

**Council Infrastructure Committee**

**May 23, 2018**

**Agenda Item 1 – RPT 18-098**

**Mission Boulevard Corridor Improvements Phase 3 Project Update**



# COUNCIL INFRASTRUCTURE COMMITTEE MEETING

## MISSION BOULEVARD CORRIDOR IMPROVEMENTS PHASE 3

PROJECT UPDATE

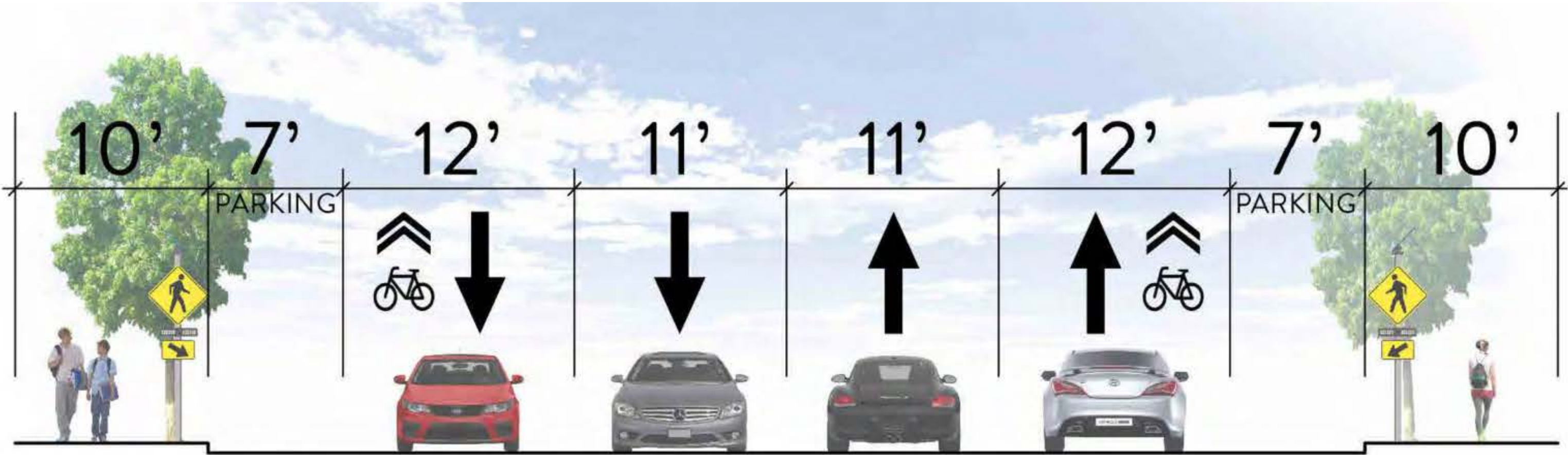
PRESENTATION  
5/23/2018

DAVE HUNG  
PUBLIC WORKS





# Base Design

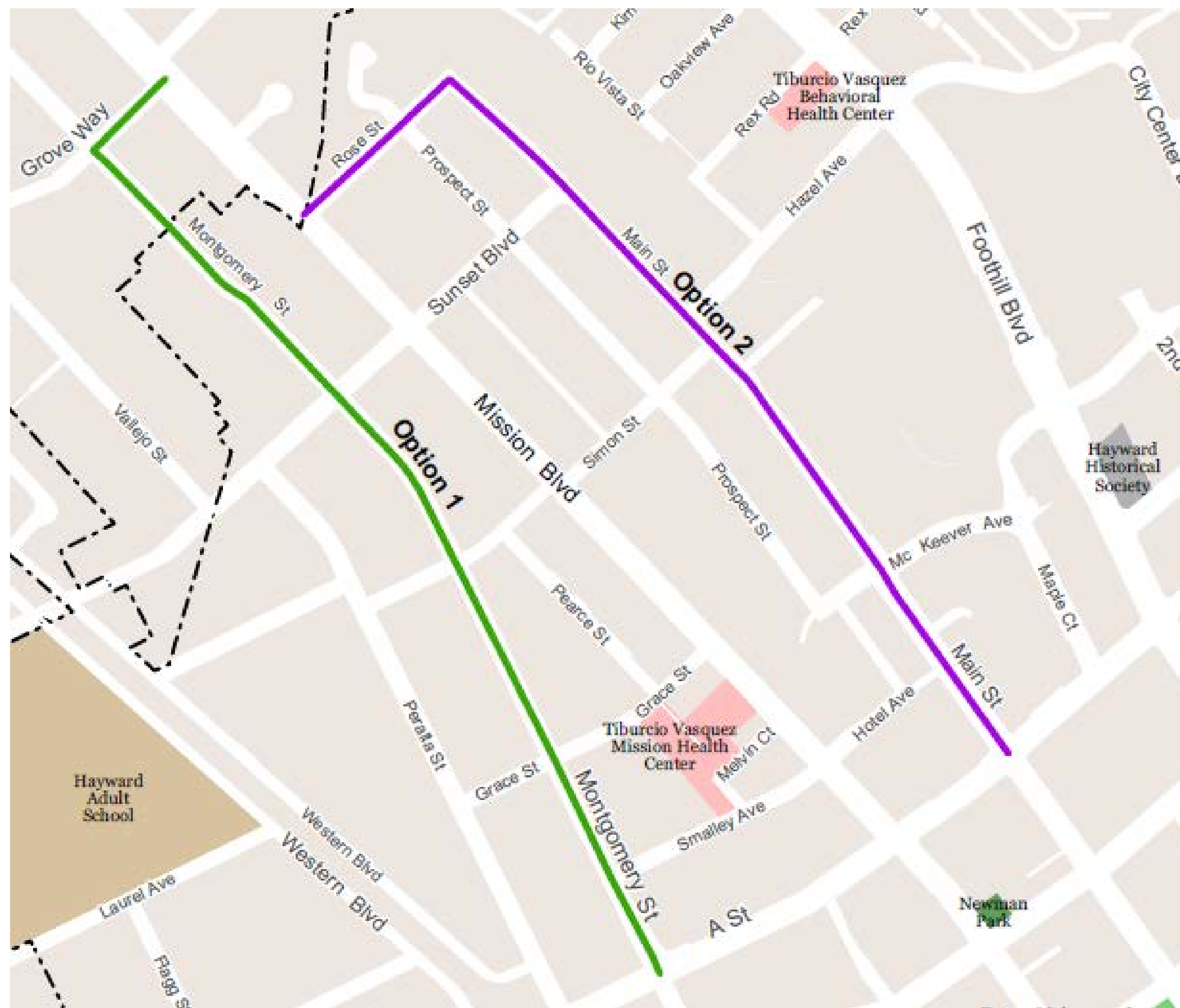






# Base Design with Alternate Bicycle Routes

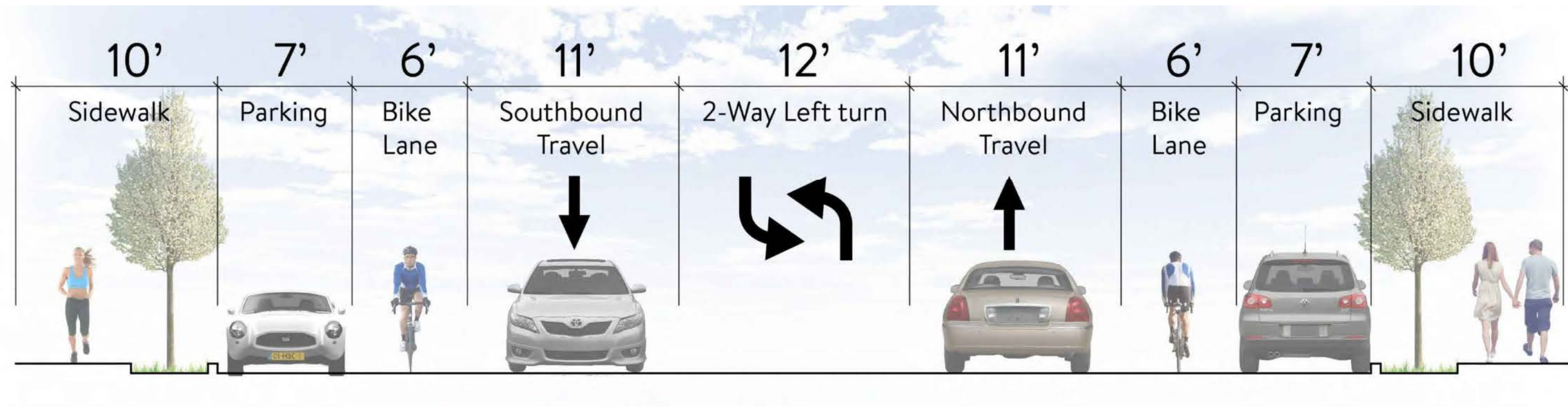
- Montgomery St
- Main St







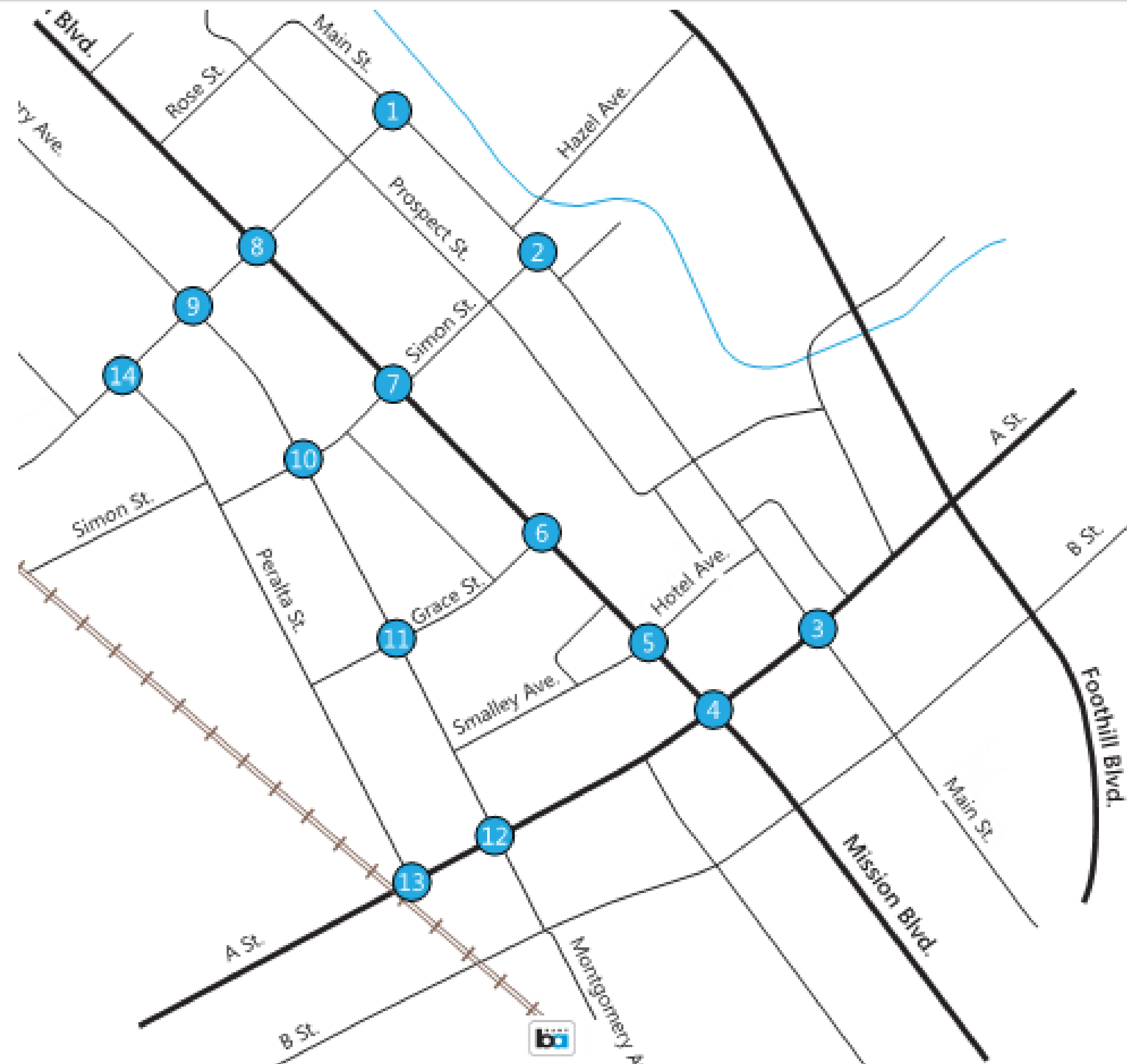
# Alternative 1







# Alternative 1 Traffic Analysis Area







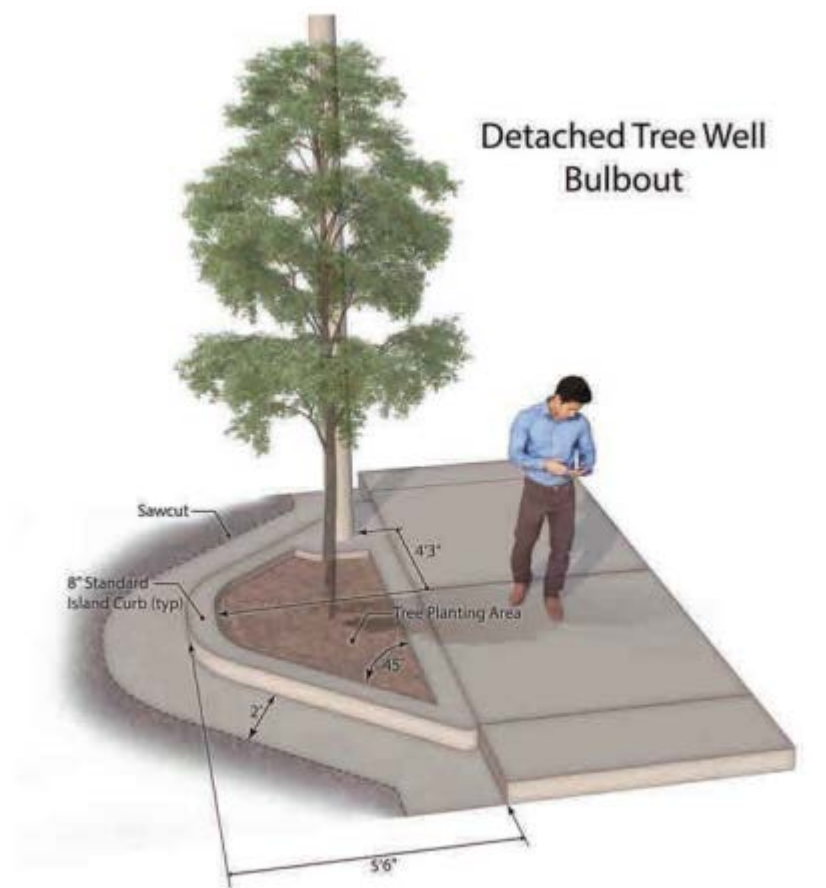
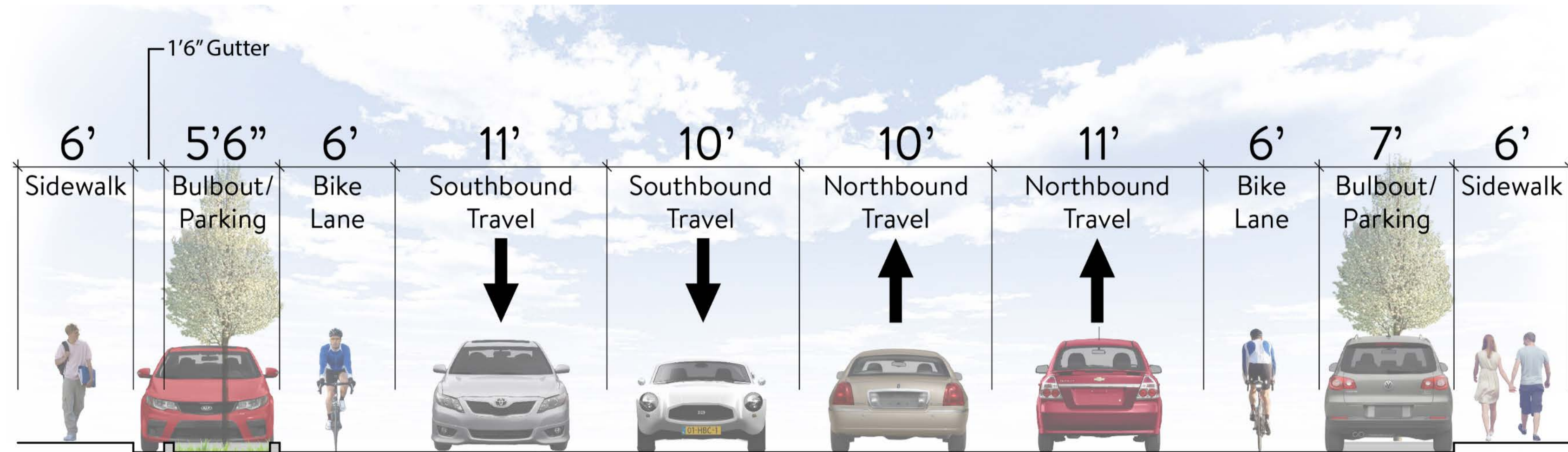
# Alternative 1 Traffic Sim with Current Year Demands







