JOSH GREEN, M.D.
GOVERNOR

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SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
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OFFICE OF THE SUPERINTENDENT

March 3, 2023

TO: Mr. Daniel E. Orodenker
Executive Officer, Land Use Commission
Department of Business, Economic Development and Tourism

FROM: Keith T. Hayashi
Superintendent

SUBJECT: **2022 Annual Report for LUC Docket No. A11-794**
State of Hawaii, Department of Education
Kihei, Maui, Hawaii, Maui Tax Map Key No.: 2-2-002:081

Pursuant to Condition No. 22 of the Decision and Order in the above-referenced docket, the Hawaii State Department of Education (Department or Petitioner) is pleased to provide this annual progress report to the State Land Use Commission (LUC), the State Office of Planning, and the County of Maui Planning Department (MPD) concerning the current status of compliance with the conditions of approval. This letter is the Department's ninth annual progress report to the LUC in this matter. An electronic pdf file copy of this annual report will be transmitted by email to your department.

Project Status:

The LUC approved the Department's petition to reclassify approximately 77.2 acres of land in Kihei, Maui, Hawaii from the State Land Use Agricultural District to State Land Use Urban District for the construction of the Kihei (now Kulanihakoi) High School by order dated July 29, 2013. The Decision and Order sets forth 25 conditions of approval regarding the reclassification.

Effective June 27, 2014, conditional zoning for approximately 77.2 acres of land in Kihei, Maui, Hawaii was changed from Agricultural to P-1, Public/Quasi-Public, for Kulanihakoi High School as granted by County of Maui Ordinance No. 4135.

This report will reference LUC Phase I, which is the design and construction for enrollment up to 800 students, and LUC Phase II, which is the design and construction for enrollment from 801 up to 1,650 students. The Department refers to phases of development and construction of the Kulanihakoi High School as "New School" phases which bear Arabic numerals instead of the Roman numerals that distinguish the LUC-phased work.

To facilitate the coordination of future construction phases, two irrigation wells were made part of a predesign phase, New School, Irrigation Wells, Department of Education (DOE) Job No. Q00017-06 (see Attachment A for the sequencing of the LUC and New School or the Department phases). The wells have been completed and tested, and one is being used for construction needs and irrigation. Permanent pumping equipment is being installed as part of New School - Phase 2 for the construction of the initial buildings.

New School - Phase 1 - Infrastructure, DOE Job No. Q55000-16 has been completed. In this phase, a perimeter chain link fence was constructed for the project site; on-site mass grading, erosion controls, and partial off-site and on-site underground utility infrastructure, including storm water, potable water, fire protection water, reclaimed irrigation water, sewer, power, telecommunication, and data work were completed. A paved driveway that provides access/egress from the highway to the school site was installed. The jobsite work commenced on June 1, 2018, the final inspection was held on January 6, 2020, and the work was accepted on November 3, 2020. This phase included archaeological monitoring for all ground disturbances.

The bid closing date for New School - Phase 2, DOE Job No. Q55000-17 was June 29, 2018. This phase is for initial buildings and support physical education (PE) field and court facilities. The phase was delayed due to bid protests that were resolved, and the contract was awarded on April 29, 2020. The jobsite work commenced on October 12, 2020, and construction completion is anticipated in February 2023. This phase includes infrastructure work, the administrative building, two classroom house buildings, the cafeteria/library building, PE facilities, and multi-lane roundabout at Piilani Highway for the opening of the school.

The bid closing date for New School - Phase 3, DOE Job No. Q55208-18 for elective classrooms was June 26, 2020. This phase was delayed due to bid protests that were resolved and a conditional notice to proceed was issued to start ordering materials. Construction was anticipated to start in January of 2022, but this date will be rescheduled for 2023 once the notice to proceed for site work is issued.

The balance of the campus facilities planned for LUC Phase I work include the gymnasium, athletic courts, music building, track and field complex, and related support facilities such as parking, access roads, and walkways. Depending on funding, one or more future New School phases is needed to complete the planned facilities for LUC Phase I.

The LUC Declaratory Order (Docket No. DR 19-65) dated April 25, 2019, determined that the school cannot open until a grade-separated pedestrian crossing (GSPC) is in place and the Department gets approval from the State of Hawaii Department of Transportation (DOT) for its Pedestrian and Traffic Plans. A supplemental intersection study titled “Kihei High School – Multimodal Operations Alternatives Evaluation of the Kulanihakoi Street/Piilani Highway Intersection” and dated August 1, 2019, was reviewed and approved by DOT. In concurrence therewith, DOT recommended and proposed a roundabout with an at-grade pedestrian crossing and did not recommend either an overpass or underpass.

Three possibilities for GSPC were considered during planning and design: 1) an at-grade pedestrian roundabout crossing; 2) an overpass; and 3) an underpass beneath Piilani Highway along either Kulanihakoi Gulch or Waipuilani Gulch. The at-grade pedestrian roundabout crossing will be about 130 feet. An underpass at Kulanihakoi Gulch is not recommended due to security issues and concerns for pedestrian safety in the event of a storm. In addition, DOT’s assessment of an underpass at Waipuilani Gulch determined that to build it in compliance with Federal flood zone requirements would cost $30 million or more. An overpass would be about 235 feet (+80%) to 760 feet (+500%) for stair and ramped crossings,

respectively, and the Waipuilani Gulch is about 1,200 feet (+900% in one direction) from the school entrance road. This distance does not include ramps, crossing below the highway, and the route on the other side of the highway. DOT cited a Texas Transportation Institute report which concludes that virtually no pedestrian would use a grade-separated crossing that extends their path of travel by more than 25 percent.

On August 20, 2020, the Department filed a Motion to Amend the LUC's Findings of Fact, Conclusions of Law and Decision and Order Filed July 29, 2013, to eliminate the GSPC requirement. Hearings were held on September 10 and November 4, 2020.

At the 2020 hearings, the LUC raised a concern that the Petitioner did not engage the community in the plans for development of a GSPC for Kulanihakoi High School. In response, the Department conducted online meetings for the Kihei community on October 27, 2020, and January 12, 2021, to present the DOT traffic/pedestrian route design and respond to questions and comments about the school design. The Department also posts project updates on its website and hosted an online meeting on August 17, 2021, to introduce the new school principal.

In response to a written request from the LUC dated November 10, 2020, the Department submitted a Motion to Amend and the matter was placed on the LUC docket on September 8-9, 2021, and continued on October 27, 2021. The formal written ruling dated September 28, 2022, was recently posted. Based on the LUC's discussion following the hearing, the Department commissioned a Pedestrian Crossing Alternatives Study to analyze grade-separated (above or below street level) crossing options at Piilani Highway with more community input. The study was conducted by design firm G70, and the study team included Maui-based Skog Rasmussen LLC, whose role was to help organize and conduct the community outreach. Meetings were held with the Kihei community, DOT, and MPD to discuss multiple highway crossing options. The study was completed in December 2022.

The Department provided a status report at the February 9, 2023 LUC informational meeting held at the Kihei Community Center. The LUC made no further action. The Department is committed to constructing a grade-separated pedestrian overpass and the design consultant has been contracted.

<u>*Conditions* and Compliance</u>:

1. ***Highway and Road Improvements.*** *Petitioner will work cooperatively with the Department of Transportation (DOT) to reach mutually agreeable solutions. Petitioner shall abide by, complete and/or submit the following:*

    a. *The Traffic Impact Analysis Report (TIAR) shall be revised and accepted by DOT prior to Petitioner executing a contract for the design of Phase I of the Project. The TIAR shall be structured to show assumptions about, traffic impacts of, and mitigations for both Phase I of the Project only and also the full build out of the Project. Petitioner shall submit three updated TIARs for the Project: the first one full year after opening of Phase I of the Project, the second with DOT approval prior to the issuance of any certificate of occupancy for Phase II of the Project, and the third with DOT approval one full year after full build out of Phase II of the Project. Should there be delays over three years between preparation of the updated TIAR one full year after opening of Phase I and the scheduled issuance of the certificate of occupancy for Phase II or any potential later Phasing, Petitioner shall submit an additional updated TIAR at DOT's request. All requirements and criteria for the TIAR and updated TIARs shall be agreed and approved by DOT. All project generated traffic shall be*

mitigated at Petitioner's expense as recommended or required in any of the TIARs approved by DOT. Petitioner shall submit copies of all TIARs and TIAR updates to the State of Hawaii DOT for review and approval, and to the County of Maui Department of Public Works for review and comment.

b. *Petitioner shall complete a pedestrian route study for Phase I of the Project which includes ingress and egress of pedestrians through defined location(s) approved by DOT and shall analyze compliance with the proposed warrants in FHWA/RD-84/082 (July 1984) to the satisfaction of DOT. The pedestrian route study and analysis shall be completed and approved prior to Petitioner executing a contract for the design of Phase I of the Project. Petitioner shall cause to be constructed, or ensure that there is an available above or below ground pedestrian crossing and implement such mitigation or improvements as may be required or recommended by the study and analysis to the satisfaction of DOT prior to opening Phase I of the Project. Petitioner shall submit three updated pedestrian route studies and analyses for the Project: the first one full year after opening of Phase I of the Project, the second with DOT approval prior to the issuance of any certificate of occupancy for Phase II of the Project, and the third with DOT approval one full year after full build out of Phase II of the Project. Should there be delays over three years between preparation of the updated pedestrian route study one full year after opening Phase I and the scheduled issuance of the certificate of occupancy for Phase II or any potential later Phasing, Petitioner shall submit an additional updated pedestrian route study at DOT's request. Petitioner shall implement such mitigation or improvements as may be required or recommended by the updated studies and analyses to the satisfaction of DOT. Petitioner shall submit copies of the studies and analyses to the State of Hawaii DOT for review and approval, and to the County of Maui Department of Public Works for review and comment.*

c. *Petitioner shall make transportation improvements relating to the direct impacts at the intersection of Kulanihakoi Street and Piilani Highway acceptable to DOT and as set forth in the current and revised TIAR for Phase I of the Project, including full funding of improvements and dedication of land prior to the issuance of a certificate of occupancy for Phase I of the Project. The access road to the high school shall be perpendicular to Piilani Highway for a minimum distance of 200 feet. For improvements as required or recommended in an updated TIARs for any other Phase of the Project, Petitioner shall provide all required transportation improvements to support the planned enrollment of the school, and complete all associated transportation improvements prior to the issuance of a certificate of occupancy.*

d. *Petitioner shall install paved shoulders along Piilani Highway fronting the high school, and provide accommodations for bicycles to the mutual agreement of Petitioner and DOT.*

e. *Petitioner shall plan, design, and construct all other improvements required to mitigate project generated or related transportation impacts, in accordance with the revised TIAR for Phase I of the Project, or any of the updated TIARs, and as approved by the DOT.*

f. *Petitioner shall address traffic noise levels along Piilani Highway with noise compatible sound abatement measures to comply with DOT's noise policy.*

Compliance: DOT reviewed the revised TIAR and Pedestrian Route Study and determined that Petitioner has satisfied LUC Condition 1(a) and 1(b) per the DOT memo to Petitioner dated July 18, 2017, submitted with the 2017 report. The Supplemental Intersection Study dated August 1, 2019, is

a combined pedestrian and traffic study with a recommended GSPC, and in accordance with the declaratory ruling by the LUC on April 25, 2019, Petitioner submitted a copy of the report to DOT and the County of Maui Department of Public Works. DOT did not recommend any of the GSPC options, and instead recommended a roundabout with at-grade pedestrian crossing as the safest route for vehicles and pedestrians to access the school. Based on DOT recommendations, Petitioner submitted a Motion to Amend the Findings of Fact, Conclusions of Law and Decision and Order and provided additional information as requested by the LUC. The LUC denied the motion to allow Kulanihakoi High School to open without a GSPC. Petitioner commissioned a Pedestrian Crossing Alternatives Study to analyze GSPC options at Piilani Highway that included community outreach and coordination with DOT and MPD (see Attachment B). Petitioner is continuing construction of the DOT designed roundabout that recently fully opened all lanes to vehicular traffic. Petitioner has started the design for a grade separated pedestrian overpass. Petitioner is in compliance with LUC Conditions 1(c) through 1(f), except that DOT verifies that the portion of Condition 1(c) for the 200 feet of access road perpendicular to Piilani Highway is specific to a four-way signalized intersection and is not a requirement for a roundabout. See Attachment C for DOT comments on Conditions 1(c) and 1(d).

2. ***Civil Defense.*** *Petitioner shall permit the State of Hawaii Department of Defense, Office of Civil Defense or County of Maui Civil Defense Agency to construct and maintain a solar-powered civil defense warning siren at a mutually agreeable location on the Petition Area.*

   Compliance: Petitioner is working with the State of Hawaii Department of Defense, Hawaii Emergency Management Agency (HIEMA), and the Maui County Department of Emergency Management and an area for a siren has been reserved at the school. HIEMA and the State Department of Accounting and General Services will notify Petitioner when they intend to schedule the siren installation.

3. ***Archaeological Inventory Survey and Historic Preservation Mitigation Plan.*** *Petitioner shall prepare, submit to, and obtain approval from the State of Hawaii Department of Land and Natural Resources, Historic Preservation Division ("SHPD") of an archaeological monitoring plan to protect historic sites in the general vicinity of the Petition Area prior to commencement of any ground altering activities. The plan shall be implemented, with a report of monitoring activities submitted to the SHPD upon completion of work.*

   Compliance: Petitioner prepared archaeological monitoring plans approved by the SHPD for the construction of the two non-potable water wells (Predesign Phase) and Phase 1 infrastructure. The SHPD provided email notification dated December 6, 2019, that archaeological monitoring is not needed for Phase 2 construction work due to the extensive disturbance of the project site during Phase 1 that yielded negative results for historic properties. Phase 3 is similar to Phase 2 in grading and scope, but much smaller in size so it is anticipated that it also will not require archaeological monitoring. Petitioner will confirm with the SHPD that future phases of work will also not require archaeological monitoring.

4. ***Unidentified Finds.*** *In the event any previously unidentified human skeletal remains or archaeological or historic sites such as artifacts, marine shell concentrations, charcoal deposits, stone platforms, pavings, or loi walls are identified during construction activities, Petitioner shall cease work in the immediate vicinity of the find. Petitioner shall immediately notify SHPD, and comply with requirements of Chapter 6E, HRS, and applicable regulations. All construction activity in the vicinity of the find shall cease until SHPD has determined the significance of the find, and has issued an archaeological*

clearance that appropriate mitigation measures have been implemented in order for subsequent work to proceed.

Compliance: Petitioner will comply.

5. ***Established Access Rights Protected.*** *Petitioner shall observe any legal access rights of native Hawaiians for legally recognized purposes.*

   Compliance: Petitioner will comply.

6. ***Flora and Fauna.*** *Petitioner shall ensure that all exterior lighting fixtures are down-shielded to minimize the harmful effects of lighting on endangered avifauna.*

   Compliance: Petitioner's design for buildings and site facilities for the new school complies with this condition.

7. ***Air Quality Monitoring.*** *Petitioner shall participate in an air quality-monitoring program if required by the State of Hawaii Department of Health.*

   Compliance: Petitioner will comply.

8. ***Notification of Potential Nuisances.*** *Petitioner shall disclose to all students and parents of the school to be developed on the Petition Area that potential odor, noise and dust pollution may result from agricultural uses on adjacent lands.*

   Compliance: Petitioner will comply.

9. ***No Restraint on Farming Operations.*** *Petitioner shall not take any action that would interfere with or restrain farming operations conducted in a manner consistent with generally accepted agricultural and management practices on adjacent or contiguous lands in the Agricultural District.*

   Compliance: Petitioner will comply.

10. ***Provisions of the Hawaii Right to Farm Act.*** *Petitioner shall notify all students and parents of the school to be developed on the Petition Area that the Hawaii Right to Farm Act, Chapter 165, HRS, limits the circumstances under which pre-existing farm activities may be deemed a nuisance if there are any lands in the Agricultural District adjacent to the Petition Area.*

    Compliance: Petitioner will comply.

11. ***Drainage Improvements.*** *Petitioner shall fund the design, construction and maintenance of storm water and drainage system improvements to prevent increased storm water runoff resulting from the development of the Petition Area from entering Waipuilani Gulch or adversely affecting State highway facilities in compliance with appropriate federal, State, and County laws and rules, based on 24 hour of runoff from a 100 year storm event. To the extent economically and physically feasible, Petitioner shall implement Best Management Practices and incorporate low impact development practices for onsite*

storm water capture and reuse into site planning and landscape planning for the Petition Area to control water quality and mitigate nonpoint sources of pollution.

Compliance: Petitioner includes storm water and drainage system improvements in the current infrastructure requirements, and the design of buildings and site facilities for the new school complies with this condition. New School Phases 1, 2, and 3 incorporate on-site drainage flow and detention to mitigate drainage flow to the adjacent gulches. The drainage system accounts for the development of future increments for LUC Phases I and II, that incorporates low impact development (LID) features.

12. ***Integrated Solid Waste Management Plan.*** *Petitioner shall cooperate with the State of Hawaii Department of Health and County of Maui Department of Environmental Management to conform to the program goals and objectives of Chapter 342G, HRS, and the County of Maui's approved integrated solid waste management plan in accordance with a schedule and timeframe satisfactory to the State of Hawaii Department of Health. Petitioner shall, in coordination with appropriate State and County government agencies, assist in the planning and promotion of solid waste recycling facilities within the proposed development.*

    Compliance: Petitioner includes a solid waste management plan in the current infrastructure requirements that will minimize disposal of rock and soil by grading and storing suitable material on-site to comply with this condition. The designs of New School Phases 2 and 3 have incorporated stored material that comply with this condition, and the construction contractor will stockpile materials left onsite after the completion of New School Phase 2 for New School Phase 3 to incorporate.

13. ***Water Resources Allocation.*** *Petitioner shall provide adequate potable water storage and transmission facilities and improvements to accommodate the proposed development of the Petition Area to the satisfaction of the County of Maui Department of Water Supply and other appropriate State and County government agencies.*

    Compliance: Petitioner includes potable and non-potable water system improvements in the current infrastructure requirements and the design of buildings and site facilities for the new school will comply with this condition. Petitioner has constructed potable and non-potable water infrastructure with the approval of and per the requirements of the County of Maui Department of Water Supply (DWS). Petitioner has obtained service for New School Phase 2 from DWS.

14. ***Best Management Practices.*** *Petitioner shall implement best management practices applicable to the proposed land use in order to minimize infiltration and runoff from construction and vehicle operations to reduce or eliminate soil erosion and ground water pollution, and effect dust control measures during and after the development process in accordance with the State Department of Health guidelines.*

    Compliance: Petitioner included the implementation of best management practices to minimize infiltration and runoff from construction and vehicle operations for the investigative well work and New School Phase 1 infrastructure, New School Phase 2 initial buildings, and New School Phase 3 additional buildings include such practices. Future phases of work will comply with this condition.

15. ***Water Conservation Measures.*** *Petitioner, where feasible, shall implement water conservation measures and best management practices, such as use of water efficient plumbing fixtures and planting of endemic, indigenous, and drought tolerant plants and turf.*

Compliance: Petitioner will comply. The design has localized LID retention features to treat and manage storm water throughout the campus. The wells supplement irrigation and water feature needs. R1 non-potable water connection will provide future anticipated irrigation needs. Naturalized areas have drought-resistant and native planting with turf and ornamental planting limited to select areas. Water efficient plumbing fixtures are specified throughout the campus. Water efficient shower heads are used at the PE Locker/Shower Building.

16. ***County Conditions.*** *Petitioner shall work with the County of Maui to the satisfaction of the County of Maui Planning Department during the permitting process, to implement the following improvements to the Kihei High School campus:*

    a. *Pedestrian and bicycle access to and from the school campus to connect to current and future pedestrian and bicycle networks in the vicinity of the campus;*

    b. *Bicycle friendly improvements on the school campus, and if requested by the Maui County Department of Transportation, an area for public transit access to the school campus;*

    c. *Overflow parking and lighting to accommodate special events to be held on the school campus;*

    d. *Consideration of best practices in Crime Prevention through Environmental Design (CPTED) elements in campus design; and*

    e. *To the extent not inconsistent with the provision of a drainage detention basin, overflow parking and CPTED design elements, a landscaped buffer on the campus fronting Piilani Highway.*

    Compliance: Petitioner has been in contact with the MPD. The project design team worked with the MPD and received verbal approval at a review meeting held on April 15, 2019, with Jeffrey Dack, County Planner and four Community Police Officers of the Maui Police Department for elements b. through d. above and confirmation that the other elements a. and e. were meeting county requirements/expectations. Elements a. and e. are affected by the roundabout. Petitioner provided updates to the MPD to ensure that the project continues to comply with this requirement. Petitioner met online with Mr. Dack and Clayton Yoshida in 2021 and also followed up with the new point of contact for the MPD, Tara Furukawa, Staff Planner and Deputy Planning Director Jordan Hart.

17. ***Energy Conservation.*** *Petitioner shall incorporate and implement energy conservation, sustainable design, and environmental stewardship measures in the design and construction of Kihei High School pursuant to the Hawaii – Collaborative for High Performance Schools (HI-CHPS) Criteria in order to qualify for the HI-CHPS Verified designation.*

    Compliance: Petitioner will comply. Design includes energy conservation, sustainable design, and environmental stewardship measures. Petitioner has been in contact with HI-CHPS throughout the design and has identified achievable points. HI-CHPS design documentation was submitted and is under review. Petitioner is working with the New School Phase 2 contractor to implement and achieve the HI-CHPS Verified designation and to provide the final HI-CHPS construction submittal when the construction is completed. Petitioner is working to make this a net-zero campus by full build out to enrollment of 1,650 students. The net-zero strategy is to install photovoltaic panels on structures that would cover parking stalls and energy would feed back into the power system with a battery backup.

18. ***Infrastructure Deadline.*** *Petitioner shall complete construction of the proposed backbone infrastructure, including the primary roadways and access points, internal roadways, and water supply, sewage, electrical infrastructure and buildings for Phase I of Kihei High School within ten (10) years from the date of filing of the Commission's decision and order.*

    Compliance: The County of Maui approved a change to the Kihei-Makena Community Plan Land Use Map and a change in zoning for the Petition Area on June 20, 2014. New School Phase 1 infrastructure construction is completed and New School Phase 2 building construction is nearing completion. At this stage of construction, the majority of the backbone utilities infrastructure for LUC Phase I has been installed. The primary roadway work and access points are anticipated to be completed before the school opens.

19. ***Order to Show Cause.*** *If Petitioner fails to complete construction of the proposed backbone infrastructure as described above on the Petition Area then the Commission may, on its own motion or at the request of any party or other interested person, issue an Order to Show Cause requiring Petitioner to appear before the Commission to explain why the Petition Area should not revert to its previous Agricultural District classification or be changed to a more appropriate classification.*

    Compliance: Petitioner will comply.

20. ***Compliance with Representations to the Commission.*** *Petitioner shall develop the Petition Area in substantial compliance with the representations made to the Commission. Failure to so develop the Petition Area may result in reversion of the Petition Area to its former classification, or change to a more appropriate classification.*

    Compliance: Petitioner continues to design and develop the Petition Area in substantial compliance with the representations made to the LUC. Based on DOT recommendation and community input, the signalized intersection fronting the school has changed to a multi-lane roundabout with an at-grade pedestrian crossing that is currently under construction. In addition, Petitioner has commissioned a Pedestrian Crossing Alternatives Study to analyze GSPC options at Piilani Highway that includes community outreach and coordination with DOT and MPD. Petitioner is continuing construction of the DOT-designed roundabout.

21. ***Notice of Change to Ownership Interests.*** *Petitioner shall give notice to the Commission of any intent to sell, lease, assign, place in trust, or otherwise voluntarily alter the ownership interests in the Petition Area, prior to development of the Petition Area. This condition shall not require notice of mortgage financing, and shall be satisfied by the giving of notice only, and shall not require approval by the Commission.*

    Compliance: Notice will be given to the LUC if any transfers are proposed.

22. ***Annual Reports.*** *Petitioner shall provide timely and without any prior notice, annual reports to the Commission, the Office of Planning and the Maui County Planning Department in connection with the status of the development proposed for the Petition Area, and Petitioner's progress in complying with the conditions imposed. The annual report shall be submitted in a form prescribed by the executive officer of the Commission. The annual report shall be due prior to or on the anniversary date of the Commission's approval of the Petition.*

Compliance: This letter is the ninth annual report submitted in compliance with this condition.

23. ***Release of Conditions Imposed by the Commission.*** *Petitioner shall seek from the Commission full or partial release of these conditions as to all or any portion of the Petition Area upon assurance acceptable to the Commission of satisfaction of these conditions.*

    Compliance: When requesting the release of a condition, Petitioner will file the appropriate motions upon formal acknowledgment from the proper agencies of their satisfaction.

24. ***Statement of Imposition of Conditions.*** *Within seven (7) days of the issuance of the Commission's Decision and Order for the subject reclassification, Petitioner shall: (a) record with the Bureau of Conveyances a statement that the Petition Area is subject to conditions imposed by the Commission in the reclassification of the Petition Area, and (b) file a copy of such recorded statement with the Commission.*

    Compliance: Petitioner has recorded the Statement of Impositions of Conditions by the Commission dated October 2, 2013, with the Bureau of Conveyances of the State of Hawaii as Document No. A-50230674.

25. ***Recording of Conditions.*** *Petitioner shall record the conditions imposed by the Commission with the Bureau of Conveyances pursuant to Section 15-15-92, Hawaii Administrative Rules.*

    Compliance: Petitioner has recorded the Declaration of Conditions dated December 3, 2014, with the Bureau of Conveyances of the State of Hawaii as Document No. A-54500615. A copy was hand delivered to your office on December 4, 2014.

Should you have any questions, please call Gaylyn Nakatsuka, Architect with the Facilities Development Branch, Planning Section, at (808) 784-5088 or contact via email at gaylyn.nakatsuka@k12.hi.us.

