Improved School and Neighborhood Pedestrian Safety Planning: 20th Street Elementary School

A Report on Recommendations from Community Design Workshops

February 2010

Prepared for:
City of Los Angeles
Los Angeles Unified School District
Healthy Eating, Active Communities

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ACKNOWLEDGEMENTS

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Disclaimer

Adherence to the principles found in this report can lead to an overall improvement in neighborhood safety and livability. This report does not constitute a standard, specification or regulation, and is not intended to be used as a basis for establishing civil liability. This report is not a substitute for sound engineering judgment. The decision to implement any particular measure should be made on the basis of engineering studies of the location.

Funding provided by a California Department of Transportation (Caltrans) Environmental Justice: Context-Sensitive Transportation Planning Grant and by Healthy Eating, Active Communities, a project funded by The California Endowment. Views and opinions expressed in this report do not necessarily represent the views of opinions of the California Department of Transportation (Caltrans) or the California Business, Transportation, and Housing Agency.

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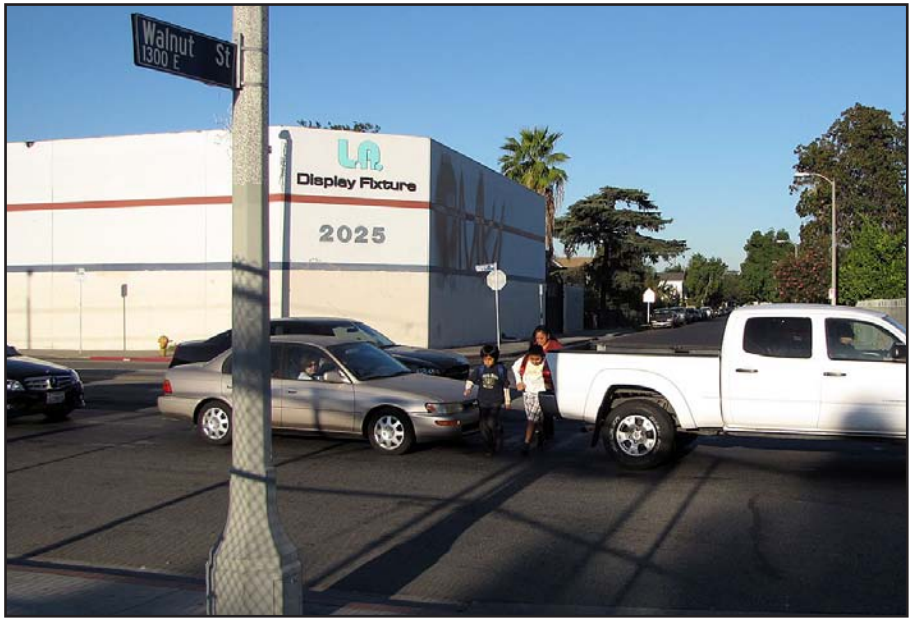
INTRODUCTION

Project Description and Goals

In California as many as 5,000 child pedestrians are injured each year. Pedestrian accidents are the second leading cause of fatal injuries among 5-12 year olds statewide. Additionally, childhood obesity is becoming an increasing problem in the state of California. Of the children in Assembly District 46, 39.1% of them are overweight, which is the highest percentage in the state of California. This project aims to reduce these figures by working with three elementary schools: 20th Street Elementary School, The Accelerated School, and Norwood Elementary School. All of the schools are located in the Los Angeles Unified School District. 20th Street Elementary is part of Local District 5; Norwood Elementary is part of Local District 7; and The Accelerated School (a charter school) is in Local District R.

The project area includes the neighborhoods immediately surrounding the aforementioned schools. Initial work with the three schools has already begun under the Healthy Eating, Active Communities' (HEAC) South Los Angeles Childhood Obesity Brain Trust (COBT). This project will build on efforts to date and provide much needed technical support to advance solutions to infrastructure inadequacies in these underserved neighborhoods.

The project is funded through an Environmental Justice: Context Sensitive Planning grant from the California Department of Transportation. Lead partners include the Local Government Commission (LGC), Glatting Jackson/Walkable Communities, Ryan Snyder Associates, PlanVision Studios, and Healthy Eating, Active Communities (HEAC). Matching funds were provided by Healthy Eating, Active Communities, a project funded by The California Endowment.



The Charrette Process

From November 16 - 18, 2009, project partners held a series of interactive neighborhood planning exercises at 20th Street Elementary involving students, parents, teachers and community leaders.

Outreach

The LGC and members of HEAC extended outreach efforts to parents of the 20th Street Elementary students, and residents and businesses in the surrounding neighborhood. English and Spanish flyers were sent home with students, and directly mailed to residences and businesses within half a mile from the school. Email versions of the flyers were also distributed to different community groups with an interest in pedestrian and child safety. Perhaps the best method of outreach was through word of mouth by HEAC members.

Walk Audit and Design Session

Activities kicked off at 20th Street Elementary with a Walk Audit and Design Session on November 16. Dan Burden of Glatting Jackson/Walkable Communities and Paul Zykofsky of the LGC conducted a bilingual (English/Spanish) presentation on the principles and elements of walkability and safe routes to school. This was followed by a walk audit of the surrounding neighborhood, where at numerous stops along the way the group assembled around the design team to discuss mobility issues at each location, look at traffic on the streets, and listen as possible solutions to improve conditions at each location were considered.

After the walk audit, participants broke into three table groups and began the complex task of discussing how to improve students' routes to the school. Each table group held energetic conversations as they discussed detailed recommendations and general concerns. These thoughts were then translated into their own design recommendations, which they drew on large aerial maps.

During the session, attendees cited the following issues that affect or discourage more students from walking and bicycling to school:

- Crossing Central Avenue
- Crossing Adams Boulevard
- Walking through a large intersection at Hooper Avenue and 20th Street
- Cars speeding on local neighborhood streets
- Closer to school, walking through neighborhood intersections with many parents driving to drop off and pick up children

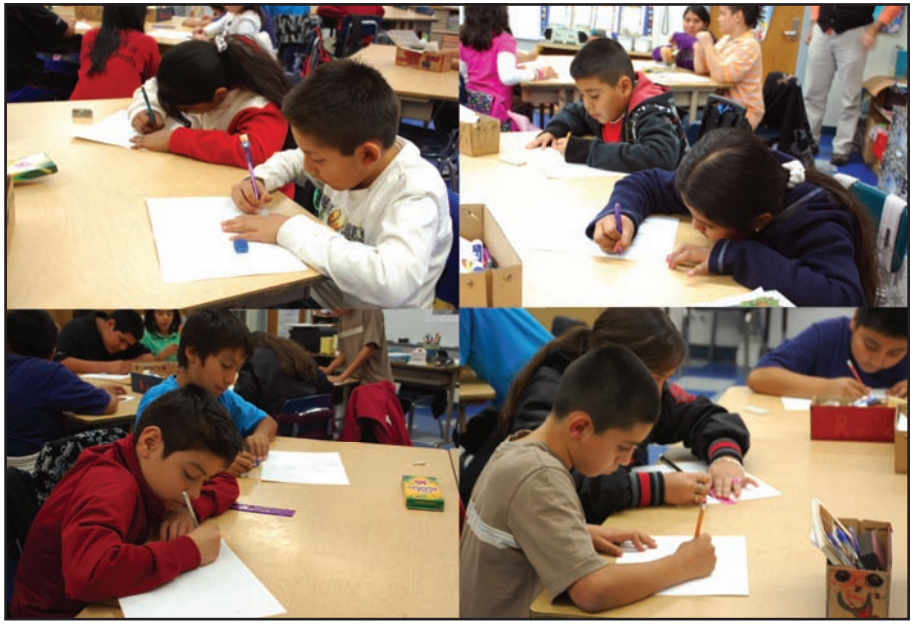
Copies of the Table Maps are included in the Appendix.

Focus Groups

Focus group meetings were also held with stakeholders who have a common interest relevant to the project. These groups typically range from five to ten individuals, a size that allows for comfortable conversations about street and safety issues in general. Prior to the charrette a focus groups session was held with the Agencies and Pedestrian Advisory Committee, which consists of City Staff and members of the Los Angeles Pedestrian Advisory Committee. During the charrette the project team visited Ms. Bacosa's 5th grade class at 20th Street Elementary. For the 5th grade class session the children got to draw maps of routes to the school, and write a story to go along with it.

Closing Presentation

After getting public input and analyzing existing conditions and data, the design team developed a series of traffic-calming measures and other context-sensitive design solutions to help create safer routes to the school. On November 18, the design team presented initial recommendations to the public. Participants were then given an opportunity to provide additional input into the recommendations.



Benefits of Safer Routes

The recommendations highlighted in this report will have numerous benefits if implemented. Most importantly, these recommendations will reduce vehicle and pedestrian conflicts along routes to school, ensuring safer travel and fewer child pedestrian injuries and deaths.

They will also encourage physical activity and reduce obesity among schoolchildren. A Surgeon General report found that 78% of children fall short of the recommended amount of physical activity, thus contributing to unprecedented levels of childhood obesity.

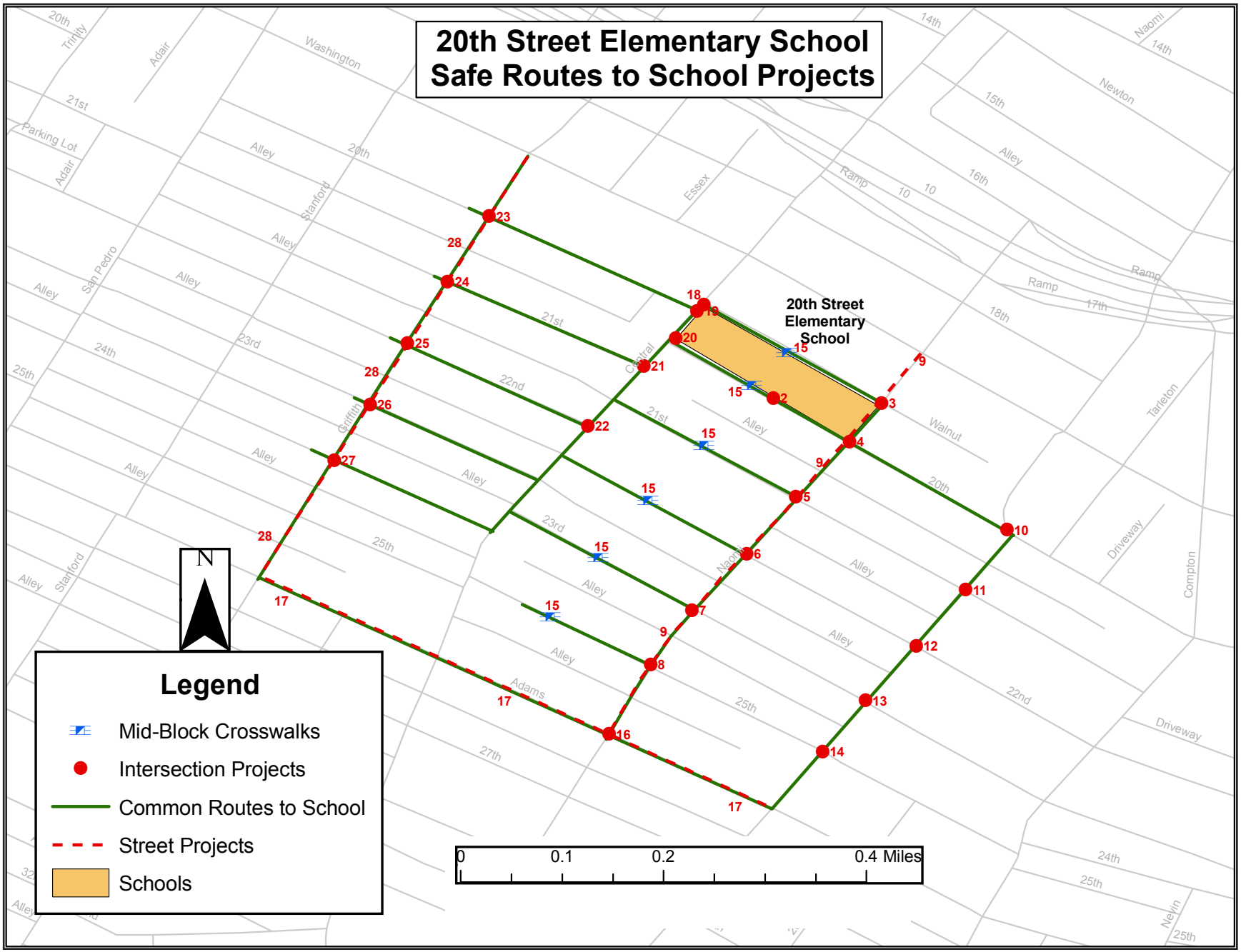
The recommended minimum amount of activity can be met, fully or partially, if children can walk and bicycle to school. Safer routes to school will result in more students and parents choosing to walk or bicycle, thus reducing congestion and traffic incidents and improving the transportation network.

In today's automobile-dominated culture, the implications of training a new generation of pedestrians and bicyclists are profound. If children are provided with transportation options now, they will be more inclined to use them in the future.

In the meantime, we all benefit from reduced auto emissions and less road congestion. A study from the National Highway Traffic Safety Administration-funded Safe Routes to School National Model Project in Marin County revealed that at least 21-27% of morning traffic is attributable to parents driving their children to school. It is ironic that parents concerned about their child getting safely to school and who decide to drive them, may contribute significantly to the risk of walking or biking to school.

References

- 1996 Surgeon General's report on physical activity and health
- California Department of Health Services, EPICenter, California Injury Data Online, 2005-2007
- California Center for Public Health Advocacy, Overweight Children in California, 2004


20th Street Elementary School
Safe Routes to School Projects
20th Street Elementary School
Legend
Mid-Block Crosswalks
Intersection Projects
Common Routes to School
Street Projects
Schools
N
0
0.1
0.2
0.4 Miles

RECOMMENDATIONS

The following recommendations focus on improvements along the common routes that 20th Street Elementary School students use to walk or bicycle to school. When implemented, these projects should improve the safety for students walking and bicycling to school.

General Recommendation:

Add perpendicular curb-ramps with truncated domes to all bulb-outs and curb extensions. Curbs with two perpendicular ramps steer wheelchair users and other pedestrians to the shortest and most direct path across the street.

At the School

Pick up and drop off poses problems for students walking and bicycling to school right at the school. Moreover, congestion and a lack of order around the school during pick up and drop off cause double parking, students walking or running between cars and other safety issues. At present the only entrance gate to the school is on Walnut Street. As a result parents dropping off or picking up their children in a car use Walnut Street and drop children off across the street from the school. To disperse traffic and prevent children from having to cross the street, the school could open the entry gate on 20th Street during morning and afternoon arrival and departure. This would allow parents in motor vehicles to pull up next to the curb where it's safer and easier for children to enter and exit cars. This would require the City to restrict parking on the school-side curb on both Walnut and East 20th Streets during the drop-off and pick-up times.

1. During Pick Up and Drop Off Times

Recommended Changes

- Open school entry gate on 20th Street
- Restrict parking on Walnut Street and 20th Street
- Require parents to drop/pick up children next to curb
- Add a well-orchestrated valet drop-off system like at Norwood Elementary School

This illustrates what a valet system could look like on 20th Street.

2. School Garage Driveway

Existing

- 32‘ wide

Recommended Changes

- Narrow driveway to 24’
- Add bulb-outs (2) to curb adjacent to driveway to keep cars from parking too close to driveway.

Immediate Neighborhood

The 20th Street Elementary School students that live in the immediate neighborhood don’t have to cross any major streets except for S. Central Avenue which runs north-south on the west edge of the school. S. Central Avenue is a 4-lane street that is a challenge to get across, especially at the corner of 20th Street and Walnut Street where there is an offset intersection and no signal to help students traveling from the west. All the neighborhood streets are have two lanes with on-street parking. The streets are all 40’ wide. Students in this neighborhood have to cross these local streets and the parked cars can reduce visibility, especially with students who are not tall enough to be seen behind parked cars. Cars often speed on the local east-west streets in the neighborhood. Hooper Avenue is a busier street than the local neighborhood streets, although not many students have to cross it. The recommended crossing treatments that follow would reduce the crossing distance, improve visibility and slow cars.

