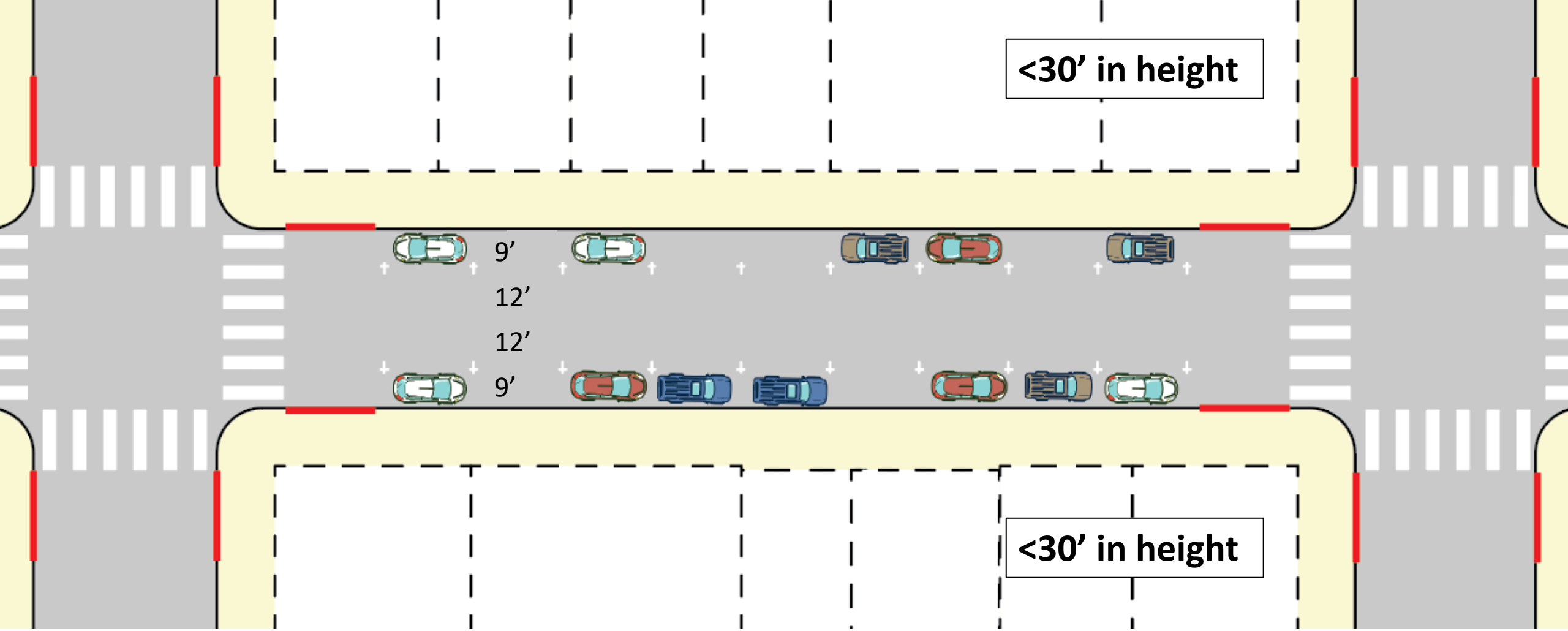
Myth 2 Takeaway: It's less about the CODE and more about the context-sensitive details

The Real Questions:

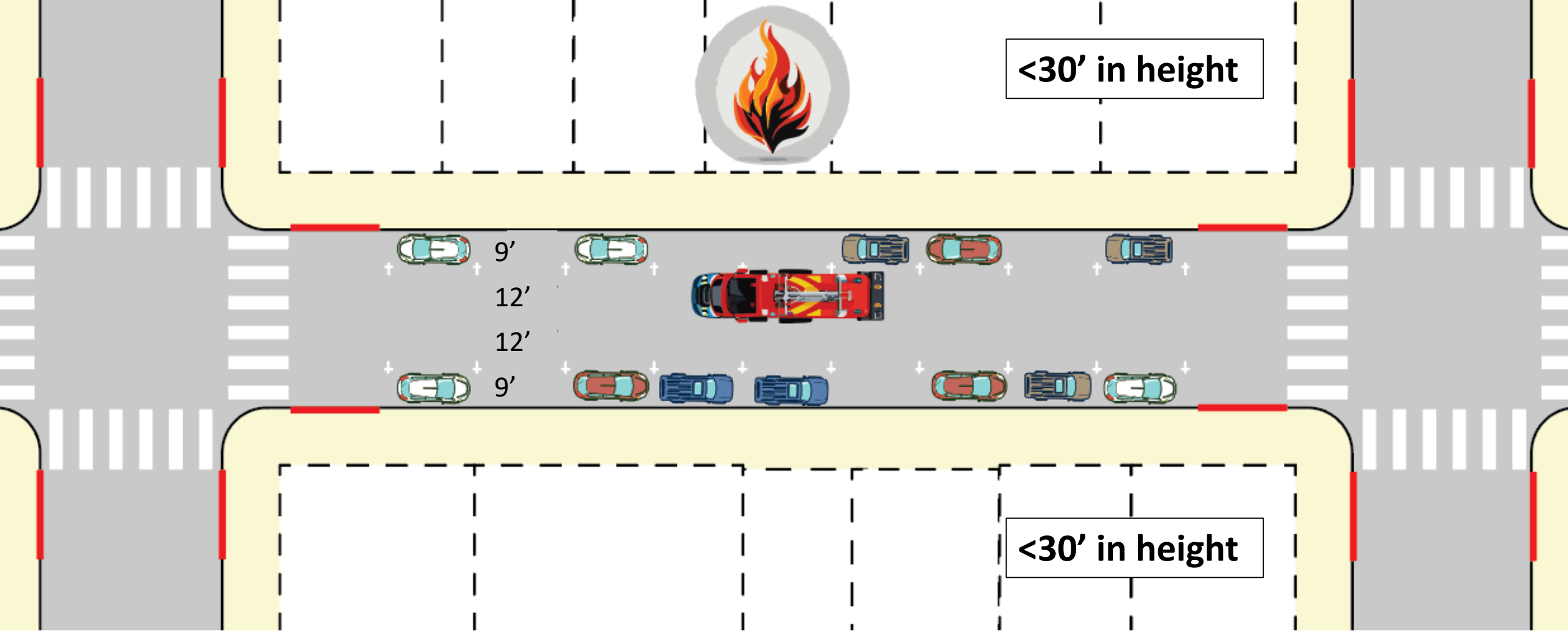
- What are the **operational underpinnings** of these numbers? Why 20', why 26'?
- How can we **dive into the details** and design streets that are safe, slow, and accommodate effective emergency response?
- How can Transportation Departments **get out in the field** alongside the Fire Department to observe and learn more about emergency response to:
 - Design streets that accommodate emergency response
 - Discover ways to interpret and define the Fire Code in a way that supports the City's Goals of creating a vibrant, safe, and livable City
 - Learn more about each other and each other's goals, say hello in person