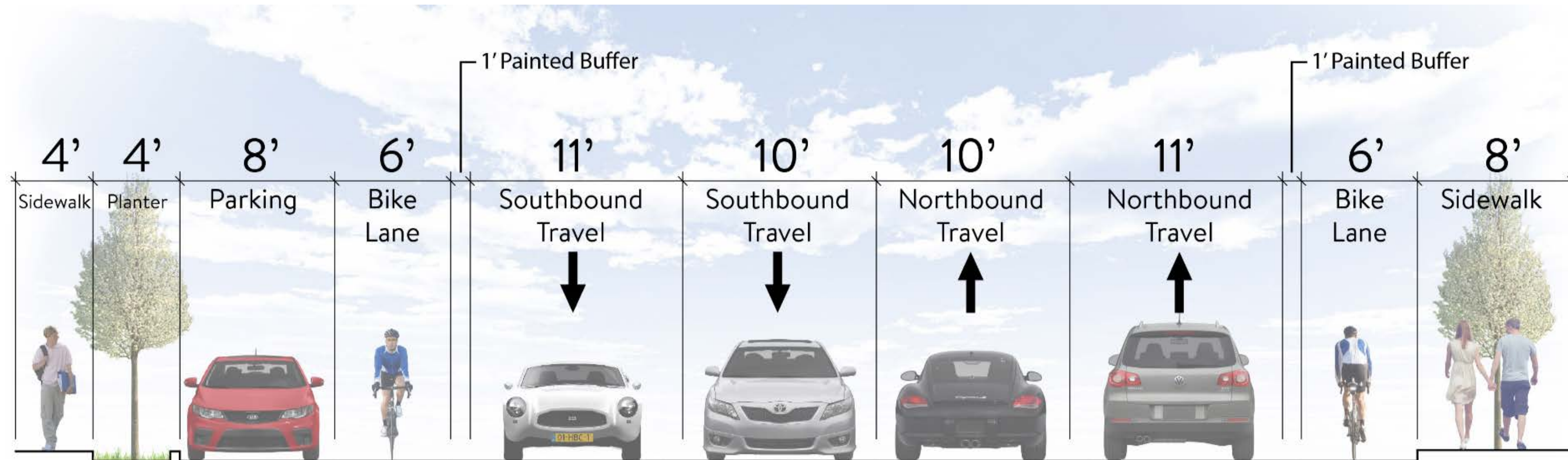
# Alternative 2







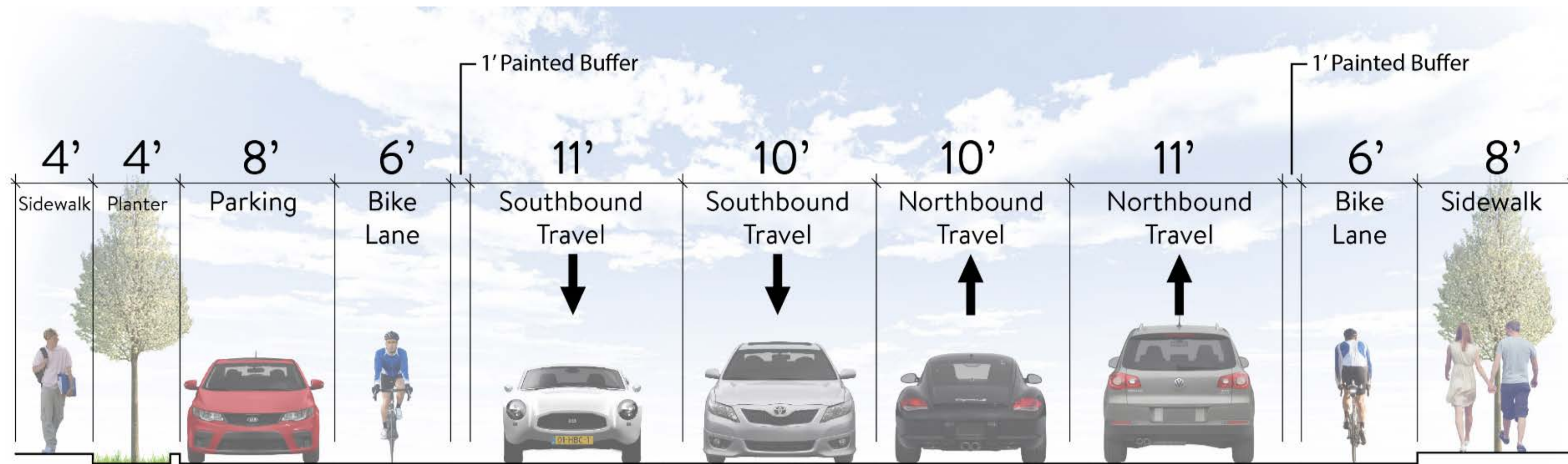
# Alternative 3







# Alternative 3







# Alternatives Comparison

Alternative	Stakeholder Benefit				
	Pedestrian	Bicyclist	Transit Users	Motorist	Businesses
Base	Better	Worse	Better	Better	Better
1 (one lane)	Better	Better	Better	Worse	Worse
2 (6' SW)	Worse	Better	Worse	Better	Worse
3 (8' SW)	Neutral	Better	Neutral	Better	Neutral

Alternative	Other Benefit					
	Safety (bus/bike conflicts)	Traffic Handling Capacity	On-Street Parking	Impact to Local Streets	Street Trees	Street Furniture
Base	Worse	Better	Better	Better	Better	Better
1 (one lane)	Better	Worse	Better	Worse	Better	Better
2 (6' SW)	Better	Better	Worse	Better	Neutral	Worse
3 (8' SW)	Better	Better	Worse	Better	Better	Neutral



# Project Cost

---

Phase 3	Estimated Cost
Design	\$1,000,000
Utility Undergrounding	\$5,000,000
Construction	\$8,000,000
Construction Admin, Inspection, Testing	\$1,000,000
PLA/CWA	\$500,000
Project Total	\$15,500,000

FUNDING SOURCE  
Measure BB - \$12,500,000





# Project Schedule

---

- |                         |              |
|-------------------------|--------------|
| . Complete Design       | January 2019 |
| . Begin Construction    | July 2019    |
| . Complete Construction | May 2020     |

-Schedule is contingent on design by utility companies





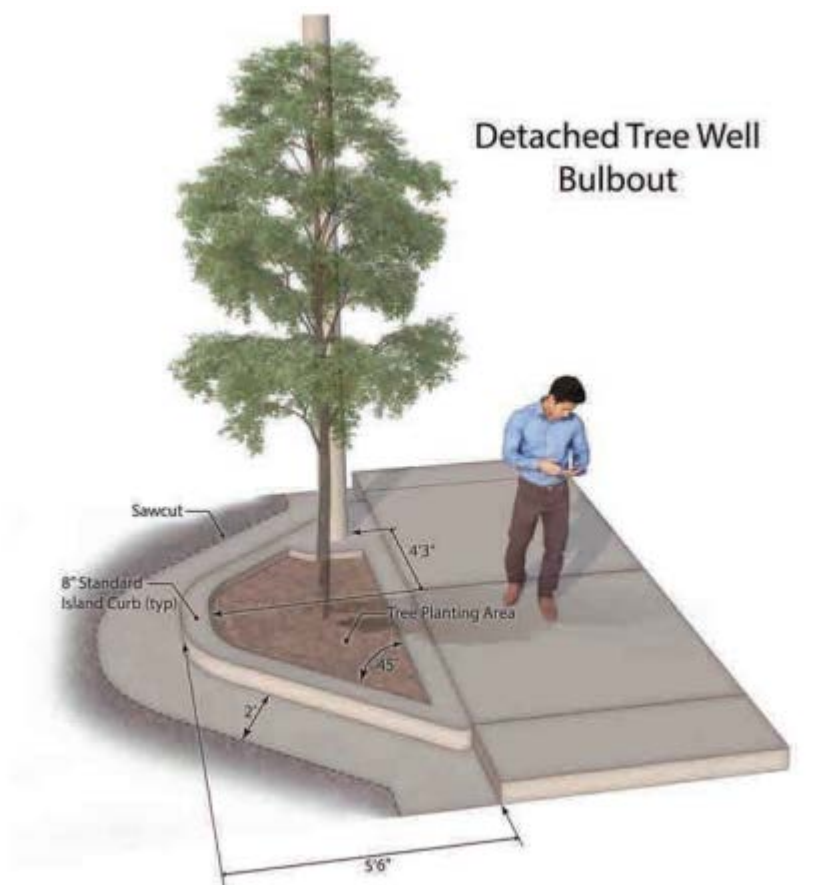
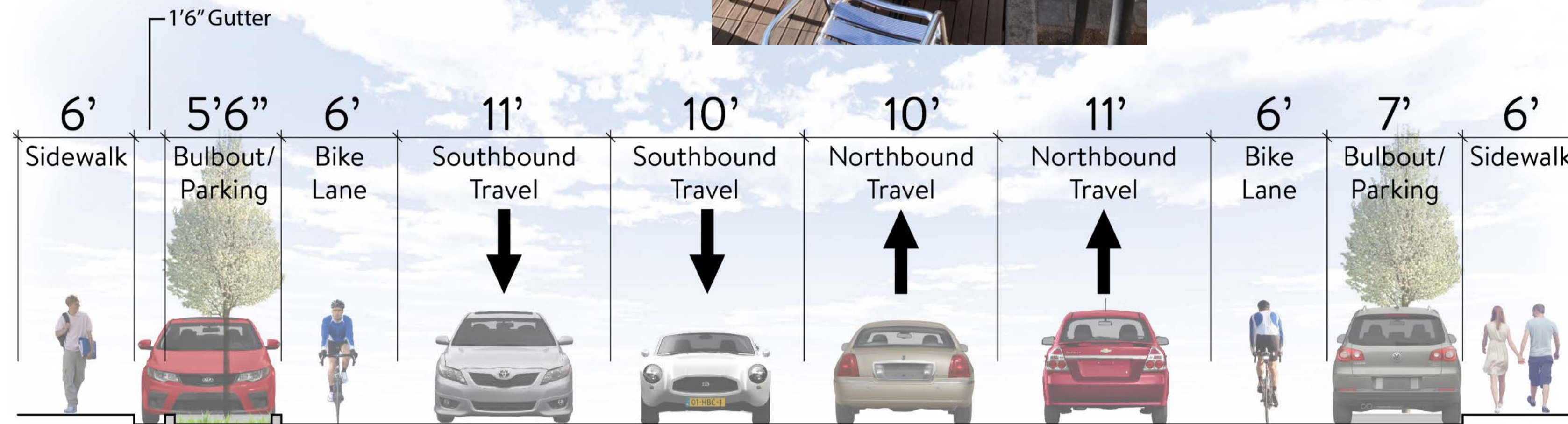
---

## QUESTIONS





# Alternative 2











PHASE 3

PHASE 1

PHASE 2

## AC Transit



- High Frequency Routes
- High Ridership
- Bus/Bike Collisions

## Lane Configuration



- 22,000 ADT
- 1900 Peak Hour Volume
- Need 2 Travel Lanes
- High Parking Utilization
- Limited ROW



**Council Infrastructure Committee**

**May 23, 2018**

**Agenda Item 2 – RPT 18-096**

**Neighborhood Traffic Calming Program Update**



# **Neighborhood Traffic Calming Program (NTCP) Update**

**Presentation  
05.23.18**

**Fred Kelley, Transportation Manager  
Public Works**





# Why Traffic Calming is Important

**ONE OF THE TOP  
CITY COUNCIL  
PRIORITIES**



**RISK OF INJURY  
INCREASES WITH  
SPEED**



**TRAFFIC CALMING  
VITAL FOR  
NEIGHBORHOOD**



**ENCOURAGES NON-  
AUTO MODES OF  
TRANSPORTATION**



# Project Goals

- Address speeding, cut-through traffic and pedestrian/bicycle safety
- Develop comprehensive, realistic and flexible strategies
- Fair, consistent policies and procedures
- Incorporate 4E's – Education, Enforcement, Empowerment, Engineering

