Bike/Ped Design and Emergency Vehicle Operations

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

My goal with this presentation

Define agreements OakDOT and OFD related to clear width in two specific focus areas:

- 1. Pedestrian Safety Islands
- Flexible Plastic Delineator Posts

Overall, dive into the operational underpinnings of the Fire Code as Oakland interprets it.

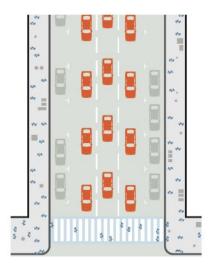
Hopefully this can foster similar conversations around the State and Nation!

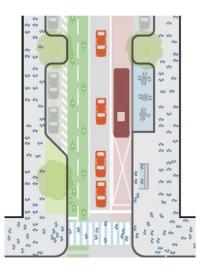
Agencies think differently about roads, and that is OK.

DOT

"How can we:

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





Fire Department

"How can we:

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



What does the CODE say?

Questions:

What can we do within existing parameters? How can we move the needle without re-making the entire system?

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.l 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.

What does the CODE say?

Section 503.2.1 - Dimensions.

20 feet

Fire apparatus access roads shall have an unobstructed width of not less than

exclusive of shoulders

OPTIONAL APPENDIX D: SECTION D105 AERIAL FIRE APPARATUS ACCESS ROADS

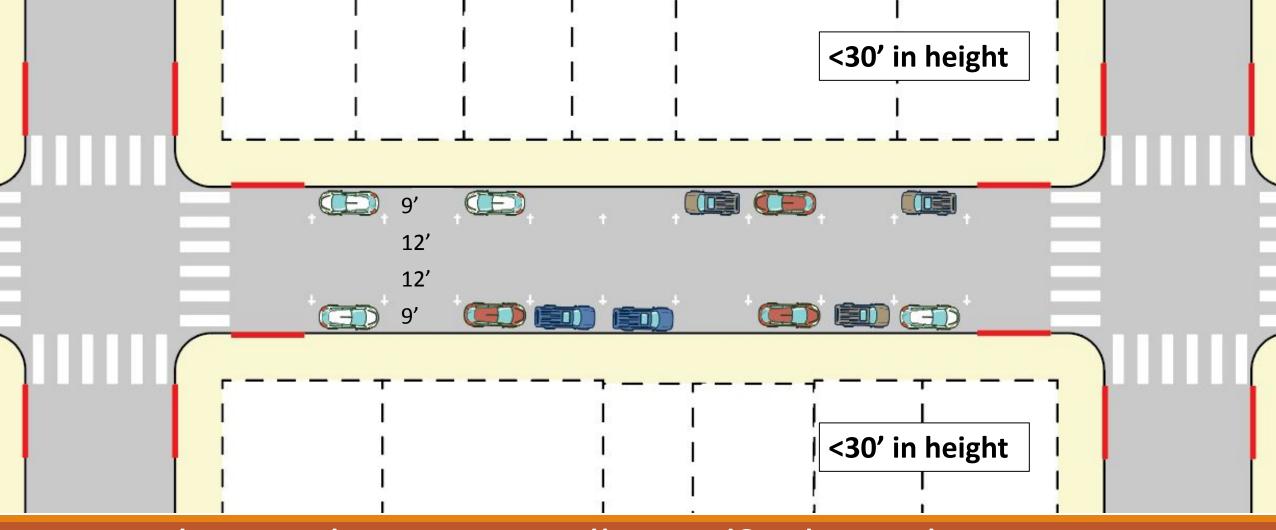
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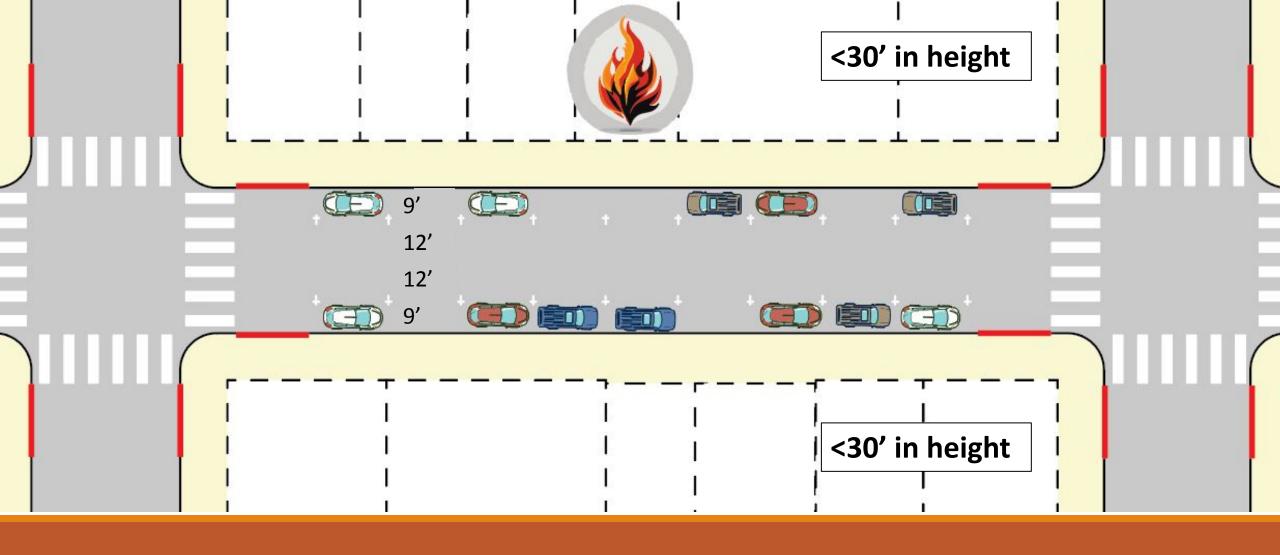
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26 feet