Case Study - Operational Underpinnings of the Code

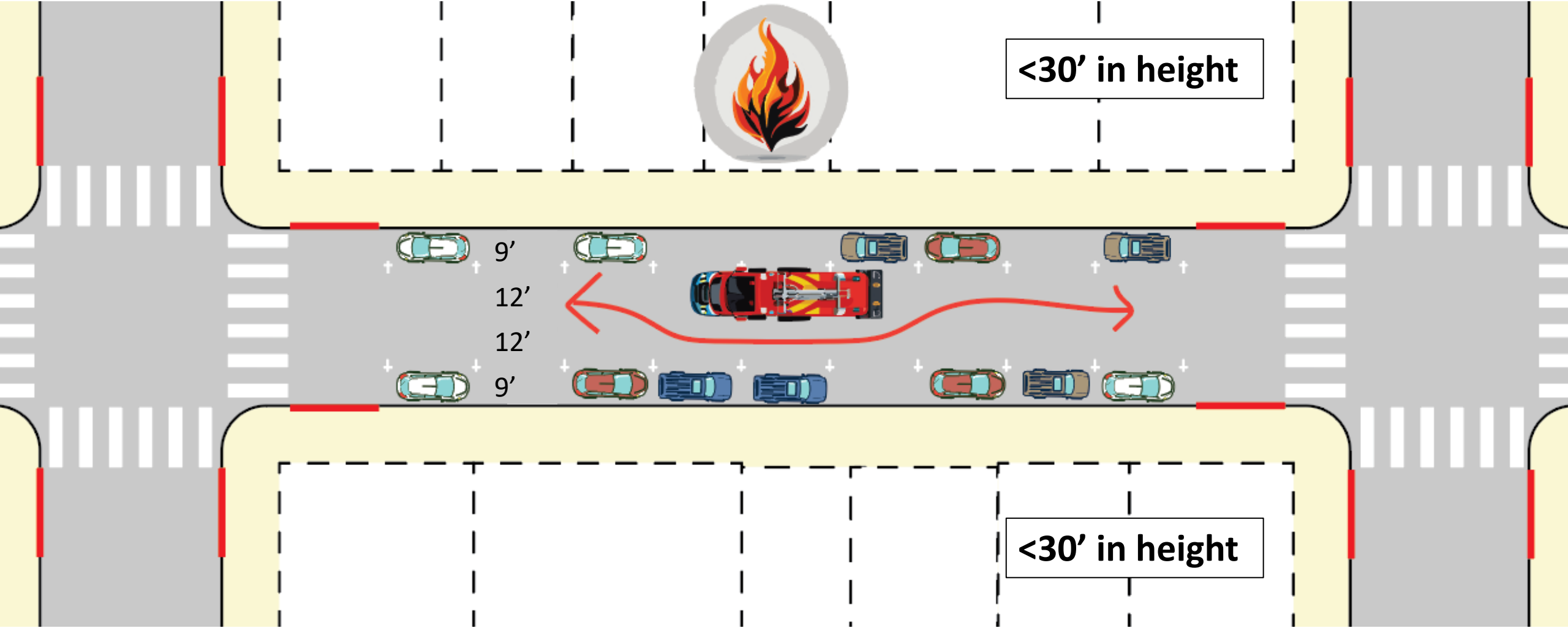
OBJECTIVE – GAIN A REAL-WORLD SENSE OF HOW FIRE OPERATES DAY-TO-DAY, AND HOW THEY USE SPACE IN THE ROW IN VARIOUS SITUATIONS



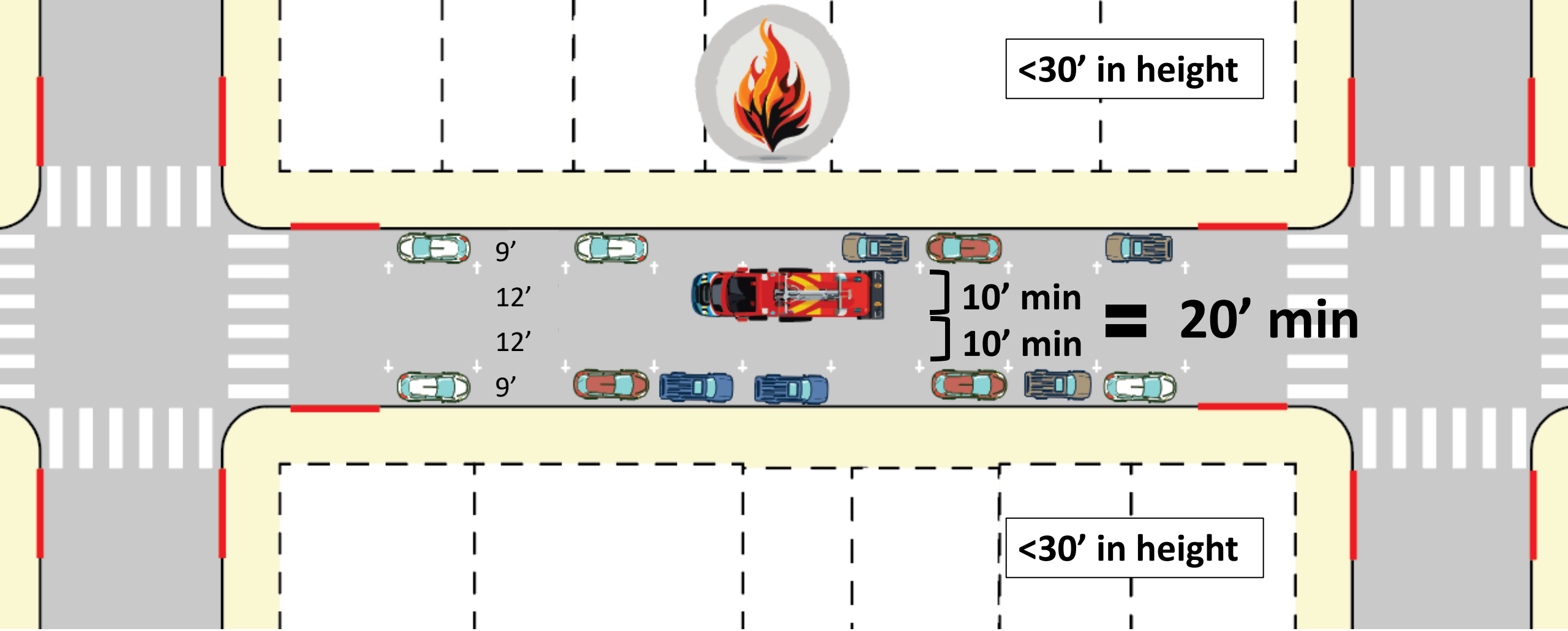
One Example - How is that 20' of space really used?



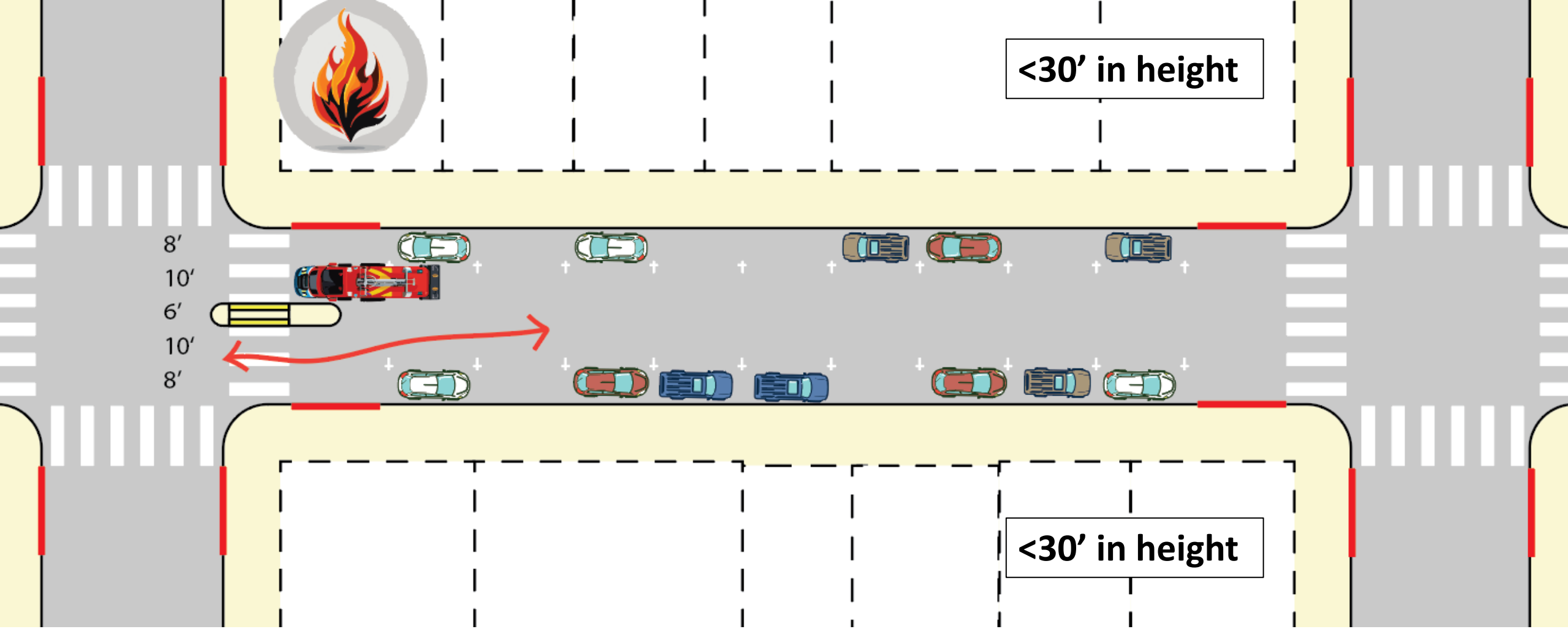
Fire truck comes to respond, stops in one lane