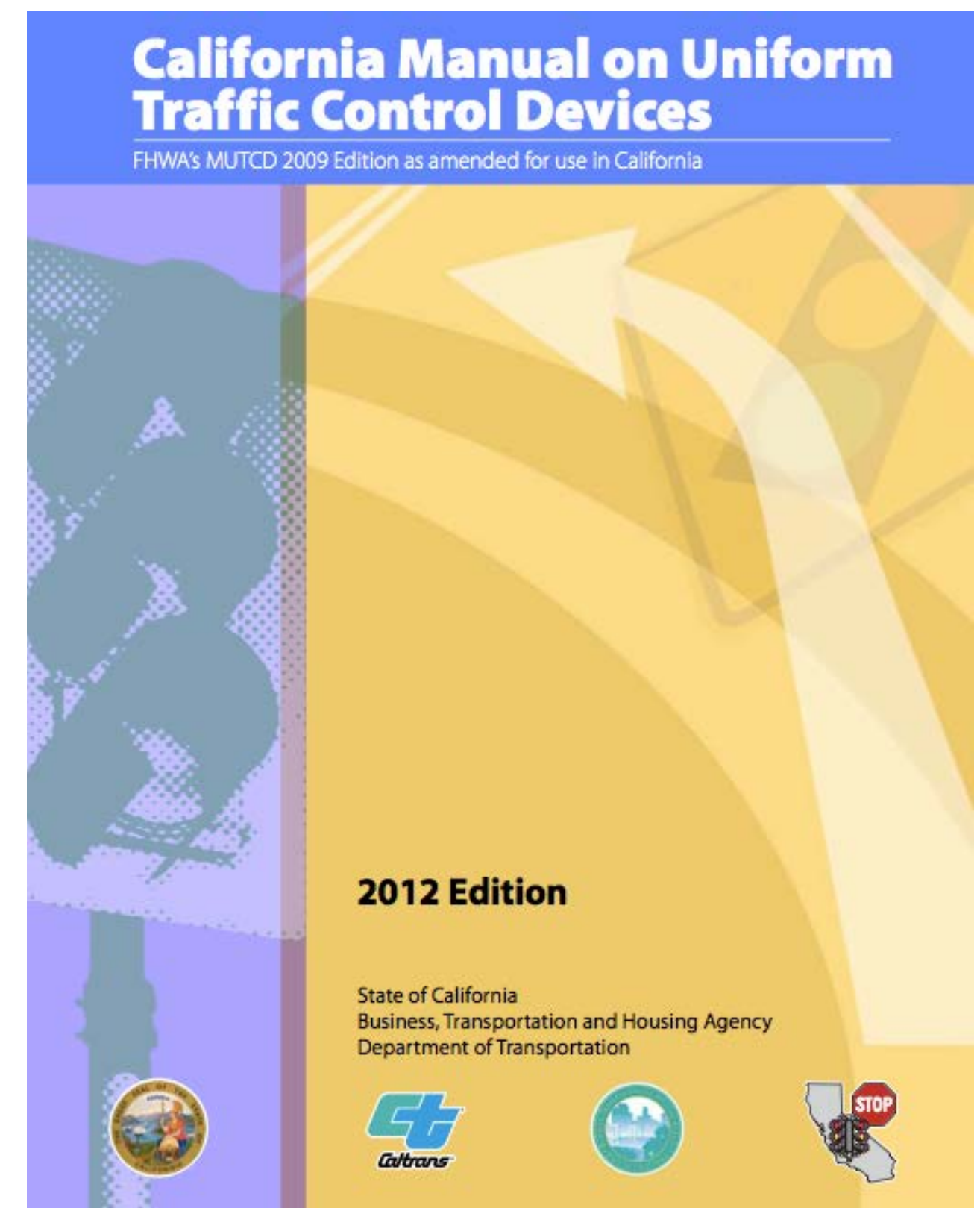






# NTCP Development

- Community Outreach (Town Hall Meetings)
- Social Media
- Benchmarking

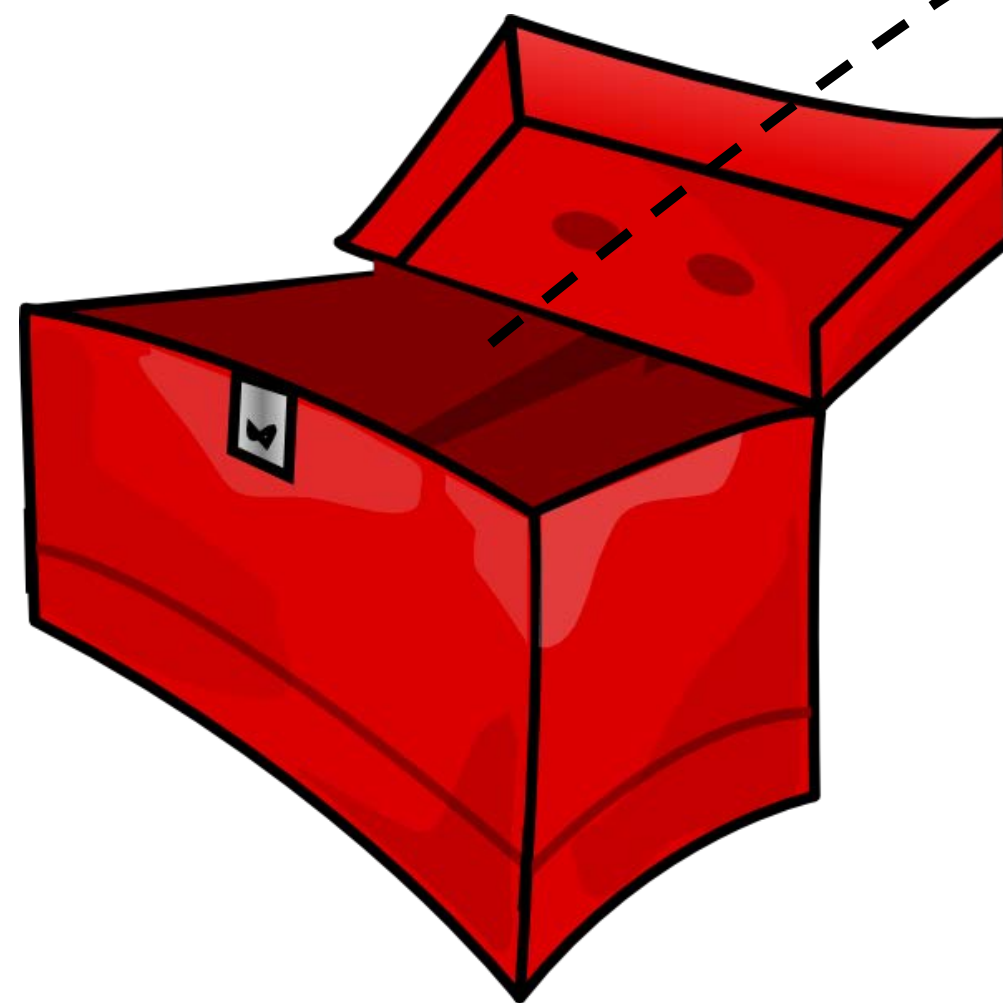






# Existing Traffic Calming Strategy

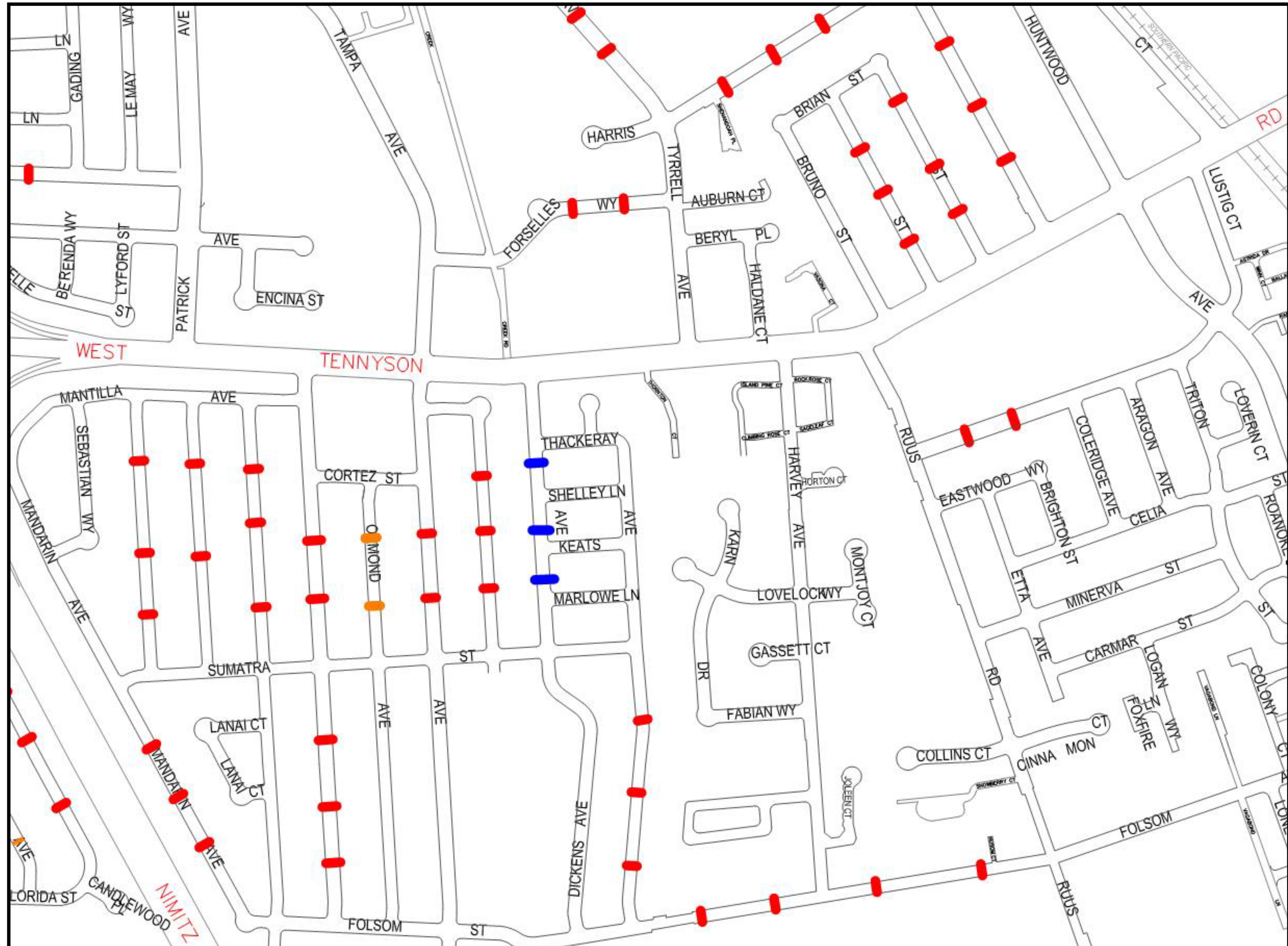
---



One tool



# Overreliance on Speed lumps

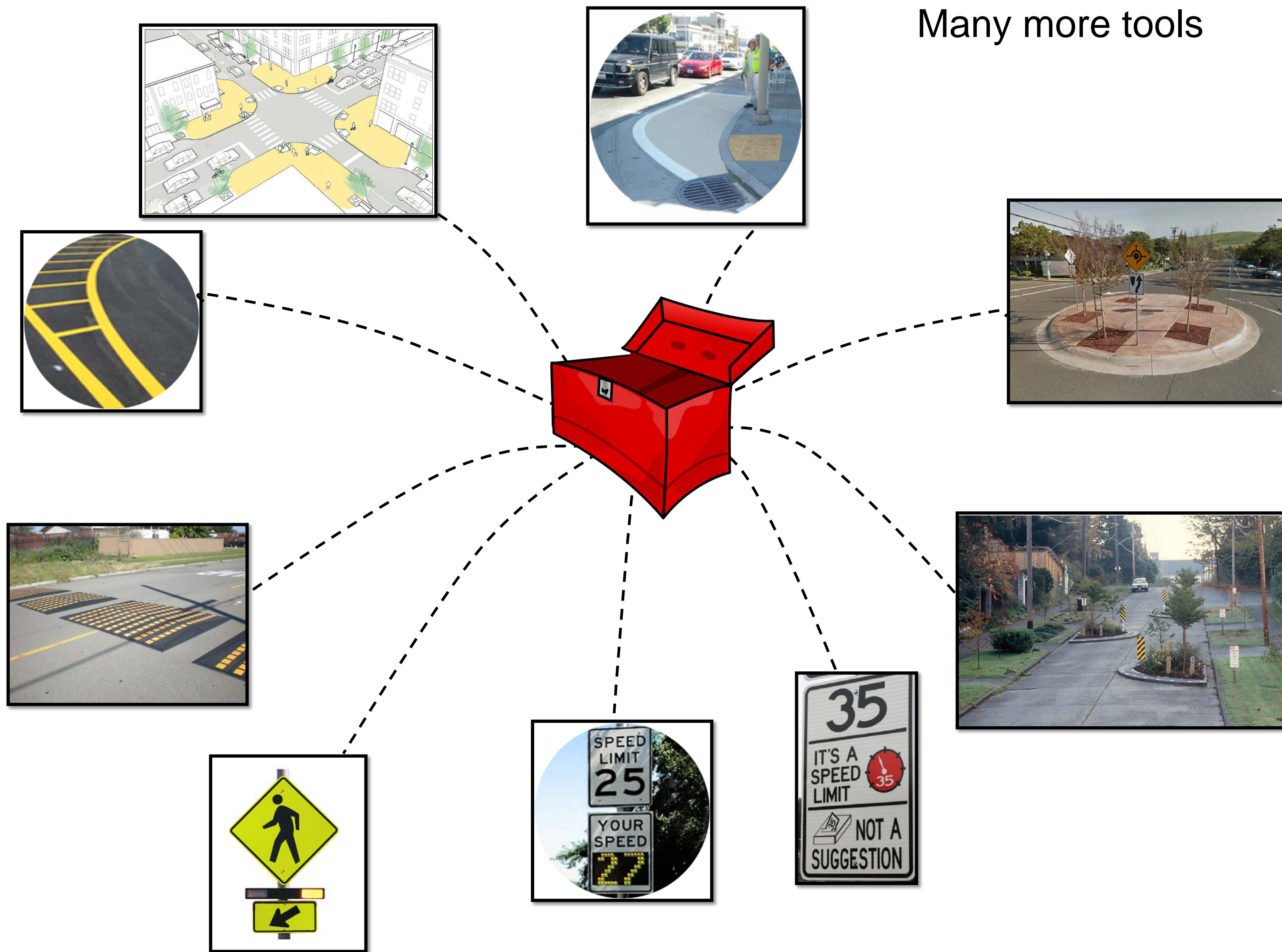






# Proposed Traffic Calming Strategies

Many more tools



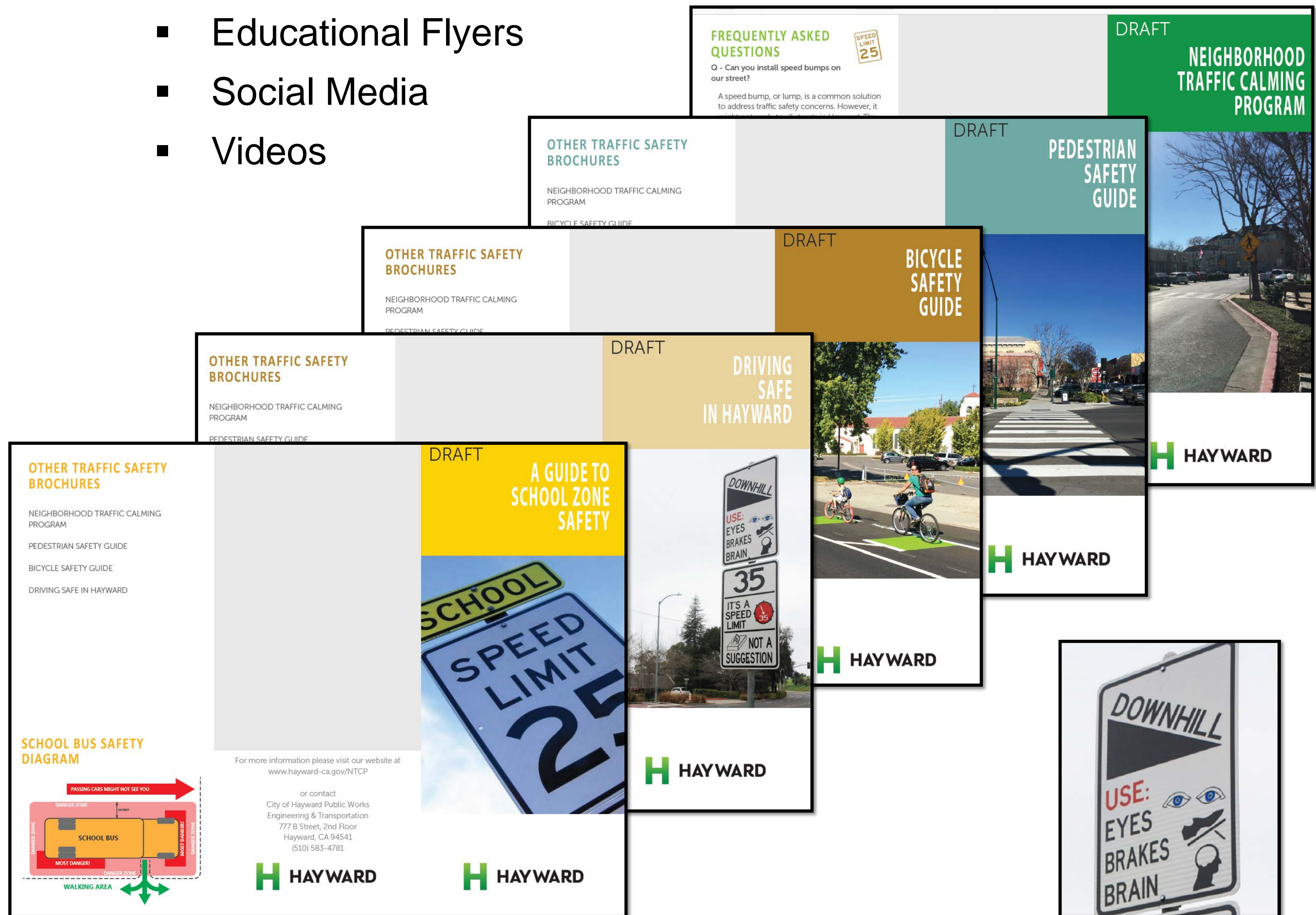


- Education
- Empowerment
- Enforcement
- Engineering



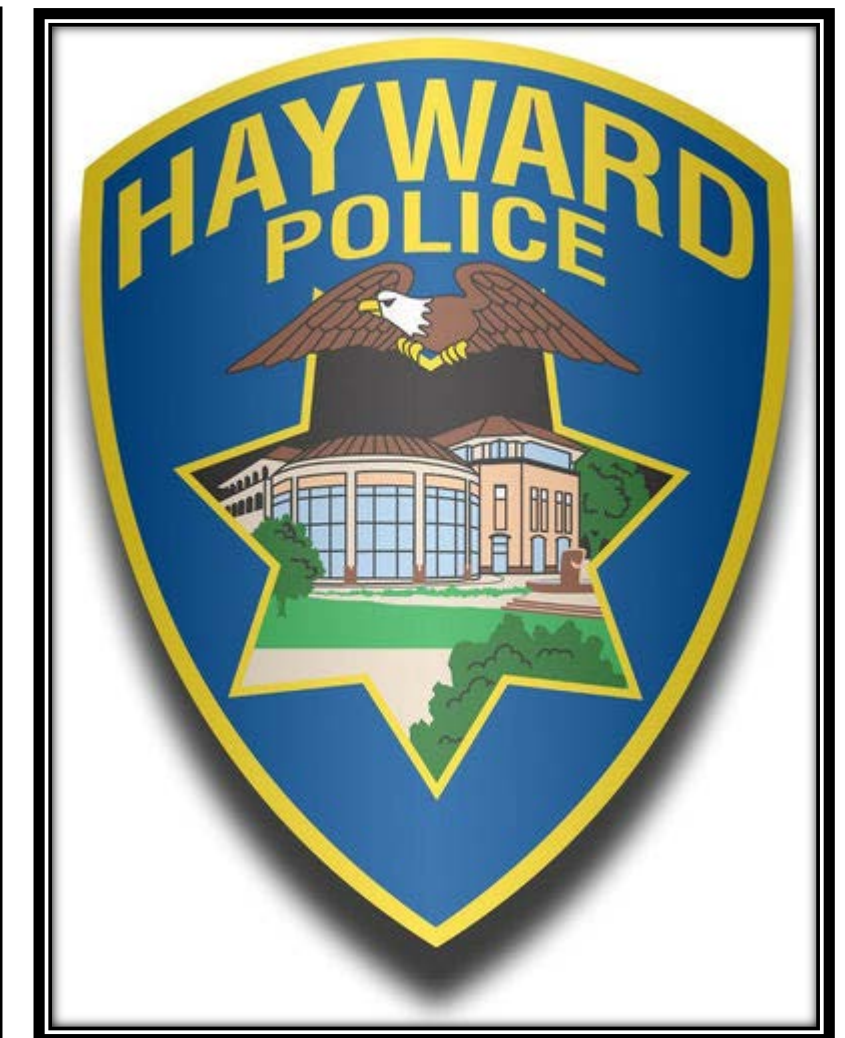
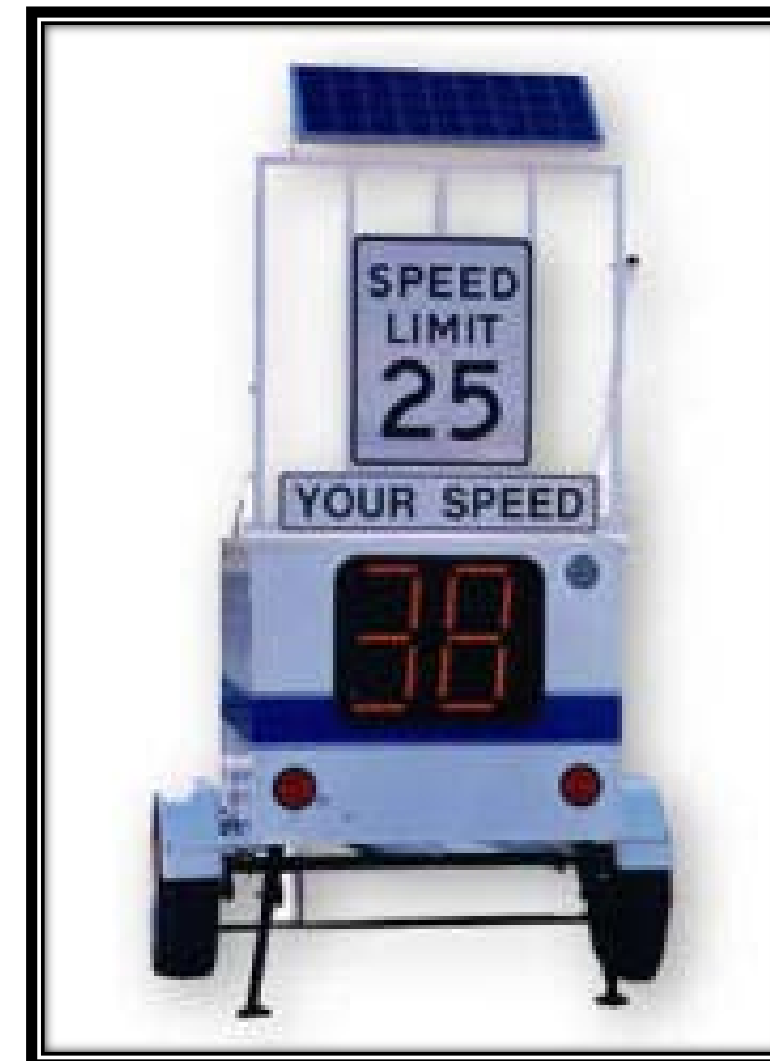


