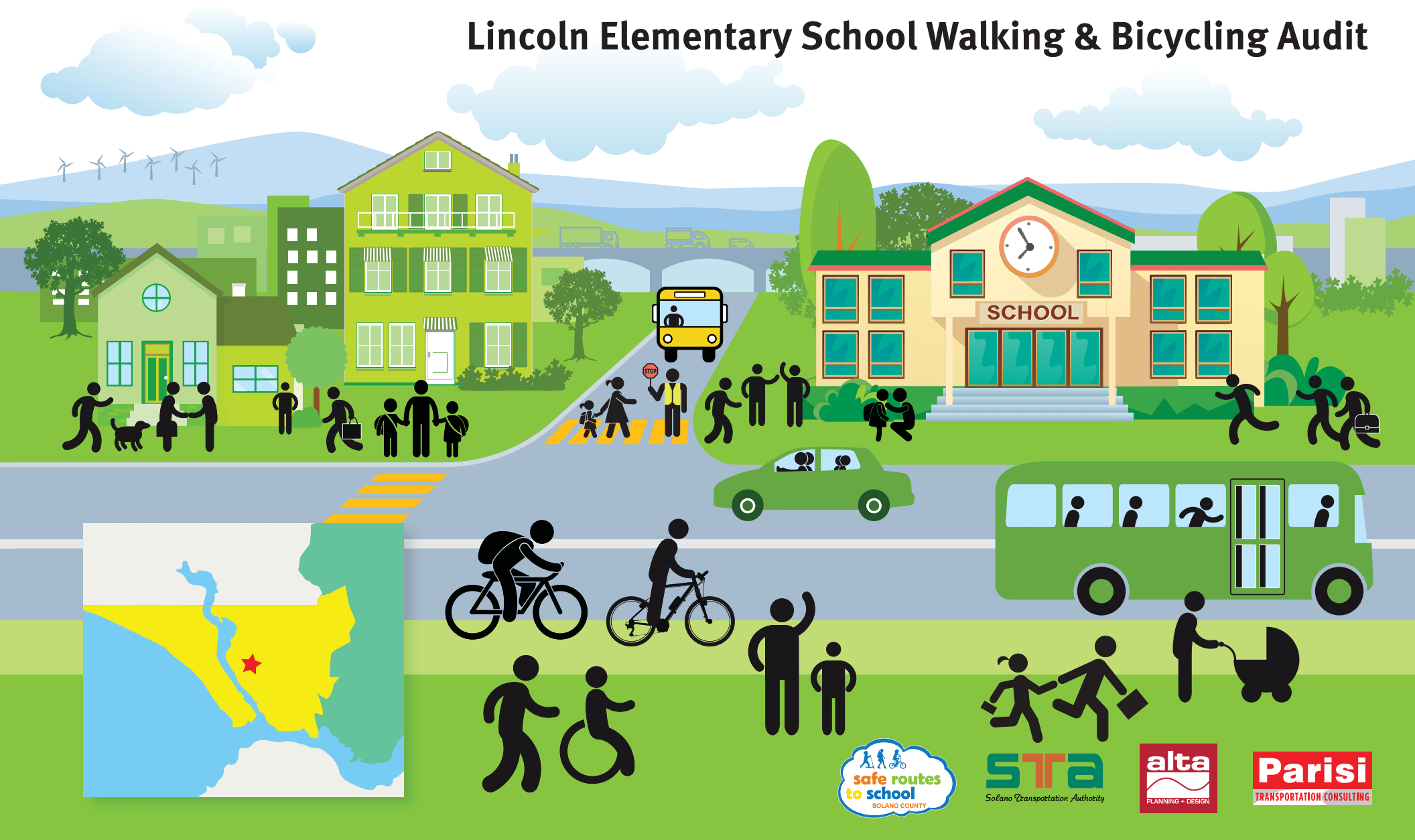


APRIL 2019

VALLEJO CITY UNIFIED SCHOOL DISTRICT

# Lincoln Elementary School Walking & Bicycling Audit



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## School Information



Lincoln Elementary School (Lincoln) is an elementary school in the Vallejo City Unified School District.

