



PUBLIC WORKS DEPARTMENT

CITY HALL
10300 TORRE AVENUE • CUPERTINO, CA 95014-3255
TELEPHONE: (408) 777-3354 • FAX: (408) 777-3333
CUPERTINO.ORG

CITY COUNCIL STAFF REPORT

Meeting: July 9, 2024

Subject

Implementation of an on-street two-way Class IV bike lane on Vista Drive and Forest Avenue (Alternative 3) along the Lawson Middle School frontage and prohibition of parking along the west side of Vista Drive between Forest Avenue and Merritt Drive for the accommodation of Class IV bicycle lanes and adoption of an Ordinance Municipal Code Table 11.24.150, relating to prohibition of parking along certain streets.

Recommended Action

- (1) Authorize the implementation of an on-street two-way Class IV bikeway on the west side of Vista Drive between Forest Avenue and Merritt Drive and the north side of Forest Avenue between Vista Drive (west) and Vista Drive (east) and proceed with preparation of final design.
- (2) Conduct the first reading of Ordinance 24-XXX, "An Ordinance of the City Council of the City of Cupertino amending Table 11.24.150 of the Cupertino Municipal Code Relating to Prohibition of Parking along certain streets."

Reasons for Recommendation

Project Background and Description

The Lawson Middle School Bikeway Project (Project) was initiated as a result of the School Walk Audit Implementation Project. The purpose of the School Walk Audit Implementation Project was to enhance the safety of students walking or biking to the City of Cupertino's fourteen public schools by identifying various improvement projects to enhance roadway safety for all school-age children. The Project developed a comprehensive list of recommendations for improving bicyclist and pedestrian safety surrounding Cupertino's public schools. One of the improvements identified in the School Walk Audit Implementation Project was the installation of a two-way separated bike path at Lawson Middle School, which would provide a safe and convenient way for students to access the campus bike cages. Due to the congested conditions during the morning drop-off and afternoon pick-up times, the sidewalks adjacent to the school are crowded with students, and the streets around the school experience significant vehicular traffic. Installing the bike path would provide cyclists with a separate, dedicated space, keeping them away from vehicles on the road and pedestrians on the sidewalks.

