

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
2. Flexible Plastic Delineator Posts

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

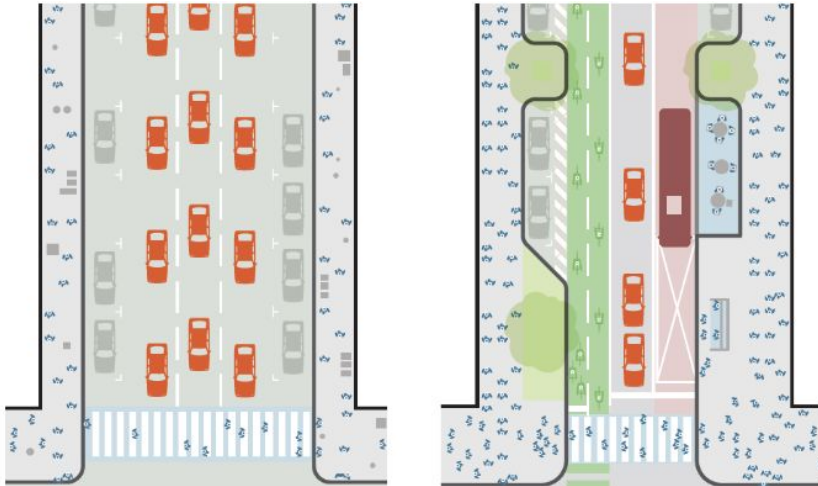
Hopefully this can foster similar conversations around the State and Nation!

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

D105.1 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.

What does the CODE say?

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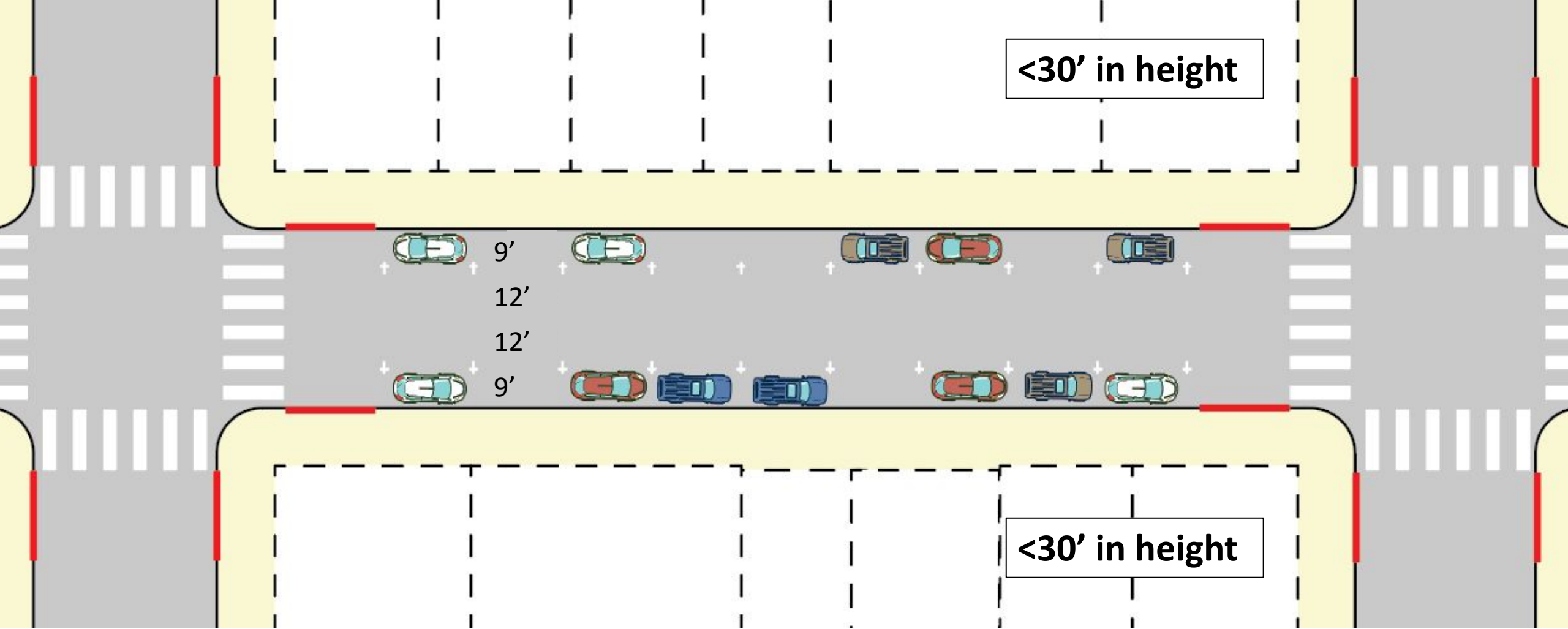
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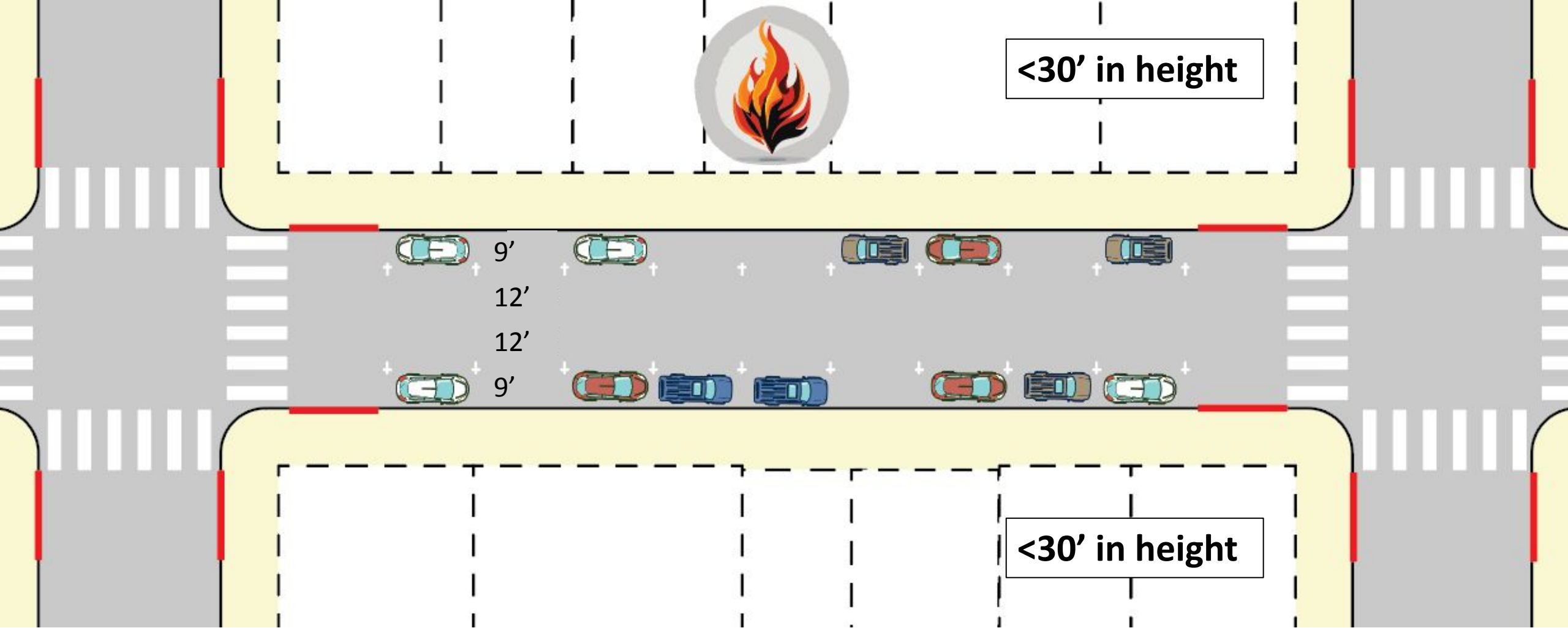
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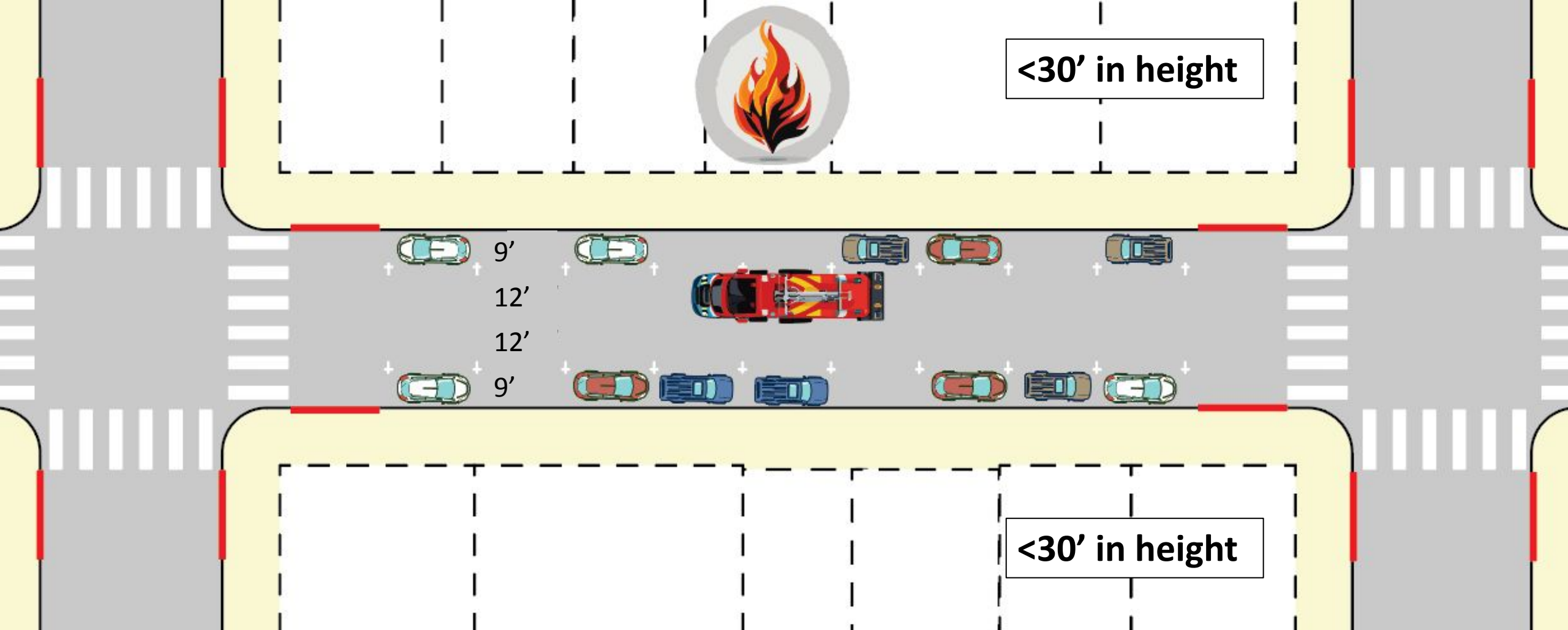
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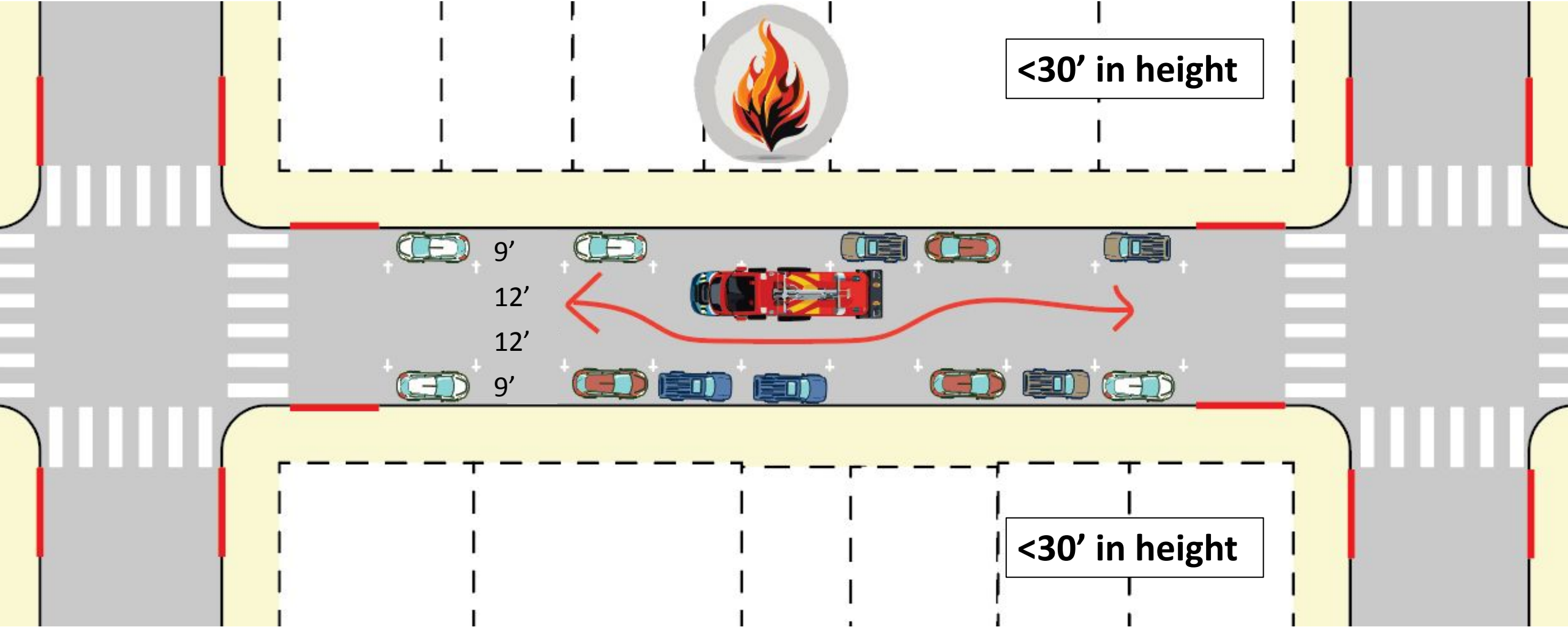
So how is that space really used? This is the Question!



