

Carriage Drive & Lauppe Lane Safe Schools Corridor Plan



CITRUS HEIGHTS
The road belongs to all of us.

Final Plan
December 2020



alta

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Carriage Drive, May 2019

THE VISION for the Carriage Drive & Lauppe Lane School Corridor is a corridor where students of all ages, families, and neighborhood residents can access their destinations in a safe and comfortable manner, however they choose to travel.

INTRODUCTION

Project Background

The Carriage Drive & Lauppe Lane Safe Schools Corridor Plan (the Plan) is the culmination of a community-based planning process to improve safety, comfort, and access for students, families, and community members walking, bicycling, and rolling along Carriage Drive and Lauppe Lane, while continuing to serve the needs of those who drive. This was accomplished through extensive community engagement, stakeholder interviews, and a robust needs analysis including site assessments and a collision analysis to determine existing challenges, the community vision for the future, and, ultimately, the preferred set of improvements to reflect the long-term priorities and vision of the neighborhood, the City of Citrus Heights, and San Juan Unified School District. The Plan that follows provides the details of the study process, community engagement, preferred concept for the corridor, and steps to move towards implementation.

The study area (detailed below) is unique in Citrus Heights in that there are three schools located within one mile of each other: Carriage Drive Elementary and Mesa Verde High School are located on adjacent campuses west of Carriage Drive between Pratt Avenue and Kanai Avenue, while Sylvan Middle School (formerly Citrus Heights Elementary) is located on the northeast corner of Carriage Drive and Auburn Boulevard.

Over the past five years, enrollment at these schools has increased by over 25 percent. This has contributed to more people traveling along the corridor, with the majority of students arriving by private car. Fast vehicle speeds along the corridor and congestion through intersections have increased the difficulty of traveling to and from school using active transportation, such as walking, bicycling, skateboarding, and scootering. In addition to students traveling here, the existing neighborhood residents have experienced



Lauppe Lane looking north towards Antelope Road, May 2019

increasing difficulty in entering and exiting their neighborhood, particularly during school arrival and dismissal times.

This Plan seeks to address the concerns of multiple stakeholders by re-envisioning the Carriage Drive/Lauppe Lane corridor as a place where people can safely and comfortably access their needs however they choose to travel.

Study Area

The Carriage Drive/Lauppe Lane corridor (the corridor) examined in this Plan extends 1.3 miles south from Antelope Road along Lauppe Lane and Carriage Drive, and east along Auburn Boulevard to the intersection of Sylvan Road/Old Auburn Road (Figure 1). The northern end of the corridor contains a mix of land uses and housing types, including Oak Grove Estates (a mobile home park), an apartment complex, multiple houses of worship, and a few single-family homes. Lauppe Lane is the only road that can be used to access Oak Grove Estates. South of Pratt Avenue, where Lauppe Lane transitions to Carriage Drive, the neighborhood largely consists of single-family homes, many of which directly front the corridor. Kingsmen Avenue at Carriage Drive is the only access point for homes east of Carriage Drive between Kanai Avenue and Auburn Boulevard.

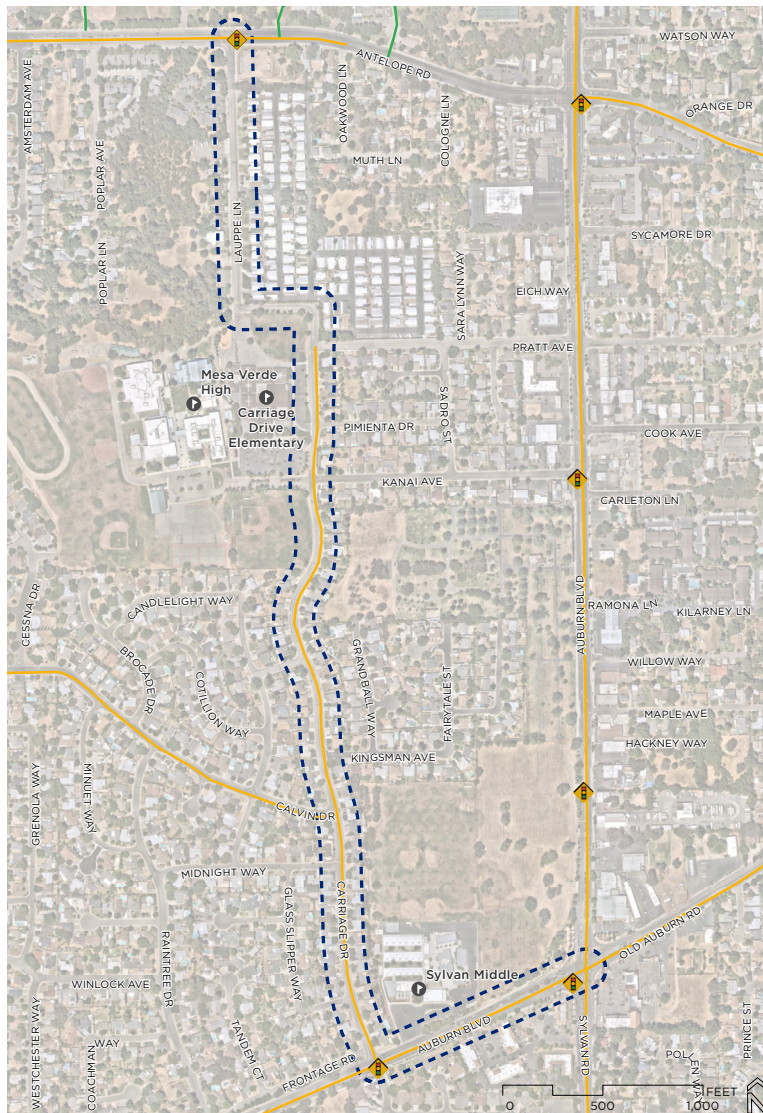


FIGURE 1. STUDY CORRIDOR AND EXISTING BICYCLE NETWORK

- | | |
|-----------------------------|---------------------------|
| Features Along Route | Existing Bikeways |
| ● School | — Class I Shared-Use Path |
| ◆ Traffic Signal | — Class II Bicycle Lane |
| ▬ Study Corridor | |



Carriage Drive at Midnight Way intersection looking north, May 2019

At the northern end of the corridor, Lauppe Lane connects to Rusch Community Park, which contains a swimming pool, skatepark, baseball fields, gardens, and more. Some middle and high school students live near Rusch Park, north of Antelope Road. These students must cross four lanes of traffic on Antelope Road to access schools along the corridor. At the southern end of the corridor, Auburn Boulevard provides access to the Sylvan Marketplace shopping center. There are multiple businesses and restaurants located here, including a Starbucks that is popular with middle school students. Lauppe Lane has sidewalks but no bike lanes, while Carriage Drive includes sidewalks and bike lanes. However, the bike lanes on Carriage Drive are substandard width.

While primarily a neighborhood and school access route, stakeholders suggested that the corridor is used by some people as a shortcut to avoid traffic on busier roads such as Auburn Boulevard or Van Maren Lane.



Carriage Drive Elementary School

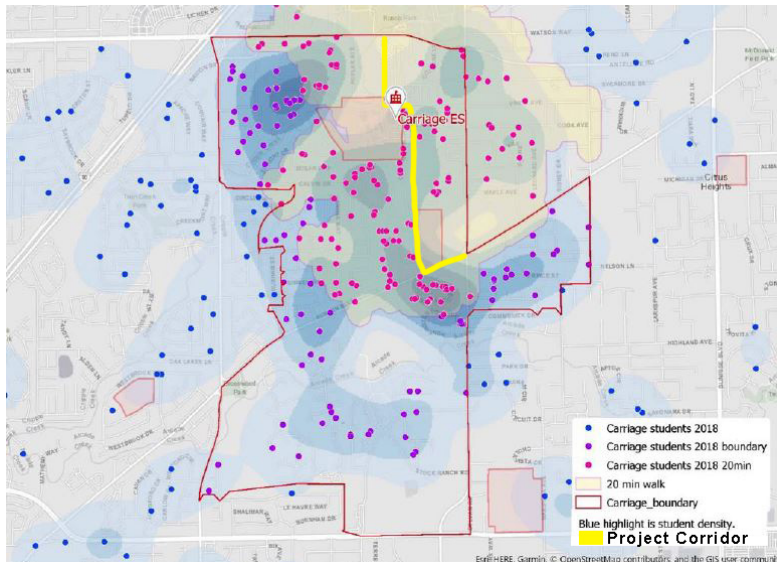


Figure 2. Student density map of Carriage Drive Elementary School. Source: Addendum 2019-05 R6 to the Citrus Heights School Walkability Master Plan.

Schools

The Plan centers on the traffic conditions surrounding three San Juan Unified School District (SJUSD) schools: Carriage Drive Elementary, Sylvan Middle School, and Mesa Verde High School. The following section summarizes key characteristics of the schools.

Carriage Drive Elementary School

Carriage Drive Elementary is a kindergarten through fifth grade school in SJUSD. It is located at 7519 Carriage Drive in Citrus Heights, California, within Sacramento County. As of 2018-2019, its enrollment was 531 students, with 36 percent of students living within a 20-minute walk, which is about one mile and a typical walking distance for elementary students (indicated in pink in Figure 2). The Free & Reduced Meal Program (FRMP) rate was 54.4 percent, which is considered a “mid-high poverty school” by the National Center for Education Statistics (NCES). The latest student tally data indicates that 7.5 percent of students walk while 3 percent of students bicycle. The majority of students (76.5 percent) are driven via family vehicle.

Sylvan Middle School

Sylvan Middle is a sixth through eighth grade school in SJUSD. It is located at 7085 Auburn Boulevard in Citrus Heights, California, within Sacramento County. As of 2018-2019, its enrollment was 807 students, with 50 percent of students within a 30-minute walk, which is about one and a half miles and a typical walking, biking or rolling distance for middle school students (indicated in pink in Figure 3). The FRMP rate was 68.5 percent, which is considered a “mid-high poverty school” by the NCES. The latest student tally data indicates that 23.8 percent of students walk while 6.5 percent of students bicycle. The majority of students (57.2 percent) are driven via family vehicle.



