Safe Routes to School Plan

Kailua Intermediate School

Kailua, Hawaii

October 2015

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I. Introduction

a. Kailua Intermediate School

Established in 1958, Kailua Intermediate School (referred to as "KIS" or "school" herein) serves students from the communities of Kailua, Enchanted Lakes, and Marine Corps Base Hawaii – Kaneohe Bay. The school includes 7th and 8th grades and had 645 students as of September 2015.

The mission of the school is "to provide a positive, safe learning environment which promotes diverse academic excellence, respect for self and others, and the development of responsible citizenship for all. As a community of learners, Kailua Intermediate School strives to develop the potential of every child to be successful in the 21st century."

b. Safe Routes to School

Safe Routes to School (SRTS) is a multi-faceted approach to make walking and bicycling to school safer and more accessible for children through addressing the ***5Es*** – *engineering (infrastructure), education, encouragement, enforcement, and evaluation/planning*. SRTS aims to turn around the decline in children walking and bicycling to and from school that has occurred since the 1960s. In 2005, the federal government established a program to fund SRTS as part of *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)*, which provided state departments of transportation funding dedicated for SRTS programs from 2005 to 2012.

Engineering, education, encouragement, enforcement, and evaluation/planning all play important roles in making it safe for children to walk and bicycle to school.

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lude adding bike lanes, improving pedestrian crossings, installing traffic calming measures, and other physical improvements to make it safer to walk or bicycle to school.

Education

Educational programs can target students, parents, or the community with the objective of making it safer for children to walk or bicycle with existing infrastructure. Programs may include those directly targeted at children that walk and bike or those targeted at parents and community members that drive in and around the school area.

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ldren and parents that biking or walking to school is a safe, fun, and healthy activity. Encouragement activities may include walking and biking school buses, walk and bike to school days, and other initiatives designed to make it safer and more fun to walk and bike. Encouragement activities should be carefully coordinated with education, enforcement, and engineering.

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, stopping at crosswalks, stopping at traffic signals, and bicycle helmet use.

Evaluation/Planning

Evaluation and planning is crucial to forming any SRTS program and in monitoring its continued effectiveness and guiding changes.

II. SRTS Team and Planning Process

In July 2015, the Hawaii Bicycling League (HBL) reached out to Kailua Intermediate School about the possibility of creating a SRTS plan for the school. Principal Lisa DeLong was excited about the opportunity and agreed to support the formation of SRTS plan and team to oversee this process.

The SRTS team is comprised of the following members:

- Lisa DeLong, Principal of KIS
- Laurie Ahlgren, Parent Community Network Coordinator of KIS
- Bridget Tapper, Parent Community Network Coordinator of Kailua Elementary School (neighboring and feeder school)
- Daniel Alexander, Planning Director at HBL
- Travis Counsell, Education Project Manager at HBL

In addition to the SRTS team, Mike Packard (area resident and traffic engineer) completed a conceptual design for one of the engineering solution projects.

As part of the SRTS planning process, the September 2015 meeting of the KIS PTSA was dedicated to the SRTS plan. Twenty parents and four students were present at the meeting. Participants were asked 3 questions during the interactive planning meeting:

- *Where would you like to see the school in 5 years?*
- *What are your concerns?*
- *What solutions do you think are most important?*

Verbal comments were received from many parents and one student. Written comment forms were made available and 4 completed forms were received.

III. Existing Conditions

a. Prior SRTS work

While Kailua Intermediate School has not previously had a formal SRTS program, the school has implemented a number of activities that are essentially SRTS actions.

Helmet Campaign

The school worked with Honolulu Police Department (HPD) during the 2014-15 school year to conduct a helmet campaign. The campaign involved the following actions:

- Survey asking why students didn't use a helmet.
- A demonstration on the importance of wearing a helmet, which included dropping an egg in a helmet, was conducted at a school assembly with the involvement of a HPD officer.
- Passing out point coins to kids for using a helmet that can be turned in for snacks.

- HPD school arrival helmet enforcement starting with warnings and eventually issuing citations.

As a result of the efforts, helmet use went up to 100%.

Bicycle Arrival Route

After receiving parent and staff feedback, the school conducted observations of students arriving by bike and devised modifications to the bicycle arrival/departure routes that would reduce the risk of bike/car conflicts. At the start of the 2015-16 school year, the arrival and departure route for students on bicycles was modified to avoid entering and exiting motor vehicles.

Bicycle parking

The school has previously installed bicycle parking that accommodates 40-50 parked bicycles. In addition to the formal bike parking, students are allowed to park bicycles on the select areas of the school's perimeter fence, which accommodates in excess of 100 bicycles.

b. Exiting Walking and Biking Infrastructure Audit

An audit was conducted of existing walking and bicycling infrastructure within one-mile of Kailua Intermediate School. The audit looked for bike routes, bike lanes, bike paths, signalized crossings, and paved walkways (recording whether on both sides or not). Notable infrastructure for bicycling includes the bike lanes on Kainalu Drive extending from Kailua Road to Kainui Drive, the bike lanes on a short section of Kuulei Road, the bike lanes on a section of Keolu Drive, and the bike path through Kailua Beach Park extending towards Lanikai. See Figure 1 for a map of existing walking infrastructure and Figure 2 for a map of existing bicycling infrastructure.

c. Bicycle and Pedestrian Traffic Injury Data

The Hawaii Department of Health provides a map with the locations of traffic injuries requiring Emergency Medical Services response. Bicycle and pedestrian traffic injuries are available from 2007 to 2014. It should be noted that these injuries are relatively serious, as they warranted an ambulance response. These were analyzed as part of the SRTS planning process. Kuulei Road between Oneawa Street and Kainalu Drive stands out as having particularly high levels of bicycle traffic injuries relative to area roads. Figure 3 shows bicycle and pedestrian injuries for the years of 2013 and 2014.

d. Parent Surveys

Parent Surveys were sent home with all students in September 2015. A standardized parent survey form provided by the National Center for Safe Routes to School was used. Two hundred and thirty-five completed surveys were received and entered into the National Center for Safe Routes to School Data Collection System. The Parent Survey responses show the following. (continue on Page 5).