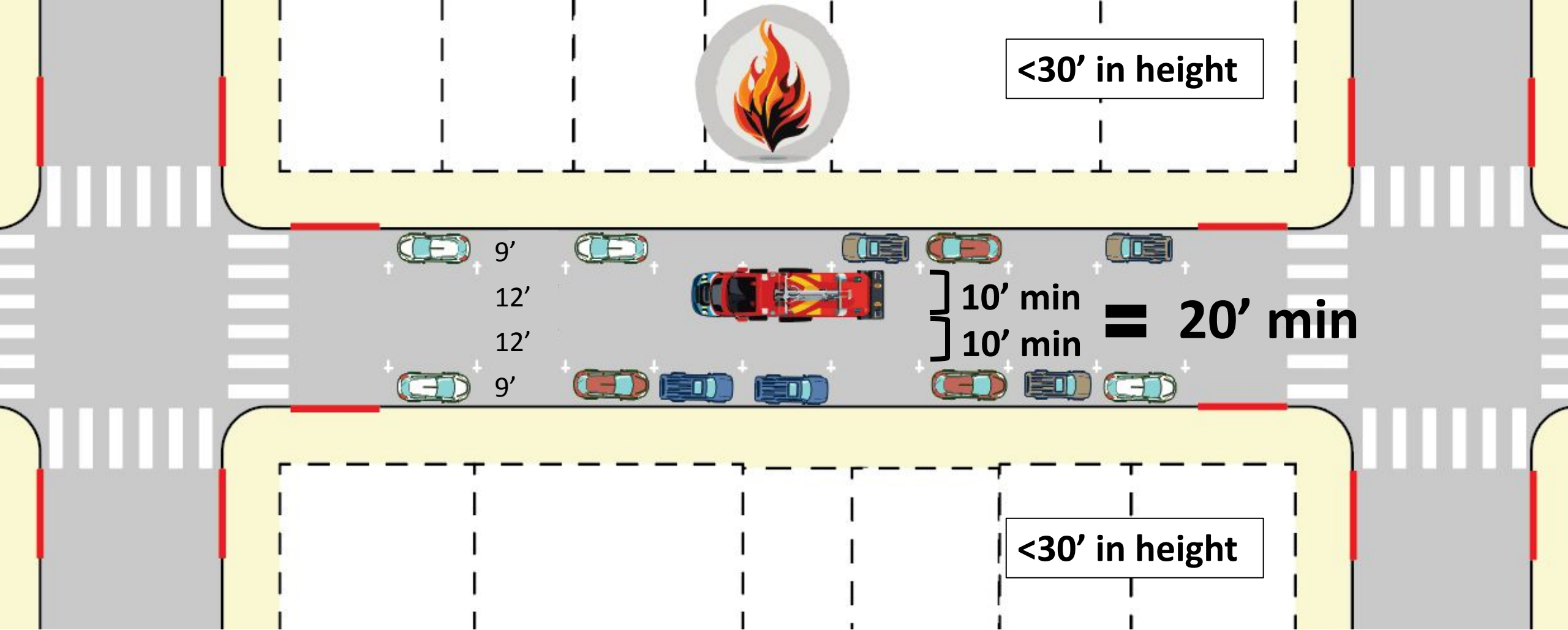
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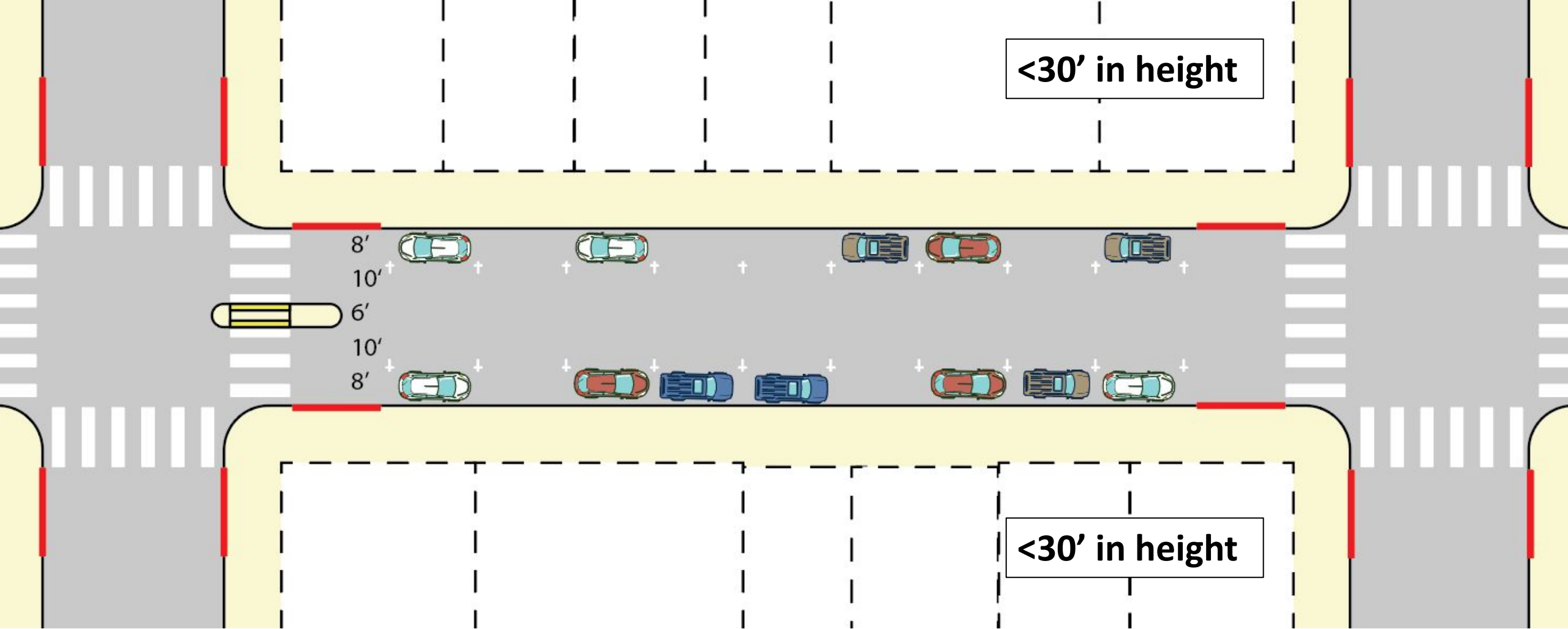
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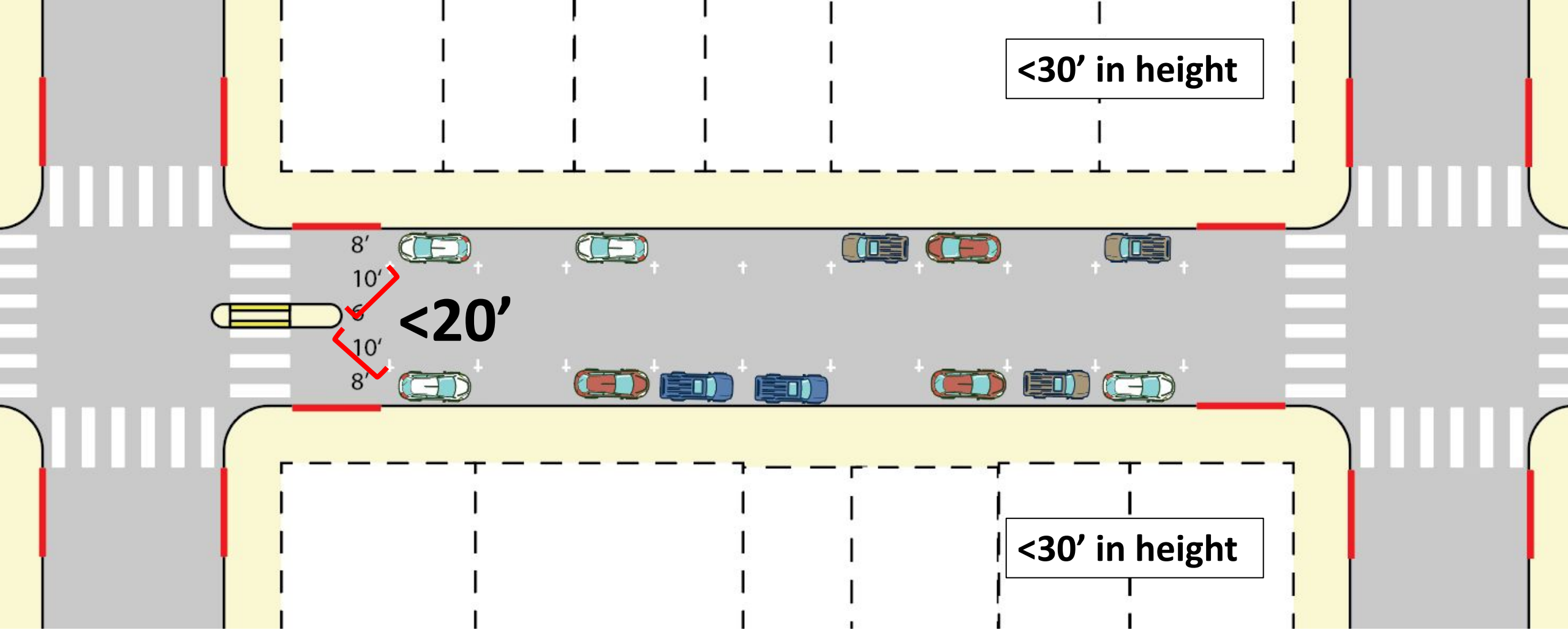