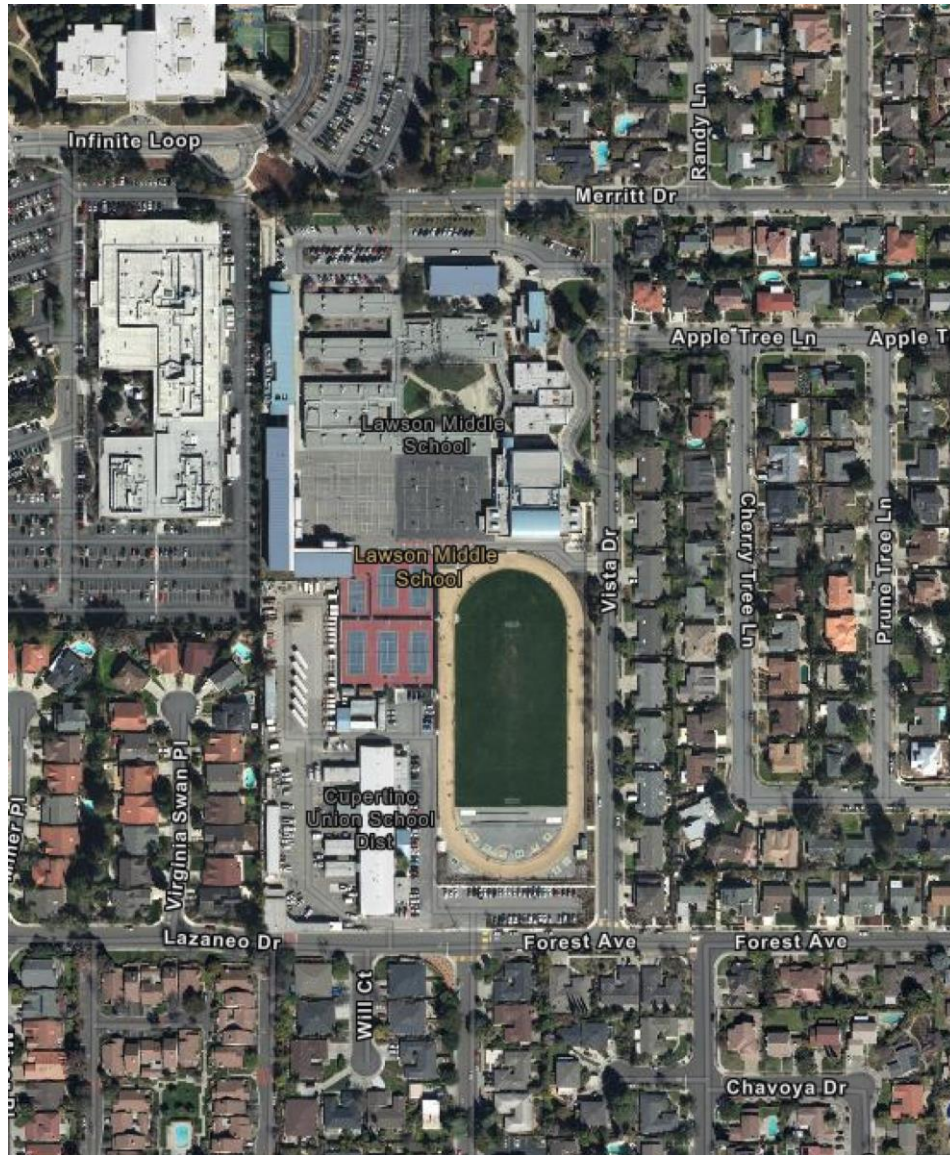


Figure 1: Project Location

The City Council authorized the Lawson Middle School Bikeway Project in the Fiscal Year (FY) 22-23 Work Plan, with a budget of \$40,000, to evaluate alternative configurations for a bike path to access the bike racks from the neighboring streets. Transportation Division staff hired Hexagon Transportation Consultants, Inc. to assist with this effort.

Existing Neighborhood Roadway Conditions

Lawson Middle School is bordered by Merritt Drive to the north, Vista Drive to the east and Forest Avenue to the south (see Figure 1). The following description provides a detailed summary of adjacent streets and their current conditions.

Merritt Drive:

Merritt Drive is an east-west two-lane residential street with speed tables. On-street parking is available on both sides of Merritt Drive, although most spots require a permit during school hours (8 a.m. to 4 p.m., Monday through Friday). Lawson Middle School has a staff parking lot with two driveways on Merritt Drive, which also serves as one of the two primary areas for parents to drop off or pick up their children.

Vista Drive:

Vista Drive is a north-south two-lane residential street between Merritt Drive and Stevens Creek Boulevard with parking on both sides. Between Merritt Drive and Forest Avenue, the entire west side of Vista Drive fronts Lawson Middle School. South of Forest Avenue, Vista Drive continues with an offset that is approximately 200 feet west of the northern stretch. The school's parking lot also has one driveway on Vista Drive. The second main drop-off/pick-up area for the school is an on-site loop located along Vista Drive, which is accessed via two driveways (see Figure 1).

Forest Avenue / Lazaneo Drive:

Forest Avenue/Lazaneo Drive is an east-west two-lane residential street with speed tables and with parking on both sides. However, no parking is permitted on the north side of Forest Avenue along the Lawson Middle School frontage. Forest Avenue is blocked off to vehicular traffic just east of the northern stretch of Vista Drive. However, bicyclists and pedestrians are permitted through this road closure onto Forest Avenue. Cupertino Unified School District (CUSD) offices are located immediately west of the school and have a parking lot with a driveway onto Forest Avenue. This location comprises the north leg of the intersection with the southern stretch of Vista Drive.