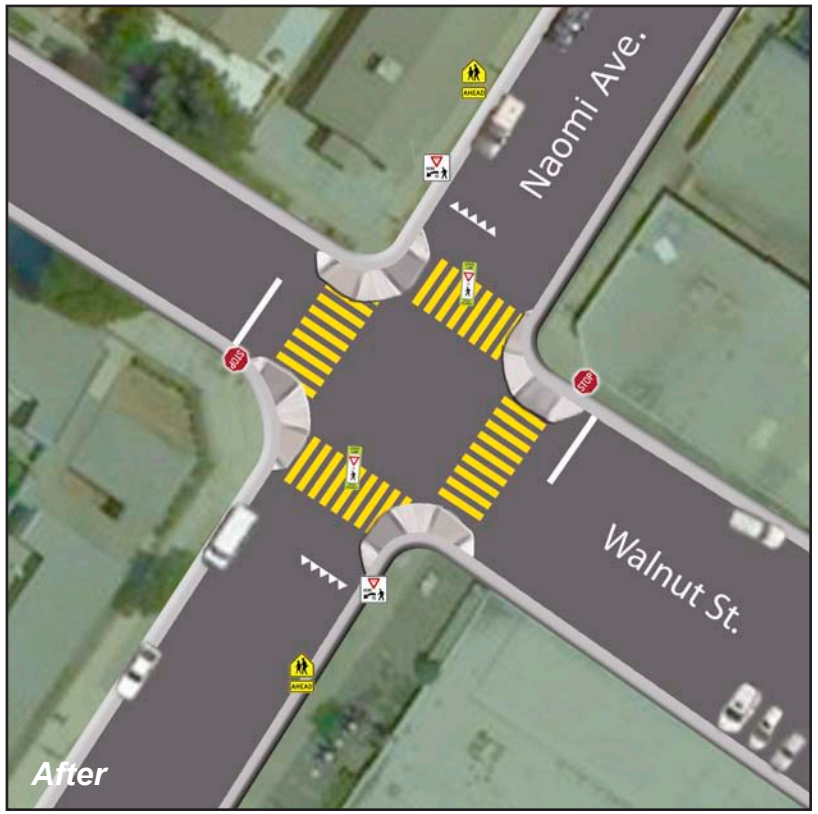
3. Naomi Avenue at Walnut Street

Existing

- 2-way stop for Walnut Street
- Yellow lateral-stripe crosswalks on the west crossing of Walnut Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of Walnut Street (2)
- Add advanced yield bars to both approaches of Walnut Street on Naomi Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of Walnut Street on Naomi Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Naomi Avenue (2)



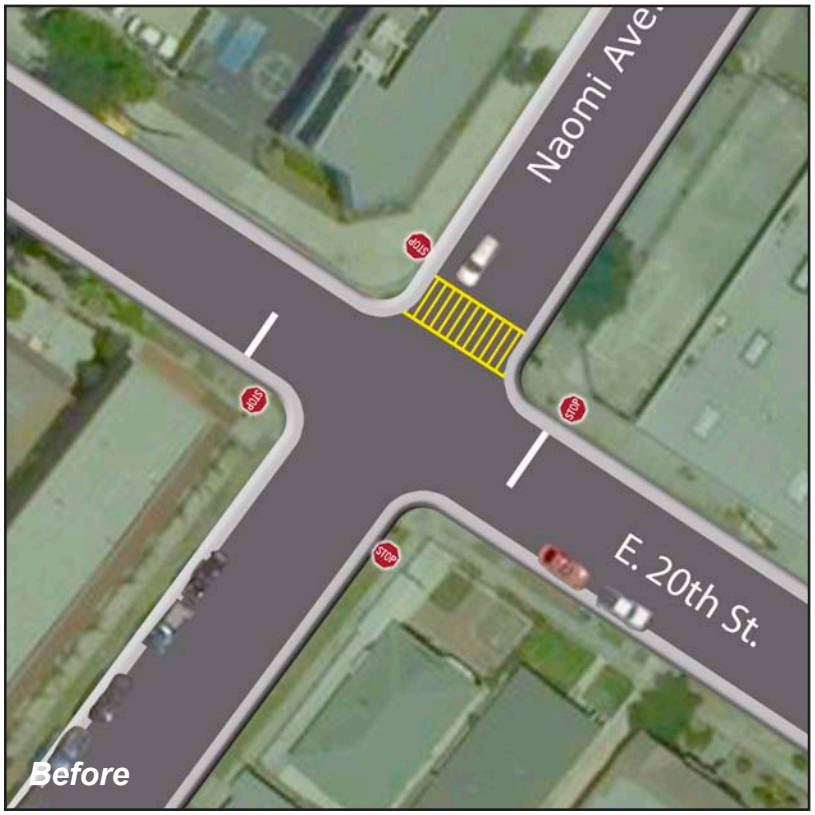
4. Naomi Avenue at 20th Street

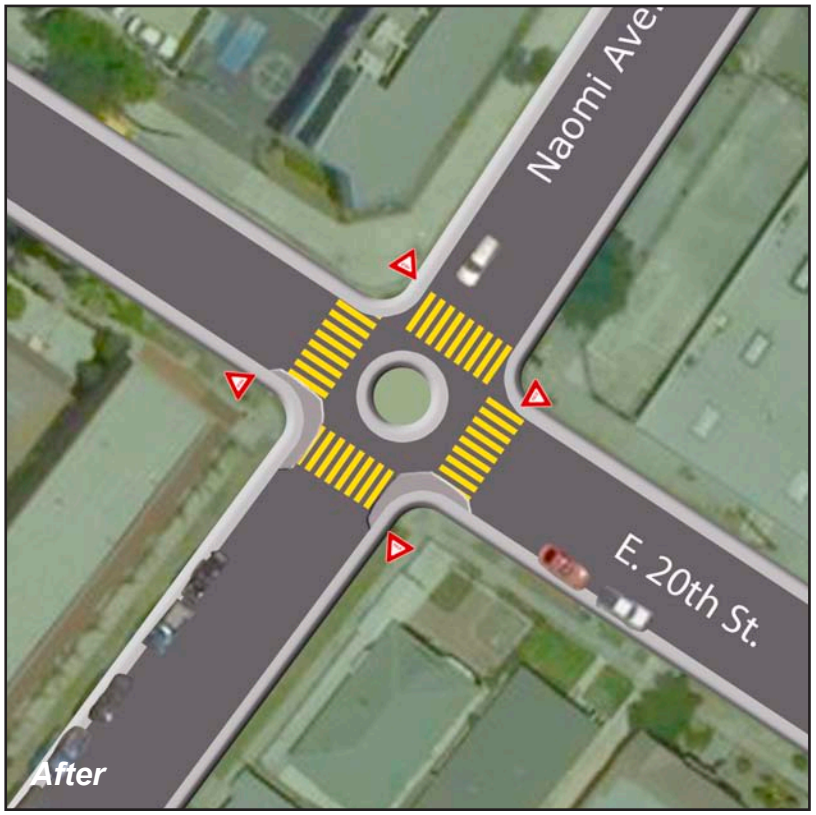
Existing

- 4-way stop
- Yellow ladder crosswalk on north crossing of Naomi Avenue

Recommended Changes

- Replace 4-way stop with mini-circle
- Add yield signs to all 4 approaches
- Add bulb-outs to both crossing faces of SE and SW corners (4)
- Add new zebra-stripe crosswalks to all 4 crossings





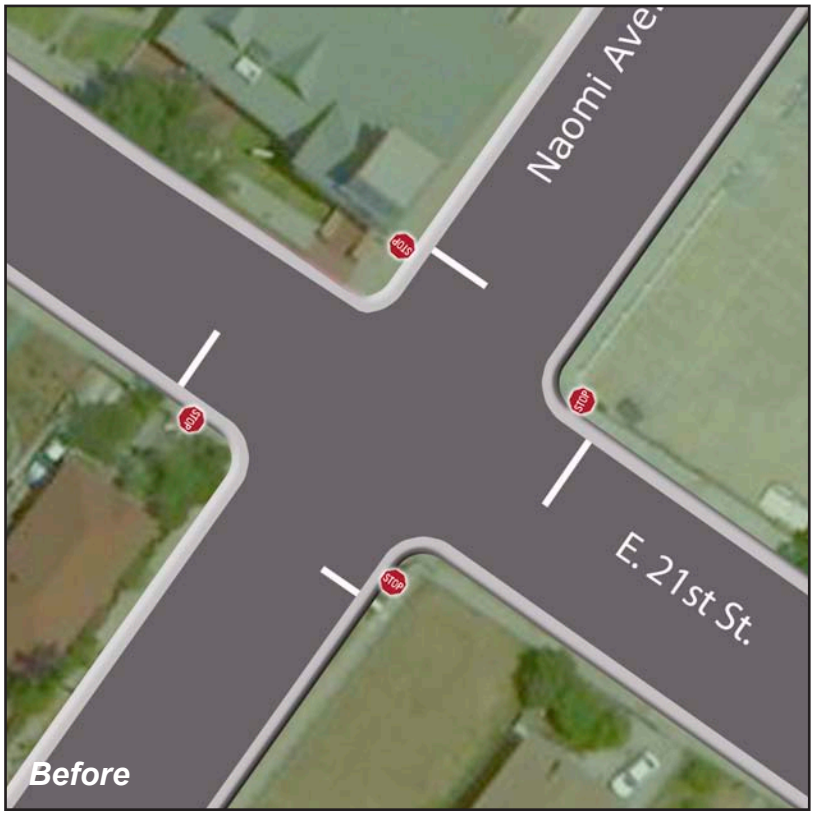
5. Naomi Avenue at 21st Street

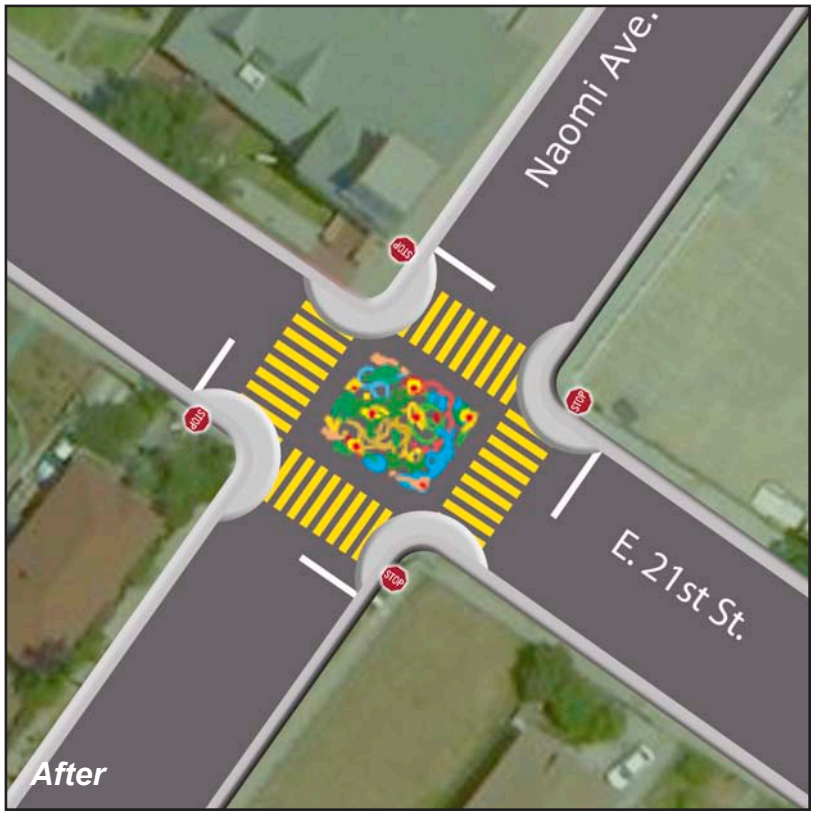
Existing

- 4-way stop

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to all 4 stop signs
- Paint the intersection to slow traffic (organize a community painting day)





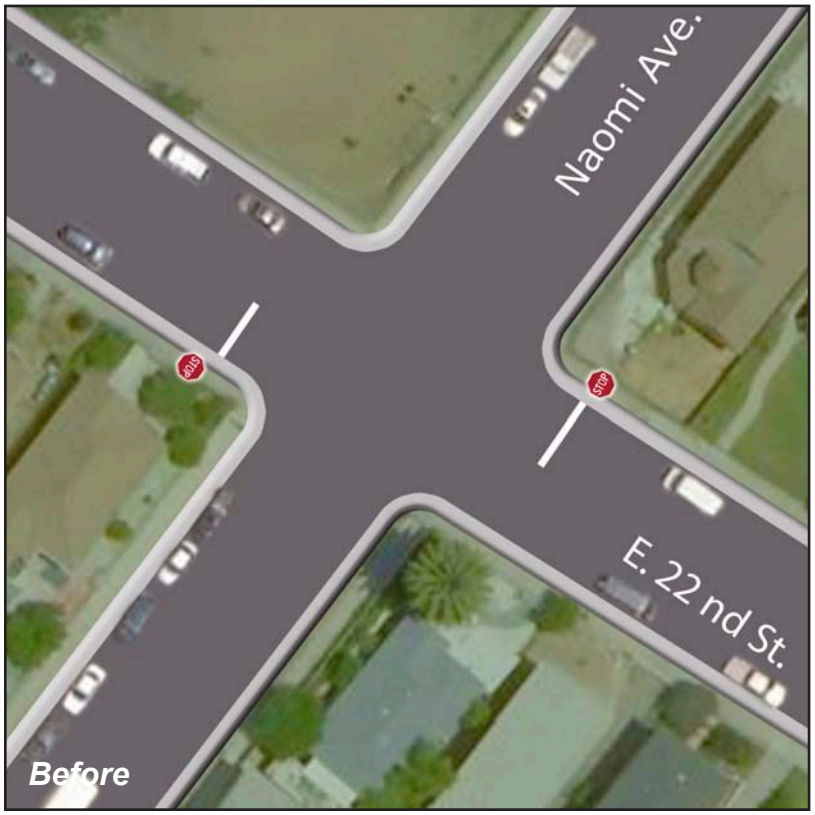
6. Naomi Avenue at 22nd Street

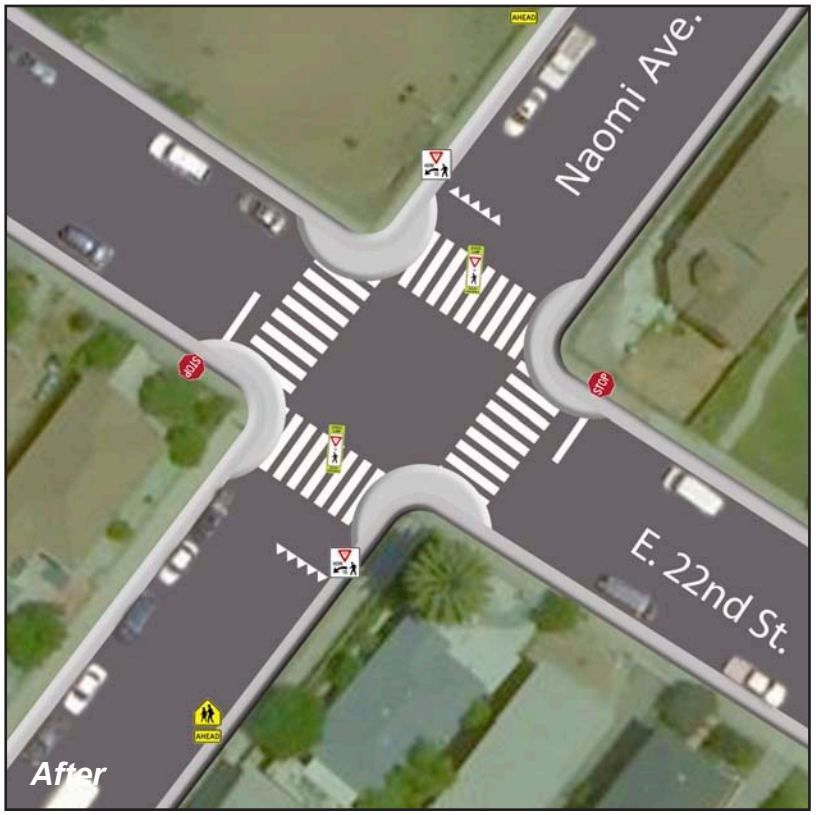
Existing

- 2-way stop for 22nd Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 22nd Street (2)
- Add advanced yield bars to both approaches of 22nd Street on Naomi Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 22nd Street on Naomi Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Naomi Avenue (2)





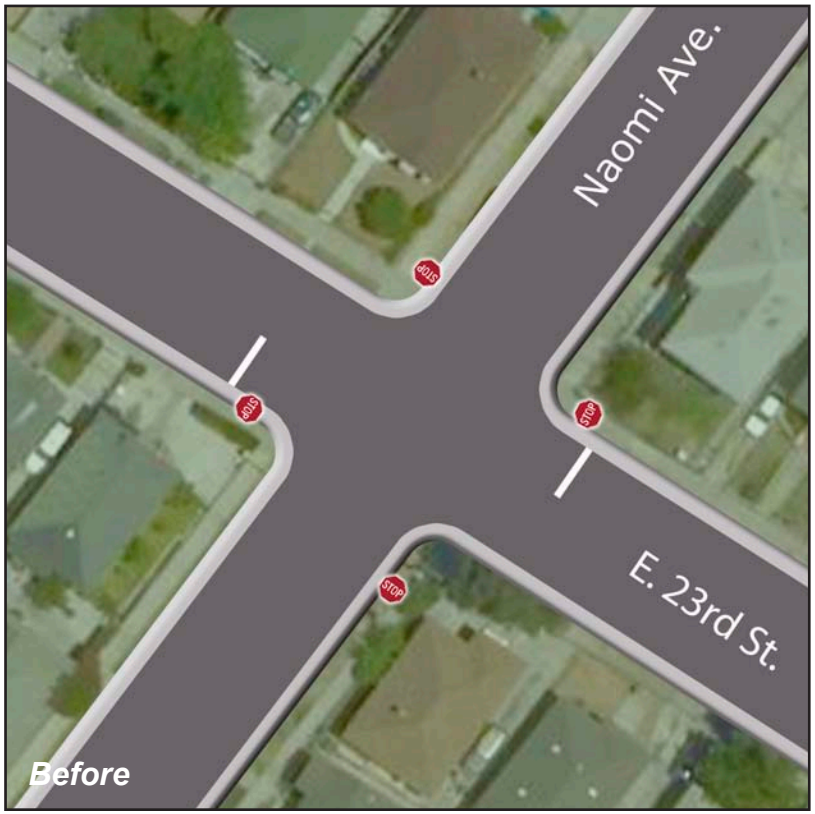
7. Naomi Avenue at 23rd Street

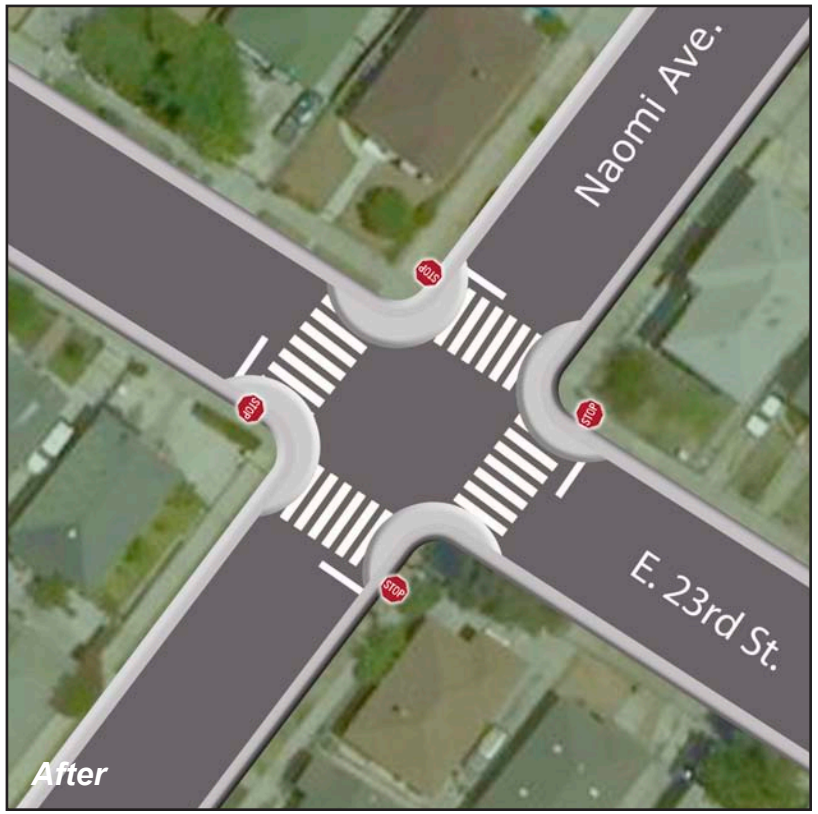
Existing

- 4-way stop

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to all 4 stop signs





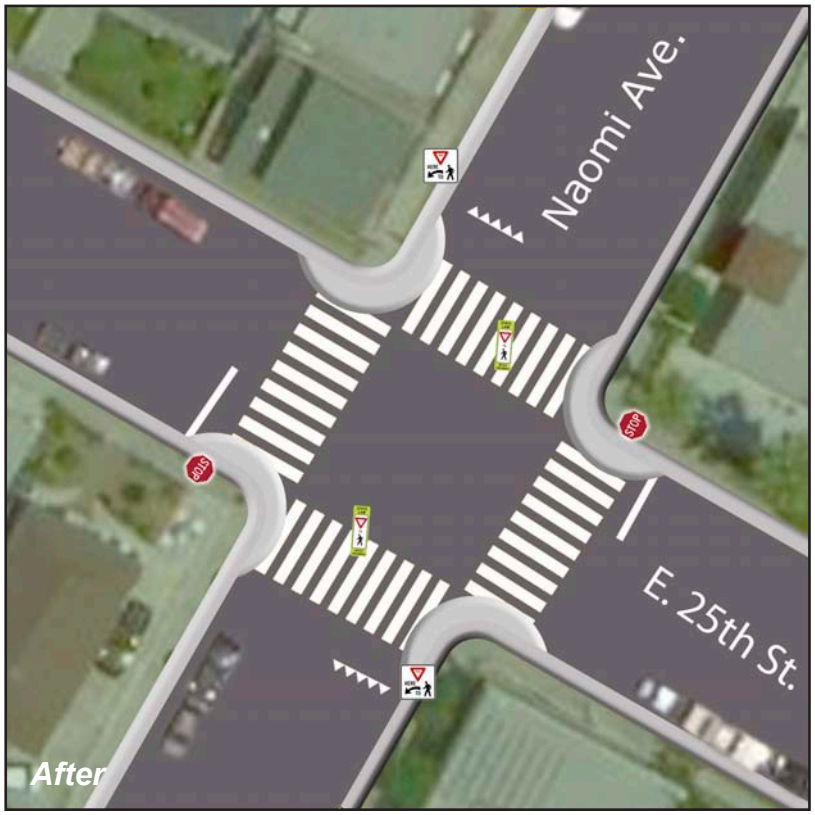
8. Naomi Avenue at 25th Street

Existing

- 2-way stop for 25th Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 25th Street (2)
- Add advanced yield bars to both approaches of 25th Street on Naomi Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 25th Street on Naomi Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Naomi Avenue (2)



9. Naomi Avenue

Existing

- 2 lanes with on-street parking
- 40’ wide

Recommended Change

- Add Class III bike route with sharrows from Adams Boulevard to Walnut Street (0.5 mi.)