Additional space is used for additional vehicles to maneuver



The 20' number in the code is Parking + Passing space



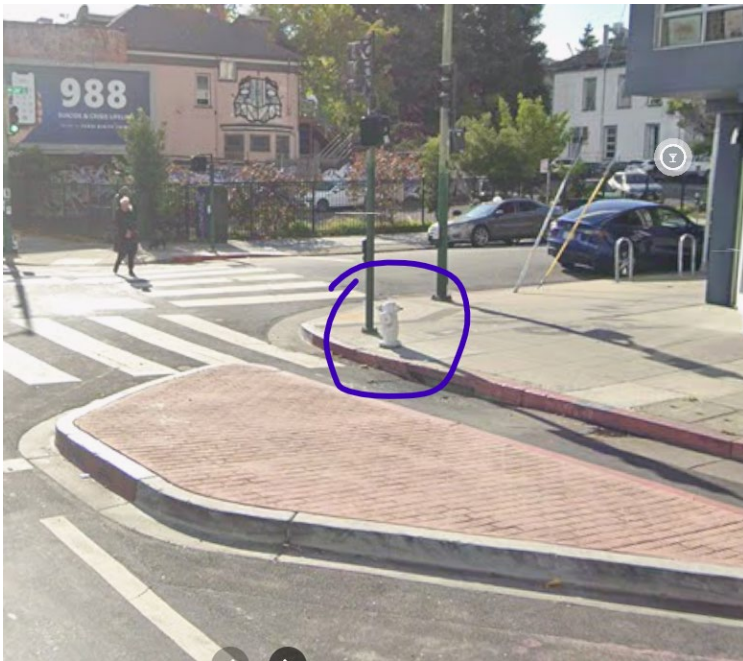
Implications of operational understanding/agreement

Case Study 2: Diving into the Details

OBJECTIVE – TAKE THE TIME TO GET INTO THE DETAILS OF EACH LOCATION AND PROBLEM. STAY AWAY FROM GLOBAL COMMENTS OR UNIVERSAL DESIGN PRINCIPLES, EVERY SPOT IS UNIQUE.

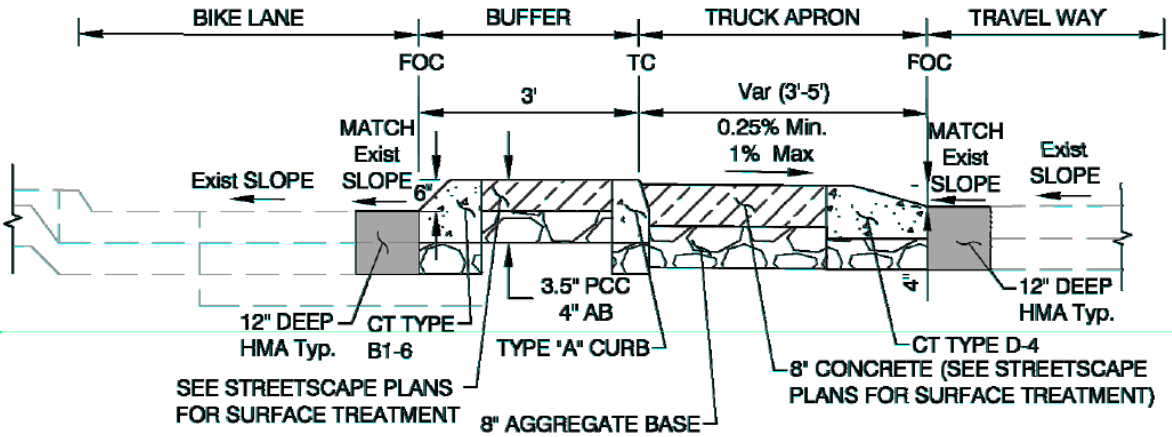
Fire hydrants and protected bike lanes

Not a code issue (roadway provides 26' of clear width), but again an operational hose-length issue – pumper trucks need to pull up and get their midpoint to within 12' of a hydrant.

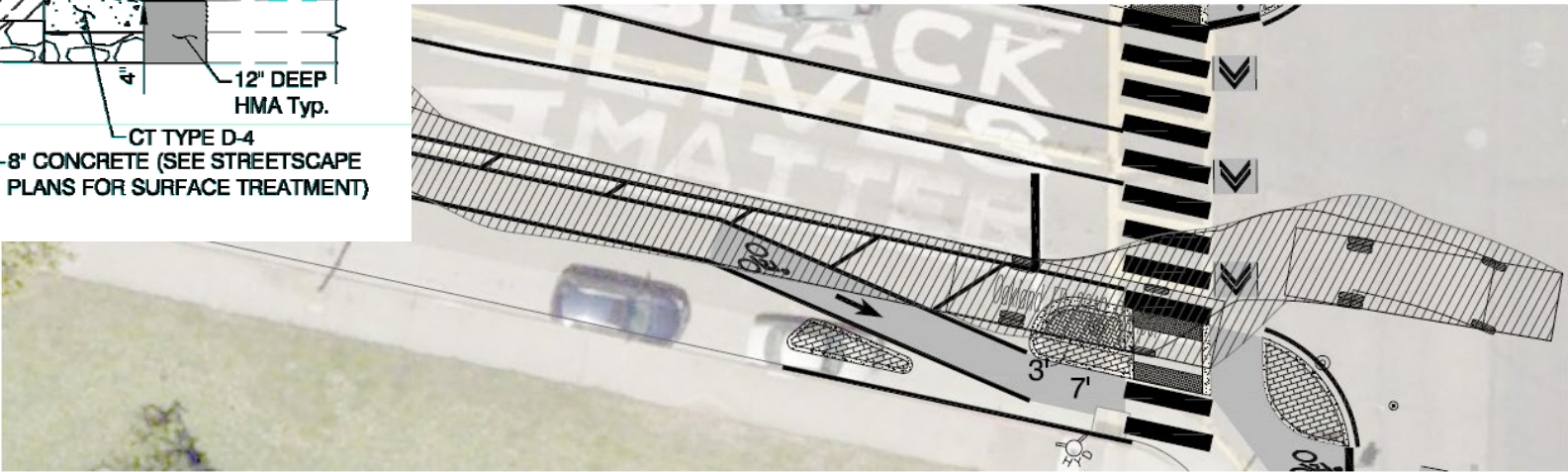


Fire hydrants and protected bike lanes

SEPARATION ISLAND WITH MOUNTABLE FIRE APPARATUS APRON DETAIL



HYDRANT AT SW CORNER OVER MOUNTABLE SEPARATION ISLAND APRON



Myth 3: People will remember forever



2023 site visits to measure new Pierce Tiller truck, conduct field test for distance to building face.

People come and go. By 2026, understandings and agreements fade.



Myth 3 Takeaway: WRITE IT DOWN!

- Ped Safety Island Memo - Signed and distributed Sep 2024
- Write it down for future staff!
- Provides foundation for project review, not approval by-right
- Inter-departmental Memo of Agreement, non-binding
- Central Agreement – clear width can be “split” into two non-contiguous zones within 50’ of intersection.

CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA • OAKLAND, CALIFORNIA 94612

FIRE DEPARTMENT
Fire Prevention Bureau

DEPARTMENT OF TRANSPORTATION
Office of the Director

June 20, 2024

OakDOT Staff and OFD Staff,

The attached inter-departmental memorandum is an internal agreement between the Department of Transportation (OakDOT) and the Fire Department (OFD) on the construction of pedestrian safety islands in the street right-of-way. The purpose of the memorandum is to facilitate the implementation of traffic safety improvements that are supportive of Fire operations and aligned with the Oakland Code (Oakland Municipal Code Chapter 15.12).