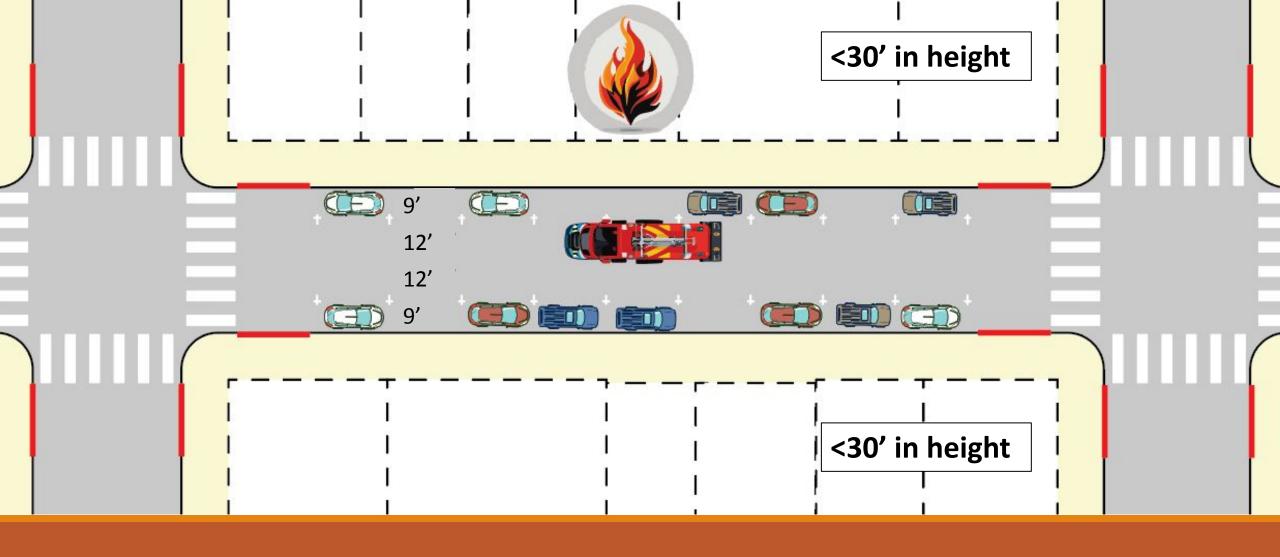
exclusive of shoulders.



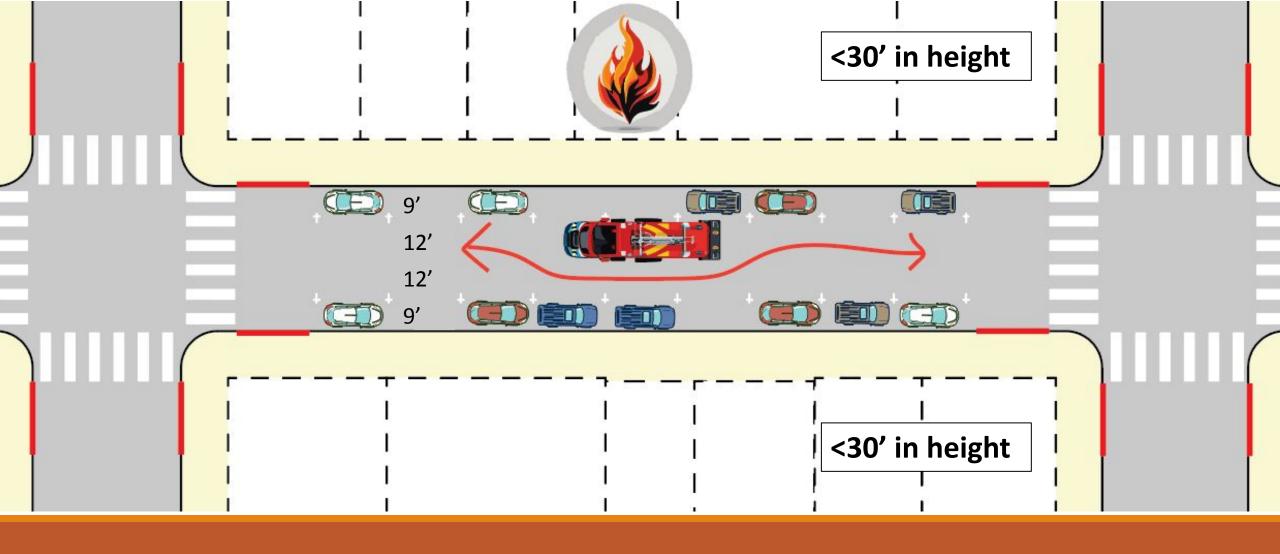
So how is that space really used? This is the Question!