The numbers in the CODE are Parking + Passing space

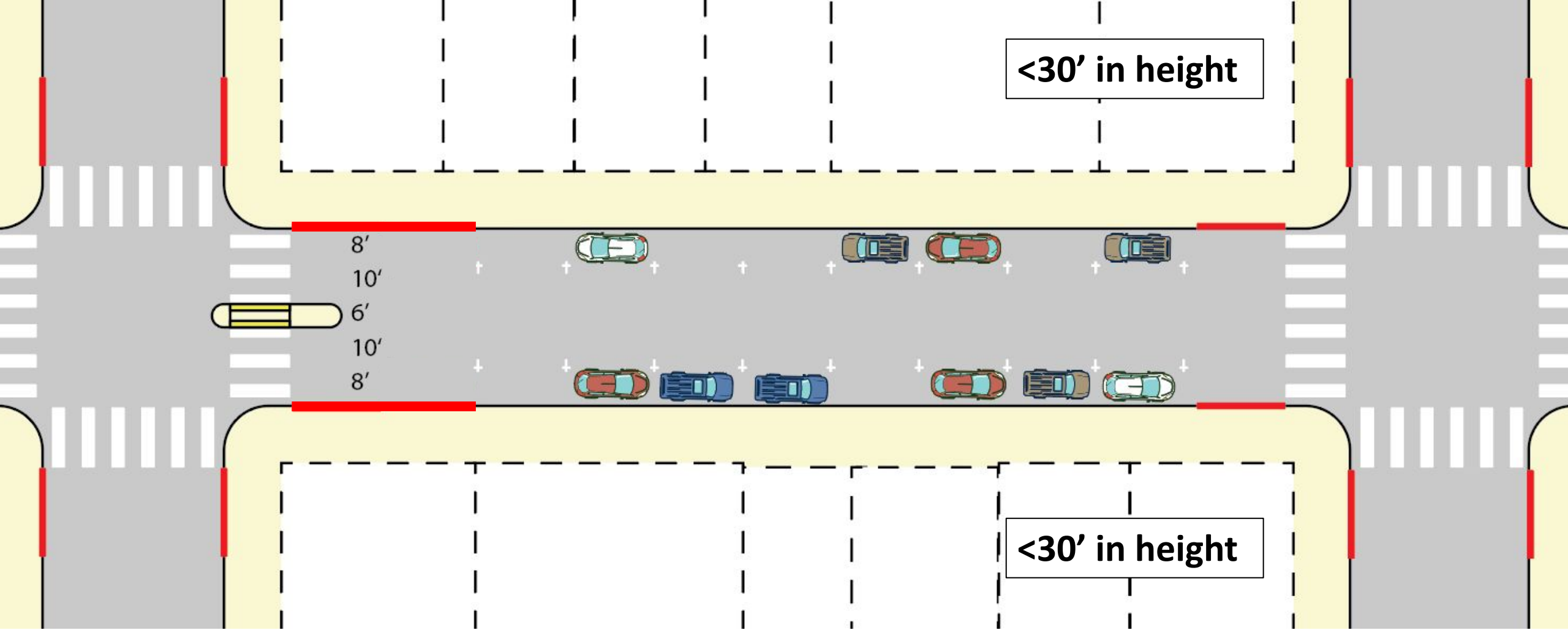


Implications of operational
understanding/agreement

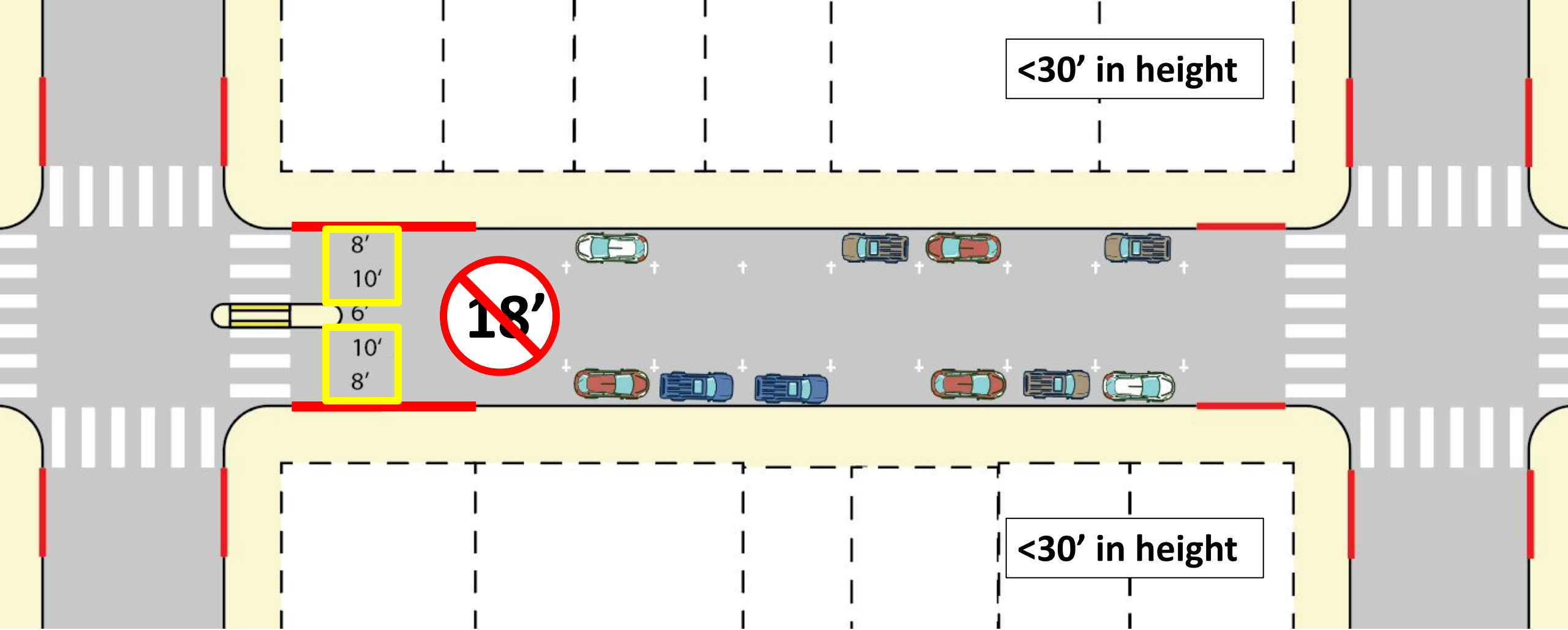




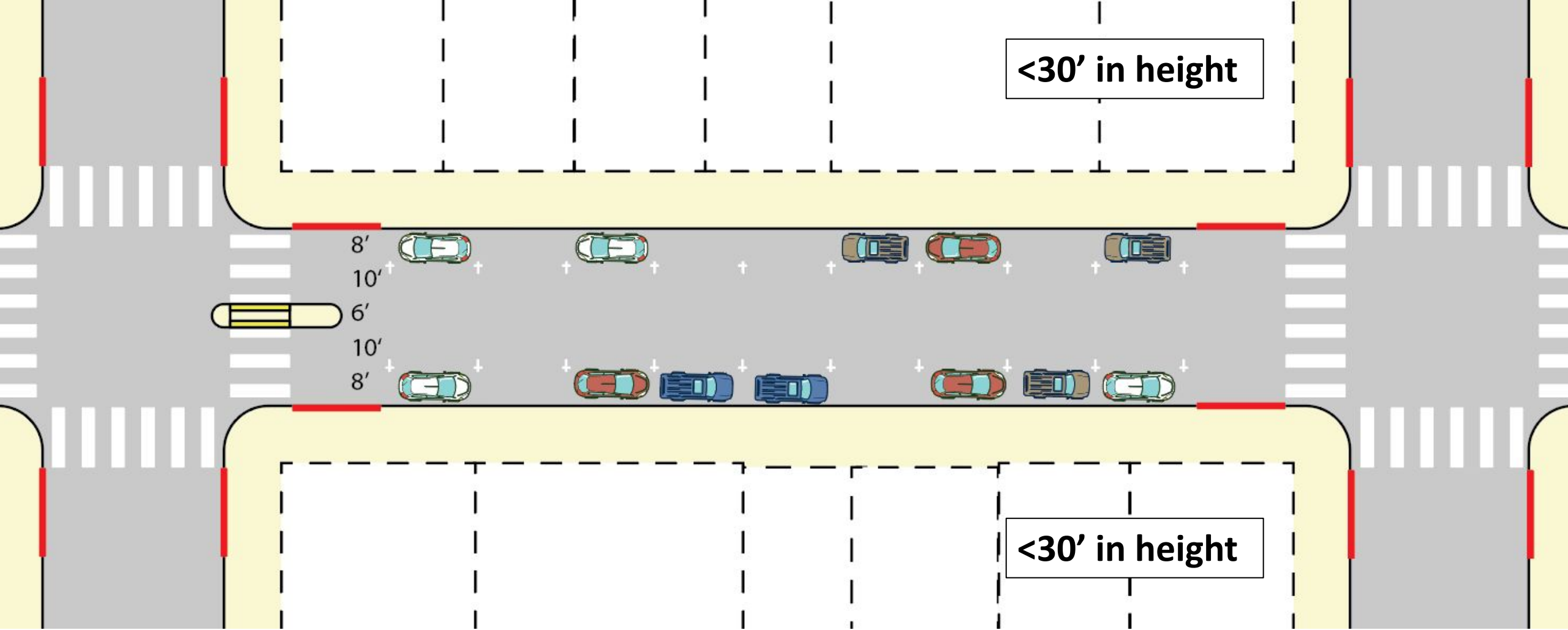
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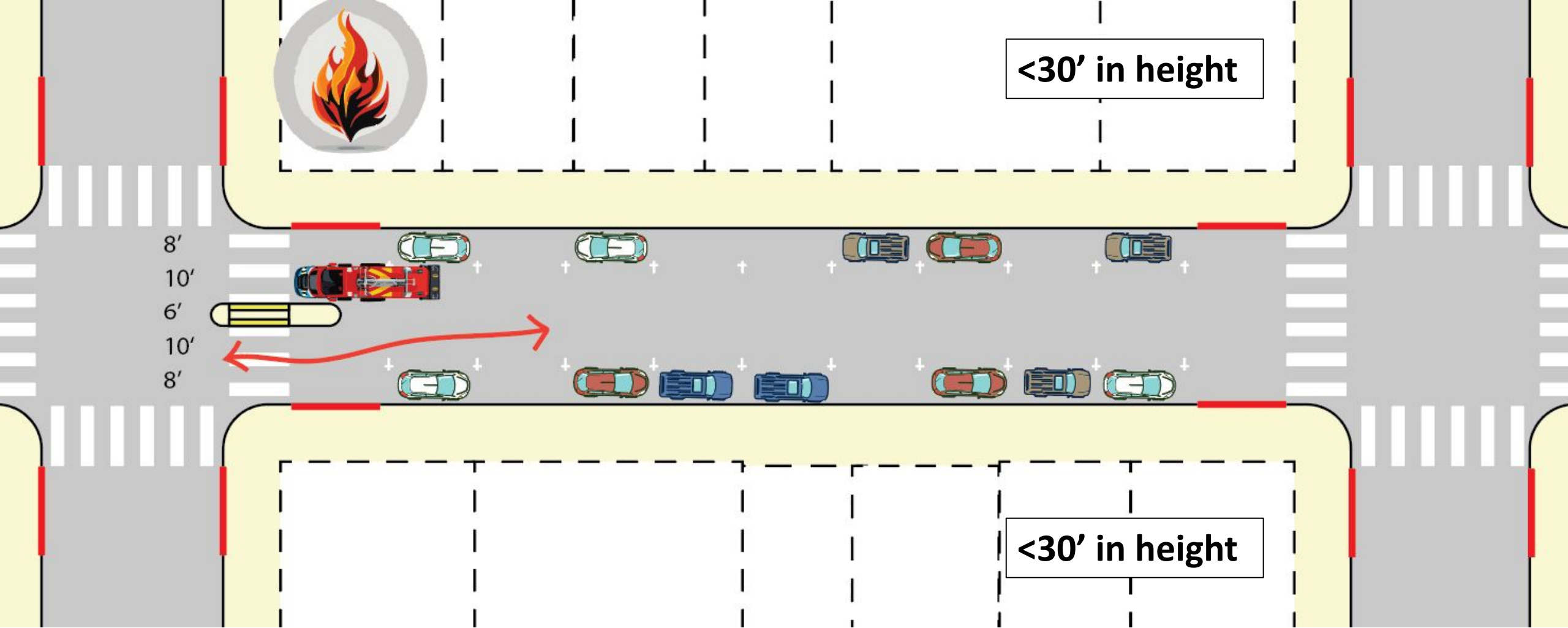