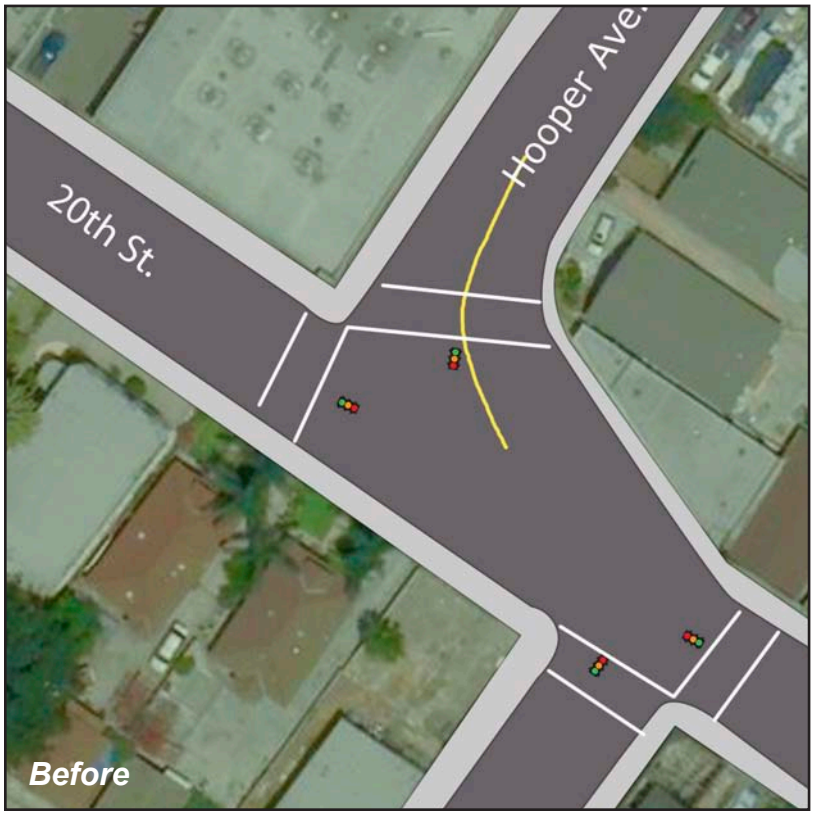
10. Hooper Avenue at 20th Street

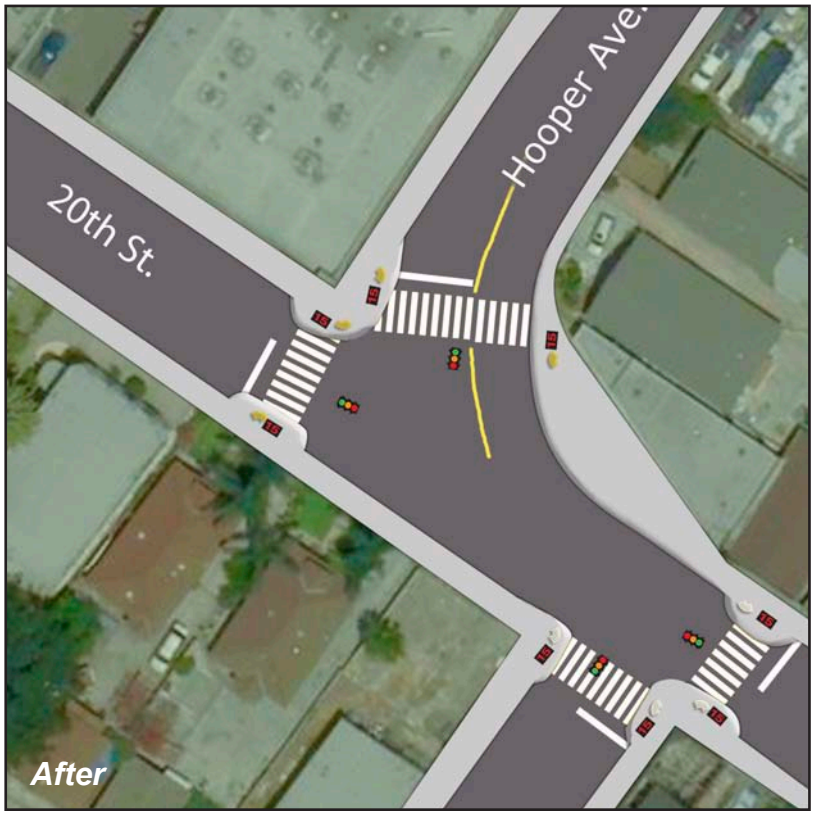
Existing

- Large offset intersection
- Signalized
- No curb ramps

Recommended Changes

- Add large curb extension (1) on NE corner to square off; leave enough radius for trucks
- Add bulb-outs to cross Hooper Avenue on all 3 remaining crossing faces
- Add zebra-stripe crosswalks on both crossings of Hooper Avenue (2)
- Add zebra-stripe crosswalks to cross 20th Street on crossing west of northern leg of Hooper Avenue, and east of southern leg of Hooper Avenue (2)
- Add bulb-outs to cross 20th Street on all 4 crossing faces
- Add advanced stop bars to all approaches (4)
- Add countdown signals to all pedestrian heads (8)
- Add audio signals to all pedestrian heads (8)
- Alternative: Consider replacing signal controls with elliptical-shaped roundabout





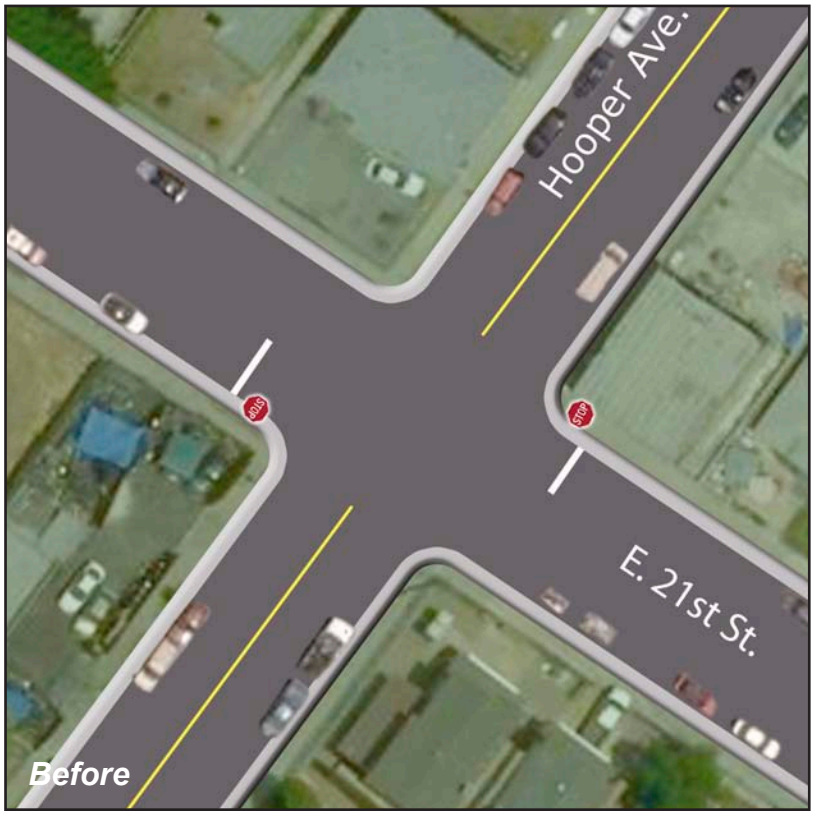
11. Hooper Avenue at 21st Street

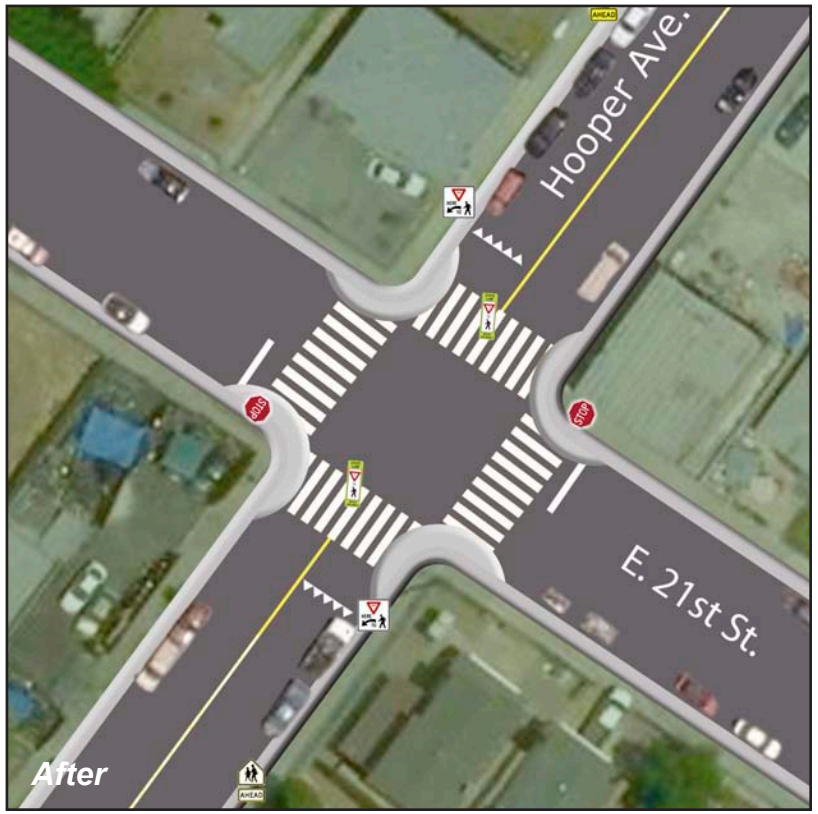
Existing

- 2-way stop for 21st Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 21st Street (2)
- Add advanced yield bars to both approaches of 21st Street on Hooper Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 21st Street on Hooper Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Hooper Avenue (2)





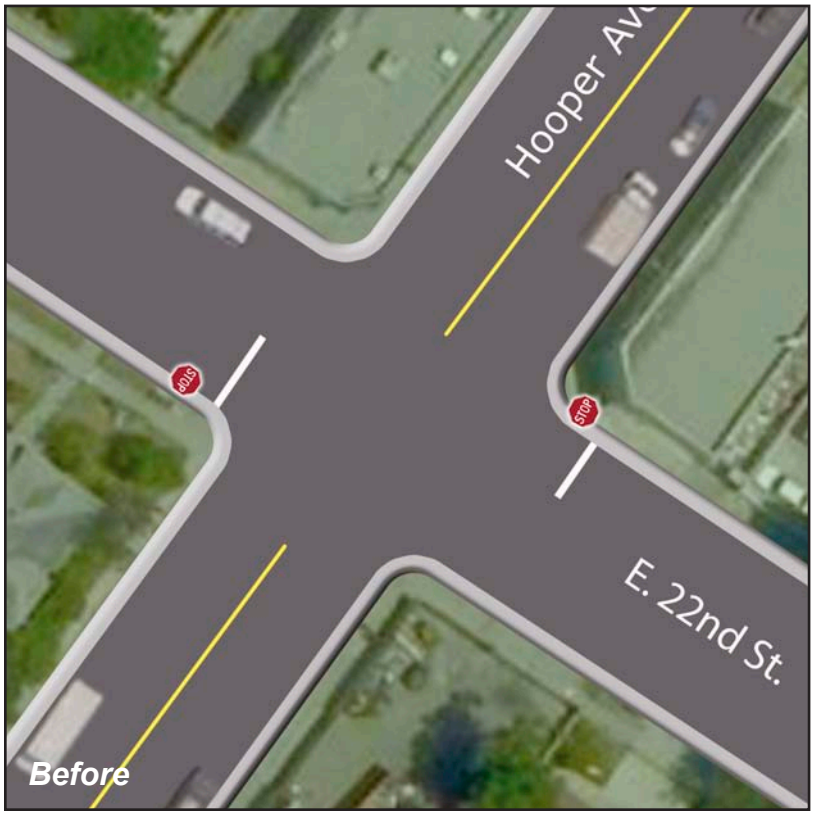
12. Hooper Avenue at 22nd Street

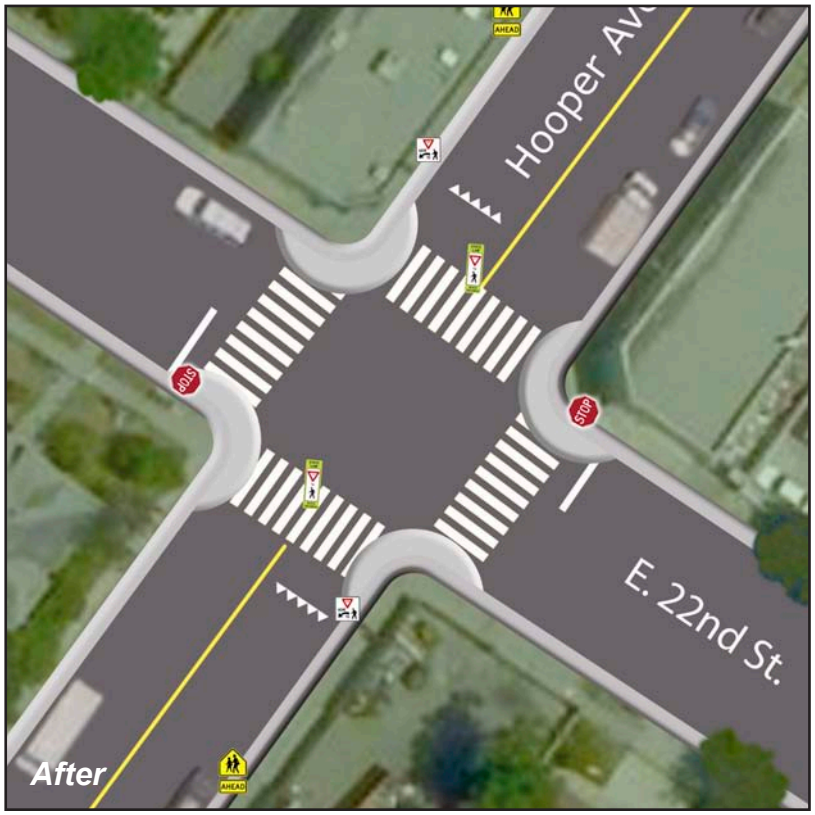
Existing

- 2-way stop for 22nd Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 22nd Street (2)
- Add advanced yield bars to both approaches of 22nd Street on Hooper Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 22nd Street on Hooper Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Hooper Avenue (2)