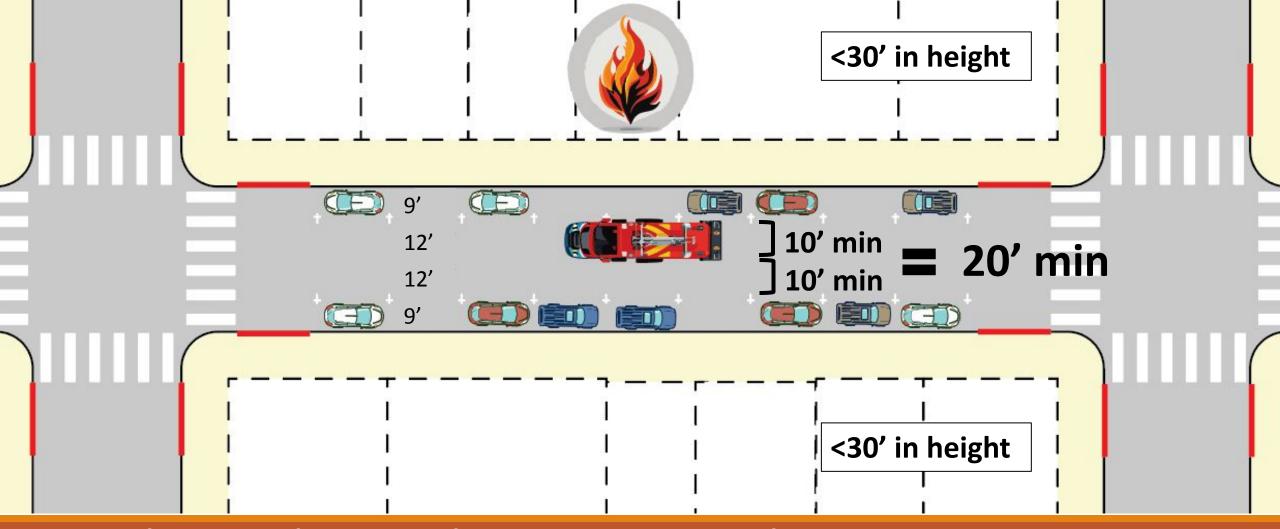
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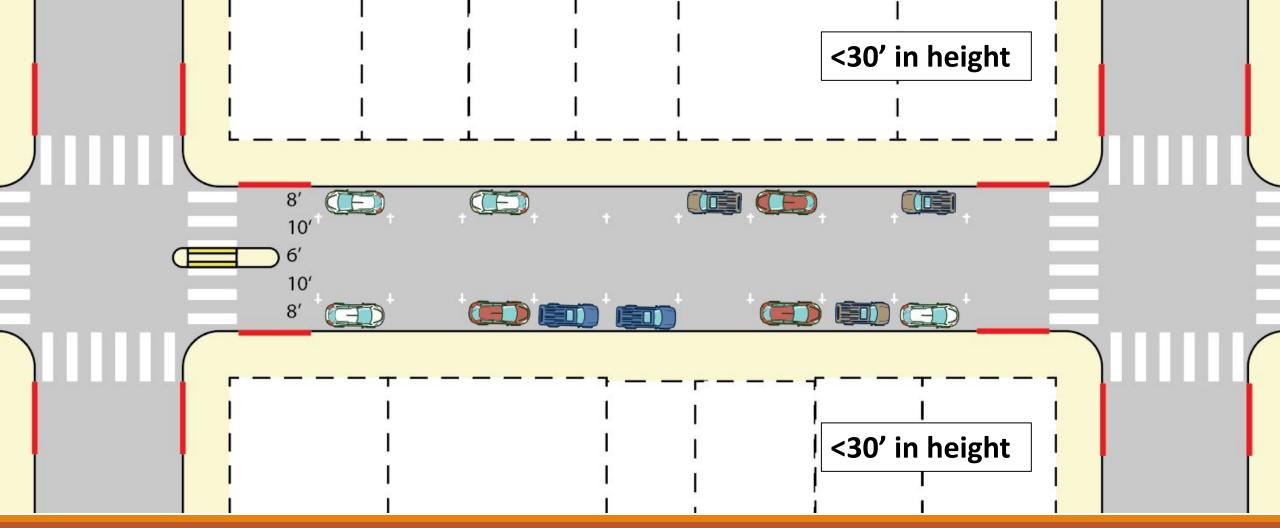
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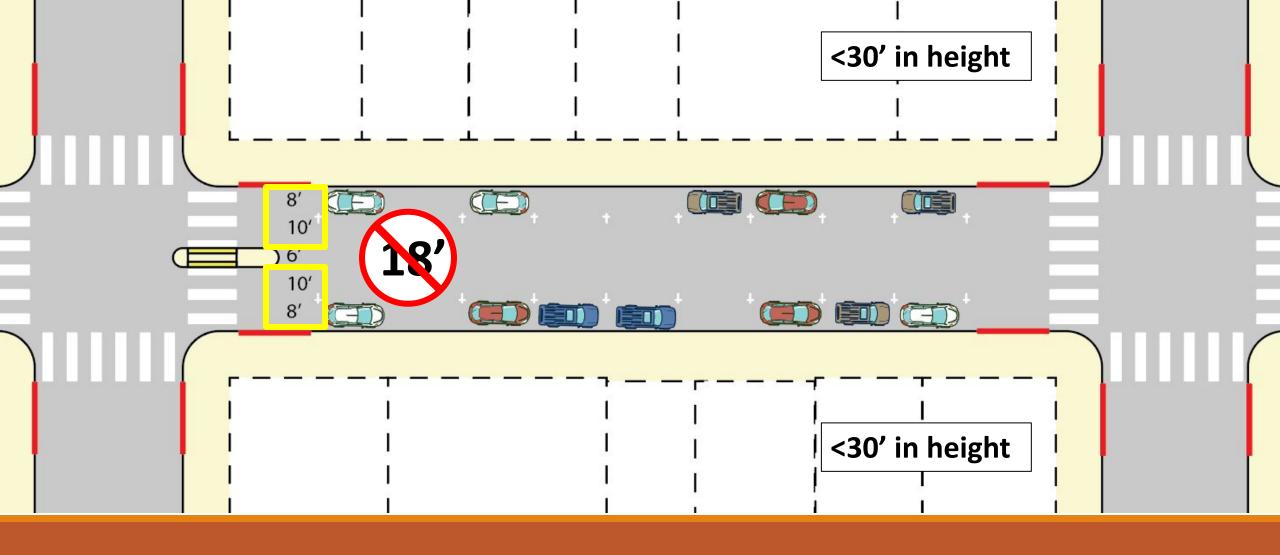
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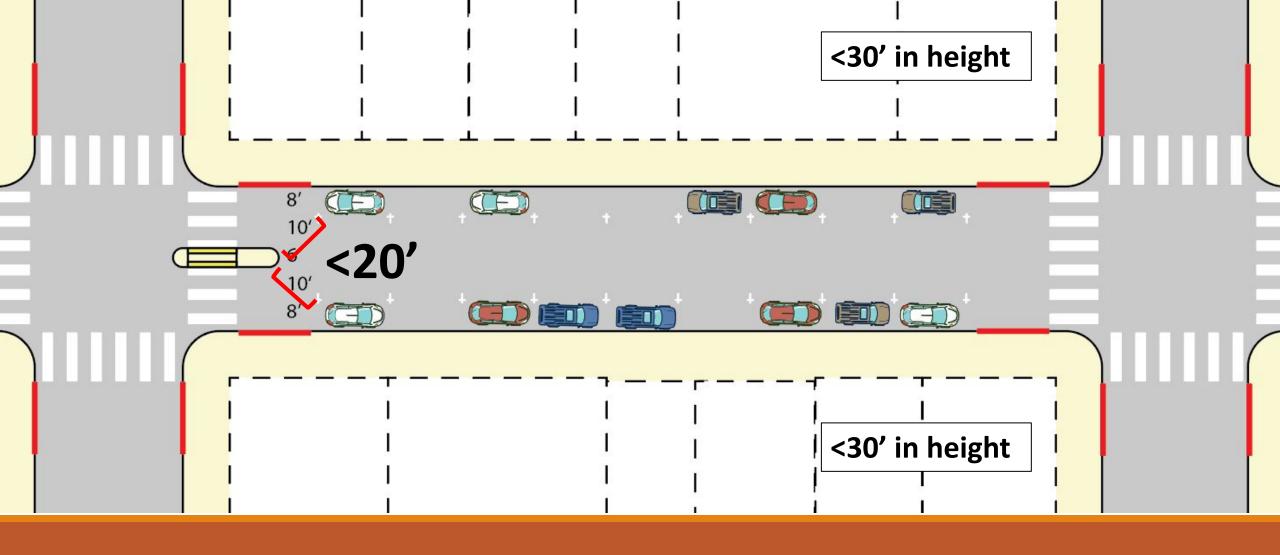