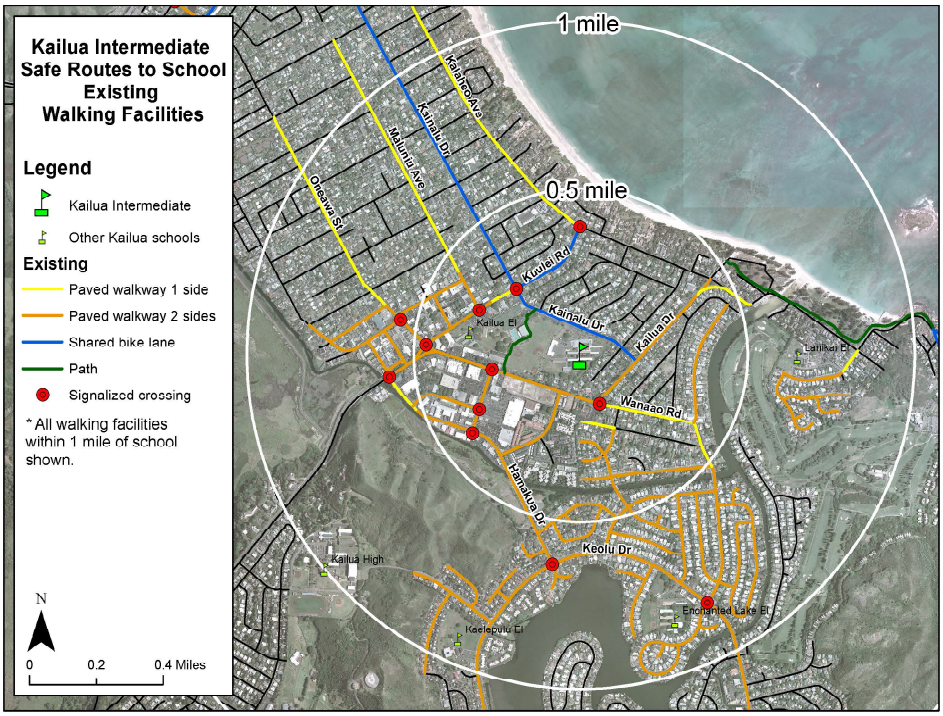

Figure 1 - Walking Infrastructure

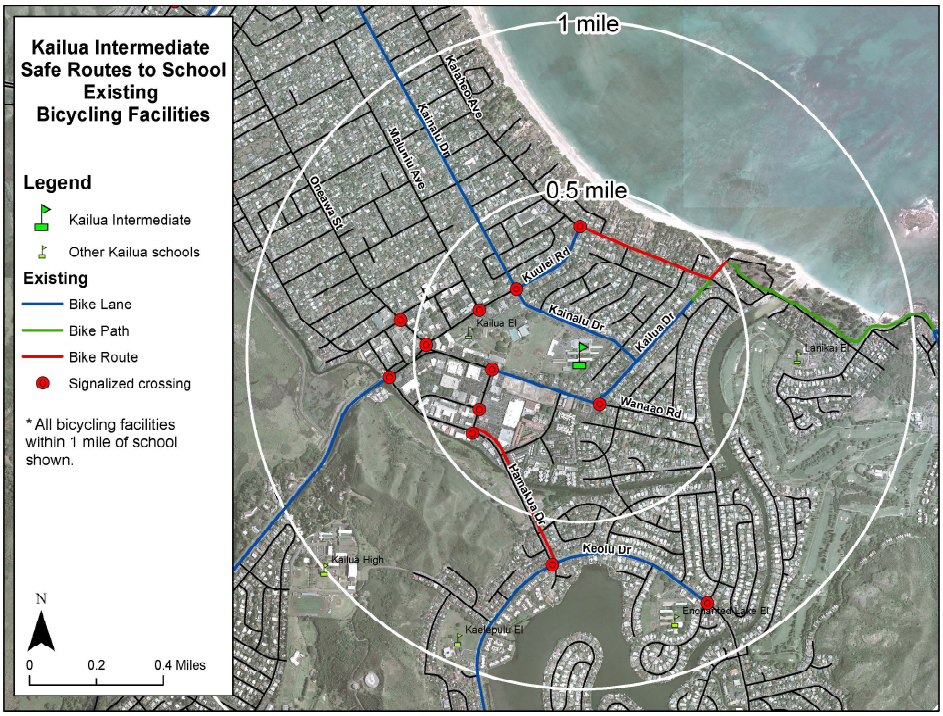

Figure 2 - Biking Infrastructure

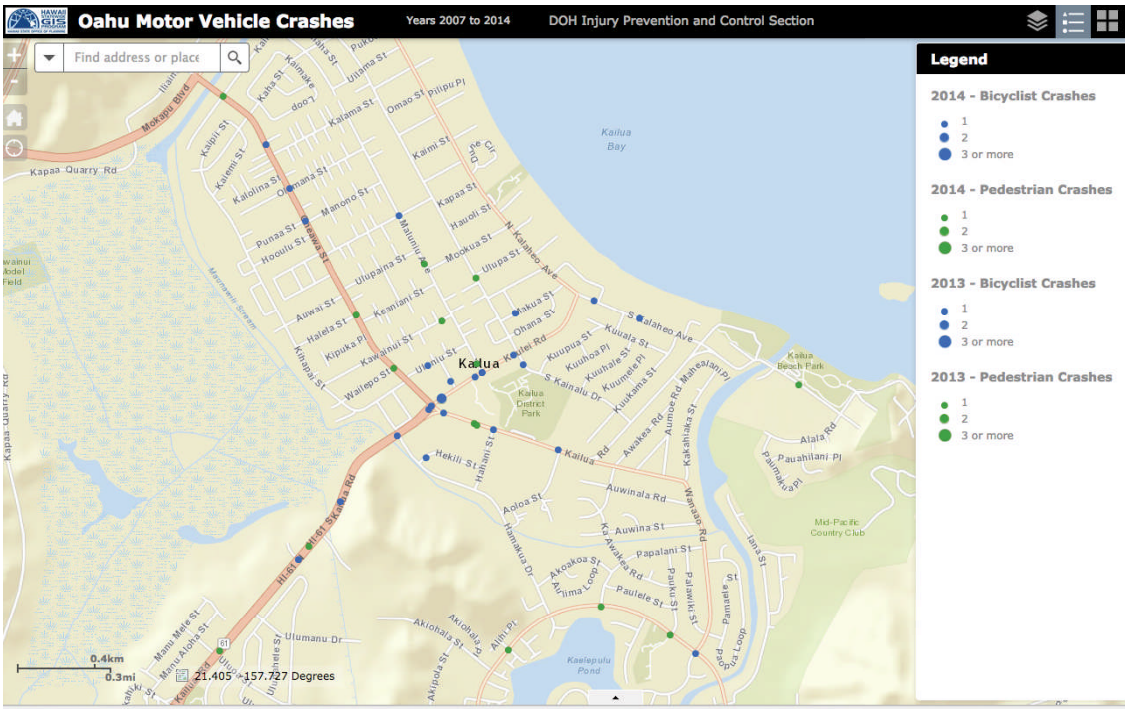

Figure 3 - Bicyclist & Pedestrian Injuries 2013-14

Getting to/from School

A little over half of students were getting to (59%) and from (56%) school by family vehicle. A significant amount of students were biking (17% to, 16% from) and walking (4% to, 6% from). When looking at students that live less than 2 miles from the school, walking and biking rates are considerably higher, with walking rates highest (38%) among student living within a quarter-mile and biking rates highest (38%) among student living between half and a quarter-mile from campus. See Figure 4 for more information.

Just over half (52%) of parents reported that their child had asked permission to walk or bike to/from school.

Parents Concerns