- Educational Flyers
- Social Media
- Videos





- Courtesy Warnings
- Citations
- Targeted Enforcement





- Pace Car Program
- Allow residents to become “Change Agents”
- Provide residents tools to conduct neighborhood meetings





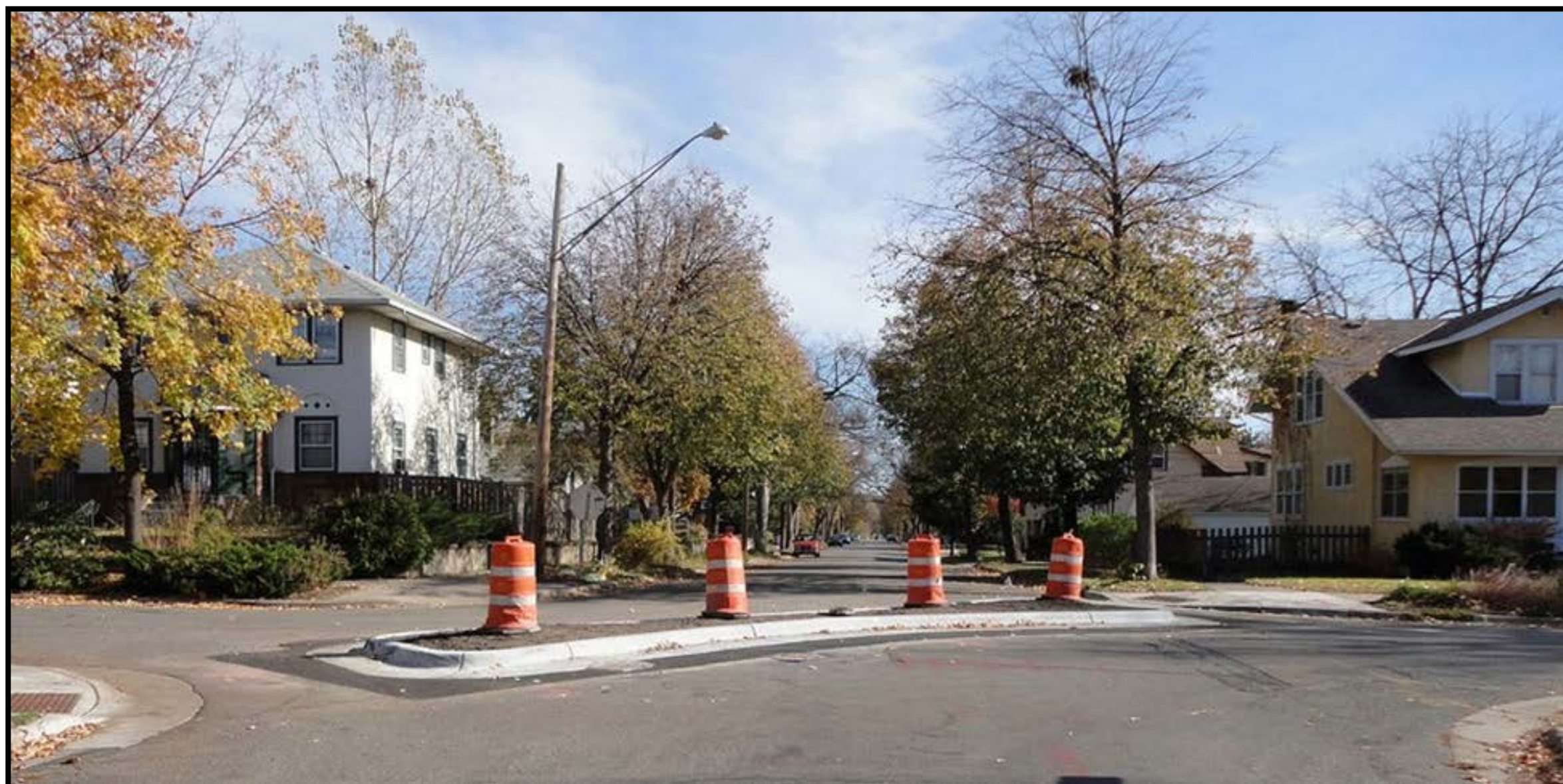


# Engineering

---



- Striping & Signage
- Road Diet Strategies
- Pedestrian & Bicycle Safety
- Major Physical Improvements







# Three Tiers

---

## Tier I

- Low cost
- Easy to implement

## Tier II

- Higher cost
- Minor design/construction

## Tier III

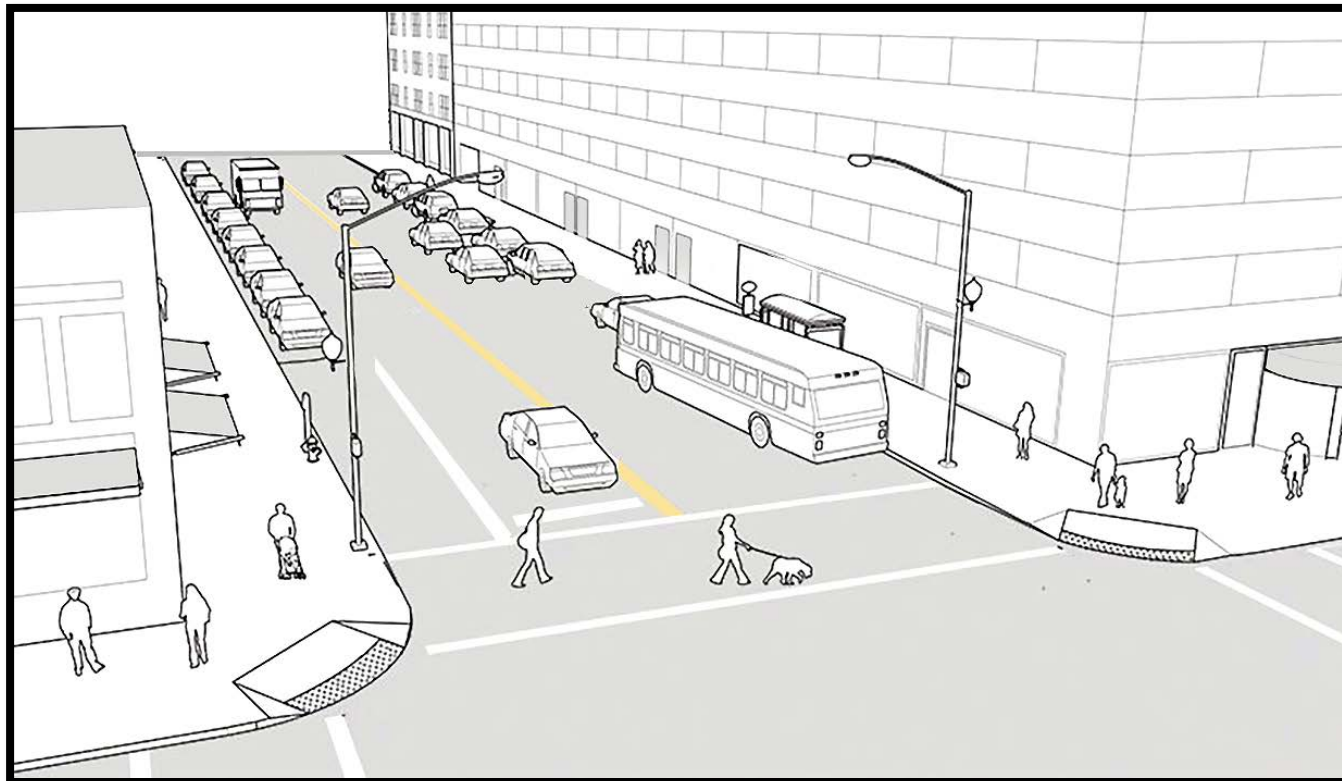
- Highest cost
- Major design/ construction
- Requires community buy in



## Low Cost, High Return

- Visibility Improvements
- Pavement Markings
- Signage
- Informational Brochures
- Social Media Campaigns
- Educational Videos





## Edgeline/Centerline Striping

*Suitable for:* Residential Streets, Collector Streets

*Not Suitable for:* Arterial Streets

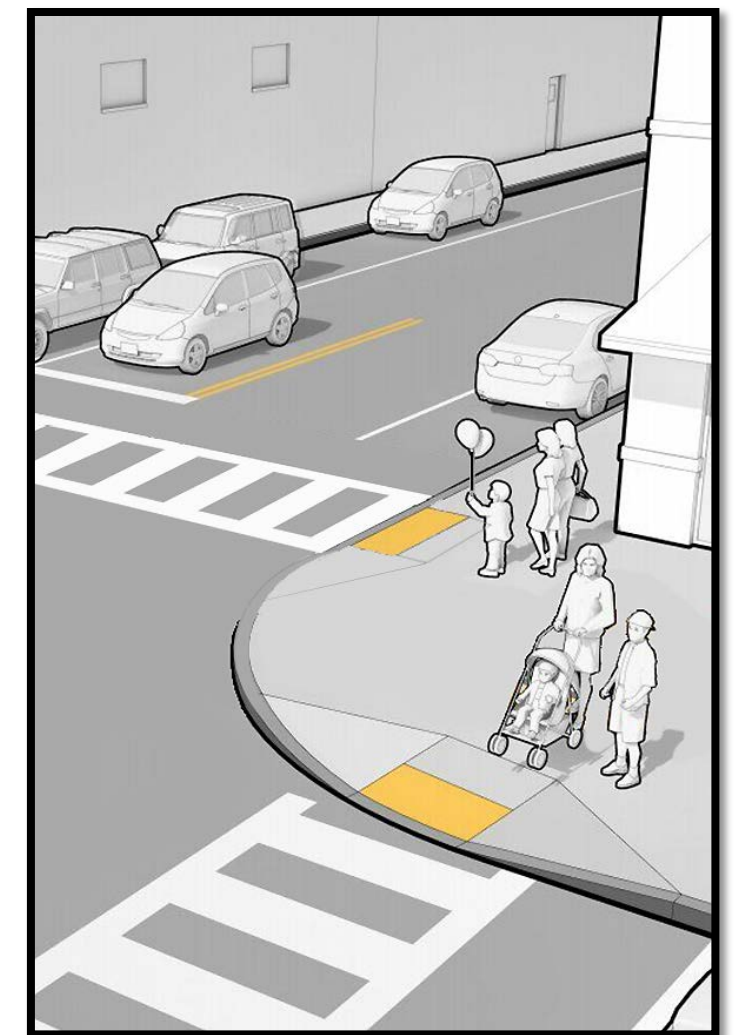
*Cost:* \$0.50 - \$1.00 per linear foot of striping

## High Visibility Crosswalks

*Suitable for:* School zones, Residential Streets etc.,

*Not Suitable for:* Low pedestrian volume locations

*Cost:* \$3.00 - \$4.50 per linear foot of striping



## Signage

*Suitable for:* School zones, Residential Streets etc.,

*Not Suitable for:* N/A

*Cost:* \$250 - \$500 per sign



## Higher Cost & Minor Design/Construction

- Road Diet
- Radar Signs
- Flashing Beacons
- Striped Bulbouts
- Safety Workshops
- Pace Car Program



## Flashing Beacons

*Suitable for:* School Zones, Residential Streets

*Not Suitable for:* Streets with speed limits >35 mph

*Cost:* \$15,000 - \$25,000



## Speed Feedback Signs

*Suitable for:* School Zones, Residential Streets

*Not Suitable for:* Intersections, Curved Roadway

*Cost:* \$15,000

## Road Diet

*Suitable for:* School Zones, Wide Residential Streets

*Not Suitable for:* Narrow Roadways

*Cost:* \$15,000 to \$20,000 per a mile of a roadway.







## Highest Cost & Major Design/Construction

- Chokers
- Raised Intersections
- Speed Lumps
- Bulb Outs
- Raised Medians
- Traffic Circles/Roundabouts
- Partial/Full Closures
- Safety Trainings

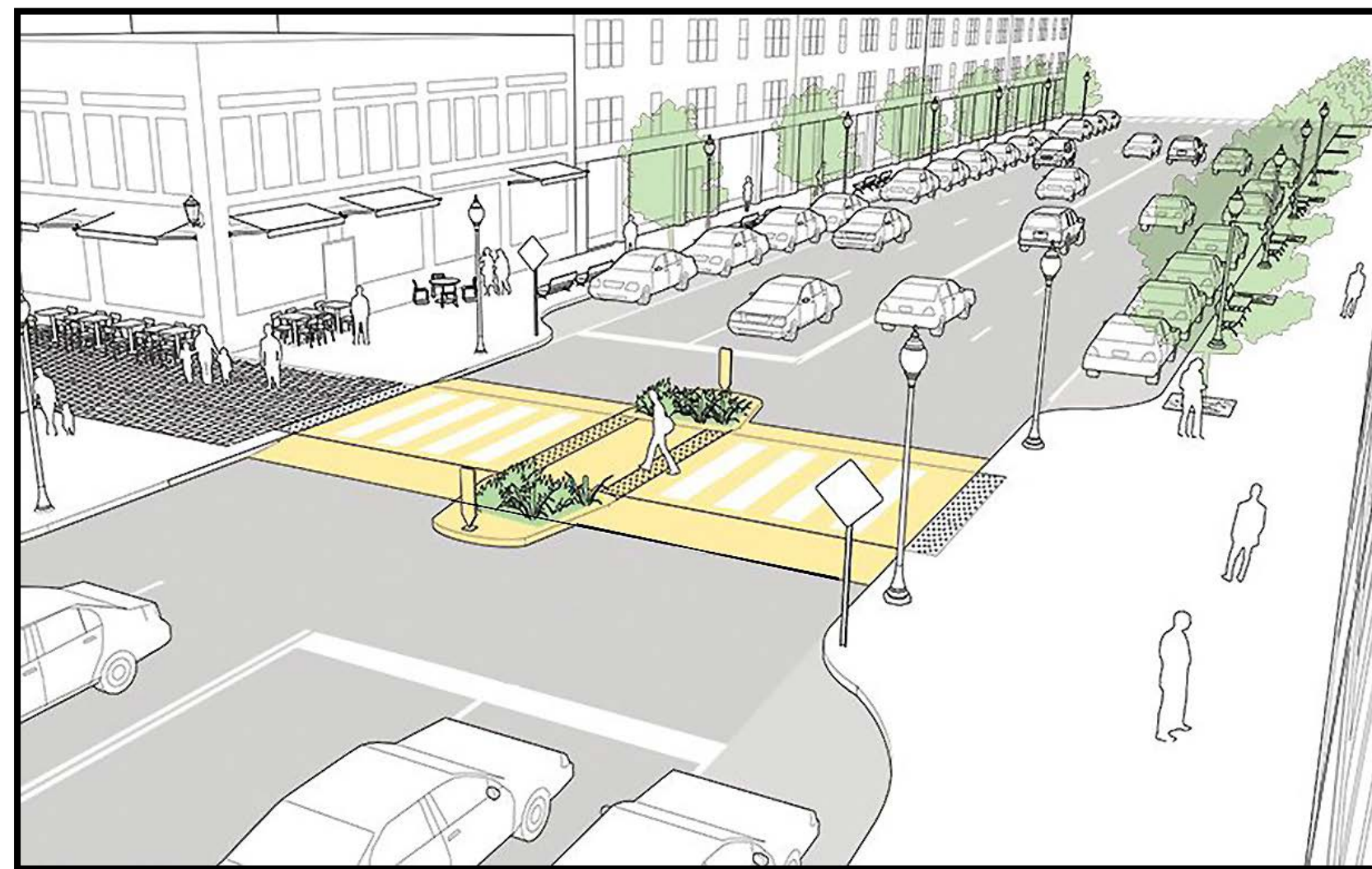


## Raised Crosswalk

*Suitable for:* High pedestrian activity areas, Residential Streets, School Zones