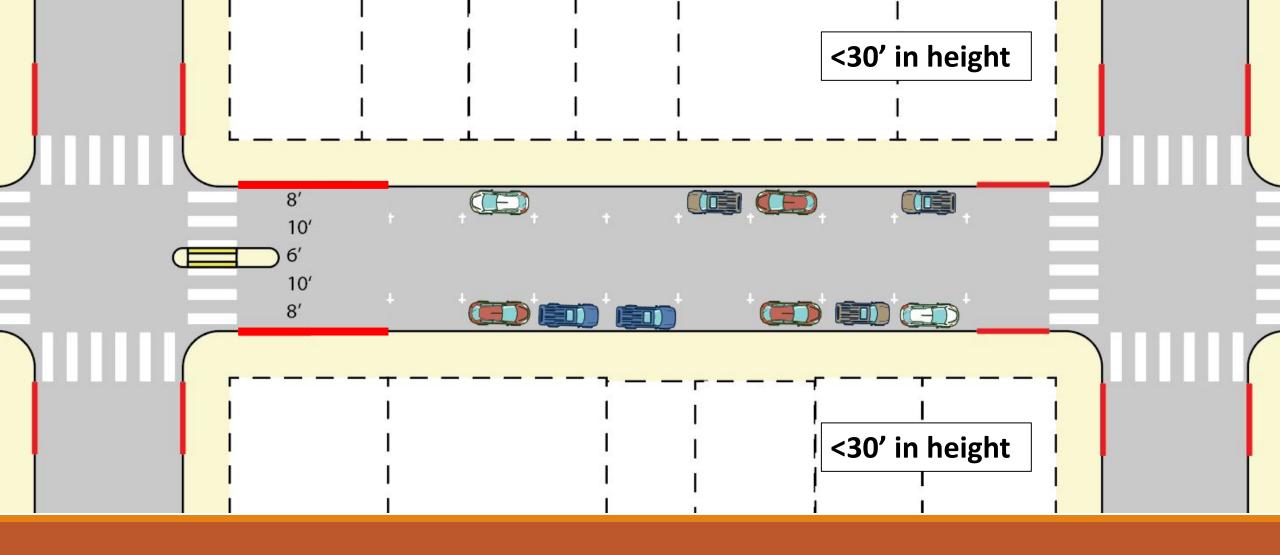
The numbers in the CODE are Parking + Passing space

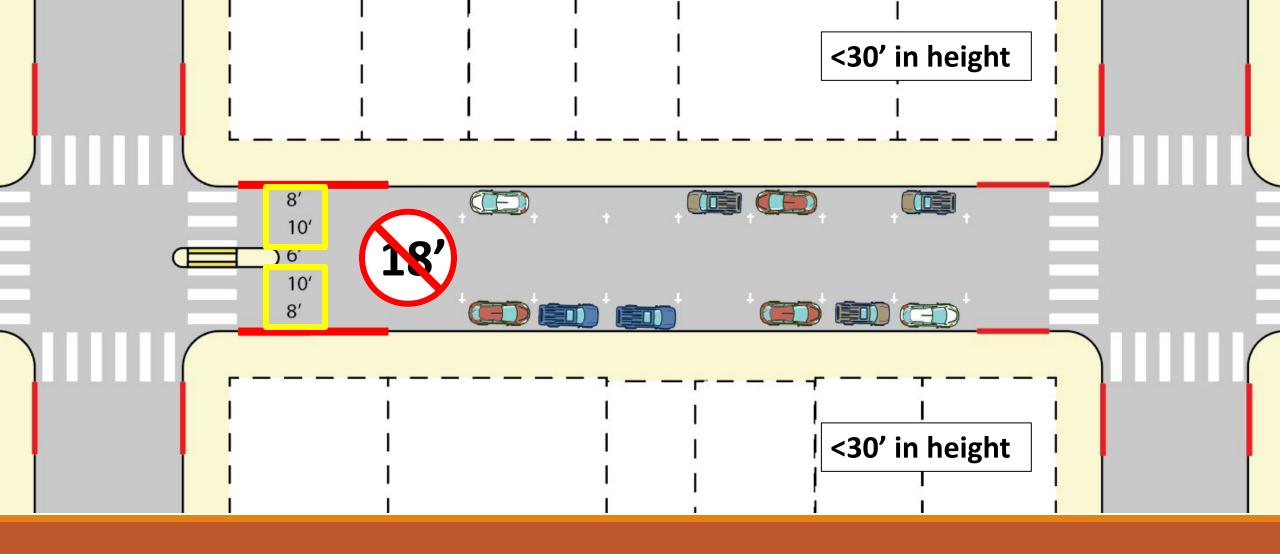


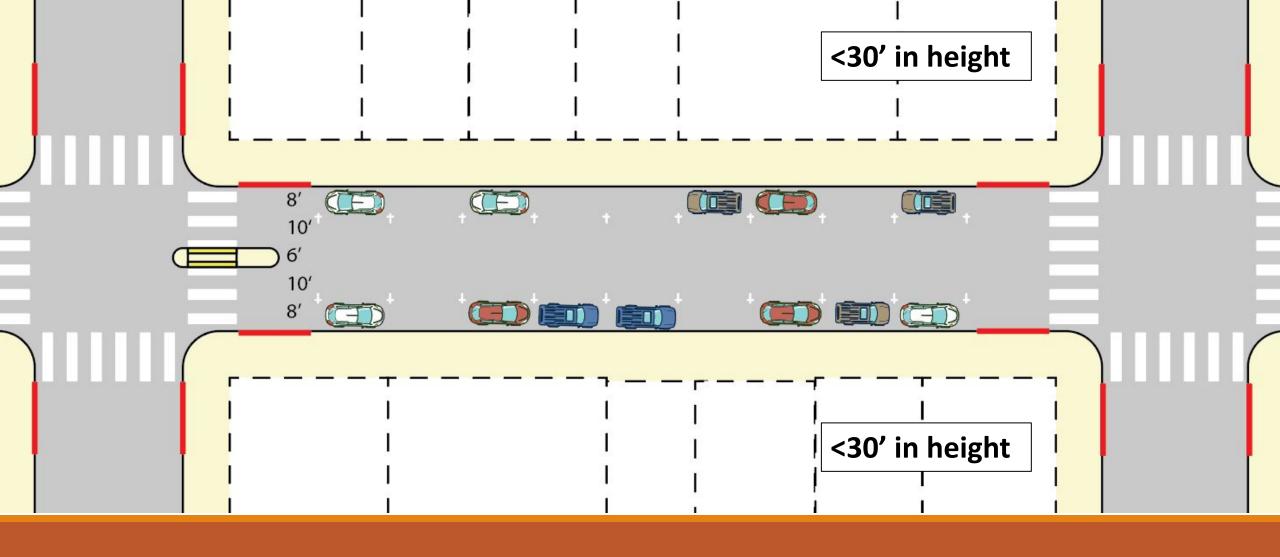
Implications of operational understanding/agreement