The Parent Survey form asks parents if 12 different factors affect their decision to allow their child to walk or bike to/from school. For parents whose child does not currently bike or walk to/from school the top three most noted factors were distance, safety of intersections and crossings, and amount of traffic along route. The list of all 12 factors with parents saying that if the factor changed it would impact their decision to let their child walk or bike to/from school is provided in Figure 5.

e. Travel Tallies

Travel tallies, using the standardized process and form provided by the National Center for Safe Routes to School, were taken by homeroom teachers in 46 classrooms. Each teacher asked for students to raise their hand based on how they got to school and how they intended to get home from school. The numbers shown in Figure 6 are largely consistent with those in the Parent Survey responses.

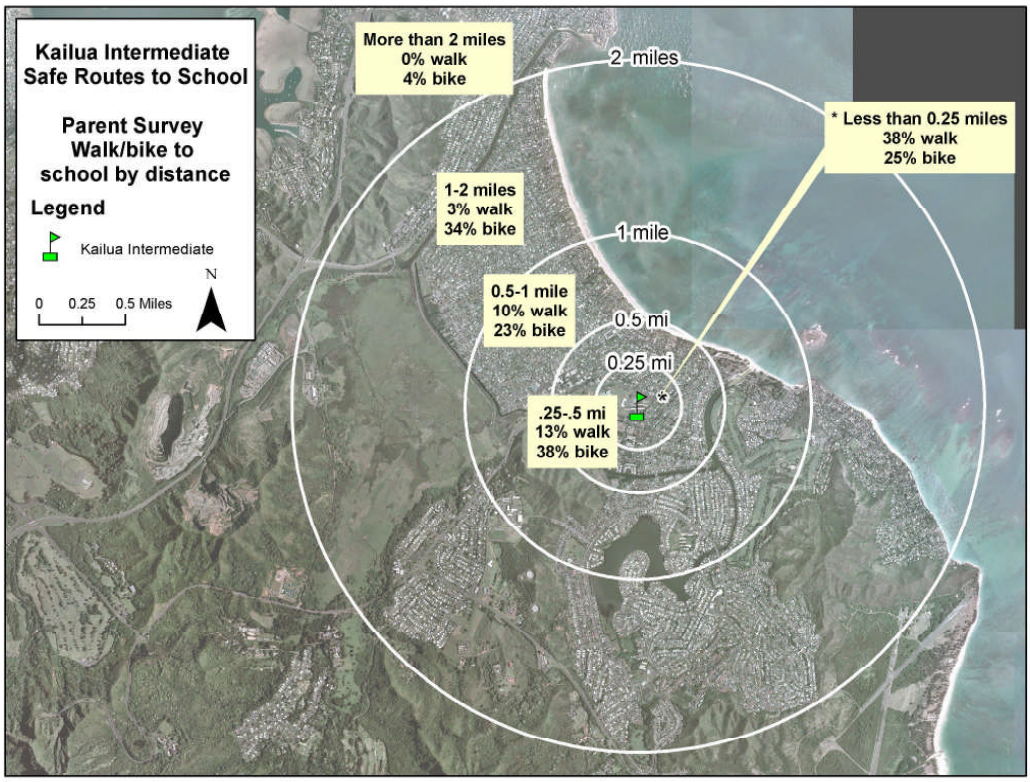

Figure 4 - Walking and Biking Rates by distance from school

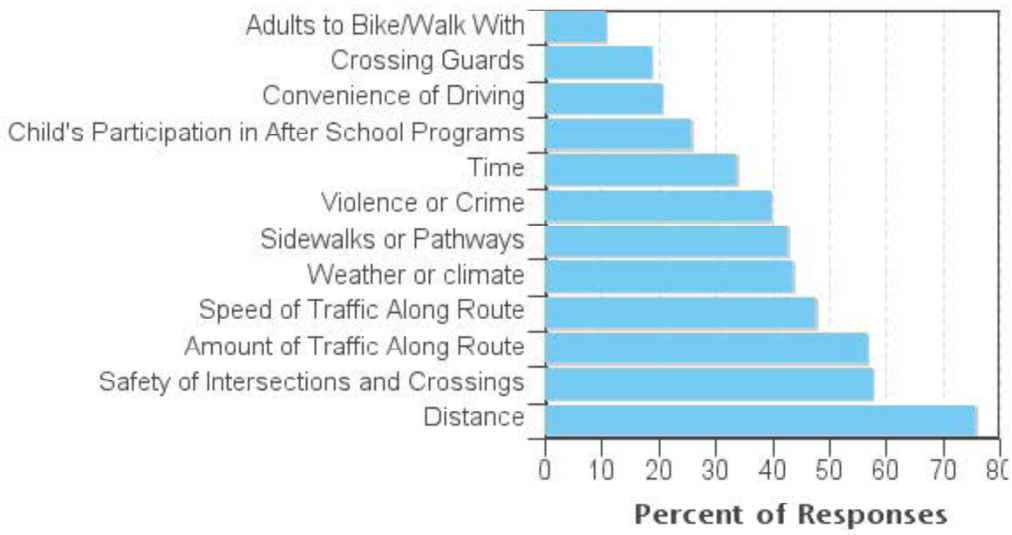

Figure 5 - Factors that if changed would impact the decision to allow their child to walk or bike

