Ortega Elementary School:
Safe Routes to School Workshop Summary

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Walk auditors entering the back trail to the Ortega campus. April 20, 2023.

SAFE ROUTES TO SCHOOL
San Mateo County Office of Education

OTS CALIFORNIA OFFICE OF TRAFFIC SAFETY

Summary

Members of the Ortega Elementary School community and surrounding area, including school faculty and administrators, parents, advocates, area residents, Ortega leaders and staff, and representatives of the San Mateo County Departments of Education and Public Works have participated in a Safe Routes to School initiative. This included a walk audit and planning session in April of 2023 with the goal of developing recommendations to improve pedestrian, bicycle, and motor vehicle safety, and encourage more walking, bicycling, and transit travel to school. A list of the program, infrastructure project, and policy recommendations that have been developed conclude this memo. The key recommendations for action are briefly summarized here, and are illustrated more fully in the memo. This includes a schematic map locating key recommendations, and a simple diagram.

A. Launch an educational and promotional campaign to increase safe walking and bicycling and reduce motor vehicle travel to campus. Activities can include, but are not limited to:

- Development of walking school buses and bicycle trains, groups of students walking or cycling to school on designated routes and schedules with adult guides; support these with promotions, prizes, and events.
- Detailed safety instruction to students and adults to discourage student drop-off and pick-up on the east side of Terra Nova Boulevard, t reduce street crossings at other than marked crosswalks.

B. Install demonstration curb extensions at key intersections to improve pedestrian safety. Low cost adjustable curb extensions can be created with paint, curbing, and flexible delineators at the pedestrian crosswalk on Lerida Way; the intersections of Terra Nova Boulevard at Lerida Way and at Aspen Drive; and the intersection of Alicante Drive and Banyan Way. The crosswalk of Lerida Way (above Poplar Ave.) and at the Alicante Drive and Banyan Way intersection also require ADA compliant curb ramps.

C. Place a rectangular rapid flashing beacon (RRFB) or other enhancement at the crosswalk on Terra Nova Boulevard at Aspen Drive. Combined with curb extensions this will improve safe pedestrian access to the library, and for students crossing to walk to Ortega Elementary.

D. Create a raised crosswalk on Alicante Drive at Banyan Way. A raised crossing (or speed table) combined with curb extensions will make young pedestrians more visible and calm (slow) traffic on Alicante Drive.

E. Create a demonstration mini-circle at Terra Nova Boulevard and Alicante Drive. Create this with paint, curb stops, vertical delineators, and explanatory signs, to slow traffic on Terra Nova and improve pedestrian safety. This will require a curb extension on the northbound Terra Nova Blvd lane to create some deflection for these vehicles. Measure the results, and if effective make this a permanent circle during future road work.

Background

In April of 2023 the San Mateo County Office of Education Safe Routes to School team facilitated a walk audit and workshop at Ortega Elementary School. Participants included members of the school community and surrounding area, including school faculty and administrators, parents, advocates, area residents, Pacifica city leaders and staff, and representatives of the San Mateo County Department of Education. The focus was on travel patterns and safety issues for walking, bicycling, and taking transit (together called the *active transportation* modes) to the school, and the group identified safety issues and then generated a series of possible actions to improve the safety and viability of active transportation. Particular concerns the group noted were vehicle speeds on Terra Nova Boulevard and Alicante Drive; cars parking too close to crosswalks (and thus impeding visibility); long crosswalks; and challenging traffic at the school drop-off and pick-up area including vehicles dropping off in the "through" lane of the parking lot; dropping off students across the street from the school and allowing students to cross without crosswalks; turning left out of the school exit; and vehicles occasionally stopping in crosswalks to unload/load students (such as in the crosswalk on Lerida Way). It was also suggested that these safety concerns were likely discouraging some households from allowing students to walk or bike to school, in part because of the great volume of traffic at school arrival and dismissal. So the group aspired to creating safer walking routes, encouraging more students to walk, thus somewhat reducing traffic, then encouraging even more walking and bicycling to school and further reducing traffic, thereby creating a virtuous and positively reinforcing cycle.