Sylvan Middle School students cross Carriage Drive at this raised crosswalk, also known as the “Kiddie Walk,” before and after school.

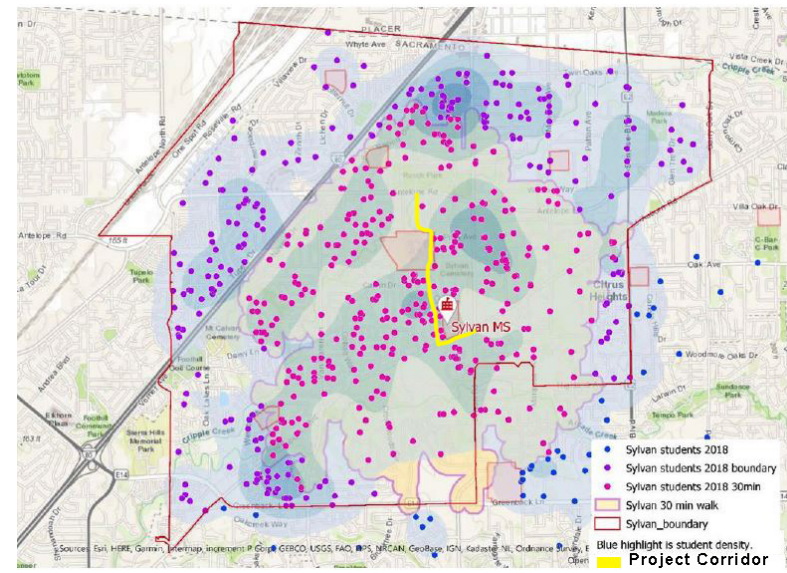


Figure 3. Student density map of Sylvan Middle School. Source: Addendum 2019-05 R6 to the Citrus Heights School Walkability Master Plan.



Students leave Mesa Verde High School after school dismissal.

Mesa Verde High School

Mesa Verde High is a ninth through twelfth grade school in SJUSD. It is located at 7501 Carriage Drive in Citrus Heights, California, within Sacramento County. As of 2018-2019, its enrollment was 899 students, with 63 percent within a 40-minute walk, which is about two miles and a typical walking, biking or rolling distance for high school students (indicated in pink in Figure 4). The FRMP rate was 65.6 percent, which is considered a “mid-high poverty school” by the NCES. The latest student tally data indicates that 13.2 percent of students walk while 4.5 percent of students bicycle. The majority of students (68.9 percent) are driven via family vehicle. While some of these students drive themselves, Mesa Verde has a below-average rate of student driving. Therefore, a significant portion of this number is parent drop-off/pick-up.

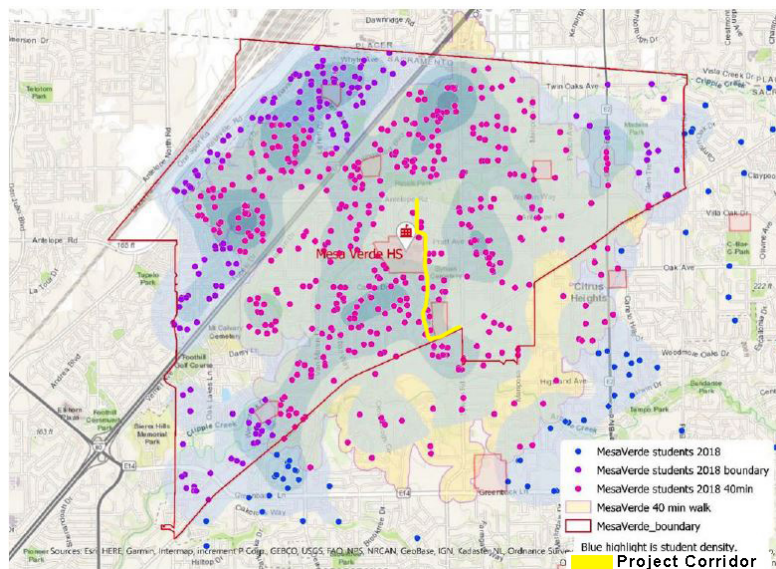


Figure 4. Student density map of Mesa Verde High School. Source: Mesa Verde High School Safe Routes to School Pre-Assessment.

Collision History

Between 2008 and 2019, 18 motor vehicle collisions involving a person walking or bicycling occurred on the Carriage Drive/Lauppe Lane corridor. These collisions are summarized in Table 1.

Table 1. Collision History

Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	0	2	3	6	11
Pedestrian	0	4	0	3	7
Total	0	6	3	9	

The following paragraphs summarize locations with severe-injury collisions in this time frame from north to south. At the Antelope Road and Lauppe Lane intersection, two people were severely injured (one walking, one bicycling); two people received minor injuries at this intersection (both bicycling).

At the Carriage Drive and Midnight Way intersection, two collisions occurred; one involved a person bicycling (resulting in a severe injury) while the other involved a turning vehicle that hit a person walking (resulting in a minor injury).

Two people were hit at Carriage Drive and Auburn Boulevard; one person was hit while crossing (resulting in a serious injury), while the second person was hit while walking (resulting in a minor injury).

Two people were severely injured while crossing Auburn Boulevard; one person was crossing mid-block near Sylvan Middle School while the other was crossing just west of the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection.

While there were no severe-injury collisions at the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection, six people walking and bicycling were injured at this location — the most at any location in the study area. In addition, there were 17 collisions involving solely motor vehicles in the study area between 2016-2018. The majority of collisions were due to traffic signal and sign violations, and unsafe speed.

Relationship to Other Plans

The City's General Plan (updated August 2020) includes a Complete Streets policy, which guides the recommendations in this Plan. More specifically, both the City of Citrus Heights and SJUSD have identified the need for improvements at these schools and along this corridor. The following planning processes have identified this need (see **Appendix A** for additional details on these plans):

- SJUSD Safe Schools/Safe Routes to School Citrus Heights School Walkability Master Plan (2014)
- Citrus Heights Bike Plan (2015)
- Citrus Heights Pedestrian Master Plan (2016)

Project Process

This Plan was conducted to evaluate existing conditions, gather data and community input, and develop a strategy to make that vision a reality. The City of Citrus Heights identified the following three goals to support this Plan:

Goal 1: Design a corridor that maximizes safety for students and families traveling to school.

Goal 2: Ensure that all people are comfortable while traveling, whether they walk, bicycle, scoot, skateboard, or drive.

Goal 3: Improve access to all neighborhood destinations for both school attendees and local residents.

See **Appendix A** for additional details regarding existing conditions.

See **Appendix B** for a review of existing policies and programs related to Education, Encouragement, and Enforcement, and accompanying programmatic recommendations

See **Appendix C** for customized SRTS outreach materials developed for this project.

See **Appendix D** for discussion of best practices for crossing guard programs.



Participants speak with project staff at the Community Open House in September 2019.

COMMUNITY ENGAGEMENT

The community engagement process was conducted in two phases.

Phase 1, which took place from May 2019 to January 2020, sought to introduce the Safe Schools Corridor Plan to the community, gather feedback on the opportunities and constraints along the project corridor, collect contact information of people interested in the project, and reach people who otherwise would not be engaged with the project. Phase 1 also included walk audits and stakeholder interviews targeting SJUSD and City staff.

Phase 2, which took place from May to July 2020, aimed to educate the community about active transportation facilities and amenities, report back on the first round of outreach, and receive feedback from the community on the proposed improvements and alternatives.

The project team facilitated a series of outreach strategies used at different phases of the community engagement process:

- Online engagement (project website, online surveys, social media)
- Community open houses (in-person and virtual)
- Community and neighborhood organization meetings
- Pop-up workshops
- School-based events
- Walk audits
- Stakeholder interviews
- Study sessions with the Planning Commission and City Council

All meeting materials at public-facing events were provided in English, Spanish, and Russian, with Spanish-speaking staff present and Russian translation available upon request.

Phase 1

Online Engagement

ONLINE SURVEY

The Phase 1 online survey was available from September 2019 through January 2020 and provided a forum for community members to share their thoughts on the opportunities and constraints along the corridor. The survey was available at all in-person events via iPad as well as posted on the project website.

WEBSITE

The City created a project page on the City's website at the beginning of the project (citrusheights.net/944). It included a project summary and deliverables including project updates, draft concept plan alternatives, workshop advertising, and surveys.



SOCIAL MEDIA

The City advertised the events and online survey via Facebook and Twitter. Comments made directly on the posts were shared with the project team.



Community Open House

The project team hosted a community open house at Mesa Verde High School on September 24, 2019. City, school district, and consultant staff discussed the project with community members, and marked concerns and problem areas on large maps of the project corridor.

School-Based Meetings and Pop-Up Workshops

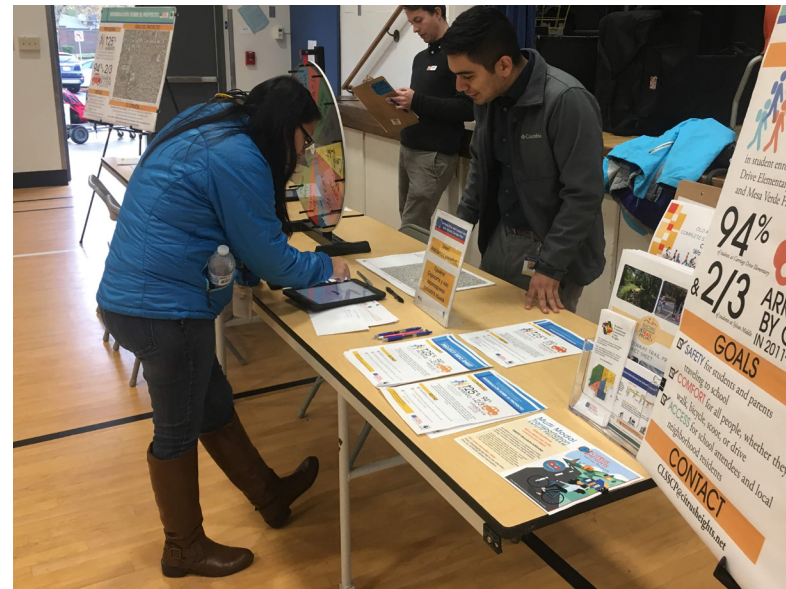
The best place to meet the community is where they already are going. For school-based meetings and pop-up workshops, the project team attended existing events or gathering locations:

- November 13, 2019: Pop-up workshop at Mesa Verde High School/ Carriage Drive Elementary School dismissal
- November 13, 2019: Meet Your Citrus Heights Schools Night
- December 4, 2019: Sylvan Middle School Parent/Teacher Conference Night
- December 12, 2019: Sylvan Middle School Fall STEAM Night

At these events, the project team shared the Plan background and asked community members to fill out the online survey or to note their concerns on a comment card.