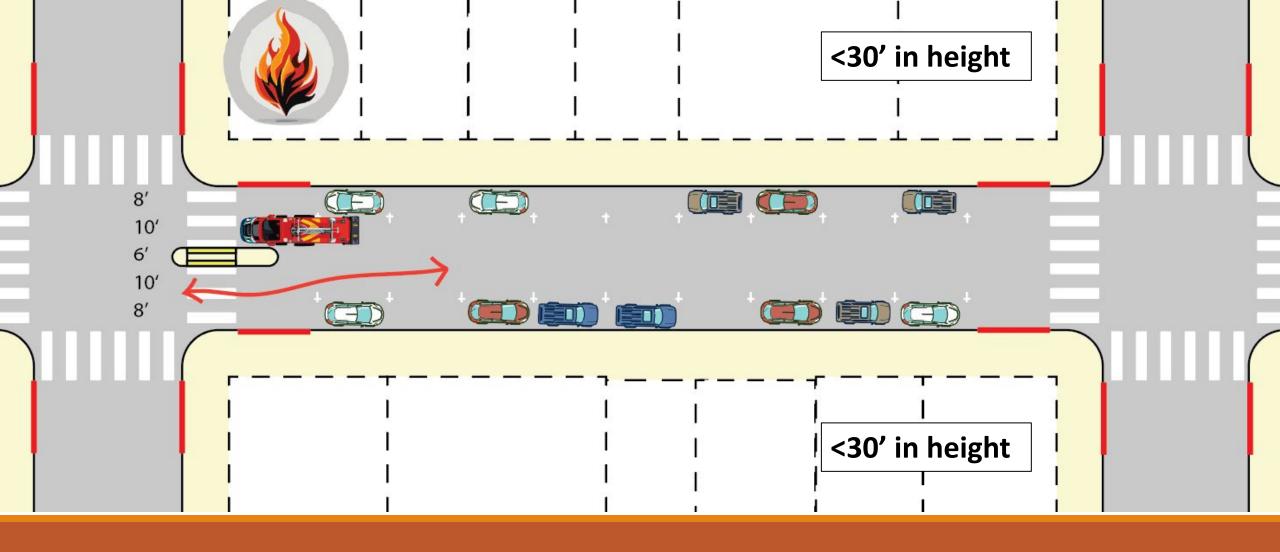


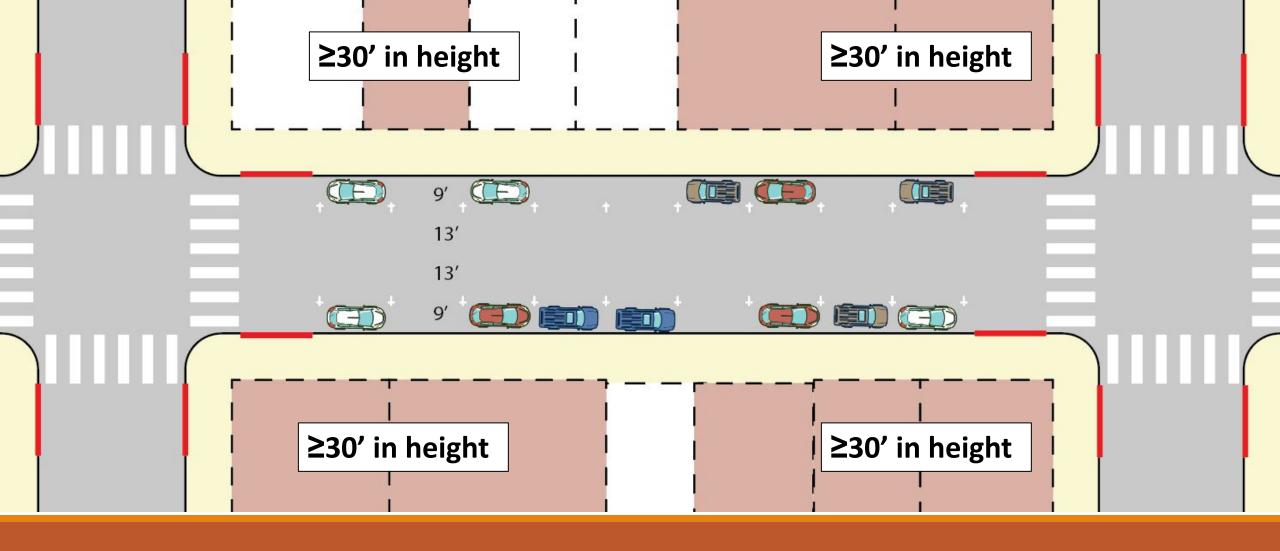




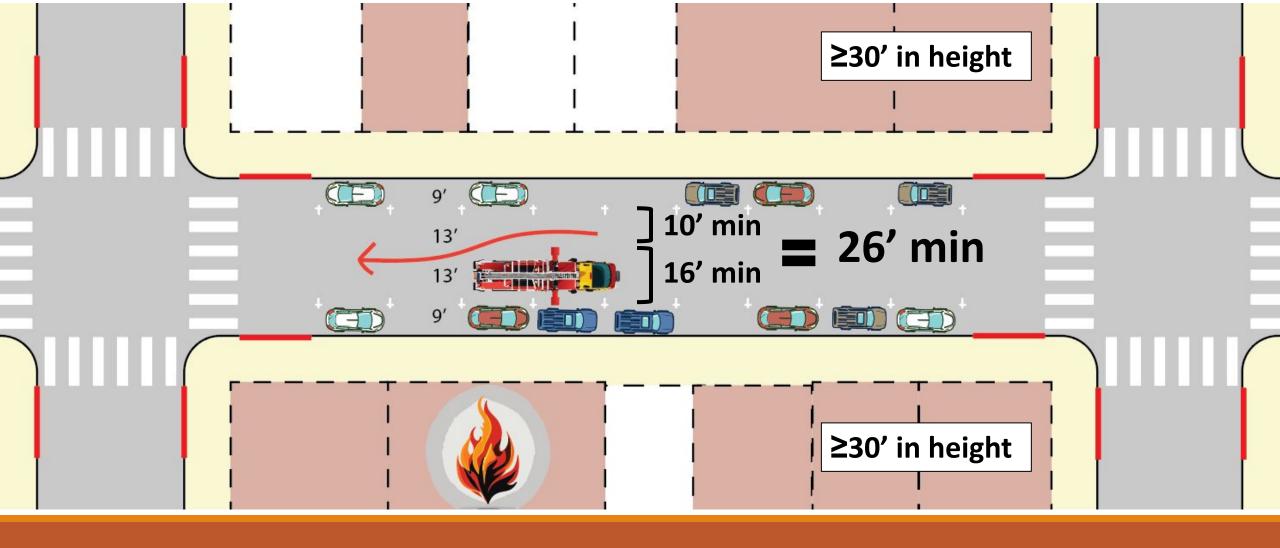




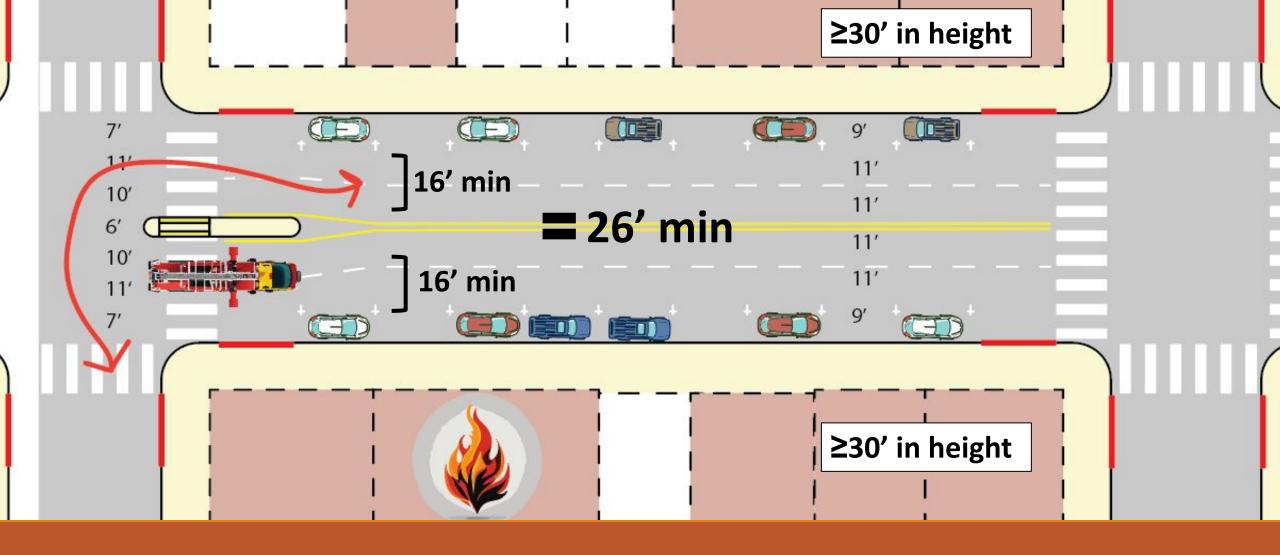




What about tall buildings and 26'?



What about tall buildings and 26'?



What about tall buildings and 26'?

Where to go from there?

Interdepartmental Memos/Agreements

- Put things in writing for future staff
- Establish consistency across design and review teams
- Only an Agreement if both sides continue to agree, non-binding
- Provides a foundation for review and discussion about street design

Pedestrian Safety Island Memo

- •Tentative Approval March 2024
- 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.

Inter-Departmental Memo OakDOT/OFD Agreement on Pedestrian Safety Island Design

BACKGROUND:

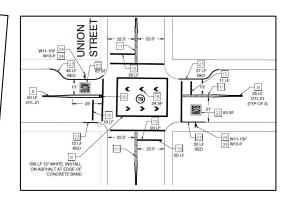
As part of ongoing coordination related to roadway design elements, OakDOT and OFD have identified an opportunity to memorialize roadway design decisions and interpretations of the Oakland Municipal Code's Fire Code sections in inter-departmental memos like this one. The purpose of these agreements is to streamline project review and lessen pressure on already overloaded staff capacity, provide a record of continuity in decision-making for future staff, and continue to collaborate between agencies on street design issues that improve safety outcomes for vulnerable users while providing adequate

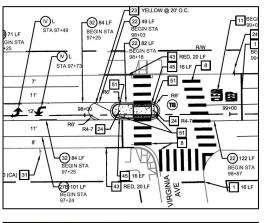
PEDESTRIAN SAFETY ISLANDS

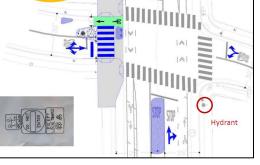
A Pedestrian Safety Island is a raised concrete island constructed in the middle of a roadway at the location of a marked crosswalk that provides a refuge for people to cross one direction of traffic at a time, prohibits illegal use of the center turning lane for passing at crosswalks, narrows travel lanes to reduce vehicle speeds, and ensure that people make slow left-turns across crosswalks. Pedestrian safety islands are one of the most effective tools to protect vulnerable roadway users at crosswalk locations and are a standard toolkit item for Oakland's roadway safety projects. To provide an ADAaccessible pedestrian refuge space, Pedestrian Safety Islands need to be a minimum of 6' wide. Standard curb height for Pedestrian Safety Islands in the City of Oakland is 6". Raised elements are often placed atop the islands such as warning signage, flexible delineator posts, or Rectangular Rapid Flashing Beacons like the 98th Avenue and Cherry Street example shown below.