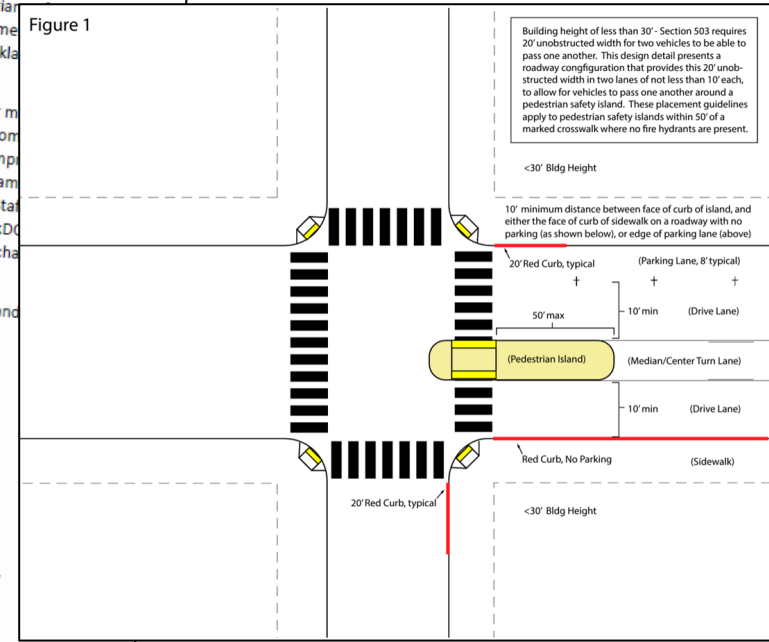
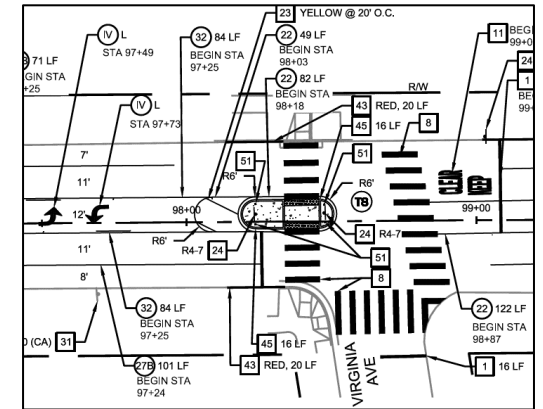
This memorandum is the outcome of close collaboration between the two departments over many months involving staff from numerous functional units. The collaboration benefited from meetings to discuss recently installed design features and to develop new approaches for improving traffic safety. Importantly, these meetings created an understanding and appreciation among Transportation staff for how Fire staff respond to incidents and deploy their equipment. Staff utilize the once-every-three-years update to the Fire Code as a future prompt for OFD/OakDOT check in on this memo, making updates as needed to reflect lessons learned and potentially changes to the California Fire Code.

OakDOT staff and OFD staff are requested to familiarize themselves with the attached memorandum. OakDOT staff will follow this guidance when designing new pedestrian safety islands.

Felicia Bryant Sep 3, 2024
Felicia Bryant
Fire Marshal, OFD

Megan Wier Jul 8, 2024
Megan Wier
Assistant Director, OakDOT

Attachment:
Inter-Departmental Memo: OakDOT/OFD Agreement on Pedestrian Safety Island Design (February 2024)



Memo - Results!