Participants at the Community Open House in September 2019.



Sylvan Middle School hosted a meeting in December 2019.

Community and Neighborhood Organization Meetings

The project team attended two community and neighborhood organization meetings:

- November 21, 2019: Neighborhood Association 2 Meeting
- January 15, 2020: English Language Acquisition Program Parent Meeting

Walk Audits

Two walk audits were conducted on May 29, 2019. The morning audit included neighborhood residents, representatives from the police department and fire district, school staff, SJUSD staff, other City staff and project team members. The afternoon audit included representatives from the fire district, school staff, SJUSD staff, other City staff and project team members. At both audits, the participants walked the corridor and discussed areas of concern and opportunities.

Stakeholder Interviews

Three in-depth interviews were conducted to identify concerns from key partners involved in the implementation of the project. Stakeholder interviews were held on the following dates with the noted stakeholders:

- September 10, 2019: SJUSD Safe Routes to School and Sacramento Metropolitan Fire
- October 30, 2019: City Planning, Engineering, Operations, Police and Code Enforcement; Mesa Verde High School staff
- November 1, 2019: Carriage Drive Elementary School staff; Sylvan Middle School staff



Walk Audits were conducted in the spring of 2019.

PHASE 1 PROMOTION

The project team used multiple strategies to promote Phase 1 engagement opportunities:

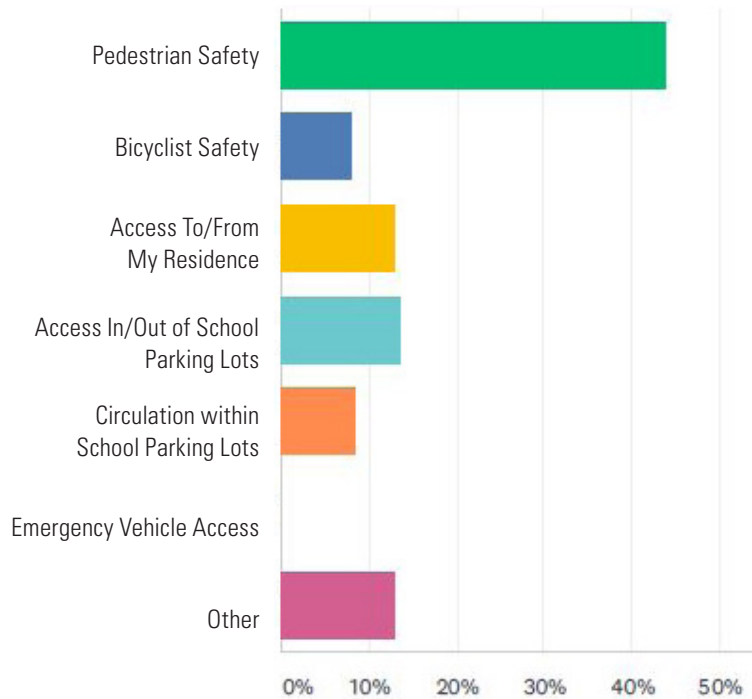
- Event information posted on project website
- Facebook and Twitter posts by City of Citrus Heights
- Nextdoor posts
- Postcards (633) mailed to residences within 500 feet of project limits
- Flyers emailed to school community by principals in English, Spanish, and Russian
- Media release
- Newsflash
- Flyers posted at City Hall and local businesses, such as Starbucks and day care centers

Key Themes

Based on feedback from all the community members and stakeholders consulted in Phase 1 of outreach, five key themes emerged as top concerns:

1. Pedestrian and Bicycle Safety
2. Vehicular Traffic Patterns
3. Pedestrian Behavior
4. Speed
5. Visibility at Lauppe Lane/Lauppe Lane Crosswalk

TOP CONCERNS ALONG THE CORRIDOR



Students mentioned feeling unsafe using the existing bicycling facilities. For example, people park motor vehicles in the existing bike lane, preventing safe and correct use.

PEDESTRIAN AND BICYCLE SAFETY

Safety for people walking and bicycling emerged as a top concern. Students mentioned feeling unsafe using the existing bicycling and walking facilities, while parents shared concerns around watching students have close calls with vehicles while crossing the street. Stakeholders shared similar feedback and highlighted both the lack of sidewalk space for students and the lack of crossing guards as contributing to unsafe situations.

VEHICULAR TRAFFIC PATTERNS

Community members and stakeholders noted concerns regarding circulation within the school parking lots and congestion along the corridor. Feedback included comments around unwelcome driver behavior, such as stopping in red zones, letting kids out into traffic, and failing to look for and yield to students while driving.



Congestion and driver behavior on the corridor was a top concern.



Sylvan Middle School students wait to cross at Carriage Drive & Auburn Boulevard after school. Community members reported students standing or playing in the street at this location, which may be due in part to the narrow sidewalk.

PEDESTRIAN BEHAVIOR

A number of concerns centered on the behavior of students and people walking, including students walking or standing in the street, students crossing at locations without a crosswalk or traffic signal, and students “goofing around” near or in the street. Other people pointed out that this behavior may be due to lack of adult supervision and/or lack of sufficient pedestrian facilities.

SPEED

Multiple community members expressed concern around people driving above safe speeds throughout the corridor, including at corners. Others suggested that the roadway is used as a cut-through by people attempting to avoid traffic on Auburn Boulevard who drive at unsafe speeds and are unaware that this is a residential and school corridor; however, this claim is unsubstantiated.

VISIBILITY AT LAUPPE LANE BEND CROSSWALK

At every opportunity, community members reported issues at the Lauppe Lane bend, located adjacent to the northern entrance gate of Mesa Verde High. The primary challenge is visibility of people crossing due to the crosswalk location and overgrown vegetation.



Vegetation and crosswalk location make it challenging for westbound drivers to see students crossing around the corner.

See **Appendix A** for additional feedback from the stakeholder interviews.

See **Appendix E** for additional details and feedback from Phase 1 outreach.

Phase 2

Community Workshop

As part of the second phase of community engagement, the project team had planned to hold an in-person community workshop in May 2020. Due to the COVID-19 pandemic and subsequent “shelter in place” regulations, the City held a virtual workshop to replace the planned in-person workshop.

The virtual workshop consisted of a live Zoom webinar on May 12, 2020 and an online survey was available for three weeks in English, Spanish, and Russian. Both workshop formats presented the proposed improvements and asked community members to tell the project team whether they supported the improvement, did not support it, or needed more information. The webinar included a presentation, polling, and question and answer opportunities. A recording of the webinar was then posted to the project website in addition to a PDF of the presentation and a write-up of the Q&A segment.

Planning Commission and City Council Meetings

The project team brought the proposed concept alternatives and a summary of the community input to working sessions with the City of Citrus Heights Planning Commission (July 22, 2020) and the City of Citrus Heights City Council (July 23, 2020). Both meetings consisted of a presentation of the proposed improvements and discussion.



PHASE 2 PROMOTION

The project team used multiple strategies to promote the Phase 2 virtual community workshop:

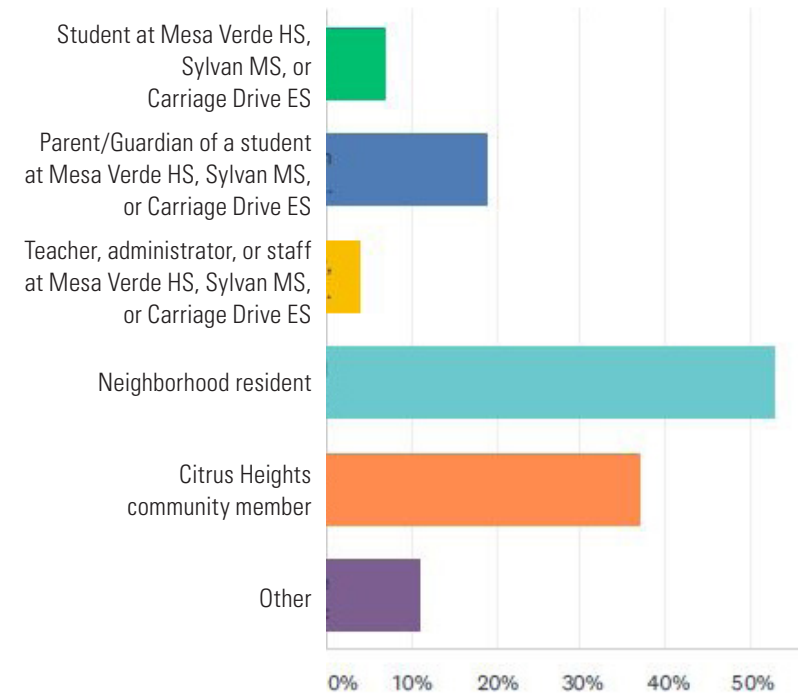
- Digital ads
- Print ads
- Social media ads on Facebook, Instagram, Nextdoor, Newsflash
- Community e-newsletters
- Posts to project website
- Emails to community and school mailing lists
- Calendar event on City website
- Flyers posted at school meal distribution sites and local essential businesses
- Postcards mailed to residences within 1000' of the project area

Key Themes

The majority of the improvements received broad support from the community and City officials. Following community feedback, ten proposed elements were recommended for inclusion in the final plan, one proposed element was not recommended for inclusion, and three proposed elements and two sets of alternative options were recommended for further discussion at the Planning Commission and City Council. Following discussion with City officials, all three proposed elements recommended for further discussion were recommended for inclusion. The working sessions also discussed alternatives for both the Lauppe Lane segment of the corridor and the Carriage Drive segment of the corridor. Both groups preferred a shared use path concept for Lauppe Lane, although the City Council noted concerns about cost. Neither group supported the removal of parking along Carriage Drive to create room for a wider sidewalk.