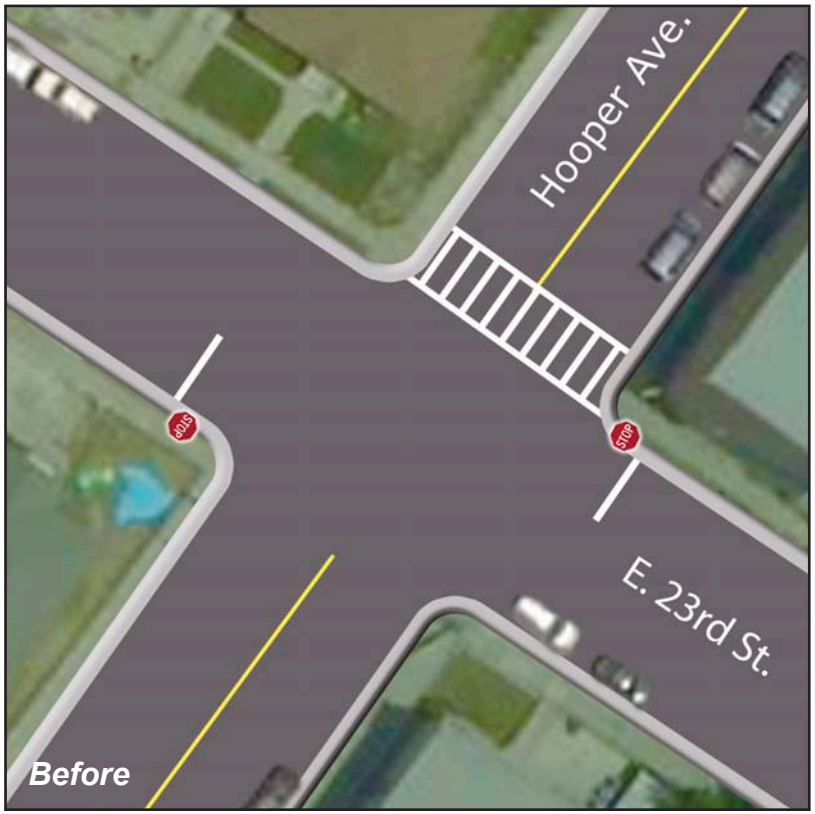
13. Hooper Avenue at 23rd Street

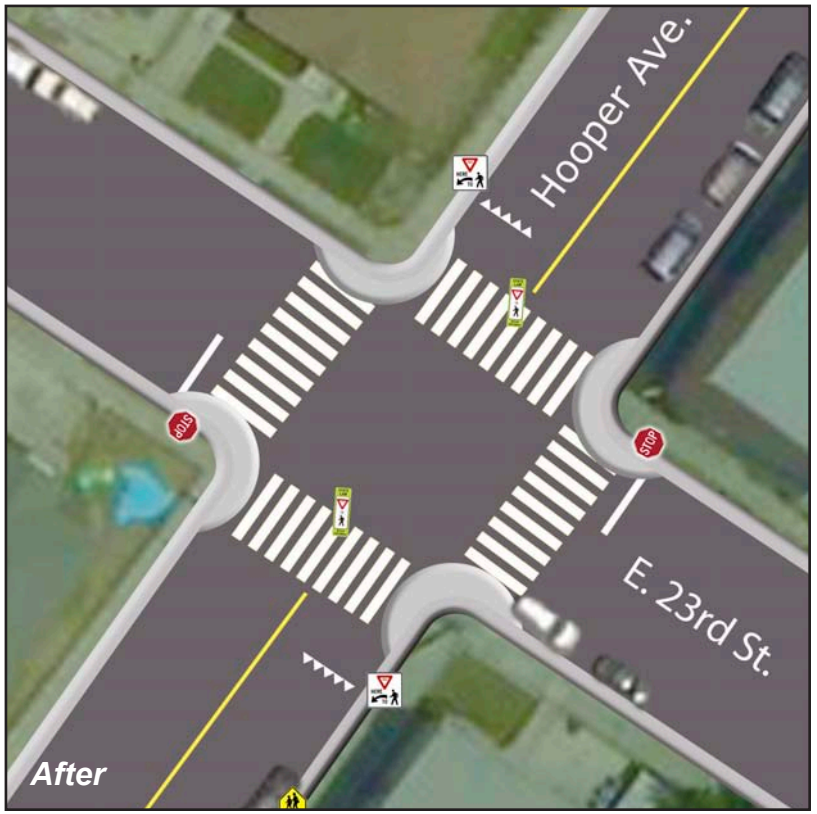
Existing

- 2-way stop for 23rd Street
- Ladder crosswalk to cross Hooper Avenue on the north side

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 23rd Street (2)
- Add advanced yield bars to both approaches of 23rd Street on Hooper Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 23rd Street on Hooper Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Hooper Avenue (2)





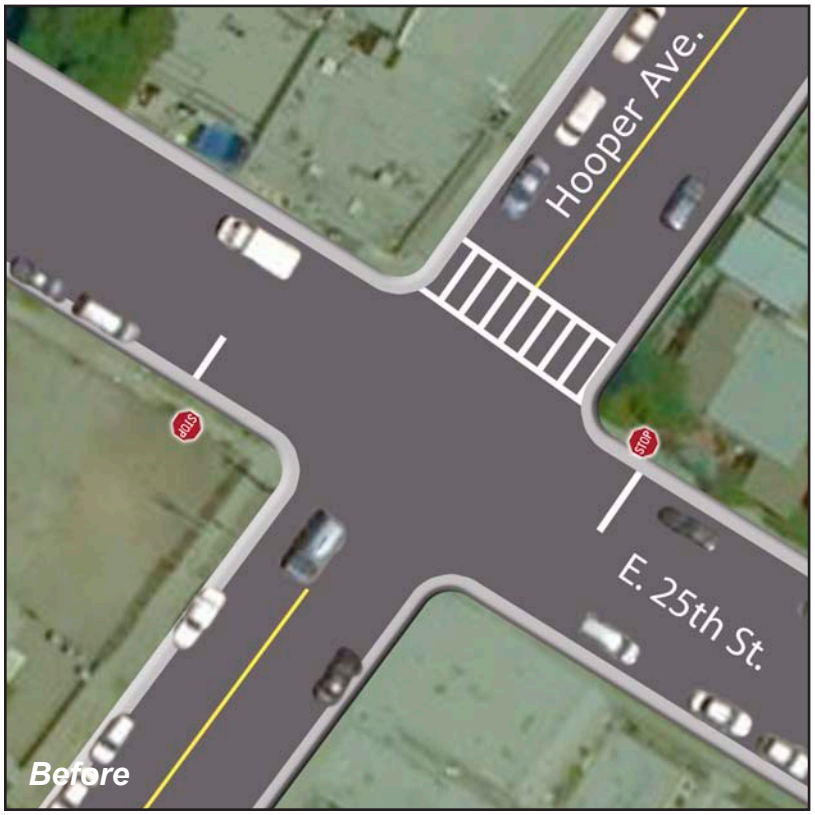
14. Hooper Avenue at 25th Street

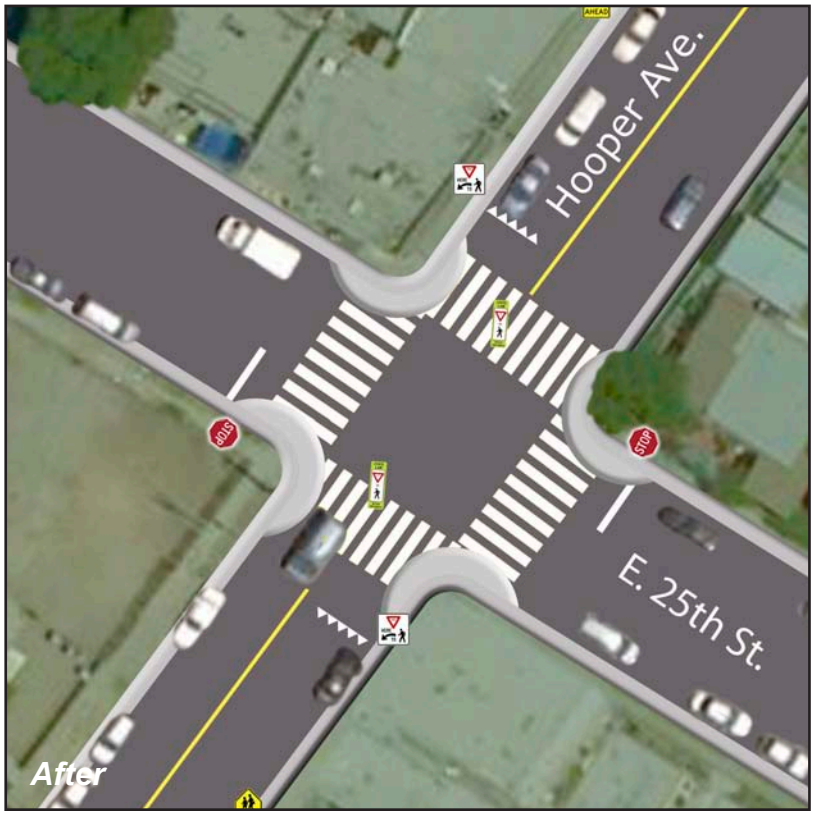
Existing

- 2-way stop for 25th Street
- Ladder crosswalk to cross Hooper Avenue on the north side

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both sides of 25th Street (2)
- Add advanced yield bars to both approaches of 25th Street on Hooper Avenue (2)
- Add advanced pedestrian crossing warning signs to both approaches of 25th Street on Hooper Avenue (2)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both crosswalks of Hooper Avenue (2)





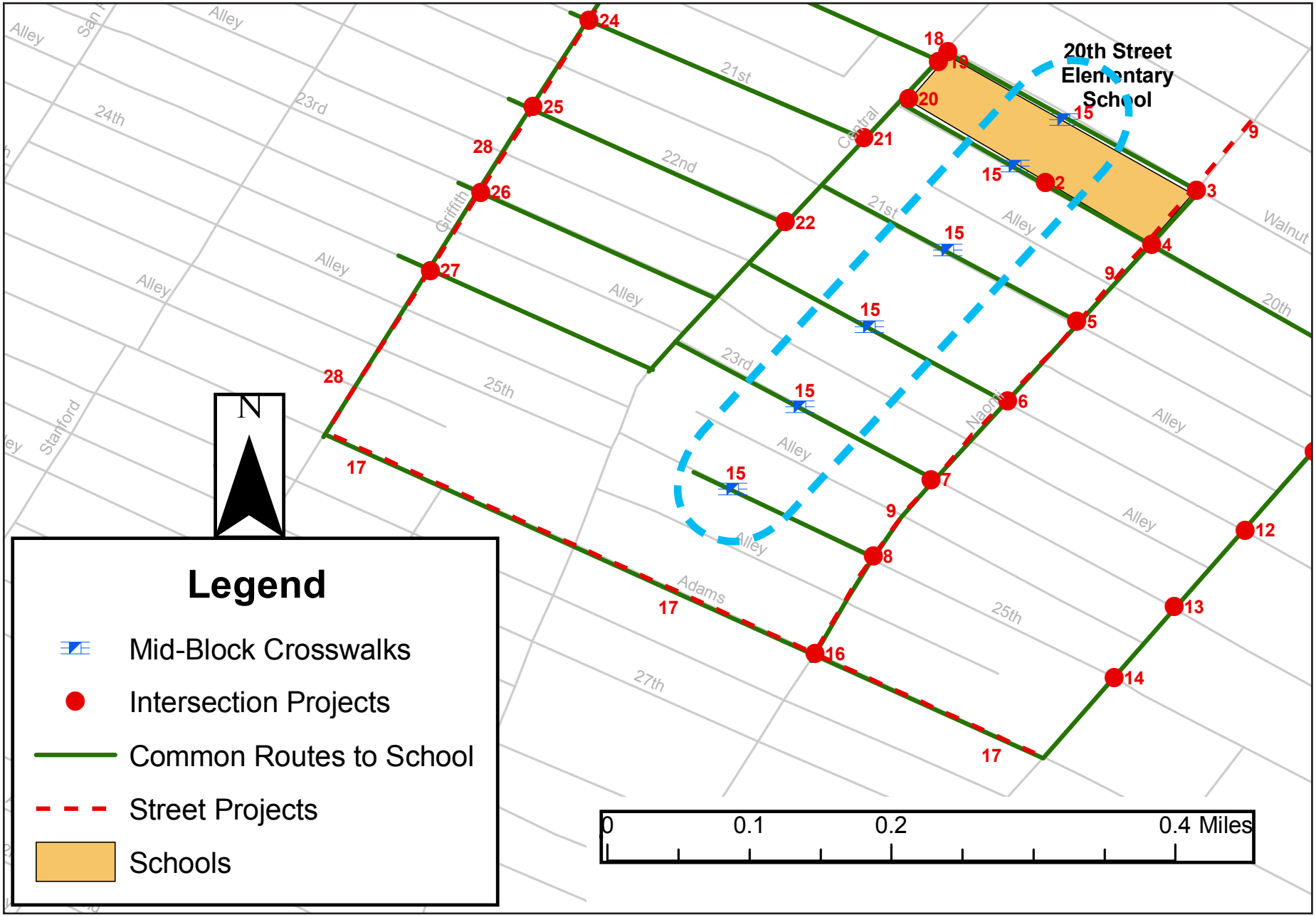
15. Mid-Block Walnut Street, 20th Street, 21st Street, 22nd Street, 23rd Street, 25th Street

Existing

As noted earlier, the east-west streets in this neighborhood are 40-feet wide with 2 lanes and on-street parallel parking. The blocks are long and encourage speeding. The recommendations below will help calm traffic on these streets and improve safety for children traveling to school and for residents throughout the neighborhood.

Recommended Changes

- Add mid-block raised crosswalks on all these streets (6)
- Add curb extensions to both sides of each raised crosswalk (12)
- Add in-street "yield to pedestrians in crosswalk" (R1-6) signs to both sides of the crosswalks (12)
- Add advanced yield markings to both approaches to these crosswalks (12)
- Add pedestrian crossing warning signs to both approaches to these crosswalks (12)
- Paint curb red on approach side of crosswalks (12)
- Option: Add crossing islands to each raised crosswalk (6 pairs)



The above map shows the recommended locations for mid-block crossings on the streets parallel to the elementary school

16. Adams Boulevard at Naomi Avenue

From the South

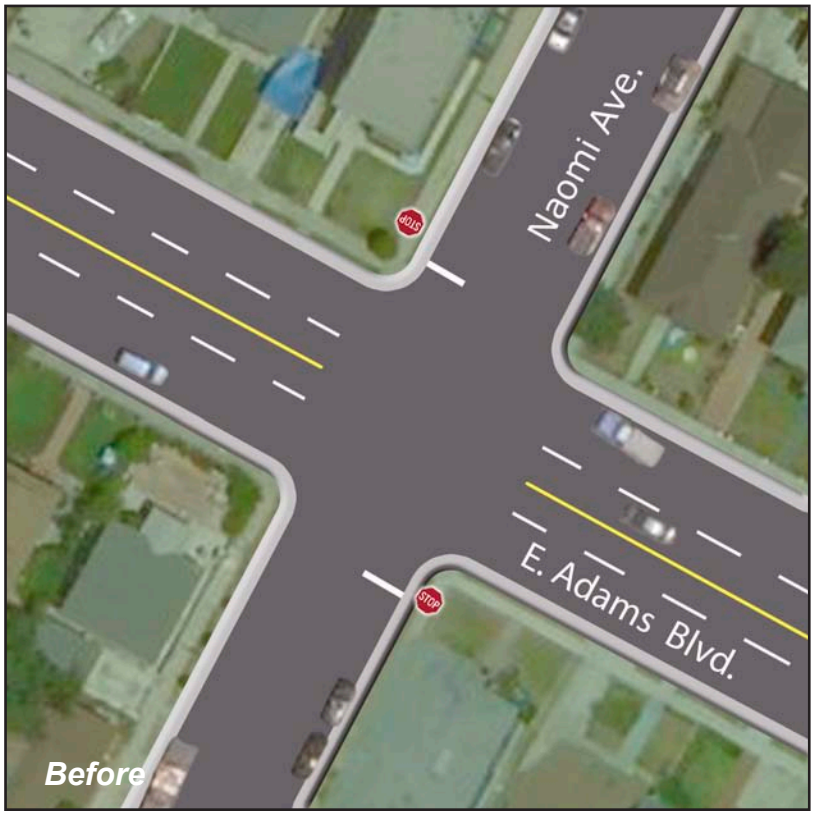
Students walking and bicycling from the neighborhood to the south have to cross Adams Boulevard. Adams Boulevard is a busier street than the local neighborhood streets. Most of the students cross Adams Boulevard at Naomi Avenue.

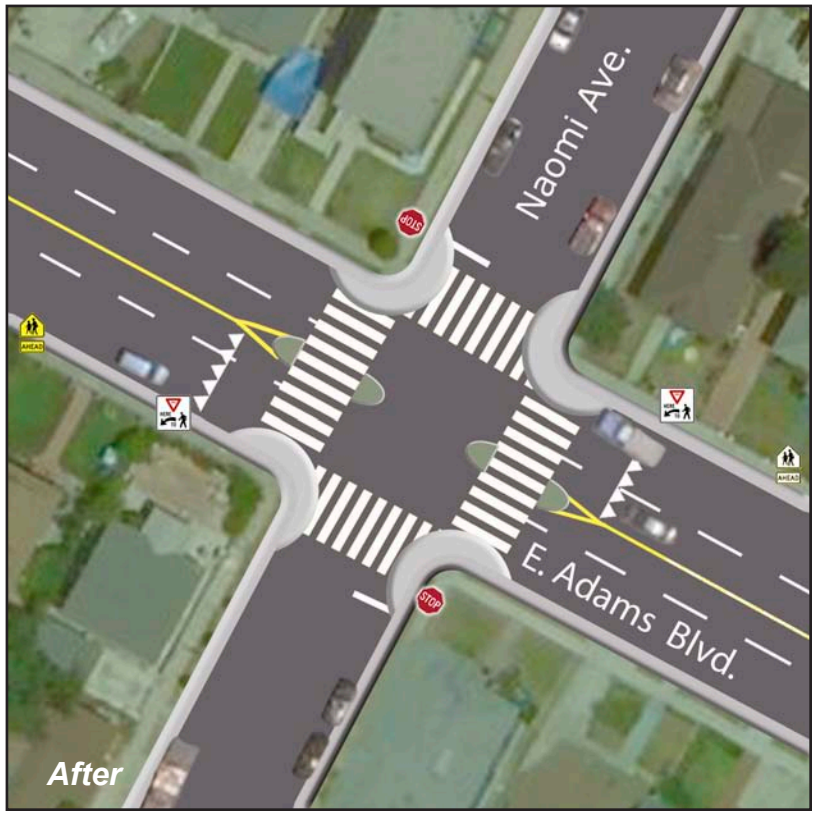
Existing

- 2-way stop for Naomi Avenue
- Adams Boulevard is a 2-lane street with a two-way left-turn lane and on-street parking
- No marked crosswalk

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both stop signs (2)
- Add crossing islands to both crossings of Adams Boulevard (2 pairs)
- Add advanced yield bars to both approaches of crossings of Adams Boulevard (2)
- Add pedestrian crossing warning signs to both approaches of crossings of Adams Boulevard (2)
- Add pedestrian crossing signs on both sides of the crosswalks (4)