### School Profile

Address: 620 Carolina Street, Vallejo, CA 94590

Grades: K – 5th

Number of Students: 202

## Access

Pedestrian and bicycle access to and from the campus is provided via the main entrance along Carolina Street. Students use the sidewalks along adjacent streets to access the entrance.

Primary vehicular access to and from the campus is provided via Carolina Street, Sonoma Boulevard (CA 29) and Sutter Street. The main entrance is located on Carolina Street, a local roadway running in the east-west direction between Butte Street in the west and just east of Alameda Street. Carolina Street features one lane in each direction with parking provided on both sides.

Sonoma Boulevard is part of the California State Highway System and is classified by the City of Vallejo as a principal arterial roadway. It generally runs in the north-south

direction and provides a regional connection between Interstate 80 and Highway 12. Within the vicinity of Lincoln, Sonoma Boulevard has two lanes in each direction with turn lanes provided at major intersections and parking provided on both sides of the street. Sutter Street is a local roadway running in the north-south direction between Nebraska Street in the north and Curtola Parkway in the south.

Secondary access to the school is provided via Florida Street, an east-west collector street running between Mare Island Way in the west and Solano Avenue in the east.

There are two primary drop-off and pick-up locations used to access the school.

### ➔ Passenger loading zone along Carolina Street.

Parents drive along Carolina Street to access the white-striped passenger loading zone located along the north side of the street. The loading zone provides direct access to the interior of the school. This is the most popular drop-off and pick-up location for students.

### ➔ Passenger loading zone along Sutter Street.

Parents use the red-striped curb along the western side of Sutter Street adjacent to the school to conduct pick-up and drop-offs. Parents either park their vehicles and walk their children in to the school or wait as their children disembark the vehicle and access the school grounds.



## Safe Routes to School (SR2S) Program Participation

The SR2S program, launched by Solano Transportation Authority (STA) in 2008, encourages students to walk and bike to school and supports these activities with educational events throughout the year.

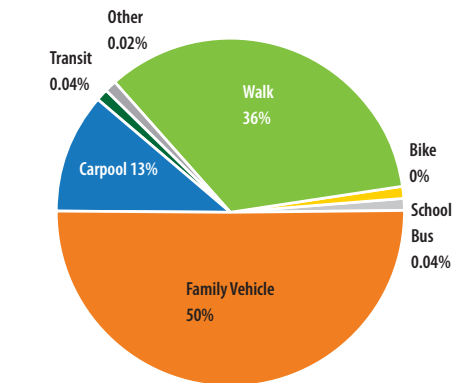
		Encouragement					Education			Evaluation	
School Year	Program Activity	Bike to School Day	Walk to School Day	Poster Contest	Walk or Wheel Day	Walking School Bus	Bike Helmet Education/ Distribution	Bike Rodeo	Safety Assembly	Fall Travel Tally	Spring Travel Tally Surveys
	2009-10										
	2010-11										
	2011-12										
	2012-13										●
	2013-14						●		●		
	2014-15		●							●	●
	2015-16		●						●	●	●
	2016-17		●							●	●
	2017-18			●					●	●	●
2018-19		●			●						

## Safe Routes to School Survey

As part of the Solano Transportation Authority's SR2S program student hand tally surveys are conducted regularly to understand the various travel modes students use to get to and from school. The travel surveys are a useful tool in measuring whether SR2S program goals are being met and identifying program resources that can be used to support walking, bicycling, taking transit, and carpooling as means of transportation to school. Surveys are generally conducted twice a year, once in the fall and once in the spring. The surveys are done over a three-day period (Tuesday, Wednesday, and Thursday). During each survey students are asked how they traveled to school that morning, and how they plan to travel back home after school.

Results from the most recent survey conducted during the 2016 to 2017 school year are shown below.