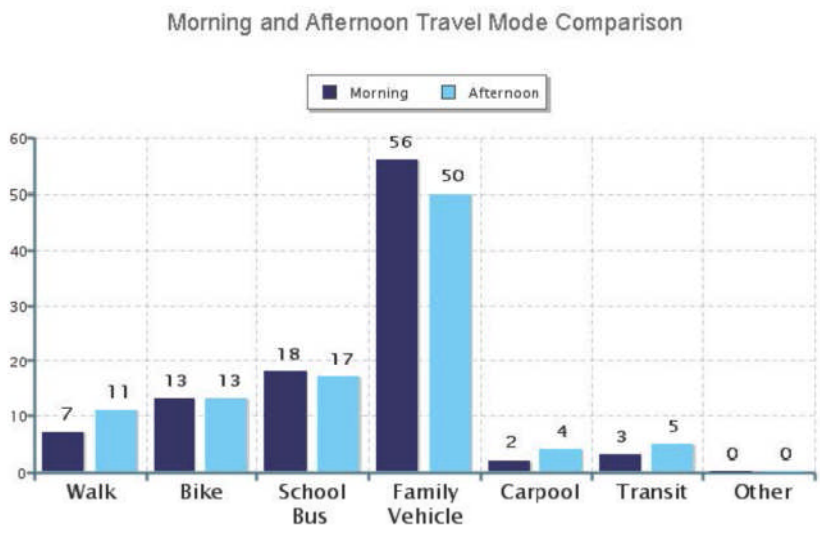

Figure 6 - Travel Tallies for Getting to/from School

IV. Issue & Solution Identification

Based on existing conditions, parent surveys, travel tallies, traffic injury data, and feedback during the SRTS planning meeting, the SRTS team identified key issues and some solutions. This list highlights those that were identified as most important.

a. Issues

Engineering

There are a number of engineering or infrastructure needs to make walking and bicycling to and from KIS safer and more attractive.

- Wanaao Road between Auwina Street to Kailua Road – This street is very narrow and has a 3-4ft rough paved walkway on one side, which is shared with bicyclists due to the high volumes and high speed nature of Wanaao Road. Wanaao Road serves as a link between the school and the Enchanted Lake community. While shown in City maps as a bike route, the road lacks any markings or signage. See Figure 7 for a photo of this section.
- Awakea Road between Wanaao Road and Auwinala Road – This street is very narrow and has no paved sidewalk on either side. Cars often park in the unimproved sidewalk forcing children into the road. As shown in Figure 1, this section is the missing link between pedestrian facilities in Enchanted Lake and those along Wanaao Road.
- Kuulei Road between Kailua Road and Kainalu Drive – This multi-lane road lacks any bicycle facility, yet serves as a crucial link for those students coming from the mauka areas of the Coconut Grove neighborhood.
- Kuulei Road/Aulike Street intersection crossing – The crosswalk at this intersection involves crossing four lanes of traffic and 2 parking lanes without a signal or a median refuge. In addition to serving KIS students, this crosswalk is an important access for students walking to/from Kailua Elementary School. See Figure 8 for photo of this crossing.

- Kailua Road between Wanaao Road and Kalaheo Avenue – Conditions are dangerous for walking and bicycling. The road is very narrow and has 3-5ft rough paved shoulder on mauka-bound side and 3-5ft rough paved walkway on the makai-bound side, both of which are shared by bicyclists, due to the high traffic nature of the road. While shown in City maps as a bike lane, the road lacks any markings or signage indicating the presence of a bike lane, nor does it appear to meet the minimum standards for a bike lane. The road serves as an important link to KIS for those living in both the Enchanted Lakes and Lanikai neighborhoods.
- Kalaheo Avenue between Kainui Drive and Mokapu Boulevard – This street is very narrow and has a 3-5ft rough paved walkway on one side, which is shared with bicyclists due to the high traffic and high speed nature of the road. This section serves as an unavoidable link between the school and the Marine Corps Base Hawaii Kaneohe Bay community.

Figure 7 - Wanaao Rd near Awakea Rd

Figure 8 - Kuulei Rd crosswalk at Aulike St

- Kainalu Drive crosswalk at Kuuhale Street – this unsignalized crosswalk is a major crossing for students walking to KIS. While only requiring a two lane crossing, due to heavy traffic the crossing can be dangerous.
- School zone reduced speed - There is no signage in the vicinity of the school indicating a reduced speed limit during school arrival and departure times. The speed limit is 25mph, which can be hazardous with the unsignalized crossings and unprotected bike lanes.
- Bike parking at KIS – There is a need for additional bike parking at the school. Desire has been expressed for covered bike parking that would protect student's bikes from the weather.
- Bicycle "fix-it" station – Students often have minor mechanical issues with their bicycles. With the provision of a "fix it" station and basic mechanic education many of the most common mechanical issues could be dealt at the school by students.

Education

- Students don't currently receive any formal bicycle safety education.
- Past helmet education has proven effective, but there is a need for ongoing action.
- The safest bike routes are largely unknown by students and parents; students generally ride on the roads where their parents drive. On-street signage or a safe bike routes map could help address this, where safer alternative routes exist.

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- The school has previously implemented a coin point system providing rewards for students using helmets. There is a need for ongoing action to continue the effectiveness of this work.
- There is an opportunity for bike and walk to school days and other encouragement activities.
- It was noted that some students report not having access to a bicycle. A program to provide them bicycles could play an important role in allowing some students to bicycle.

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- Based on Department of Education policy, intermediate schools such as KIS, are not provided funds for crossing guards.
- Speeding, running red lights, failure to stop for pedestrians, and other traffic violations play a role in making it more dangerous for children to walk and bike. Increased enforcement could reduce these illegal and dangerous activities. These issues are routinely communicated to the Honolulu Police Department at quarterly meeting by Principal DeLong.
- Helmet enforcement – Youth under the age of 16 are required to wear a helmet while bicycling. A 2014-15 school year helmet campaign involved citations as a final measure and was effective at achieving 100% helmet use.
- Bicycle theft was noted as an occasional issue. Stolen bikes are normally those not locked and left near the edge of the property. Factors that may contribute to this include difficulty locking to the perimeter fence (where many students must park due to insufficient formal bike parking), lack of awareness on the importance of locking or proper locking technique, and lack of access to a lock. KIS plans to install video surveillance in the next year, which may serve as enforcement deterrent.