Priority Recommendations

The workshop group considered three broad categories of intervention, referred to as the three Ps.

- **Programs.** Events, outreach, education, encouragement, and promotional activities.
- **Projects.** Physical changes to infrastructure and the built environment to support active transportation.
- **Policies**. Rules, ordinances, guidelines, practices, and procedures supporting the active travel modes.

The group discussed both short-term ideas that could be executed on the order of weeks to months, and longer-term initiatives that might cost more and take months to even years. This was to assure that we identified some low cost, near term actions that can be pursued quickly to build momentum and begin making it safer for students immediately. The ideas developed are fully summarized in a table at the end of this memo. All of these recommendations have merit, and taken together they comprise a very comprehensive approach to making a safer setting for walking, bicycling, and transit use. It is recommended that a school and community working group be created to continue to work on implementation of these priorities, as it is not the sole responsibility of the school to carry out these goals. Following are the key recommendations broken into the five broad areas summarized at the beginning of this memo.

A. Launch a comprehensive educational and promotional campaign to increase safe walking and bicycling and reduce motor vehicle travel to campus.

One of the greatest safety concerns raised by workshop participants and observed during the April workshop is unsafe driver behavior during arrival and dismissal. This includes, but is not limited to, U-turns in travel lanes (picture at right, at Poplar Avenue); dropping students off across the street from the school and allowing them to cross in locations

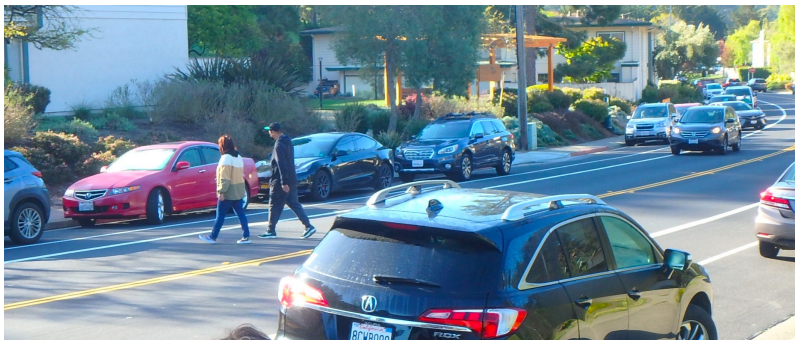




without crosswalks; and pulling through the school parking lot in the through (left) lane and allowing students to get out, requiring the students to then pass through vehicles in the drop-off (right) lane along the curb (pictured at left). This led to the following recommendations:

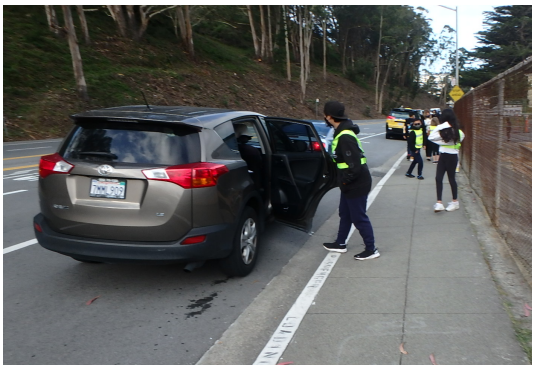
- **Launch a safety-oriented educational campaign.** A safety campaign should target both drivers and students, because the students will reinforce proper procedures to their drivers. Students can be involved in developing and "branding" the campaign. This educational outreach should be distributed through all available media, such as parent/guardian emails and newsletters, handouts and messaging during parent-teacher meetings, family events and assemblies, and all other contact opportunities. Following are specific procedures that should be emphasized in this educational outreach:
  - The right hand lane in the driveway is for sequential, curb-side drop-off/pick-up only. Cars should pull all the way forward when space is available. Drivers should not get out of cars. Students must only get out on the curb side of the vehicle.
  - The left lane in the driveway is for through traffic - vehicles pulling into or out of parking spaces. There is no stopping or standing in this lane. Students should never enter or exit vehicles in the left lane.
  - Pedestrians should cross Terra Nova Boulevard only at marked crosswalks. If students are being dropped off or picked up across the street from the school, they must walk up to the crosswalk at Lerida





Way to cross Terra Nova - mid-block crossings are common, but can be quite dangerous, especially during arrival/dismissal traffic (photo at right).