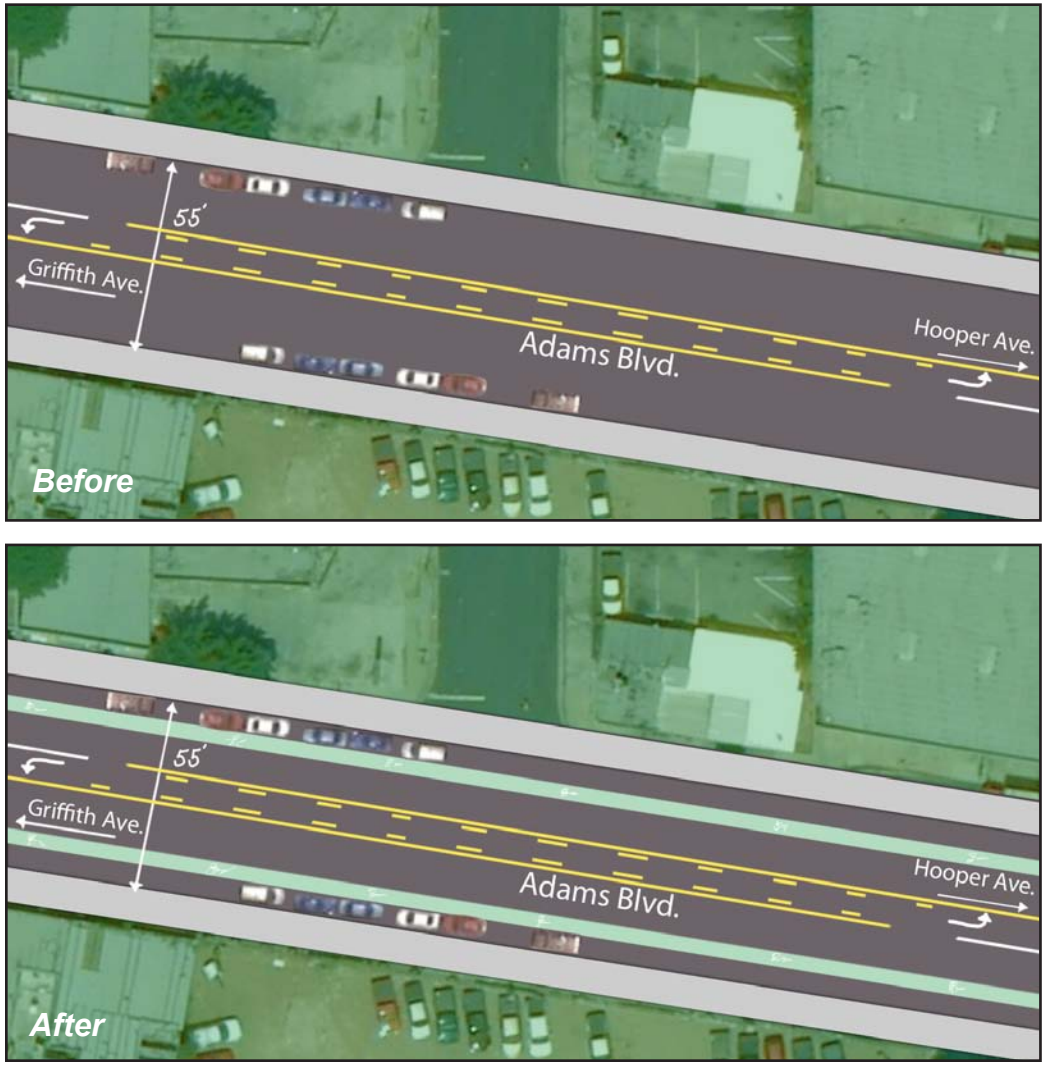
17. Adams Boulevard

Existing

- 2-lane street with a two-way left-turn lane and on-street parking
- 55‘wide

Recommended Change

- Add 5‘6”-wide bike lanes on both sides from Griffith Avenue to Hooper Avenue (0.5 mi.)



18. Central Avenue at Walnut Street (east side of Central Avenue)

From the West

Walking or bicycling to school from the west poses the greatest safety problems for students. They must cross Central Avenue. Central Avenue is a 4-lane arterial street with traffic volumes over 25,000 per day (Los Angeles Department of Transportation 2001-2008 Traffic Volume Book). The neighborhood streets west of Central Avenue are local streets with similar conditions to those close to the school. Griffith Avenue, which runs parallel to Central Avenue one block west, is wider than typical neighborhood streets.

Existing

1-way stop for Walnut Street

Recommended Changes

- Add bulb-outs to all both crossing faces of Walnut Street (2)
- Add zebra-stripe crosswalks to crossing of Walnut Street (1)
- Add advanced stop bar (1)

19. Central Avenue at 20th Street (west side)

Existing

- 1-way stop for 20th Street
- Central Avenue has 4 lanes, a left-turn lane, and is 81' wide

Recommended Changes

- Add a zebra-stripe crosswalk (1) to the south side of the west leg of 20th Street to cross Central Avenue
- Add crossing islands (2) to the south side of the west leg of 20th Street to cross Central Avenue
- Add curb extensions to both sides of the crossing of the south side of the west leg of 20th Street to cross Central Avenue (2)
- Add advanced yield bars to both approaches of crossing of Central Avenue (2)
- Add rapid-flash beacons to both sides of Central Avenue and on new crossing islands added to crossing of Central Avenue (1 full set)
- Add pedestrian crossing warning signs to both approaches of crossing of Central Avenue (2)
- Consider putting the northbound left-turn lane on Central Avenue to the left of the crossing islands to reduce the number of active through lanes pedestrians have to cross
- Add bulb-outs to both crossing faces of 20th Street (2)
- Add zebra-stripe crosswalks to crossing of 20th Street (1)
- Add advanced stop bar to 20th Street (1)
- Conduct study to determine is a signal is warranted for a pedestrian crossing; if not, consider a HAWK signal in lieu of rapid-flash beacons

20. Central Avenue at 20th Street (east side)

Existing

- T-intersection
- 1-way stop for 20th Street

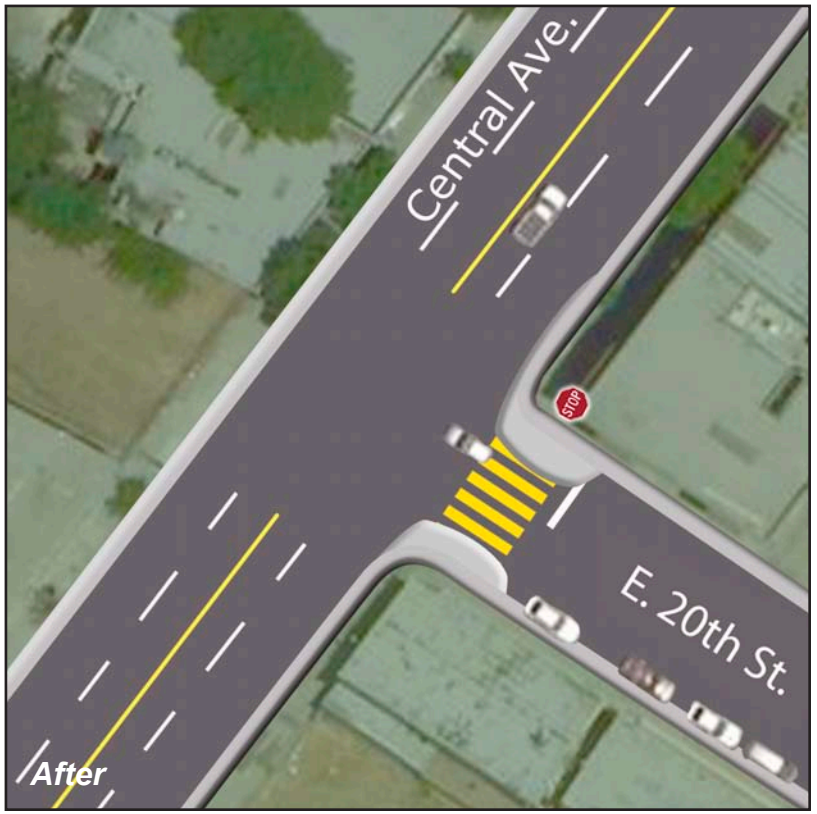
Recommended Changes

- Add bulb-outs to both crossing faces of 20th Street (2)
- Add zebra-stripe crosswalk to crossing of 20th Street (1)
- Add advanced stop bar to crossing of 20th Street (1)

21. Central Avenue at 21st Street (west side)

Existing

- T-intersection
- Signalized
- Central Avenue has 4 lanes, 56’ wide
- Yellow ladder crosswalk to cross Central Avenue on north side
- Yellow lateral-line crosswalks on south crossing of Central Avenue and crossing of 21st Street
- No curb ramps except SW corner



- Signal timing to cross Central Avenue too short to allow children to get across the street
- School crossing guard during morning arrival and afternoon departure times

Recommended Changes

- Add 4'-wide curb extension to east side of Central Avenue that extends about 60-feet from the north to the south crossings to help cross both legs of the intersection and to prevent vehicles from blocking the intersection and improve access and visibility of driveway entrance to Superior Grocers on east side of street.
- Add 6'-wide crossing islands to north crossing of Central Avenue (1 pair)
- Add zebra-stripe crosswalk to crossing of 21st Street (1)
- Add bulb-outs to northwest and southwest corners to cross both 21st Street and Central Avenue (4)
- Add advanced stop bar to all 3 approaches
- Add countdown signals to all pedestrian heads (6)
- Add audio signals to all pedestrian heads (6)
- Increase pedestrian clearance interval to cross Central Avenue
- Prohibit right-turn-on-red from Central Avenue southbound
- Add trees to crossing islands, curb extensions and bulb-outs (8); must be carefully selected and placed to not block motorists' view of pedestrians

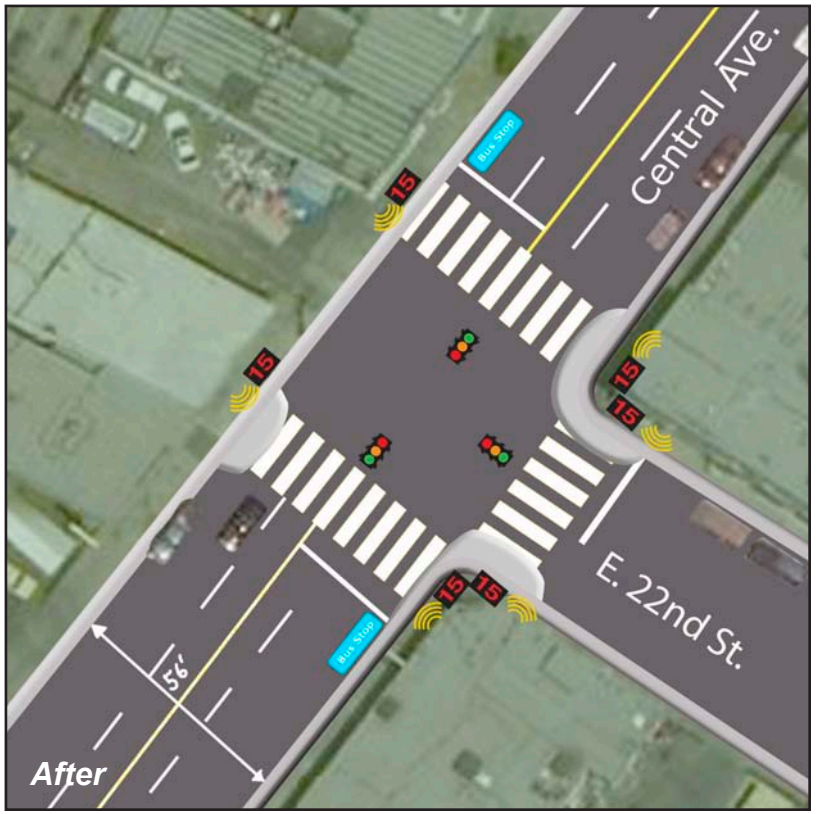
22. Central Avenue at 22nd Street

Existing

- T-intersection
- Signalized
- Central Avenue has 4 lanes, on-street parking, 56' wide
- Lateral-line crosswalks on all 3 crossings
- Bus stops on northwest and southeast corners

Recommended Changes

- Add bulb-outs to all crossing faces except on northwest and southeast corners of Central Avenue (4)
- Add zebra-stripe crosswalks to all 3 crossings
- Add advanced stop bars to all 3 crossings
- Add countdown signals to all pedestrian heads (6)
- Add audio signals to all pedestrian heads (6)



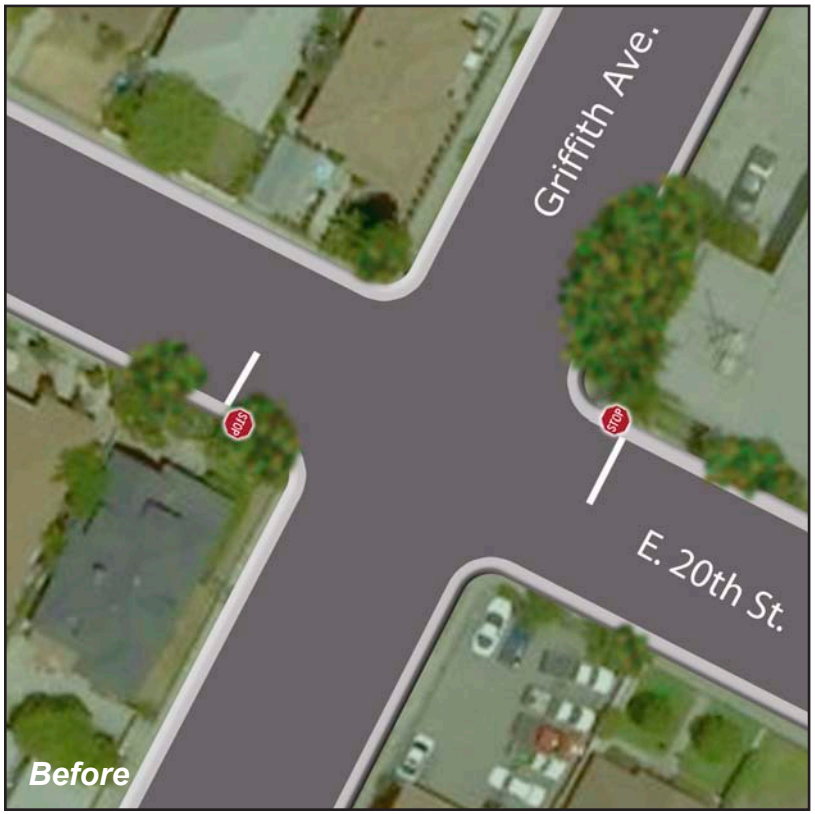
23. Griffith Avenue at 20th Street

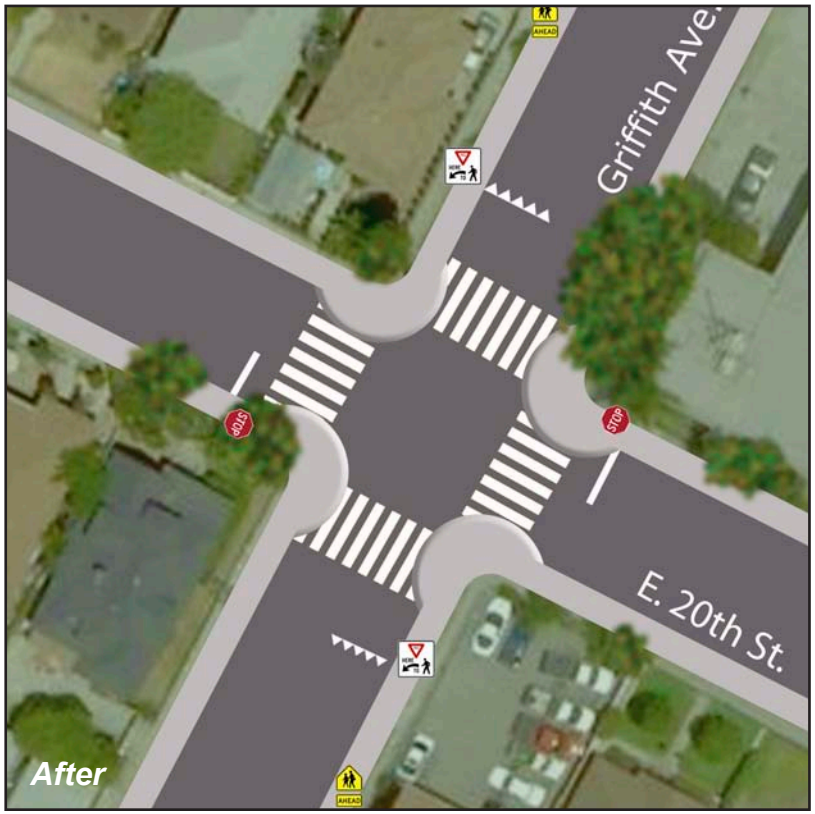
Existing

- 2-way stop for 20th Street
- No curb ramps

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both stop signs (2)
- Add advanced yield bars to both approaches of Griffith Avenue crossings (2)
- Add advanced pedestrian crossing warning signs to both approaches of Griffith Avenue crossings (2)
- Add pedestrian crossing signs to both crosswalks of Griffith Avenue (2)