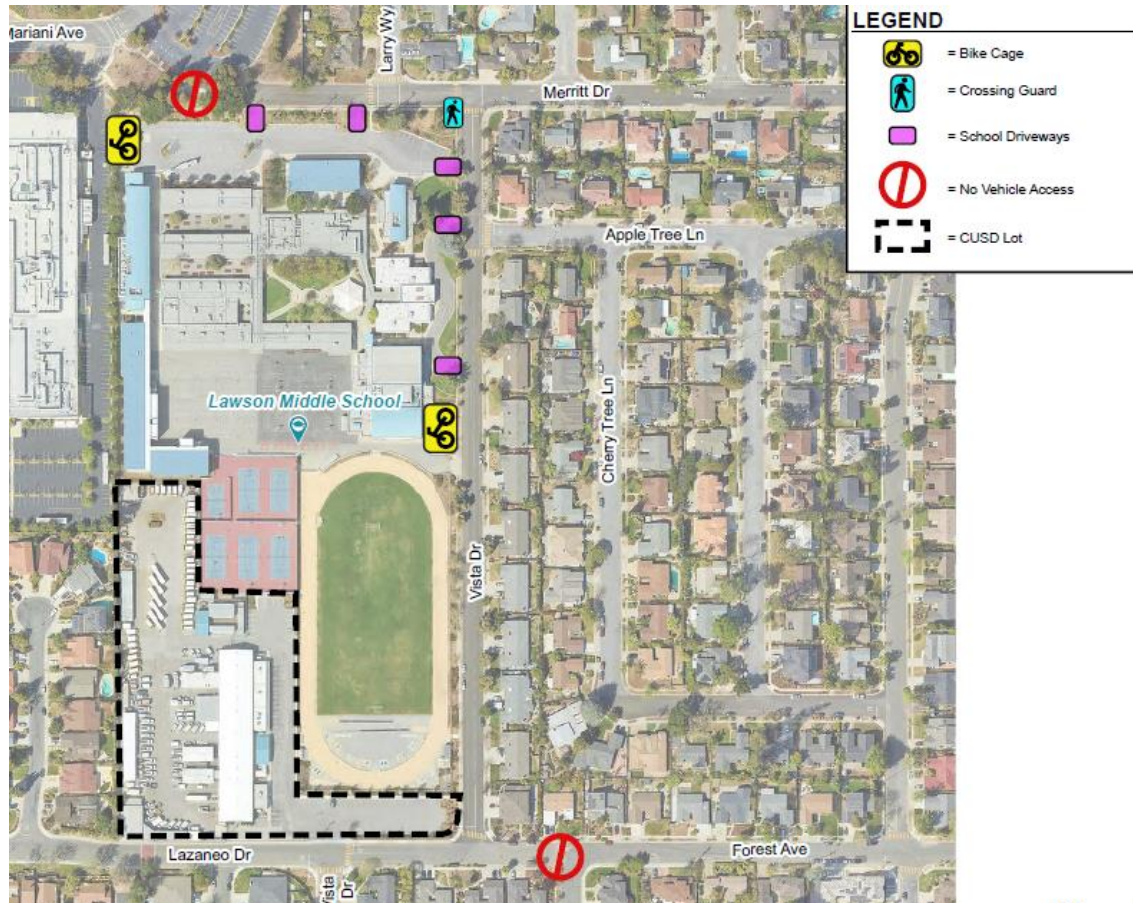
2Observed School Traffic Circulation

Data collection and analysis of existing conditions were performed in the Fall 2022 to understand current school operations, identify potential safety issues, and assess on-street parking usage. Intersection vehicle volume, pedestrian, and bicycle counts were conducted during the peak one-hour periods for school drop-offs and pick-ups. These counts occurred at the following five key locations near the school, as well as at each of the school's five driveways.

- Blaney Ave/Merritt Drive
- Vista Drive/Merritt Drive
- Vista Drive/Apple Tree Lane
- Vista Drive/Forest Ave
- Vista Drive/Lazaneo Drive

During the morning drop-off and afternoon pick-up periods, parents can utilize either the school parking lot or the drop-off loop located on Vista Drive. There are also two different sets of bike cages for students to park their bikes. One bike cage is located at the northwest corner of the school, accessible via Merritt Drive. The other is located just

north of the school's track field, accessible via Vista Drive. A crossing guard is positioned at the intersection of Vista Drive and Merritt Drive.



On-street parking utilization counts were conducted through field observations on a typical weekday and a typical weekend on Merritt Drive west of Blaney Avenue, Vista Drive between Forest Avenue and Merritt Drive, and on Apple Tree Lane. The weekday count was conducted to capture demand during peak school drop-off and pick-up operations, as well as during peak residential usage. The weekend count was conducted to understand peak demand during residential weekend usage.

Field observations were also conducted during a typical Tuesday and Wednesday (trash pickup day in the neighborhood) on Merritt Drive, Mariani Avenue, Vista Drive, and Forest Avenue to better understand typical behaviors during drop-off and pick-up, as well as identify potential safety issues related to bicycle/pedestrian, bicycle/vehicle, and pedestrian/vehicle conflicts.

Analysis

Data collection showed that vehicular traffic near the campus is generally low to moderate during the peak drop-off and pick-up operations, with less than 200 vehicles per direction. During the morning drop-off peak period, parents used the Merritt Drive

staff parking lot, the Vista drop-off loop, the CUSD parking lot, and the Apple campus parking lot at the end of Mariani Avenue. Some parents also elected to park on-street on Vista Drive and neighboring streets. Temporary queues would form on Merritt Drive and Vista Drive, but they would dissipate relatively quickly once school started.