- If an adult wishes to walk a child into school, they must park in a legal spot in the parking lot or on the street, and if necessary cross the street safely with the child at a crosswalk.
- There should be no illegal U-turns in active roadways and travel lanes.



• **Launch student safety patrol program.** Many schools create a safety patrol of fifth grade students to act as valets at the drop-off and pick-up line. This requires that students stay on the curb but are able to open car doors, so that drivers stay in their vehicles. (Photo at left is from JFK Elementary School, Daly City.) The safety patrol (and associated adult oversight) can motion cars to pull all the way forward. These two simple actions can dramatically improve the safety (most important) and efficiency (secondary importance) in the vehicle line.

- **Combine a five-minute safety delay on vehicle pick-up with satellite drop-off and pick-up locations.** Reach out to churches, businesses, the public library, or any other locations within safe walking distance of the school to identify possible locations with adequate parking at which vehicles could drop-off and pick-up students. These vehicles then avoid the traffic congestion at the school, and help reduce that congestion by their absence. Also institute a five-minute safety delay on the vehicle pick-up line at dismissal, first releasing bicyclists and pedestrians, including those walking to satellite pick-up locations. Only after the bulk of pedestrians have cleared the most challenging areas - certainly the congestion directly in front of the school, and perhaps the intersection of Lerida Way and Terra Nova Boulevard - allow students to dismiss to the vehicle line to let it begin moving. The goals are to create incentives that reduce traffic congestion at the school and get even those students who ride in cars at least a short walk as part of their daily trip to school.

- **Shift the culture to support walking and bicycling, through comprehensive and consistent promotion and education; launch walking school buses, bicycle trains, and *Walking Wednesdays*.** The first Wednesday of October is typically National Walk/Roll to School Day. Many schools use this event to kick-off an on-going Walking Wednesday promotion, encouraging all children who are able to do so to walk or roll to school. Those who live too far are encouraged to consider satellite drop-off and pick-up locations, at

least on Wednesdays, so that all can take part. Walking school buses and bicycle trains are designated routes to school that an adult walks or bikes, picking up students along the way. They can be formal and organized by the school, or informal gatherings of neighborhood households sharing the adult leader responsibilities. The school can help by mapping the location of student households and identifying natural clusters for volunteer-organized walking or bicycling groups.

B. Install demonstration curb extensions at key intersections to improve pedestrian safety.

A curb extension is a widening of the curb or sidewalk, typically the width of a roadway's parking lane or shoulder. The picture at right illustrates the many benefits of curb extensions: they can keep cars from parking illegally too close to a crosswalk; they make pedestrians more visible, and more able to see oncoming traffic; they shorten the in-road crossing distance for pedestrians; and they tend to slow traffic by *visually* narrowing the roadway (even if travel lanes are not actually narrowed). The green lines on the diagram below illustrate how curb extensions could be added at the intersection of Lerida Way and Terra Nova Boulevard.





Although constructing concrete curb extensions can be quite expensive, there are less expensive ways to demonstrate the benefits of curb extensions. Notably paint, planters, and vertical delineators (flexible reflective posts) can be used to create a curb extension at very moderate cost, as shown in the photo below.







The pictures above show an intersection adjacent to Sunset Ridge Elementary School in Pacifica. The intersection was identified during a walk audit as having very long pedestrian crossings, with cars routinely parking dangerously close to the crosswalks, leaving pedestrians quite vulnerable. (Photo above left.) The photo at right shows how the city has created curb extensions with paint and installation of flexible vertical delineators. These keep cars from parking too close to the crosswalks, shorten pedestrian crossing distances, and enhance the visibility of pedestrians trying to cross here. This type of approach could be used at the intersection of Lerida Way and Terra Nova Boulevard, and a number of other locations noted in the map on the next page. This type of installation is often referred to as a "quick-build" curb extension, because it costs vastly less in time and money than installing concrete curb extensions. But it's also worth noting that these can can be modified (for example by moving some of the delineators) if it is determined that the geometry is not optimal, such as creating a turning radius that is too tight for large vehicles.