Image of example Pedestrian Safety Island at 98th Avenue and Cherry Street



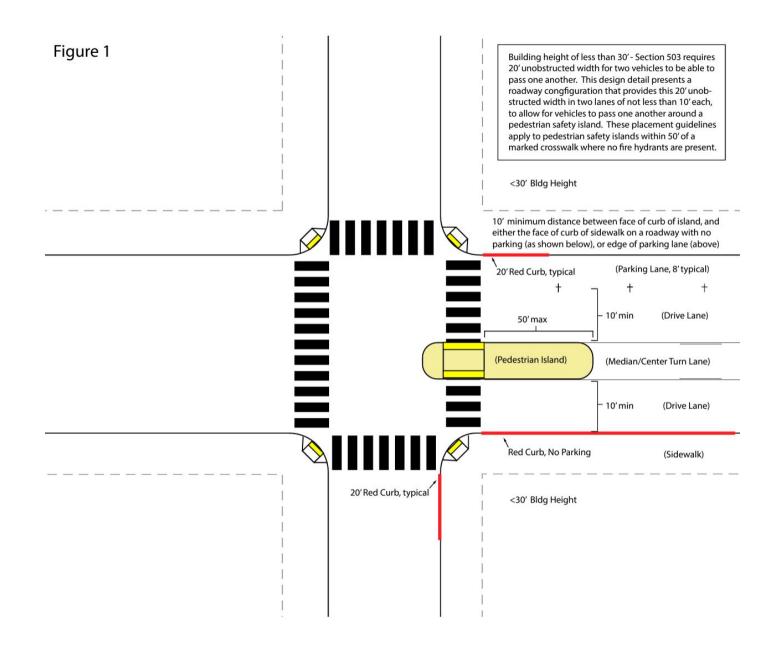






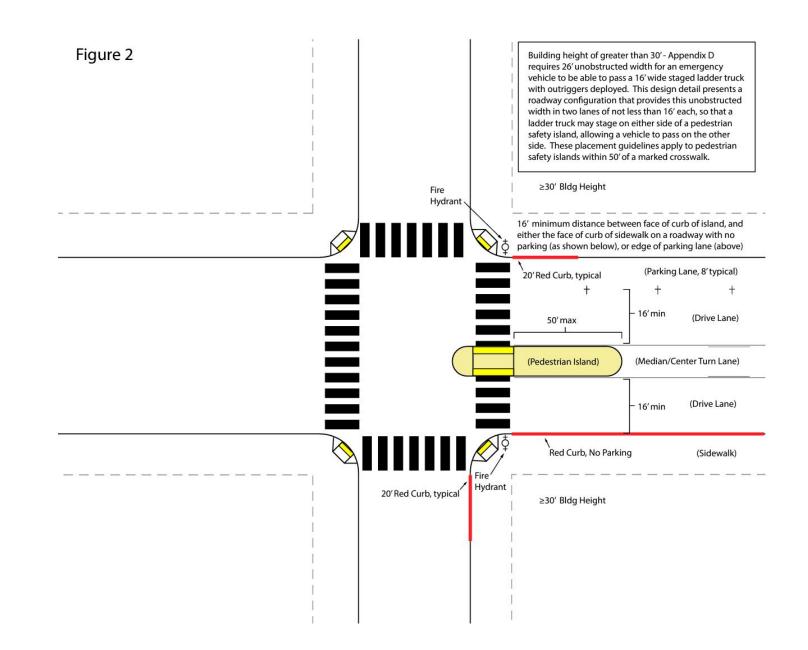
Pedestrian Safety Island Memo

- •Tentative Approval March 2024
- Provides foundation for project review, not approval by-right
- •Inter-departmental Memo of Agreement, non-binding
- •Low building height figure □



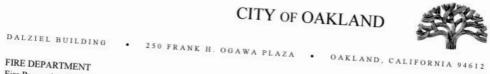
Pedestrian Safety Island Memo

- •Tentative Approval March 2024
- Provides foundation for project review, not approval by-right
- •Inter-departmental Memo of Agreement, non-binding
- •Tall building height figure □



- Signed and sent to OFD/OakDOT staff in Jan 2024
- Provides foundation for project review, not approval by-right
- •Inter-departmental Memo of Agreement, non-binding
- •Central agreement is that posts do not pose an "obstruction" if placed within certain spacing configurations

CITY OF OAKLAND



DEPARTMENT OF TRANSPORTATION Office of the Director

January 31, 2024

Fire Prevention Bureau

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 use of flexible plastic delineator posts 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 Fire Code

This memorandum is the outcome of close collaboration between the two departments over multiple months involving staff from numerous functional units. The collaboration benefited from field meetings to test current installations and to develop new approaches for improving traffic safety. Importantly, these meetings created an understanding and appreciation amongst Transportation staff for how Fire staff respond to incidents and deploy their equipment. Staff will utilize the once-every-three-years update to the Fire Code as a future prompt for OFD/OakDOT to check in on the 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 projects that place flexible delineator posts on

Felicia Bryant Fire Marshal, OFD Assistant Director, OakDOT

Attachment

Inter-Departmental Memo: OakDOT/OFD Agreement on Flexible Plastic Delineator Posts in the Street Right of Way (December 2023)



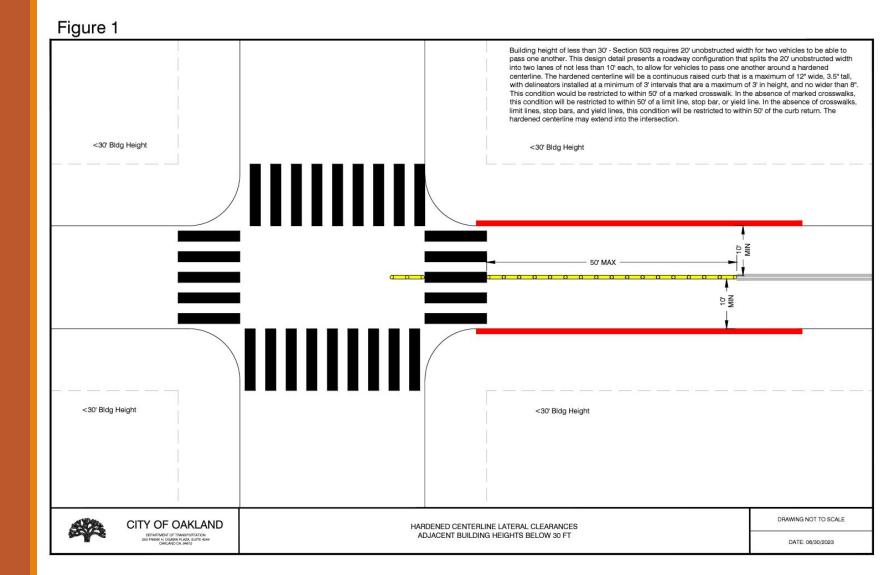




- Spacing of plastic bases is key
- •Where do you need a continuous row of plastic bases?
- •Where can you get away with longer spacing?