During the school pick-up time, many parents arrived early. Parents would park on-street on Vista Drive and neighboring streets, as well as inside the Apple and the CUSD parking lots. Some queued inside the staff parking lot. Just prior to students leaving the school, the queue inside the staff lot would spill out onto Merritt Drive and back up towards Vista Drive. However, queues would quickly dissipate once pick-up operations began.

On-street parking utilization counts showed that during a normal school weekday, on-street parking utilization on Vista Drive picks up at around 8 a.m. and generally stays consistent at about 20 to 30 vehicles parked during the school day. At 3 p.m., when parents pick up their children, the utilization peaks at about 75 parked vehicles, then drops to 10 parked vehicles or fewer after 4 p.m. On-street parking utilization during the weekend was relatively low throughout the day.

Merritt Drive and Apple Tree Lane experienced similar patterns in parking utilization during school days and weekends. However, the peak parking demand on both streets did not exceed 60% of the available on-street parking spaces.

After-school sports activities occur three to four times a week, generally ending between 5 p.m. and 6 p.m. There are also approximately 12 evening school-wide events per year. These evening events, as well as some after-school sports events, have the potential to generate a considerable amount of on-street parking demand.

Pedestrian volumes were heavy before school started and after school ended. Some students were dropped off and/or picked up by parents who parked on the east side of Vista Drive. These students generally crossed Vista Drive midblock.

Bike counts showed that bike volumes south of the Vista Drive bike cage were relatively high before school started and after school ended. North of the Vista Drive bike cage, bike volumes were generally low on Merritt Drive. Students who used the Merritt Drive bike cage typically arrived from Mariani Avenue.

During field observations, many bicycle/vehicle, bicycle/pedestrian, and pedestrian/vehicle conflict areas were observed. Bicycle/pedestrian conflict areas generally included students biking on sidewalks (mostly along the west side of Vista Drive) and students biking across crosswalks, navigating around crossing pedestrians without yielding. Pedestrian/vehicle conflict areas generally included students crossing Vista Drive midblock. At the intersection of Vista Drive (north leg) and Forest Avenue, eastbound vehicles turning left onto Vista Drive do not have a stop sign, but these

vehicles are turning into a marked crosswalk. Staff observed some instances where pedestrians began walking across the crosswalk while vehicles were turning into the crosswalk. However, all these vehicles noticed the pedestrians and yielded.

Proposed Bikeway Alternatives

Four primary alternatives were developed during the project's public outreach efforts to address these conflict areas. During the initial phases of the outreach, based on public input and feasibility of the alternatives, the alternatives were narrowed down to two primary alternatives that were the focus of more detailed discussions.

Alternative 2

The first, identified as Alternative 2 during the public process and in the feasibility study (See Attachment C, pages 31-32 of the Feasibility Study, Sheets 3 and 4), proposes to build a Class I two-way mixed-use trail along the school frontage, including the west side of Vista Drive from Merritt Drive to Forest Avenue and along the north side of Forest Avenue between Vista Drive (north leg) and Vista Drive (south leg). The proposed mixed-use trail would generally be 10-feet in width, with a two-foot shoulder on either side. However, due to utility constraints between the Vista Drive bike cage and Merritt Drive, the trail would need to be narrowed to eight feet in width, with a two-foot shoulder on either side. This reduced width would also require slightly narrowing Vista Drive. No narrowing is required south of the bike cage, and no on-street parking would be affected by this alternative.

At the intersection of Vista Drive and Merritt Drive, as well as the intersection of Vista Drive (south leg) and Lazaneo Drive, bicycle crossing enhancements would be provided to facilitate bicycle access to the multi-use trail.

Benefits of this alternative include:

- Bicycle physical separation from vehicles
- Fewer bike crossing of vehicle lanes required
- No on-street parking impacts

Drawbacks of this alternative include:

- Possible conflicts with pedestrians
- Utility relocations
- Removal of 19 small trees and 9 mature trees
- Curb relocation north of the Vista Drive bike cage
- High cost (about \$1.15 million)

Alternative 3

The other concept, identified as Alternative 3 during the public process and the feasibility study (see Attachment B), proposes constructing an on-street Class IV two-way bike facility along the west side of Vista Drive from Merritt Drive to Forest Avenue and along the north side of Forest Avenue between Vista Drive (north leg) and Vista

Drive (south leg). The proposed bicycle facility, which would be constructed within the parking lane adjacent to the curb, would be eight feet wide (four feet in each direction) with a three foot buffer and physical vertical separation, consisting of flexible posts, from the vehicle lanes. This alternative would remove on-street parking on the west side of Vista Drive within the limits of the bicycle improvements. On-street parking is currently prohibited along the north side of Forest Avenue where the improvements are proposed.