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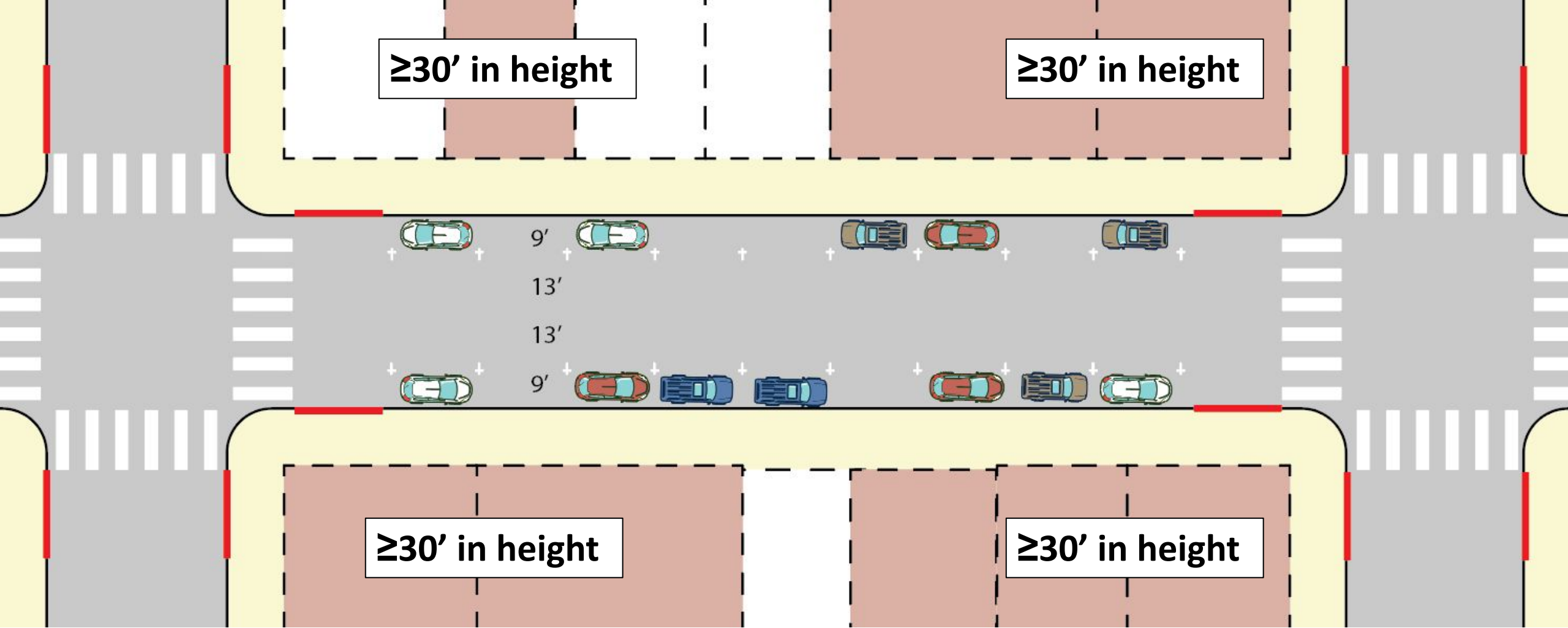
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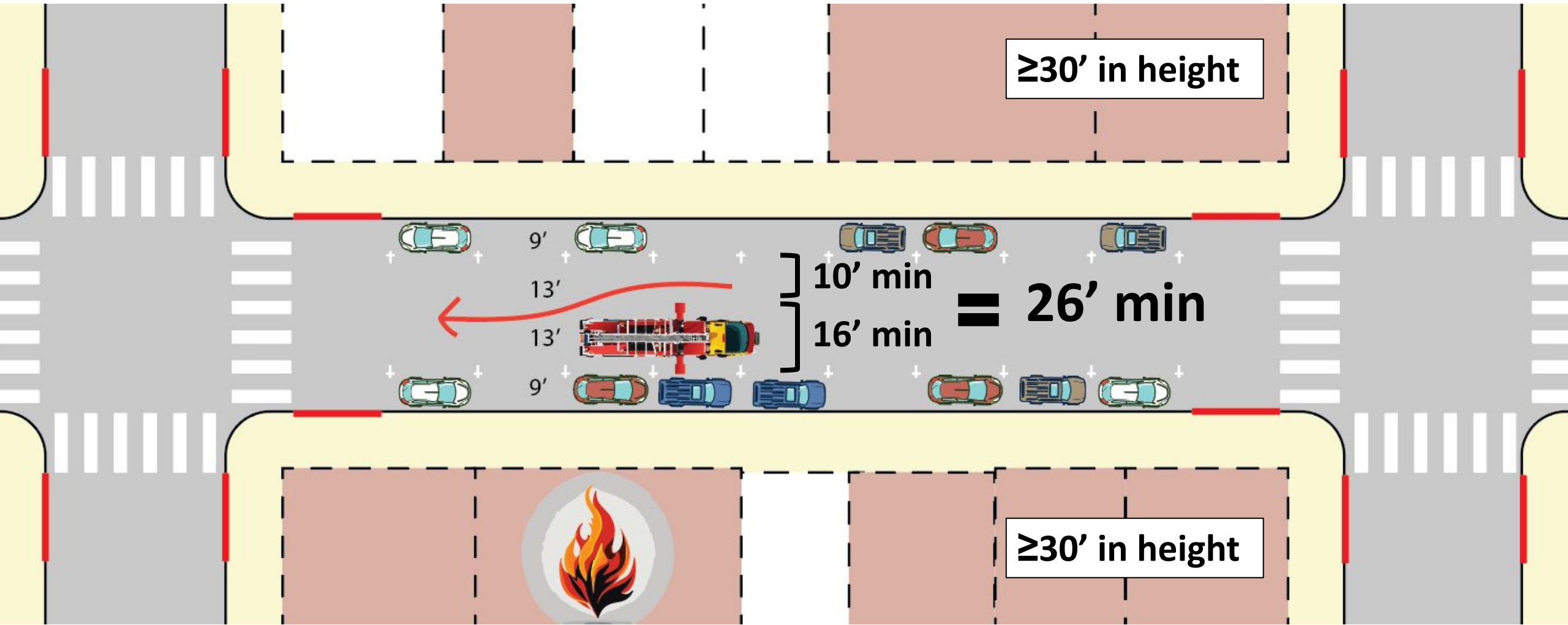
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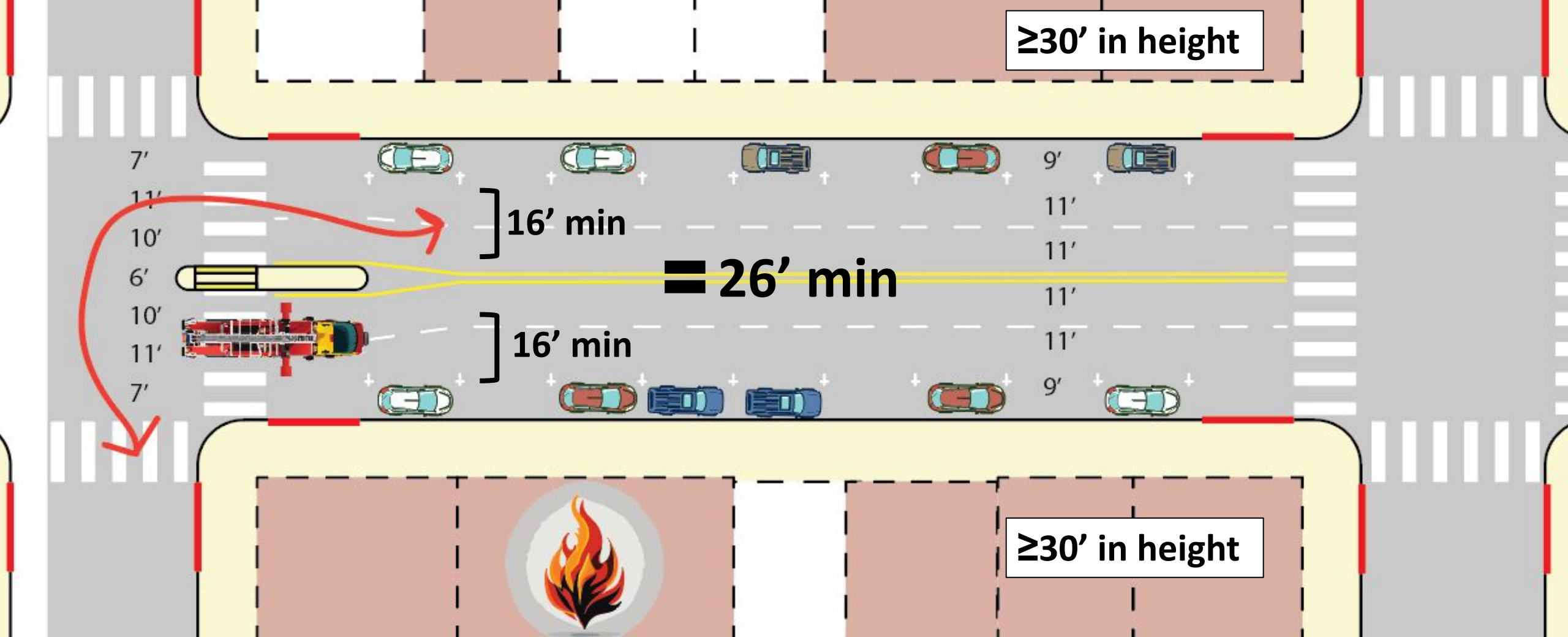
Implications of operational understanding