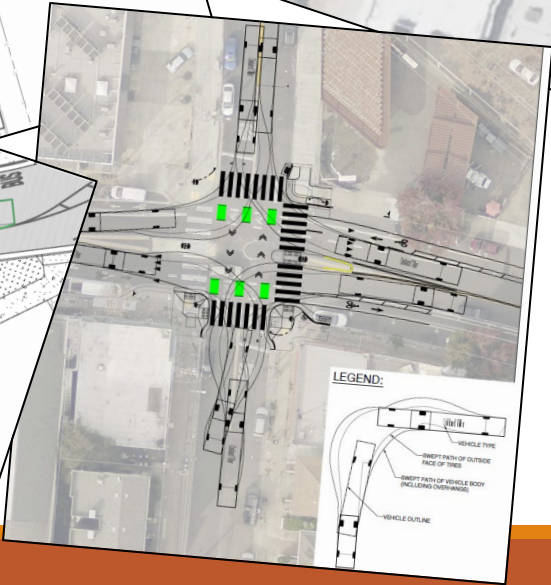
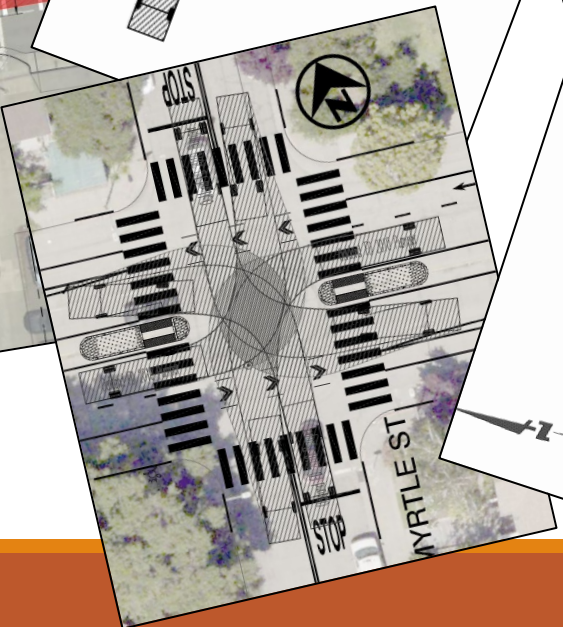
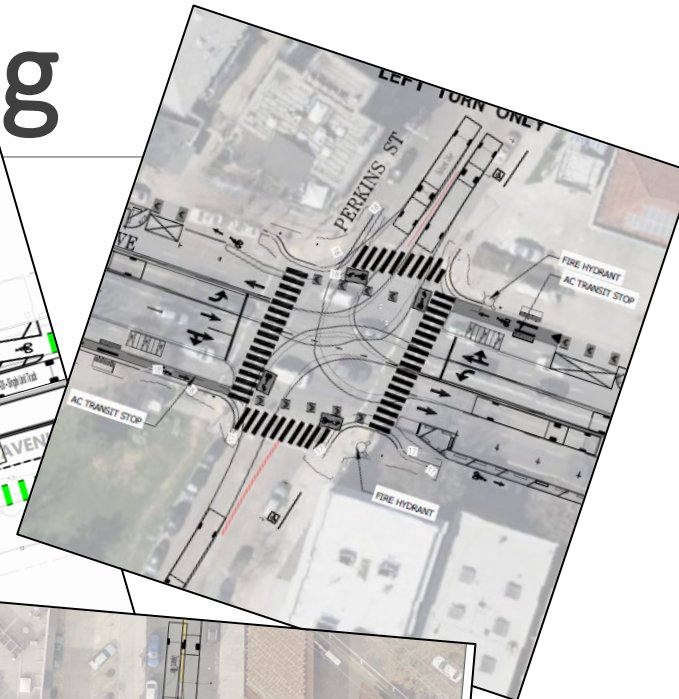
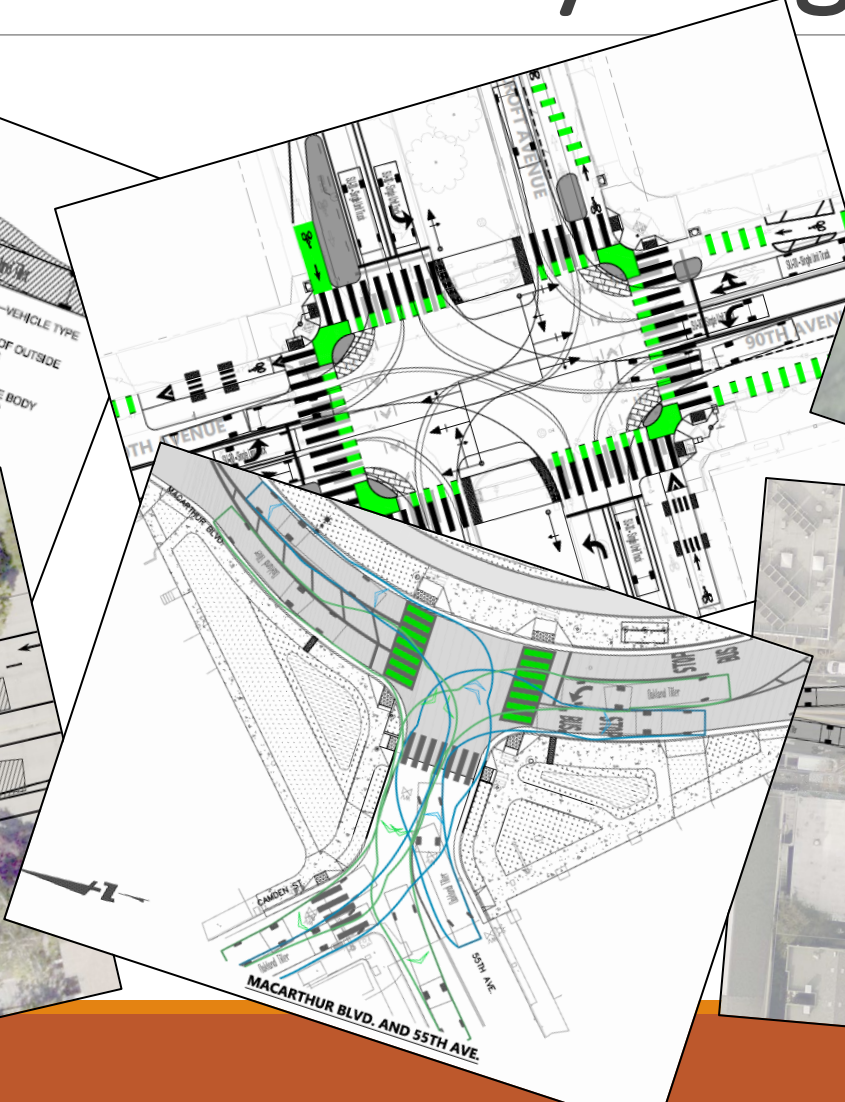
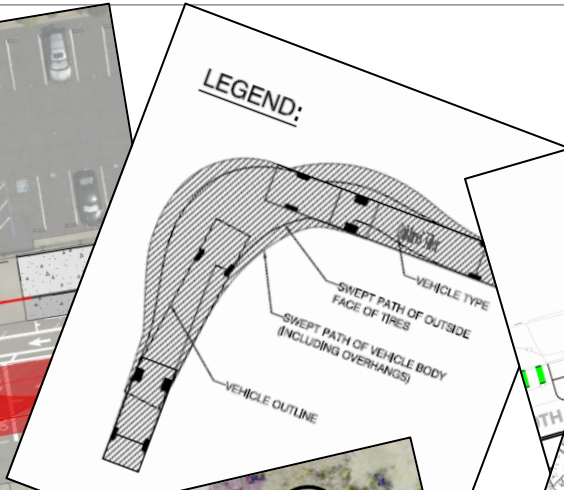
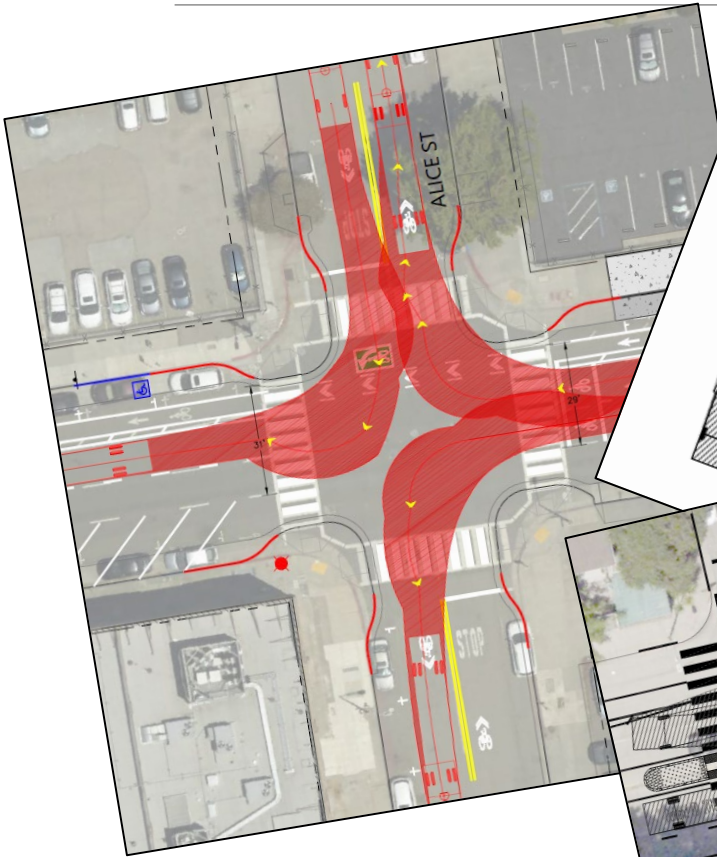