See **Appendix F** for additional details and feedback from Phase 2 outreach.

WHO DID WE HEAR FROM IN PHASE 2 OF COMMUNITY ENGAGEMENT?





Lauppe Lane, May 2019

PREFERRED CONCEPT PLAN

Glossary of Recommended Infrastructure Improvements

The concept plan recommends technical engineering solutions to improve safety and access for people traveling along the Carriage Drive/Lauppe Lane corridor. This glossary provides an image and brief description of the recommended roadway improvements. It is intended to help City staff, parents, students, school staff, and other members of the public better understand the improvement recommendations in this Plan.



Bicycle Conflict Markings (Green)

Green bicycle conflict markings at intersection approaches increase the visibility of people biking and highlight potential conflict zones for both people driving and bicycling.



Circular Intersections

A circular intersection is a junction where people driving are to drive in one direction around the central island. People approaching the intersection are to yield to those already in the circle, who have priority. Circular intersections reduce traffic speeds and the chance of collision and improve overall flow of traffic.



Curb Colors/Parking Restrictions

Curb colors indicate parking/loading restrictions along segments of curbs. In most cases, these are accompanied by signs providing additional detail about the restriction. Existing and proposed changes are noted on improvement plan maps. The length of the curb designation should be determined in accordance with City standards.



Curb Extensions/Bulb Outs

Curb extensions/bulb-outs extend the curb into the street. They can provide several important traffic calming and safety benefits including a shorter crossing distance, improved visibility at intersections, and provide additional space for people waiting to cross. They can be installed at intersections or mid-block. The terms can be used interchangeably.



Curb Ramps

Curb ramps allow for smooth transitions between the sidewalk and street level. Curb ramps are important for those with special mobility needs, strollers, and many other users. Ramps must be built to current ADA standards.



High-Visibility Crosswalks

High-visibility crosswalks are crosswalks that are marked with thick bars, drawing additional attention and awareness to the crossing. In school zones these crossings are yellow, as opposed to the standard white color.



Raised Crosswalks

Raised crosswalks make people crossing more visible to people driving and also slow vehicles. They can be used at intersections and any other crossing location, such as mid-block crossings and within parking lots.



Raised Roadway

Raised roadways, typically placed at intersections or roadway curves, are vertical speed control elements that encourage people driving to stop for people walking and biking. Flush with the sidewalk, raised roadways ensure that people drive slowly through the crossing.



Rectangular Rapid Flash Beacon (RRFB)

RRFBs are user-activated flashing lights used at unsignalized intersections or mid-block crossings. These beacons alert people driving to the presence of people in the crosswalk. RRFBs have been shown to increase driver yielding behavior.



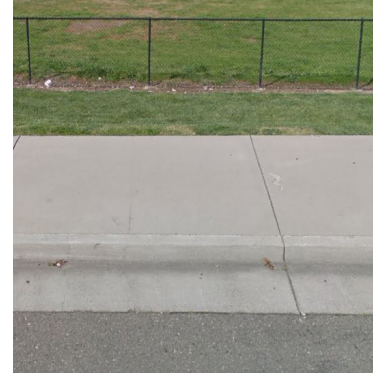
Shared Use Path

Shared use paths are completely separated from motor vehicle traffic and are used by people walking and biking. They're comfortable for people of all ages and abilities and are typically located immediately adjacent and parallel to a roadway or in its own independent right-of-way, such as within a park or along a body of water.



Speed Humps

Speed humps, also called speed lumps, provide traffic calming by reducing vehicle speeds. They are typically placed in a series and cross the entire width of the roadway. These cannot be used on high volume or high-speed streets.



Vertical Curbs

Vertical curbs replace rolled curbs. Rolled curbs along a roadway allows for vehicles to encroach on right-of-way intended for people walking by driving up and parking on the rolled portion of the curb or on the sidewalk. Replacing rolled curb with standard 6-inch curb prevents normal-sized vehicles from encroaching on this space.



Wide Sidewalks

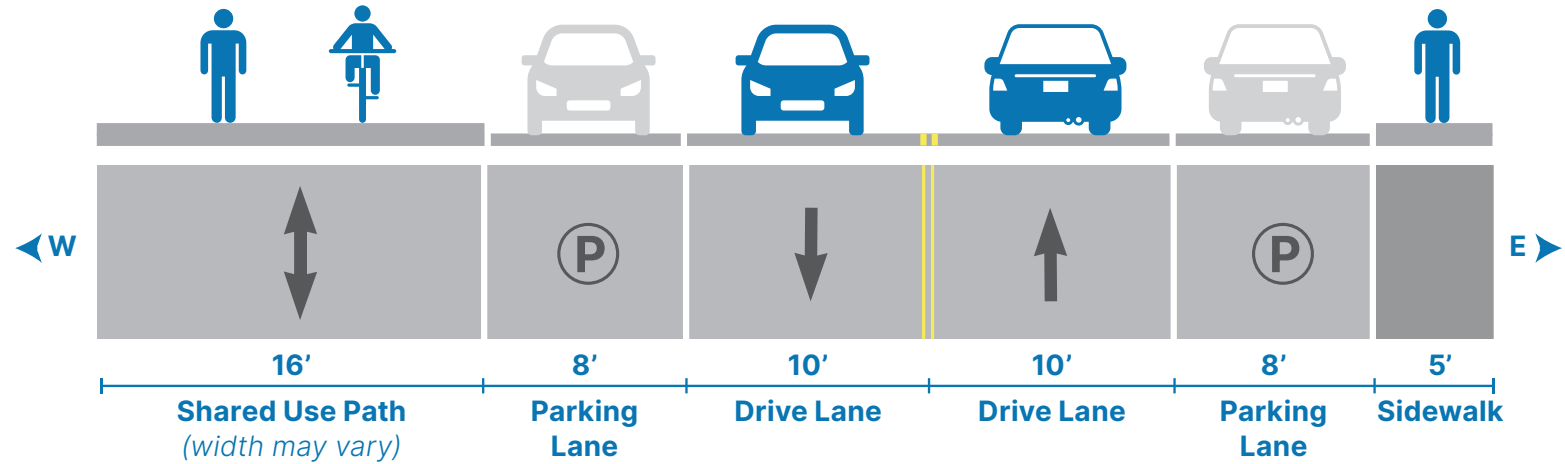
Sidewalks provide dedicated space for people to walk. The minimum width of a sidewalk should be six feet or greater; however, wider sidewalks are often recommended in high-traffic areas. Additional width can accommodate surge volumes, such as students at school dismissal periods, and allow for easier movement of strollers and wheeled bags.

Design Concept Summary

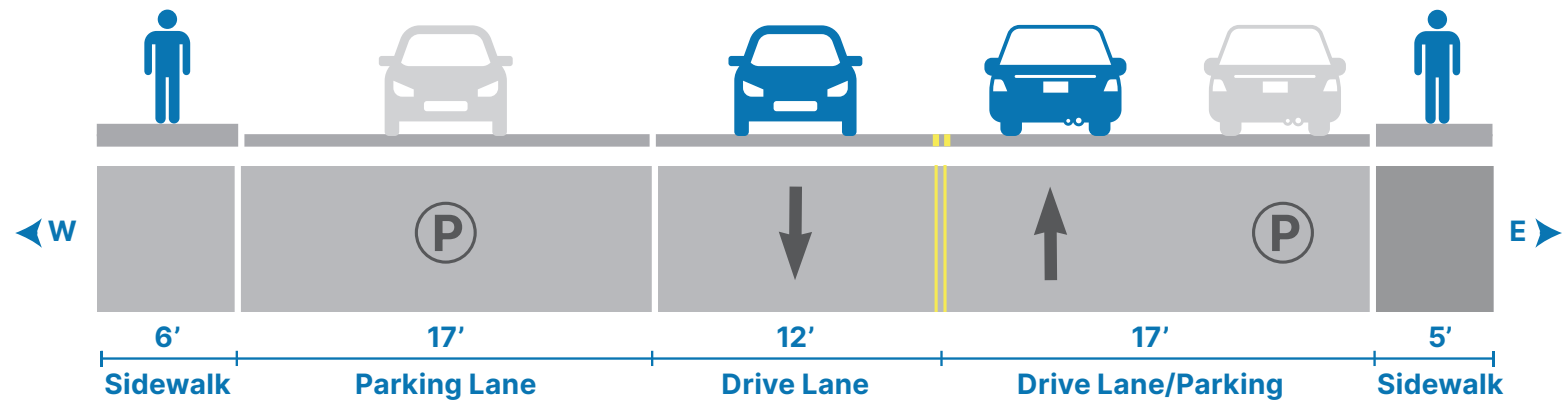
The preferred concept incorporates the goals of the project and infrastructure improvements supported by community members. A shared-use path along Lauppe Lane, circular intersections, high-visibility crosswalks, curb extensions, wider bike lanes, new parking lot configurations, replacement of rolled curb with vertical curb, and a rectangular rapid flash beacon are a few of the key features incorporated into the concept design.

See **Appendix G** for the full plan.