What about tall buildings and 26'?



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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 FINAL - FEBRUARY, 2024

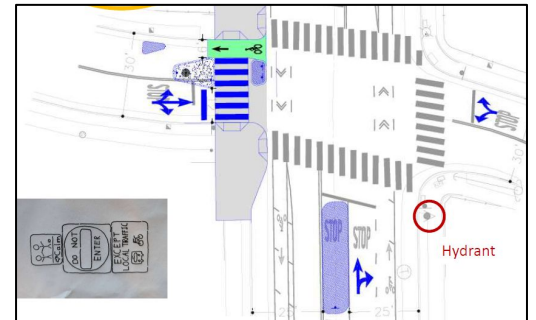
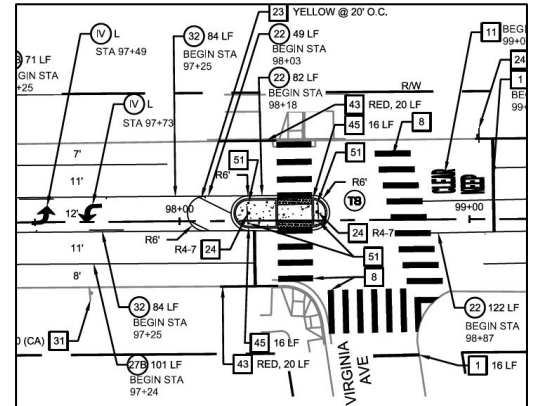
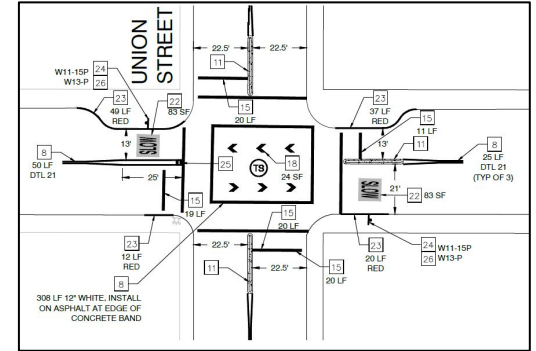
BACKGROUND:

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 space in the Right-of-Way (ROW) for OFD emergency response.

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 ADA-accessible 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.