Evaluation/Planning

By way of this SRTS plan, extensive evaluation and planning has taken place. There will be a need for evaluation and planning on an ongoing basis to determine if programs are effective and possible changes.

b. Solutions

Based on the identified issues and looking at SRTS best practices for the 5Es, the SRTS team identified a number of solutions. The below highlights two engineering solutions that warrant extensive explanation, a number of other important solutions are outlined in the Action Plan section.

Wanaao Road bicycle boulevard alternative

Wanaao Road was noted by many parents as a major obstacle to children walking and bicycling from the Enchanted Lake neighborhood to KIS. The section between Awakea Road and Auwina Street is a major issue it is a very narrow roadway with a 3-5 foot asphalt walkway in rough condition on one side without any curb or berm to provide additional protection. Given the constricted public right-of-way in the Awakea Road to Auwina Street section, improvements that properly accommodate both walking and bicycling would be a major and long-term project. In consideration of this, an alternative route was considered. Using a route that includes Awakea Rd. → Ke Awakea Rd. → Pauku St. does not increase the route distance compared to Wanaao Road when traveling between the corner of Kailua Road/Wanaao Road and Wanaao Road/Keolu Drive. A bicycle boulevard treatment would work to reduce traffic levels and traffic speeds along this route, thereby making the route safer and more inviting for bicycling. A bicycle boulevard treatment may involve the f

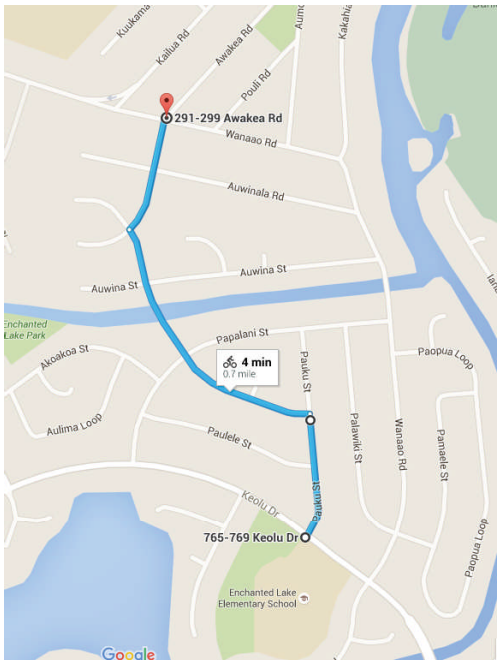

Figure 9 - Wanaao Road bicycle boulevard alternative route

- Speed humps
- Mini traffic circles
- Reduce speed limit to 15mph or 20mph
- Elimination of the center line
- Sharrows and bicycle route signage
- Wayfinding finding on route and directing to route

Figure 10 - Bicycle boulevard example

As seen in Figure 10, the route between Kailua Road and the bicycle boulevard section would require traveling on a single block portion of

Wanaao Road. This section, shown in Figure 7 should have the mauka side walkway widened and protected with a curb or asphalt berm to provide a safer connection.

Appendix 1 provides a conceptual design for the above.

Kuulei Road "right sizing"

Kuulei Road between Kailua Road and Kainalu Drive was identified as important issue negatively impacting bicycling and walking to and from KIS. Kuulei Road serves as access for students bicycling from the mauka sections of the Coconut Grove neighborhood to KIS, with its current state serving as deterrent to bicycling from these areas. This multi-lane road lacks any bicycle facility and the crosswalk at Aulike Street involves crossing four lanes of traffic and 2 parking lanes without a signal or a median refuge. Traffic injury data shows alarming high number of bicycle injuries with 10 serious injuries in the last 5 years on this 0.3-mile stretch of road.

The 4 to 3 "right sizing" (also known as "road diet") reconfigures a road creating new space for non-motorized users and making the road safer for all users without adversely impacting capacity. The Kuulei Road right-sizing would reconfigure the road to 1 through lane in each direction, a center left turn, and bike lanes on each side. This configuration would provide room for pedestrian safety medians and curb extensions. The right sizing would have major safety benefits for all roadway users, while continuing to accommodate the 15,000-16,000 average daily vehicle trips. The City has implemented a right sizing on a section of Keolu Drive in the Enchanted Lakes neighborhood with great success and will do so on section of Kamehameha IV Road in Kalihi in the coming year.

Figure 11 shows Kuulei Road as it currently is and Keolu Drive, which would serve as a model for the right sizing reconfiguration.

Figure 11 - Kuulei Road currently and Keolu Drive "right sizing" model

V. Action Plan

The action plan is where the SRTS plan comes to life; it is with the implementation of these actions that it will become safer to walk and bike to and from school and more students will do so. Many of these actions must be taken by parties besides KIS and will therefore require further coordination to see what action is possible and a schedule for implementation. This action plan specifies actions to be pursued for a Hawaii Department of Transportation-administered SRTS grant application in the application period open until December 2015; see those with mention of "*SRTS grant application*". Table 1 outlines specific actions within each of the *5Es* SRTS strategies, action descriptions, involved parties, and specific actions.