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Attachments – Attachment A – Kihei High School Project Coordination Table
Attachment B – Final_GSPCAS Report
Attachment C – Memorandum from DOT dated September 13, 2022

c: Scott J. Glenn, Director, Office of Planning and Sustainable Development, Department of Business, Economic Development and Tourism
Kathleen Aoki, Director, MPD
Ryan W. Roylo, Deputy Attorney General, Education Division
Curt T. Otaguro, Deputy Superintendent of Operations
Randall M. Tanaka, Assistant Superintendent, Office of Facilities and Operations
Edward S. Ige, Public Works Administrator, Facilities Development Branch

ATTACHMENT A

Kihei High School Project Coordination Table

Enrollment	For design enrollment of 800 students							For design enrollment of 1,650 students		
LUC Phase	LUC Phase I							LUC Phase II		
Department New School Phase	Preconstruction	Phase 1	Phase 2	Phase 3	Phase 4	Future Phase	Not numbered	TBD	TBD	TBD
Title	Irrigation Wells	Phase 1 - Infrastructure	Phase 2	Phase 3	Phase 4	TBD	Traffic Improvements	TBD	TBD	TBD
Status	Completed	Completed	Bid June 2018 In Construction (estimated construction completion in February 2023)	Bid June 2020 Construction start at site to be scheduled; Has conditional NTP to order materials.	TBD; needs funding (governor's budget includes Fiscal Year 2024 (FY24) funding for Phase 4 and Grade-Separated Pedestrian Crossing (GSPC))	TBD; needs funding (budeted for Fiscal Years 2025-2027)	GSPC design contract modification in progress (governor's budget includes FY24 funding for Phase 4 and GSPC)	N/A	N/A	N/A
Description	Install irrigations wells and related work	Grading and offsite and onsite infrastructure and grading	Initial Buildings: administration, two classroom houses, cafeteria/library, PE locker rooms and playfield and court and related improvements. Replacement of signalized intersection for a roundabout with at-grade crossing via a forthccoming change order.	Additional Buildings: electives classrooms	May include part or all of the following: student activities center, electives classrooms, site improvements, and/or track/field (as funding will allow)	May include part or all of the following: gymnasium, outdoor courts, track/field, site improvements, athletic locker rooms (as funding will allow; work may require additional phases of construction by the Department)	Ongoing LUC item - Department commissioned a Pedestrian Crossing Alternatives Study to analyze grade separated crossing options at Piilani Highway with community input. The report was finalized in December 2022, and is the basis for the design of the GSPC.	Work for LUC Phase II projects will be incremental as growing enrollment requires additional facilities which totaled will include two additional classroom houses, athletic locker rooms, ball fields, practice field, and related improvements		

KŪLANIHĀKOʻI HIGH SCHOOL

Grade-Separated Pedestrian Crossing Alternatives Study

FINAL REPORT

December 2022

Prepared by

G70 FEHR PEERS SKOG RASMUSSEN LLC

Contents

Appendices

Appendix A: Community Outreach Results

Appendix B: Estimated Time to Completion

Appendix C: Cost Estimates

Appendix D: Community Open House Boards

Appendix E: Agency Consultation

Acronyms

ADA	Americans with Disabilities Act
AASHTO	American Association of State Highway and Transportation Officials
CATEX	Categorical Exclusion
CPTED	Crime Prevention through Environmental Design
CFS	cubic feet per second
CM	Construction Management
CUP	County Special Use Permit
DOE	Hawai‘i State Department of Education
DOT	Hawai‘i State Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FFE	Furniture, Fixtures and Equipment
FHWA	Federal Highway Administration
GSPC	Grade-separated Pedestrian Crossing
HAWK	High-Intensity Activated crosswalk
HRS	Hawaii Revised Statutes
LUC	Hawai‘i State Land Use Commission
NACTO	National Association of City Transportation Officials
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act (NHPA)
RRFB	Rectangular Rapid Flashing Beacons
SMA	Special Management Area
USACE	United States Army Corps of Engineers
WOTUS	Water of The United States
ZAED	Zoning Administration and Enforcement Division

Executive Summary

The Hawai‘i State Department of Education (DOE) is building the new Kūlanihāko‘i High School in Kīhei to serve up to 1,650 students in Grades 9 through 12. Students, staff, and visitors arriving by bicycle or on foot must cross the heavily used Pi‘ilani Highway. A condition of the change in land use designation for construction of the school imposed by the State Land Use Commission (LUC) is that DOE must provide a grade-separated pedestrian crossing (GSPC) prior to opening the school. Department of Education has targeted January 2023 for opening the school.

This study was commissioned by DOE to analyze GSPC alternatives at Pi‘ilani Highway which could serve the school, satisfy the LUC condition, and consider the perspectives and preferences of Kīhei community members. It includes a significant community outreach component and a technical analysis of usability, schedule, cost and other factors. This study does not determine a preferred alternative but rather provides DOE with community input and technical analysis to inform their selection.

The study was conducted over a four-month period. Outreach to the community began in August with several Listening Sessions, followed by a widely publicized Online Survey in September that collected initial feedback from the community on the focus of the study and prioritized evaluation criteria for use in the alternative assessments. Meetings were held with DOE, Hawai‘i State Department of Transportation (DOT), and County of Maui Planning Department staff throughout the study process to inform them about the progress and findings and to obtain feedback.

The five alternatives analyzed in this study are illustrated in the map below.

The technical analysis evaluated each alternative using top-ranked evaluation criteria from community outreach: Usability/Travel Path, Estimated Time to Completion, Perceived Security Issues, Estimated Rough Costs, and Traffic Disruption on Pi'ilani Highway.

	Kūlanihāko'i Street		Waipu'ilani Gulch		East Waipu'ilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Usability / Travel Path					
# of students estimated to walk/bike to school[1]	205 students	205 students	155 students	155 students	125 students
New sidewalks needed on school campus	0	0	0.23 miles	0.23 miles	0.20 miles
New offsite sidewalks needed to connect to the grade-separated pedestrian crossing	0	0	0.16 miles	0.15 miles	0.13 miles
Estimated Time to Completion[2]	3½ - 5 years	5½ - 7 years	5 - 6½ years	6 - 7½ years	6 - 7½ years
Design & Entitlements	*1 -1½ years*	*2 - 2½ years*	*2 - 2½ years*	*2 - 2½ years*	*1½ - 2 years*
Construction Permitting, Bid & Procurement	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*
Fabrication & Construction	*1 -1½ years*	*2 - 2½ years*	*1½ - 2 years*	*2½ - 3 years*	*3 - 3½ years*
Perceived Security Issues	Low	High	Low	High	Low
Estimated Rough Cost[3]	$10.4-13.6 mil	$18.3-23.8 mil	$14.3-18.5 mil	$24.6-32.0 mil[4]	$15.3-20 mil
Traffic Disruption on Pi'ilani Highway during construction	Med	High	Low	Low	Med

The initial results of the alternative analysis were shared at a Community Open House on September 22nd and feedback from attendees was gathered via a questionnaire. The results from the community Open House questionnaire, completed by 53 attendees after viewing the table above, showed a strong preference for the overpass near Kūlanihāko'i Street (Alternative A) because of the lower cost, greater usability and safety, and less disruption to traffic during construction. The second most preferred alternative was the overpass near the Waipu'ilani Gulch (Alternative C).

Regardless of which GSPC alternative is selected by DOE, the crossing will not be constructed and operational in time to meet DOE's target school opening date of January 2023. With this in mind, the study also investigated and obtained public feedback on potential short-term options for student access to the school prior to the GSPC completion. The two most viable options based on participant input were bussing students to campus and having a County of Maui police officer or crossing guard facilitate student crossings at the roundabout. Police assistance is currently provided at the Pi'ilani Highway/Līpoa Parkway intersection before and after school hours. While both were acceptable to most community members and students, bussing or shuttles was the preferred option.

This report also summarizes the input received during consultations with stakeholder agencies and was used to inform the study. It outlines the next steps and follow-up actions needed by DOE. These steps involve coordinating with other agencies to resolve outstanding issues and ensure that the process to install a GSPC moves forward to address the LUC condition and corresponding County of Maui ordinance related to the county zone change.

Introduction & Study Purpose

The Hawai‘i State Department of Education (DOE) is building the new Kūlanihāko‘i High School in Kīhei to serve up to 1,650 students in Grades 9 through 12. The new school is located on previously undeveloped land mauka of Pi‘ilani Highway. There is no adjacent development or associated infrastructure such as sidewalks or bike paths for school access on the school side of the highway. Students, staff, and visitors arriving by bicycle or on foot must cross the heavily used Pi‘ilani Highway.

One of the conditions imposed by the State Land Use Commission (LUC) as part of the change in land use designation was that DOE provide a grade-separated pedestrian crossing (GSPC) prior to opening the school.

Department of Education commissioned this study to analyze GSPC options at Pi‘ilani Highway which could serve the school and satisfy the LUC condition, as well as to consider the perspectives and preferences of Kīhei community members. Another objective was to identify temporary options for students to access the school until a GSPC can be constructed.

This study includes a significant community outreach component, review of adopted county, state, and federal plans and policies, and a technical analysis of usability, schedule, cost, and other factors. It does not determine a preferred alternative but rather provides DOE with community input and technical analysis to inform their selection.

Background

A short synopsis of the long-standing history of the requirement for a GSPC for the new high school is provided for context as it relates to the Land Use Commission condition, County of Maui ordinance and related meetings in the past few years.

Land Use Commission Condition

The property chosen for the new Kūlanihāko‘i High School in Kīhei was originally located in the State Land Use Agricultural District. Department of Education submitted a petition to the LUC to reclassify the land into the State Land Use Urban District in order to build the school. As part of the State Land Use District Boundary Amendment, an Environmental Impact Statement (EIS) was completed and accepted by Governor Abercrombie in November 2012. Community comments on the EIS were received from the Kīhei Community Association, the Kīhei High School Action Team, and several others.

During the development of the EIS, an at-grade pedestrian and bicycle crossing was proposed as part of a signalized intersection, justified by an operational study of vehicular and pedestrian volumes and movements. The LUC and Kīhei community at large cited safety and congestion as issues facing an at-grade crossing, and system connectivity of sidewalks and multi-modal transportation as other key factors the community would like DOE to explore in consideration of other crossing alternatives.

The 2013 LUC Findings of Fact, Conclusions of Law and Decision and Order that reclassified the land use from Agriculture to Urban included several conditions. The condition pertaining to the pedestrian crossing is as follows:

b. *The petitioner [DOE] shall complete a pedestrian route study for Phase I of the Project which includes ingress and egress of pedestrians through defined location(s) approved by DOT and shall analyze compliance with the proposed warrants in FHWA/RD-84/082 (July 1984) to the satisfaction of DOT. The pedestrian route study and analysis shall be completed and approved by the prior to the Petitioner executing a contract for the design of Phase I of the Project.* ***Petition shall cause to be constructed, or ensure that there is an available above or below ground pedestrian crossing and implement such mitigation or improvements as may be required or recommended by the study and analysis to the satisfaction of DOT prior to opening Phase I of the Project****… (emphasis added).*

Several traffic reports and pedestrian studies were completed in consultation with Hawai'i State Department of Transportation (DOT) with the intent of meeting LUC conditions.

County of Maui Ordinance

In 2014 the County of Maui amended the Kīhei-Mākena Community Plan Land Use Map for the Kīhei High School parcel from Agriculture to Public/Quasi Public via ordinance 4134 and amended zoning from Agricultural District to P-1 Public/Quasi Public District via ordinance 4135. County of Maui Ordinance 4135 includes the following conditions of zoning:

1. *That the State Department of Education (DOE) shall submit to the* Department of Public Works for review and comment any Traffic Impact Analysis Reports, pedestrian route studies, and/or any related reports or studies at the same time they are submitted to the State Department of Transportation.

2. *That, within six* months of the DOE's initiation of the design process for Phase 1 of the Kihei High School or the State's execution of a contract with a designer-builder for the school, whichever occurs earlier, the DOE and/or its designer-builder, as appropriate, shall begin to work with the County of Maui Department of Planning on the design of the following improvements to the Kihei High School campus, which shall subsequently be implemented to the satisfaction of the Department of Planning during the permitting process in accordance with Condition Number 16 of the Decision and Order by the State Land Use Commission granting the DOE's Petition for a Land Use District Boundary Amendment (Land Use Commission Docket No All-794):
    a. *Pedestrian and bicycle access to and from the school ca*mpus to connect to current and future pedestrian and bicycle networks in the vicinity of the campus;
    b. *Bicycle friendly improvements on the school campus and, if requested by the* County of Maui Department of Transportation, an area for public transit access to the school campus;
    c. *Overflow parking and lighting to accommodate special events to be held on the school campus;*
    d. *Consideration of best practices in Crime Prevention through En*vironmental Design (CPTED) elements in campus design; and
    e. *To the extent not inconsistent with the provision of a drainage detention basin, overflow parking and CPTED design elements, a landscaped buffer on the campus fronting Pi'ilani Highway.*

2. *That the DOE shall provide annual compliance reports to the Department of Planning and the Maui County Council on the status of the project and progress in complying with the conditions of zoning and the State Land Use Commission conditions, commencing within one year of the effective date of the ordinance This reporting requirement shall cease upon the completion of construction of Phases 1 and 2 of the project.*

3. *That all of the conditions imposed by the State Land Use Commission in its Decision and Order filed July 29, 2013, granting the Land Use District Boundary Amendment for the property (Land Use Commission Docket A11-94), except for Conditions 16, 19, 20, 23, 24, and 25 shall be incorporated by reference herein and made a part hereof as conditions of zoning.*

Recent Meetings

In February 2019, the Maui County Council asked the LUC for a declaratory ruling on their 2013 condition. A hearing was held in April 2019 and the LUC reaffirmed the condition to require the completion of an above or below ground pedestrian crossing prior to the opening of the school.

In August of 2020 DOE unsuccessfully petitioned the LUC to amend the 2013 Land Use Commission Findings of Fact, Conclusions of Law and Decision and Order to *…allow for the construction of a roundabout and ground level raised crosswalks instead of a GSPC prior to the opening of Phase I of the Project and for the assessment and reevaluation of the necessity, appropriateness, and utility of a GSPC prior to the start of construction of Phase II of the Project.* Over 300 community members commented in opposition of DOE's request and raised the question "Why hasn't DOE/DOT been working on the condition it has known about since 2013?" The LUC recommended that DOE convene conversations with the community and County of Maui to find consensus on solutions before returning to the LUC with any proposed modifications to the conditions.

In January 2021 DOE hosted a joint virtual meeting with DOT to provide an update to the Kīhei community on the high school construction. At this meeting, they introduced the traffic roundabout design which included at-grade pedestrian crosswalks and Rectangular Rapid Flashing Beacons (RRFB). DOT contracted for the roundabout design, and DOE contracted for the roundabout construction with an at-grade pedestrian crossing in Fall 2021.

DOE Commissions Study with Community Consultation

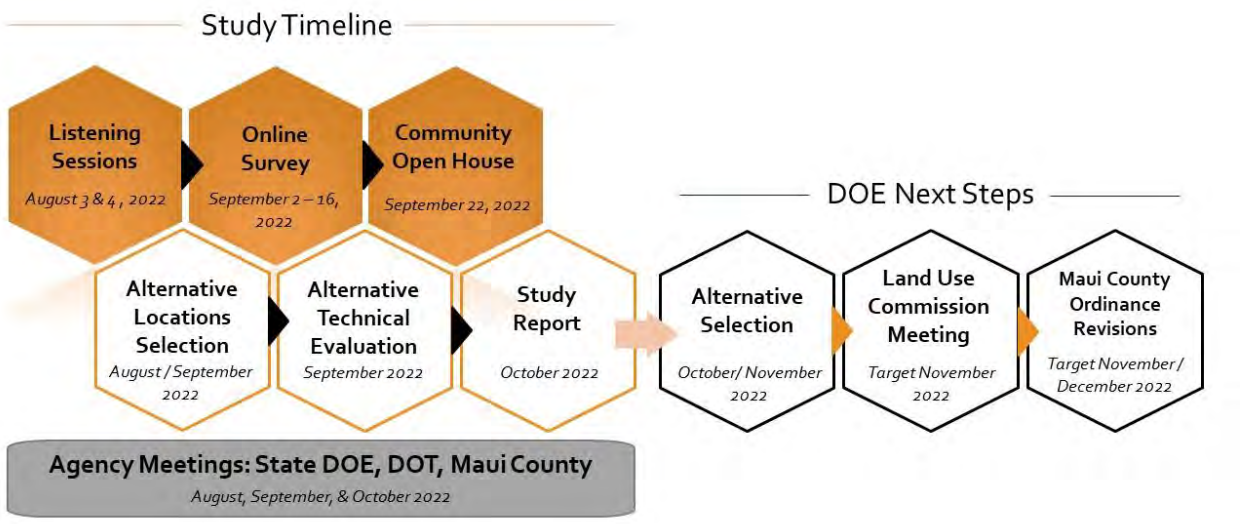
In July 2022 DOE kicked off this study to conduct more robust community outreach and to produce a technical analysis for potential GSPC alternatives with the goal of opening the school in 2023.

Study Process & Timeline

The study was conducted over a four-month period. The study process began in July 2022 with preparations for community Listening Sessions that took place in August. Following the Listening Sessions an online survey was launched to obtain more community member participation. The results of these two efforts informed the technical evaluation of the five GSPC alternatives in September. A Community Open House was held on Thursday, September 22, 2022 to share the results of the analysis with the Kīhei community and collect additional feedback.

Throughout the study process, meetings were held with DOE, DOT, and County of Maui Planning Department to inform them of the progress and findings and obtain feedback.

The results of this study informed the recommended next steps that DOE must take to achieve its objective of opening the new high school (see *Next Steps*). Generally, these steps include selecting a GSPC alternative, filing a motion with the LUC to amend the GSPC condition and allow for school occupancy during the design, permitting, and construction phases for the selected alternative, and finally, requesting an ordinance revision with Maui County Council to align the ordinance language with the amended LUC condition.



This study report is organized to align with the process outlined above.

Alternatives

Five possible alternatives for GSPCs at three locations along Pi‘ilani Highway were identified for consideration and analysis (see figure below).

Location Selection

Due to their proximity to the school’s campus, the Kūlanihāko‘i Street and Waipu‘ilani Gulch locations were each analyzed for both an overpass and underpass alternative. The location at East Waipu‘ilani Road was identified by both the community and DOE as only being appropriate for an overpass, therefore an underpass alternative at East Waipu‘ilani Road is not included.

The **Kūlanihāko‘i Street** intersection with the newly constructed roundabout was selected due to its proximity to the campus entry on Pi‘ilani Highway. The campus master plan and current campus construction have prioritized this intersection as the campus’ “front door”. New sidewalks have been constructed from the intersection up to the academic and administrative buildings.

Alternatives A and B are at this location.

Waipu‘ilani Gulch was selected due to its proximity to the southern corner of the campus. Pi‘ilani Highway traffic traverses the gulch over a vehicular bridge. A pathway and crossing on the gulch’s northern side would allow for connection into the campus with minimal off-site improvements needed in the Pi‘ilani Highway right-of-way.

Alternatives C and D are at this location.

The intersection at **East Waipuʻilani Road** was considered due to its proximity to community facilities including commercial and retail spaces, and recreational and civic spaces such as parks, other schools, and the aquatic center. East Waipuʻilani Road is located approximately one mile south of the campus entrance.

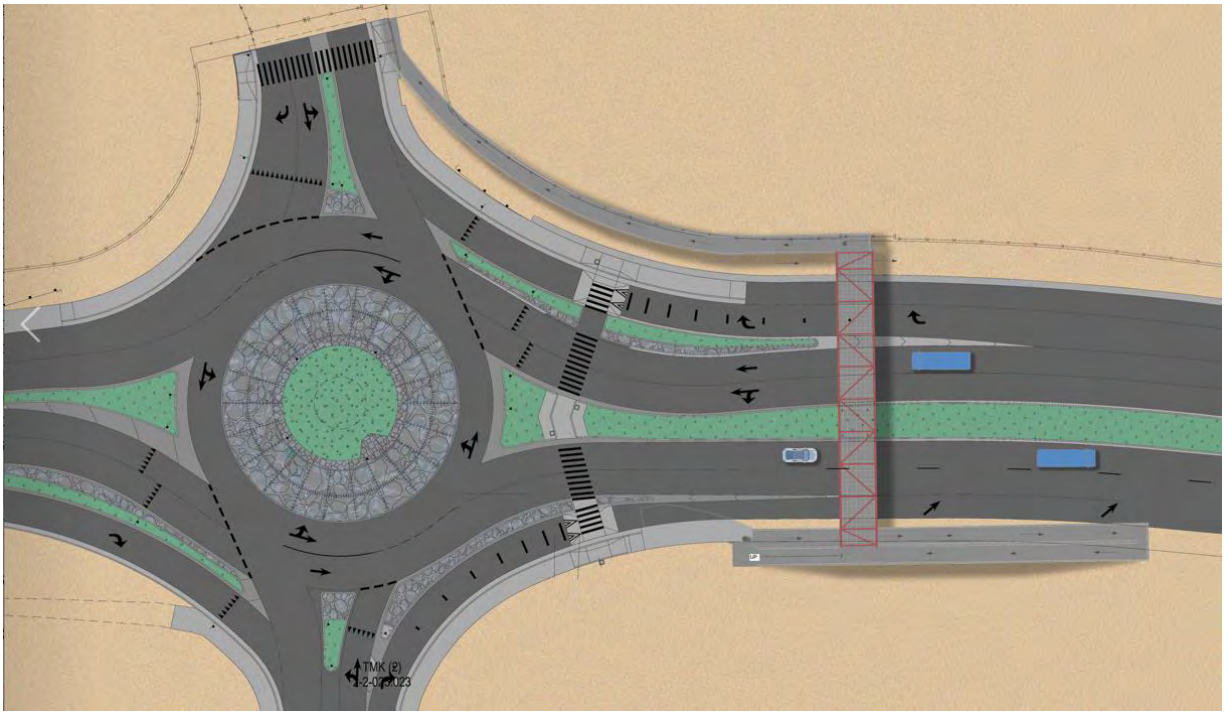
The overpass at East Waipuʻilani Road (Alternative E) is the only GSPC alternative that would not directly connect to the school property. Rather than specifically serving students living in the residential areas near the high school, this alternative would prioritize the connection between the high school campus and the community at large. New walkways along the mauka side of Piʻilani Highway would be required to connect this crossing to the campus.

Alternative Design Descriptions

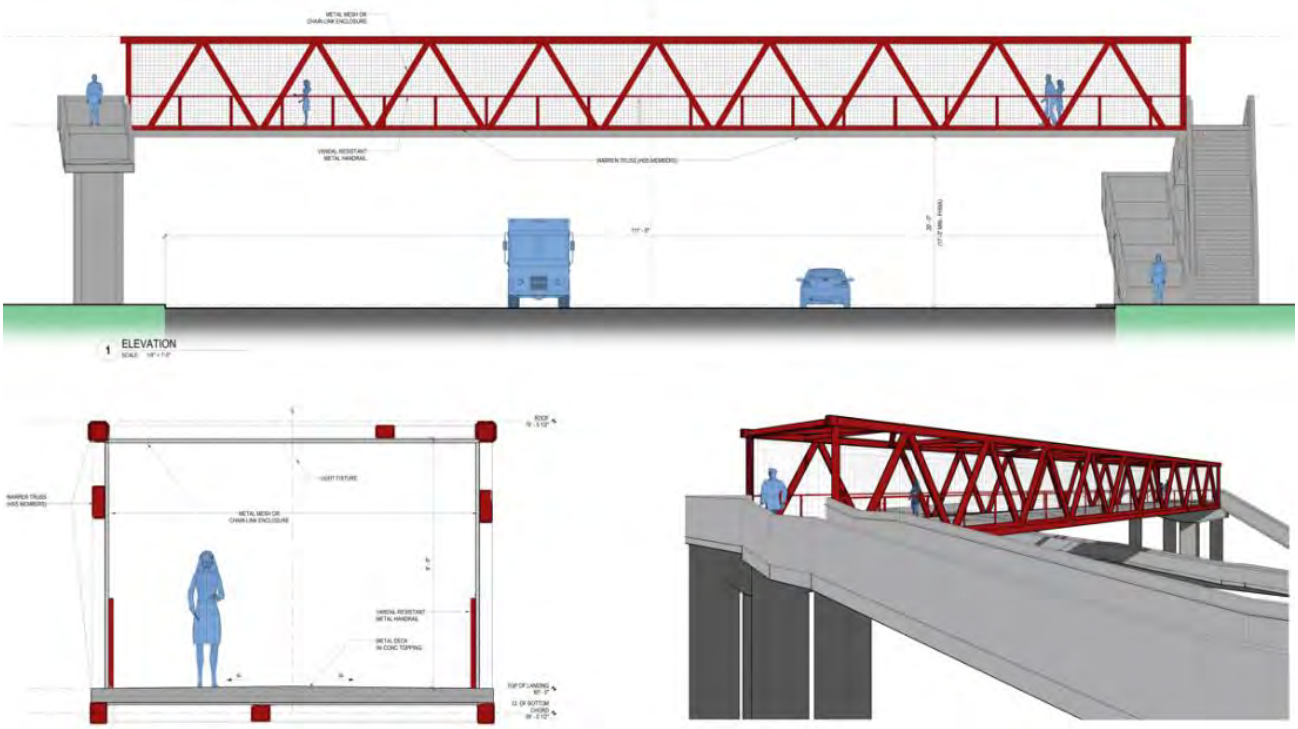
Each of the five GSPC alternative designs are described and illustrated below.