- •First application within 50' of a crosswalk for hardened centerlines
- •No gaps between plastic bases for when you have a need for less permeability on intersection approach
- Not subject to turning template review
- •Low building height diagram □



- •First application within 50' of a crosswalk for hardened centerlines
- •No gaps between plastic bases for when you have a need for less permeability on intersection approach

>30' Bldg Height

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- Not subject to turning template review
- •Tall building height figure □

Figure 2 Building height equal to or greater than 30' - Section 503 requires 26' unobstructed width for two vehicles to be able to pass one another. This design detail presents a roadway configuration that splits this unobstructed width into two lanes of not less than 16' on each side, so that a ladder truck may stage on either side of a hardened centerline, allowing a vehicle to pass on either side. The hardened centerline will be a continuous raised curb that is a maximum of 12" wide, 3.5" tall, with delineators installed at a minimum of 3' intervals that are a maximum of 3' in height, and no wider than 8". This condition would be restricted to within 50' of a marked crosswalk. In the absence of marked crosswalks, this condition will be restricted to within 50' of a limit line, stop bar, or yield line. In the absence of crosswalks, limit >30' Bldg Height lines, stop bars, and yield lines, this condition will be restricted to within 50' of the curb return. The hardened centerline may extend into the intersection. >30' Bldg Height 50' MAX

>30' Bldg Height

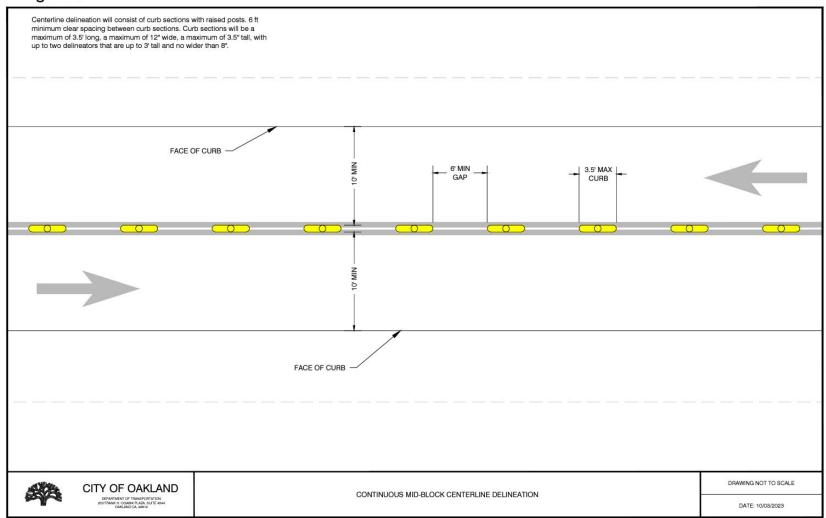
HARDENED CENTERLINE LATERAL CLEARANCES
ADJACENT BUILDING HEIGHTS EQUAL TO OR GREATER THAN 30 FT

DRAWING NOT TO SCALE

DATE: 10/03/2023

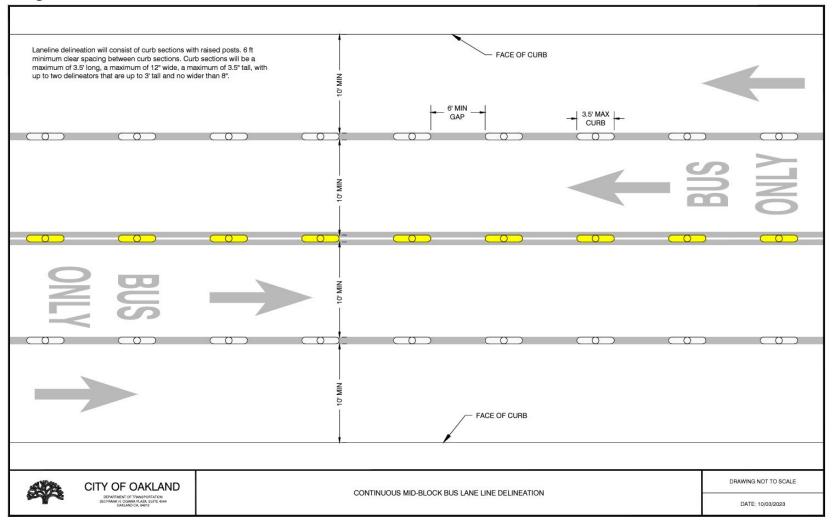
- •Second application at midblock, more than 50' from intersection
- •Gaps between plastic bases more permeable but cars are moving at speed.
- •More flexible for emergency response
- •All building heights
- •Not subject to turning template review

Figure 3



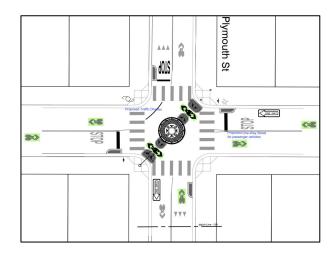
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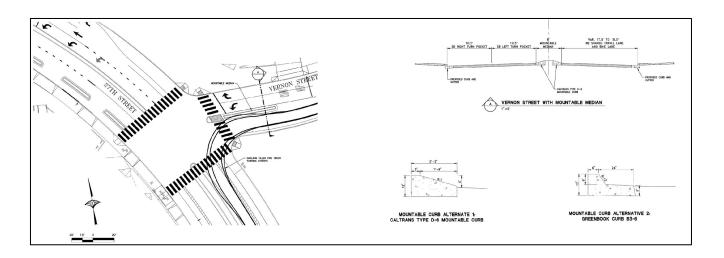
Figure 4



What's next?

- Mountable Median Specifications
- Speed Cushion Evaluation and Placement Standards (collectors and minor arterials)
- Roadway Closure/Traffic Diversion Standards
- More Field Visits, Monthly Meetings, Review Conversations





Contact

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