- **Approximately 63 percent of students are driven to/from school.** Fifty (50) percent of students travel in vehicles carrying one student, referred to as "family vehicle" trips. Thirteen (13) percent of students travel to school by carpool. Generally, there are about 134 students who are driven to school.
- **About 36 percent of students travel to/from school in an "active" way.** On average 36 percent of students reported traveling either to or from school by walking. Less than one-half percent of students travel by bicycling or "other" rolling means (e.g., scooter, skateboard etc.)
- **Approximately 49 percent of students travel to/from school using a sustainable mode of travel.** Thirty-six (36) percent of students walking, bicycling, and rolling to school, and 13 percent of students who carpool. Along with public transit and the school bus, these are the travel modes promoted by the SR2S program.



Source: Vallejo City Unified School District, N= 210 Students  
Note: Percentages have been rounded and may not add up to 100%.

## Walking and Bicycling Audit

A walking and bicycling audit was held on Thursday, April 26th, 2018. In attendance were the Lincoln Principal and Academic Support Provider, Activities Assistant, representatives from the Solano Transportation Authority's Safe Routes to Schools program. The audit was led by Parisi Transportation Consulting Traffic Engineers with assistance from Alta Planning + Design staff.

Audit participants made observations during the morning drop-off period as students arrived at school for the day.

### INFRASTRUCTURE OBSERVATIONS

- On-street parking along Sonoma Boulevard lacks parking "T's" to delineate parking spaces.
- Traffic signals along Sonoma Boulevard adjacent to the school (i.e., Sonoma Boulevard and Carolina Street and Sonoma Boulevard and Florida Street) lack accessible pedestrian signals and pedestrian countdown timers (see photo 8).
- Existing crosswalks at the Carolina Street and Sutter Street intersection are transverse and difficult to see (see photo 11).
- The existing red curb zones located adjacent to nearby intersections and at the school driveways feature fading paint and are not long enough to provide adequate sight lines for turning vehicles (see photo 2).
- Sidewalks around the school feature cracked and uneven paving and may present tripping hazards (see photo 7).
- School area signage is not prominent along nearby streets particularly along Sonoma Boulevard and Florida Street (see photo 5).

### BEHAVIORAL OBSERVATIONS

- The school does not have an established drop-off policy for parents to abide by and law enforcement to monitor.
- During peak drop-off and pick-up periods, the existing passenger loading zone along Carolina Street is at capacity. This results in motorists double-parking along the street as they load/unload their students resulting in increased congestion along Carolina Street.
- Motorists were observed making illegal U-turns mid-block along Carolina street after dropping off students at the school's main entrance. This practice hinders traffic flows along the street and increases potential conflict between motorists and pedestrians traveling along the street (see photo 6).
- Walk audit participants reported prevalent illegal activity along Sonoma Boulevard that made them perceive the street as unsafe and hinders their ability to let their children walk or bike to school unattended.
- Motorists were observed pulling up onto the school driveway to drop-off their children. This occurred when the passenger loading zone was available for use, but motorists preferred to use the driveway for drop-offs and to facilitate a U-turn along Carolina Street. In doing so the motorists block accessibility along the sidewalk for pedestrians.
- Vehicles were observed traveling at very high speeds along Sonoma Boulevard which is a state highway (see photo 10).



## Observations



Walk audit participants discuss safety concerns around the school.



Corner curbs at the intersection of Carolina and Sutter Street lack curb ramps and sufficient red striping.



Cones and signage used to enhance visibility of passenger loading zone along Carolina Street.



Parents use the sidewalk along Carolina Street to walk their children to the main school entrance.



Drivers along Sonoma Boulevard may be unaware of the existence of a school at this location due to lack of identifying school signage.



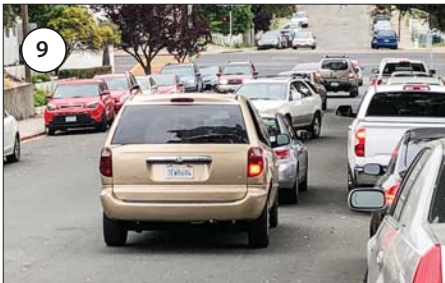
A motorist was observed driving on to the school driveway to conduct a student drop-off and proceed to make an illegal U-turn along Carolina Street.