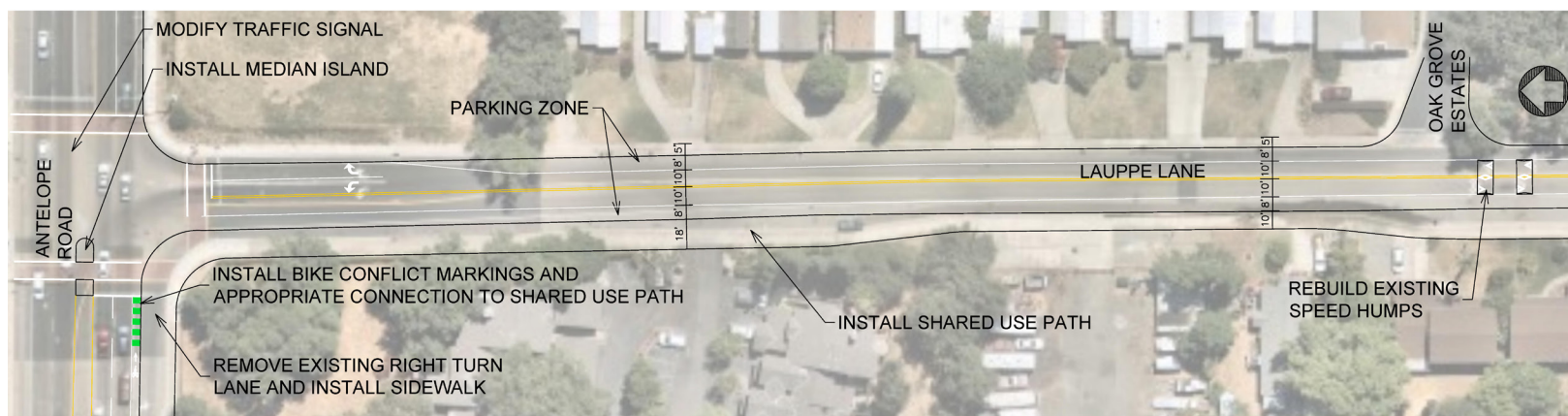
LAUPPE LANE: PROPOSED SHARED USE PATH



LAUPPE LANE: EXISTING CONDITIONS



Note: Typical cross-sections may vary along corridor.



Lauppe Lane: Antelope Road to Oak Grove Estates

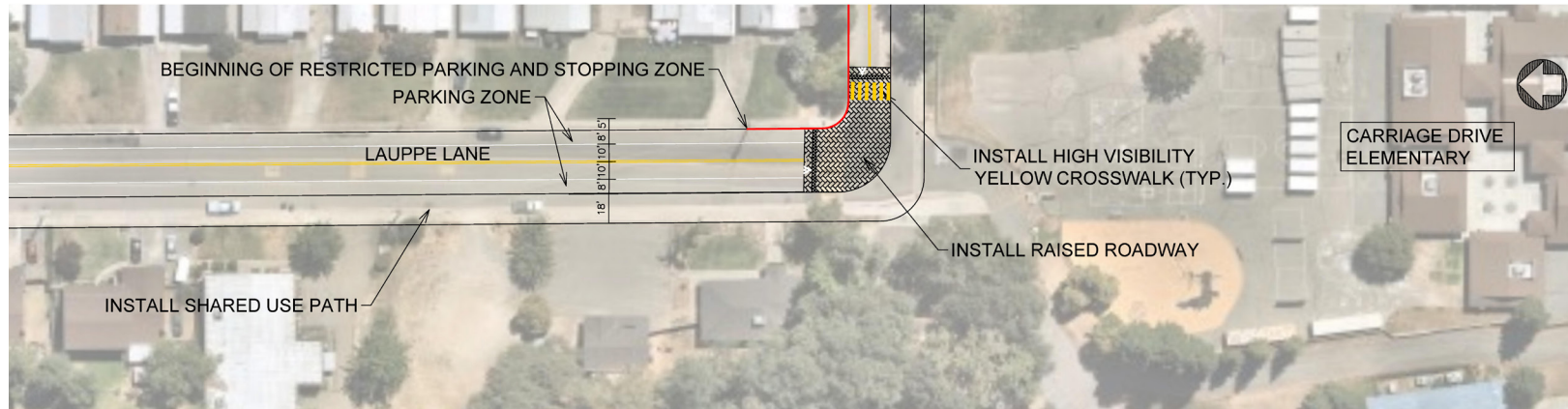
Based on overwhelming support from community members, Planning Commissioners, and City Council Members, the core feature of the concept plan for Lauppe Lane includes the installation of a shared-use path along the west side of the roadway. The path will be vertically separated from the roadway and provide ample space for students, families, and residents to walk and roll from neighborhoods north of Antelope Road to school. In order to make room for the path, driving lanes and parking lanes will be narrowed. There will be no loss of parking.

This section of the corridor will also feature improvements to assist in crossing Antelope Road, such as bicycle detection, bicycle conflict markings, and a median island. To assist with speed management along Lauppe Lane, the existing speed humps will be rebuilt.

The existing rolled curb in this section and throughout the corridor will be replaced with vertical curb.

INTERIM IMPROVEMENTS FOR LAUPPE LANE

The shared use path is the most expensive element of the concept plan, and as such will likely take the most time to implement due to grant funding cycles. In the interim, the City will seek funding to install Class II bicycle lanes along the length of Lauppe Lane from Antelope Road to Pratt Avenue to accommodate people bicycling until the shared use path can be installed. In order to install a Class II bicycle lane, parking must be removed on one side of the roadway north of the Oak Groves Estate entrance. The side of the street for which parking will be removed will be determined during the design phase of the project after a more detailed parking analysis and utilization study is performed.



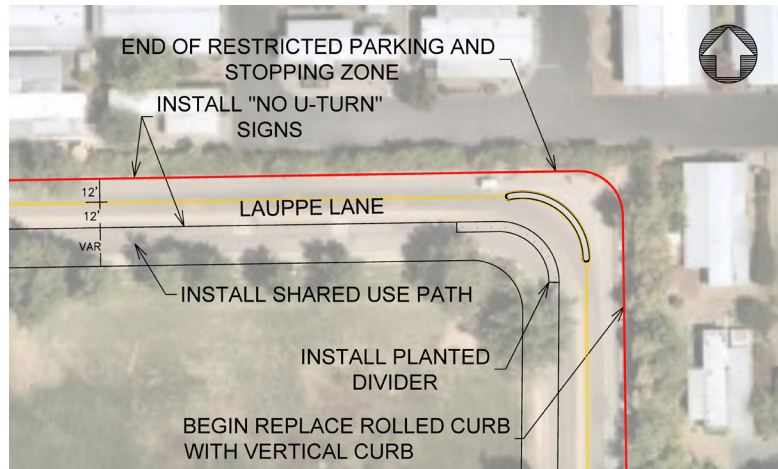
Lauppe Lane: Oak Grove Estates to Lauppe Lane Curve

This section of Lauppe Lane includes the shared use path described in the previous section. The shared use path will continue on the west side of Lauppe Lane until the Lauppe Lane curve, at which point it will continue on the south side of the roadway. As noted, Class II bicycle lanes may be installed as an interim improvement. There would be no loss of parking in this section with the installation of bicycle lanes.

The western corner of the Lauppe Lane curve, which is also the northwestern entrance to Mesa Verde High School/Carriage Drive Elementary School, received the highest number of specific location-based comments from the community. Concerns primarily centered on the visibility of students using

the existing crosswalk due to vehicle speeds and overgrown vegetation. The concept plan relocates the crosswalk to improve visibility and installs a raised roadway to slow vehicles as they turn the corner. Slower-moving vehicles will have more time to react and yield to students crossing the road.

Parking and stopping restrictions along the north side of Lauppe Lane at this location will also serve to increase visibility.

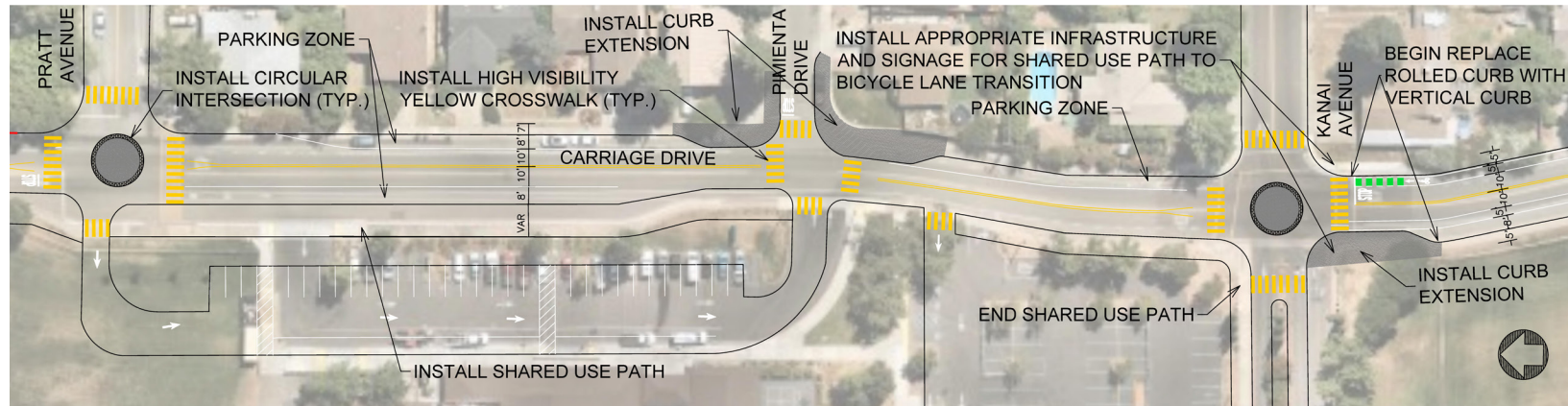


Lauppe Lane: Lauppe Lane Curve

The shared use path continues along the south side of Lauppe Lane, while the parking and stopping restrictions continue along the north side of the roadway.

Community members note that this section of Lauppe Lane is a common location for illegal U-turns despite existing “No U-Turn” signage. In order to reduce this behavior, additional “No U-Turn” signage will be installed. Additionally, the installation of the shared use path will narrow the roadway to 12 feet in each direction which will make U-turns more difficult to complete. A mountable median at the eastern portion of this curve will slow turning vehicles and discourage U-turns, while allowing emergency access.