*Not Suitable for:* Arterial streets, Intersections

*Cost:* \$40,000 - \$70,000 per two lane roadway



## Chokers

*Suitable for:* Wide streets, High cut-through volumes

*Not Suitable for:* High bicycle volumes & on-street parking demand

*Cost:* \$30,000 to \$50,000 per location

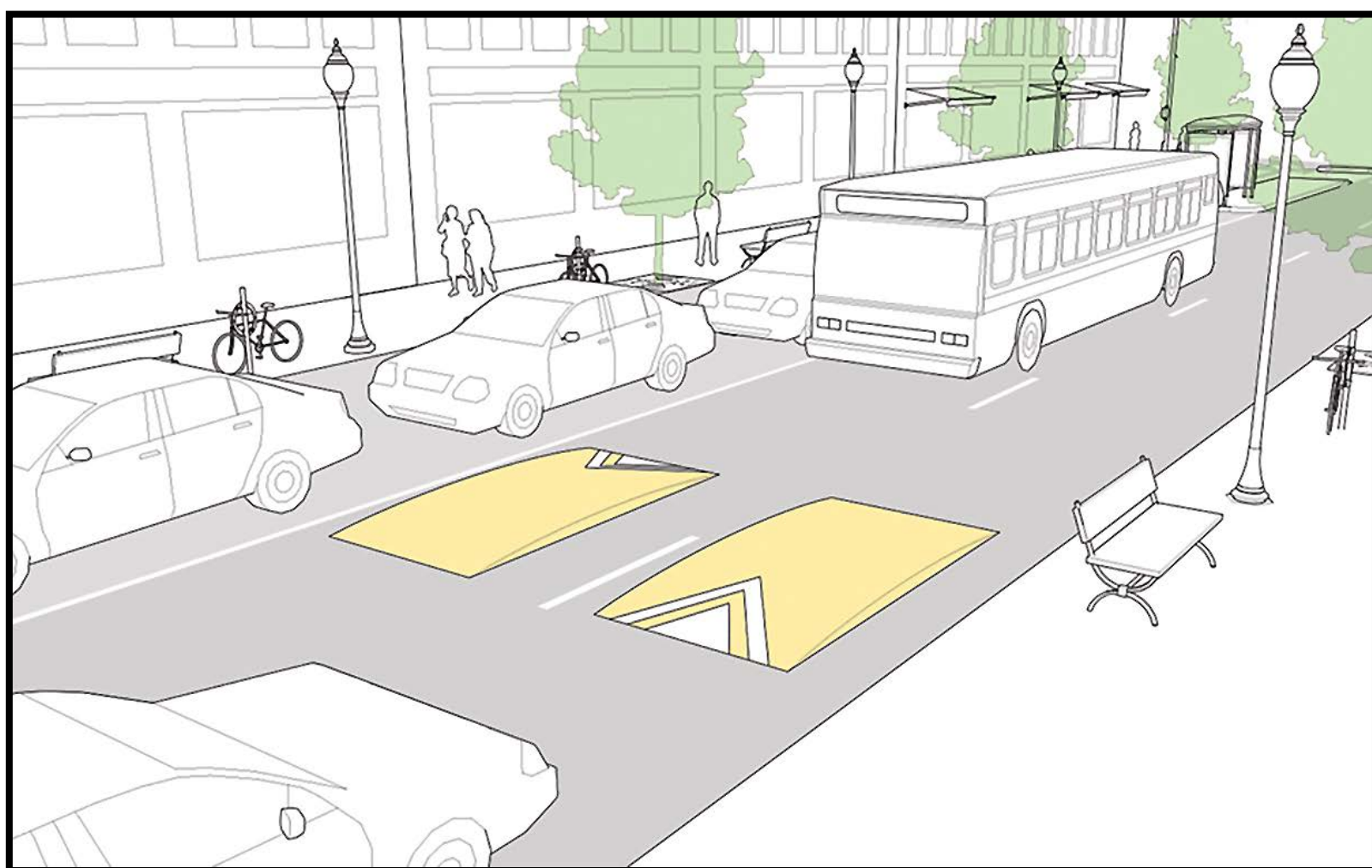


## Roundabouts/Traffic Circles

*Suitable for:* Collector/Arterial Streets, High accident rate

*Not Suitable for:* Horizontal/vertical curvature

*Cost:* \$150,000 to \$350,000 for a single lane roundabout



## Speed Lumps

*Suitable for:* Residential streets, High cut-through volumes

*Not Suitable for:* Collector/Arterial Streets

*Cost:* \$12,000 to \$15,000 per pair





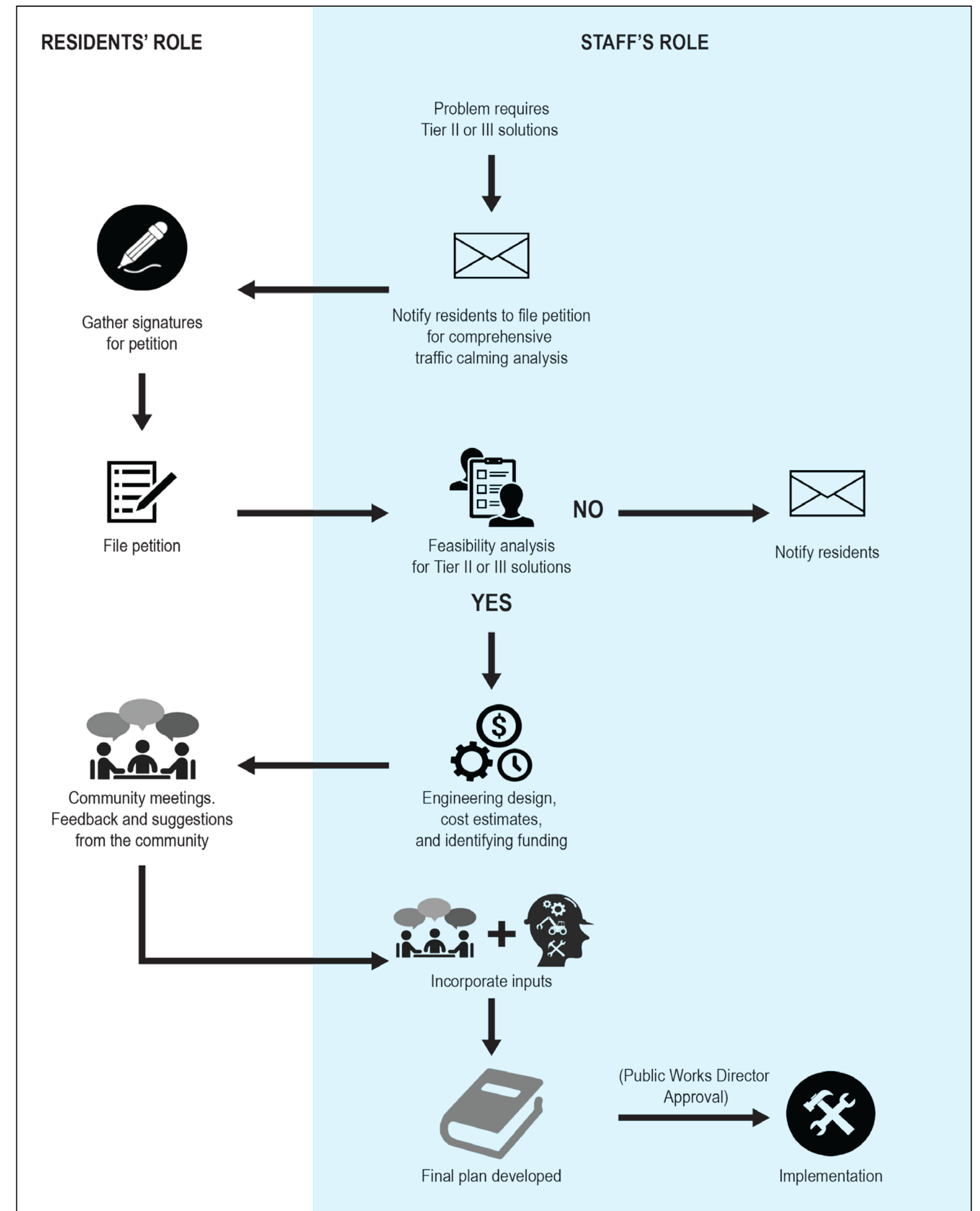
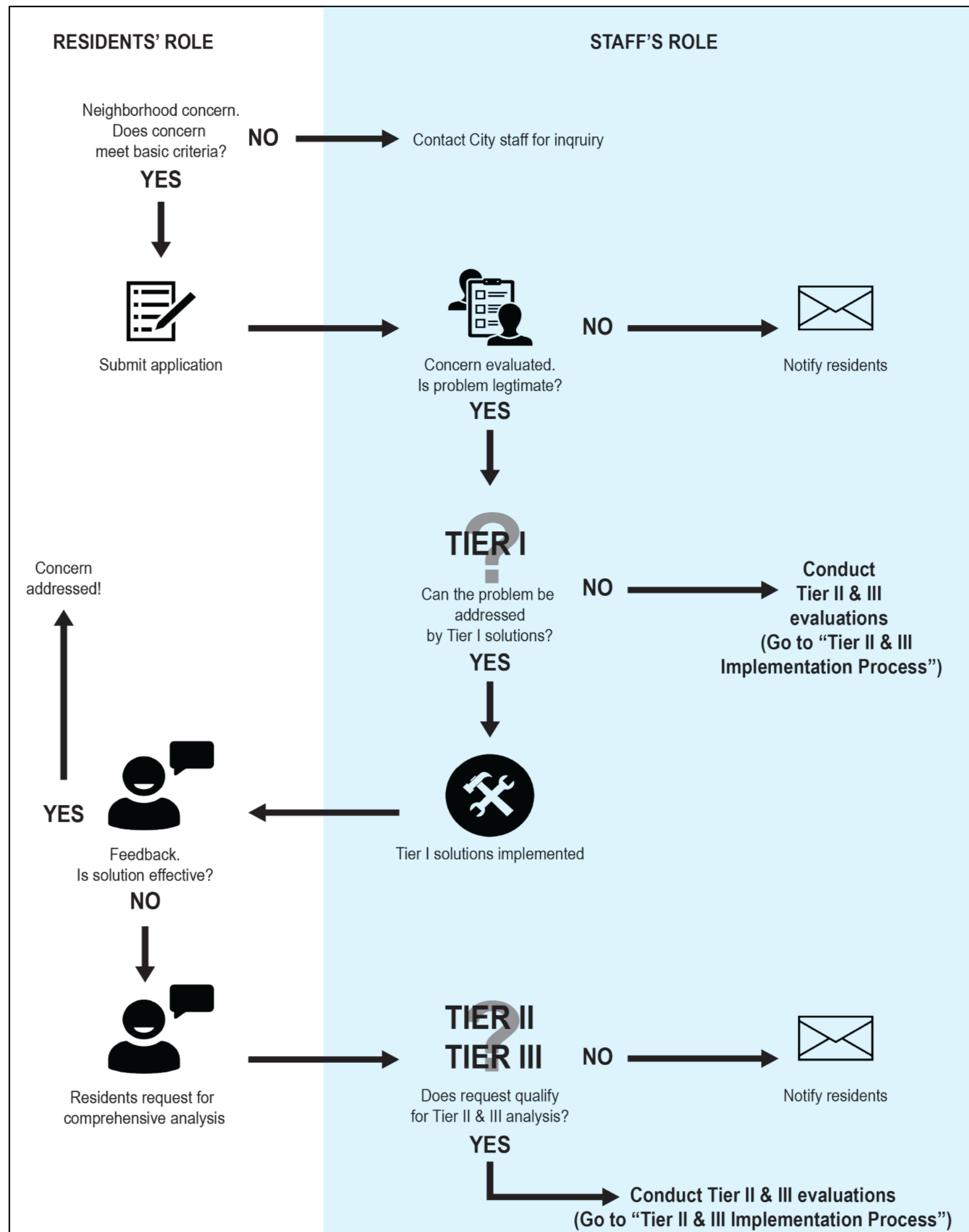
# NTCP Process

---

- Neighborhood expresses concern
- Comprehensive analysis by staff
- Implement Tier I measures
- Evaluate effectiveness of Tier I measures
- Neighborhood petition process
- Tier II/III feasibility analysis
- Design/Cost estimates
- Identify Funding and implement



# Process Flow Chart



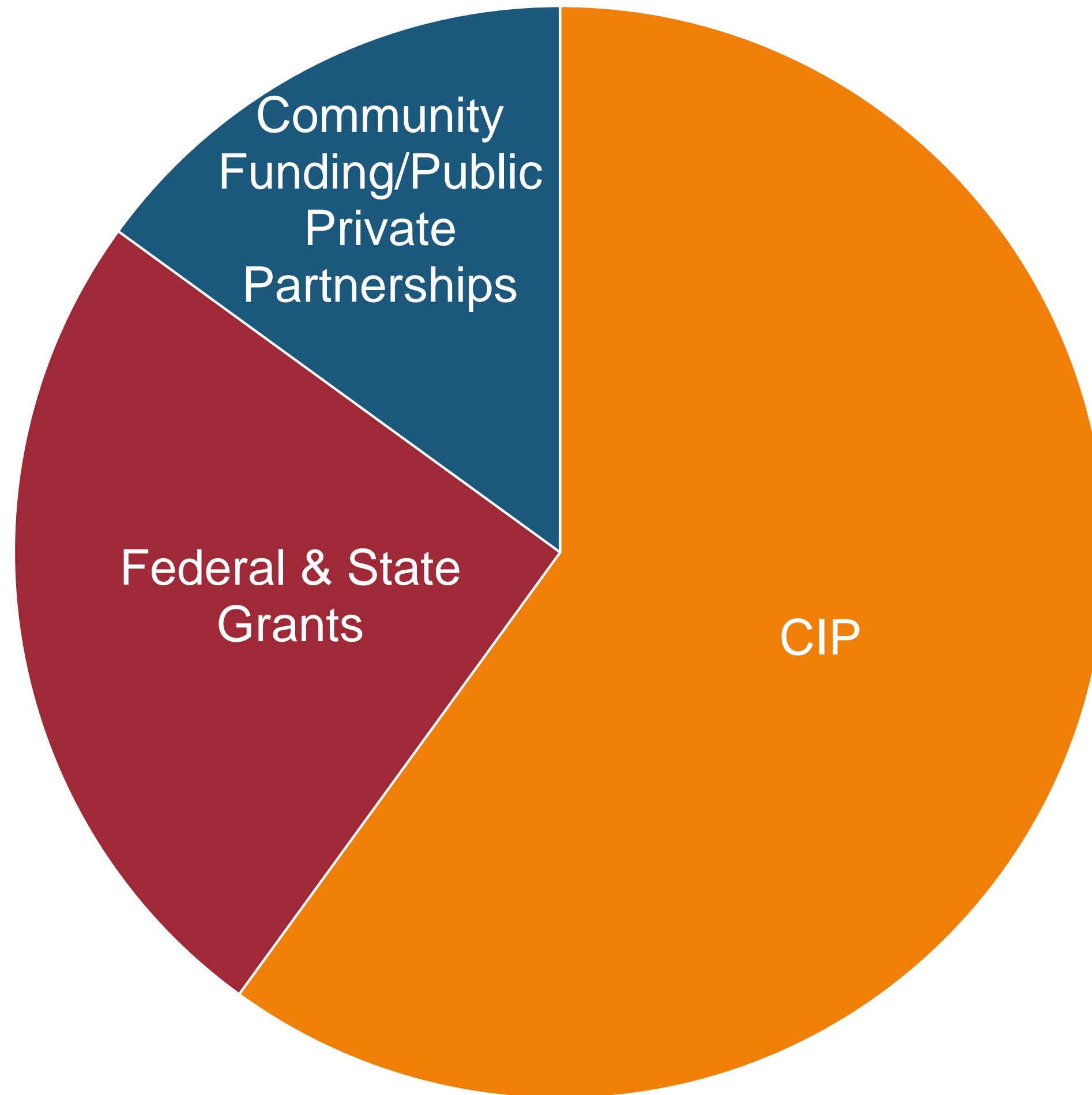


## **Prioritization Criteria**

- Extent of speeding
- Collision History
- Traffic Volumes
- Cut-through Traffic
- Vicinity to School
- Pedestrian Generator
- Impact on Emergency Vehicles
- Roadway Geometry