Alternative A: Overpass at Kūlanihākoʻi Street

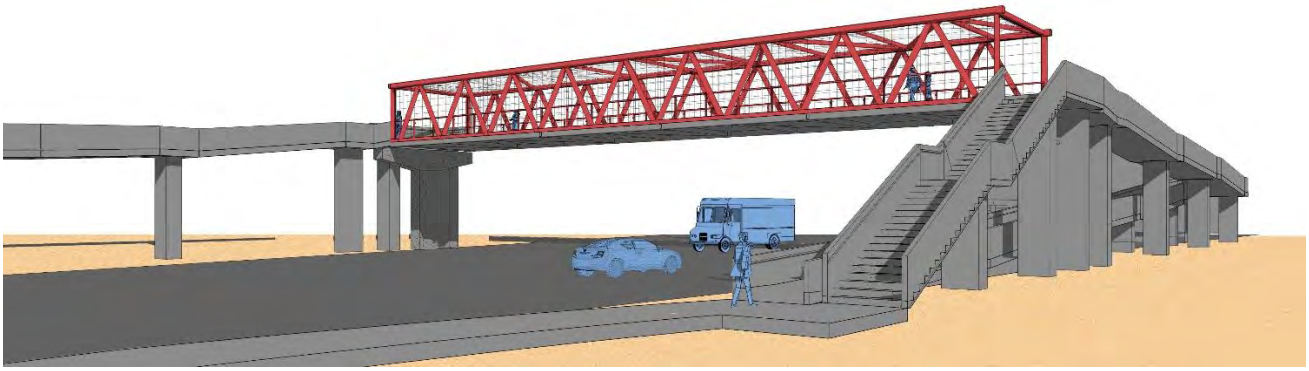
Alternative A at the intersection of Piʻilani Highway and Kūlanihākoʻi Street is an overpass. The design includes a prefabricated truss system bridge connected to two structures on each side of Piʻilani Highway. The makai structure would include an American with Disabilities Act (ADA) compliant switchback ramp as well as a stairway to shorten the walking distance. The mauka structure includes only a ramp that would parallel the at-grade sidewalk from the intersection to the campus.



Location for the Kūlanihākoʻi Street overpass



Elevation plans for the Kūlanihāko'i Street overpass

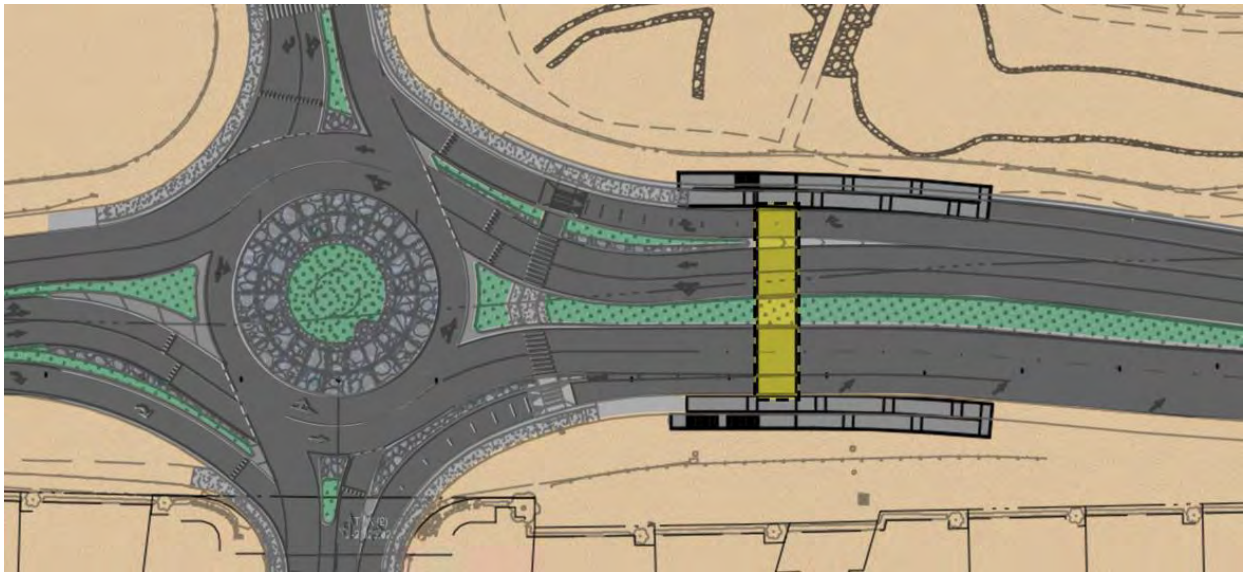


Makai side structure (stairs and ramp)

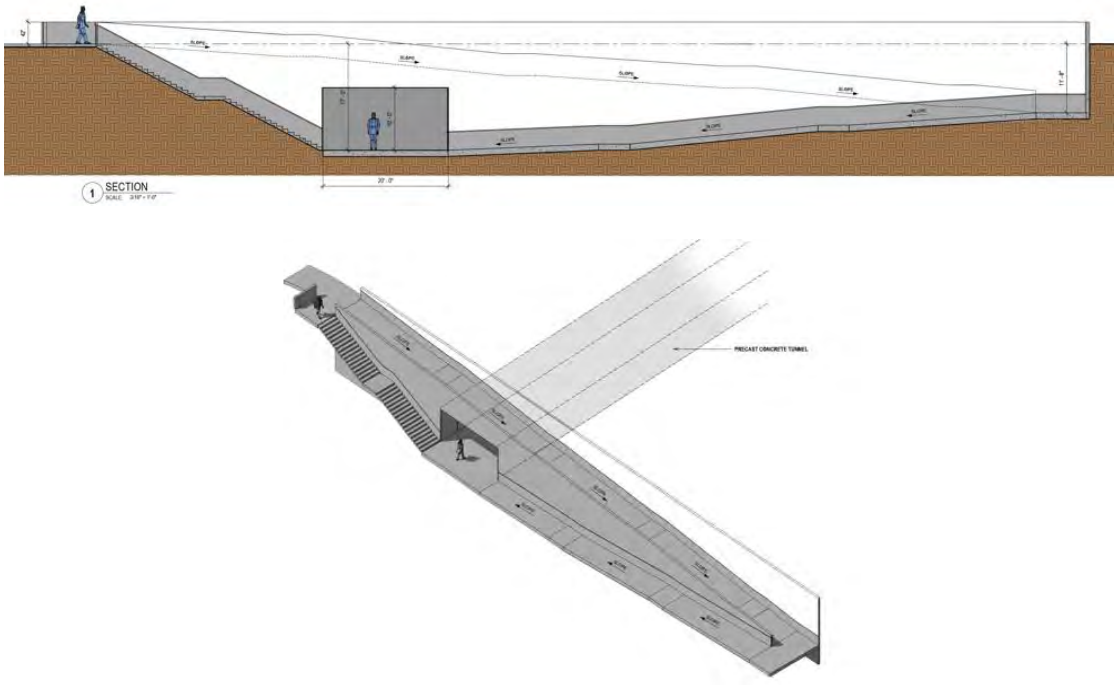
Mauka side structure (ramp)

Alternative B: Underpass at Kūlanihākoʻi Street

Alternative B at the intersection of Piʻilani Highway and Kūlanihākoʻi Street is an underpass. Alternative B would use using pre-constructed box culverts that can be “dropped in” during construction to decrease construction time. This design would require an ADA compliant switchback ramp and stairways on both sides of Piʻilani Highway. The open areas for the ramps and stairs would also have retaining walls on all sides creating an area where rainwater would collect and be removed via a sump pump.



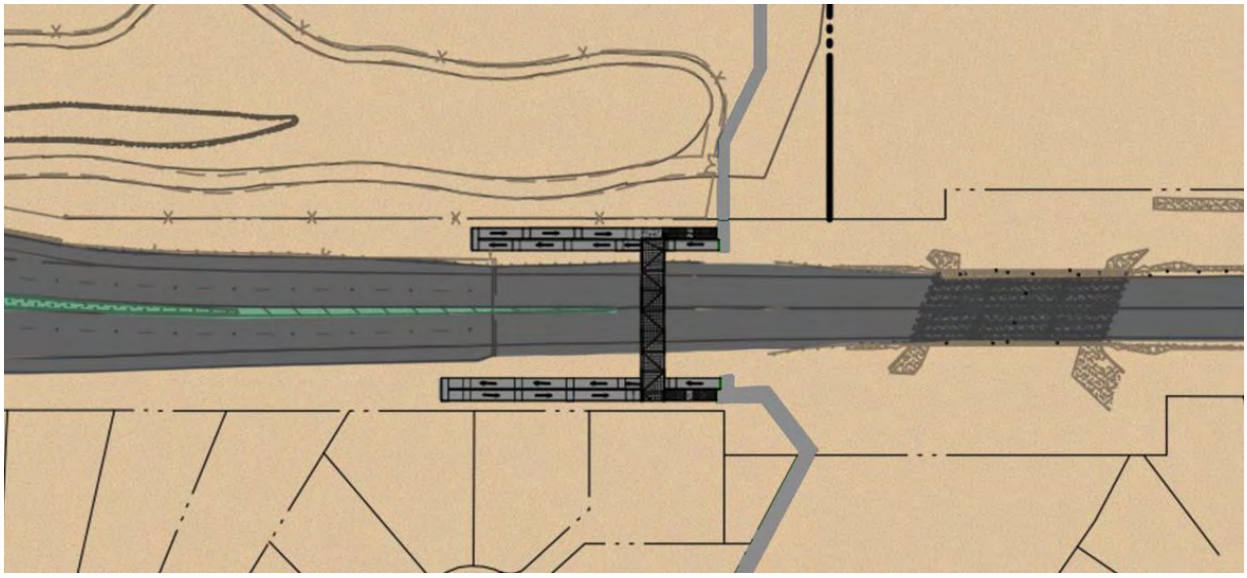
Location of the Kūlanihākoʻi Street underpass



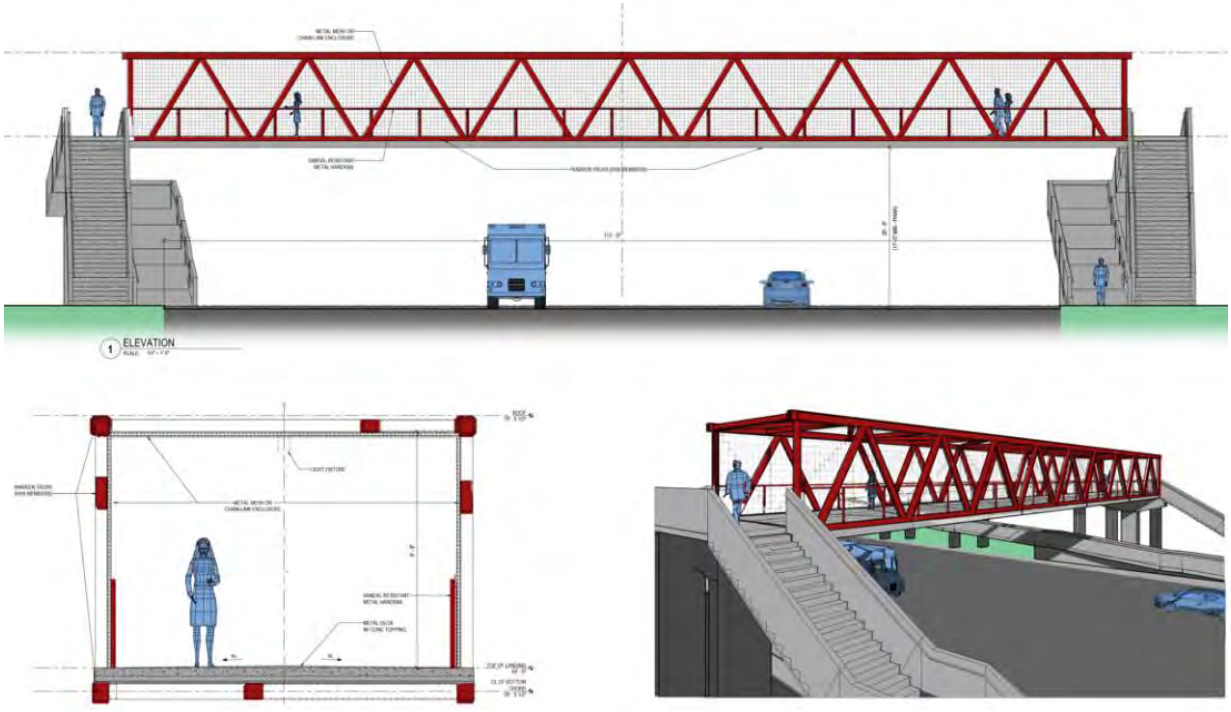
Elevation plans for the Kūlanihākoʻi Street underpass

Alternative C: Overpass at Waipuʻilani Gulch

Alternative C is an overpass at the southwest corner of the high school property and just north of the Waipuʻilani Gulch. The design includes a prefabricated truss system bridge connected to two structures to the mauka and makai of Piʻilani Highway. Both sides would include an ADA-compliant ramp and a stairway.



Location of the Waipuʻilani Gulch overpass

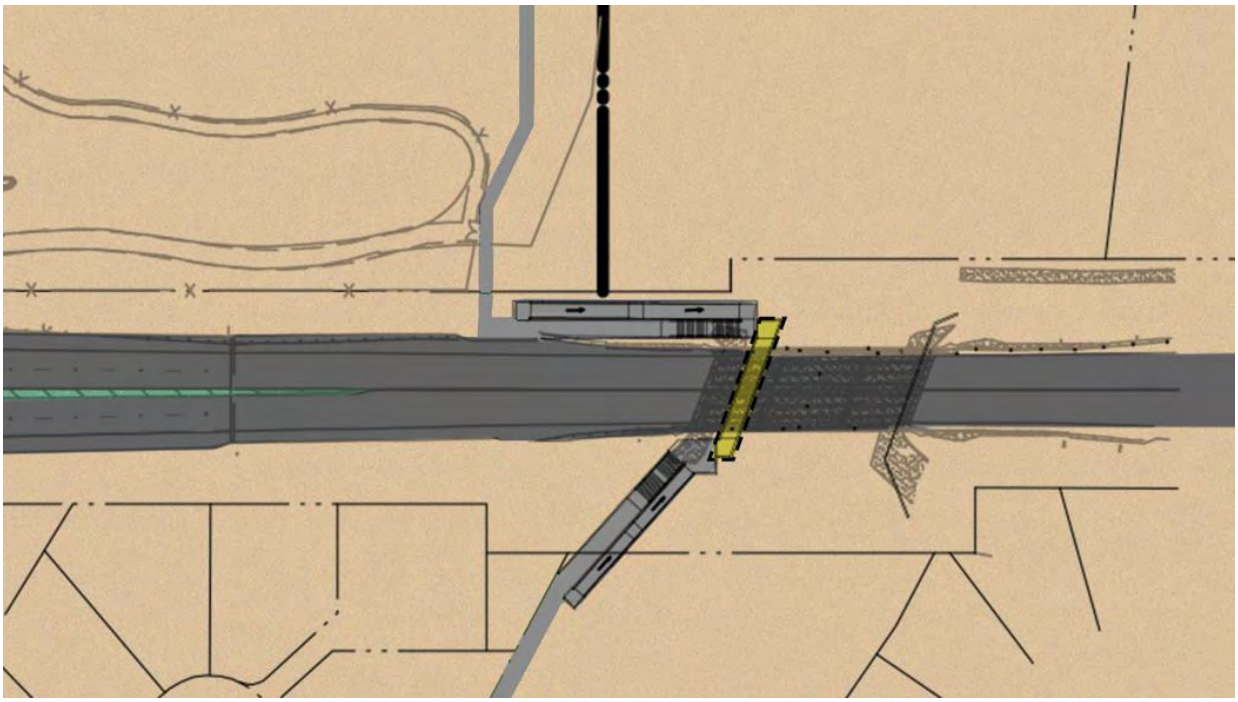


Elevation plans for the Waipuʻilani Gulch overpass

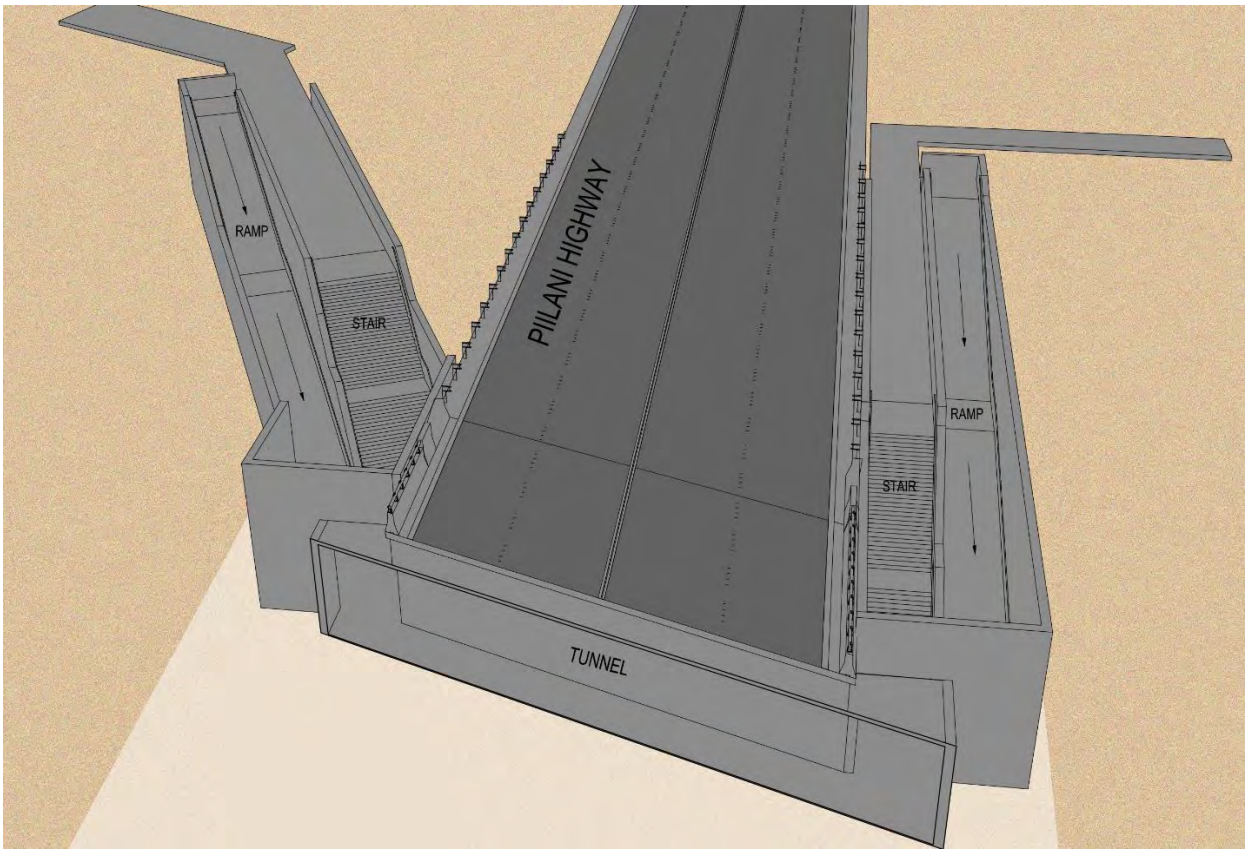
Alternative D: Underpass at Waipuʻilani Gulch

Alternative D is an underpass at Waipuʻilani Gulch. To keep the students out of the drainage way and to maintain the existing drainage flow, the existing diagonal concrete bank edges on the south side of the gulch would need to be cut so that vertical retaining walls could be built to widen and enclose the pedestrian path and maintain the same hydraulic opening. Impacts to the existing bridge structure from the removal of the existing concrete bank edges will have to evaluated and mitigated through design.

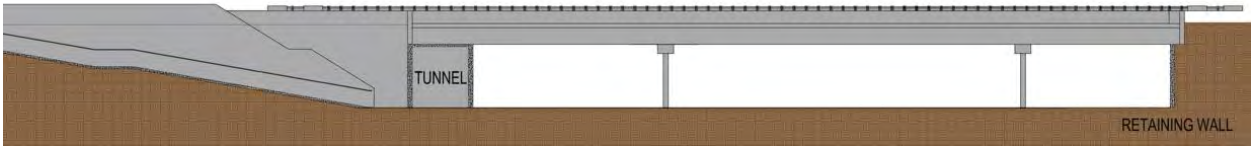
This design would mostly consist of cast-in-place structures. The sidewalks leading to the underpass would be located above the drainage way along the banks of Waipuʻilani Gulch, and ramps and stairways would be required to facilitate access to the crossing under Piʻilani Highway.



Location of Waipuʻilani Gulch underpass



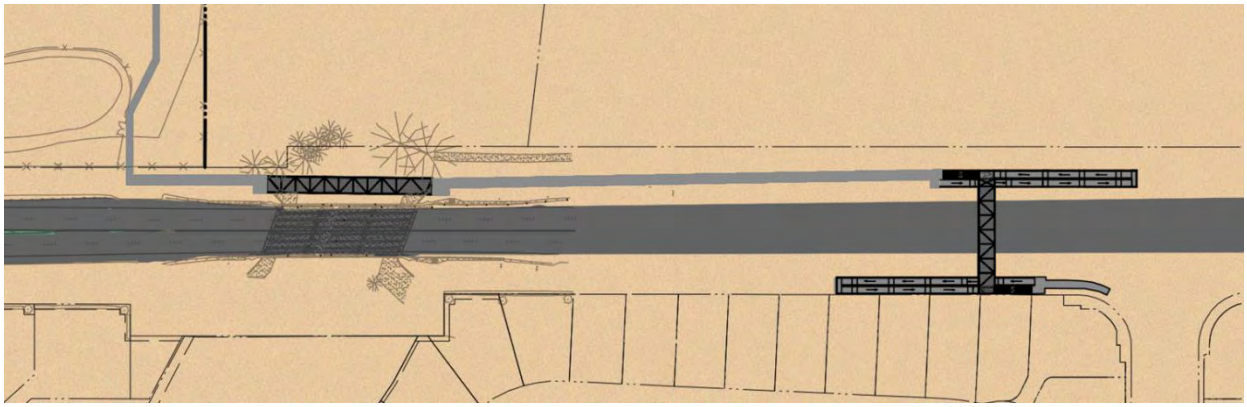
Rendering of the Waipuʻilani Gulch underpass



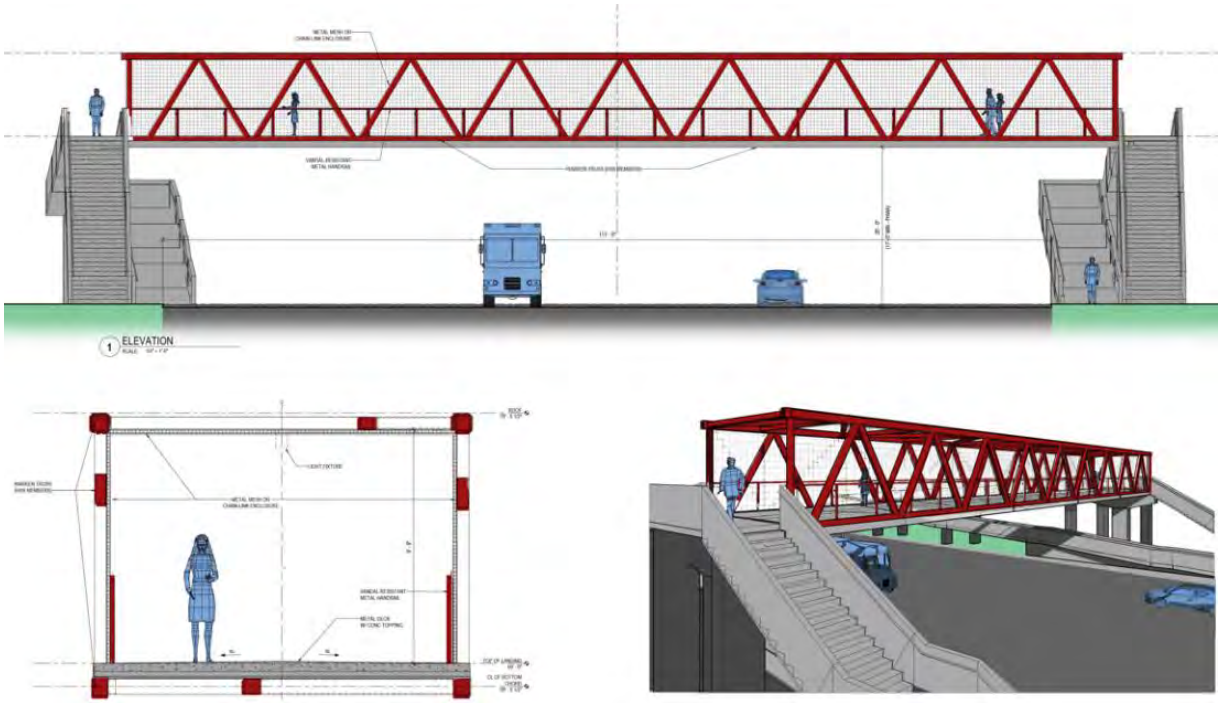
Waipuʻilani Gulch underpass stairs and ramps

Alternative E: Overpass at East Waipuʻilani Road

Alternative E is an overpass at East Waipuʻilani Road. This location is not adjacent to the high school property and would therefore require the construction of additional infrastructure, including a sidewalk on the mauka side of the highway. The existing highway bridge is not wide enough to include a sidewalk, and a supplementary truss pedestrian bridge to cross Waipuʻilani Gulch was added to the design.



Location of the East Waipuʻilani Road overpass and pedestrian bridge over Waipuʻilani Gulch



Elevation plans for the East Waipuʻilani Road overpass. The structure is the same as Alternative C, using stairs and ramps.

Alternatives Considered and Ruled Out

Several additional alternatives were considered during this study but were eliminated from the final analysis due to the factors discussed below.

Locations North of Kūlanihāko'i Street

Locations to the north of Kūlanihāko'i Street were not considered due to the narrowness of the Pi'ilani Highway bridge over Kūlanihāko'i Gulch, the steep hillside topography and berms along the northern portion of campus, and the lack of a close intersection that would provide connectivity away from the Highway.

Boardwalk Underpass at Waipu'ilani Gulch

There is strong community interest in using the floodway and gulch channel for a boardwalk underpass crossing that could serve the broader community. The community's preliminary design for the boardwalk located it within the drainage way. Due to the safety risks associated with placing a student crossing within a drainage area that is subject to periodic or potential flash flooding, this design was not pursued as a study alternative.

The Waipu'ilani Gulch vehicular bridge has been studied in multiple DOT reports. During significant rain events the gulch handles high volumes of runoff: as much as 8,000 cubic feet per second (CFS) in a 50-year event and 10,000 CFS in a 100-year event. The high volume of runoff produced during these flood events creates high water levels that reach within a few feet of the bottom of the bridge as water passes through the gulch channel. The height from the existing concrete lined channel to the bottom of the bridge is approximately 13 feet. Water levels under the bridge could reach a height of 9.9 feet (a ground surface elevation of approximately 37.9 feet) during a 50-year flood event and height of 10.6 feet (a ground surface elevation of 38.6 feet) during a 100-year flood event leaving a clearance of approximately 3.1 feet and 2.4 feet, respectively. Considering these factors, the placement of a boardwalk within the drainageway was determined to be unsuitable because of student safety concerns.