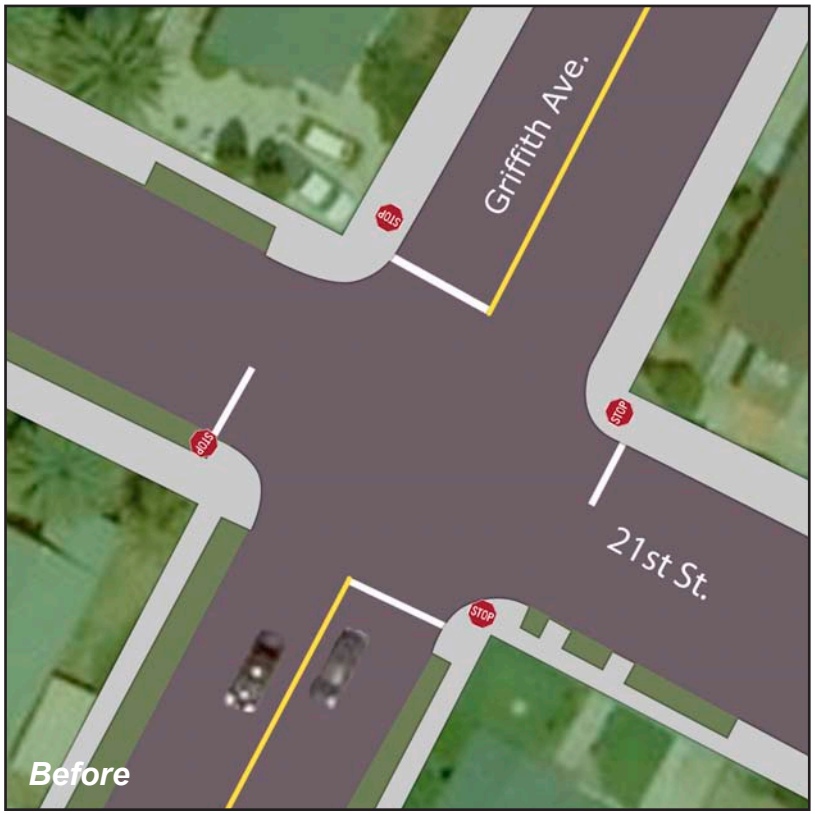
24. Griffith Avenue at 21st Street

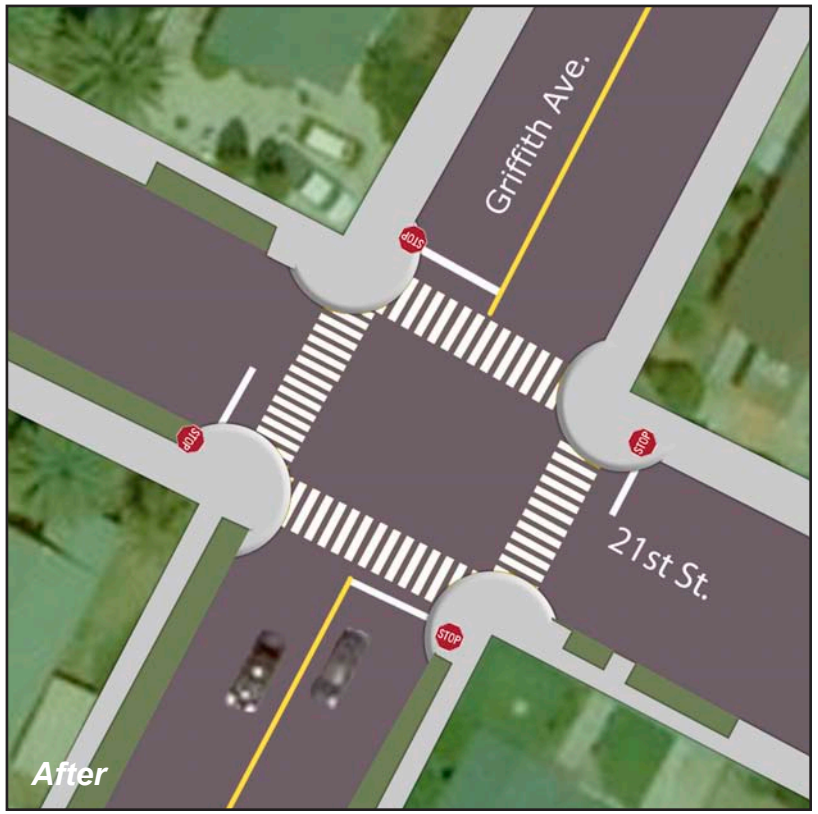
Existing

- 4-way stop

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to all 4 crossings





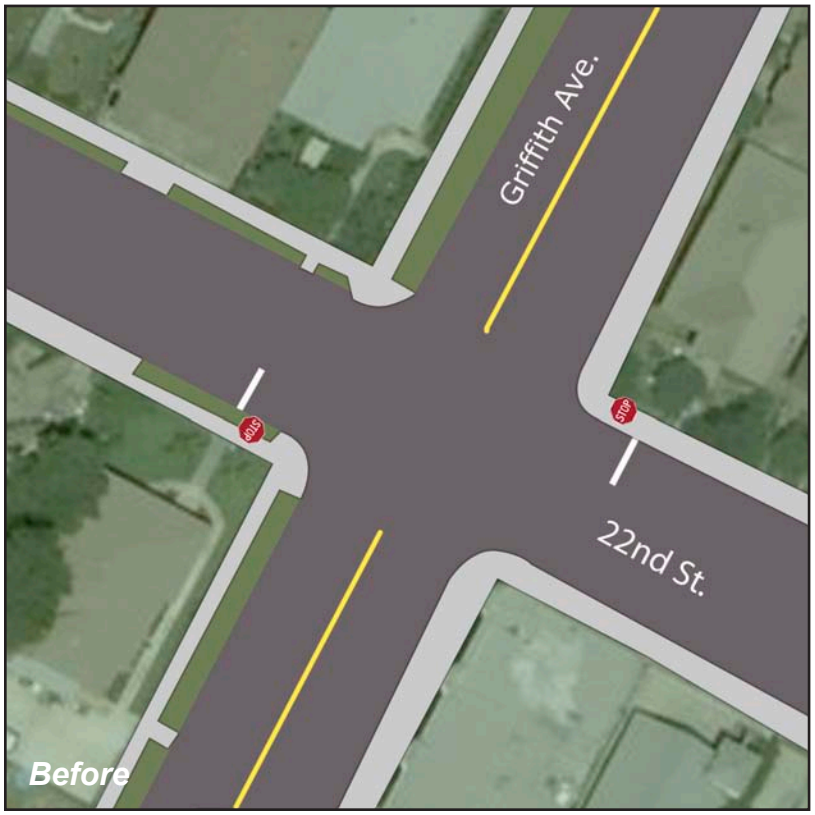
25. Griffith Avenue at 22nd Street

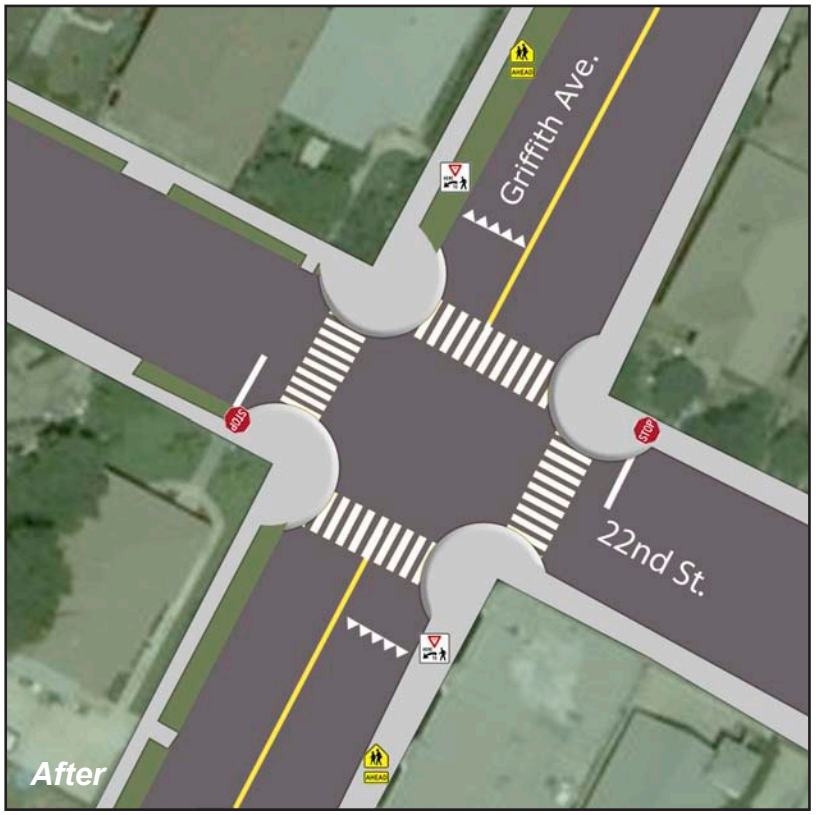
Existing

- 2-way stop for 22nd Street

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to both stop signs (2)
- Add advanced yield bars to both approaches of Griffith Avenue crossings (2)
- Add advanced pedestrian crossing warning signs to both approaches of Griffith Avenue crossings (2)
- Add pedestrian crossing signs to both crosswalks of Griffith Avenue (2)





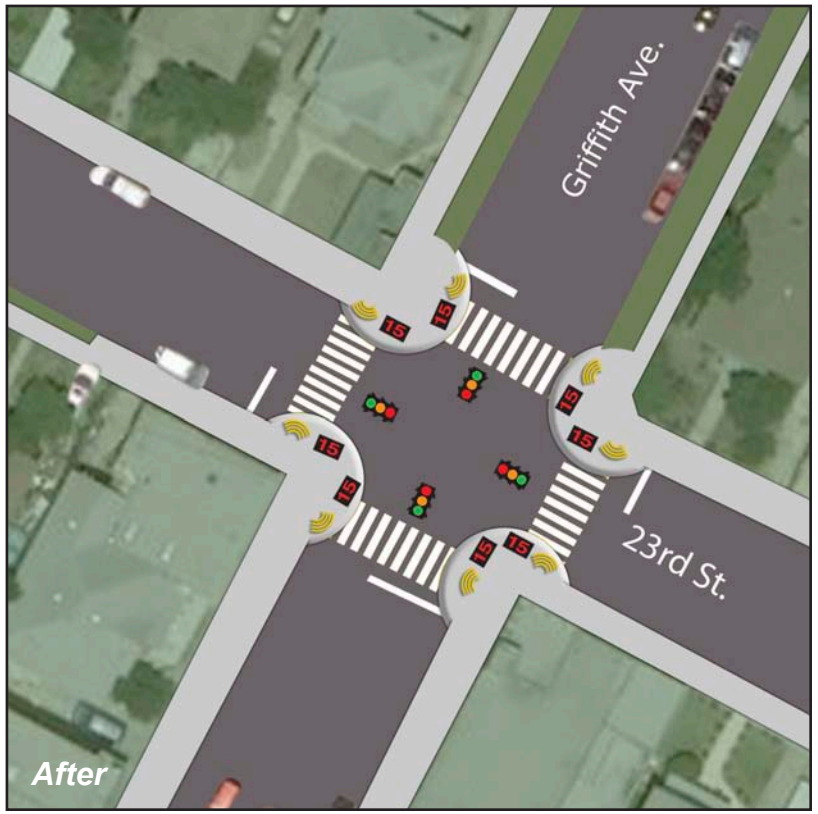
26. Griffith Avenue at 23rd Street

Existing

- Signalized intersection

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to all 4 crossings
- Add advanced stop bars to all 4 approaches
- Add countdown and audio signals to all pedestrian heads (8)



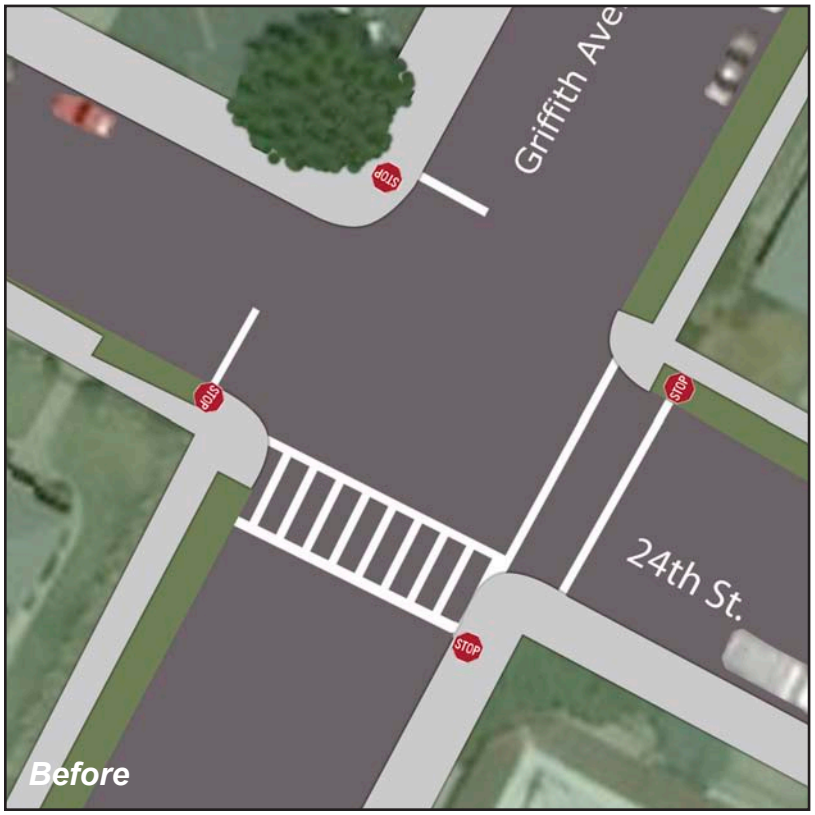
27. Griffith Avenue at 24th Street

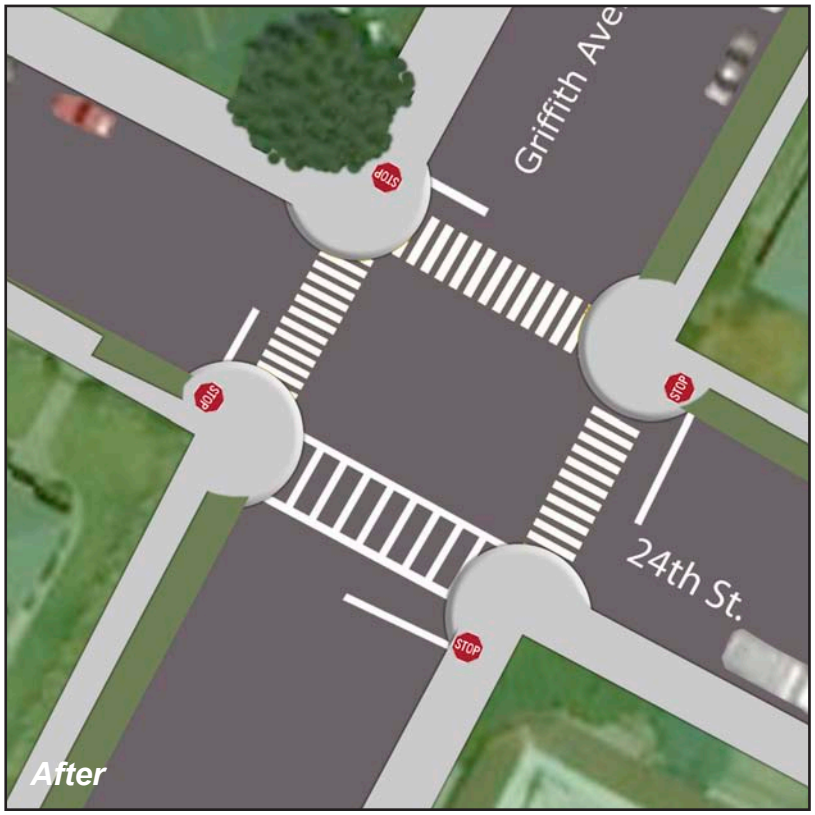
Existing

- 4-way stop
- Ladder crosswalk to cross 24th Street on west side

Recommended Changes

- Add bulb-outs to all 8 crossing faces
- Add new zebra-stripe crosswalks to crossings without marked crosswalks (3)
- Add advanced stop bars to all 4 stop signs





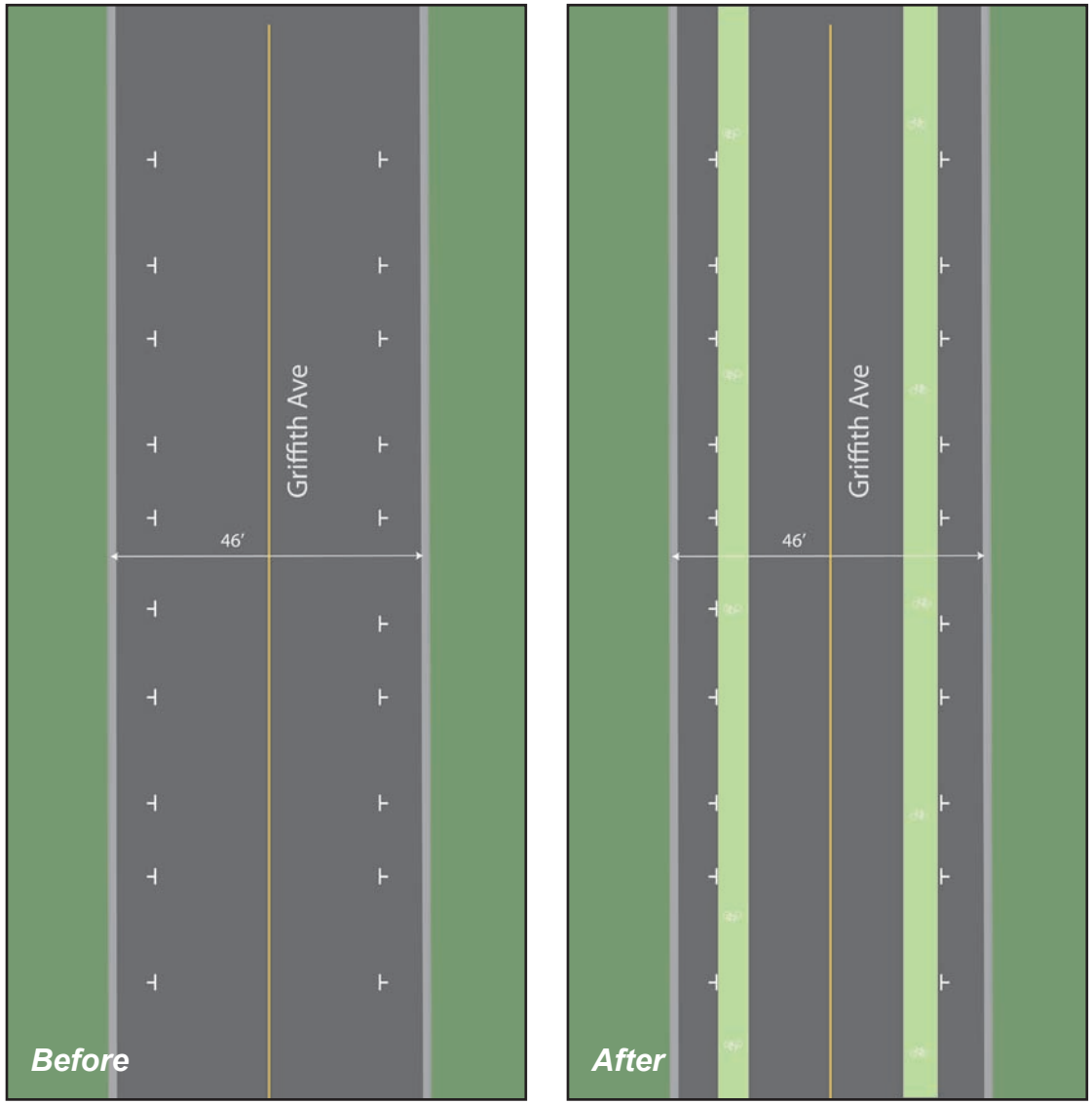
28. Griffith Avenue

Existing

- 2-lane street with on-street parking, 46‘wide

Recommended Change

- Restripe the street with 10’ travel lanes, striped 7’ parking lanes and 6’-wide bike lanes on both sides from Washington Boulevard to Adams Boulevard (0.5 mi.)