*High Street Paving Project
(Completed Spring 2024)*

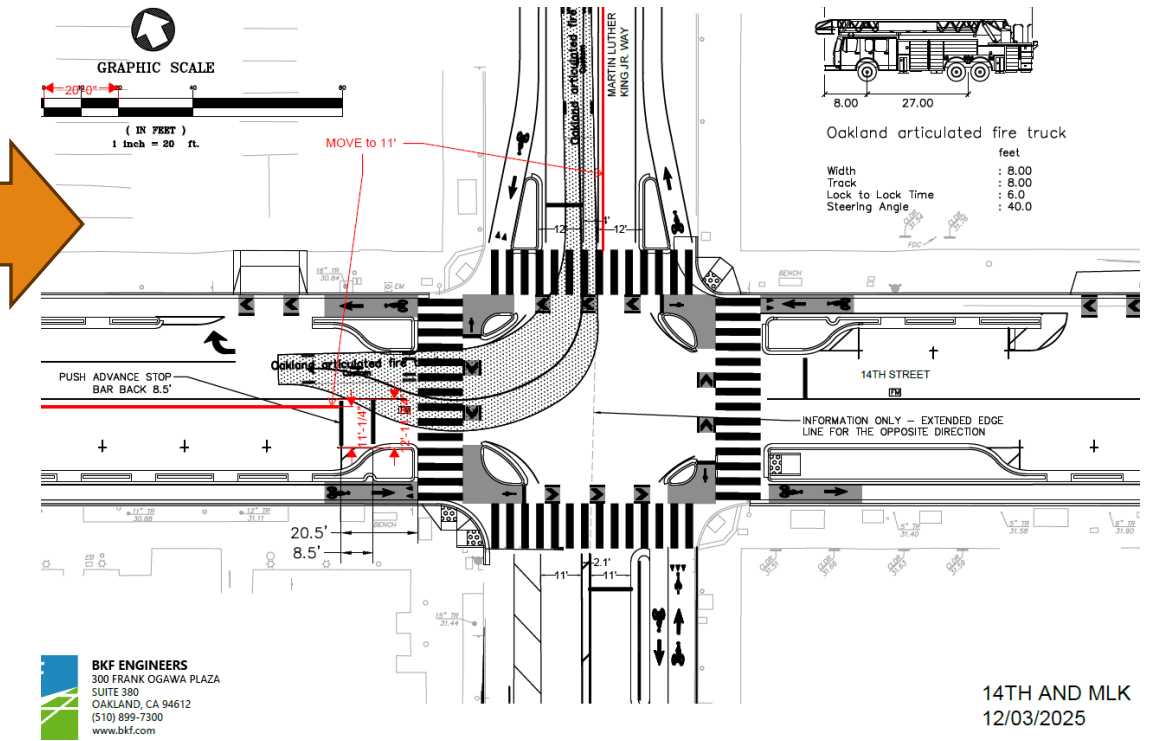


*8th Street West Oakland Traffic Calming Project
(Completed Summer 2024)*

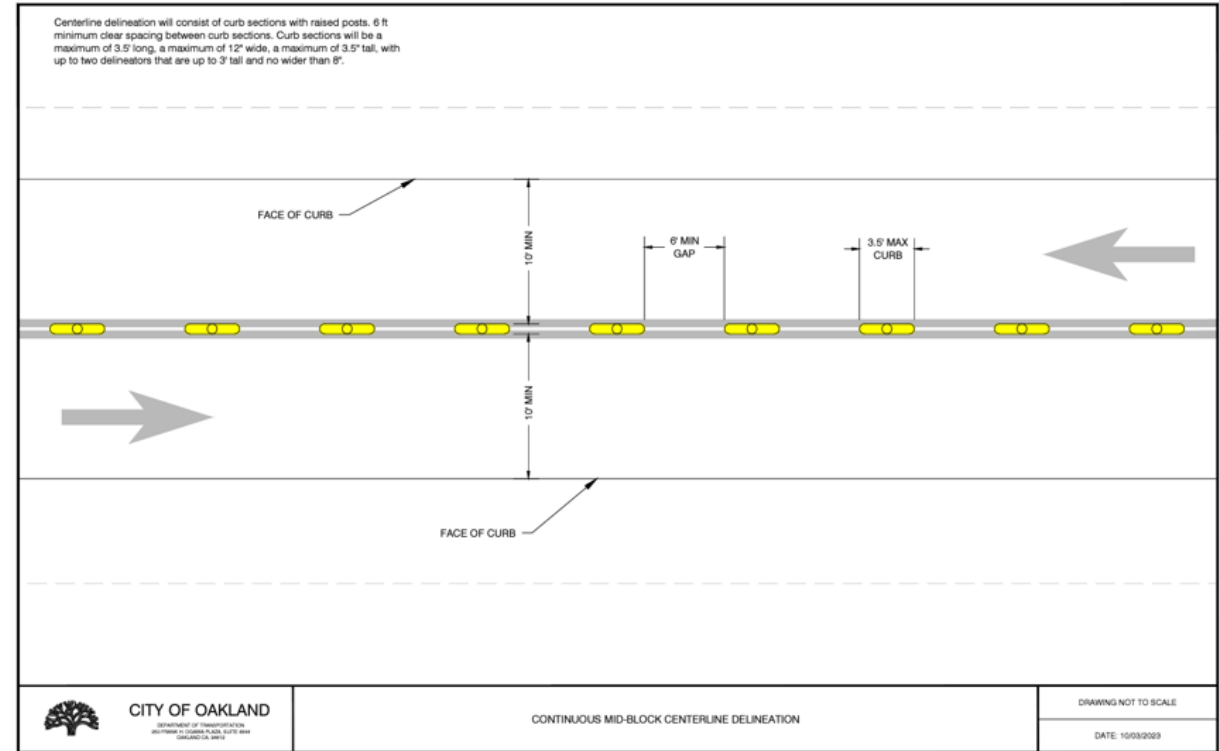
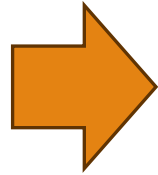
Myth 4: CAD can solve everything



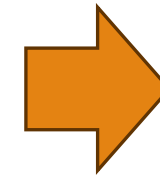
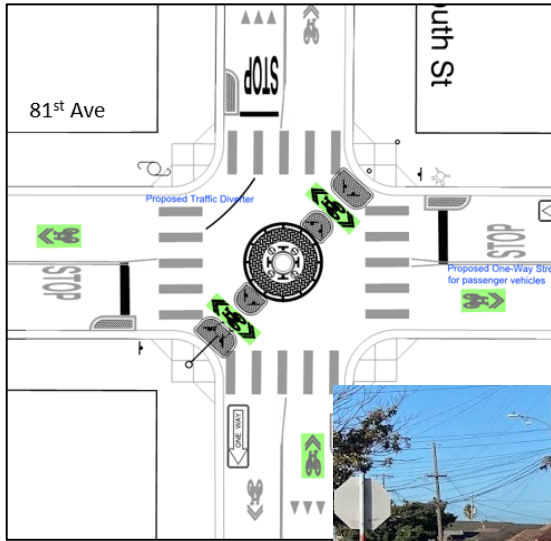
Myth 4 Takeaway: Get out there together and see if it fits!



Myth 4 Takeaway: Get out there together and test it, talk it out



Myth 4 Takeaway: Quick-build and test routing and response



“there will be an increase in response time of 16 seconds (from 2:54 to 3:10). This time increase still falls below the 4:00 min threshold. Therefore, the project can move forward as designed with an additional hydrant.”

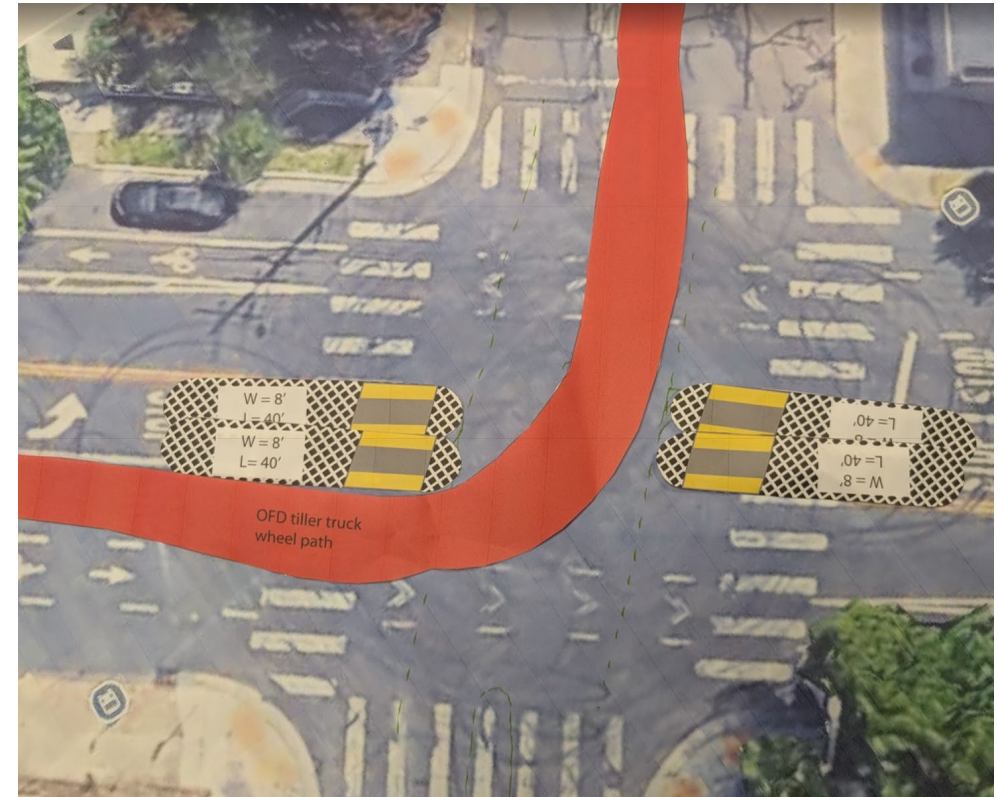
Maintain Momentum and Focus

OBJECTIVE – ENSURE THAT TRANSPORTATION DESIGNERS KEEP EMERGENCY ACCESS IN THEIR HEADS AS A TOP ISSUE WHEN THINKING ABOUT STREET DESIGN