Table 1 - Action Plan Matrix

Strategies	Description	Involved Parties	Action
E	.	DTS	Request DTS SRTS grant application
	As part of the reconfiguration of Kuulei, install a pedestrian safety crossing island at the intersection with Aulike Street	DTS	Request DTS SRTS grant application
	Install infrastructure, signage, and markings for a "bicycle boulevard" on Awakea Rd. → Ke Awakea Rd. → Pauku St. to serve as an alternative to Wanaao Road	DTS	Request DTS SRTS grant application
	Improve the sidewalk on the south (mauka) side of Wanaao Road between Awakea Road and Kailua Road	DTS	Request DTS SRTS grant application
	Pave a path within the unimproved sidewalk along Awakea Road between Wanaao Road and Auwinala Road	DTS	Request DTS SRTS grant application
	Install school zone flashing beacons with school zone speed limit signs	DTS	Request DTS consideration
	Install a "State Law Must Yield to Pedestrians" flapper sign at Kainalu Drive crosswalk at Kuuhale Street	DTS	Request DTS consideration
	Improve the Kailua Road and Wanaao Road intersection for bicycle and pedestrian crossings	DTS	Request DTS consideration
	Improve the sidepaths on Kailua Road between Wanaao Road and Kalaheo Avenue to serve as multi-use paths	DTS	Request DTS consideration
	Create walking and biking paths on Kalaheo Drive between Kainui Drive and Mokapu Blvd	DTS	Request DTS consideration
	Reconfigure Keolu Drive between Wanaao Road and Nanialii Street to have 1 through lane in each direction and a center left	DTS	Request DTS consideration

Strategies	Description	Involved Parties	Action
	turn lane and bike lanes.		
	Improve the walkways on Wanaao Road between Awakea Road and Auwina Street	DTS	Request DTS consideration
	Create bikeways on Kailua Road between Oneawa Street and Hamakua Drive	DTS	Request DTS consideration
	Improve walkways on Maluniu Avenue between Uluniu Street and Kalama Street	DTS	Request DTS consideration
	Install bike lanes on Mokapu Blvd between Kalaheo Drive and MCBH Kaneohe Bay entrance	HDOT	Request HDOT consideration
	Add additional bicycle parking	KIS	Consider SRTS application
	Install covered bicycle parking	KIS	Consider SRTS application
	Install a "fix-it" bicycle station	KIS	Consider SRTS application
Education	Helmet education	KIS, HPD	KIS & HPD action
	Bicycle Safety Workshops	KIS, HBL	KIS & HBL action
	Safe Routes bike map	KIS, HBL	Consider SRTS application
	Bicycle Mechanic Education	KIS, HBL	KIS & HBL action
E	/Walk to School Day	KIS, HBL	Consider SRTS application
	Bike Together program	KIS, HBL	Consider SRTS application
	Bike Team t-shirts or patches	KIS, HBL	Consider SRTS application
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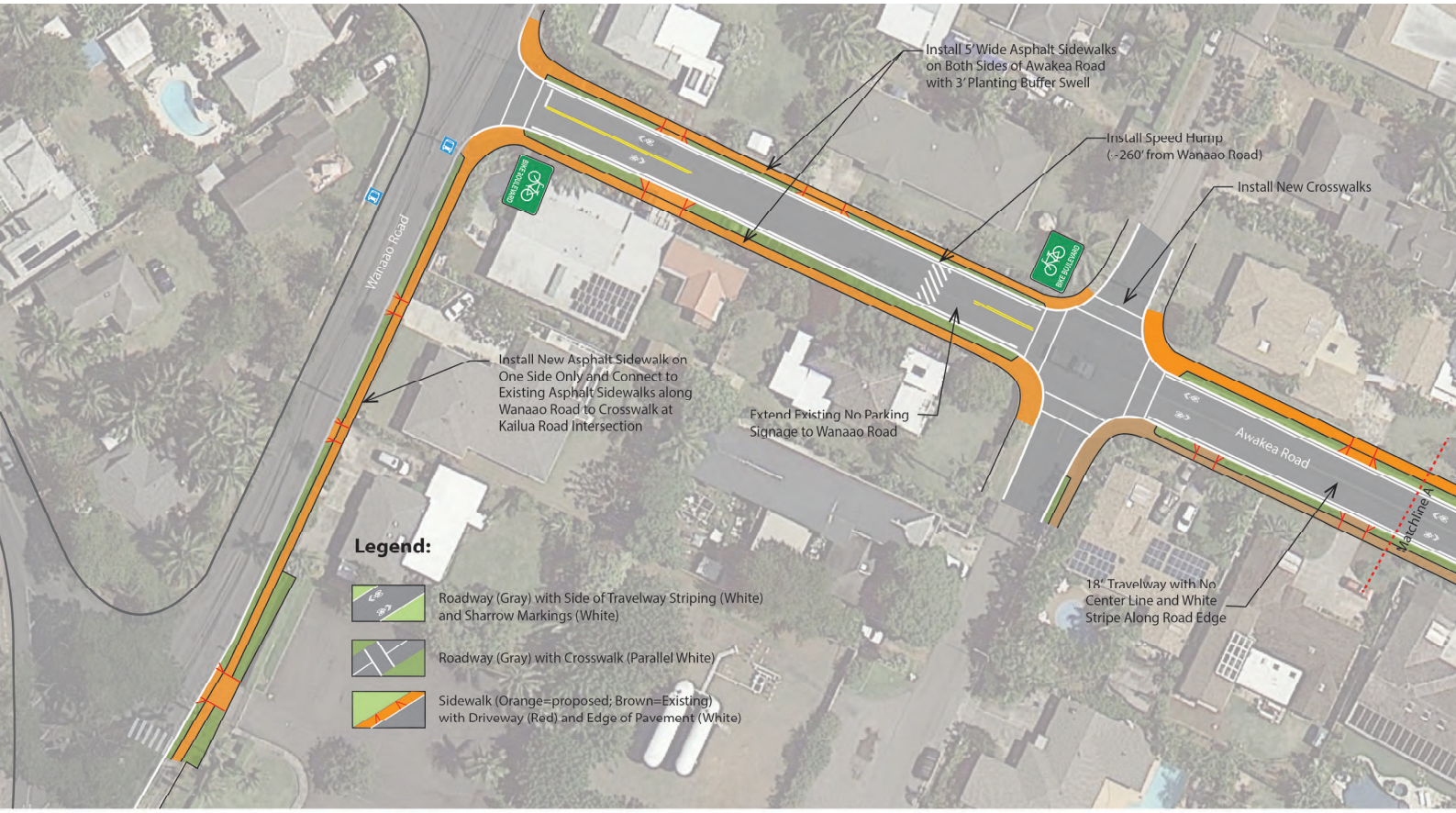
	Increased traffic enforcement around campus	HPD	Request HPD consideration
Evaluation/ Planning	Annually evaluate SRTS programs	KIS, HBL	KIS & HBL action

DTS – City and County of Honolulu Department of Transportation Services
HBL – Hawaii Bicycling League
HDOT – Hawaii Department of Transportation
HPD – Honolulu Police Department
KIS – Kailua Intermediate School