# Funding

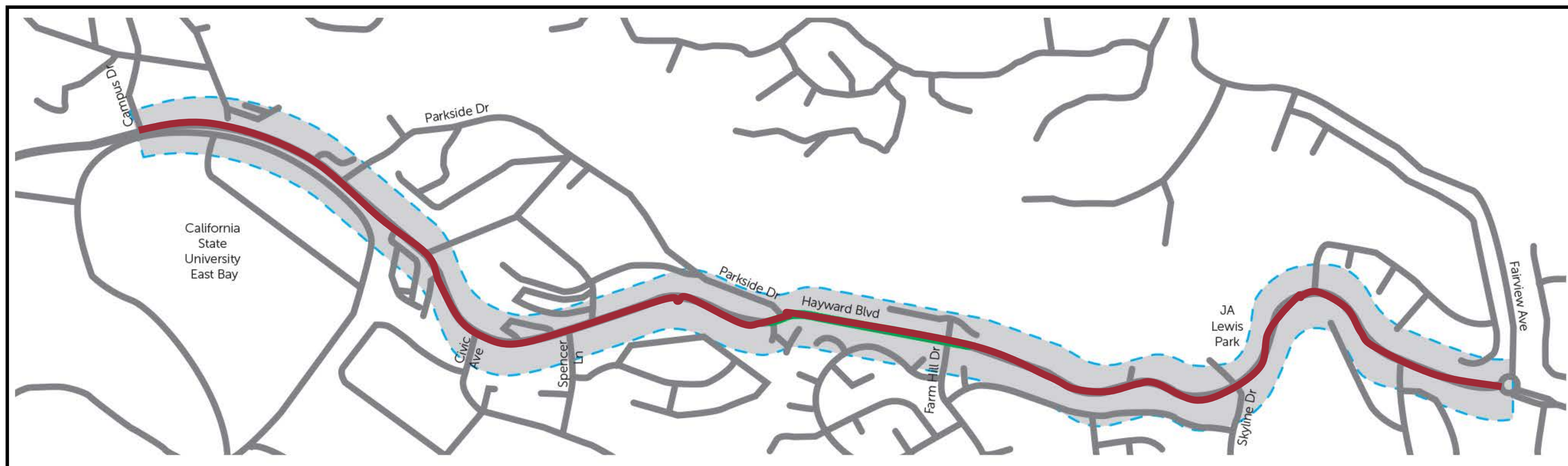






# Traffic Calming on Collector and Arterial Streets

## Hayward Blvd (Carlos Bee Blvd to Fairview Ave)

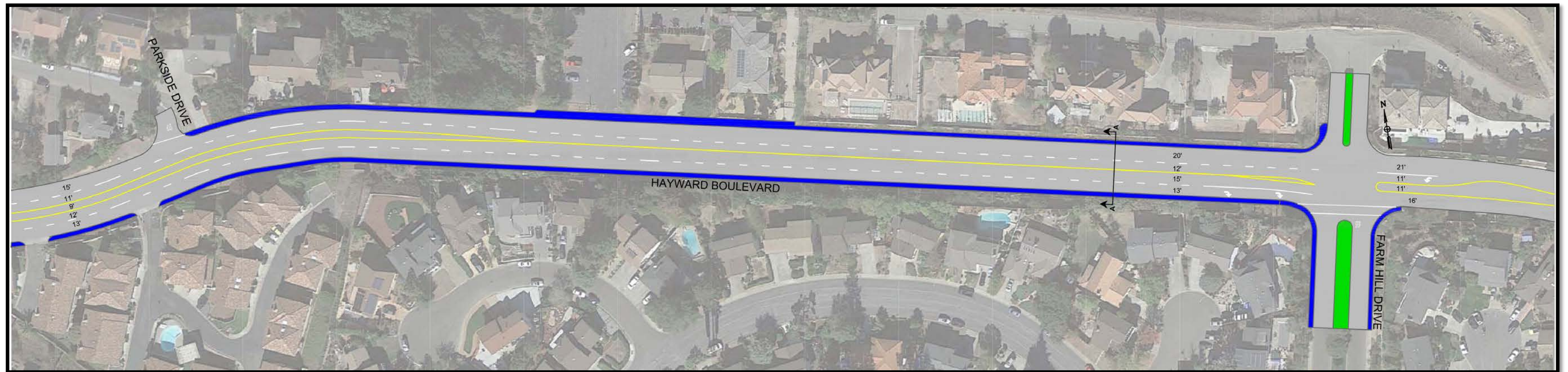




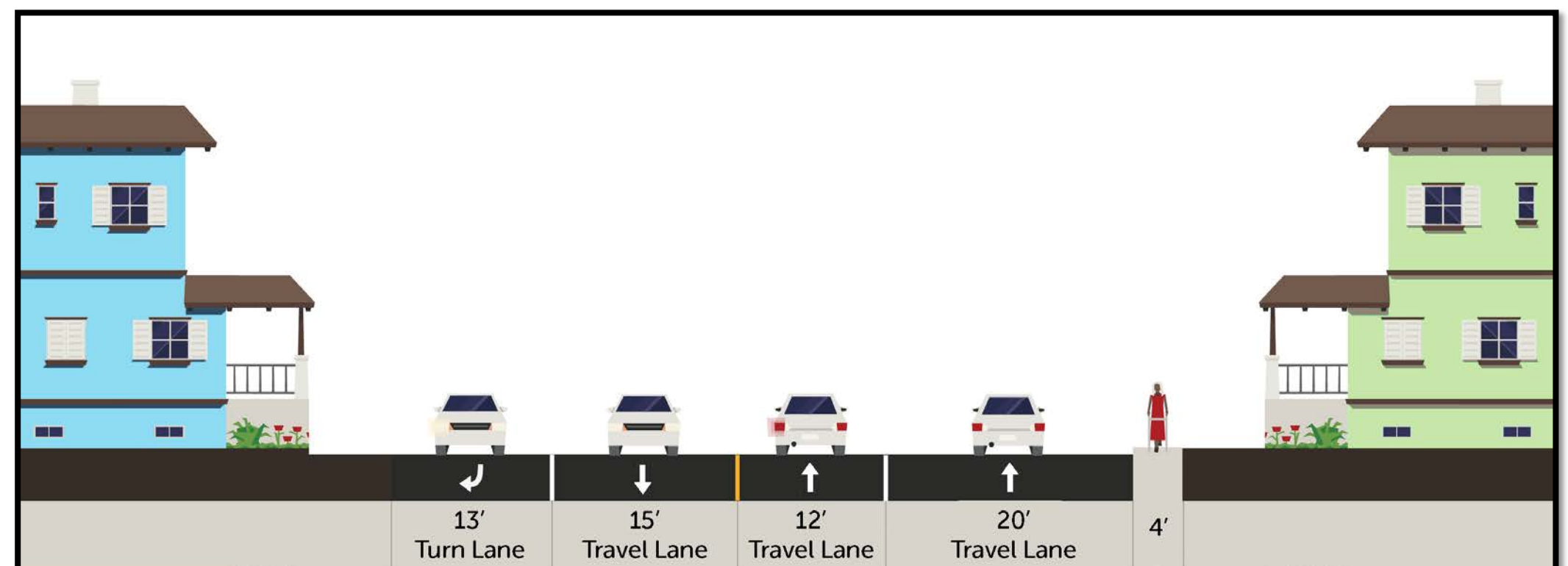


# Traffic Calming on Collector and Arterial Streets

## Hayward Blvd (Farm Hill Dr to Parkside Dr) – Existing Conditions



- High Travel Speeds
- Steep Grades
- Wide Travel Lanes
- Multiple Vertical & Horizontal curves
- Missing Pedestrian walkways and crossings

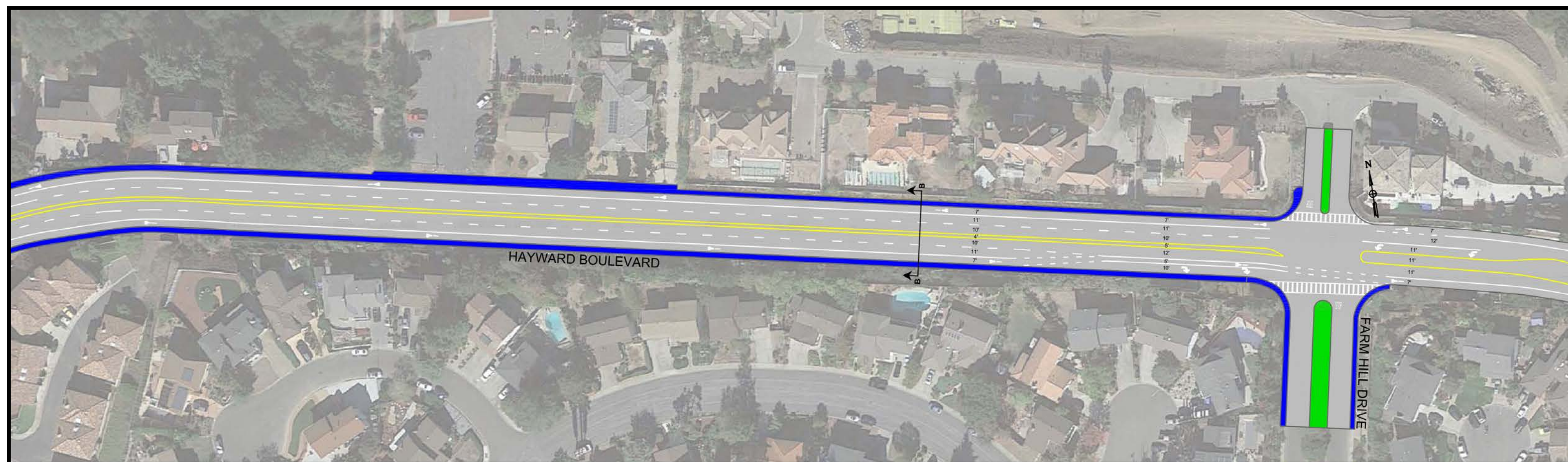






# Traffic Calming on Collector and Arterial Streets

## Hayward Blvd (Farm Hill Dr to Parkside Dr) – Tier I Concept

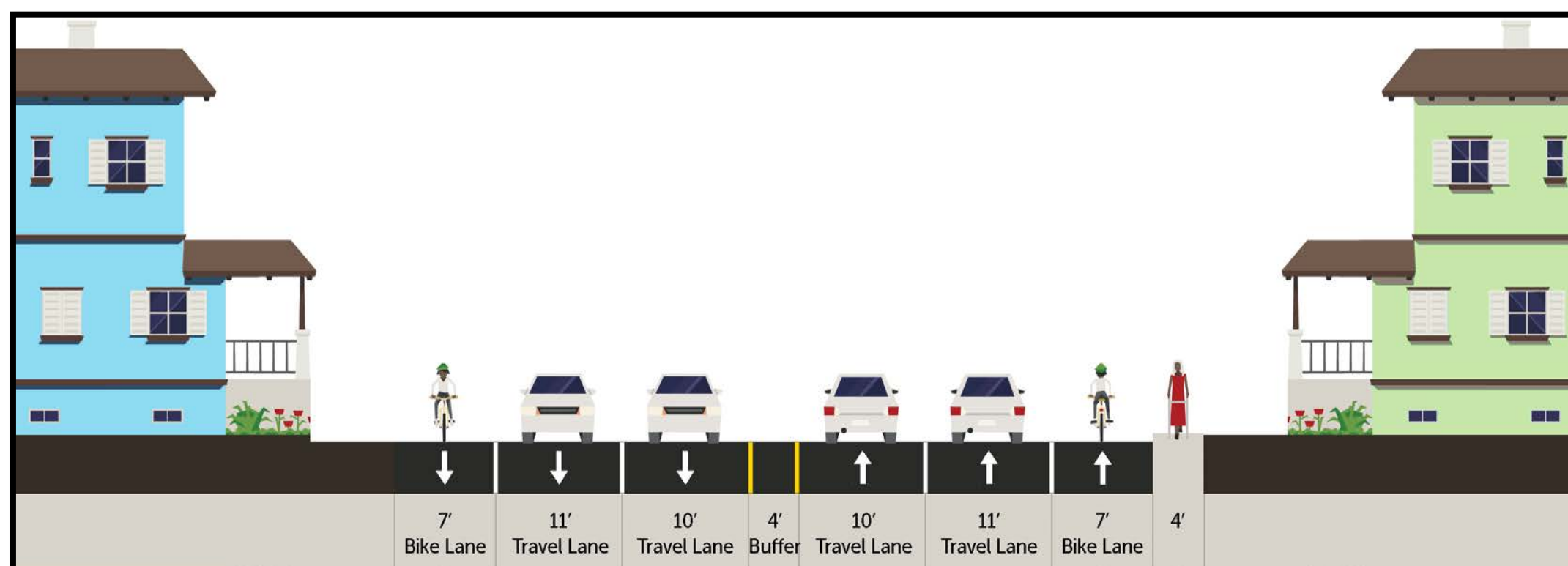


- Narrower Travel Lanes & Center Median Striping
- Bicycle Lanes
- High Visibility Crosswalks

Preliminary Cost Estimate:

Segment Cost: \$35,000

Corridor Cost: \$230,000

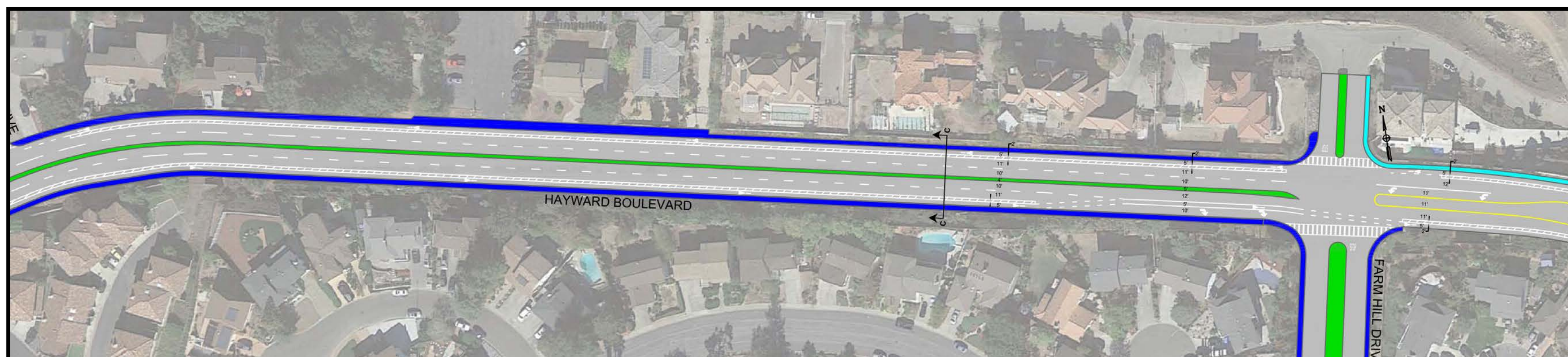






# Traffic Calming on Collector and Arterial Streets

## Hayward Blvd (Farm Hill Dr to Parkside Dr) – Tier II Concept

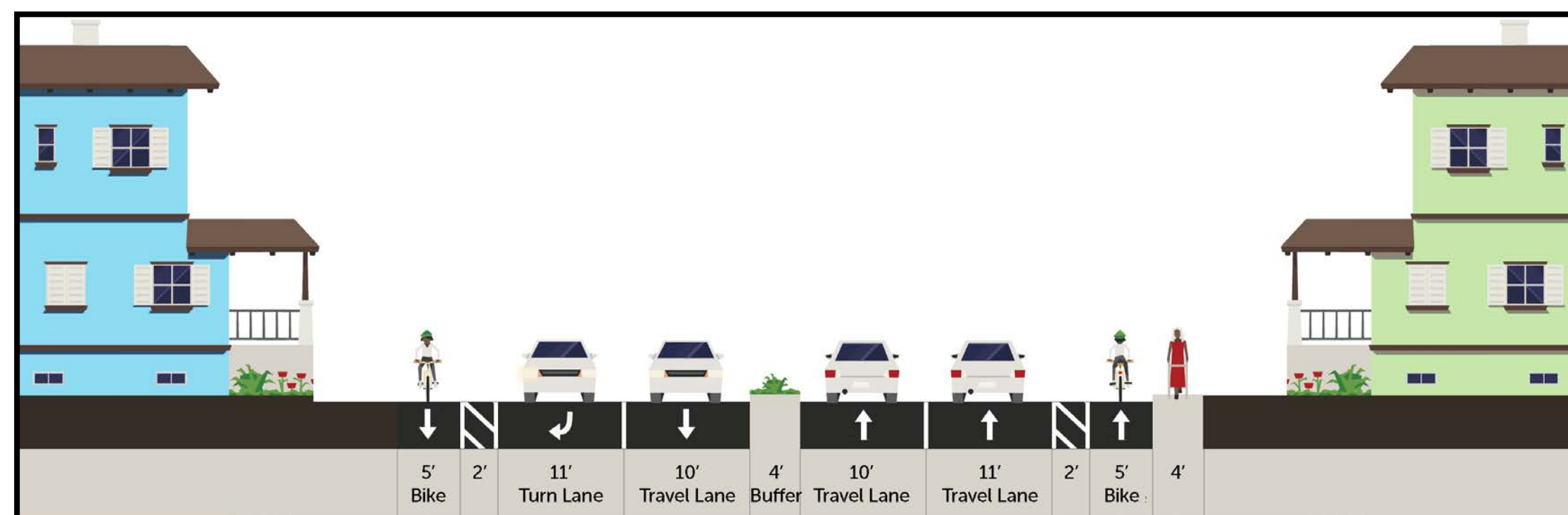


- Concrete Median Narrowing
- Pedestrian Connectivity
- Buffered Bicycle Lanes

Preliminary Cost Estimate:

Segment Cost: \$200,000

Corridor Cost: \$2,000,000

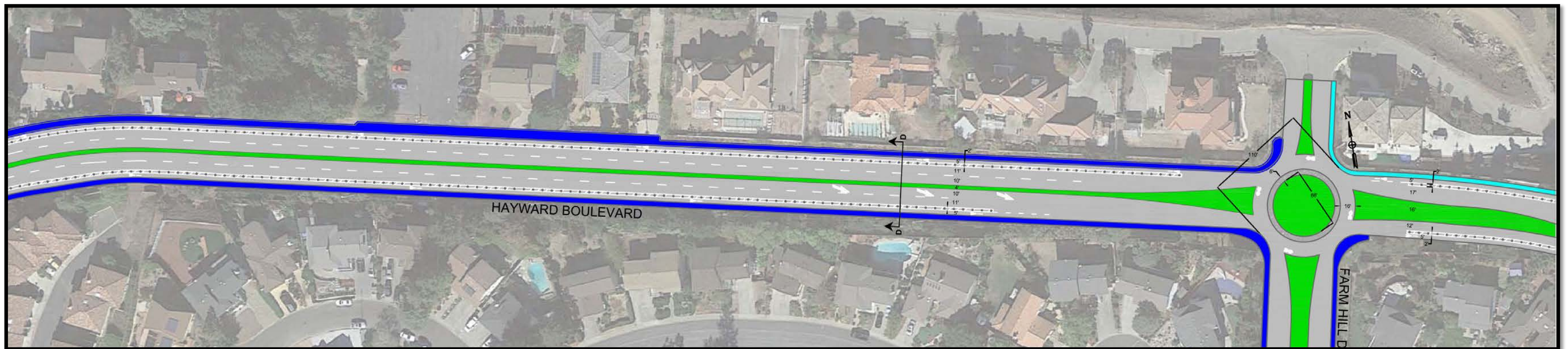






# Traffic Calming on Collector and Arterial Streets

## Hayward Blvd (Farm Hill Dr to Parkside Dr) – Tier III Concepts



- Single-Lane Roundabout
- Protected Bicycle Lanes

Preliminary Cost Estimate:

Segment Cost: \$360,000

Corridor Cost: \$2,600,000

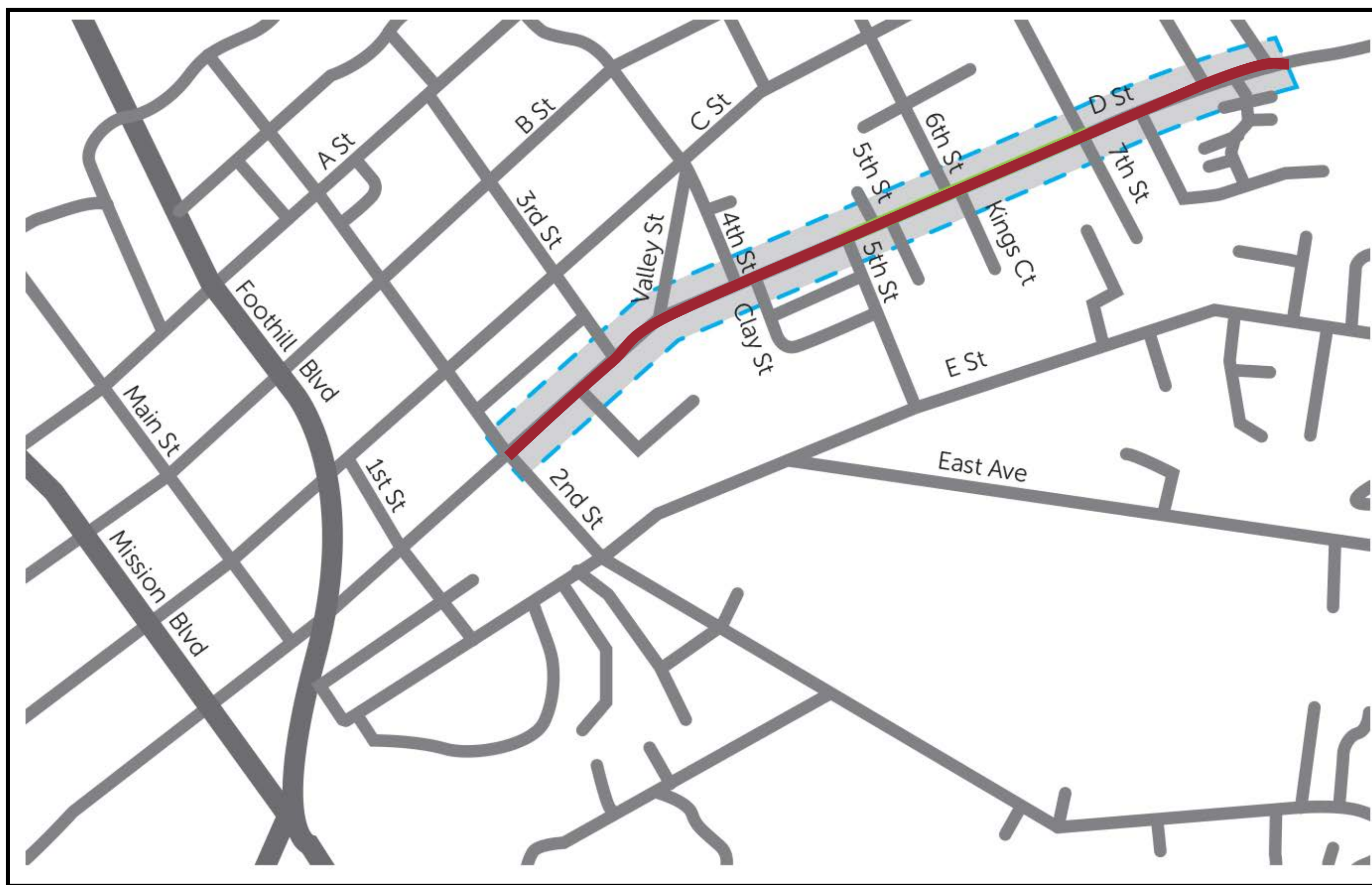






# Traffic Calming on Collector and Arterial Streets

D St (2<sup>nd</sup> St to City limit)

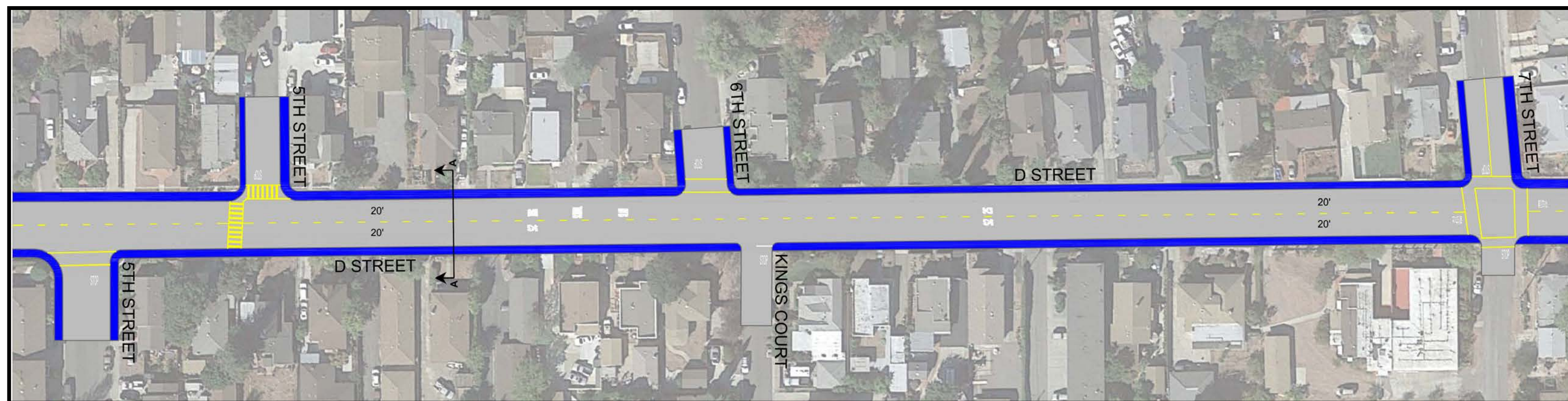




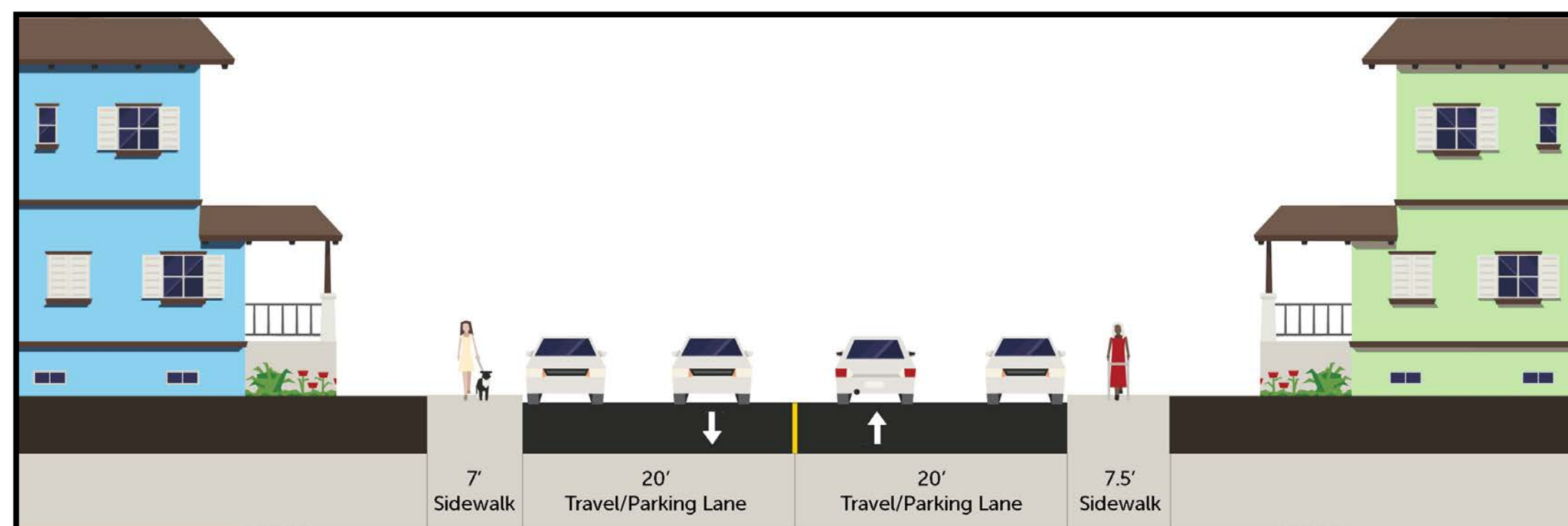


# Traffic Calming on Collector and Arterial Streets

## D St (5<sup>th</sup> St to 7<sup>th</sup> St) – Existing Conditions



- High Travel Speeds
- Wide Travel Lanes
- Steep Grades
- High Pedestrian/School Crossing Activities

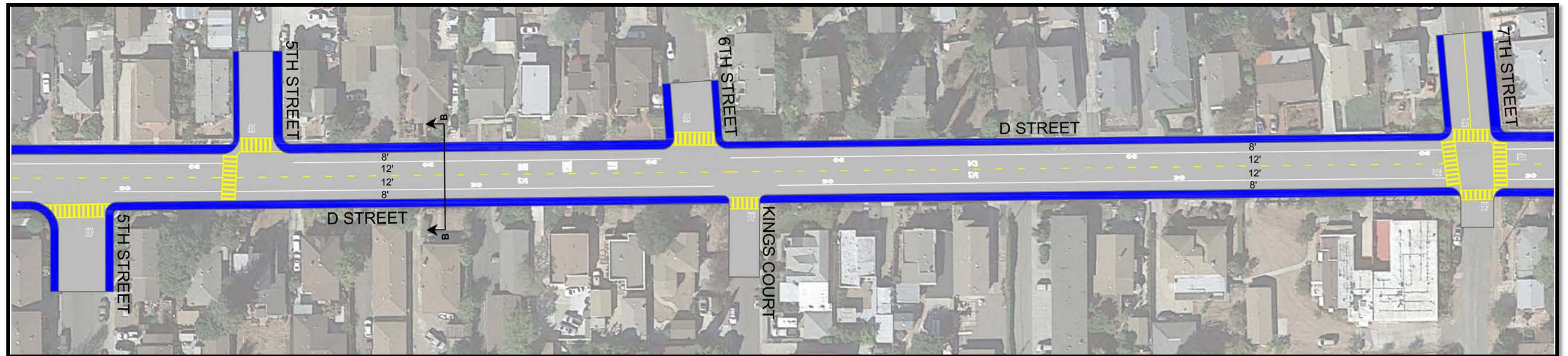






# Traffic Calming on Collector and Arterial Streets

## D St (5<sup>th</sup> St to 7<sup>th</sup> St) – Tier I Concept

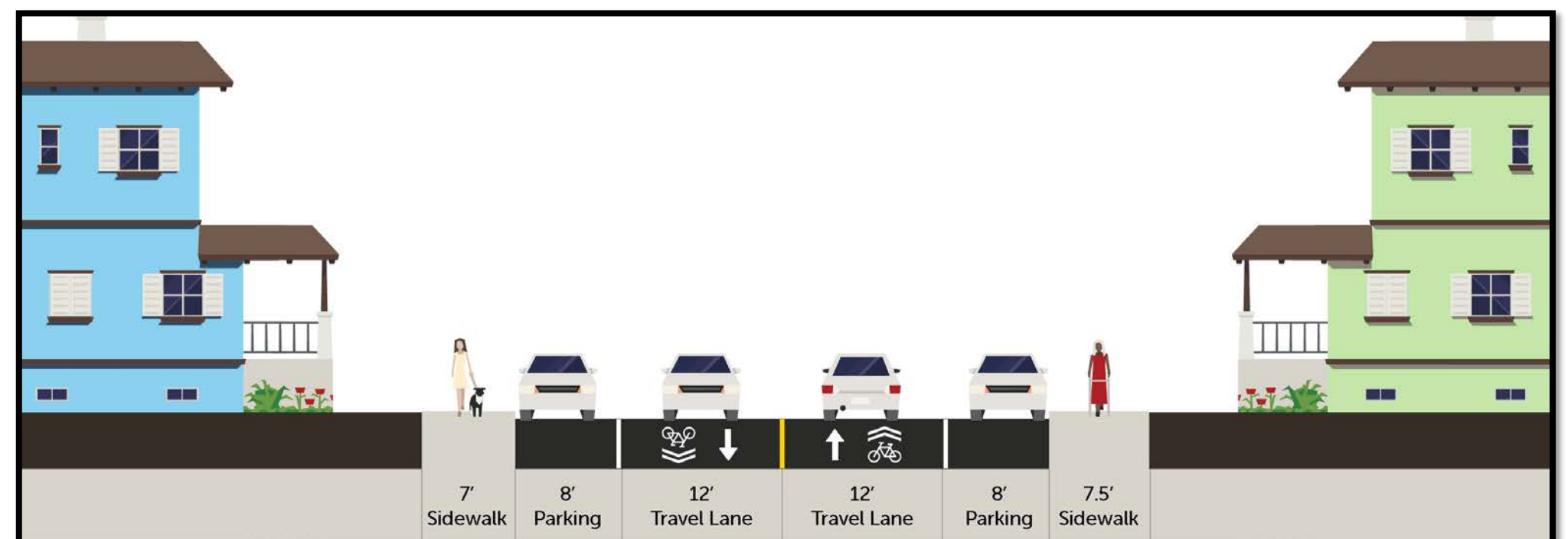


- Parking Lane
- Bicycle Route Designation
- Crosswalk Enhancements
- Signage/Marking Improvements

Preliminary Cost Estimate:

Segment Cost: \$10,000

Corridor Cost: \$36,000

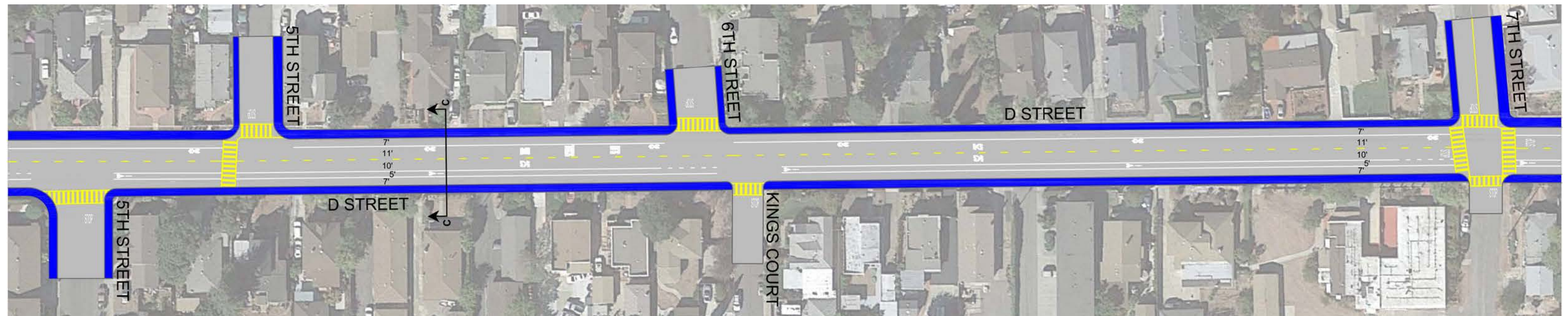






# Traffic Calming on Collector and Arterial Streets

## D St (5<sup>th</sup> St to 7<sup>th</sup> St) – Tier II Concepts

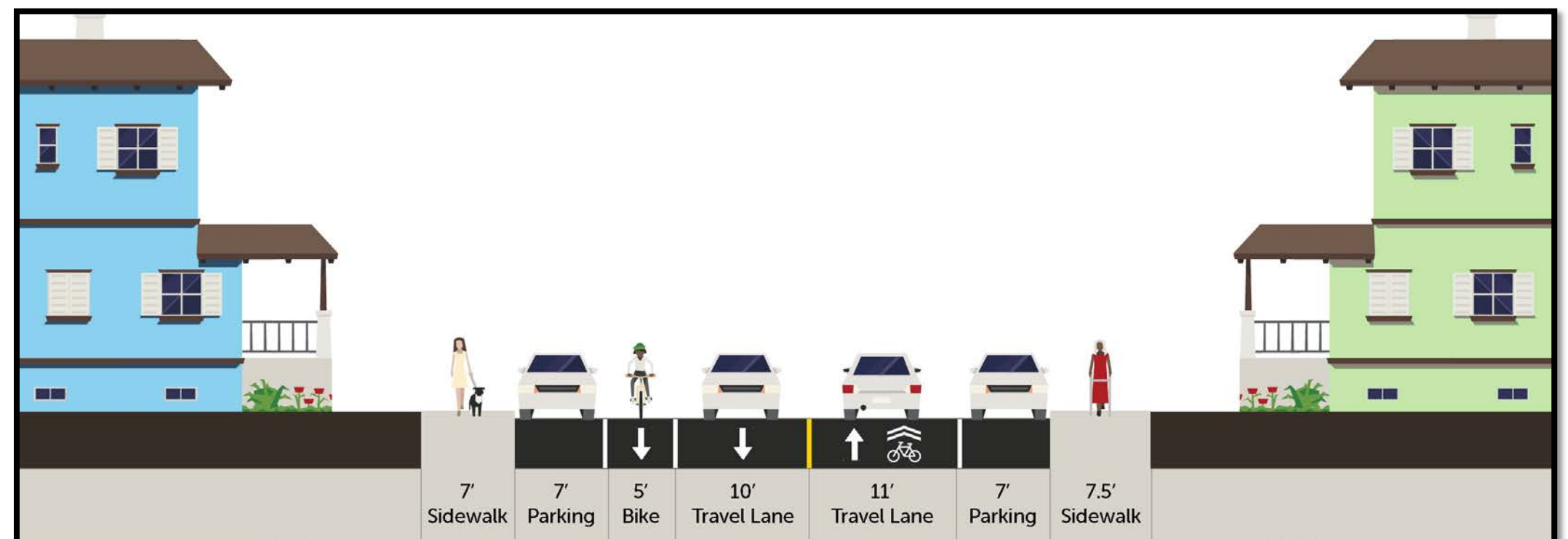


- Eastbound Bicycle Lane
- Lane Narrowing
- LED Speed Limit signs

Preliminary Cost Estimate:

Segment Cost: \$18,000

Corridor Cost: \$68,000

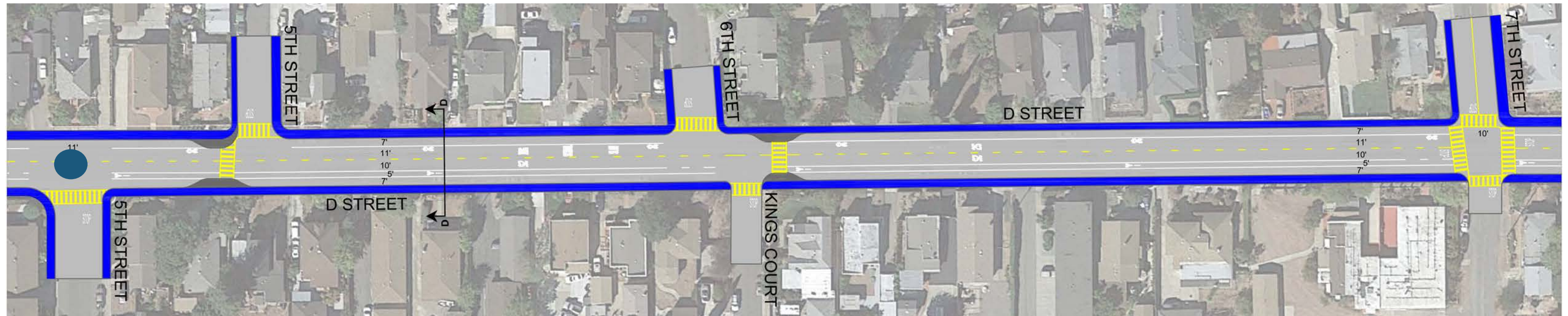






# Traffic Calming on Collector and Arterial Streets

## D St (5<sup>th</sup> St to 7<sup>th</sup> St) – Tier III Concepts



- Bulb Outs
- Traffic Circle
- Flashing Beacons

Preliminary Cost Estimate:

Segment Cost: \$90,000

Corridor Cost: \$230,000







---

Questions ?