Emergency access as a core principle

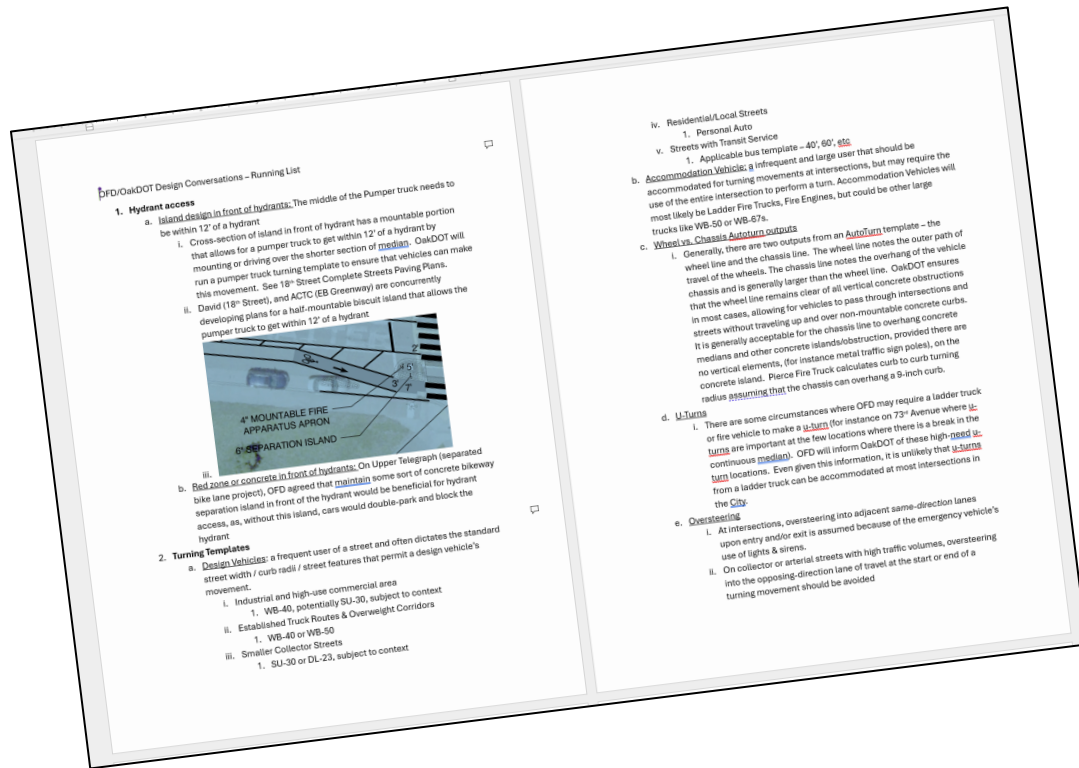


Turning templates as a key feature of an upcoming design charrette

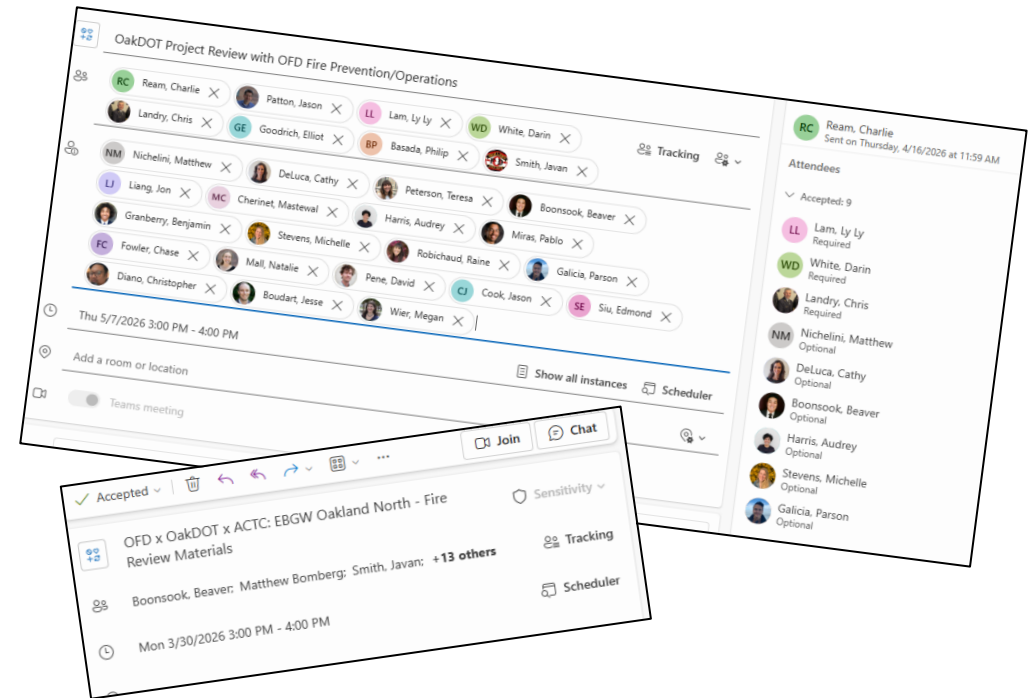


Build a shared understanding

“Cheat sheet” for internal design teams:



Consistent, broad attendance at OFD/OakDOT design meetings, main POCs at all OFD meetings:



What's on deck?

- A constant evolution of the conversation – no final resting point, and that is ok.
- More learning about the operational needs of Fire and how they relate to the Fire Code
- More lengthy and detailed design discussions – site by site, foot by foot
- More site visits to get out in the field together, meet on common ground, and solve problems
- More writing things down (cheat sheet, future memos)

Contact

Charlie Ream

Planning Team Lead

Complete Streets Infrastructure Division

City of Oakland Department of Transportation

CReam@oaklandca.gov

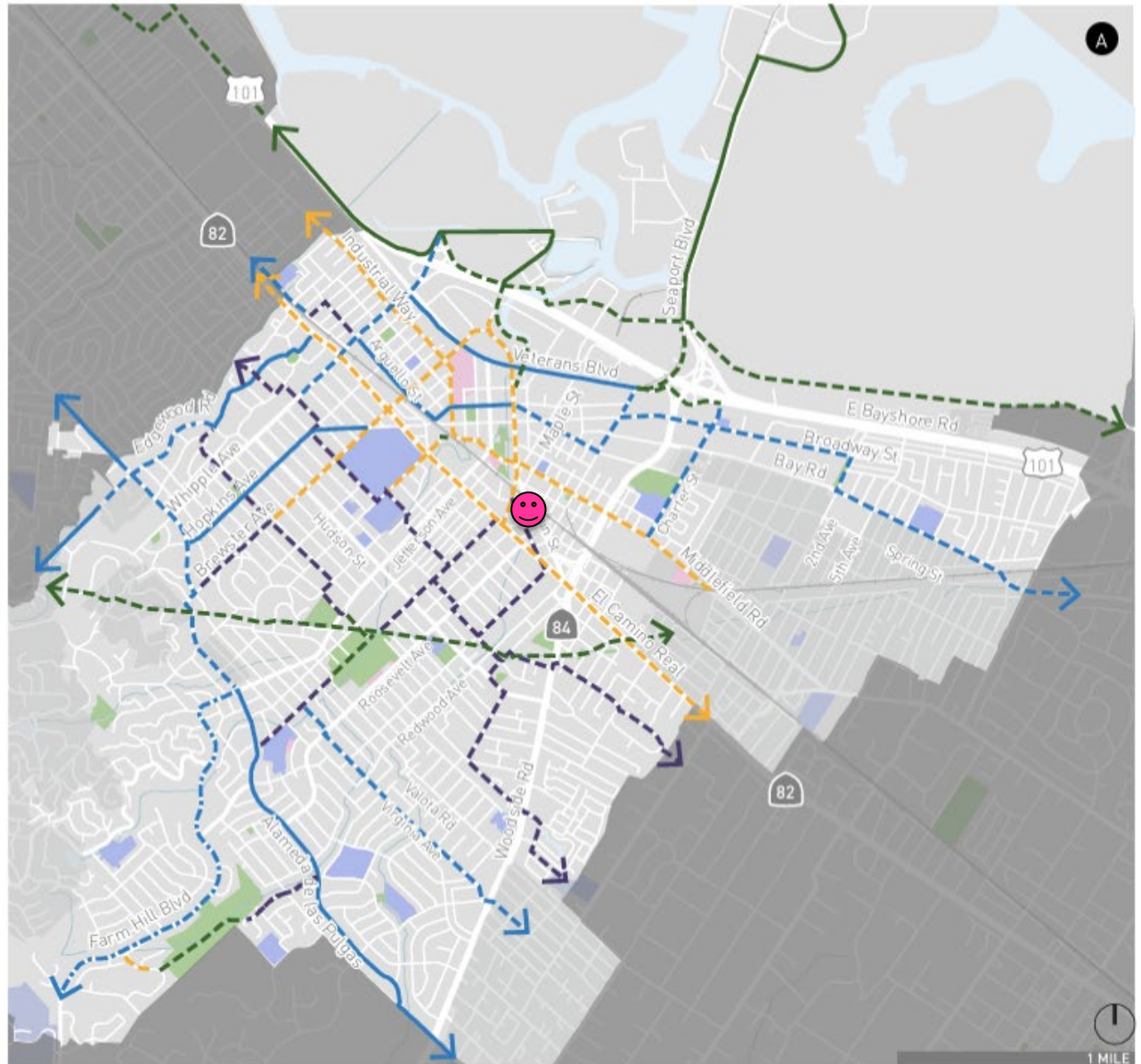


Vera Avenue Bicycle Boulevard Project

June 23, 2026



Bicycle Backbone Network



Vision



The Vera Avenue
Bicycle Boulevard
Project creates a **low-
stress, east-west bicycle
route** parallel to two
high-speed, high-
volume streets; support
access to major
community destinations