FUNDING AND IMPLEMENTATION

Funding the Program

A number of funding sources could help implement report recommendations. They offer alternatives for street design, community facilities, and other infrastructure. Sources of funding include:

- State and federal transportation funds
- State and federal Safe Routes to School funds
- State Transportation Improvement Program (STIP)
- Transportation Enhancement Activities (TEA) Funds
- Bicycle Transportation Account (BTA) funds
- Transportation Development Act (TDA) funds
- Community Development Block Grant (CDBG)
- California Infrastructure and Economic Development Bank
- City road maintenance and construction funds
- Community Redevelopment Agency (CRA) funds
- Development fees
- Benefit Assessment Districts
- Volunteer initiatives and private donations

Each of these funding sources is subject to changes in state and federal law, budget levels, and target project priorities. A summary of the situation for each as it existed at the time of this writing is below.

State and Federal Transportation Funds

Major state and federal transportation funding resources are outlined below. For more information on these funding programs, visit the Caltrans Division of Local Assistance website: www.dot.ca.gov/hq/LocalPrograms

Safe Routes to School (SRTS)

Caltrans administers state and federally funded programs to improve walking and bicycling conditions in and around schools. The State program permits up to 10 percent of the funding to be used for non-infrastructure (education and encouragement) programs, and the remaining funds for infrastructure (capital) projects. It requires a 10 percent match. Applications for federal funding must either seek funds for infrastructure or non-infrastructure programs, but not both in the same application. No match is required. The City of Los Angeles has ongoing non-infrastructure programs that will benefit these schools.

A standardized statewide SRTS training program with promotional materials and school resources will be developed to help communities implement programs.

The program seeks to fund projects that incorporate engineering, education, enforcement, encouragement and evaluation components. It should be noted that engineering is listed first, because that effort creates the durable features of a street that support the other efforts. For more information go to: www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

State Transportation Improvement Program (STIP)

This program represents the lion's share of California's state and federal transportation dollars. Three-quarters of the program's funds were earmarked for improvements determined by locally adopted priorities contained in Regional Transportation Improvement Programs (RTIP), submitted by regional transportation planning agencies from around the state.

STIP funds can be used for a wide variety of projects, including road rehabilitation, road capacity, intersections, bicycle and pedestrian facilities, public transit, passenger rail and other projects that enhance the region's transportation infrastructure.

Transportation Enhancement Activities

Federal Transportation Enhancement funds are for construction projects that are "over and above" normal types of transportation projects. These projects may include street trees and landscaping along roadways, pedestrian and bicycle access improvements and other scenic beautification. These are apportioned throughout the county.

Bicycle Transportation Account (BTA)

This state fund, administered by the Caltrans Bicycle Facilities Unit, can pay for improvements that benefit bicyclists, including bike lanes and bicycle parking. The money may also be used for projects that benefit pedestrians if it is part of a bicycle project such as bicycle/ pedestrian signals and median crossings. Annual BTA funding is in the range of $5 million a year statewide.

To be eligible for BTA funds, a city or county must prepare and adopt a Bicycle Transportation Plan. Adoption of a plan establishes eligibility for five consecutive funding cycles.

Transportation Development Act (TDA)

TDA provides for two sources of funding: Local Transportation Funds (LTF) and State Transit Assistance (STA). The TDA funds a wide variety of transportation programs, including planning and program activities, pedestrian and bicycle facilities, community transit services, public transportation, and bus and rail projects. It is allocated to cities according to population.

Community Development Block Grants (CDBG)

Under the Community Development Block Grant (CDGB) Program, cities and counties may seek funding for a broad range of activities ranging from establishment and operation of revolving loan funds and construction of infrastructure improvements to construction of new housing and community facilities.

Applicants may also seek funding for planning studies and writing grant applications relating to these activities. Funding programs under the CDBG Economic Development Allocation include the Economic Enterprise Fund for small business loans, Over-the-Counter Grants for public infrastructure associated with private-sector job creation, and Planning and Technical Assistance Grants. Applications under the Economic Development Allocation will require a job creation/ retention component.

Potential projects include street and traffic improvements, water system expansion and improvements, and sewer system expansion and improvements.

For more information go to:
www.hcd.ca.gov/fa

California Infrastructure and Economic Development Bank (I-Bank)

The California Infrastructure and Economic Development Bank administers a revolving fund program for local governments to finance infrastructure improvements, including city streets. This is a

loan program for which the City can apply and receive funding from $250,000 to $10 million with terms of up to 30 years for a broad range of projects.

For more information go to:
www.ibank.ca.gov

Local Funding Opportunities

City road maintenance and construction funds

Los Angeles can add striping, traffic calming, sidewalks, curbs and similar elements to other projects that already involve digging up or rebuilding street sections. For example, storm drain and sewer improvements, utility undergrounding projects, and routine street resurfacing are all possibilities.

The greater the extent of the reconstruction, the greater the opportunity for adding elements such as bulb-outs and medians at a fraction of the cost of a stand-alone project. Also, communities avoid the disruption, noise and expense of repeatedly digging up a street and detouring traffic.

Such combination projects will require coordination between departments and capital improvement projects whose schedules and budgets are often distinct.

Many cities have incorporated traffic calming into street reconstruction projects. In Venice, FL, for example, officials added $80,000 to a previously planned Main Street resurfacing project that provided for intersection bulb-outs, mid-block bulb-outs, median crossings, and crosswalks of colorful paver stones.

Seattle has added planted medians to several streets at reduced cost as part of sewer upgrade projects. County transportation sales tax measures can provide substantial funding for city street maintenance and rehabilitation.

Community Redevelopment Agency

The Los Angeles Community Redevelopment Agency (CRA) could choose to fund the improvements in this plan with tax increment funds collected in the Council District 9 Redevelopment Corridor along Central Avenue. CRA funds and/or subsidizes a variety of community projects ranging from new commercial development to housing, as well as street improvements.

Development fees

Some cities require developers to install or help pay for infrastructure improvements (streets, sidewalks, trails, landscaping, etc.) through individual development agreements. On a larger scale, Los Angeles could explore using development fees with a capital improvements program to help fund recommendations. To avoid legal challenge of the City's right to levy these fees, care must be taken to apply this strategy only where there is a clear link establishing that travel generated by the private project will use the facility to be funded with the fees.

Benefit Assessment Districts

Benefit assessment districts fund neighborhood and community improvements to public streets and land by assessing property taxes in the district. Property owners vote to have the assessment in exchange for the improvement. The pedestrian and bicycle improvements in this plan could be funded by benefit assessments. Landscaping and lighting districts are sometimes established for streetscape improvements and maintenance. Other types of facilities and infrastructure districts are sometimes created for parks, drainage and sewage.

Volunteer initiatives and private donations

In addition to funding sources, programs can be created for volunteer initiatives such as "Adopt-a" programs where individuals or groups engage in beautification projects such as tree plantings. A program can also fund some projects, such as public art, by enlisting private donors to sponsor downtown enhancement activities. These programs can be administered by the City or by other community organizations.

Implementation

In order to construct the recommended projects and deliver the programs to the three schools studied for this grant project (Norwood Elementary, The Acelerated School, 20th Street Elementary), they will need to find funds. The funding sources just discussed can be used for this purpose. Following are a prioritized list of the plan projects, grouping them into phases that can be completed sequentially. Priorities were established considering:

- Comments received at the workshops
- Comments received from school administrators
- Proximity to the school
- Safety problem addressed (traffic volumes, number of lanes, difficulty of crossing, etc.)

The phased project lists are each slightly under $1 million, the ideal size to fit into a federal or state Safe Routes to School application. The City of Los Angeles could use these lists as their project lists for their applications. The unit costs were developed from costs experienced in a variety of California cities. The costs for optional items are not included.

The first table displays the budget for all projects. The following tables show the budget for each phase. The projects are grouped by school, and listed according to their number for each school.

Improvement	Units	Per Unit Cost	Quantity	Total Cost
Advanced stop bars/yield markings	number	$100	188	$18,800
Zebra-stripe crosswalks (2-lane)	number	$250	143	$35,750
Zebra-stripe crosswalks (4-lane)	number	$500	24	$12,000
Zebra-stripe crosswalks (8-lane)	number	$1,000	2	$2,000
Signs	number	$150	89	$13,350
Bulb-outs/curb extensions with curb ramps	number	$7,500	327	$2,452,500
Large curb extension with curb ramps	number	$15,000	17	$255,000
Bus bulbs	number	$15,000	2	$30,000
Countdown signals	number	$1,000	122	$122,000
Audible pedestrian signals	number	$500	122	$61,000
New pedestrian signal head	number	$500	2	$1,000
Crossing islands (pair)	number	$4,000	8	$32,000
LED rapid flash beacon (4 including in median)	number	$23,000	3	$69,000
Painted red curb	number	$50	6	$300
Raised crosswalks	number	$15,000	9	$135,000
Road diet restriping (including bike lanes)	linear mile	$100,000	0.52	$52,000
Move pedestrian push button	number	$100	1	$100
Move bus stop	number	$5,000	1	$5,000
Mini-circle	number	$15,000	1	$15,000
Paint intersection	number	$1,000	1	$1,000
Sidewalk extension	linear foot	$60	5	$300
Pork chop islands	number	$3,000	2	$6,000
Move curb over, move poles and add landscaping	linear foot	$100	265	$26,500
Perpendicular curb ramp	number	$3,500	1	$3,500
Bike lanes	linear mile	$50,000	1.6	$80,000
Bike route	linear mile	$10,000	0.5	$5,000
Trees	number	$400	8	$3,200
Stripe alternating angled parking	number	$20	70	$1,400
Remove peak hour parking restriction signs	number	$50	24	$1,200
Narrow driveway	number	$2,000	1	$2,000
Infrastructure projects total				$3,441,900
Engineering (5%)				$172,095
Subtotal				$3,613,995
Contingency (10%)				$361,400
TOTAL				$3,975,395

Table 1: Budget for all projects at all schools

Phase 1 Projects

Norwood Elementary School Projects

3. 20th Street at Oak Street
7. 21st Street at Oak Street
8. 21st Street at Norwood Street
12. Washington Boulevard
13. Washington Boulevard at Union Avenue
15. Washington Boulevard at Oak Street
24. 23rd Street at Oak Street/Scarff Street

The Accelerated School Projects

1. Main Street
2. Martin Luther King Jr. Boulevard at Main Street
3. Main Street at 40th Place
4. Martin Luther King Jr. Boulevard at Wall Street
5. Martin Luther King Jr. Boulevard at Crawford Street

20th Street Elementary School Projects

3. Naomi Avenue at Walnut Street
4. Naomi Avenue at 20th Street
15. Mid-Block Crossing Improvements Walnut Street and 20th Street
18. Central Avenue at Walnut Street
19. Central Avenue at 20th Street (west side)

Improvement	Units	Per Unit Cost	Quantity	Total Cost
Advanced stop bars/yield markings	number	$100	46	$4,300
Zebra-stripe crosswalks (2-lane)	number	$250	31	$7,000
Zebra-stripe crosswalks (4-lane)	number	$500	10	$5,000
Signs	number	$150	20	$3,000
Bulb-outs/curb extensions with curb ramps	number	$7,500	66	$495,000
Large curb extension with curb ramps	number	$15,000	5	$75,000
Bus bulbs	number	$15,000	2	$30,000
Countdown signals	number	$1,000	32	$32,000
Audible pedestrian signals	number	$500	32	$16,000
New pedestrian signal head	number	$500	2	$1,000
Crossing islands (pair)	number	$4,000	2	$8,000
LED rapid flash beacon (4 including in median)	number	$23,000	2	$46,000
Painted red curb	number	$50	4	$200
Raised crosswalks	number	$15,000	3	$45,000
Road diet restriping (including bike lanes)	linear mile	$100,000	0.5	$50,000
Move pedestrian push button	number	$100	1	$100
Move bus stop	number	$5,000	1	$5,000
Mini-circle	number	$15,000	1	$15,000
Move curb over, move poles and add landscaping	linear foot	$100	150	$15,000
Stripe alternating angled parking	number	$20	35	$700
Remove peak hour parking restriction signs	number	$50	24	$1,200
Infrastructure projects total				$855,550
Engineering (5%)				$42,778
Subtotal				$898,328
Contingency (10%)				$89,833
TOTAL				$988,160

Table 2: Budget for Phase 1 Projects at all schools

Phase 2 Projects

Norwood Elementary School Projects

14. Washington Boulevard at I-10 Freeway off-ramps
16. Washington Boulevard at Norwood Street
20. 23rd Street at Hoover Street
21. 23rd Street at Union Street
22. 23rd Street Bike Lanes
23. 23rd Street at Portland Street
28. Adams Boulevard at Portland Street

The Accelerated School Projects

4. Main Street at 41st Place
5. Martin Luther King Boulevard at Woodlawn Avenue
8. East Entrance to School Off Woodlawn Avenue

20th Street Elementary School Projects

2. School Garage Driveway
5. Naomi Avenue at 21st Street
7. Naomi Avenue at22nd Street
16. Adams Boulevard at Naomi Avenue
19. Central Avenue at 20th Street (east side)
20. Central Avenue at 21st Street (east side)
21. Central Avenue at 21st Street (west side)
22. Central Avenue at 22nd Street (east side)

Improvement	Units	Per Unit Cost	Quantity	Total Cost
Advanced stop bars/yield markings	number	$100	45	$4,500
Zebra-stripe crosswalks (2-lane)	number	$250	33	$8,250
Zebra-stripe crosswalks (4-lane)	number	$500	8	$4,000
Signs	number	$150	14	$2,100
Bulb-outs/curb extensions with curb ramps	number	$7,500	83	$630,000
Large curb extension with curb ramps	number	$15,000	3	$45,000
Countdown signals	number	$1,000	44	$44,000
Audible pedestrian signals	number	$500	44	$22,000
Crossing islands (pair)	number	$4,000	4	$16,000
LED rapid flash beacon (4 including in median)	number	$23,000	1	$23,000
Painted red curb	number	$50	2	$100
Raised crosswalks	number	$15,000	2	$30,000
Paint intersection	number	$1,000	1	$1,000
Sidewalk extension	linear foot	$60	5	$300
Bike lanes	linear mile	$50,000	0.6	$30,000
Trees	number	$400	8	$3,200
Narrow driveway	number	$2,000	1	$2,000
Infrastructure projects total				$865,350
Engineering (5%)				$43,268
Subtotal				$908,618
Contingency (10%)				$90,862
TOTAL				$999,479

Table 3: Budget for Phase 2 Projects at all schools

Phase 3 Projects

Norwood Elementary School Projects

1. 21st Street at Toberman Street
2. 20th Street between Toberman Street and Oak Street
4. 21st Street at Toberman Street
6. 21st Street at Portland Street
9. 21st Street at Park Grove Avenue
10. 21st Street at Bonsallo Avenue
11. 21St Street at Estrella Avenue
29. 23rd Street at Figueroa Way (CA-110 freeway off-ramp)
30. 23rd Street between Figueroa Way and Figueroa Street

The Accelerated School Projects

6. Martin Luther King Boulevard at Trinity Street
7. Woodlawn at Maple Avenue

20th Street Elementary School Projects

7. Naomi Avenue at23rd Street
8. Naomi Avenue at 25th Street
9. Naomi Avenue Bike Route
10. Hooper Avenue at 20th Street
11. Hooper Avenue at 21st Street
17. Adams Boulevard Bike Lanes
23. Griffith Avenue at 20th Street
24. Griffith Avenue at 21st Street
25. Griffith Avenue at 22nd Street
28. Griffith Avenue Bike Lanes

Improvement	Units	Per Unit Cost	Quantity	Total Cost
Advanced stop bars/yield markings	number	$100	47	$4,700
Zebra-stripe crosswalks (2-lane)	number	$250	45	$11,250
Zebra-stripe crosswalks (4-lane)	number	$500	2	$1,000
Signs	number	$150	20	$3,000
Bulb-outs/curb extensions with curb ramps	number	$7,500	92	$690,000
Large curb extension with curb ramps	number	$15,000	2	$30,000
Countdown signals	number	$1,000	22	$22,000
Audible pedestrian signals	number	$500	22	$11,000
Crossing islands (pair)	number	$4,000	2	$8,000
Road diet restriping (including bike lanes)	linear mile	$100,000	0.02	$2,000
Pork chop islands	number	$3,000	2	$6,000
Move curb over, move poles and add landscaping	linear foot	$100	115	$11,500
Bike lanes	linear mile	$50,000	1	$50,000
Bike route	linear mile	$10,000	0.5	$5,000
Stripe alternating angled parking	number	$20	35	$700
Infrastructure projects total				$856,150
Engineering (5%)				$42,808
Subtotal				$898,958
Contingency (10%)				$89,896
TOTAL				$988,853

Table 4: Budget for Phase 3 Projects at all schools

Phase 4 Projects

Norwood Elementary School Projects

17. Washington Boulevard at Park Grove Avenue
18. Washington Boulevard at Cherry Street
19. Washington Boulevard at Bonsallo Avenue
25. 23rd Street at Norwood Street
26. 23rd Street at Park Grove Avenue/St. James Park
27. 23rd Street at Bonsallo Avenue
31. 23rd Street at Figueroa Street
32. Grand Avenue at Adams Boulevard

20th Street Elementary School Projects

11. Hooper Avenue at 21st Street
12. Hooper Avenue at 22nd Street
13. Hooper Avenue at 23rd Street
14. Hooper Avenue at 24th Street
15. Mid-Block Crosswalks on 21st Street, 22nd Street, 23rd Street, 25th Street

Central Avenue at 22nd Street (west side)

26. Griffith Avenue at 23rd Street
27. Griffith Avenue at 24th Street

Improvement	Units	Per Unit Cost	Quantity	Total Cost
Advanced stop bars/yield markings	number	$100	50	$5,000
Zebra-stripe crosswalks (2-lane)	number	$250	34	$8,500
Zebra-stripe crosswalks (4-lane)	number	$500	4	$2,000
Zebra-stripe crosswalks (8-lane)	number	$1,000	2	$2,000
Signs	number	$150	35	$5,250
Bulb-outs/curb extensions with curb ramps	number	$7,500	85	$637,500
Large curb extension with curb ramps	number	$15,000	7	$105,000
Countdown signals	number	$1,000	24	$24,000
Audible pedestrian signals	number	$500	24	$12,000
Raised crosswalks	number	$15,000	4	$60,000
Perpendicular curb ramp	number	$3,500	1	$3,500
Infrastructure projects total				$864,750
Engineering (5%)				$43,238
Subtotal				$907,988
Contingency (10%)				$90,799
TOTAL				$998,786

Table 5: Budget for Phase 4 Projects at all schools (No projects for The Accelerated School will occur in Phase 4)