Creating enough space under the bridge for a boardwalk that is out of the floodway would necessitate a reconstruction of the gulch channel and/or the concrete bridge foundation. One method of separating pedestrian pathway from the floodway would be to lower the bottom of the channel. However, if this method were pursued, the channel would need to be lowered for a considerable distance downstream, upstream, and under the bridge to prevent the flood waters from overtopping the banks of the gulch or bridge. Another method would be to raise the bridge height to provide the needed distance. Both options would be extremely expensive, time-consuming, and involve major traffic disruptions.

At-Grade Alternative

Because the LUC condition requires the construction of an above or below ground pedestrian crossing, an at-grade crossing alternative was not included in the analysis. An at-grade pedestrian crossing will be the existing condition once the roundabout construction is complete in late 2022.

Community Consultation: Round 1

The first round of community outreach was designed to collect initial feedback from the community on the study's focus including the evaluation criteria to be used in assessing the alternatives.

Community Listening Sessions

On Wednesday, August 3rd and Thursday, August 4th, 2022, the consultant team hosted five community Listening Sessions at the Maui Research and Technology Park in Kīhei. A total of 59 participants attended the sessions, including nine parents of school-age children and several candidates for local office, or their designee.

Each Listening Session began with a brief presentation on the study purpose, background information, and the evaluation criteria that were proposed for use in the analysis of each crossing alternative. Presenters and the consultant panel answered questions during a Q&A session before moving into the activities.

Participants engaged in three activities designed to collect feedback on each of the proposed study components. For the first activity, the current (at that time) list of evaluation criteria was presented to the participants after which they were asked whether any other criteria should be added. They were then asked to prioritize their top five criteria. In the second activity, participants were presented with a map of the five GSPC alternatives and asked to provide specific benefits and challenges related to each, and then to provide any additional GSPC alternatives for consideration. In the final activity, participants were asked two open-ended questions regarding the opening of the school ahead of the GSPC completion to solicit ideas and opinions on possible short-term options for getting students safely to the new campus. Feedback from each of these three activities was used to inform the Online Survey, and ultimately informed the technical analysis.

The list of benefits and challenges for each alternative that was produced in the second activity helped to identify further considerations for the technical analysis including the need for pathways and sidewalks for improved connectivity and the project's visual impacts. This activity also served to highlight significant community concerns such as student safety, trust in DOE, and the level of cooperation among agencies needed to achieve the construction of a GSPC.

A Listening Session with area principals and the Complex Area Superintendent was held to gain insights into their parents' issues and concerns around the crossing and good ways to obtain additional parent input.

Online Survey

A short online survey was developed to query the larger community regarding evaluation criteria priorities for the alternatives analysis and preferences for short-term solutions.

Demographic information collected in the survey included each participant's zip code, the neighborhood where they live, whether they are parents of school-aged children, and the grade level range of their children. Additional questions were asked of parents of students who will be eligible to attend the school in the next 3-6 years, particularly those who live within 1.5 miles of the school, as these students

are not eligible for bus service, since these parents will be making decisions about how their students get to school while a GSPC is being constructed.

The survey was offered in four languages: English, Spanish, Marshallese, and Chuukese. Translations were offered to make the survey accessible to parents of the students who would likely attend the new high school. These languages were chosen based on the advice from area principals. A total of 1,258 surveys were completed.

Listening Session and Online Survey Findings

Feedback from the Listening Sessions and the results of the Online Survey identified and confirmed the prioritization of the evaluation criteria for the alternative analysis. The top three evaluation criteria were:

1. Usability (incorporates both the likelihood that students would use the crossing and student travel distances)
2. Perceived security
3. How soon the GSPC can be built

The remaining evaluation criteria were:

- Flooding concerns
- Traffic disruptions during construction
- Impacts to existing properties and land acquisition needs
- Connection of crossing to existing sidewalks and trails
- Crossing appearance
- Cost of building
- Design usability (ADA, weather protection)

The Online Survey asked specifically about location criteria, and the most important criteria was GSPC proximity to areas with high concentrations of students.

Of the parents who took part in the Online Survey, about 25% planned to have their students walk or bike to school in the morning. That percentage increased to over 32% for students coming home in the afternoon.

See Appendix A for more results from the Online Survey.

Participants in the Listening Sessions and the Online Survey were asked to provide suggestions and opinions on acceptable potential short-term option for students to get to school until a permanent GSPC is constructed. These findings are presented in the Temporary Options section, below.

Alternatives Analysis

The process used to analyze the alternatives is described in this section including the identification of assumptions, the analysis performed for each of the evaluation criteria and contributing factors by alternative, and a comparative discussion of the findings.

Assumptions

Several assumptions based on known requirements and agency feedback were established as a foundation for the Alternatives Analysis.

1. **The GSPC Will Be Designed, Constructed, Owned, Operated, and Maintained by the Hawai'i State Department of Education**

   In a typical transportation development scenario, the design, operation, use, and management of a GSPC will be guided by transportation engineering best practices and national standards. Construction of a GSPC is also usually justified by the anticipated volume and characteristics of pedestrian and bicycle traffic that may use the crossing, based on traffic engineering standards and regulations including those of the Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), National Association of City Transportation Officials (NACTO), DOT Standards, and county traffic codes. In the State of Hawai'i, the majority of GSPCs are owned, operated, and maintained by a county or DOT.

   In the case of the development of Kūlanihāko'i High School, the LUC condition was the impetus for the construction of a GSPC, and as the applicant for the LUC zone change, DOE is the agency required to build it. Due to this requirement, DOE will construct, own, operate, and maintain the GSPC. As the owner and operator, and because the overcrossing will only serve the school campus in the near-term, DOE has stated its intention to lock the crossing during non-school hours (with consideration for before and after-school events).

2. **Designs Will Comply with Federal and State Regulations and Standards**

   The GSPC designs will be consistent with federal and state regulations. Designs for each alternative will comply with the ADA and include paths wide enough for pedestrians and bicyclists. The two alternatives located in and adjacent to Waipu'ilani Gulch, will need to address the specific requirements of the U.S. Army Corps of Engineers Clean Water Act Section 404 and 401.

3. **Designs Will Include Standard Requirements for Ramps and Crossings, as well as Components to Enhance Safety and Reduce Construction Schedule and Costs**

   Ramps and (in most cases) stairs will be incorporated into the design of each GSPC. Walkways will be covered to discourage students from throwing items into traffic or into the gulch. Drainage (downspouts or sumps), fencing, gates, railings, lighting, potential security equipment, and ADA requirements including all-weather surfaces and finishes will be included in each design.

   Pre-cast or prefabricated components will be used where feasible to reduce construction time and lower costs.

4. **No Land Acquisition is Required to Construct a GSPC at Any Alternative Location**

   All alternatives fit within the DOT highway rights-of-way and do not require land acquisition.

5. **Makai GSPC Connections will be Built**

   Sidewalk connections to each GSPC alternative on the makai side of the highway that are ADA compliant will be constructed if they do not exist or are not already part of current County of Maui improvement plans.

6. **The Roundabout Will be in Use When the GSPC is Constructed**

   The roundabout will be in place for the design, construction, and operation of any of the GSPC alternatives. The roundabout is a DOT facility. No alternatives consider the removal of the roundabout.

Summary of Findings

The study's technical analysis focused on the evaluation criteria identified and prioritized by the community during the Listening Sessions and in the Online Survey. Each GSPC alternative was evaluated using the five criteria: Usability/Travel Path, Estimated Time to Completion, Perceived Security Issues, Estimated Rough Costs, and Traffic Disruption on Pi'ilani Highway.

The table below summarizes the findings for each alternative with the evaluation criteria organized in order of priority.

	Kūlanihāko'i Street		Waipu'ilani Gulch		East Waipu'ilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Usability / Travel Path					
# of students estimated to walk/bike to school[1]	205 students	205 students	155 students	155 students	125 students
New sidewalks needed on school campus	0	0	0.23 miles	0.23 miles	0.20 miles
New offsite sidewalks needed to connect to the grade-separated pedestrian crossing	0	0	0.16 miles	0.15 miles	0.13 miles
Estimated Time to Completion[2]	3½ - 5 years	5½ - 7 years	5 - 6½ years	6 - 7½ years	6 - 7½ years
Design & Entitlements	*1 -1½ years*	*2 - 2½ years*	*2 - 2½ years*	*2 - 2½ years*	*1½ - 2 years*
Construction Permitting, Bid & Procurement	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*
Fabrication & Construction	*1 -1½ years*	*2 - 2½ years*	*1½ - 2 years*	*2½ - 3 years*	*3 - 3½ years*
Perceived Security Issues	Low	High	Low	High	Low
Estimated Rough Cost[3]	$10.4-13.6 mil	$18.3-23.8 mil	$14.3-18.5 mil	$24.6-32.0 mil[4]	$15.3-20 mil
Traffic Disruption on Pi'ilani Highway during construction	Med	High	Low	Low	Med

[1] Represents 25% of students who live within the 2-mile path of the school and are assumed to walk or bike, while the rest of the students would drive or be driven to school. Number of students for each alternative is based on existing distribution of home locations and factored using a buildout student capacity of approximately 1,600 students. Results rounded to nearest 5.

[2] Funding not secured at this time.

[3] Includes entitlements, design, permitting and construction. Present day costs based off design assumptions and similar construction work in the Kīhei-Wailea Area; does not include future escalation.

[4] Requires structural improvements to concrete channel lining and bridge.

Evaluation Criteria & Findings

The methods used to analyze each of the five evaluation criteria and factors used in the analysis to compare the alternatives are described below. Significant differences among the alternatives are highlighted and discussed.

Usability / Travel Path

It is critically important to the community, as well as DOE, that the selected alternative be one that students will use. Two factors that contribute to usability are the number of students expected to be served and the pathway connectivity that would be available for the students to access the GSPC.

The number of students expected to be served by the GSPC depends both on the maximum distance that students are typically willing to walk or bike from their homes to school and on the proportion of students that usually walk or bike to school based on historic trends.

Studies of school commuters have shown that students are not inclined to walk or bike further than two miles to their intended destination. While some high school students may walk up to two miles, trips longer than approximately 1.5 miles are usually made by students who bike. That said, changes in transportation including recent increases in e-bike usage help to make longer trips more likely. Based on this information, a two-mile travel path was plotted on a map for each of the alternatives to establish a boundary within which students are expected to walk or bike. This boundary is plotted as a pink line on in the figures on the following pages, and the bounded areas vary in shape and size depending on the location of the GSPC (i.e., at Kūlanihāko‘i Street, Waipu‘ilani Gulch, or East Waipu‘ilani Road). It should be noted that the two-mile path assumes that existing unofficial off-street walking paths currently used by pedestrians would be available (e.g., walking paths along the future Kenolio Road-Līloa Road alignments across the Kūlanihāko‘i and Waipu‘ilani Gulches).

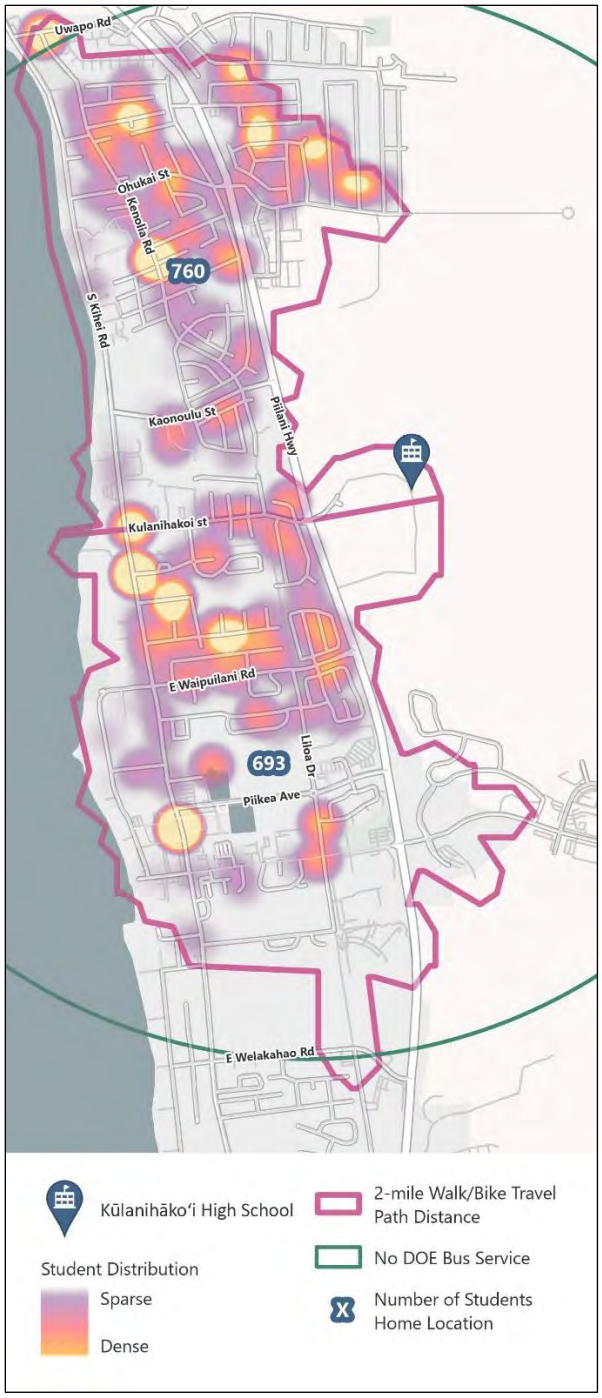
These maps also illustrate the 1.5-mile radius circle within which DOE does not provide school bus service. Students living within this area are expected to travel to school by walking, biking, driving, or other means.

The proportion of future students that may use the GSPC was determined by mapping existing residence data provided by DOE for all kindergarten through 12th grade students in the South Maui (Kīhei-Wailea-Mākena) area. The number of students located within the 2-mile travel boundary, to the north and south of each GSPC location, is shown in the figures on the following pages. The combined number of students for each alternative was then compared to the total number of students living in South Maui overall (2,843) to determine the total proportion of students that live within the walking and biking boundary. Finally, that proportion was applied to a future school buildout population of approximately 1,600 students to determine the number of future enrolled high school students that currently live within the 2-mile travel path. This last step assumes that the geographical distribution of students stays the same.

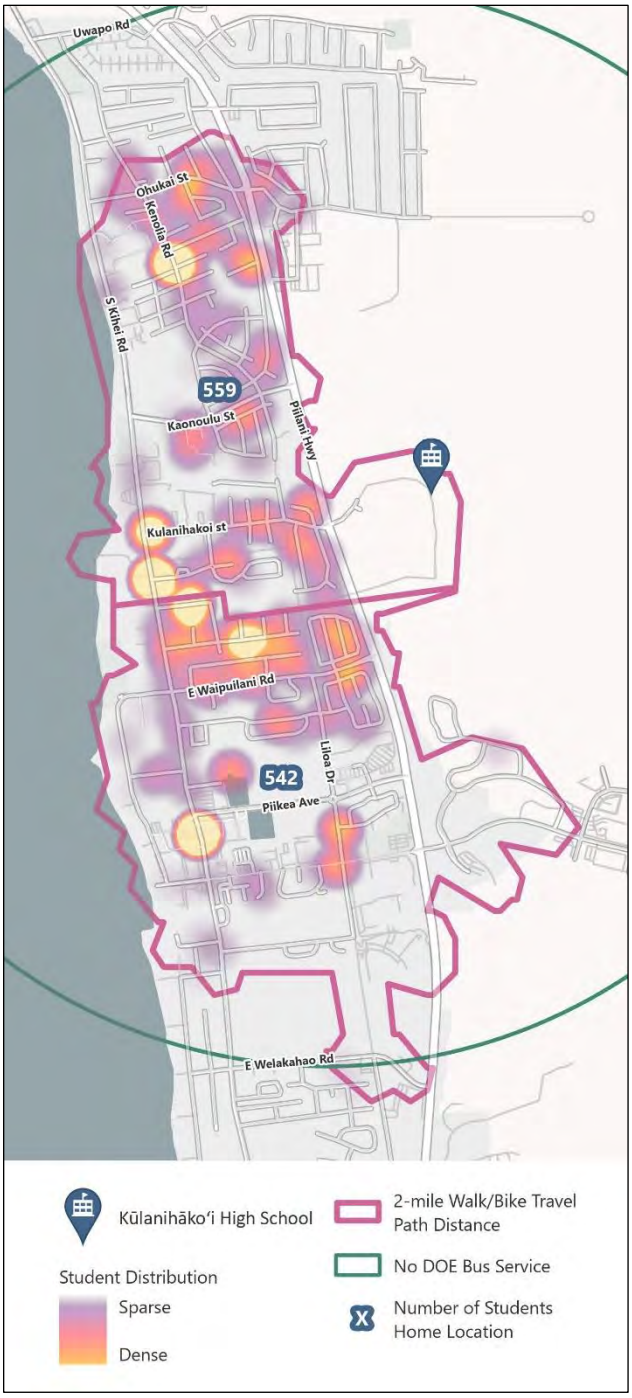
The result of this calculation represents the number of students who could potentially walk or bike to school within the two-mile travel buffer. However, many students who are within walking or biking distance will drive or be driven to school for a variety of reasons including convenience, perceived security, and reduced travel time. In the case of Kūlanihāko‘i High School, travel to the school involves a substantial grade change between the highway and the classroom buildings that may affect whether students walk, bike, or drive to campus. Studies have shown that the proportion of students that walk or bike to school in suburban locations with no bus service is typically no more than 25 percent. Based on this information, the number of students that are expected to be served by the

GSPC at school buildout is estimated to range from 125 to 205, depending on the alternative. The number of estimated students served per alternative is shown in the table below.

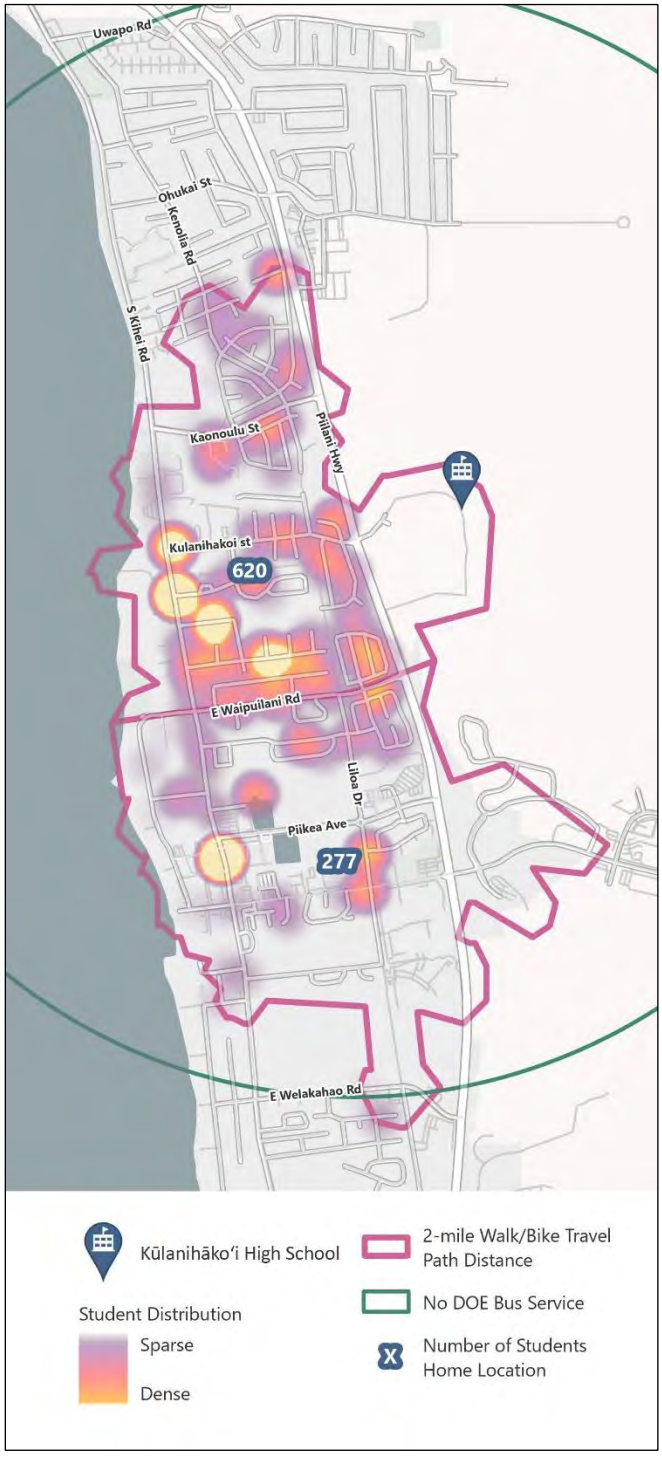
	Kūlanihāko'i Street		Waipu'ilani Gulch		East Waipu'ilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Usability / Travel Path					
# of students estimated to walk/bike to school[1]	205 students	205 students	155 students	155 students	125 students
New sidewalks needed on school campus	0	0	0.23 miles	0.23 miles	0.20 miles
New offsite sidewalks needed to connect to the grade-separated pedestrian crossing	0	0	0.16 miles	0.15 miles	0.13 miles



Student Distribution within
a 2-Mile Travel Path Distance for
Kūlanihāko'i Street Alternatives A and B



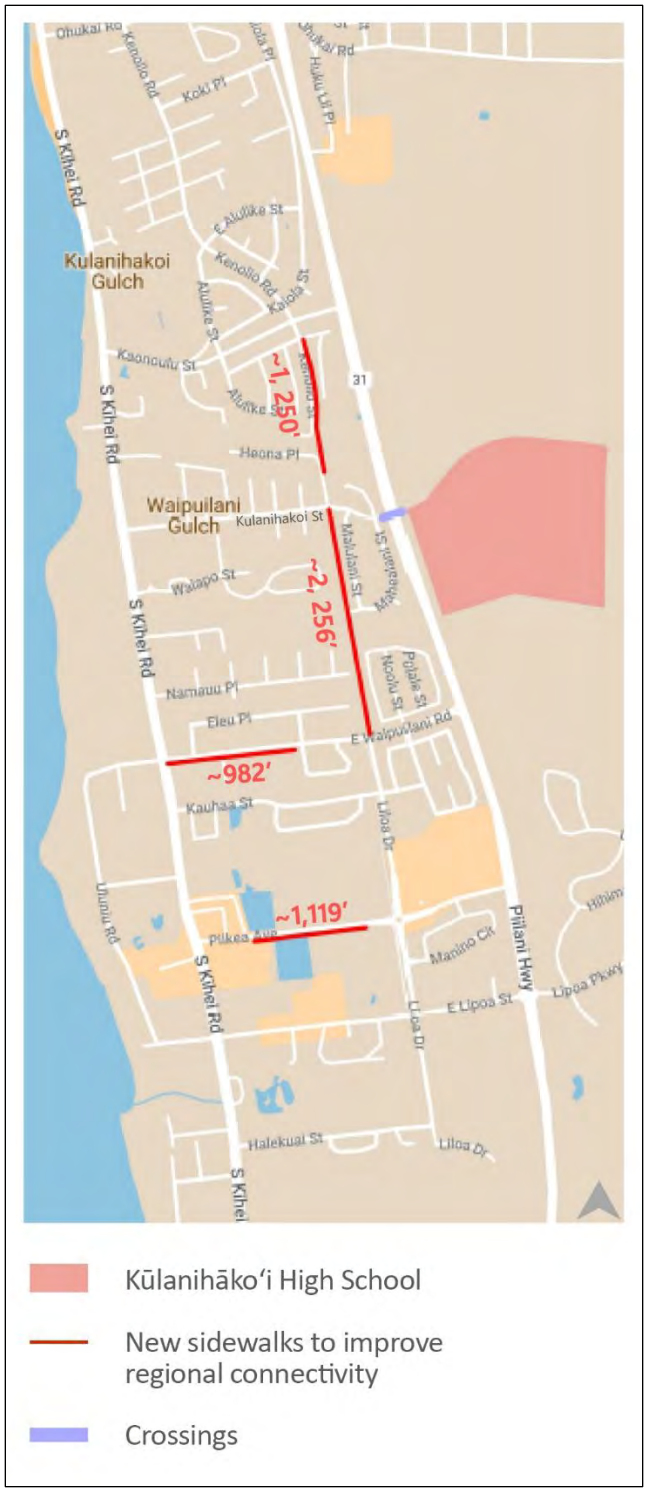
Student Distribution within
a 2-Mile Travel Path Distance for
Waipu'ilani Gulch Alternatives C and D



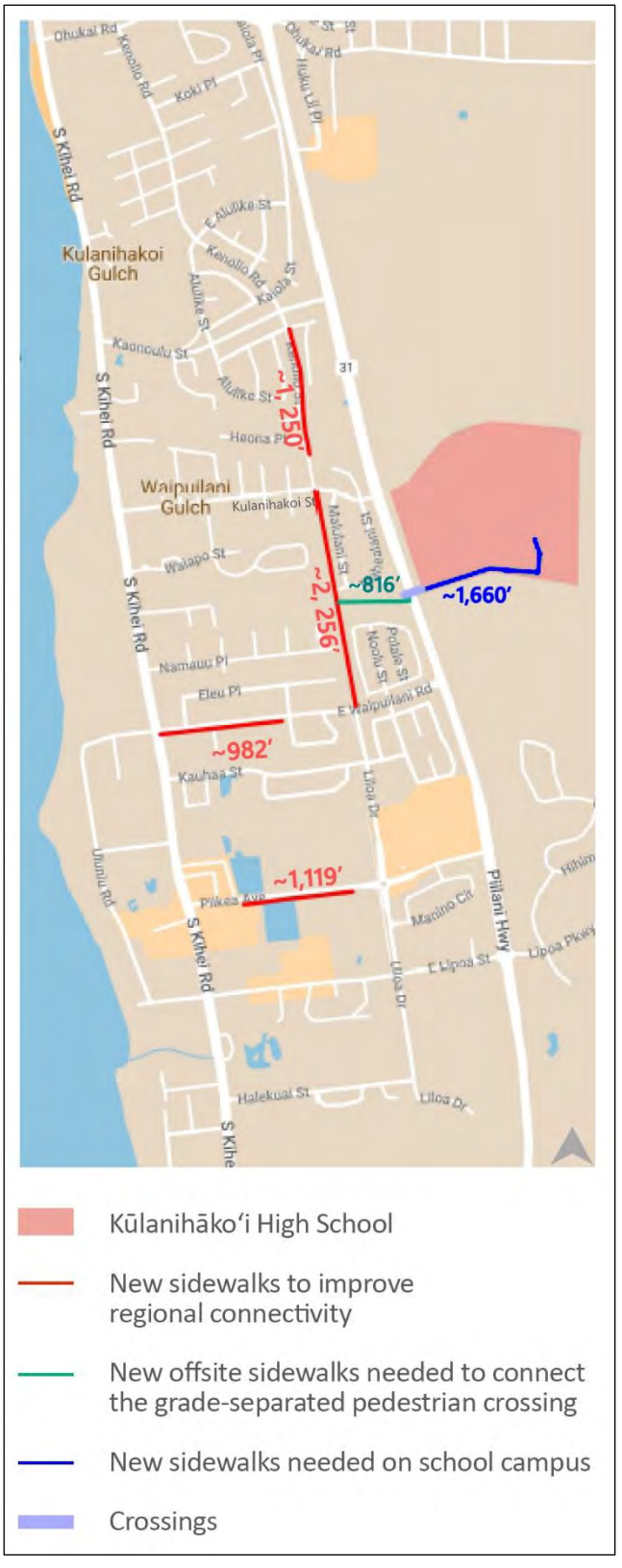
Student Distribution within
a 2-Mile Travel Path Distance for
East Waipu'ilani Road Alternative E

Given that the school classrooms are located close to the campus' primary access road (i.e., the Kūlanihāko'i Street extension), it is expected that the highest number of students would be served by the Kūlanihāko'i Street alternatives. At this location, the access route for students does not require any "backtracking" or circuitous travel by students north or south of the GSPC. For Alternatives C through E at the gulch and East Waipu'ilani Road, students living north of Kūlanihāko'i Street would need to walk an additional distance to use the GSPC.