Existing sidewalks along Carolina Street feature cracked and uneven paving and present potential tripping hazards.



The existing traffic signal at the Sonoma Boulevard and Carolina Street intersection that is heavily used by students accessing the school.



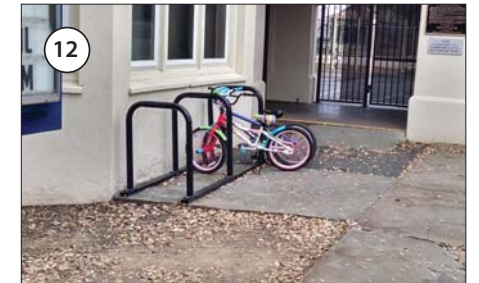
Vehicles driven on the wrong side of the street result in increased congestion along Carolina Street.



Sonoma Boulevard is a highly-trafficked street with wide lanes and vehicles traveling at high speeds.



Existing crosswalk at the Carolina Street and Sutter Street intersection lacks high visibility markings and advanced stop bars.



Bicycle parking provided at the school site.

## Safe Routes to School Improvement Recommendations

An important element of the SR2S program is providing infrastructure improvements that support and encourage safe walking and bicycling to and from school. This Walk Audit Report includes a series of recommendations for transportation infrastructure improvements around Lincoln Elementary. These recommendations are based on observations made during the walking and bicycling audit, a post-audit engineering review, and a review of concerns raised by walk audit participants. The recommendations have been classified based on ease of implementation:

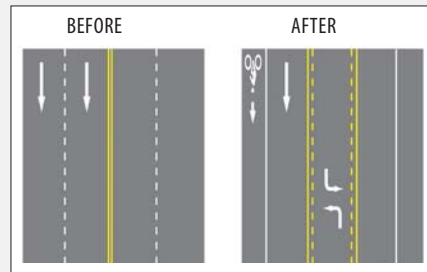
- **Short-term improvements** are lower cost improvements that can typically be implemented within a year.
- **Mid-term improvements** are improvements that may require additional planning efforts and funding and can typically be implemented within a three-year range.
- **Longer-range improvements** are substantial infrastructure improvements that would require additional funding and planning and can typically be implemented in a three to five-plus year range.

These improvements are summarized in the figure on the next page.

### TOOLBOX OF POTENTIAL IMPROVEMENTS



*High-visibility school crosswalks make it easier for motorists to see crossing pedestrians.*



*Road diets calm traffic provide space for bicyclists, and can provide pedestrian refuges.*



*Stop bars set back from crosswalk provide additional buffer between vehicular traffic and pedestrians.*



*Replace obsolete or inappropriate school area signs to keep school traffic control up to date.*



*Red curb paint designates areas where parking is prohibited.*



*Curb ramps provide access to disabled pedestrians and parents walking with strollers.*