Appendix 1

Wanaao Alternative Bicycle Boulevard & Related Improvements



SAFE ROUTES TO SCHOOL

Bicycle Boulevard
Wanaao Road to Keolu Drive, Kailua, HI
SSFM International, Inc.
October. 5, 2015

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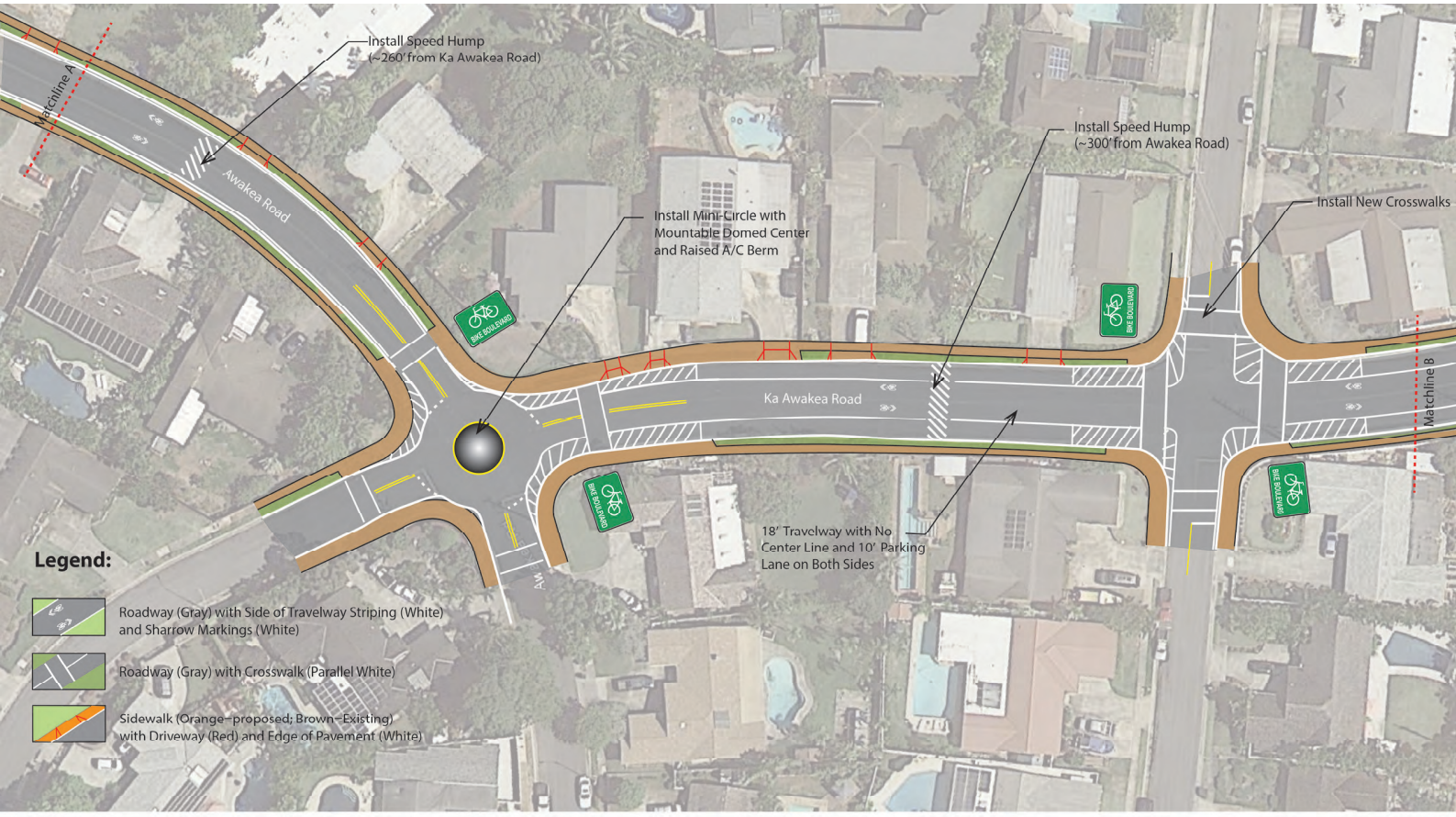

SAFE ROUTES TO SCHOOL

Bicycle Boulevard
Wanaao Road to Keolu Drive, Kailua, HI
SSFM International, Inc.
October. 5, 2015