At least four intersections were identified during the walk audit and ensuing planning discussion as good candidates for this type of quick-build curb extensions. These are all identified on the overview locater map on the next page, along with other recommended improvements.

- **The mid-block crosswalk on Lerida Way, just above Poplar Avenue.** Curb extensions here would preclude vehicles from parking in or too close to the crosswalk to drop-off/pick-up students, as was observed during morning arrival traffic. It would also help slow traffic coming down Lerida Way. A human curb extension, to illustrate the possible geometry, is shown in the picture at right.



- **The intersection of Lerida Way and Terra Nova Boulevard.** This extension is diagrammed in the image on page 6, and could significantly shorten the very long crosswalk of Lerida Way, as shown in the picture at right. Note that some pedestrians were observed angling off of the crosswalk to connect to the sidewalk to the school, near the southwest corner of the intersection. The vertical delineators of a curb extension could help to direct pedestrians to stay in the crosswalk until stepping out of the travel lane.





C. Place a rectangular rapid flashing beacon (RRFB) or other enhancement at the crosswalk on Terra Nova Boulevard at Aspen Drive.

There is no traffic control (e.g. stop sign) at this important intersection, which connects pedestrians to the public library, as well students from Aspen Drive along their route to school. Quick build curb extensions as well as signage and a rectangular rapid flashing beacon (RRFB) are recommended to help slow traffic in this area, given the speeds observed by residents. This crosswalk is shown below.



D. Create a raised crosswalk (speed table) on Alicante Drive at Banyan Way.

As well as curb extensions to slow downhill traffic and keep cars from parking in or too near the crosswalks, ADA-compliant curb ramps are needed at all of the existing crosswalk entries, as shown in the photo below left. An outstanding proposal developed during the workshop is for a raised crosswalk (or speed table) for Alicante Drive, which is the crosswalk in the foreground of the left photo. This would provide for an ADA accessible pedestrian crossing, and significantly slow traffic coming down the hill, which a number of residents suggested is a serious issue. The photo below right is an example of a raised crosswalk with a centerline "yield to pedestrian in crosswalk" sign.





E. Create a demonstration mini-circle at Terra Nova Boulevard and Alicante Drive.

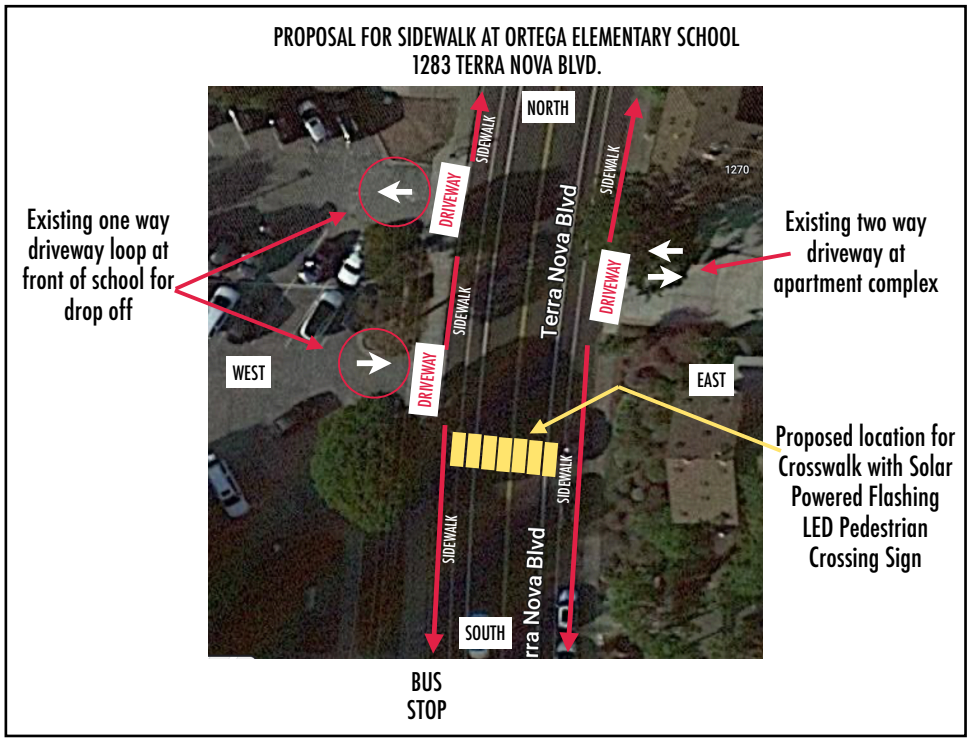
A mini-circle operates like a small roundabout, and can actually slow traffic on a roadway while not requiring every vehicle to come to a complete stop. The intersection of Terra Nova Boulevard and Alicante Drive may be an ideal location for a demonstration mini-circle. This can be constructed using paint, signs, cones, curbing material, vertical delineators, even painted tires. Two examples are shown below - the left is from a Safe Routes to School initiative in E. Palo Alto, the right from Bozeman MT. To make them look less like temporary construction installations, some pop-up mini-circles include mulch, potted plants, or other adornments.