Benefits of this alternative include:

- Bicycle physical separation from both vehicles and pedestrians
- Fewer bike crossing of vehicle lanes required
- No tree removal or utility relocation required
- Low cost (\$120,000)

Drawbacks of this alternative include:

- Removal of approximately 50 on-street parking spaces along the west side of Vista Drive

With respect to the removal of on-street parking associated with this alternative, within a five-minute walkshed of the school, there are approximately 500 on-street parking spaces. While the CUSD parking lot is not a public parking lot, CUSD staff has indicated that they are open to allowing parents to park in their lot during after-school or weekend events.

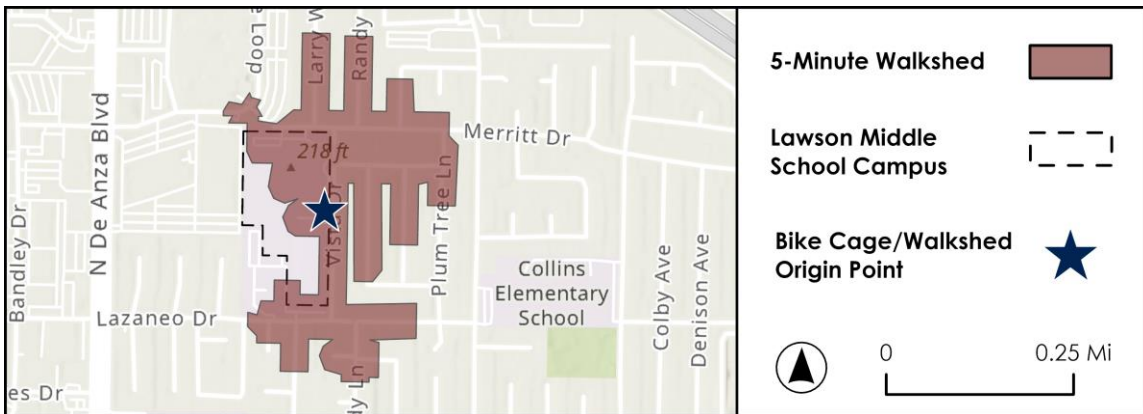


Figure 3: Walkshed Analysis

As shown in Table 1, both alternatives improve bicycle safety by reducing bicycle/vehicle conflicts. Both alternatives have their benefits and drawbacks related to on-street parking, utility relocation, tree removal, and costs.

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	Alternative 2	Alternative 3
Addresses Bike/Pedestrian/Vehicle Conflicts	Yes	Yes
Relocate Utilities	Yes	None
Remove Trees	28	None
Remove On-Street Parking Spaces	None	50
Cost to Implement	~\$1,150,000	~\$115,000
Notes:		
<ul style="list-style-type: none"> Starting at the BPC hearing, Alternative 2 is renamed to Alternative A and Alternative 3 is renamed to Alternative B during public meetings. 		

Table 1: Alternatives Evaluation

Outreach Efforts

Extensive outreach to neighbors, parents, students, and other stakeholders and members of the public was conducted. City staff established and maintained a project webpage. Hexagon and City staff facilitated three community meetings, a stakeholder meeting, and presented to the Bicycle Pedestrian Commission (BPC). Community meetings were heavily advertised to the public, including on the City’s social media channels, through the City’s Safe Routes to School mailing list, via school messaging from Lawson staff, laminated posters posted around the school, and property owners within several blocks of the site were directly notified with postcards mailed to the resident and owner mailing addresses. A brief discussion of each meeting is provided below, in chronological order.

Community Meeting #1

Hexagon and City staff hosted the first community meeting on November 10, 2022, in person at Lawson Middle School. Approximately 30 people attended. The purpose of this meeting was to introduce the project to the public. The public provided input, as well as comments and suggestions related to the data collection efforts. This meeting informed Hexagon’s scope in data collection and field observations.