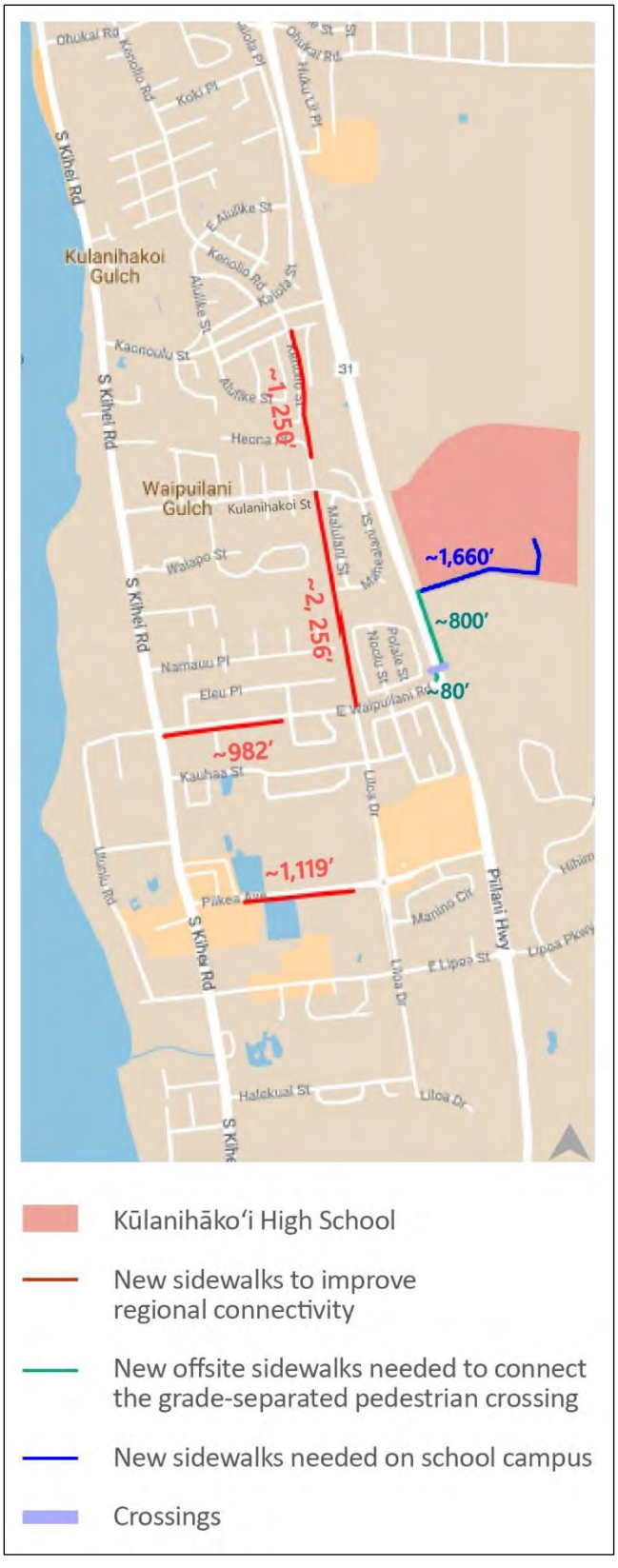
As noted above, the travel path for some students includes streets or future street rights-of-way that do not currently include a formal path or sidewalk on at least one side of the street. This lack of regional connectivity will necessitate the County of Maui or the State of Hawai'i to provide pedestrian facilities to enhance safety and comply with requirements of the ADA. This is true for all of the alternatives. In addition, the alternatives at Waipu'ilani Gulch and East Waipu'ilani Road would require new sidewalks/paths on the campus and new sidewalks/paths connecting the GSPC to the campus property. The length of these new sidewalks/paths are illustrated on the figures on the following pages, and the total distance in miles is also included in the table above.



New Sidewalks and Path for Connectivity
Alternatives A & B



New Sidewalks and Path for Connectivity
Alternatives C & D



New Sidewalks and Path for Connectivity
Alternative E

Estimated Time to Completion

The estimated time for the completion of each alternative was calculated based on three phases: 1) Design and Entitlements, 2) Construction Permitting, Bid and Procurement, and 3) Fabrication and Construction. The alternatives anticipated to take the most time to complete all three phases are the underpass at Waipuʻilani Gulch (Alternative D) and the overpass at East Waipuʻilani Road (Alternative E). The alternative estimated to take the least amount of time is the overpass at Kūlanihākoʻi Street (Alternative A). The discussion below highlights impacts to the timeline for completion of the GSPC, and Appendix B provides more detailed time estimates for each phase from design to construction.

The time needed to secure funding is not included in the estimated time need to complete the GSPC. Department of Education receives appropriated funds from the State of Hawaiʻi Legislature subject to priorities determined by legislators.

	Kūlanihākoʻi Street		Waipuʻilani Gulch		East Waipuʻilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Estimated Time to Completion[2]	3½ - 5 years	5½ - 7 years	5 - 6½ years	6 - 7½ years	6 - 7½ years
Design & Entitlements	*1 -1½ years*	*2 - 2½ years*	*2 - 2½ years*	*2 - 2½ years*	*1½ - 2 years*
Construction Permitting, Bid & Procurement	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*
Fabrication & Construction	*1 -1½ years*	*2 - 2½ years*	*1½ - 2 years*	*2½ - 3 years*	*3 - 3½ years*

Design and Entitlements

In the initial Design and Entitlements phase, all federal, state, and county rules and regulations applicable to the project must be reviewed and addressed accordingly to obtain the necessary entitlements and permits.

The time to complete the engineering and architectural design of the GSPC and associated structures (sidewalks, pathways, ramps, and retaining walls) is anticipated to vary per alternative based on distance from the campus and complexity of design. Alternative A requires the least design time (shortest sidewalk pathways). Alternatives C and E, which are some distance from Kūlanihākoʻi Street, require additional design time for the sidewalk and utilities to the overpass locations. Underpass Alternatives B and D are more complex than designs for the overpass alternatives and therefore require the most design time. The underpass designs must account for significant earthwork and the potential issues that may arise with unforeseen and buried utilities. Electrical, lighting and security systems are also more complicated and require more time to address in design.

For each of the alternatives DOE would be required to complete state and possibly federal level environmental assessments. State level Environmental Assessments (EA) and Environmental Impact Statements (EIS) present a comprehensive evaluation of a project's potential impacts on the environment based on studies done by independent expert consultants per Hawaii Revised Statutes (HRS) 343. To determine whether a state level EA or EIS is most appropriate for the selected alternative, DOE must complete an analysis using the 13 significance criteria per Hawaii Administrative Rules (HAR) 11-200.1-13b and -14a. An EA would take approximately 9-11 months to complete, while an EIS may take between 12-15 months. Any challenges to the EA or EIS process may extend this timeline.

The selected alternative would also need to address the State Historic Preservation review process per Chapter 6E-8 HRS as this would be a state project. During the preparation of the environmental assessment, State Historic Preservation compliance can be addressed.

Alternatives A and E would only need a state level EA or EIS (and likely only an EA). Alternative B may require an EIS due to project complexity. These alternatives would need to meet State Historic Preservation process requirements.

Alternatives C and D involve construction in Waipuʻilani Gulch which triggers federal regulatory requirements. Alternative C includes construction of an elevated walkway in the gulch to connect to the overpass, and Alternative D places an underpass in the gulch. United States Army Corps of Engineers (USACE) Honolulu District has determined that Waipuʻilani Gulch is a Water of The United States (WOTUS) and therefore is under their jurisdiction. Under the Clean Water Act Section 404 and Section 401 (Water Quality Certification), projects affecting a WOTUS must obtain associated permits and certifications. Alternatives C and D would also need a Stream Channel Alteration Permit from the State Commission on Water Resource Management. These permit processes must be completed in sequential order. The estimated timeframe for these gulch related permit applications to be prepared and reviewed is 18 months.

Alternatives C and D will need a state level EA or EIS and State Historic Preservation review process (Chapter 6E-8 HRS). The USACE will determine if a National Environmental Policy Act (NEPA) EA or EIS is needed or if the project qualifies for a Categorical Exclusion (CATEX). These alternatives may also need to comply with Section 106 of the National Historic Preservation Act (NHPA) and any other applicable federal approvals. This will take a minimum of 15 months.

Department of Education will be required to obtain County of Maui Special Management Area Use permits and Flood Development Permits. DOE will need to work with the County to see if there is a need for a Special Use Permit or zoning variance for the selected alternative. If either is needed, they can be obtained while procuring the Special Management Area and Flood Development permits. The preparation and review of these permit applications takes between 6-11 months.

These state and county processes will have some overlap in timing.

Easements may be needed for Alternatives C and D, and if so, should be pursued early in the Design and Entitlements phase.

Construction Permitting, Bid, and Procurement

The Construction Permitting, Bid, and Procurement phase begins with the design plan submission to county, state and federal agencies for review and approval. This phase could start near the end of the design and entitlements phase, but most likely after acceptance of the EA or EIS. The length of time for review and approval will vary depending on the technical aspects of the design. It should be noted that the County of Maui review process has faced delays in recent months due to a shortage of staff.

It is anticipated that each alternative would require similar state and county permits, such as county building and grading permits, Work to Perform on County Highways Permit, Permit to Perform Work Upon State Highways, and Permit for the Occupancy and Use of State Highway Right-of-Way.

When the construction plans are approved by all required agencies, the plans and specifications can be advertised for bid. A standard bid selection and procurement process takes approximately 4-6 months for full contract and award. If there are challenges to the bid process, significant additional time may be required as has occurred recently on select DOE projects.

Fabrication and Construction

Once the contract is awarded, the contractor can start the Fabrication and Construction phase for the selected GSPC. The timeframes for construction vary based on the overall scope of work, amount of preconstruction and prefabricated materials that are possible to use.

Construction of Alternatives A and B at the campus entrance on Kūlanihāko'i Street would have more limited scopes of work as there are existing sidewalks for students to access the GSPC. Alternatives C, D, and E require additional scope of work to provide sidewalks to access the GSPC which adds time to construction, as well cost.

Prefabricated components can be used to shorten the construction time for Alternatives A, B, C, and E. The alternative would still use of cast-in-place construction for the ramp/stair structures holding up the bridge and the support infrastructure required to use and maintain the facilities.

While Alternative B, the underpass at Kūlanihāko'i Street, would use prefabricated materials, it would require excavation and trenching in the highway. This would be done in phases to decrease traffic impacts and add the overall construction schedule. Utility relocations may also be required (e.g., existing communication and drainage infrastructure within the highway) and would extend the timeline.

Alternative D, the underpass at Waipu'ilani Gulch, would not be able to utilize prefabricated materials because it would need to fit below the existing bridge structure, with significant structural modification to the bridge supports and foundations. This alternative would require the most cast-in-place concrete construction which would lengthen the construction time, involve additional excavation and repair of the concrete channel lining, and require portions of the bridge supporting columns, sidewalls, foundations to be reconstructed. A new concrete wall would also be required to separate the pedestrian pathway from the gulch and floodway.

Perceived Security Issues

Perceived security issues are an important consideration in the evaluation of GSPC alternatives. In general, pedestrians and cyclists have greater personal security concerns regarding underpasses compared to overpasses. Overpasses are typically considered safer because there are more "eyes on the street." Drivers on the roadway can more easily see people accessing and traveling on an overpass, where users of the facility are visible. In the case of an underpass, the access points are often screened by the adjacent grades of the roadway, and people within the underpass are only visible by others at either opening or within the facility itself.

Some Kīhei residents, including many parents, have expressed concerns regarding the potential use of underpasses by unhoused individuals, as well as the potential for personal conflicts to occur out of sight. It is possible to reduce the potential for undesirable activity in underpasses by using extremely bright lighting and security cameras, but monitoring is often considered infeasible and police resources are already limited according to County of Maui enforcement officers. According to Federal Highway Administration Pedestrian Safety Guide and Countermeasure Selection System, underpasses work best

when designed to feel open and accessible. Given the design requirements at the Waipuʻilani Gulch underpass (Alternative D) to separate users from potential flooding, the underpass would be more of a tunnel than an open and inviting path. The underpass in Alternative B would also have restricted lines of sight by passing drivers, and the tunnel design would prevent pedestrians or bicyclists in the tunnel from being seen by others at ground level.

	Kūlanihākoʻi Street		Waipuʻilani Gulch		East Waipuʻilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Perceived Security Issues	Low	High	Low	High	Low

Estimated Rough Cost

The estimated rough costs were calculated using the three phases for project delivery: 1) Design and Entitlements, 2) Construction Permitting, Bid and Procurement, and 3) Fabrication and Construction. Most of each alternative's total estimated cost is for the Fabrication and Construction phase.

Cost estimating has become more challenging recently due to the highly volatile nature of the construction industry, including supply chain and shipping issues. Cost estimates for all phases of the project are also highly time-dependent and market-driven, and changes to the schedule may impact the overall project cost. An estimated range of costs is provided for budgeting and comparison purposes. A more detailed cost estimate should be prepared for the selected alternative as part of a subsequent study.

Estimates do not account for future escalation in costs due to inflation or the volatility that the industry is currently experiencing in supply chain. However, they do account for recent inflation and the increased cost of goods and services that the industry estimates have increased by 25 to 30% since the start of 2022.

A summary comparison of the estimated rough costs is included in the table below. More detailed cost estimates are included in Appendix C.

	Kūlanihākoʻi Street		Waipuʻilani Gulch		East Waipuʻilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Estimated Rough Cost[3]	$10.4-13.6 mil	$18.3-23.8 mil	$14.3-18.5 mil	$24.6-32.0 mil[4]	$15.3-20 mil

Design and Entitlements / Construction Permitting, Bid and Procurement

Design costs are affected by the alternative's scope of work and the complexity of the design. The design of Alternative A would be the least costly because of the limited scope of work as it utilizes existing sidewalks and other infrastructure. Alternatives C, D, and E have greater scopes of work due to their distance from the campus entrance and additional sidewalk needs. As described in the Estimated Time to Completion section, above, underpass Alternatives B and D must consider additional factors in their

design such as earthwork, utility lines, and electrical systems. These factors contribute to greater design complexity and increase the cost of design.

Entitlement costs for Alternatives C and D at Waipuʻilani Gulch are the highest because the gulch is a jurisdictional WOTUS and requires associated permits and certification under the Sections 401 and 404 of the Clean Water Act as well as federal and state level environment assessments. Overpass Alternatives A and E have the lowest entitlement costs since these will likely require only a state level environmental assessment. Underpass Alternative B involves significant earthwork which may trigger the need for a more costly EIS.

On average, entitlement costs were estimated to be approximately 5 to 10% of the overall project costs while design, construction permitting, and bid and procurement costs were approximately 10% of the overall project costs.

Fabrication and Construction

Construction costs are also based on the project complexity and scope of work and include estimated costs for the contractor's General Conditions and Construction Management (CM) services.

On average, construction costs made up approximately 80 to 85% of the total project costs, which is in line with projects of similar size and scope of work, particularly for a government agency.

The total cost for the fabrication and construction of each GSPC alternative includes factors specific to its location and design. Below are highlights of the key factors which contribute to the differences in cost.

- The two underpass alternatives, B and D, will require considerable cast-in-place structural concrete work. They may also require sumps for the disposal of accumulated water in the subterranean pathways.
- Alternative D requires demolition and reconstruction of portions of the existing Waipuʻilani Bridge structure. It also requires the most cast-in-place concrete work for the new underpass.
- Alternatives C, D and E, which need longer sidewalks, have somewhat higher costs associated with site preparation, grading and earthwork, concrete flatwork, utilities, fencing, railings, signage, and plantings.
- Alternatives A, B, and E will have the greatest amount of traffic disruptions associated with construction and the highest costs associated with traffic control measures.

Traffic Disruptions on Piʻilani Highway

	Kūlanihākoʻi Street		Waipuʻilani Gulch		East Waipuʻilani Road
Evaluation Criteria	A Overpass	B Underpass	C Overpass	D Underpass	E Overpass
Traffic Disruption on Piʻilani Highway during construction	Med	High	Low	Low	Med

Another important evaluation criterion is the anticipated traffic impact on Piʻilani Highway during construction. Assessments on the degree of traffic disruption were based on a topographic survey (pre-

roundabout construction), construction plans for the new roundabout, and estimations of the footprint for each alternative structure. A rating of High, Medium, or Low was assigned to each alternative.

Alternative B would cause the most traffic disruption because it would require large sections of Piʻilani Highway to be closed for trenching to construct the underpass. It was the only alternative to be rated as High in this criterion.

Alternatives A and E were rated Medium for this criterion. Alternative A would affect the area immediately adjacent to the roundabout on Kūlanihākoʻi Street. This area has limited space for staging and construction which would cause lanes to be impacted and lead to traffic congestion. Alternative E on East Waipuʻilani Road has more room available for staging and construction, however the future addition of a sidewalk next to the highway may impact vehicle travel the mauka lane.

Alternative C was rated Low as it has sufficient room for staging and construction on both sides of Piʻilani Highway. Alternative D was also rated Low since most of the work would be done under the bridge. The existing bridge would be braced, and construction would not affect traffic.

Community Consultation: Round 2

The second round of community outreach focused on sharing the study's technical analysis findings during the Open House and collecting feedback from parents and community members.

Community Open House: Sharing the Alternatives Analysis

A community Open House was held on Thursday, September 22, 2022, from 4-7 pm at Lokelani Intermediate School. Informational boards were posted around the cafeteria with study team members and agency staff available to explain alternative analysis findings and answer questions.

The open house format was chosen to create opportunities for attendees to interact with the study team and agency representatives and promote conversations and information exchange. The open house format also allowed participants to attend when it was most convenient for them and to take in the information at their own pace.

Attendees at the event were asked to sign in and their names and email addresses were added to a project database. After reviewing the alternative analysis boards, attendees were asked to provide their

feedback via a paper questionnaire. Attendees were also invited to place a dot on the potential short-term options board to indicate their preference. The boards displayed at the Open House are available in Appendix D.

Questionnaire Results

The Open House questionnaire was designed to collect feedback about attendees' preferences on the five alternatives displayed, as well as their feelings on a potential proposal to allow DOE to open the high school before the crossing is built. Information such as attendees zip code and the number of school-age children they have was also requested to better understand who had attended the open house, and especially to understand the perspectives of parents of school-age children. A total of 53 questionnaires were completed.

The first part of the questionnaire asked attendees which of the alternatives was their most preferred option and the reason(s) for that preference. Attendees were also given the option to indicate a second preferred alternative. The overall results showed a strong preference for the overpass near Kūlanihāko'i Street. Reasons listed for this preference included the lower cost, greater usability and safety, and less disruption to traffic during construction. Though several respondents did not answer this question, results showed the second overall preference was the overpass near the Waipu'ilani Gulch.

The second portion of the questionnaire described a proposal to amend the condition that currently prevents DOE from opening the school by its target date and asked attendees to rate how acceptable they found the proposal. Majority of those who answered this question (56%) said they found it "Very" or "Somewhat" acceptable, however a significant portion (40%) answered that this was "Not Very" or "Not at All" acceptable. Only 4% of respondents remained neutral on this question.

A full summary of the questionnaire results is provided in Appendix A.

Student Focus Group

A focus group of 12 current Kūlanihāko'i High School students who live within the 1.5 mile radius from the new school was held on September 27th to hear their input and perspectives. Students were eager to have the school open and have a safe crossing solution. Students were asked their preferences for the permanent and temporary crossing options. More than half the students preferred an overpass as the permanent crossing solution, and only one student was comfortable with the at-grade roundabout crossing option. For the temporary solution, the students overwhelmingly preferred the bus/shuttle option over a police officer/crossing guard at the roundabout crosswalk.

A summary of the student focus group is included in Appendix A.

Agency Consultations

Consultations were conducted with agencies throughout the study process to identify issues and concerns, determine viable alternatives and processes Consulted agencies include stakeholders in DOE,

DOT, and County of Maui Planning Department. A list of persons consulted from each agency is included in Appendix E.

Meetings to share the study purpose and scope of work were held with DOT and County of Maui Planning Department prior to the first round of community outreach. Feedback on the initial prioritization of evaluation criteria importance that resulted from Community Listening Sessions was summarized and shared with DOE and DOT. Prior to the Open House, DOE and DOT were updated on the initial findings from the technical analysis of the alternatives, as well as the results of the Online Survey. After the Open House and through the conclusion of the technical analysis, each stakeholder agency was provided with an update on the analysis findings and results of the Open House questionnaire and consulted for outstanding questions.

Below is a summary of the key input from each agency.

Hawai‘i State Department of Transportation (DOT)

Early in the consultation process, DOT made clear that GSPC designs within a DOT right-of-way would be reviewed by DOT and need to be in conformance with FHWA requirements. DOT also stated that they would not take ownership of the GSPC in the short or long term.

DOT’s position is that the at-grade crossing at the roundabout is safe for all users (pedestrians, bicyclists, and drivers) with the added controls (such as the RRFB). As DOT is not requesting the construction of the GSPC, the responsibilities of ownership, maintenance, and operation would rest solely with DOE.

Department of Transportation noted that because DOE will be closing the GSPC during non-school hours, the at-grade crossing at the roundabout would remain because eliminating the at-grade crossing would force the public to jaywalk across Pi‘ilani Highway. DOT acknowledged that leaving the at-grade crossing in place reduces the likelihood that students would choose to use the GSPC. When asked if they would consider removing the at-grade crosswalk if the County were to take ownership of GSPC (allowing it to remain permanently open), DOT said they would consider it when the time came for the transfer of ownership. Based on their research, DOT maintains that GSPCs are underused because they add travel length and time when crossing the highway.

County of Maui Planning Department

The County of Maui Planning Department expressed their support for this study, and especially for the community outreach component. The Planning Department acknowledged that it does not have a say in DOE’s decision and agreed that a GSPC of any type and location would meet the intent of the LUC condition.

The Planning Department stated that it will not sign off on a permanent Certificate of Occupancy as that would be in conflict with the GSPC condition in the LUC Decision and Order and County of Maui Ordinance 4135 which contains the conditions of the county zone change. The current County administration takes the view that issuing a Certificate of Occupancy would be in defiance of the LUC Decision and Order and the county ordinance and would subject DOE and County of Maui to legal challenges.

The Planning Department offered that a Temporary Certificate of Occupancy that would be valid for a one-year period could be a mechanism to allow the high school to open prior to GSPC construction.

The Planning Department identified ways in which it could be of assistance with the GSPC connectivity. The County is willing to provide right-of-way or easements on County land to accommodate the selected alternative, if needed. They indicated that any sidewalk DOE constructs in the County right-of-way can be dedicated to the County.

The County is pursuing pedestrian and bicycle connectivity in Kīhei separately from the school GSPC crossing. For example, the Department of Public Works is currently conducting an environmental assessment for Phase I of the Līloa Drive Extension Project that would provide an important multimodal connection near the GSPC alternatives.

Temporary Options

Regardless of which study alternative is selected, the GSPC will not be constructed and open in time to meet DOE's target school opening date of January 2023. This study investigated viable short-term options for student access to the school prior to the GSPC completion.

Ideas for these potential short-term options were first solicited during the Listening Sessions. The community suggested several ideas including bussing students to and from the school and establishing a crossing guard or County of Maui police officer at the at-grade roundabout crosswalk during heavy crossing times in the morning and afternoon. Another option that was raised in discussions was replacing the RRFB at the roundabout crossing with a HAWK (**H**igh-Intensity **A**ctivated cross**W**al**K**) beacon or Pedestrian Hybrid Beacon (PHB) to increase the likelihood that traffic will stop for pedestrians. A HAWK beacon or PHB includes red lights requiring vehicles to come to a complete stop until a flashing sequence allows drivers to proceed if safe to do so. An RRFB includes flashing yellow lights, but both devices require drivers to stop and give right of way to pedestrians in the crosswalk.