**Council Infrastructure Committee**

**May 23, 2018**

**Agenda Item 3 – RPT 18-099**

**FY 2018 and FY 2019 New Sidewalks Project – Review of Muir Street Issues**





# **FY 2018 & 2019 NEW SIDEWALKS PROJECT**

## **Review of Muir Street Issues**

Council Infrastructure Committee  
May 23, 2018

Yama Farouqi, Associate Civil Engineer, Public Works





# New Sidewalk Project Locations

SCOPE OF MUIR ST: Installation of approximately 1,190' of new sidewalk, driveways, and curb and gutter.







# Muir Street Background

## TIMELINE

December 2017	City staff sent a preliminary notice to residents and property owners
February 2018	City staff met with residents to discuss their concerns regarding the project
March 2018	Residents submitted a petition protesting the project due to several issues
April/May 2018	City staff coordinated with residents to resolve most of the issues





# Outstanding Muir Street Issues



1. Residents request to preserve non-standard driveways.



2. Utility poles conflict with improvements.





# Outstanding Issue #1: **Non-Standard Driveways**



- Property has a deferred improvement agreement\* (DIA).
- Property owner installed a non-standard driveway, without City permit, that does not comply with DIA.
- City offering to replace driveway at no cost to owner.
- Property owner requests to keep existing driveway in place, with no disturbance.



- Both properties have non-standard driveways
- City offering to replace driveway at no cost to owner.
- Residents request no disturbance to existing driveway.
- City staff recommends all 3 driveways to be upgraded to City standard to prevent potential safety issues.

**\*Deferred Improvement Agreement:** A legal document holding property owner responsible for future improvements such as sidewalk, driveway, curb and gutter.





## Outstanding Issue #2: **Utility Pole Conflicts**



**25023 MUIR STREET**

- City Standard Details Requires 2.0' Clearance Between Pole Centerline to Face of Curb.
- Current Clearance : 0.70'.
- Request PG&E to relocate pole per franchise agreement.
- Relocation schedule may take up to 1 year.



**25101 MUIR STREET**

- City Standard Details Requires 2.0' Clearance Between Pole Centerline to Face of Curb.
- Current Clearance : 0.80' & in conflict with driveway.
- Pole was installed before driveway widening.
- Request PG&E to relocate pole outside of driveway.
- Relocation schedule may take up to 1 year.





# Response to Resident Petition

## RESOLVED ISSUES

#1	Request to waive 2 deferred improvement agreements
#2	Redesign project to minimize front yard reduction
#3	Adjust to parking and travel lane width changes





## Solution #1:

## Request to Waive the 2 Deferred Improvement Agreements



Justification: Financial hardship for property owner.





## Solution #2

# Redesign Project to Minimize Front Yard Reduction



- Original project design included sidewalk detached from curb.
- Revised design will include sidewalk attached to curb.

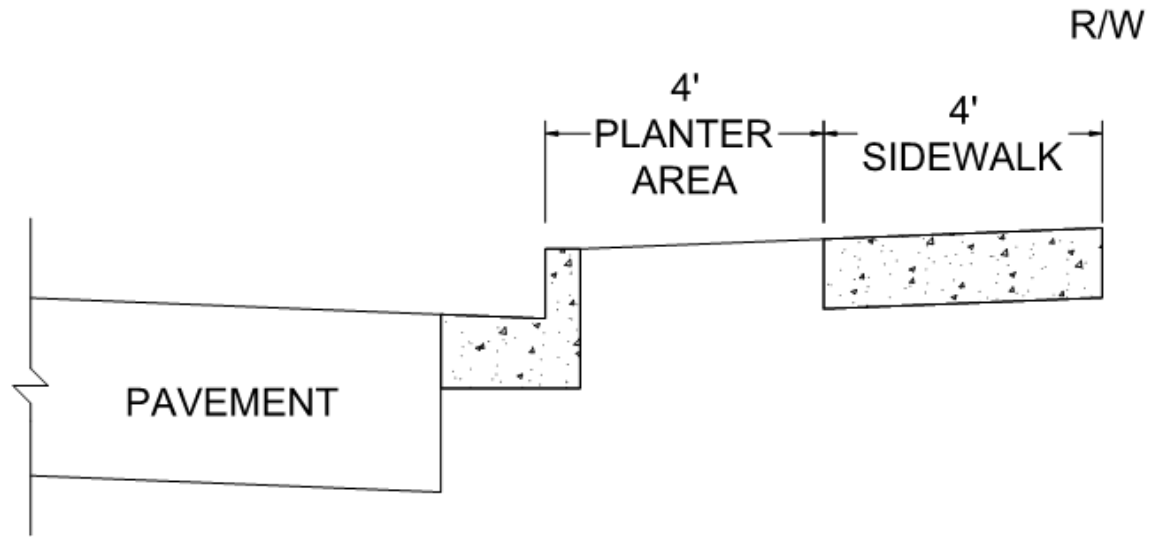
Justification: Residents expressed concern detached sidewalk would reduce their front yard.



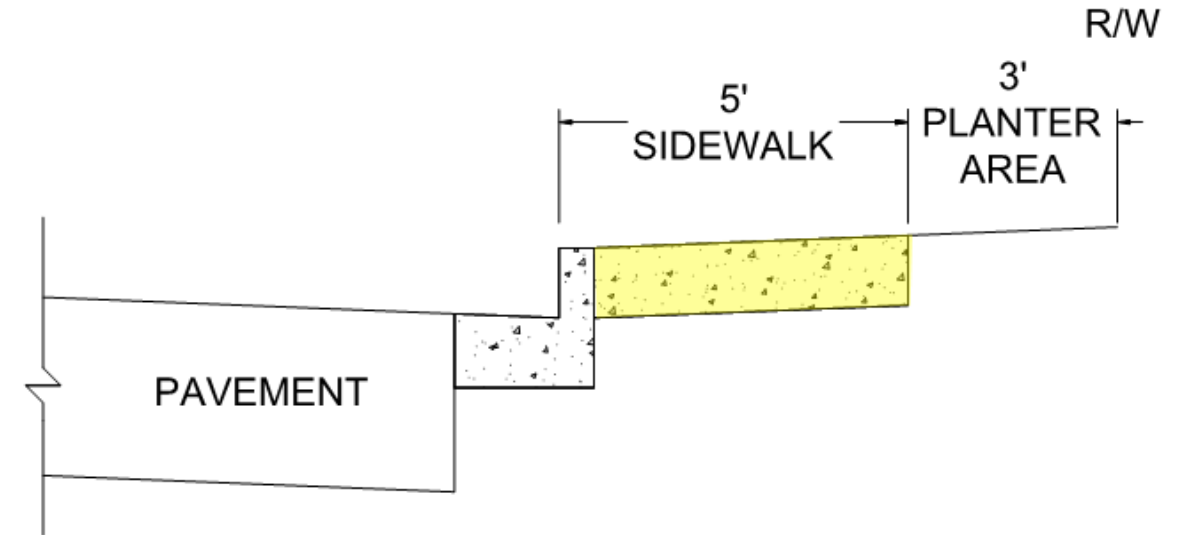


## Solution #2

# Redesign Project to Minimize Front Yard Reduction



ORIGINAL DESIGN – DETACHED SIDEWALK



REVISED DESIGN – ATTACHED SIDEWALK





## Solution #3

### Adjustment to Parking and Travel Lane Width Changes



**EXISTING CONDITION**



**FUTURE CONDITION**

Justification: New curb and gutter will reduce travel lane width.



A photograph of a residential street scene. In the foreground, there is a gravel driveway or parking area. In the background, several cars are parked on a paved street. A utility pole with yellow reflective tape is visible on the right side of the image.

# **FY 2018 & 2019 NEW SIDEWALKS PROJECT**

## **Review of Muir Street Issues**

Questions?





# Additional Slides: Preliminary Plan







# Resident Jerry Becker, 24965 Muir Street:

## East Side of Muir Street

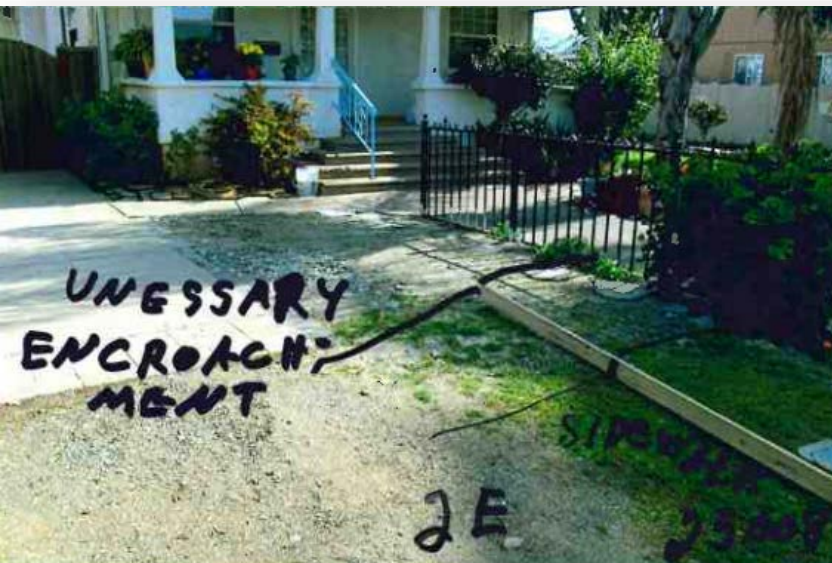






# Resident Jerry Becker, 24965 Muir Street:

## East Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street: East Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## East Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## East Side of Muir Street

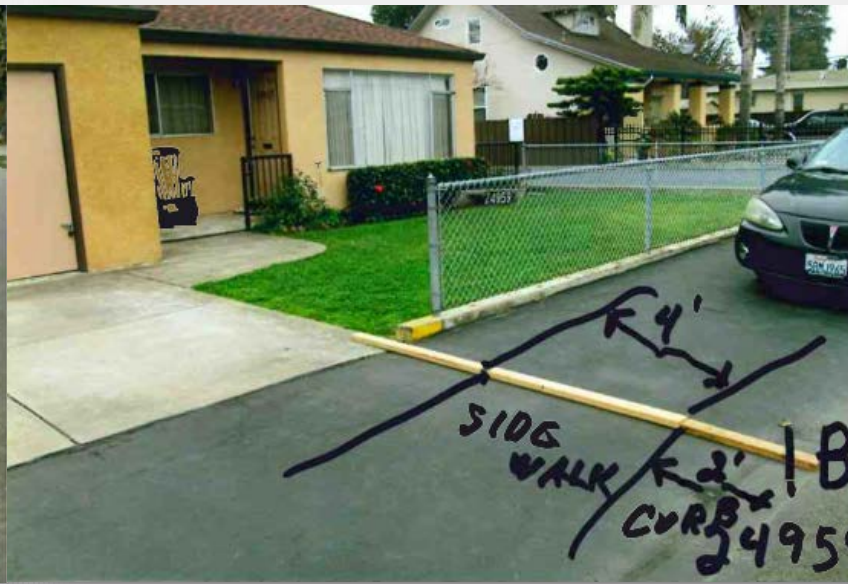






# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street

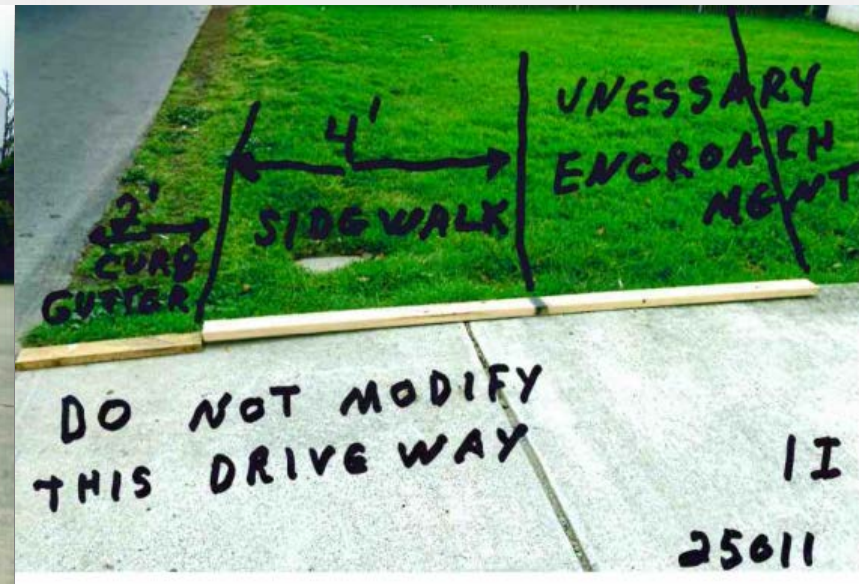






# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street

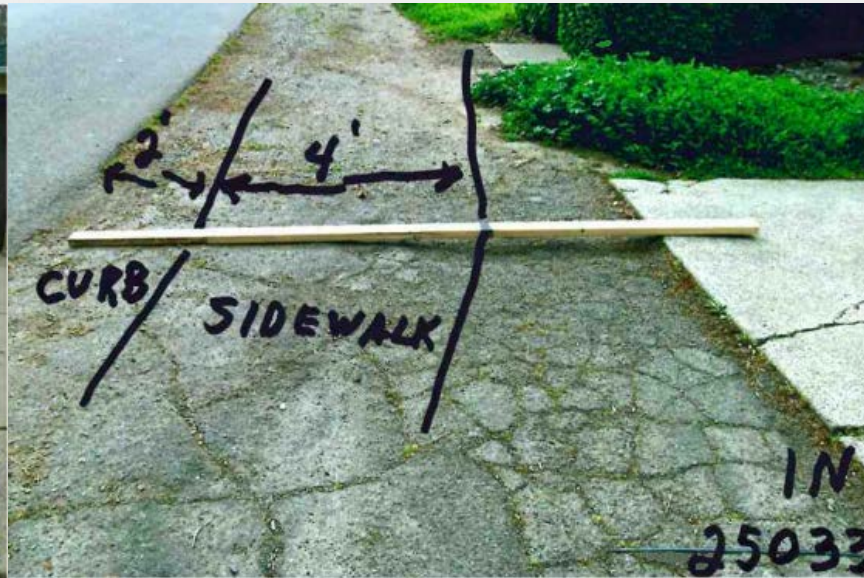






# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street

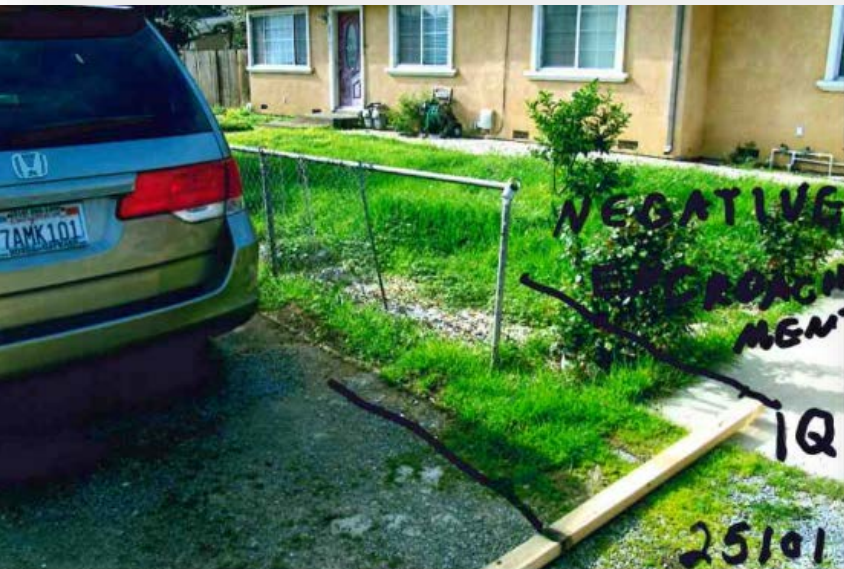






# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## West Side of Muir Street







# Resident Jerry Becker, 24965 Muir Street:

## Proposed Solution