F. Study a mid-block crosswalk of Terra Nova Boulevard in the area in front of the school.

Parents of students at Ortega Elementary have submitted a thoughtful request to the City of Pacifica for installation of a crosswalk in the area in front of the school. This is based on the number of pedestrian crossings in front of the school every day, particularly by students being dropped off and picked up on the opposite (east) side of Terra Nova Boulevard. An image from that request to the city is shown below.



If installed with appropriate signs and curb extensions, a mid-block crosswalk could serve to calm traffic along Terra Nova Boulevard. The key question is whether students (and adults) walking to and from vehicles parked on the east side of Terra Nova would actually walk to the crosswalk on sidewalks, or simply walk directly to and from their cars, as many do now. This question could to some degree be answered by installing a low-cost pop up crosswalk with temporary materials, such as removable paint, signs, and free-standing (not attached) delineators or cones. It is strongly recommend that objective observational data be collected in this area first with the current conditions, and then with the pop up crosswalk in place. Several measurements would be particularly useful to compare without and with the crosswalk:

- **The number of pedestrians crossing.**
- **The *locations* of pedestrian crossings** (e.g. with the crosswalk in place, how many are using the crosswalk versus crossing elsewhere?)
- **The speed of vehicles** passing through this area.
- **Yielding behavior of vehicles** when pedestrians are crossing. Specifically, when a pedestrian is standing at the roadway edge preparing to cross, if vehicles are present how many vehicles pass before one yields to let the pedestrian cross. It may be worth noting not only if there is a difference before versus after the pop-up crosswalk is installed, but also after installation comparing yielding for pedestrians in the crosswalk versus those not at the crosswalk.

This approach is recommended because city engineering staff are often hesitant to support mid-block crosswalks, for fear of placing pedestrians where they are not expected by drivers. However a well designed high visibility crosswalk could actually help solve the current problem of pedestrians crossing anywhere, and certainly unexpectedly, along the street in front of the school. Developing a pop up demonstration and actually collecting data on whether it is helping to improve safety could be an outstanding way to respect the concerns of city engineering staff while also learning about whether this could be an effective improvement.

Following is the full list of recommendations for action that came out of this workshop, followed by a list of resources that may be useful in implementing some of these ideas.

Full List of Program, Project, & Policy Recommendations

Near-Term Programs: Education, encouragement, promotion, events, etc.

- Implement low-cost temporary demonstrations of safety improvements and traffic calming ideas; collect objective data on vehicle speeds, pedestrian & bike counts, etc.
- Launch a safe walk & bike to school promotional campaign, with information to parents in all communications, newsletters, etc. Begin, for example, by promoting Walking Wednesdays.
    - Encourage walking and bicycling to school.
    - Make clear car-pooling, dropping off at satellite locations are also options.
    - Map student locations, look for natural clusters for voluntary groups:
        - Walking school buses
        - Bicycle trains
        - Car-pooling
    - Strongly discourage dangerous activities such as dropping students off across Terra Nova Boulevard and allowing them to cross unaccompanied at mid-block.
    - Invite students or classes to become involved in art installations & green-scaping (more plantings, etc.) around the school, and in some of the new installations (e.g. curb extensions, mini-circle).
    - Launch student led 5th grade safety patrol, to act as valet for pick-up and drop. Also recruit parent volunteers. Offer incentives for students to participate.
        - Kids to open car doors at the drop-off/pick-up line in front of the school.
        - Instructions to drivers to pull all the way forward on the drop-off loop; stay in sequence (don't pull into or out of the line); remain in the car, allow valets to open vehicle doors.
    - Launch a parent safe driver education campaign, engage students in encouraging their drivers to behave more safely.
    - Pursue a travel fellowship with SMCOE.