Multiple short-term options were presented to the community for evaluation in the Online Survey. The top two options selected by survey respondents were bussing students to campus and having a County of Maui police officer or crossing guard facilitate student crossing at the roundabout. Other temporary options included the installation of a HAWK beacon and mandatory student pick-up and drop-off, each of which received approximately a third of the responses of the top two preferences. Open-ended responses to this question indicated that approximately 4% of all survey respondents did not want the school to open until the GSPC was completed.

These options were raised in discussions with DOE and DOT to ascertain the feasibility of implementation. DOE felt the most viable options were shuttling/bussing students to campus and having a police officer present to assist with the roundabout crosswalk. Both options were again vetted through a hardcopy questionnaire offered at the Community Open House and with a student focus group. Participants at the Open House and in the student focus group expressed a strong preference for the bus/shuttle option. At the Open House, representatives from the County of Maui Police Department expressed concerns about their ability to provide consistent staffing for crossing assistance at the roundabout and officer safety during this duty.

Next Steps

This section identifies and outlines a series of suggested next steps for DOE following the selection of a GSPC alternative. These steps are prioritized to ensure that the most immediate needs are addressed first. Most steps involve coordination with other agencies to resolve outstanding issues and move the GSPC design and construction process forward as efficiently as possible in order to obtain the approvals needed to open the high school.

A plan should be devised detailing the temporary options. This will help to inform the drafting of the LUC conditions modifications.

The DOE will need to provide details complete with agreement from MPD (if chosen,) hours that crossing guards would be in place, how that will impact traffic during those morning and afternoon hours etc. Conversely, if bussing is chosen, the plan should address how a bussing program would work, which students will be served, where pick-ups and drop-offs would be, how it would be paid for, would there be a fee for parents, are there enough bus drivers etc. We just don't want to see the DOE going back to the LUC unprepared, and we view this as a necessary element of their proposal.

State LUC Condition Modification & County of Maui Ordinance Revision

The LUC condition reads that the GSPC must be constructed prior to the opening of the school. The County of Maui's corresponding ordinance for the zone change refers to the language of the condition. Therefore, both conditions of entitlements should be addressed in the same timeframe.

The County, not the LUC, has the primary power to enforce the LUC condition. Enforcement mechanisms include denying the issuance of building permits, Certificates of Occupancy, utility services, and other administrative services. Proposed modifications to the LUC condition language should be coordinated with the County of Maui Planning Department and Corporation Counsel.

The Kīhei community, the County of Maui, and the LUC are looking to DOE to demonstrate their commitment to building a GSPC before pursuing steps to open the school. With this in mind, DOE should consider incorporating benchmarks tied to substantial progress towards GSPC construction in the proposed modifications to the LUC condition and/or the County of Maui ordinance revision. The Planning Department requested that any benchmarks be clear, enforceable, and easy to understand. Progress on benchmarks could be linked to the issuances of annual Temporary Certificates of Occupancy that would allow the school to open. These are issued by the County of Maui Department of Public Works Development Services Administration with sign-off by various departments including the Planning Department.

The modified LUC and/or County ordinance language should reference the implementation of short-term measures for facilitating student access to the school before the permanent GSPC is installed. A plan for the temporary school access via bus/shuttle and/or police/crossing guard at the roundabout could be a benchmark. Additionally, DOE may choose to set other benchmarks to provide periodic progress reports to maintain public transparency throughout the process and to rebuild trust with the Kīhei community.

After agreement on the proposed LUC modification language is reached, DOE can submit a motion and the LUC will set a date for the motion to be heard. Selection of a date for this meeting will incorporate

review by the Office of Planning and Sustainable Development and the LUC staff which typically takes 2.5 months.

County of Maui Police Department Crossing Assistance

DOE needs to confirm with the County of Maui Police Department that police officers will be available to assist with students crossing as a short-term option until a GSPC is completed and operational.

DOT Plans for the At-Grade Crossing

Because the roundabout will already be in place when the school is opened, a HAWK beacon, rather than the currently planned RRFB, was suggested as an option to provide greater safety and visibility for users of the at-grade crossing. Department of Transportation will need to conduct a traffic analysis to assess the appropriateness of a HAWK system at this location.

Department of Transportation has stated that the roundabout's at-grade crossing will remain while the GPSC is under control of DOE because the hours of GSPC operation will be limited. Department of Education should work with DOT to understand whether the at-grade crossing could be removed if the County accepts operation of the GSPC and allows it to always remain open. This might occur during future development mauka of Piʻilani Highway.

Approaches to Reducing Project Schedule

Traditional project delivery for a GSPC would consist of obtaining entitlements, preparing engineering and architectural design drawings, securing permits from state and county (and potentially federal) agencies, offering the project up for bid and procurement, and engaging a general contractor. Concurrently, DOE would internally identify the GSPC operational parameters, partner agencies, and identify funding sources for both construction and long-term maintenance. This project delivery method is referred to as “design-bid-build”.

During the community open house, a community member asked about using a “design-build” project delivery approach as an alternative to shorten the project delivery schedule. In this approach, DOE would contract directly with the general contractor who would hire its own team of designers and engineers rather than DOE having the responsibility for contracting out for the design separately and then putting the construction out to bid. In this scenario entitlements are still typically handled by DOE (including HRS 343 and NEPA compliance).

One challenge with the “design-build” approach is that DOE has limited experience using this project delivery method, and it may not result in the expected schedule reductions. Keeping the design and entitlement processes separate from the construction bid process can be more expedient and provide greater expertise on the individual tasks, especially when obtaining agency approvals. Another challenge is that unless the full amount of funding for the design, entitlements and construction allocated up front, the design-build approach is not feasible.

Another possible method of accelerating project delivery is via pandemic Emergency Proclamation by the Governor. Recently, the Governor has used this power to approve infrastructure throughout the state using economic stimulus funding from the federal government. Funded projects include highway projects, emergency homeless shelter and housing projects, and other infrastructure work. The

Emergency Proclamation generally exempts projects from state entitlement approval requirements (e.g., HRS 343) as well as County discretionary and ministerial permits (Special Management Area (SMA), County Special Use Permit (CUP), building, grading, work in county highways, etc.). These approvals can be obtained at a later date, as is the case for most projects constructed under Emergency Proclamation.

Delivery of the project through the emergency proclamation is possible. However, it can only be accomplished with significant coordination and agreement between the County of Maui, DOE, DOT, and the Governor's office. The traditional project delivery method, where DOE is the only lead agency, is simpler. Any use of the Emergency Proclamation would require that funding be identified and allocated to DOE for use on this project early in the process.

Potential Future GSPC Dedication to County of Maui

Once a GSPC alternative is selected by DOE for implementation, discussion on future GSPC ownership could be conducted with County of Maui. County of Maui ownership would allow the crossing to be operated outside of school hours and contribute to community connectivity. The County of Maui's operation of the GSPC would be compatible with its overall responsibility for public roadways and rights-of-way. If dedication to the County occurs, DOT would also be able to consider removing the at-grade crossing at the roundabout.

The transfer of GSPC ownership could be paired with the dedication of the main campus driveway to the County as a public street. Because the existing ranch lands located mauka of the school are anticipated to be developed, the driveway may first be transferred to the developer (and DOE would maintain an access easement). Once it is improved to county standards, ownership of the driveway would likely transfer from the developer to the County of Maui. The County of Maui is not prepared to accept ownership at this time.

Investigate Mechanisms for North Kīhei Mauka Connectivity

Community feedback identified poor connectivity between the densely populated Ohukai subdivision and the high school as a significant issue. There are high concentrations of students living in this area who will not be eligible for bussing due to DOE's 1.5-mile bussing radius policy (see Alternatives Analysis above). The existing infrastructure requires high school students residing in the subdivision to cross Piʻilani Highway twice in order to reach the campus by walking or biking. Many community members expressed a desire for a sidewalk or other pathway on the mauka side of Piʻilani Highway or through a future mauka development(s) between Ohukai Road and the campus.

This issue falls outside the purpose of this study; however, DOE should work with DOT and the County of Maui to add a mauka shared use path for pedestrians and bicyclists alongside but separate from the travel lanes on the highway between Ohukai Road and the high school entrance to provide a direct route that does not require students to cross the highway at all.

Appendix A

Community Outreach Results

COMMUNITY OUTREACH

Survey/Questionnaire Results

October 14, 2022

Table of Contents

Online Survey

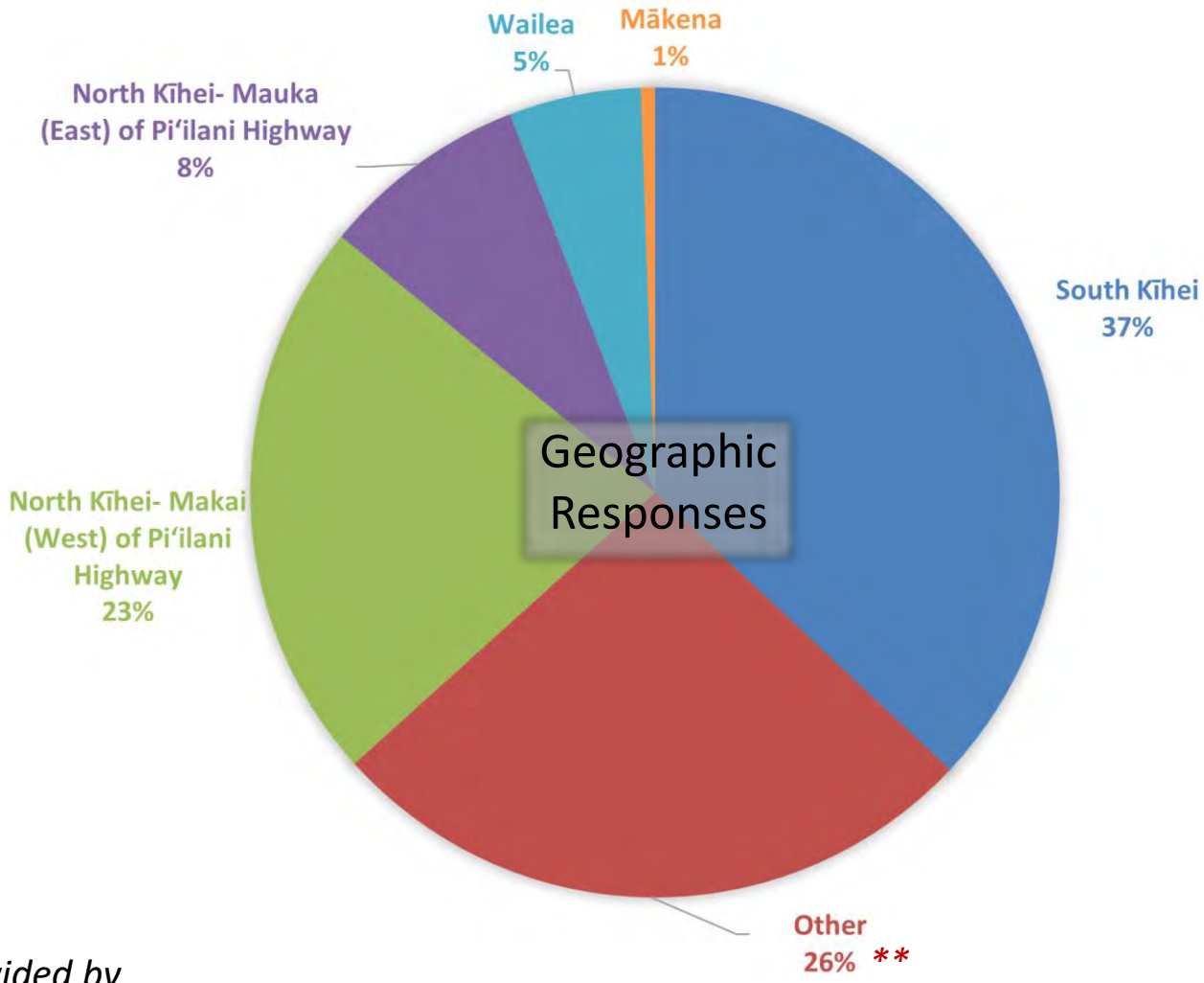
Online Survey Overview

- Open from September 2nd to 16th 2022 via SurveyMonkey
- Questions developed using feedback from August Listening Sessions
- Announcements via
  - Email to those who requested study updates
  - Email to parents/guardians of students attending DOE schools in Kīhei
  - Maui Now
  - Maui News
  - Study website (bit.ly/KiheiHScrossing)

Survey Responses

1,258 responses

- English (1,254)
- Spanish (3)*
- Marshallese (1)*
- Chuukese (0)*

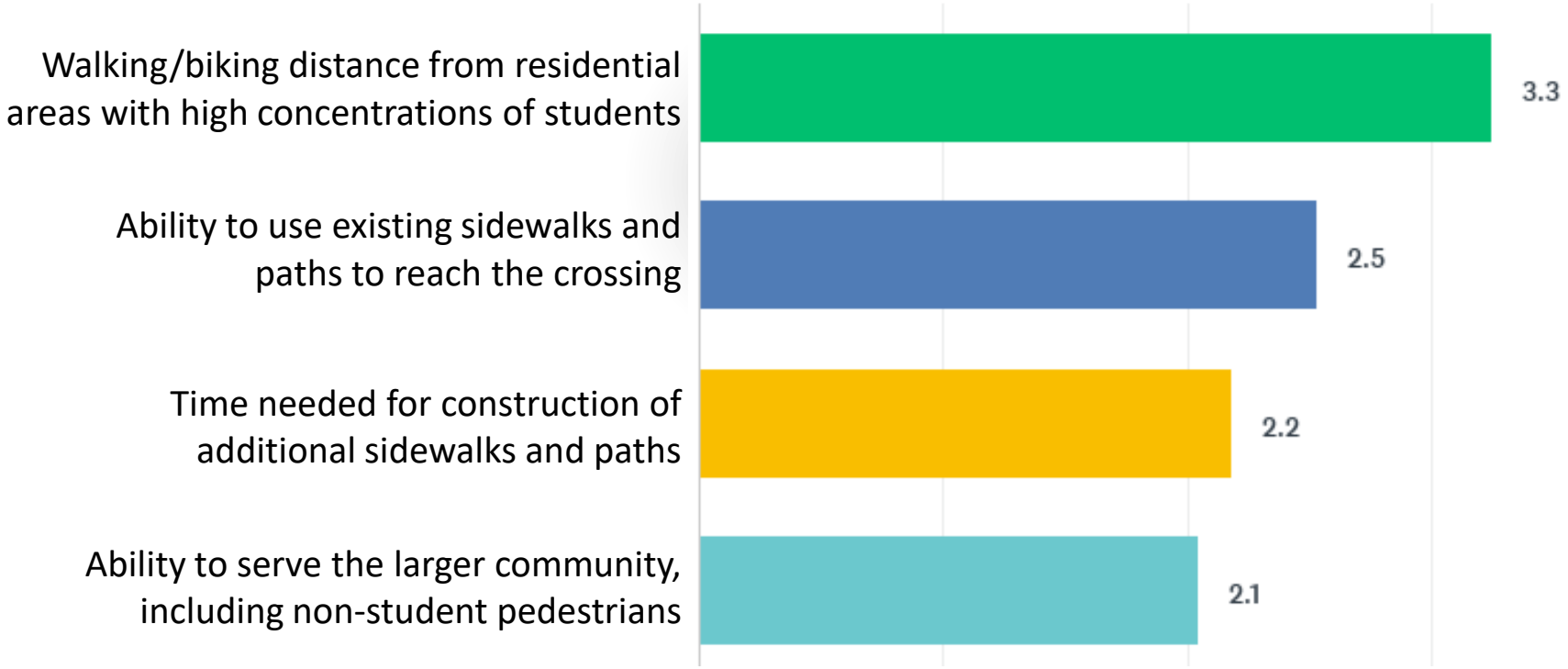


** Language recommendations provided by school administrators based on languages currently used to communicate with parents*

***Includes residents of other areas of Maui as well as specifically identified locations in Kihei*

Crossing Location Considerations

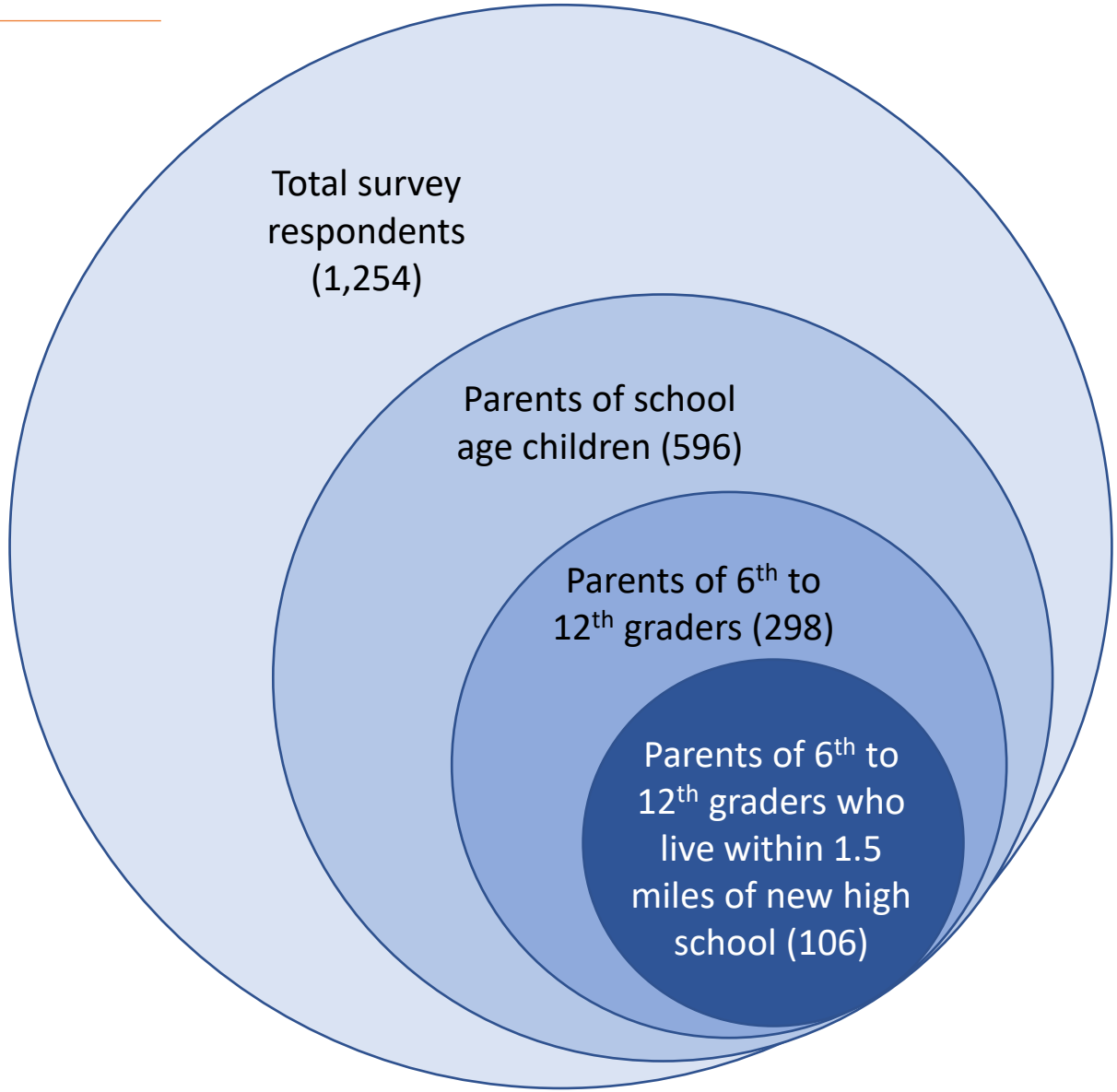
Survey respondents were asked to rank the following considerations for potential crossing locations that were raised during the August Listening Sessions.



Average rankings were calculated by weighting the ranking chosen by respondents.

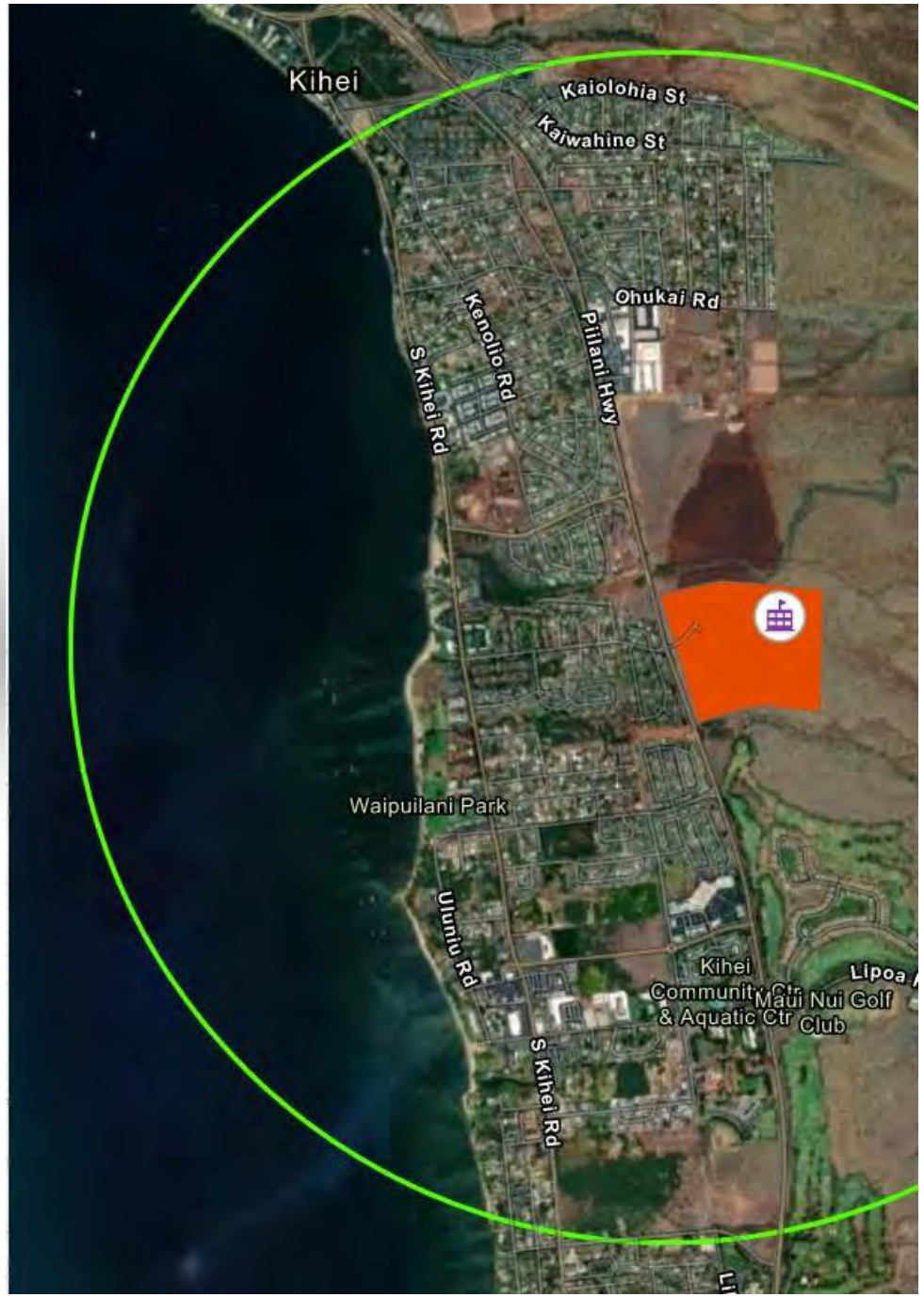
Parent Respondents

- 47% of respondents were parents of school age children
- Parents are primary decision-makers regarding how students will get to Kūlanihāko‘i High School in the next 3-6 years
- Focus on families within the 1.5 mile radius where no bussing option



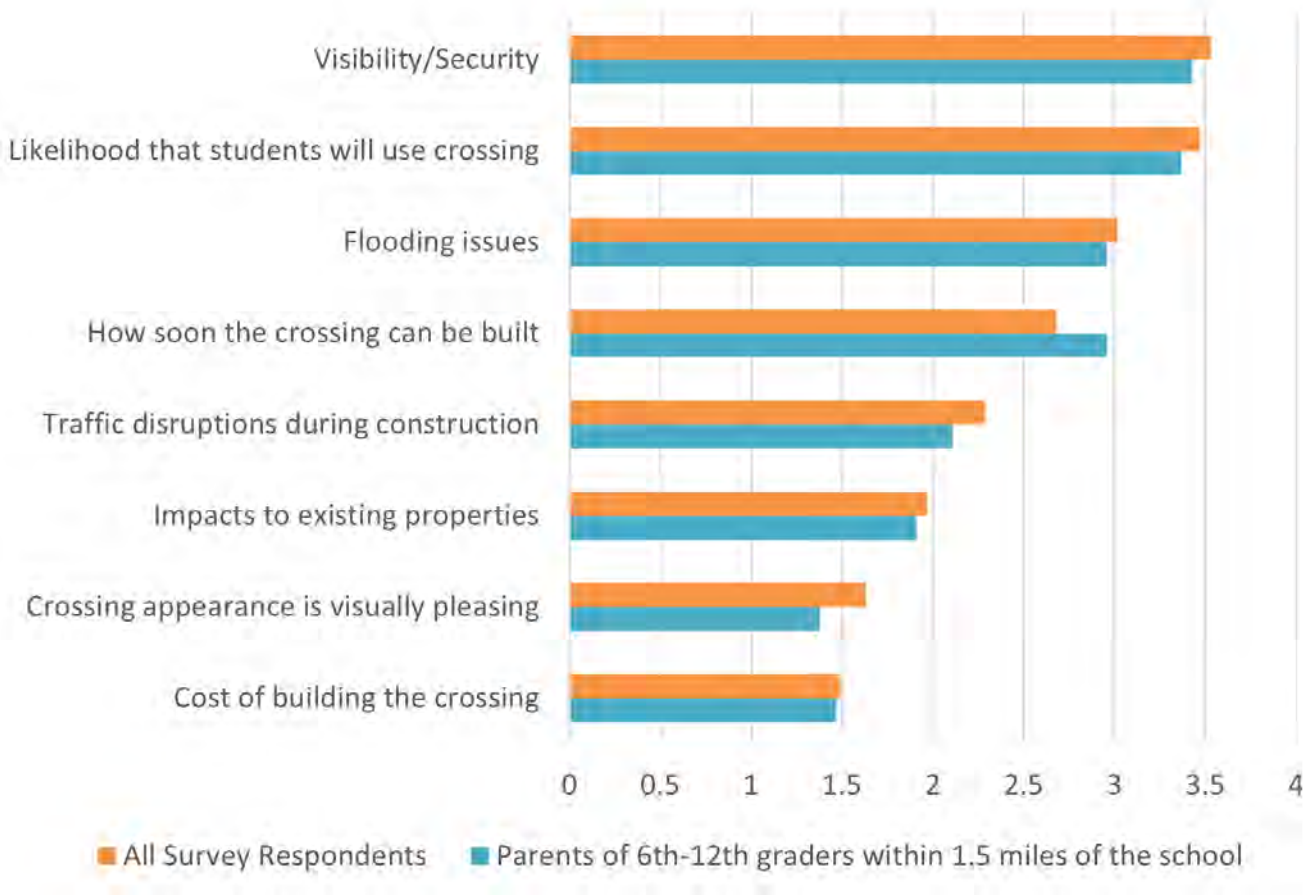
Area without DOE Bus Service

- Within the 1.5 mile radius around Kūlanihāko‘i High School, there is no DOE Bus Service
- Students residing within this area are more likely to be biking/walking to school



Priority Considerations for an Over/Underpass

- The survey asked respondents to rate each factor on its importance in the overall analysis.
- Visibility and security were most important considerations.
- Parents responses showed higher level of importance assigned to how soon the crossing can be completed.