As noted, it is recommended that Class II bicycle lanes be installed on this portion of Lauppe Lane as an interim improvement, connecting to the existing bicycle lanes south of Pratt Avenue.



Carriage Drive: Pratt Avenue to Kanai Avenue

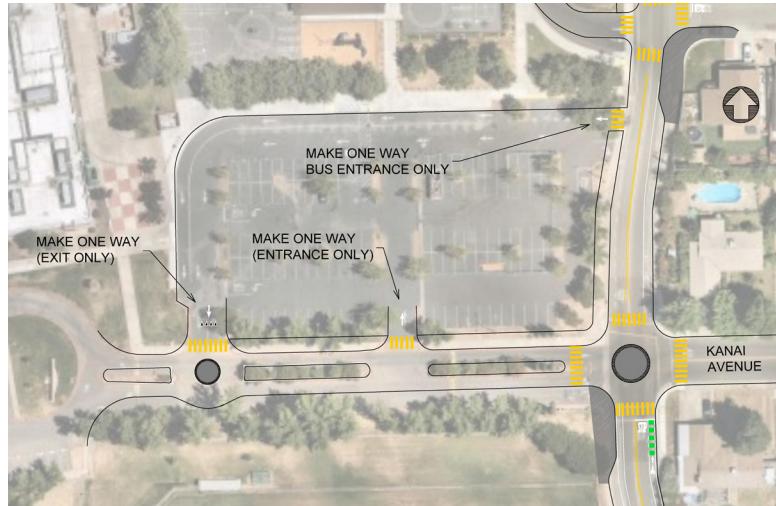
The shared use path continues on the west side of Carriage Drive before ending at Kanai Avenue. Signage and markings will be installed to aid the transition to on-street Class II bicycle lanes south of Kanai Avenue. In order to make space for the shared use path, the existing on-street bicycle lanes on Carriage Drive north of Kanai Avenue will be removed.

This segment of Carriage Drive also features the addition of two circular intersections: One at Pratt Avenue and one at Kanai Avenue. The specifics of the intersections will be refined during the design phase of the project; the circular intersections may be traffic circles or roundabouts. These intersections will better regulate traffic, reduce speeds through intersections, and provide a location for safe and legal U-turns. Specific design elements will be considered during the design phase to encourage users to stay on the correct pedestrian path of travel. Members of the community and elected officials are excited about the possibility of installing school-themed public art in the center of the intersections. Vegetation is also an option.

Education and enforcement will be critical alongside the installation of these intersections, as community members have voiced concerns that some people may find them unfamiliar and not understand how to use them. Education should be developed for and aimed at multiple driver populations, including experienced drivers (such as parents/guardians) and less-experienced drivers (such as high school students).

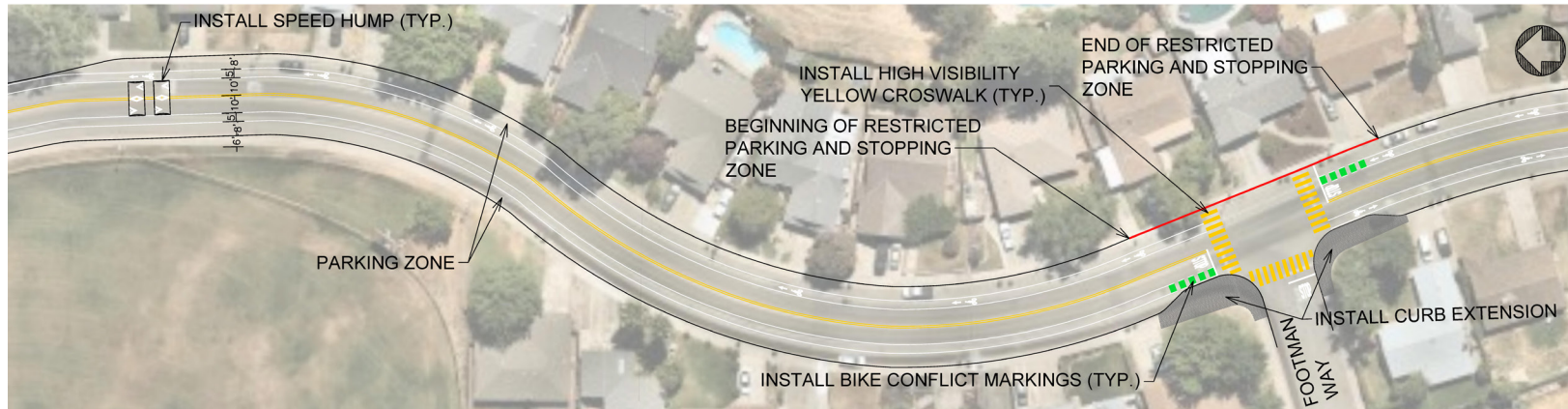
Alongside the installation of the circular intersection at Pratt Avenue, the concept includes the extension of Pratt Avenue to create a four-way intersection that leads directly into the front driveway at Carriage Drive Elementary to improve efficiency of access into the driveway. The existing driveway will be relocated.

The intersections of Pratt Avenue, Pimienta Drive, and Kanai Avenue will also be upgraded with high-visibility crosswalks and curb extensions to increase the visibility of people crossing.



Carriage Drive / Mesa Verde Parking Lot

School driveways are reconfigured to reduce congestion on Carriage Drive by making the driveway from Carriage Drive a one-way entrance, and making the entrances on the south side of the parking lot one-way for both entrance and exit. A circular intersection is installed at the exit driveway to improve traffic flow.



Carriage Drive: Kanai Avenue to Footman Way

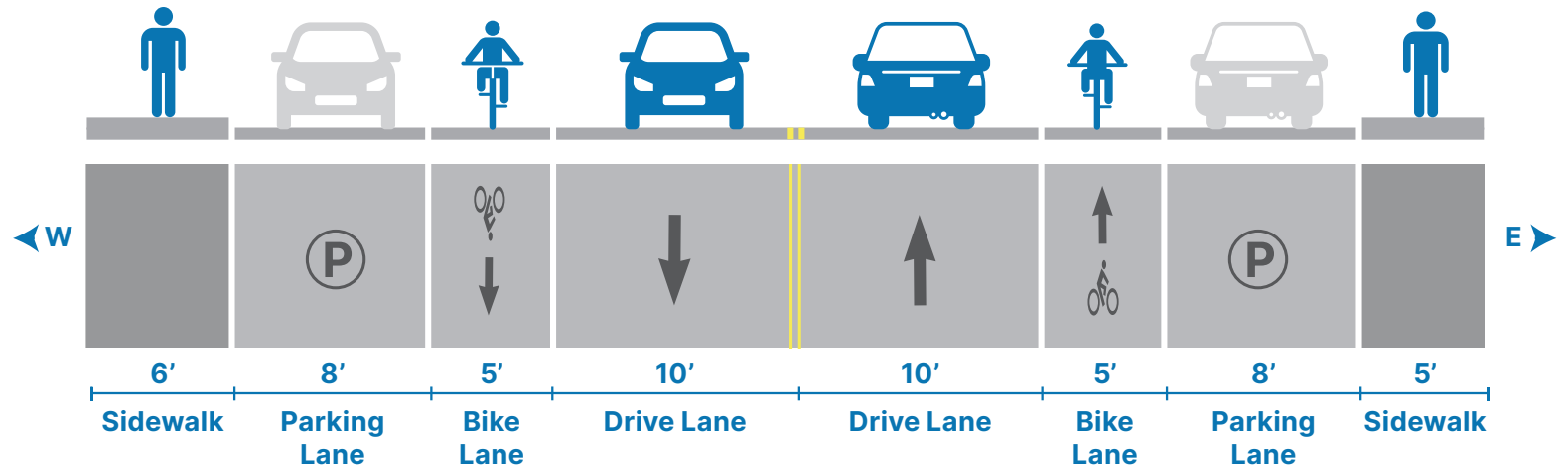
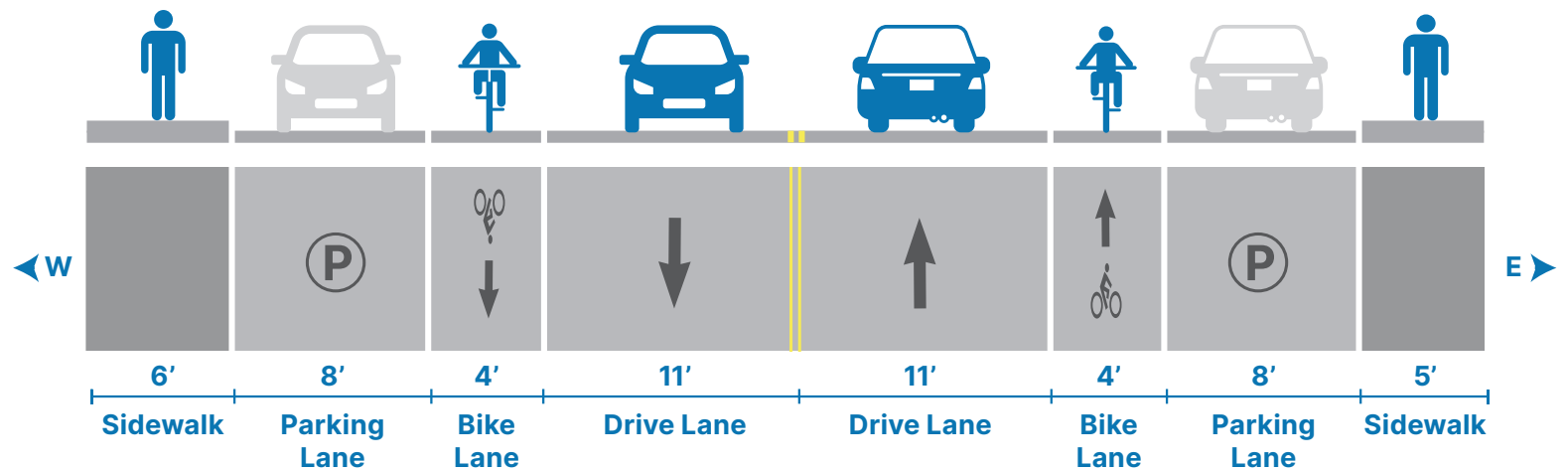
Starting at Kanai Avenue, the existing substandard bike lanes will be widened to five feet, while the driving lanes and parking lanes will be narrowed. This, plus the addition of speed humps, will address the community's concern regarding fast-moving vehicles along the corridor.