Stakeholder Meeting

Hexagon and City staff hosted a stakeholder meeting on February 9, 2023, with representatives from CUSD and Lawson Middle School. The purpose of this meeting was to introduce Hexagon’s analysis, present preliminary alternatives, and determine the level of stakeholder support. The preliminary alternatives presented to the stakeholders were:

- Alternative 1: Bike route and sharrow signage and pavement markings only
- Alternative 2: Two-way mixed-use trail to replace existing sidewalk
- Alternative 2A: A variant of Alternative 2 with Rectangular Rapid Flashing Beacon (RRFB)
- Alternative 3: On-street two-way Class IV bike facility

The stakeholders were generally supportive of the study’s direction and the presented alternatives.

Community Meeting #2

Hexagon and City staff hosted the second community meeting on March 16, 2023, virtually via Zoom. Approximately 30 people attended. The purpose of this meeting was to introduce Hexagon’s analysis and the preliminary alternatives presented during the stakeholder meeting.

The team collected public comments, answered questions, and polled the meeting attendees with a series of in-meeting survey questions to identify their preferences for the alternatives. Based on in-meeting surveys as well as email submissions of preferences after the meeting, the alternatives were narrowed down to three options: Alternative 2, Alternative 2A, and Alternative 3. Alternative 2A was a slight modification of Alternative 2 and was originally created due to the uncertainty over the relocation of a light pole in the CUSD parking lot. However, City staff has since confirmed the infeasibility of relocating that pole, and as a result, Alternative 2A was not carried forward in the study process. Alternative 1 was also not carried forward due to lack of public support.

Alternatives	1st Preference	1st or 2nd Preference
Alternative 1	7%	7%
Alternative 2/2A	29%	86%
Alternative 3	50%	57%
No Change Alternative	4%	7%
<u>Notes:</u>		
<ul style="list-style-type: none"> • Preferences obtained from virtual in-meeting polls and email submissions received after the meeting (from people who did not vote in the meeting) • Starting at the BPC hearing, Alternative 2 is renamed to Alternative A and Alternative 3 is renamed to Alternative B during public meetings. 		

Table 2: Community Preference

Community Meeting #3

Hexagon and City staff hosted the third community meeting on April 17, 2023, virtually via Zoom. The purpose of this meeting was to provide more details on Alternatives 2 and 3 and gauge public support for the alternatives. Similar to the second community meeting, the team collected public comments, answered questions, and polled the audience on a series of questions. These questions were designed to identify the public’s preferred alternative. The same poll questions were also published on the project website.

Bicycle Pedestrian Commission Meeting

The results of the study were presented to the BPC at the May 17, 2023, meeting. The Commission voted 4-0, with Commissioner Ganga abstaining, to recommend that the

City Council direct staff to proceed with implementation of Alternative 3 (named Alternative B during public outreach).

In summary, due to lower cost, fewer impacts to trees and utilities, stronger community preference, and BPC recommendation, staff recommends moving forward with the implementation of Alternative 3.

Next Steps

Subject to Council approval of staff's recommendation, staff will return to Council for the second reading of the Parking Prohibition Ordinance at the September 17, 2024, regularly scheduled City Council meeting. Staff will then proceed with design and implementation of the on-street two-way Class IV bikeway, with full funding provided through the Apple Donation Grant Agreement. Design and project bid would be anticipated to occur during Fall 2024, with construction occurring Spring 2025. Design and construction are funded through the Apple Donation Grant Agreement.

Sustainability Impact

Implementation of projects from the School Walk Audit Implementation Project supports walking and biking to school, which reduces traffic congestion and leads to reduced vehicle emissions, helping the City achieve its air quality and greenhouse gas emission reduction goals.

Fiscal Impact

The staff-recommended alternative is fully funded through the Apple Donation Grant Agreement, which allocated \$1,221,863 towards School Walk Audit project (420-99-069) implementation. The estimated cost to design and implement the staff-recommended improvement is \$115,000. There is no General Fund fiscal impact to proceed with implementation of Alternative 3. To date \$40,000 has been spent for outreach and conceptual design efforts as part of the FY 22-23 City Work Program.

California Environmental Quality Act (CEQA)

Exempt from the CEQA under 14 C.C.R. Section 15304(h), Class 4, minor public, or private alterations in the condition of land, water and/or vegetation which does not involve removal of healthy, mature, scenic trees for the creation of bicycle lanes on existing right of way.

Prepared by: David Stillman, Transportation Manager

Reviewed by: Chad Mosley, Director of Public Works

Approved for Submission by: Pamela Wu, City Manager

Attachments:

A – Draft Ordinance

B – On-Street Two-Way Class IV Bike Lane Concept
C – Lawson Middle School Bikeway Feasibility Study