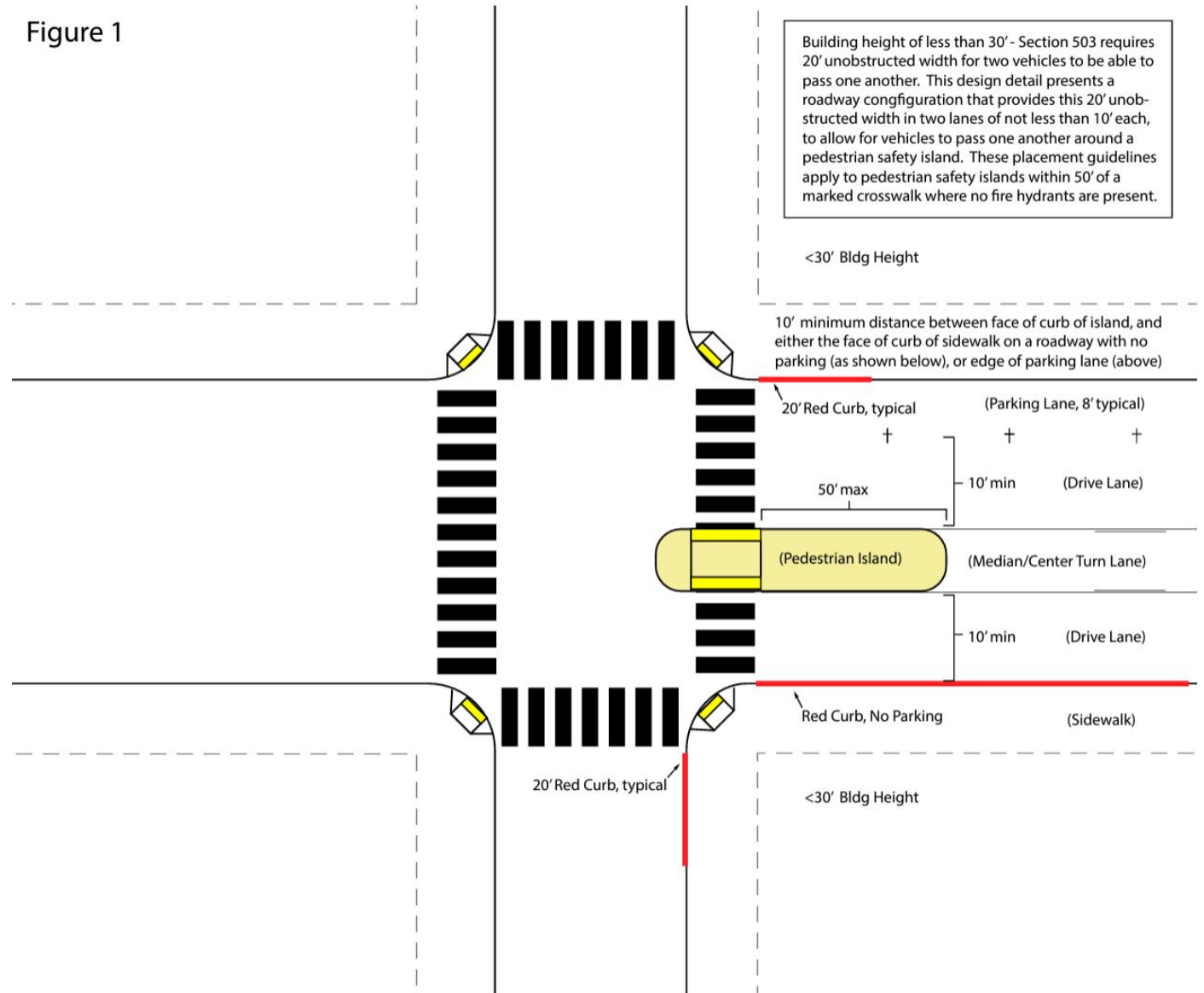
Image of example Pedestrian Safety Island at 98th Avenue and Cherry Street



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 ☐

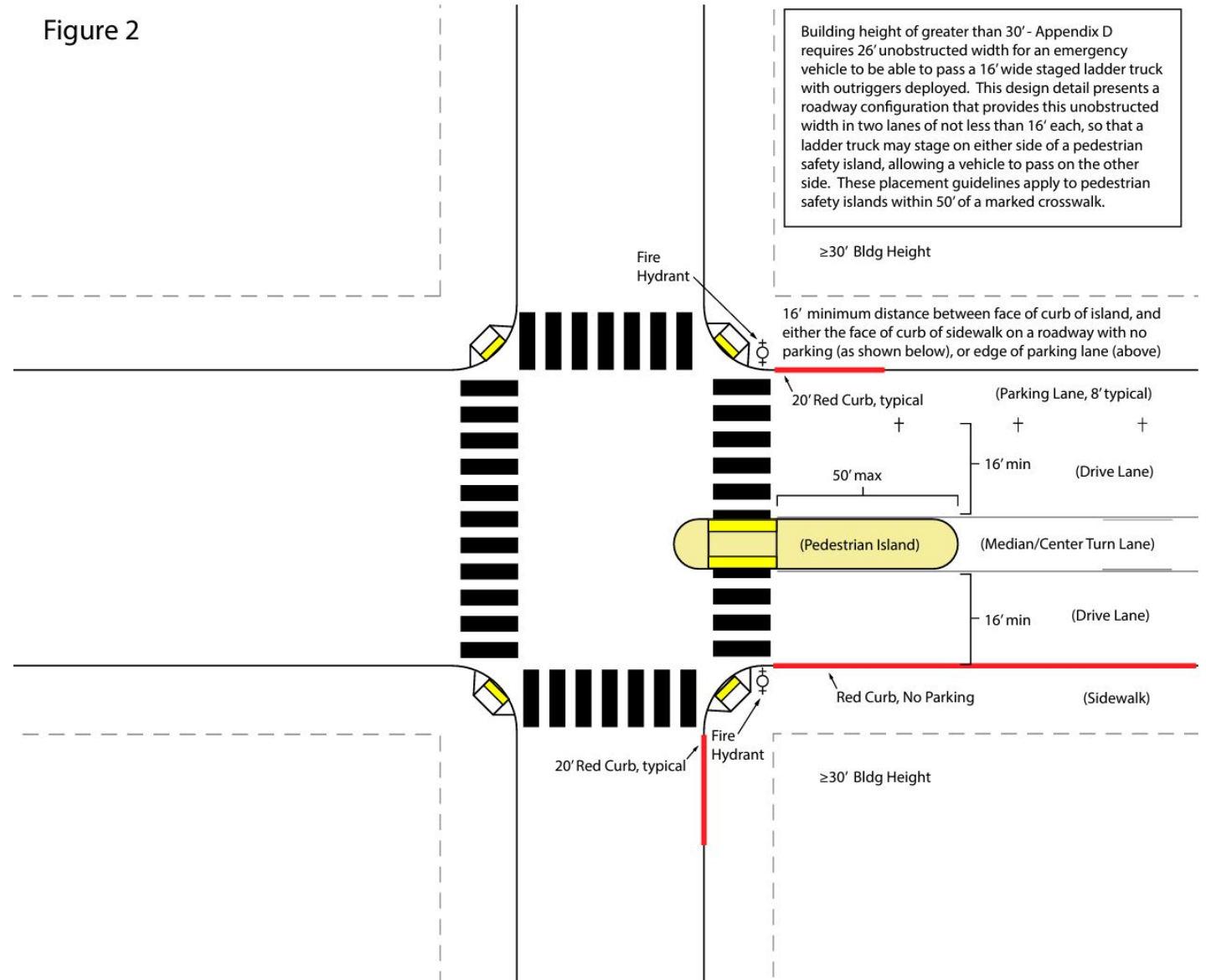
Figure 1



Pedestrian Safety Island Memo

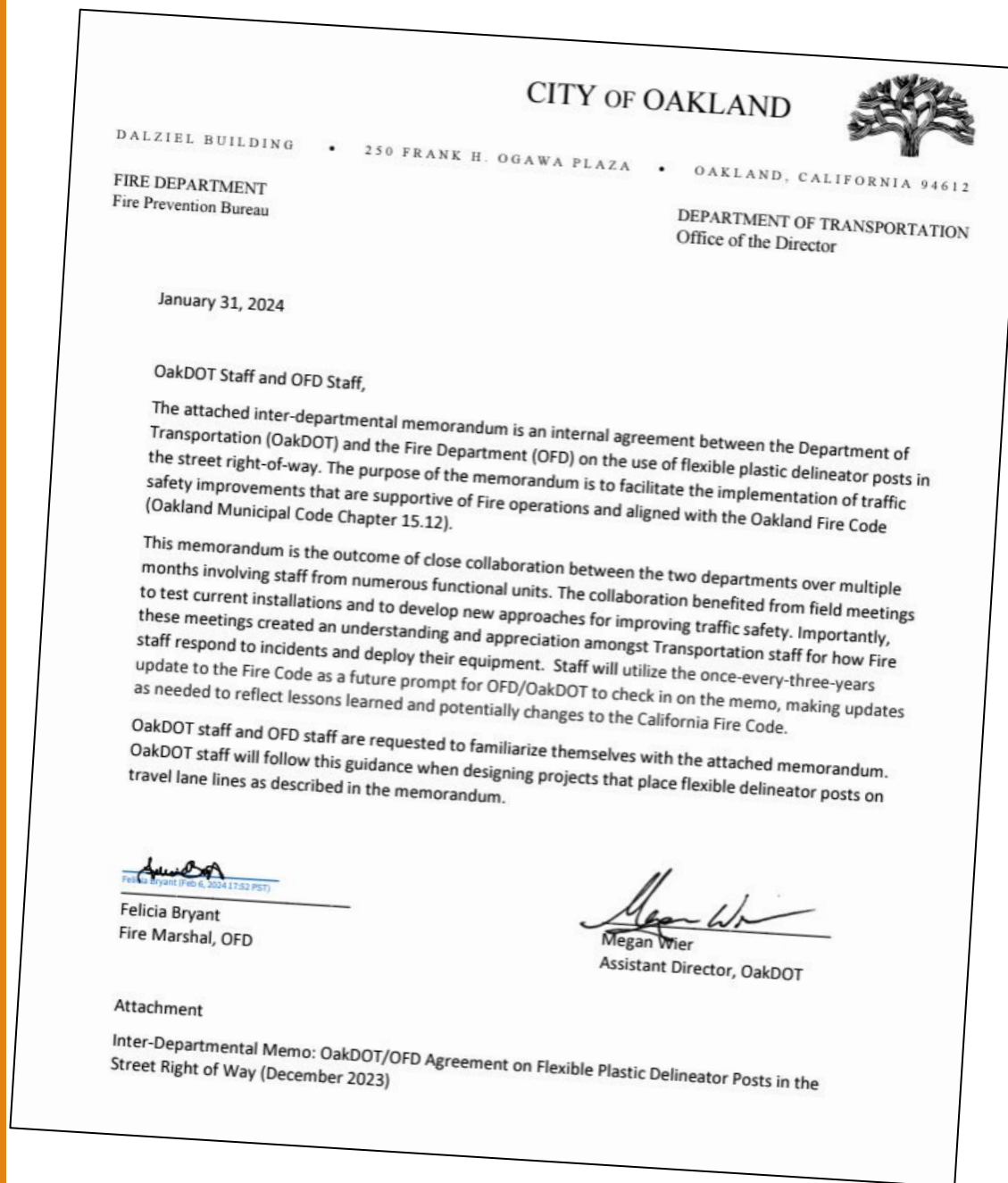
- Tentative Approval March 2024
- Provides foundation for project review, not approval by-right
- Inter-departmental Memo of Agreement, non-binding
- Tall building height figure ☐