Green bike conflict markings are added at mixing zones here and elsewhere along the corridor to increase the visibility of conflict areas at intersections.

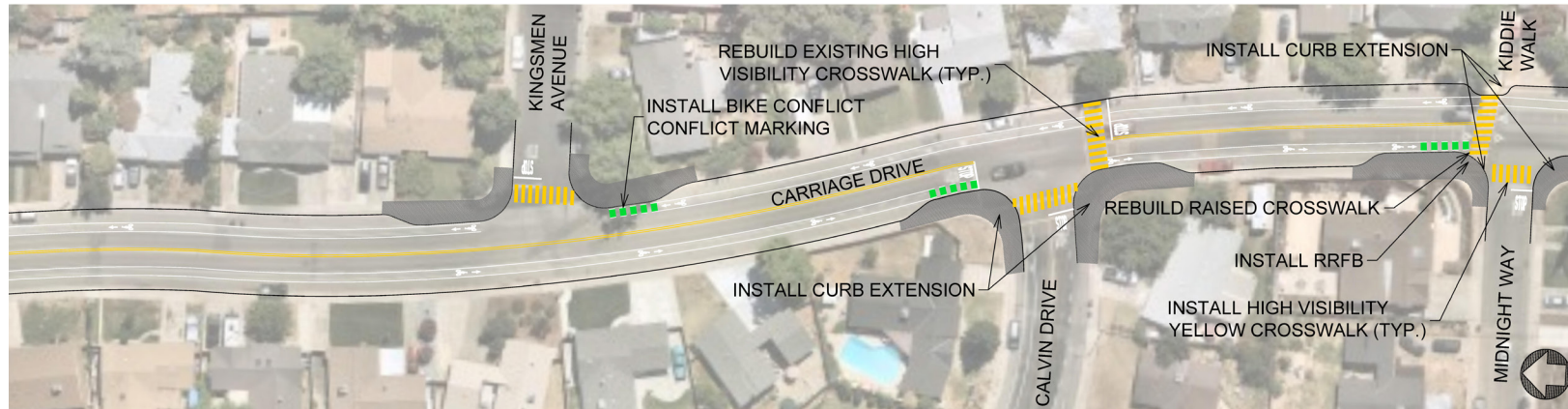
The intersection at Footman Way will be upgraded with high visibility crosswalks, curb extensions, and parking restrictions to improve visibility at crossings.

ALTERNATIVE CONCEPT FOR CARRIAGE DRIVE

An alternative for the Carriage Drive segment of the corridor from Kanai Avenue to Auburn Boulevard had proposed significantly widening the sidewalk on the east side of the roadway to make more space for large groups of students walking. Currently, the sidewalks are narrow and students often spill into the roadway while walking. In order to widen the sidewalk, parking on the east side of the roadway would have been removed. While this alternative was supported by a thin majority of community members, it was not included in the final concept plan due to concerns from City officials around parking removal. This alternative may be considered again in the future with a robust parking utilization analysis and further community outreach to neighbors who live directly along the impacted segment of Carriage Drive.

CARRIAGE DRIVE: PROPOSED WIDER BIKE LANES**CARRIAGE DRIVE: EXISTING CONDITIONS**

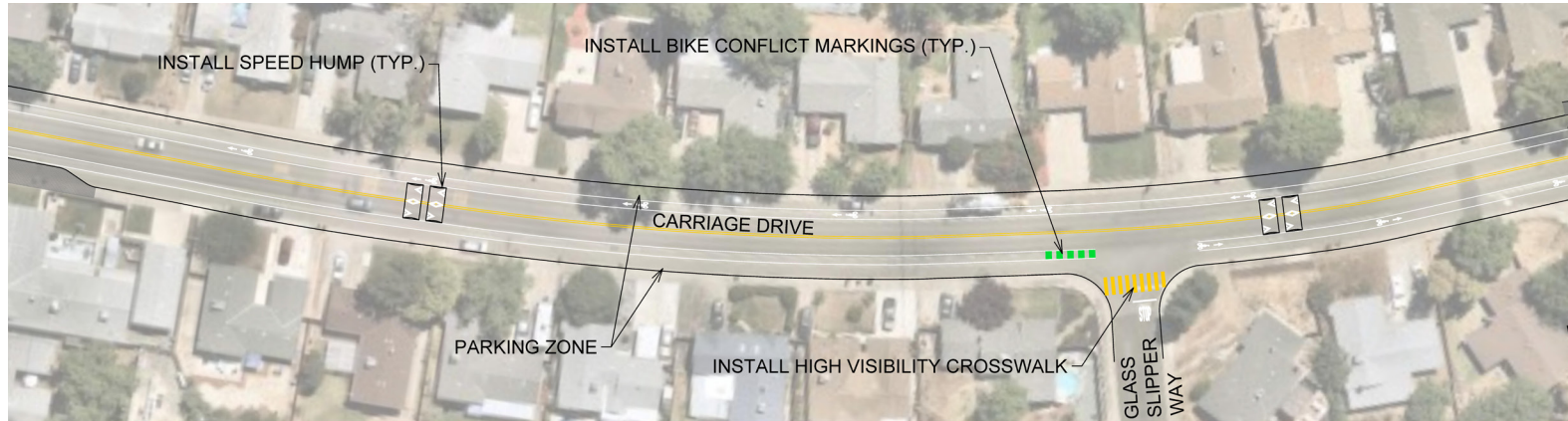
Note: Typical cross-sections may vary along corridor.



Carriage Drive: Footman Way to Midnight Way

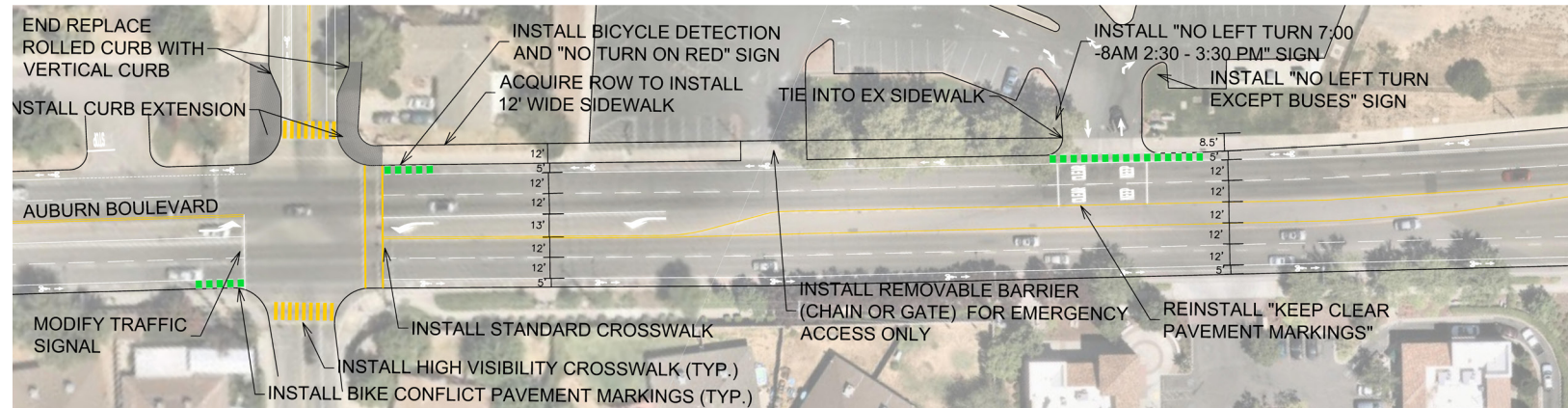
Sylvan Middle School's "kiddie walk" was brought up throughout the community engagement process as an area of concern. The "kiddie walk" is a paved pathway that connects to Sylvan Middle School from the east side of Carriage Drive at Midnight Way. In order to bring more attention to the large numbers of students crossing at this location, a raised crosswalk was previously installed. However, community members continue to report congestion and conflict at this crossing. To increase awareness of students crossing, an RRFB will be installed at the raised crossing. The RRFB will flash as students are crossing, increasing drivers' yield compliance.

Other intersections in this section of the corridor will receive high-visibility crosswalks, curb extensions, and bike conflict markings.