Longer-Term Programs: Education, encouragement, promotion, events, etc.

- Launch staff or parent led crossing guard program with stipends.
- Apply to SRTS grants, and School Travel Fellowship
    - Can support development of infrastructure grant applications.
- Do a more detailed job of collecting information on where students come from, and true mode split; actually observations (count cars) and show-of-hands surveys in homeroom ("how did you come to school today?").
- Safety delay on release for those students going to vehicle queue; assure that pedestrians and bicyclists have cleared conflict points (intersections), then release car line.
- Identify possible satellite drop-off/pick-up areas to ease traffic right at the school, such as at the public library or nearby churches.

Near-Term Projects: Physical changes to infrastructure to support active transportation.

- Add low-cost curb extensions with paint, flexible delineators, and planters (as necessary) at:
    - Pedestrian crossing of Lerida Way just above Poplar Avenue.
    - Lerida Way and Terra Nova Boulevard
    - Terra Nova Boulevard and Alicante Drive.
    - Terra Nova Boulevard and Aspen Way.
    - Alicante Drive and Banyan Way; this intersection also needs ADA curb ramps (initially, these can be temporary asphalt ramps, until funds are available for fully compliant ADA ramps).
    - Where there are stop signs, these should be moved out onto the curb extensions to increase visibility and improve driver adherence.
- ADA curb ramps must be retrofit onto on Lerida Way pedestrian crossing, and the Banyan-Alicante intersection.
    - At Lerida, upgrade the curb extensions while upgrading ADA ramp (pending work).
- Improve the stop sign at Redwood Way to make it more visible; ideally it would be brought out onto a curb extension for greater visibility.
- Begin with a parent-adopted maintenance program to support these installations.
- Work with DPW to develop a demonstration mini-circle at the Alicante Drive and Terra Nova Blvd. intersection. There is sufficient width to accommodate a small circle here.
    - Include *preceding* curb extensions in northbound and southbound Terra Nova Blvd. lanes, to assure enough deflection to slow vehicles.
    - Also include splitter islands for pedestrian safety; there is adequate width if the parking lane is removed adjacent to the intersection (which it should be).
    - First start with a low-cost mock-up to develop the geometry.
    - Then move to a semi-permanent quick-build installation with paint, signs, curbing, and flexible delineators
- Place additional red curbs (no parking) in front of school.

- Possible white curb for an active queuing or drop-off/pick-up lane on the west side of Terra Nova Blvd. north of school.
- Create more signage and two-color lanes in the driveway to reinforce that the inner lane is a through lane with absolutely no stopping; and the outer lane is for sequential curb side student drop-off/pick-up only.
- At the school exit enforce right turn only, and enhance the “do not enter” treatment with additional signs, and painted arrows.
    - Add right turn only cones at the school exit to further reinforce this behavior.
- Work with DPW to explore a possible mid-block crossing of Terra Nova Boulevard. Consider location based on issues such as:
    - Vehicles exiting the school parking lot.
    - Bus stops on both sides of Terra Nova.
    - Whether students will actually walk to the crossing, or simply cross nearest to the vehicle they are exiting or entering.
    - First step must be a demonstration crosswalk, and objective data must be collected on whether it is actually channeling pedestrians to cross at the crosswalk or not.

Longer-Term Projects: Physical changes to infrastructure to support active transportation.