Figure 2



Flex Post Memo

- 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



Flex Post Memo

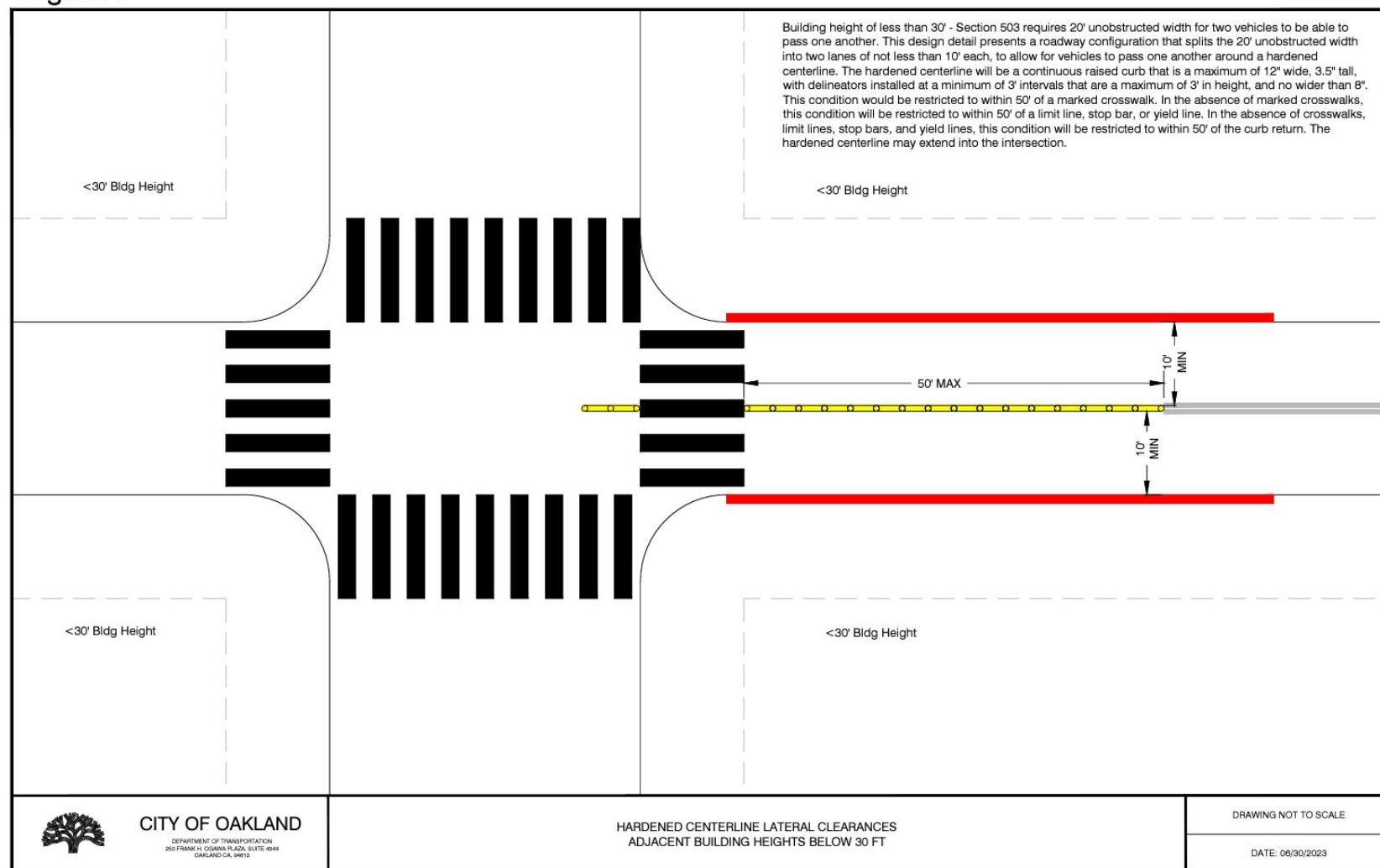
- Spacing of plastic bases is key
- Where do you need a continuous row of plastic bases?
- Where can you get away with longer spacing?



Flex Post Memo

- **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 ☐

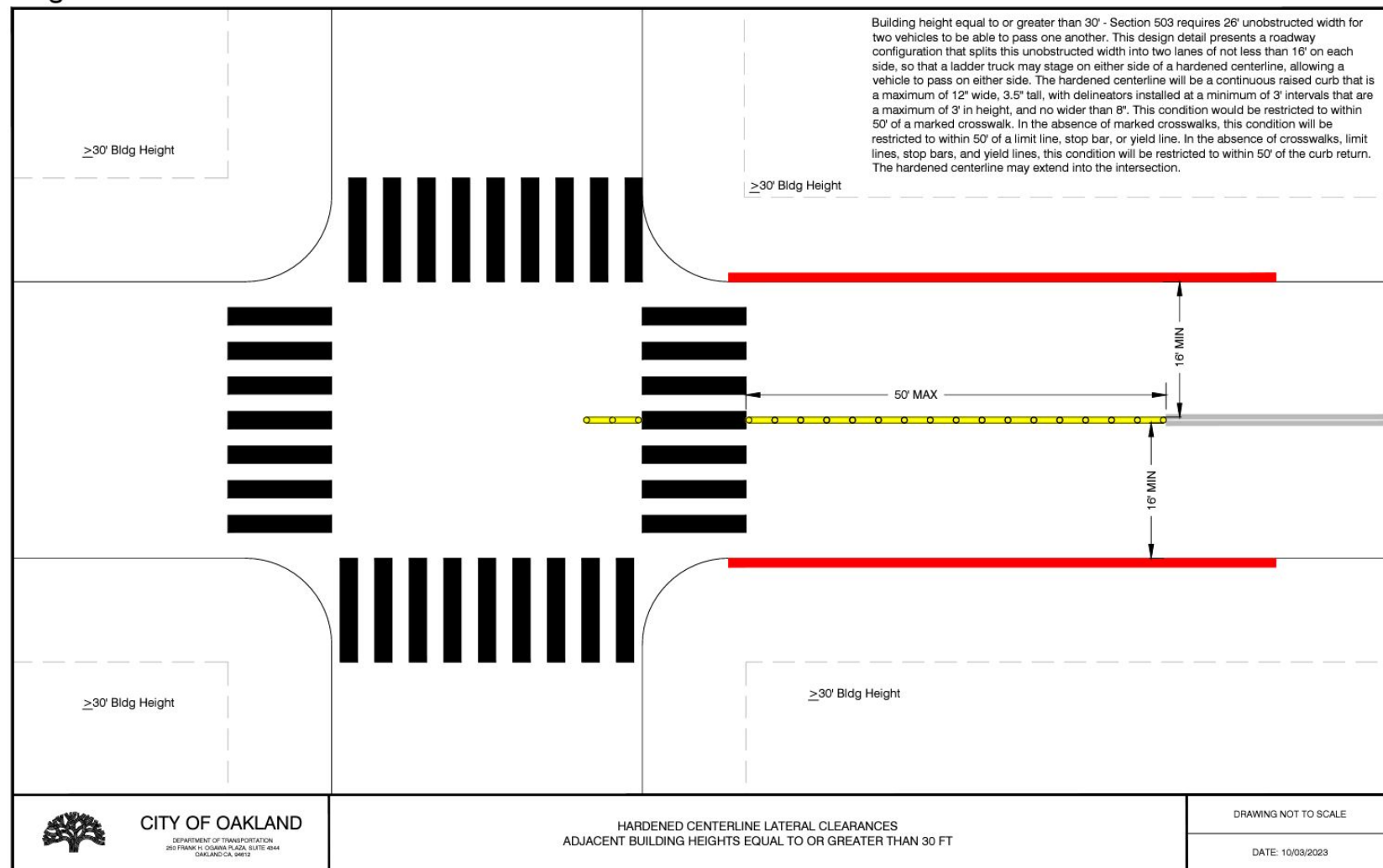
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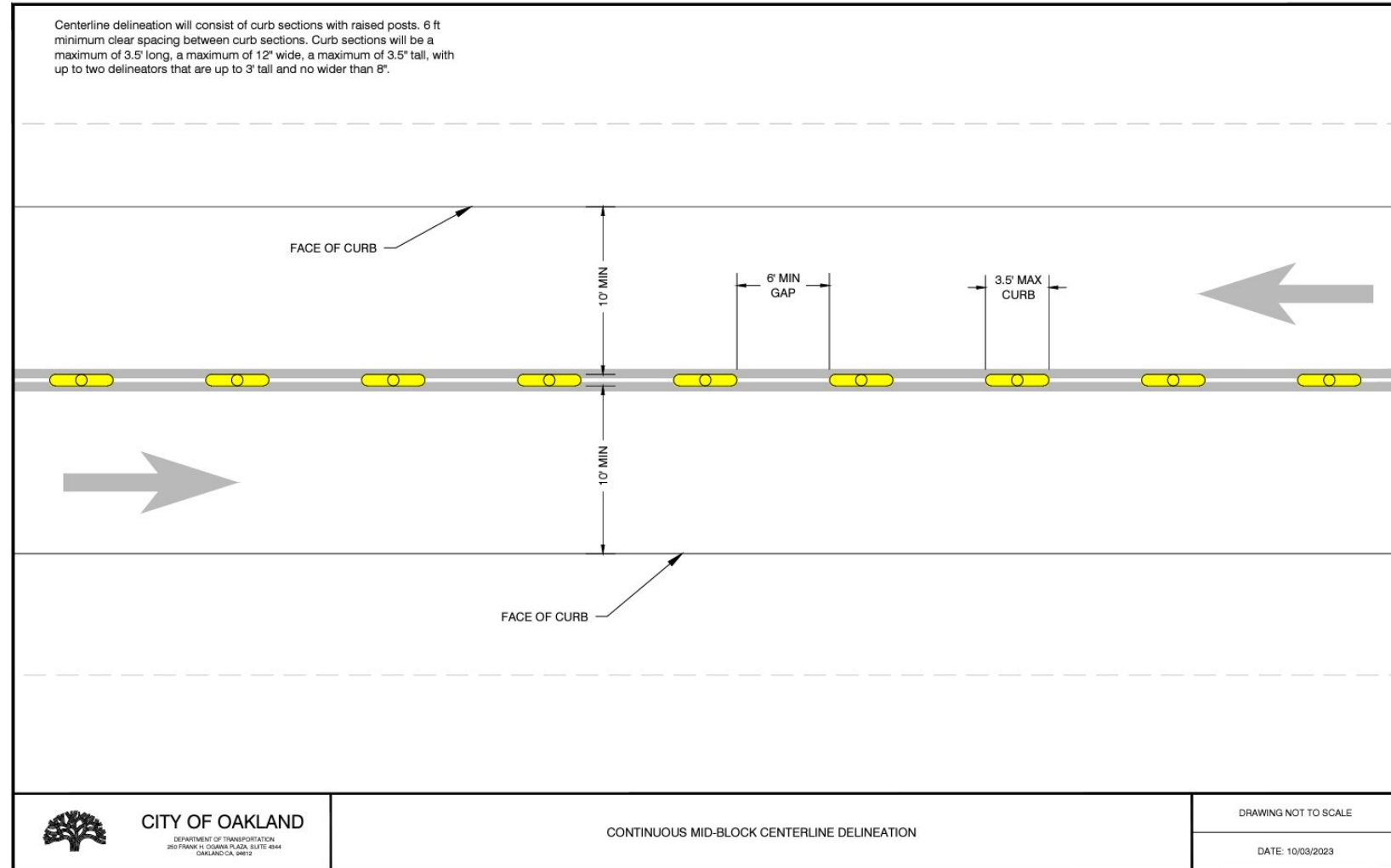
Figure 2