Carriage Drive: Midnight Way to Auburn Boulevard

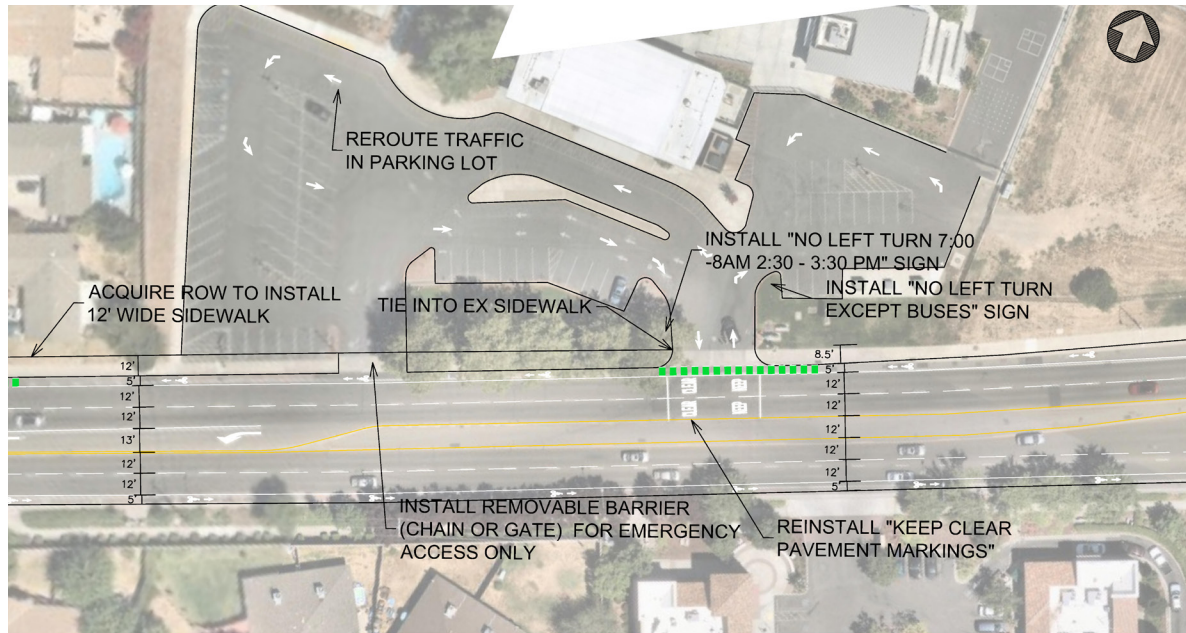
Speed humps will be installed at two locations on this section of Carriage Drive to slow vehicle speeds. Bike conflict markings and a high-visibility crossing at Glass Slipper Way will increase visibility of people walking and bicycling.



Auburn Boulevard: Carriage Drive to Sylvan Middle School Driveway

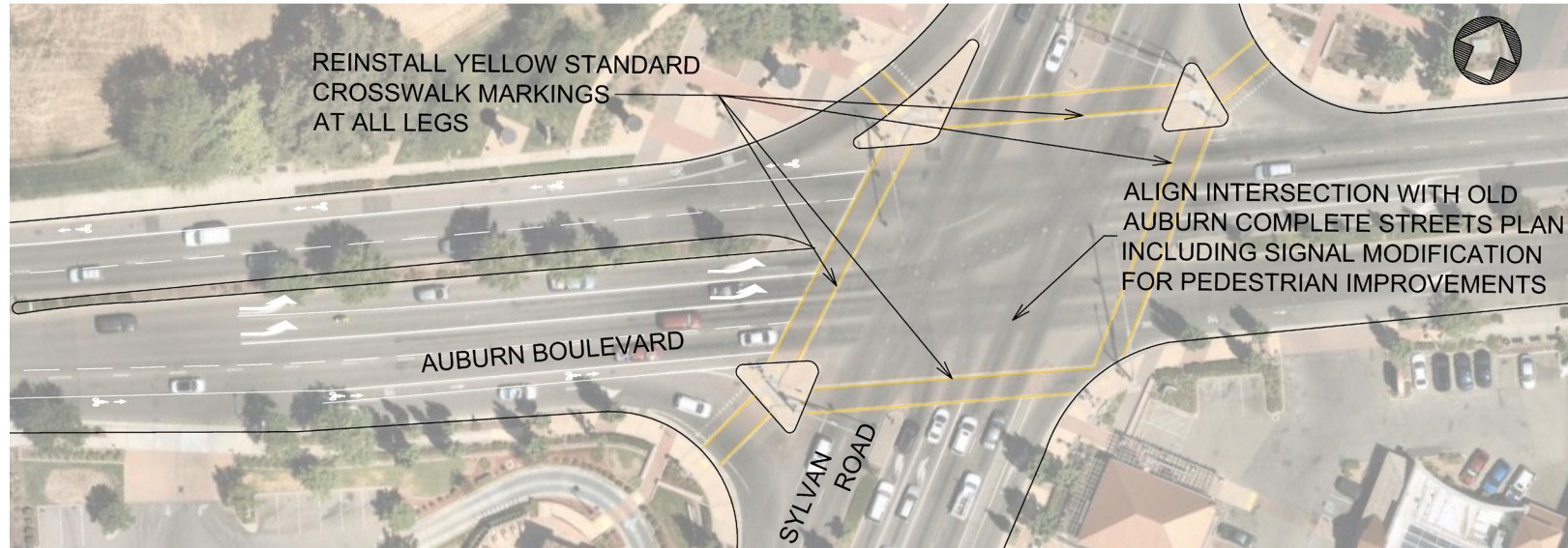
Community members noted concerns with the corner of Auburn Boulevard and Carriage Drive, including lack of sidewalk and queuing space for large groups of students approaching the corner and waiting to cross. This is the preferred route for students to cross Auburn Boulevard and access Starbucks after school, as well as to cross Carriage Drive to be picked up by parents waiting along the Auburn Boulevard Frontage Road. The concept includes curb extensions to shorten the crossing and increase queuing space, as well as a widened (12-foot) sidewalk between the school and the intersection to better accommodate groups of students.

The concept includes bike conflict markings and high-visibility crosswalks on this segment.



Sylvan Middle School Parking Lot

The concept reroutes traffic in the parking lot to increase the queuing space within the lot and reduce the amount of traffic queuing on Auburn Boulevard. The west driveway is closed to vehicles except emergency access in order to reduce the impact of Sylvan Middle School traffic on the Carriage Drive/Auburn Boulevard intersection. Left turns are prohibited out of the parking lot during school arrival and dismissal times.



Auburn Boulevard: Auburn Boulevard / Old Auburn Road / Sylvan Road Intersection

The concept draws on recommendations from the recent Old Auburn Road Complete Streets Plan (Old Auburn Plan), adopted by the Citrus Heights City Council in March 2020. While removing channelized right turns would increase safety and comfort for people walking, the Old Auburn Plan conducted a truck turning analysis and determined that these turn lanes are necessary for trucks traveling along this roadway (a truck route). The recommendations therefore include signaling the channelized right turns on the southbound, eastbound, and westbound approaches and operating

them with permissive phasing. Other recommendations incorporated into the concept plan include: removing one left turn lane on the westbound approach; extending the remaining westbound left turn lane in length; and operating the westbound and eastbound left turns with lead-lag left-turn phasing instead of split phasing.

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Carriage Drive, May 2019

IMPLEMENTATION

Planning Level Cost Estimates

High-level concept cost estimates were calculated for both the concept plan and the proposed interim improvements on Lauppe Lane. Construction, demolition, paving materials, landscaping, striping, lighting, and relocating utilities costs were considered in the development of these costs.

Full Concept (including shared use path): \$6,774,219

Interim Concept (Class II bicycle lanes on Lauppe Lane): \$3,308,408

See **Appendix H** for detailed planning level cost estimates, including unit costs.

Phasing

It is recommended that project improvements be divided into two phases for implementation:

Phase 1: Striping, signage, and low-cost improvements can be completed first. This would include:

- Bicycle conflict markings
- Painted curbs
- High-visibility crosswalks
- Raised crosswalk
- Speed humps
- Interim Class II bicycle lanes on Lauppe Lane
- Re-striping of bicycle lanes on Carriage Drive

Phase 2: Higher-cost improvements can be bundled together in a grant proposal. This would include:

- Circular intersections
- Curb extensions
- Curb ramps
- Raised roadway
- RRFB
- Shared use path
- Sidewalks
- Vertical curbs

Coordination

The City may wish to coordinate Phase 1 improvements with existing projects. Table 2 details existing projects and programs in the City's 2020-2024 Capital Improvement Plan (CIP) with which this Plan may coordinate; the CIP may be found at citrusheights.net/483/Five-Year-Capital-Improvement-Program. The City could also coordinate with the Sylvan 40 project; if the development meets the threshold for affordable housing, improvements may be funded through the Affordable Housing and Sustainable Communities program.

Table 2. Existing Citrus Heights projects available for coordination

Project	Details	Source
Annual ADA Accessibility and Drainage Improvements	Citywide annual construction project reconstructs deficient curb access ramps and relocates storm drain inlets in conflict with ramp locations. Funding: Community Development Block Grant funds, Stormwater Utility funds, SB1 Local Partnership Program funds	CIP, p. 7
Multi-Modal Transportation Safety Program	Citywide planning process for addressing requests for: new signs, striping, crosswalks, speed humps, traffic calming and traffic enforcement. Once the plan is developed, could possibly seek funds alongside Carriage Drive & Lauppe Lane Safe Schools Corridor Plan.	CIP, p. 27
Pavement Restoration Program	Streets are resurfaced annually. If any streets in the corridor are on the list for upcoming years, work could be combined.	CIP, p. 35
Storm Drain Pipe Rehabilitation Program	Storm drain pipes are replaced when degraded. If any storm drains in the corridor are on the list for upcoming years, work could be combined.	CIP, p. 37
Traffic Control, Neighborhood Safety, Accessibility and Walkability	Ongoing minor capital improvement projects to enhance corridor and neighborhood traffic safety, accessibility and walkability. Low-cost work on Carriage Drive & Lauppe Lane Safe Schools Corridor Plan could be completed under this program.	CIP, p. 39

Funding

Identifying and securing funding for the projects identified in the Carriage Drive & Lauppe Lane Safe Schools Corridor Plan is crucial to achieving the vision and goals established in this document. Table 3 identifies preferred federal, state, regional, and local funding sources to support the implementation and construction of the Plan. The City may wish to apply for these grants alongside SJUSD.

See **Appendix I** for details on these and additional funding sources.

Table 3. Preferred funding sources for the Carriage Drive & Lauppe Lane Safe Schools Corridor Plan

Funding Source	Design	Acquisition	Construction
Federal & State Funding			
Active Transportation Program	•		•
Urban Greening Program		•	•
Affordable Housing and Sustainable Communities	•	•	•
Local Partnership Program		•	•
Road Maintenance and Rehabilitation Program	•	•	•
Regional & Local Funding			
STA Measure A	•	•	•
SACOG Regional Program	•	•	•
TDA Article 3	•	•	•
Sustainable Transportation Equity Project	•		•