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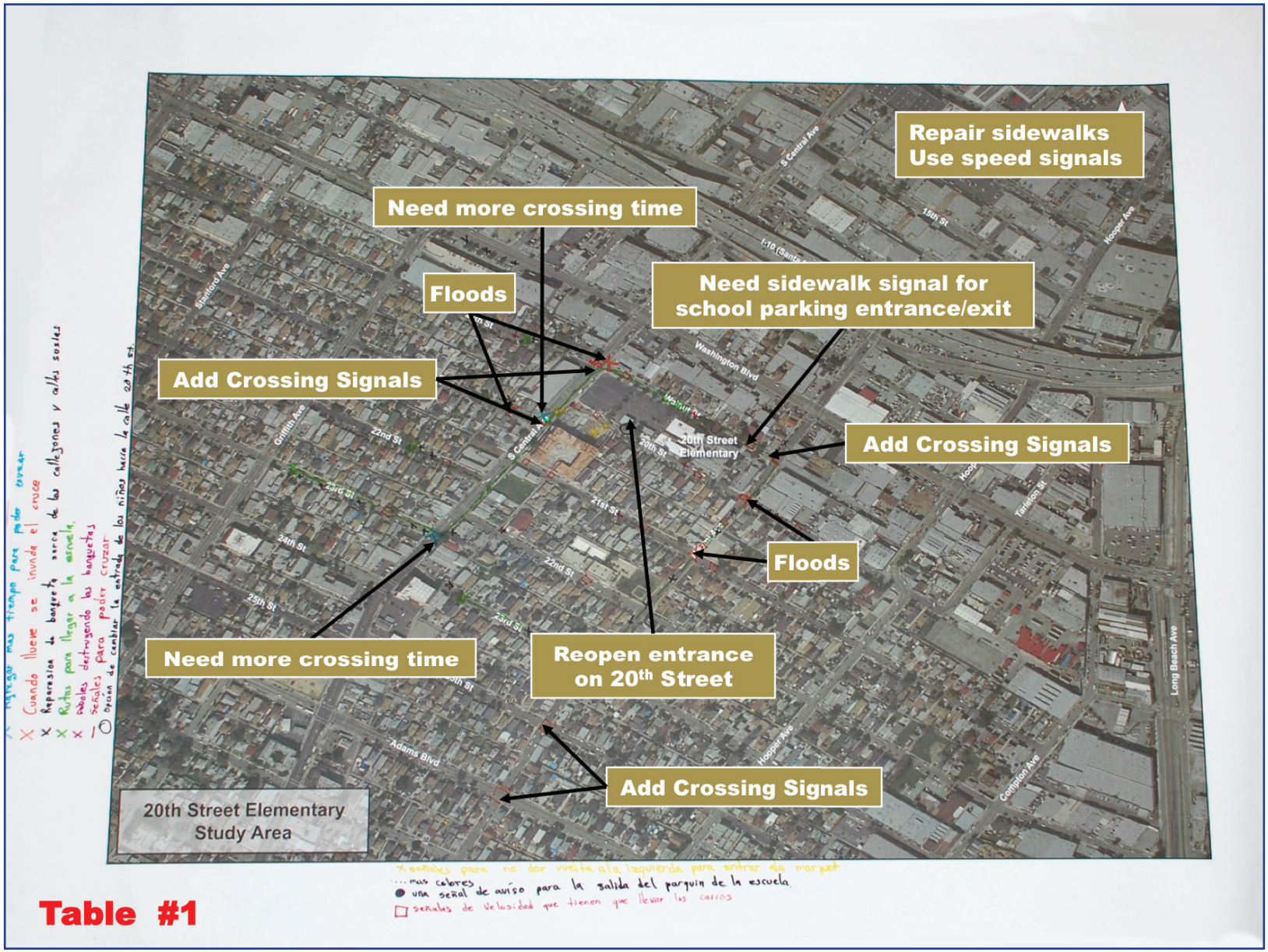
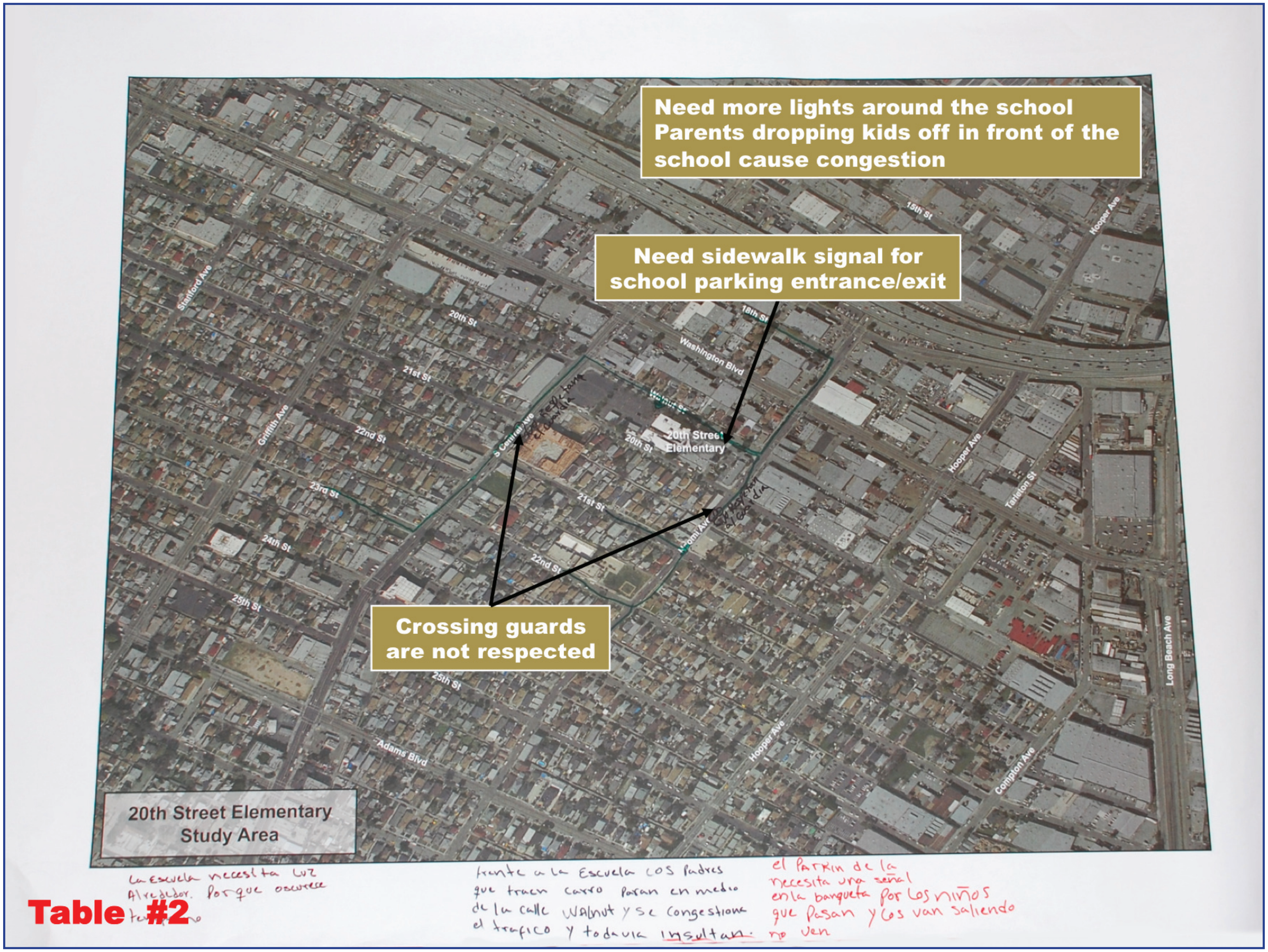
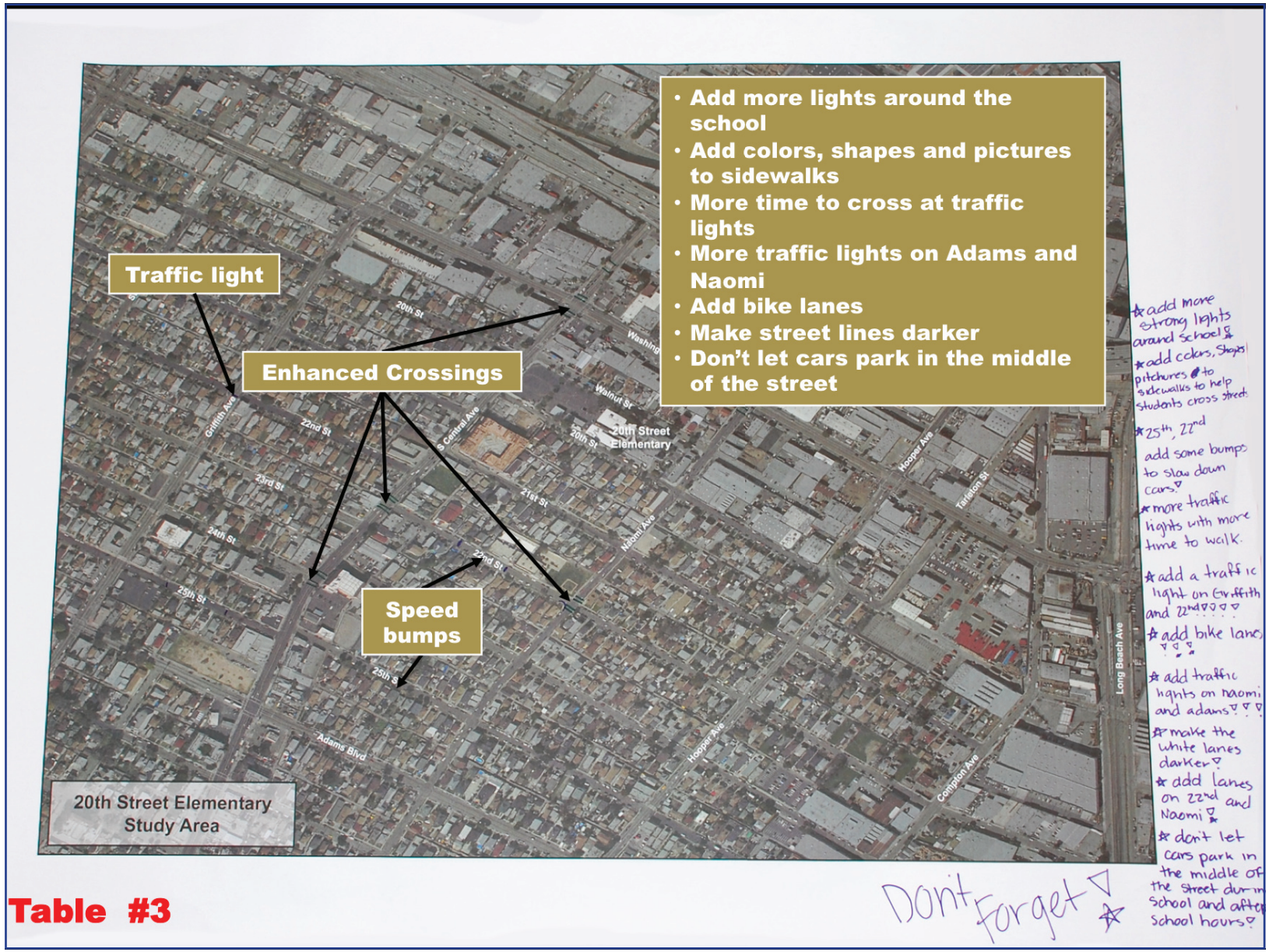
APPENDIX

Walk Audit and Design Session Table Maps



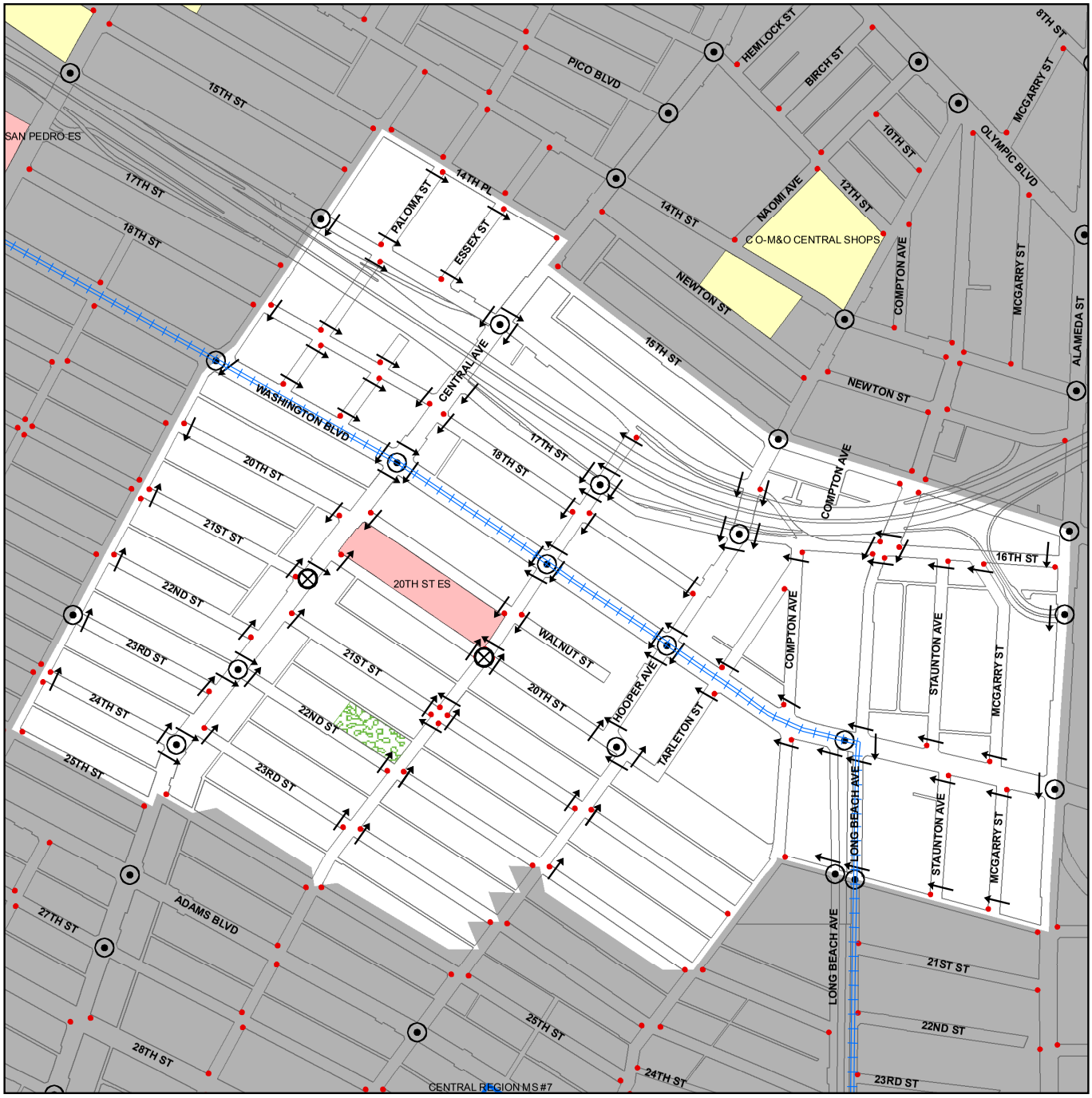

Need more lights around the school
Parents dropping kids off in front of the school cause congestion
Need sidewalk signal for school parking entrance/exit
Crossing guards are not respected
20th Street Elementary Study Area
20th Street Elementary
15th St
18th St
Washington Blvd
20th St
21st St
22nd St
23rd St
24th St
25th St
Adams Blvd
Stanford Ave
Griffith Ave
S Central Ave
Hooper Ave
Tarleton St
Long Beach Ave
Compton Ave
Hooper Ave
La Escuela necesita luz Alrededor. Porque oscurece
frente a la Escuela los padres que traen carro paran en medio de la calle Walnut y se congestiona el trafico y todavia insultan.
el Parkin de la necesita una señal en la banqueta por los niños que pasan y los van saliendo no ven
Table #2


Traffic light
Enhanced Crossings
Speed bumps
• Add more lights around the school
• Add colors, shapes and pictures to sidewalks
• More time to cross at traffic lights
• More traffic lights on Adams and Naomi
• Add bike lanes
• Make street lines darker
• Don't let cars park in the middle of the street
20th Street Elementary Study Area
20th St
Washington Blvd
Walnut St
Griffith Ave
22nd St
Central Ave
20th Street Elementary
23rd St
21st St
Hooper Ave
Tarleton St
24th St
Naomi Ave
22nd St
25th St
Long Beach Ave
Adams Blvd
Compton Ave
add more strong lights around school
add colors, shapes pictures to sidewalks to help students cross street
25th, 22nd add some bumps to slow down cars.
more traffic lights with more time to walk.
add a traffic light on Griffith and 22nd
add bike lanes
add traffic lights on naomi and adams
make the white lanes darker
add lanes on 22nd and Naomi
don't let cars park in the middle of the street during school and after school hours
Table #3
Don't Forget

CITY OF LOS ANGELES - DEPARTMENT OF TRANSPORTATION

July 2009

PEDESTRIAN ROUTES FOR TWENTIETH STREET ELEMENTARY SCHOOL



Legend

- Recommended Crossing
- Stop Sign
- Traffic Signal
- Crossing Guard
- Flashing Warning Light
- Stairs or Walkway
- Pedestrian Bridge
- Pedestrian Tunnel
- Parks

N W E S

0 250 500

Feet

Parents:

This map shows the recommended crossings to be used from each block in your school attendance area. Following the arrows, select the best route from your home to the school and mark it with a colored pencil or crayon. This is the route your child should take. Instruct your child to use this route and to cross streets only at locations shown. You and your child should become familiar with the route by walking it together. Obey marked crosswalks, stop signs, traffic signals and other traffic controls. Crossing points have been located at these controls wherever possible, even though a longer walk may be necessary. Instruct your child to always look both ways before crossing the street. If no sidewalk exists, your child should walk facing traffic.

Estimados Padres:

Este mapa muestra los cruzados recomendados para los peatones de cada cuadra en la area de su escuela. Siguiendo las flechas en el mapa, selecione la ruta mas segura de su casa a la Escuela y marquelo con un lapis o tiza de color. Esta es la ruta que su hijo (a) debe de usar. Digale a su hijo (a) que use esta ruta y que cruce las calles solamente en los lugares indicados. Usted y su hijo (a) deberian de familiarizarce con esta ruta. Obedezcan los rotulos de peatones, de altos, semaforos y todos los señales de trafico. Puntos para cruzar estan localizados en areas controladas, aunque sea necesario de alargar el tiempo para cruzar. Instruye a su hijo (a) que siempre se fije de los dos lados antes de cruzar la calle. El estudiante debe de siempre caminar en la direccion opuesta del trafico si no existe una banqueta.