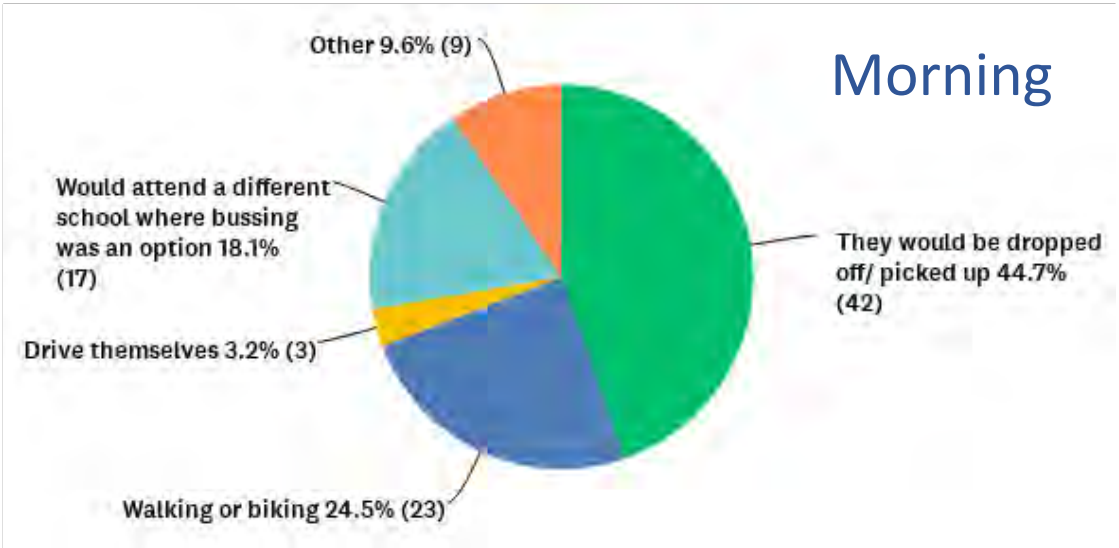


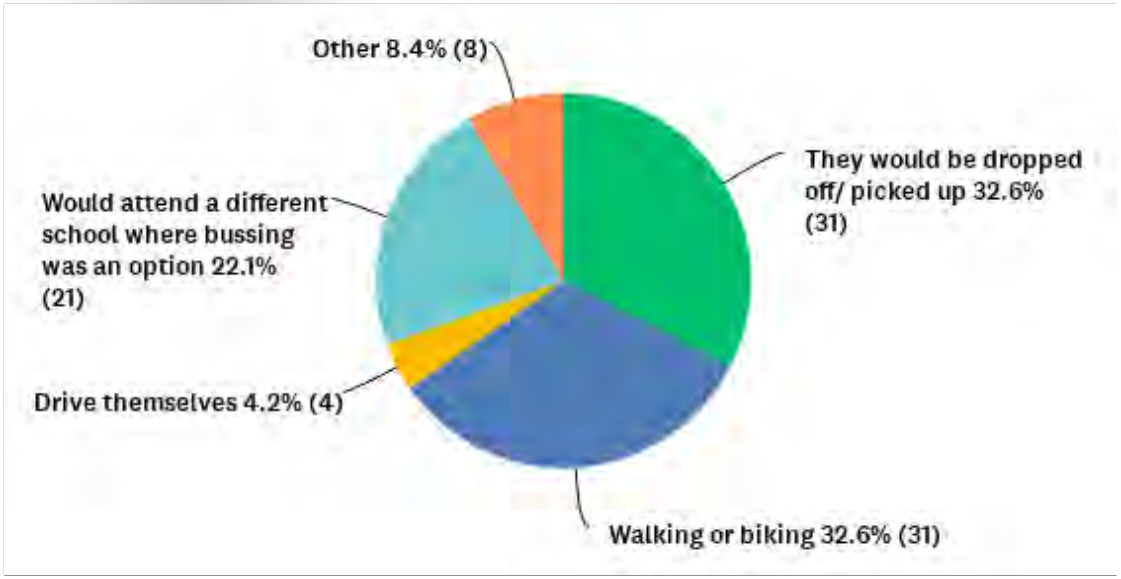
Average rankings are calculated by weighting the responses based on the importance level chosen by respondents

Parent Respondents: *How will kids get to/from school?*

- In the morning, ~45% of families plan to drop off students
- In the afternoon, more students (~33%) will be walking or biking home

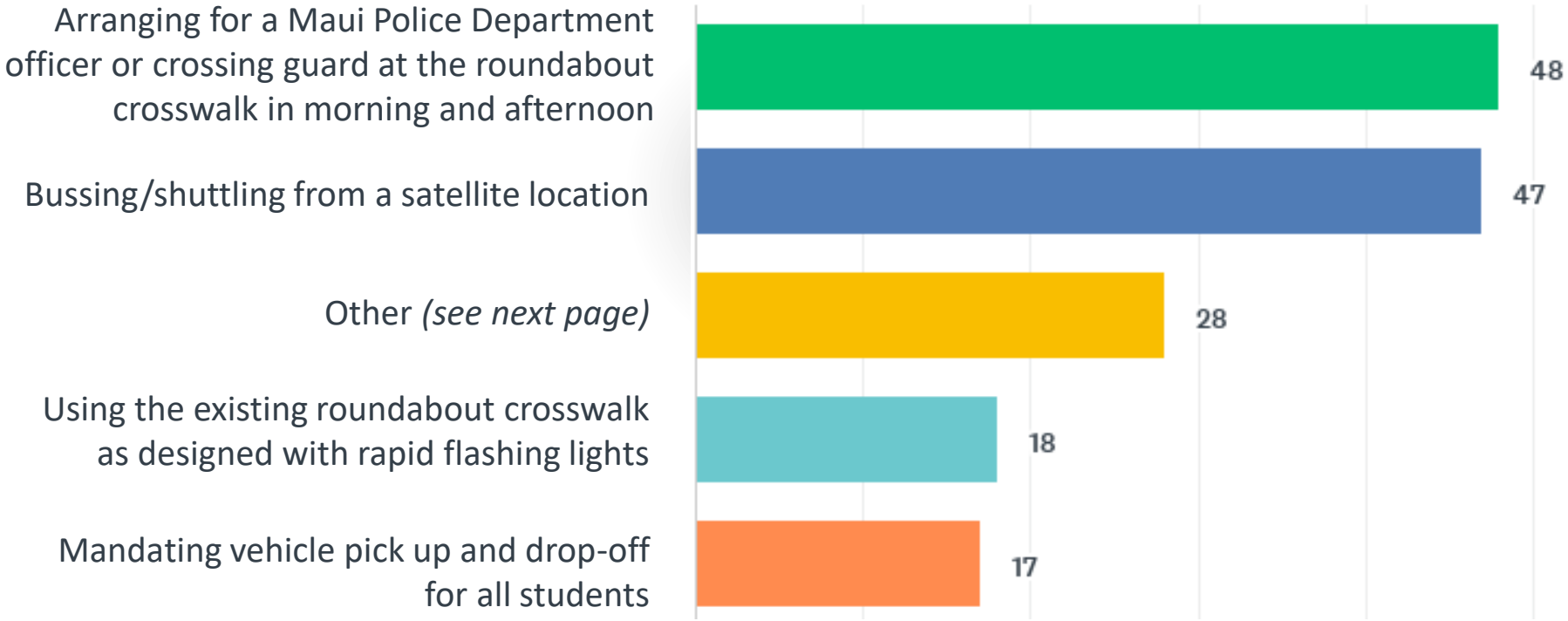
Responses from parents of 6th-12th graders living in the 1.5-mile radius





Parent Respondents: Short-Term Alternatives

Respondents selected acceptable alternatives for opening the school before the crossing is completed. Multiple alternatives could be selected. *Options were from August Listening Sessions.*



Responses from parents of 6th-12th graders living in the 1.5-mile radius

Open-ended Responses

SHORT-TERM ALTERNATIVES

"Do not open the school before GSPC"

- 55 respondents or ~4% of survey respondents
  - 17 of the responses were from parents of school-age children

"None of the above"

- 25 respondents or ~2% of survey respondents
  - 8 of the responses were from parents of school-age children

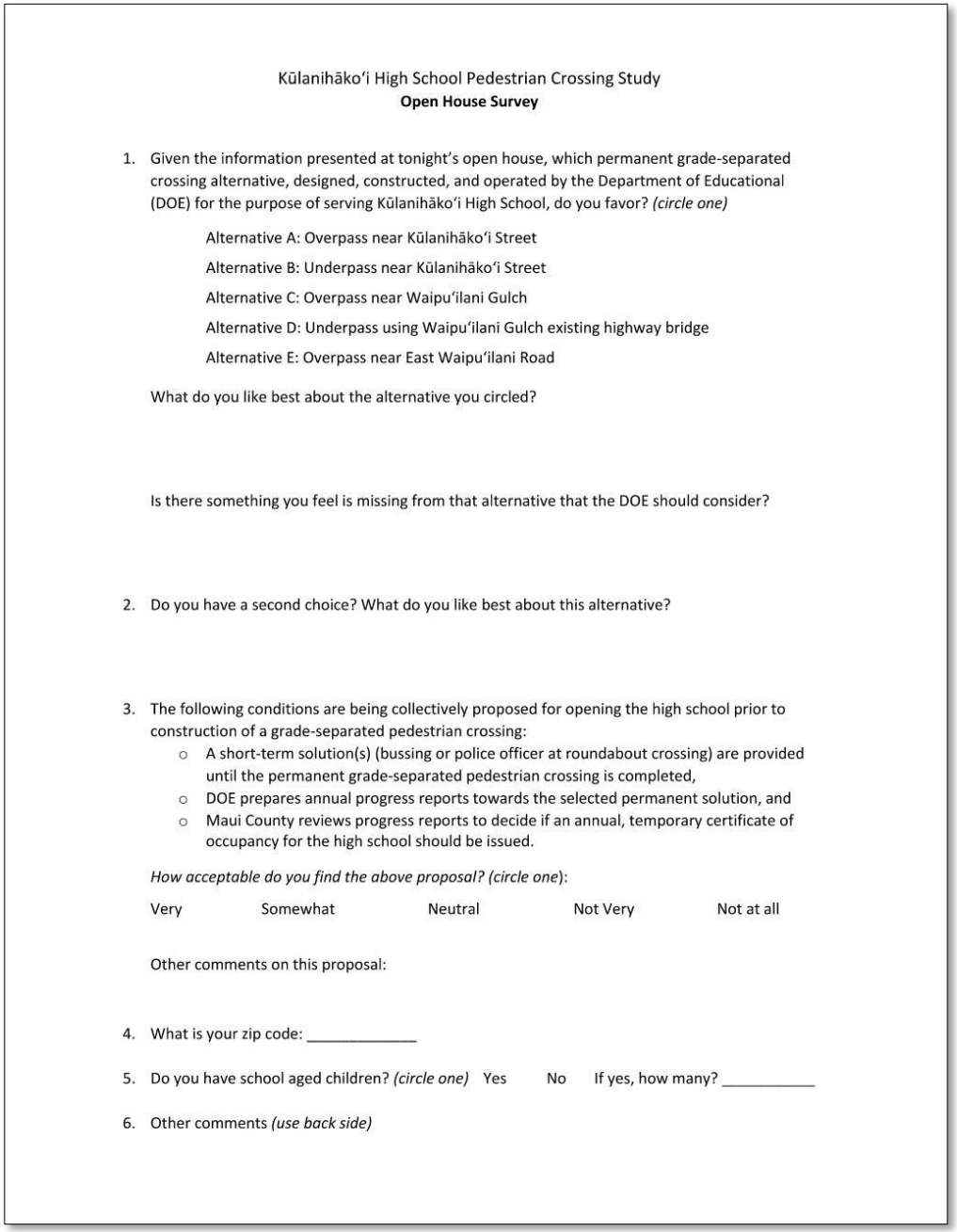
LONG-TERM ALTERNATIVES

Some community members used the comment section at end of the survey to express their frustrations with the roundabout and desire for a "stop light" or signalized crossing at the Kūlanihākoʻi Street intersection.

Open House Questionnaire / Input

Overview

- Hardcopy questionnaire distributed at the Thursday, September 22nd 2022 Open House
- 53 questionnaires completed
- Board for input on short-term / temporary options



Kūlanihāko'i High School Pedestrian Crossing Study
Open House Survey

1. Given the information presented at tonight's open house, which permanent grade-separated crossing alternative, designed, constructed, and operated by the Department of Educational (DOE) for the purpose of serving Kūlanihāko'i High School, do you favor? *(circle one)*

   Alternative A: Overpass near Kūlanihāko'i Street

   Alternative B: Underpass near Kūlanihāko'i Street

   Alternative C: Overpass near Waipu'ilani Gulch

   Alternative D: Underpass using Waipu'ilani Gulch existing highway bridge

   Alternative E: Overpass near East Waipu'ilani Road

   What do you like best about the alternative you circled?

   Is there something you feel is missing from that alternative that the DOE should consider?

2. Do you have a second choice? What do you like best about this alternative?

3. The following conditions are being collectively proposed for opening the high school prior to construction of a grade-separated pedestrian crossing:
   - A short-term solution(s) (bussing or police officer at roundabout crossing) are provided until the permanent grade-separated pedestrian crossing is completed,
   - DOE prepares annual progress reports towards the selected permanent solution, and
   - Maui County reviews progress reports to decide if an annual, temporary certificate of occupancy for the high school should be issued.

   How acceptable do you find the above proposal? (circle one):

   Very Somewhat Neutral Not Very Not at all

   Other comments on this proposal:

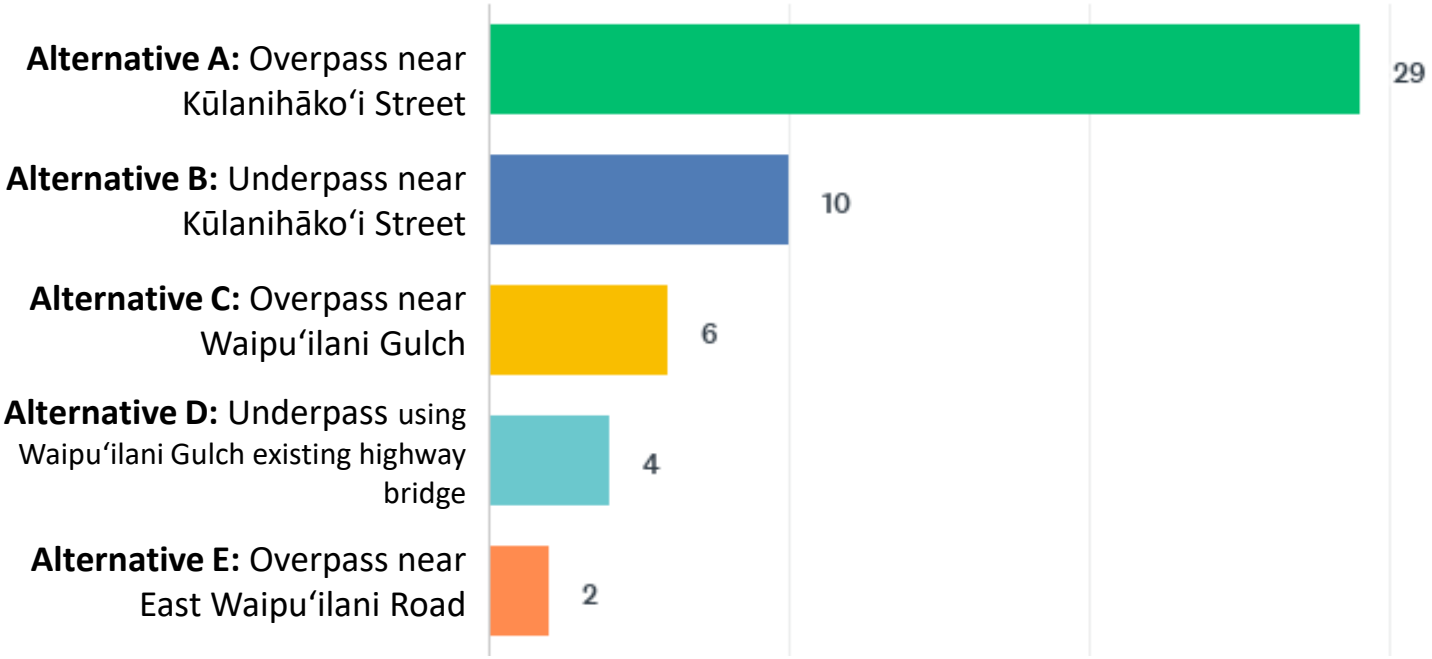
4. What is your zip code: _____

5. Do you have school aged children? *(circle one)* Yes No If yes, how many? _____

6. Other comments *(use back side)*

Preferred Alternative

Given the information presented at tonight's open house, which permanent grade-separated crossing alternative, designed, constructed, and operated by the Department of Educational (DOE) for the purpose of serving Kūlanihāko'i High School, do you favor?



Reasons for Alternative Selection	
A	Cost, Schedule, Usability, Safety, Less Traffic Disruption, Perceived Safety
B	Cost, Schedule, Usability
C	Cost, Schedule, Usability, Safety
D	Usability, Less Traffic Disruption, Uses existing Infrastructure
E	Safety, Less Traffic Disruption

Not all survey respondents answered this question.


ALTERNATIVES
A
Alternative A: Overpass near Kūlanihāko'i Street
B
Alternative B: Underpass near Kūlanihāko'i Street
C
Alternative C: Overpass near Waipu'ilani Gulch
D
Alternative D: Underpass using Waipu'ilani Gulch existing highway bridge
E
Alternative E: Overpass near East Waipu'ilani Road
KŪLANIHĀKOʻI HIGH SCHOOL
Kūlanihāko'i Gulch
Waipu'ilani Gulch
PIILANI HIGHWAY
PIILANI
KAWAILANI CIR.
WAWALI S
MAHEALANI ST.
KŪLANIHĀKOʻI ST
E. WAIPUʻILANI ROAD

Preferred Alternative: 2nd Choice

Alternative	Number of Selections for Second Choice*
Alternative C: Overpass near Waipuʻilani Gulch	9
Alternative E: Overpass near East Waipuʻilani Road	8
Alternative B: Underpass near Kūlanihākoʻi Street	4
Alternative A: Overpass near Kūlanihākoʻi Street	4
Alternative D: Underpass using Waipuʻilani Gulch existing highway bridge	2

Not all survey respondents answered this question.

Two respondents noted that a more open Waipuʻilani Gulch underpass design should have been considered in the alternatives.

Themes from Survey Comments

- Kids are the priority, keep them safe
- The school should be opened as soon as possible. The kids deserve to go to their new school
- 3-6 years to build an option seems too long
- DOE should have built the grade-separated pedestrian crossing a long time ago
- Lack of trust that DOE will follow through in the future
- Dissatisfaction with the roundabout / desire for traffic light

Pros and cons for the overpass versus underpass were included in some of the open-ended comments.

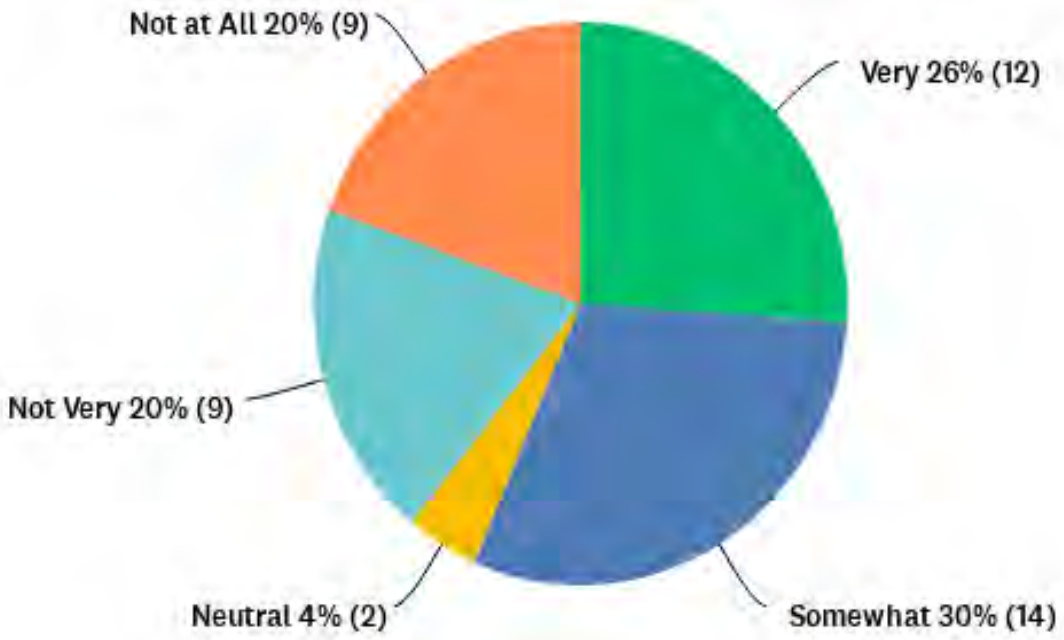
Acceptability of Possible Conditions

How acceptable do you find the following?

The three conditions being collectively proposed for opening the high school prior to construction of a grade-separated pedestrian crossing are:

- *A short-term solution(s) (bussing or police officer at roundabout crossing) are provided until the permanent grade-separated pedestrian crossing is completed,*
- *DOE prepares annual progress reports towards the selected permanent solution, and*
- *Maui County reviews progress reports to decide if an annual, temporary certificate of occupancy for the high school should be issued.*

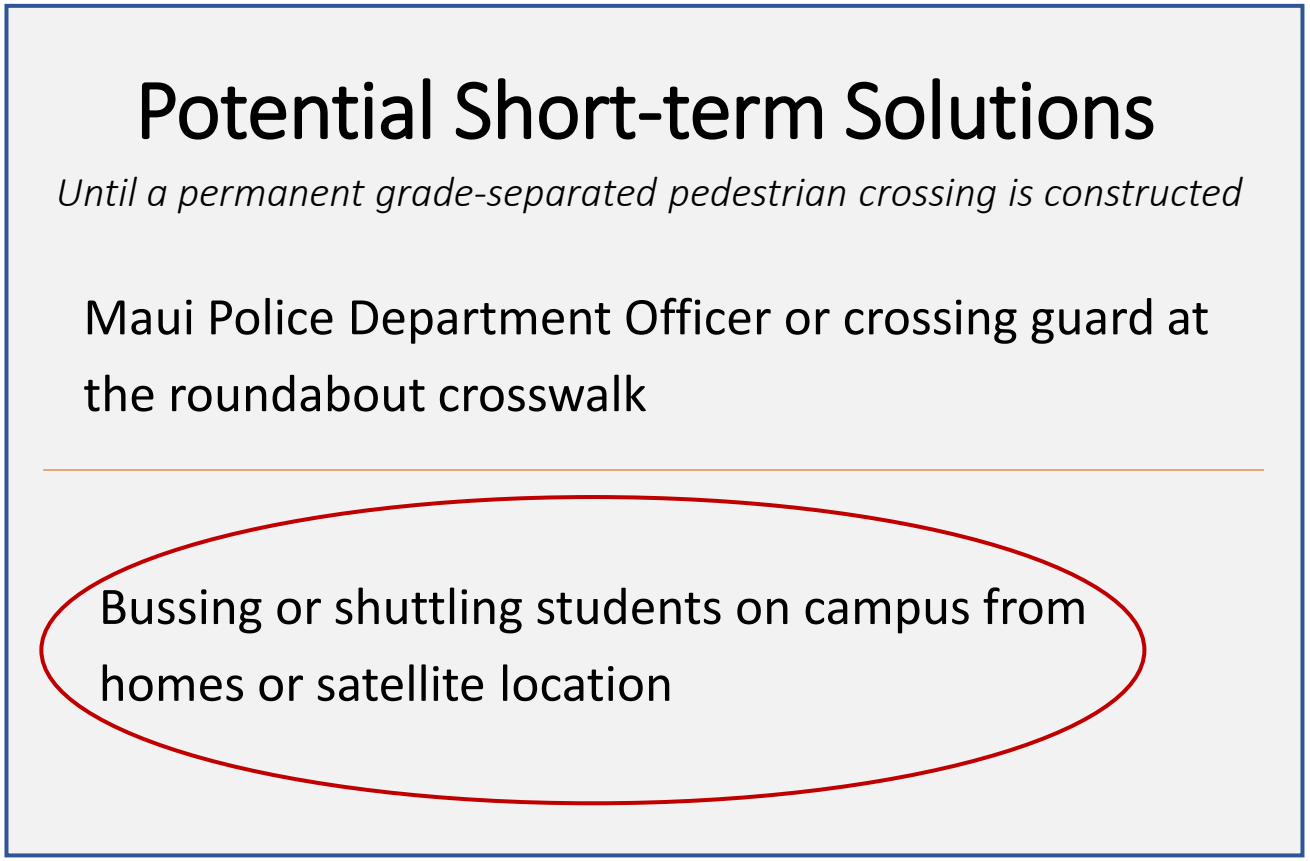
Not all survey respondents answered this question.