Flex Post Memo

- **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

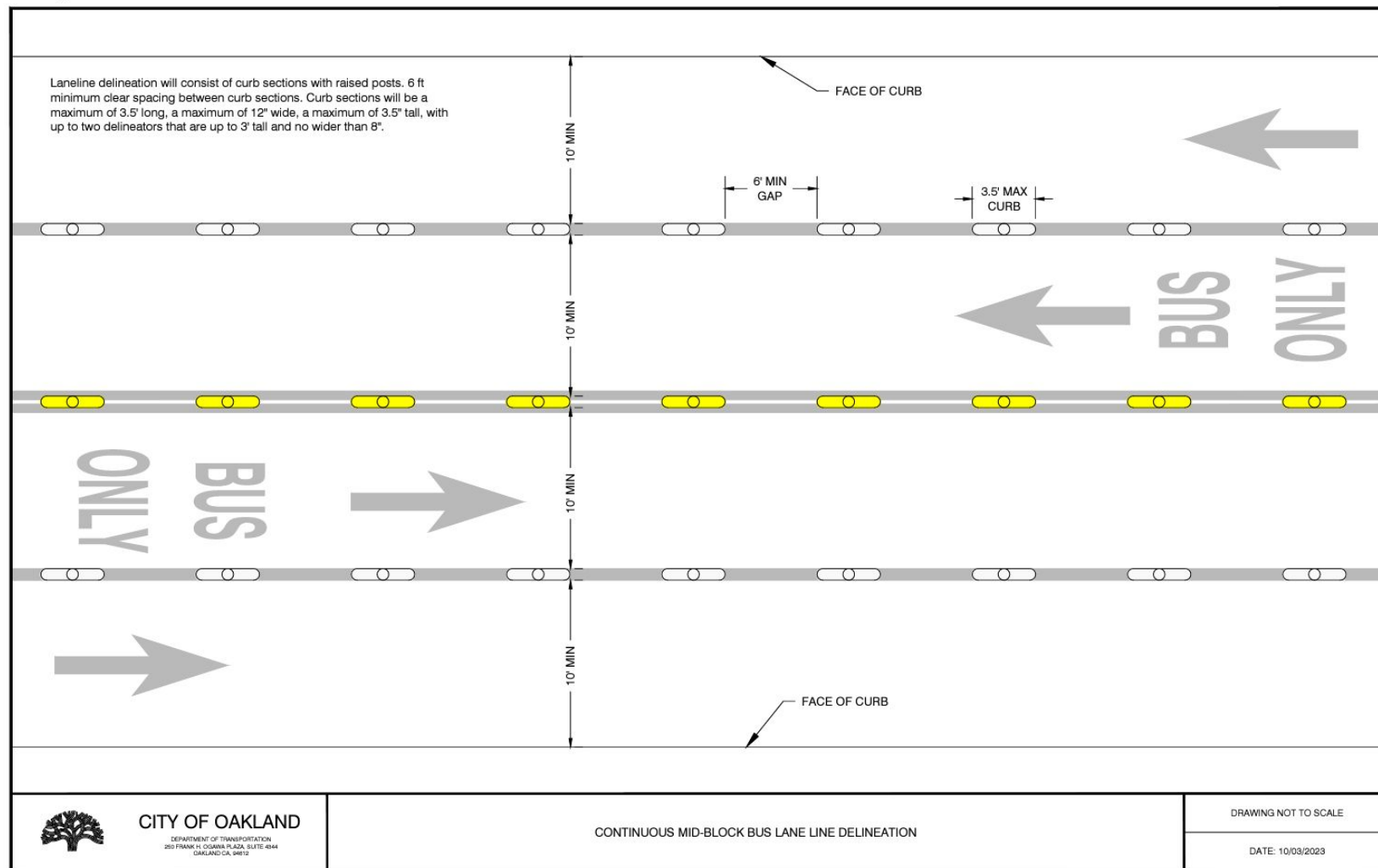
Figure 3



Flex Post Memo

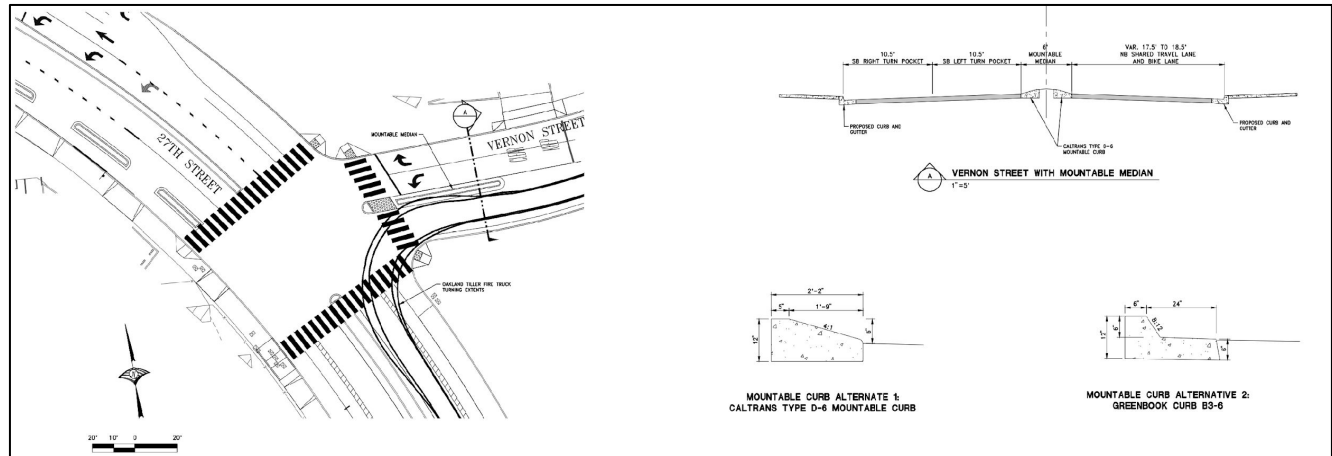
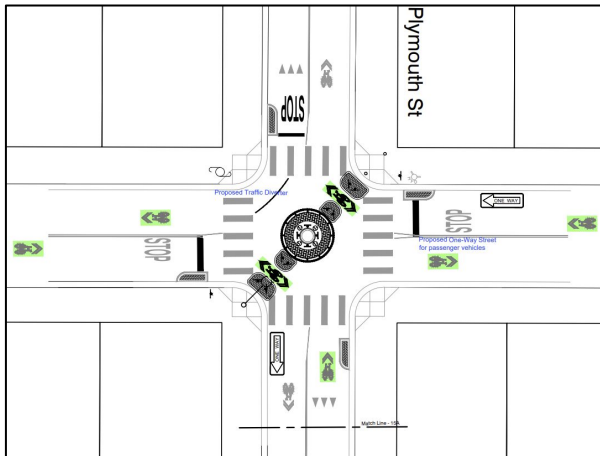
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Figure 4



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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