Advocacy for Bicycle Boulevard



- A **low-stress bikeway** installed on local streets with low traffic volumes and speeds.
- Reduced Speed; A **safe and convenient route** for bicyclists to share the roadway with vehicles.
- Design flexibility; use **signs, pavement markings, and traffic calming measures** to allow motor vehicle traffic but discourage cut-through traffic.

Funding



FUNDED THROUGH THREE GRANTS:

- Quick-build construction:
- TDA 3/ C/CAG
- Permanent project design:
Measure A/W (SMCTA)
- Permanent Project
Construction: Measure
A/W (SMCTA)



Neighborhood Engagement



VERA AVENUE BICYCLE BOULEVARD PROJECT

We Are Looking For Your Design Ideas

Redwood City Community Development and Transportation Department in collaboration with Redwood City Arts Commission inviting the Vera Avenue neighborhood residents to submit their design ideas for the Vera Avenue Bicycle Boulevard Project. The designs (or patterns) will be implemented inside the six proposed traffic circles and also curb extensions along Vera Avenue. Vera Avenue Bicycle Boulevard Project will be built with quick-built materials to give flexibility for modifications in the future. The project construction will start late summer-early fall 2021.

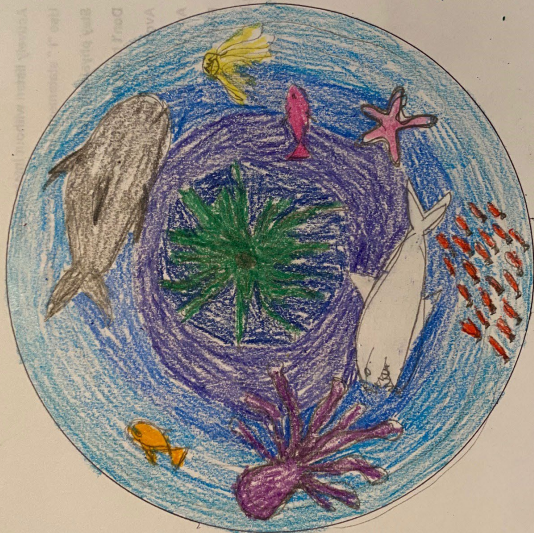
City of Redwood City
1017 Middlefield Rd
Redwood City, CA 94063

How to Submit Your Design?

- Email your design in PDF or JPEG format to vera@redwoodcity.org
- Submittal deadline: August 29, 2021
- For more information about dimensions and to see cases and examples of patterned traffic circles, visit www.redwoodcity.org/vera
- For questions about design submittal or hard copy submittal, email vera@redwoodcity.org



Neighborhood Engagement



Quick-Build Installation



Neighborhood Traffic Circles:

- Reduce speeds through diversion
- Slow traffic at intersection without stop control
- Provide space for community art



Quick-Build Installation



Quick-Build Installation



- Speed cushions
- Accommodate emergency vehicles



Quick-Build Installation



Pavement Markings



Wayfinding



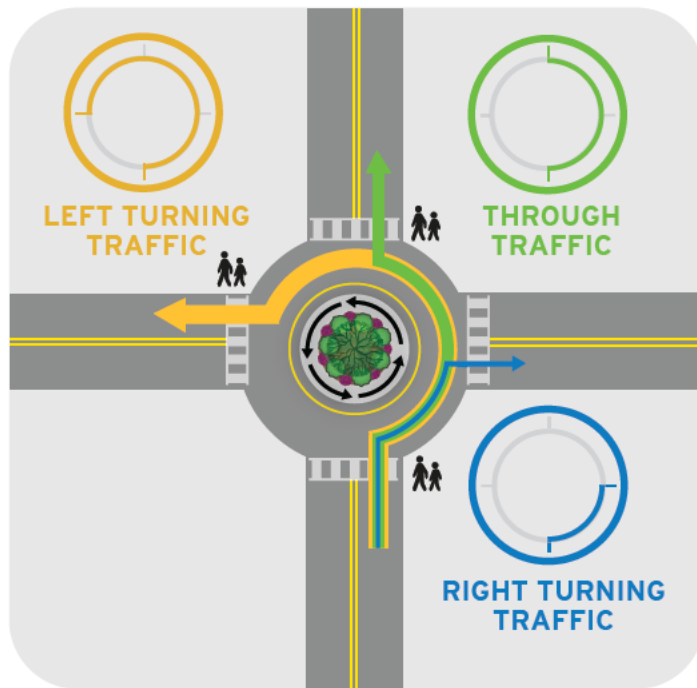
Improved Crossings



Community Education



HOW TO USE A TRAFFIC CIRCLE



Watch for the "Yield to Traffic in Circle" sign, then reduce your speed on approach. Look to your left and yield to the vehicles or bikes that are already in the circle. Stop if there is a stop sign. When you see a gap in the traffic, you can safely enter the circle.



Watch for and stop for pedestrians.

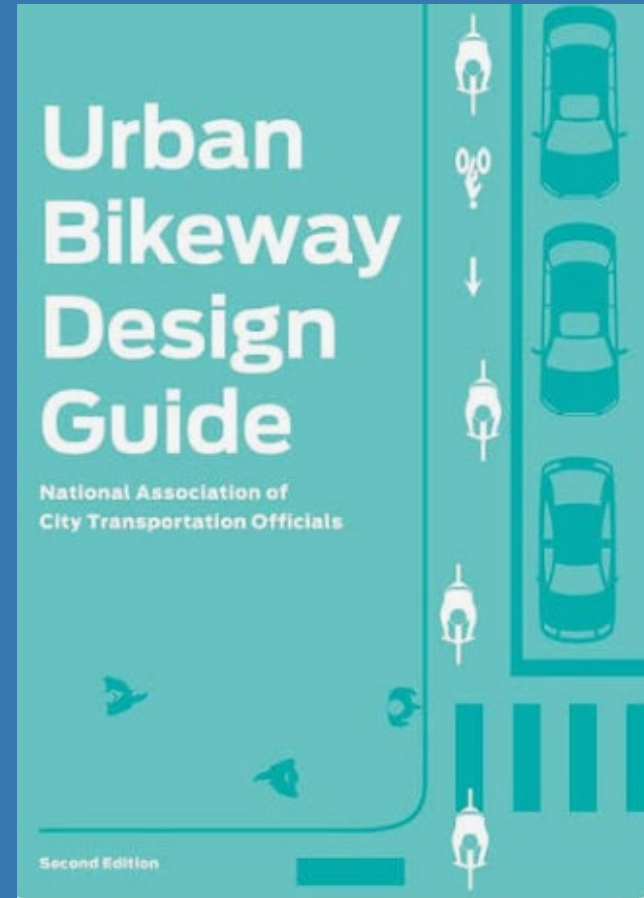


If you are biking around the traffic circle follow the same rules as vehicles.



Pedestrians should never cross the central island.

Minor Modifications After Quick-Build Installation



The Permanent Project Under Construction



\$2,2 Million



TAHNK YOU

Contact:

Malahat Owrang

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