- Make permanent those curb extensions which prove to be successful on Lerida, Terra Nova, and Alicante and Banyan.
- Make permanent the mini-circle at Terra Nova and Alicante if it proves to be successful.
- Install rectangular rapid flashing beacons (RRFB) for the pedestrian crossing of Terra Nova Blvd. at Aspen Drive, to improve pedestrian connectivity to the library. This may be appropriate because it is currently an uncontrolled intersection.
- Install a raised crosswalk (speed table) at the pedestrian crossing of Alicante Drive at Banyan Way, to aid is calming the downhill traffic which gathers a great deal of speed coming down Alicante.

Near-Term Policies: Rules, ordinances, practices, and procedures supporting active travel.

- Explore staggered start times, to be better aligned with the SamTRans schedule.
- Establish more clearly the right-turn-only policy at the school exit, through education, cones and signage, and an initial period of enhanced enforcement if necessary.
- Consider segregating drop-off/pick-up by age; use the parking lot only for vehicles with TK through first graders.
- Reach out to partners at the library and the church next door (near the Aspen intersection), and the shopping center about the possibility of acting as satellite drop-off/pick-up locations.
- Offer consistently healthy breakfast at school – make an explicit connection between healthy nutrition and routine physical activity (better health & academic performance, fewer disciplinary referrals, etc.)

- Institute a safety delay on motor vehicle line in front of school.
    - First release pedestrians, bicyclists, transit riders, and students walking to satellite pick-up locations.
    - Only begin moving the car line after students have cleared the conflict areas.

Long-Term Policies: Rules, ordinances, practices, and procedures supporting active travel.

- Create designated pick-up times for motor vehicles based on student class levels, schedules.
- Discuss the possibility of moving back to neighborhood schools, rather than school choice.
    - Combine this with meaningful discussion of the transportation costs, student and household transportation times, levels of parental involvement, and other factors.
    - Include a study of how many kids currently live within walking distance of school.
- Pursue a study tour to peer communities to learn best and evolving practices.
    - Convene an interdisciplinary team: Planning, public works, public health & safety, school officials, parent and student representatives, elected officials.
    - E.g. visit Palo Alto to explore their successful use of demonstration mini-circles.
    - Make these reciprocal relationships – invite other times to come visit Ortega.

References and Resources

The National Center for Safe Routes to School; extensive practical traffic safety and programmatic information downloadable resources: www.saferoutesinfo.org

The Safe Routes to School National Partnership; coalition of organizations and experts providing great implementation support to schools & communities: www.saferoutespartnership.org

Complete Streets: National coalition working for streets that work for pedestrians, bicyclists, transits riders, and drivers of all ages, incomes, and abilities: http://www.completestreets.org

Quick Build Guide: How to Build Safer Streets Quickly and Affordably. Practical guide to low-cost 'quick-build' techniques to increase pedestrian and bicycle safety and accommodation. Alta Planning and the California Bike Coalition; 2020.
https://altago.com/wp-content/uploads/Quick-Build-Guide-White-Paper-2020-1.pdf

The Pop-Up Placemaking Tool Kit, an exceptionally practical how-to guide for low-cost traffic calming, safety, and place-making demonstrations from the AARP. https://www.aarp.org/livable-communities/tool-kits-resources/info-2019/pop-up-tool-kit.html

Slow Your Street: A How-to Guide for Pop-Up Traffic Calming. Trailnet's excellent practical guide with design, implementation, promotion, and evaluation tips on demonstration projects. https://trailnet.org/tag/plan4health/

The Tactical Urbanist's Guide to Materials & Design, by the Streets Plan Collaborative. Downloadable for free. http://tacticalurbanismguide.com

Small Town and Rural Multi-Modal Networks. Outstanding resource for low cost neighborhood-scale traffic calming and safety measures, with lots of relevant images and information. (Federal Highway Administration 2017.) Downloadable for free. https://www.ruraldesignguide.com

Urban Street Design Guide and the *Urban Bikeway Design Guide of* the National Association of City Transportation Officials (NACTO; ~$50 each). https://nacto.org/publication/urban-street-design-guide/

Guidebook for Developing Bicycle and Pedestrian Performance Measures (Federal Highway Administration 2017). *D*ownloadable for free. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guidebook/pm_guidebook.pdf