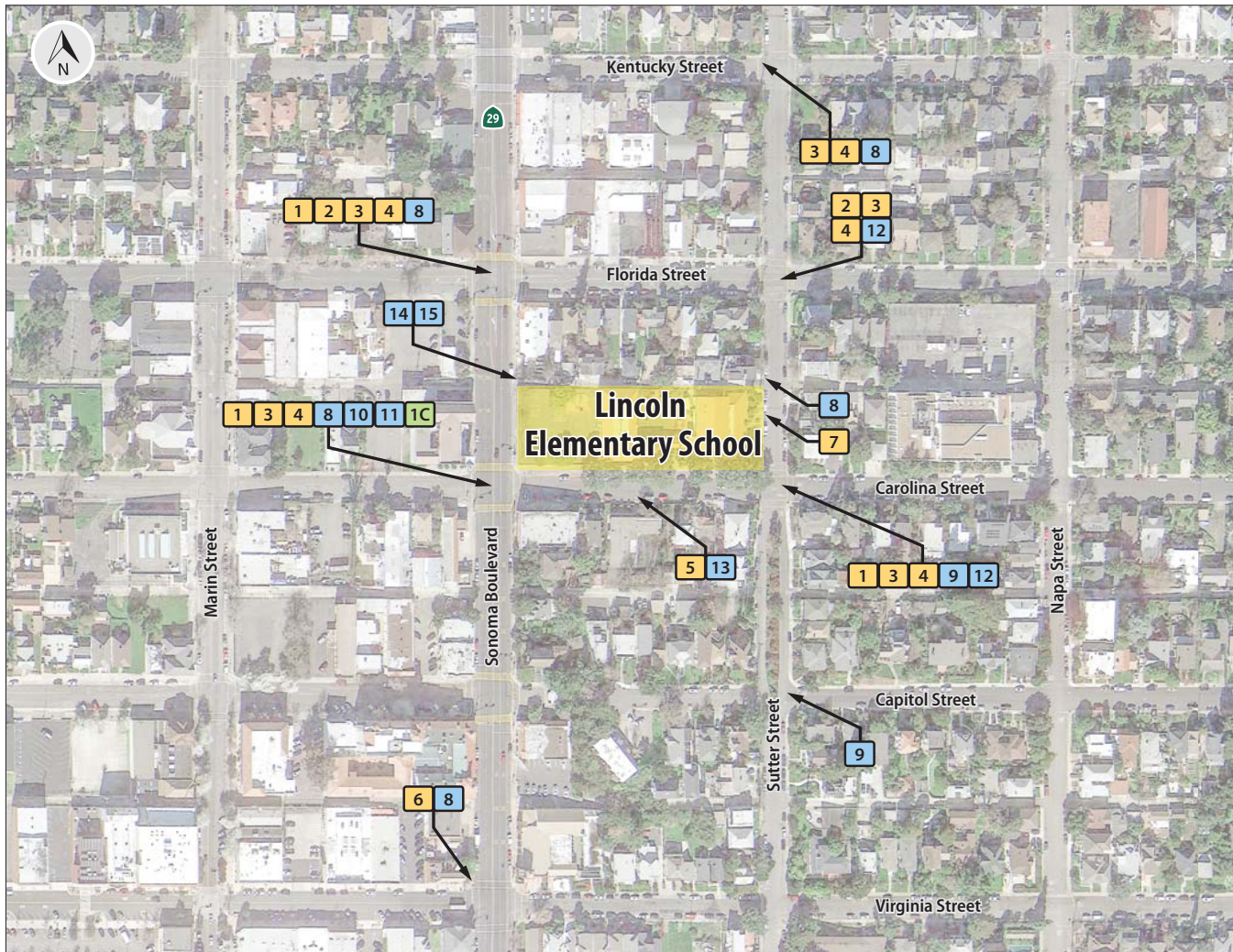
*Curb extensions shorten pedestrian crossing distance and enhance visibility.*



*Rectangular Rapid Flash Beacons (RRFB) increase yield compliance at uncontrolled crossings.*



## Potential Safe Routes to School Improvements at Lincoln Elementary School, Vallejo



### LEGEND

#### Short-term Improvements

- 1** Install yellow high-visibility crosswalk markings
- 2** Install double-sided school crosswalk signage
- 3** Install stop bar in advance of crosswalk
- 4** Install 25' of red zone striping on both sides of crosswalk
- 5** Install double-yellow lines to discourage illegal u-turns
- 6** Stripe crosswalks white to focus school crossings at Carolina St
- 7** Consider facilitation of second drop-off zone supervised by staff

#### Mid-term Improvements

- 8** Upgrade curb ramps to meet ADA compliance
- 9** Install ADA-compliant curb ramps
- 10** Install pedestrian countdown timers
- 11** Implement leading pedestrian interval traffic signal phasing
- 12** Consider introduction of a curb bulb-out
- 13** Grind and/or replace sidewalk segments to reduce existing tripping hazards
- 14** Install school name sign to increase awareness of school zone
- 15** Install speed sign feedback loop

#### City-Planned Improvements:

- 1C** 1C - Introduce curb bulb-outs