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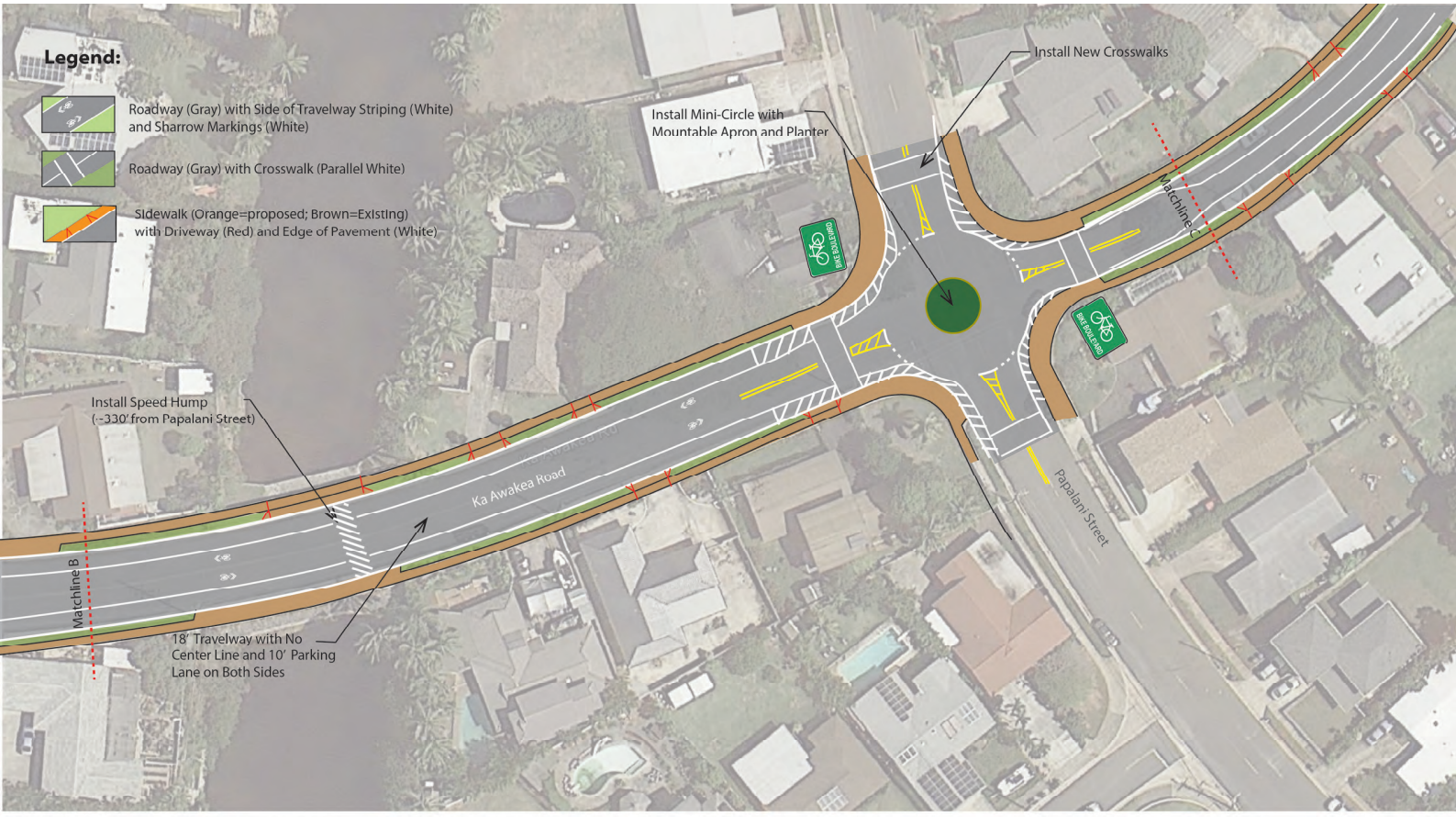

SAFE ROUTES TO SCHOOL

Bicycle Boulevard
Wanaao Road to Keolu Drive, Kailua, HI
SSFM International, Inc.
October. 5, 2015

0' 50' 100'

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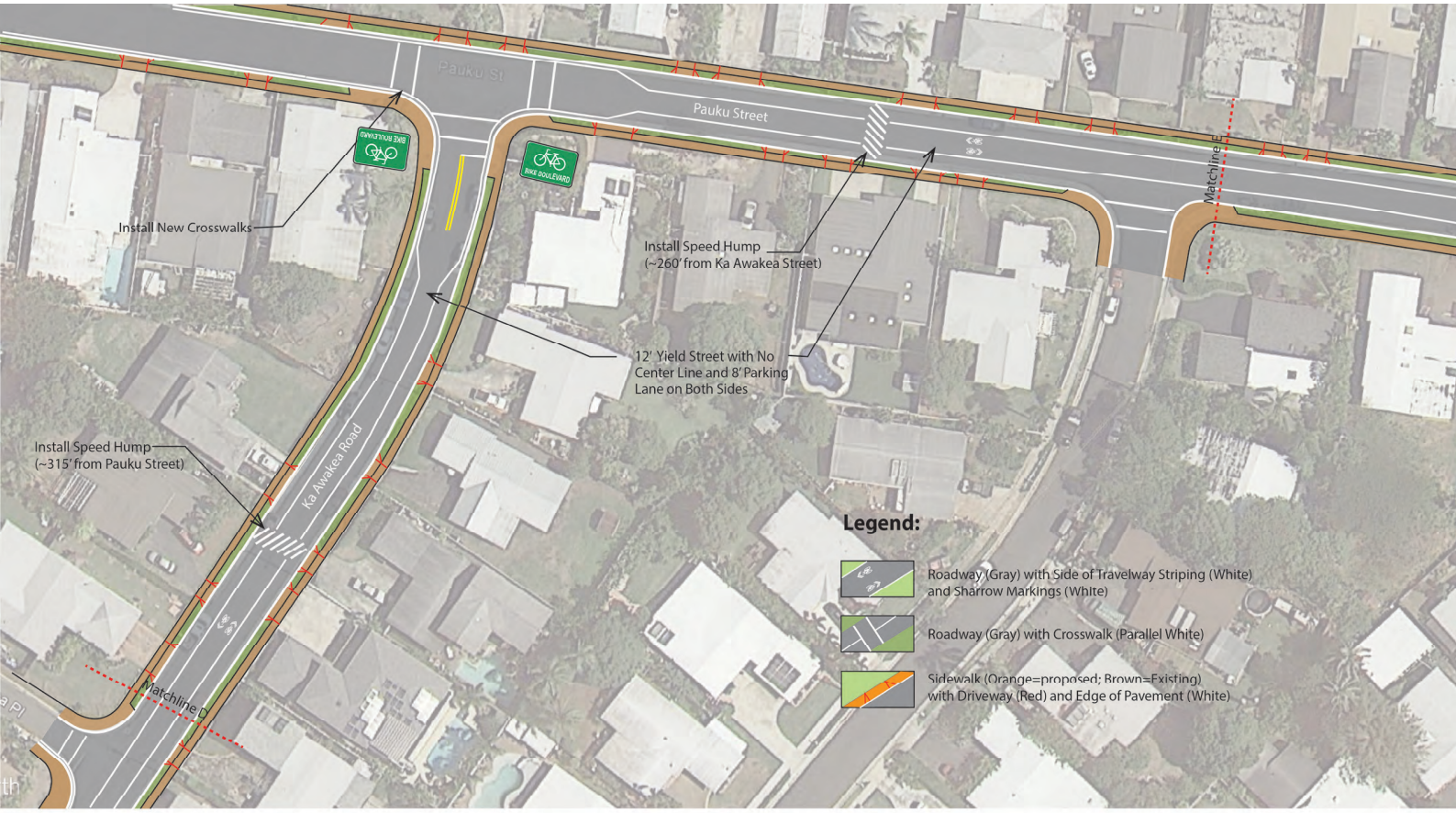

SAFE ROUTES TO SCHOOL

Bicycle Boulevard
Wanaao Road to Keolu Drive, Kailua, HI
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0' 50' 100'

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