Temporary Options

Two temporary/ short-term options for getting students to school until a permanent over or underpass could be constructed were provided on a board.

Attendees were invited to place dots next to the option they preferred.



The most preferred alternative was bussing which received four (4) times as many dots as the roundabout crossing option.

Kūlanihāko‘i High School Student Focus Group

Student Focus Group (9/27/22)

- 12 current Kūlanihāko'i High School students attended
- All live within 1.5 mile radius from the new high school campus
- None of the students had been to or used the gulch to cross Pi'ilani Highway
- Focus group format included polling and discussion with Q&A; no presentation

Students were asked to describe pros and cons of the crossing options

Option	Pros	Cons
Crosswalk	- Convenient - Already Built	- Could take time to cross - Cars will hit you - Traffic back-ups
Overpass	- Safe - Doesn't back up traffic - Could have advertising on it	- Kids throwing things *(needs to be enclosed)* - Longer time to cross than crosswalk
Underpass	- Cool/Shade - Place for "fun activities" (fight club)	- Dark / Sketchy - Drug deals / Kidnapping / Fights - Homeless - Floods

Student Focus Group, Continued

Student Poll Question 1: *If you were going to cross the highway, what would you be more likely to use in the future?*

- Overpass (7 students)
- Underpass (4 students)
- Crosswalk at Roundabout (1 student)

Student Poll Question 2: *Which short term option would you prefer for getting to school?*

- Bussing (8 students)
- Roundabout crosswalk with police officer (4 students)

Appendix B

Estimated Time to Completion

Appendix B: **Estimated Time to Completion**	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28	Month 29	Month 30	Month 31	Month 32	Month 33	Month 34	Month 35	Month 36	Month 37	Month 38	Month 39	Month 40	Month 41	Month 42	Month 43	Month 44	Month 45	Month 46	Month 47	Month 48	Month 49	Month 50	Month 51	Month 52	Month 53	Month 54	Month 55	Month 56	Month 57	Month 58	Month 59	Month 60	Month 61	Month 62	Month 63	Month 64
Alternative A: Kūlanihāko'i Street Overpass																																																																												
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ZAED Flood Development Permit (County)																																																																																												
Special Use Permit/Zoning Variance, if needed																																																																																												
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Historic Preservation: Chapter 6E-8 (HRS) and Section 106 NHPA																																																																																												
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US Army Corps of Engineers Nationwide Permit - Clean Water Act Section 404 (and Section 401 Water Quality Certification)																																																																																							
Stream Channel Alteration Permit (State)																																																																																						
Construction Permits																																																																																							
Bid and Procurement																																																																																							
Fabrication and Construction *(includes shipping)*																																																																																							

Appendix B: **Estimated Time to Completion**	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28	Month 29	Month 30	Month 31	Month 32	Month 33	Month 34	Month 35	Month 36	Month 37	Month 38	Month 39	Month 40	Month 41	Month 42	Month 43	Month 44	Month 45	Month 46	Month 47	Month 48	Month 49	Month 50	Month 51	Month 52	Month 53	Month 54	Month 55	Month 56	Month 57	Month 58	Month 59	Month 60	Month 61	Month 62	Month 63	Month 64
Alternative D: Waipuʻilani Gulch Underpass																																																																												
Design																																																																																							
Entitlements and Permits																																																																																							
Environmental Assessments *State EA or EIS (HRS 343) and if required by USACE:* *NEPA EA or EIS or CATEX*																																																																																							
Historic Preservation: Chapter 6E-8 (HRS) and Section 106 NHPA																																																																																							
Other Federal Triggers (tbd)																																																																																							
Special Management Area Use Permits (County)																																																																																							
ZAED Flood Development Permit (County)																																																																																							
Special Use Permit/Zoning Variance, if needed																																																																																							
US Army Corps of Engineers Nationwide Permit - Clean Water Act Section 404 (and Section 401 Water Quality Certification)																																																																																							
Stream Channel Alteration Permit (State)																																																																																						
Construction Permits																																																																																								
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Construction																																																																																							
Alternative E: East Waipuʻilani Road Overpass																																																																																							
Design																																																																																							
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Environmental Assessment (HRS 343)																																																																																							
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Special Use Permit/Zoning Variance, if needed																																																																																							
Construction Permits																																																																																							
Bid and Procurement																																																																																							
Fabrication and Construction *(includes shipping)*																																																																																							

Appendix C

Cost Estimates

Kihei High School Pedestrian Crossing Study

10/28/2022

ALTERNATE A: OVERPASS NEAR KULANIHAKOI STREET

28011-14

Item	Description	QTY	Unit	Unit Cost	Total
	DESIGN				
	Bridge, Truss Sections, Foundations, Support Structures	1	LS	$400,000	$400,000
	Two Sets of Stairs, Ramps and Strucutral Components	1	LS	$400,000	$400,000
	Structural Work at Detention Basin	1	LS	$300,000	$200,000
				Sub-total	**$1,000,000**
	ENTITLEMENTS				
	Environmental Assessment (HRS 343)	1	LS	$200,000	$200,000
	Chapter 6E-8 (HRS)	1	LS	$80,000	$80,000
	Special Management Area Use Permits (County)	1	LS	$80,000	$80,000
	ZAED Flood Development Permit (County)	1	LS	$30,000	$30,000
	Special Use Permit/Zoning Variance, if needed	1	LS	$80,000	$80,000
				Sub-total	**$470,000**
	CONSTRUCTION				
	Bridge, Truss Sections, Foundations, Support Structures, and Installation	1	LS	$1,500,000	$1,500,000
	Stairs, Ramps and Supporting Walls and Columns	1	LS	$1,200,000	$1,200,000
	Sitework, Electrical Conduit, Communications, Manholes, Boxes, Water, Sewer, Storm Drain, Sidewalks and pads	1	LS	$800,000	$800,000
	Fencing, Gates, Guardrails	1	LS	$200,000	$200,000
	Signage & Finishes	1	LS	$100,000	$100,000
	Railings	1	LS	$100,000	$100,000
	Lighting & Security	1	LS	$200,000	$200,000
	Structural Removal and Repair Work at Detention Basin	1	LS	$500,000	$500,000
	Misc. FFE	1	LS	$100,000	$100,000
				Sub-total	**$4,700,000**
	FABRICATION				
	Truss Bridge - Precast Structure and Materials Only	1	LS	$1,000,000	$1,000,000
				Sub-total	**$1,000,000**
	SHIPPING				
	Shipping	1	LS	$300,000	$300,000
				Sub-total	**$300,000**
	CONTRACTOR GC				
	25% of Construction, Fabrication and Shipping Costs *General Conditions:* *1. Overhead and Profit* *2. Temporary Site Controls* *3. Sediment and Erosion Control* *4. Office Equipment and Trailer* *5. Administrative Costs, Permit Fees, etc.* *6. Overnight Work* *7. Communications and Notifications* *8. etc .*	1	LS	$1,500,000	$1,500,000
				Sub-total	**$1,500,000**
	CONSTRUCTION MANAGEMENT				
	20% of Construction, Fabrication and Shipping Costs and Contractor GC costs and Other Services During Construction: *1. Archeological Monitoring* *2. Geotechnical Monitoring* *3. Strucutral Special Inspections* *4. etc.*	1	LS	$1,500,000	$1,500,000
				Sub-total	**$1,500,000**
				Total	**$10,470,000**
				Contingency (30%)	$3,141,000
				Total with Contingency	**$13,611,000**

Notes:
For entitlements, the upper end of the estimated cost ranges are used in calculating the total cost.

Kihei High School Pedestrian Crossing Study

10/28/2022

ALTERNATE B: UNDERPASS NEAR EAST KULANIHAKOI STREET

28011-14

Item	Description	QTY	Unit	Unit Cost	Total
	DESIGN				
	Tunnel	1	LS	$600,000	$600,000
	Two Sets of Stairs, Ramps and Supporting Walls and Columns	1	LS	$500,000	$500,000
	Two Sets of Stairs Retaining Walls	1	LS	$300,000	$300,000
				Sub-total	**$1,400,000**
	ENTITLEMENTS				
	Environmental Assessment or Environmental Impact Statement (HRS 343)	1	LS	$1,200,000	$1,200,000
	Chapter 6E-8 (HRS)	1	LS	$120,000	$120,000
	Special Management Area Use Permits (County)	1	LS	$80,000	$80,000
	ZAED Flood Development Permit (County)	1	LS	$30,000	$30,000
	Special Use Permit/Zoning Variance, if needed	1	LS	$80,000	$80,000
				Sub-total	**$1,510,000**
	CONSTRUCTION				
	Foundation	1	LS	$2,000,000	$2,000,000
	Demolition and Excavation	1	LS	$500,000	$500,000
	Arches (10 Sections), including Traffic Control	1	LS	$1,500,000	$1,500,000
	Arches (10 Sections), including Traffic Control	1	LS	$1,500,000	$1,500,000
	Stairs, Ramps and Supporting Walls and Columns, including Traffic Control	1	LS	$1,200,000	$1,200,000
	Sitework, Electrical Conduit, Communications, Manholes, Boxes, Water, Sewer, Storm Drain, Sidewalks and pads	1	LS	$800,000	$800,000
	Roadway Reconstruction, including Traffic Control	1	LS	$500,000	$500,000
	Fencing, Gates, Guardrails	1	LS	$300,000	$300,000
	Signage and Finishes	1	LS	$200,000	$200,000
	Railings	1	LS	$150,000	$150,000
	Lighting & Security	1	LS	$300,000	$300,000
	Misc. FFE	1	LS	$100,000	$100,000
				Sub-total	**$9,050,000**
	FABRICATION				
	Tunnel - Precast Structure and Materials Only	1	LS	$800,000	$800,000
				Sub-total	**$800,000**
	SHIPPING				
	Shipping	1	LS	$400,000	$400,000
				Sub-total	**$400,000**
	CONTRACTOR GC				
	25% of Construction, Fabrication and Shipping Costs *General Conditions:* *1. Overhead and Profit* *2. Temporary Site Controls* *3. Sediment and Erosion Control* *4. Office Equipment and Trailer* *5. Administrative Costs, Permit Fees, etc.* *6. Overnight Work* *7. Communications and Notifications* *8. etc*	1	LS	$2,562,500	$2,562,500
				Sub-total	**$2,562,500**
	CONSTRUCTION MANAGEMENT				
	20% of Construction, Fabrication and Shipping Costs and Contractor GC costs and Other Services During Construction: *1. Archeological Monitoring* *2. Geotechnical Monitoring* *3. Strucutral Special Inspections* *4. etc.*	1	LS	$2,562,500	$2,562,500
				Sub-total	**$2,562,500**
				Total	**$18,285,000**
				Contingency (30%)	$5,485,500
				Total with Contingency	**$23,770,500**

Notes:
For entitlements, the upper end of the estimated cost ranges are used in calculating the total cost.

Kihei High School Pedestrian Crossing Study

10/28/2022

ALTERNATE C: OVERPASS NEAR WAIPULANI GULCH

28011-14

Item	Description	QTY	Unit	Unit Cost	Total
	DESIGN				
	Bridge/Truss	1	LS	$400,000	$400,000
	Two Sets of Stairs, Ramps and Strucutral Components	1	LS	$400,000	$400,000
	Additional Sidewalks	1	LS	$200,000	$200,000
				Sub-total	**$1,000,000**
	ENTITLEMENTS				
	Environmental Assessment or Environmental Impact Statement (HRS 343)	1	LS	$1,500,000	$1,500,000
	Chapter 6E-8 (HRS)	1	LS	$150,000	$150,000
	Special Management Area Use Permits (County)	1	LS	$80,000	$80,000
	ZAED Flood Development Permit (County)	1	LS	$30,000	$30,000
	Special Use Permit/Zoning Variance, if needed	1	LS	$80,000	$80,000
	US Army Corps of Engineers Nationwide Permit - Clean Water Act Section 404 (and Section 401 Water Quality Certification)	1	LS	$100,000	$100,000
	Stream Channel Alteration Permit (State)	1	LS	$60,000	$60,000
				Sub-total	**$2,000,000**
	CONSTRUCTION				
	Bridge, Truss Sections, Foundations, Support Structures, and Installation	1	LS	$1,500,000	$1,500,000
	Stairs, Ramps and Supporting Walls and Columns	1	LS	$1,200,000	$1,200,000
	Sitework, Electrical Conduit, Communications, Manholes, Boxes, Water, Sewer, Storm Drain, Sidewalks and pads	1	LS	$800,000	$800,000
	Fencing, Gates, Guardrails	1	LS	$200,000	$200,000
	Signage & Finishes	1	LS	$100,000	$100,000
	Railings	1	LS	$100,000	$100,000
	Lighting & Security	1	LS	$300,000	$300,000
	Mauka Sidewalks/Utilities	1	LS	$600,000	$600,000
	Makai Sidewalks in Gulch	1	LS	$1,200,000	$1,200,000
	Signage and Finishes	1	LS	$100,000	$100,000
	Misc. FFE	1	LS	$100,000	$100,000
				Sub-total	**$6,200,000**
	FABRICATION				
	Truss Bridge - Precast Structure and Materials Only	1	LS	$1,000,000	$1,000,000
				Sub-total	**$1,000,000**
	SHIPPING				
	Shipping	1	LS	$300,000	$300,000
				Sub-total	**$300,000**
	CONTRACTOR GC				
	25% of Construction, Fabrication and Shipping Costs *General Conditions:* *1. Overhead and Profit* *2. Temporary Site Controls* *3. Sediment and Erosion Control* *4. Office Equipment and Trailer* *5. Administrative Costs, Permit Fees, etc.* *6. Overnight Work* *7. Communications and Notifications* *8. etc*	1	LS	$1,875,000	$1,875,000
				Sub-total	**$1,875,000**
	CONSTRUCTION MANAGEMENT				
	20% of Construction, Fabrication and Shipping Costs and Contractor GC costs and Other Services During Construction: *1. Archeological Monitoring* *2. Geotechnical Monitoring* *3. Strucutral Special Inspections* *4. etc.*	1	LS	$1,875,000	$1,875,000
				Sub-total	**$1,875,000**
				Total	**$14,250,000**
				Contingency (30%)	$4,275,000
				Total with Contingency	**$18,525,000**

Notes:
For entitlements, the upper end of the estimated cost ranges are used in calculating the total cost.

Kihei High School Pedestrian Crossing Study 10/28/2022

ALTERNATE D: UNDERPASS NEAR EAST KULANIHAKOI STREET 28011-14

Item	Description	QTY	Unit	Unit Cost	Total
	DESIGN				
	Tunnel, Foundations, Support Structures, and Installation	1	LS	$1,500,000	$1,500,000
	Stairs, Ramps and Supporting Walls and Columns	1	LS	$500,000	$500,000
	Additional Sidewalks	1	LS	$200,000	$200,000
				Sub-total	**$2,200,000**
	ENTITLEMENTS				
	Environmental Assessments State EA or EIS (HRS 343) and if required by USACE: NEPA EA or EIS or CATEX	1	LS	$1,500,000	$1,500,000
	Historic Preservation: Chapter 6E-8 (HRS) and Section 106 NHPA	1	LS	$150,000	$150,000
	Special Management Area Use Permits (County)	1	LS	$80,000	$80,000
	ZAED Flood Development Permit (County)	1	LS	$30,000	$30,000
	Special Use Permit/ Zoning Variance, if needed	1	LS	$80,000	$80,000
	US Army Corps of Engineers Nationwide Permit - Clean Water Act Section 404 (and Section 401 Water Quality Certification)	1	LS	$100,000	$100,000
	Stream Channel Alteration Permit (State)	1	LS	$60,000	$60,000
				Sub-total	**$2,000,000**
	CONSTRUCTION				
	Excavation	1	LS	$1,000,000	$1,000,000
	Tunnel	1	LS	$2,000,000	$2,000,000
	Bridge Additional Structural Support	1	LS	$2,500,000	$2,500,000
	Channel Lining Remove and Replace	1	LS	$1,500,000	$1,500,000
	Stairs/Ramps	1	LS	$1,200,000	$1,200,000
	Mauka Sidewalks/Utilities	1	LS	$600,000	$600,000
	Makai Sidewalks in Gulch	1	LS	$1,200,000	$1,200,000
	Sitework, Electrical Conduit, Communications, Manholes, Boxes, Water, Sewer, Storm Drain, Sidewalks and pads	1	LS	$1,000,000	$1,000,000
	Fencing, Gates, Guardrails	1	LS	$600,000	$600,000
	Signage and Finishes	1	LS	$300,000	$300,000
	Railings	1	LS	$300,000	$300,000
	Lighting & Security	1	LS	$500,000	$500,000
	Misc. FFE	1	LS	$100,000	$100,000
				Sub-total	**$12,800,000**
	FABRICATION				
	Tunnel - Precast Structure and Materials Only	1	LS	$800,000	$800,000
				Sub-total	**$800,000**
	SHIPPING				
	Shipping	1	LS	$400,000	$400,000
				Sub-total	**$400,000**
	CONTRACTOR GC				
	25% of Construction, Fabrication and Shipping Costs *General Conditions:* *1. Overhead and Profit* *2. Temporary Site Controls* *3. Sediment and Erosion Control* *4. Office Equipment and Trailer* *5. Administrative Costs, Permit Fees, etc.* *6. Overnight Work* *7. Communications and Notifications* *8. etc*	1	LS	$3,200,000	$3,200,000
				Sub-total	**$3,200,000**
	CONSTRUCTION MANAGEMENT				
	20% of Construction, Fabrication and Shipping Costs and Contractor GC costs and Other Services During Construction: *1. Archeological Monitoring* *2. Geotechnical Monitoring* *3. Strucutral Special Inspections* *4. etc.*	1	LS	$3,200,000	$3,200,000
				Sub-total	**$3,200,000**
	Notes: For entitlements, the upper end of the estimated cost ranges are used in calculating the total cost.			Sub-total	$24,600,000
				Total	**$24,600,000**
				Contingency (30%)	$7,380,000
				Total with Contingency	**$31,980,000**

Kihei High School Pedestrian Crossing Study

10/28/2022

ALTERNATE E: OVERPASS NEAR EAST WAIPULANI ROAD

28011-14

Item	Description	QTY	Unit	Unit Cost	Total
	DESIGN				
	Bridge/Truss	1	LS	$400,000	$400,000
	Two Sides of Stairs, Ramps and Strucutral Components	1	LS	$400,000	$400,000
	Additional Sidewalks and Bridge	1	LS	$500,000	$500,000
				Sub-total	**$1,300,000**
	ENTITLEMENTS				
	Enivronmental Assessment (HRS 343)	1	LS	$200,000	$200,000
	Chapter 6E-8 (HRS)	1	LS	$80,000	$80,000
	Special Management Area Use Permits (County)	1	LS	$80,000	$80,000
	ZAED Flood Development Permit (County)	1	LS	$30,000	$30,000
	Special Use Permit/ Zoning Variance, if needed	1	LS	$80,000	$80,000
				Sub-total	**$470,000**
	CONSTRUCTION				
	Bridge, Truss Sections, Foundations, Support Structures, and Installation	1	LS	$1,500,000	$1,500,000
	Stairs, Ramps and Supporting Walls and Columns	1	LS	$1,200,000	$1,200,000
	Sitework, Electrical Conduit, Communications, Manholes, Boxes, Water, Sewer, Storm Drain, Sidewalks and pads	1	LS	$800,000	$800,000
	Fencing, Gates, Guardrails	1	LS	$300,000	$300,000
	Lighting & Security	1	LS	$300,000	$300,000
	Mauka Sidewalks/Utilities	1	LS	$700,000	$700,000
	New Pedestrian Bridge	1	LS	$2,500,000	$2,500,000
	Signage and Finishes	1	LS	$150,000	$150,000
	Railings	1	LS	$150,000	$150,000
	Misc. FFE	1	LS	$100,000	$100,000
				Sub-total	**$7,700,000**
	FABRICATION				
	Truss Bridge - Precast Structure and Materials Only	1	LS	$1,000,000	$1,000,000
				Sub-total	**$1,000,000**
	SHIPPING				
	Shipping	1	LS	$300,000	$300,000
				Sub-total	**$300,000**
	CONTRACTOR GC				
	25% of Construction, Fabrication and Shipping Costs *General Conditions:* *1. Overhead and Profit* *2. Temporary Site Controls* *3. Sediment and Erosion Control* *4. Office Equipment and Trailer* *5. Administrative Costs, Permit Fees, etc.* *6. Overnight Work* *7. Communications and Notifications* *8. etc*	1	LS	$2,250,000	$2,250,000
				Sub-total	**$2,250,000**
	CONSTRUCTION MANAGEMENT				
	20% of Construction, Fabrication and Shipping Costs and Contractor GC costs and Other Services During Construction: *1. Archeological Monitoring* *2. Geotechnical Monitoring* *3. Strucutral Special Inspections* *4. etc.*	1	LS	$2,250,000	$2,250,000
				Sub-total	**$2,250,000**
				Total	**$15,270,000**
				Contingency (30%)	$4,581,000
				Total with Contingency	**$19,851,000**

Notes:
For entitlements, the upper end of the estimated cost ranges are used in calculating the total cost.

APPENDIX C COST ESTIMATES

Additional information on the Construction Cost Estimates is provide here with a detailed discussion of selected items included in the construction cost estimates and how the costs compare among alternatives. Information on operations and maintenance costs of the alternatives is also included for consideration.

Demolition: Alternatives A and B are located next to the existing facilities already built for Kūlanihāko'i School and may require limited and selective demolition of improvements just constructed. Retaining walls, fencing, posts, light poles, sidewalks at the connection points, and other existing utilities may require slight modification or relocation but in general, the work should be limited. Alternatives C and E require minimal demolition (fencing). Alternative D will require significant demolition and reconstruction of the existing Waipu'ilani Bridge structure.

Site Preparation, Grading and Earthwork: Site preparation for all Alternatives consists of clearing and grubbing. However, Alternatives C, D, and E will require additional clearing and grubbing due to the location further away from the school. Alternatives C, D, and E will also require more significant amounts of earthwork for the raised sidewalk within Waipu'ilani Gulch or the sidewalks mauka of Pi'ilani Highway going from the GSPC to the campus.

Structural Concrete: Structural concrete consists of cast-in-place concrete for structural elements such as bridges, stairs, retaining walls, and columns and foundations. Each Alternative will require structural concrete though Alternative D and E will require the most (bridge modifications and new pedestrian bridge, separate from the GSPC, respectively).

Pre-cast Concrete: Pre-cast concrete is structural concrete that can be formed and cast off-site and then transported directly to the site for placement and installation. It allows for construction disruptions to the existing highway and neighborhood to be minimized. Each alternative will utilize pre-cast concrete in some form, except for Alternative D which will require more custom structural elements to be built in place, adjusting to field conditions.

Concrete Flatwork and Sidewalks: Each alternative will require concrete flatwork and sidewalk costs, though Alternatives C, D, and E require additional costs due to the additional sidewalk lengths both makai and mauka of the GSPC.

Water / Storm Drain Utilities: Water and storm drain utilities are anticipated to be minimal for each alternative although underpass alternatives may require sumps for the disposal of accumulated water in the subterranean pathway. Water utilities may be desired in each alternative for maintenance personnel who may be tasked with cleaning the GSPC, though current GSPC's within the State do not have water systems currently.

Electrical / Communication Utilities: Each alternative will require lighting, including overpass elements as the pathway may need to be illuminated at night. Underpasses would need to be illuminated at all times leading to increased usage and number of light fixtures. The analysis also included potential provisions for communication infrastructure, including intercom systems, emergency telephones, or security cameras for each alternative. However, this is something that could be removed from the project if

desired, as current GSPC's within the State do not have communications infrastructure currently. Utility costs increase for alternatives further away from existing power and communication sources at Kūlanihāko'i Street and at campus.

Traffic Control: Traffic control measures, including temporary regulatory signage, flagpersons, police officers, and other means and methods are critical for the successful construction of each of the alternatives. Alternatives A, B, and E likely would have the most traffic control costs, with Alternative B potentially requiring a diversion of Pi'ilani Highway. Alternatives C and D may have reduced traffic disruptions unless structural modifications to the Waipu'ilani Bridge require the bridge to be closed during portions of construction. Alternatives C and D have adjacent areas that may be leased from the County or private landowners for construction staging, laydown, and operations areas that would minimize traffic impacts and controls costs.

Fencing / Gates: Overall, fencing and gates costs should be relatively small and comparable between each alternative, although additional fencing and gating may be required for the sidewalks mauka of Pi'ilani Highway into campus (for Alternatives C, D, and E). Since these sidewalks enter campus in an area not slated for buildout for several years, without fencing, students and pedestrians may have the opportunity to access areas of campus still "under construction" if additional fencing and gates are not provided (i.e., areas of gravel pads at the fields, the natural channel, gravel roadways, material stockpiles, etc.).

Railings: Increased length of pathways requires increased railing costs.

Roofing: Overpass structures will require roofing that add costs as compared to an underpass option that can be encompassed in a pre-cast "tunnel". Roofing is a cost that can also be a long-term maintenance issue as metalwork can rust and damage, as continuous exposure to the elements affects its useful life. Flashing, gutters, vents, sky lights, etc. can also be areas of water intrusion and metal fatigue.

Signage: Increased length of pathways requires increased signage costs.

Planting and Irrigation: Increased length of pathways can require increased planting and irrigation costs. Shade trees may be desired along any new pathway to campus (as identified in Alternatives C, D, and E) as trees are being planted along the existing main campus driveway and walkway. While planting and irrigation is not anticipated along the makai sidewalks to the Līpoa Street extension, the County of Maui may require some landscaping to be provided.

Furniture, Fixtures, and Equipment: Each alternative minimizes additional furniture, fixtures, and equipment (FFE) costs for each alternative. FFE such as trash cans, benches, water fountains, bike racks, etc.) could be provided although not required by any particular agency standard.

Operations and Maintenance

While not part of the cost estimates, the operations and maintenance of a GSPC are discussed here. The Department of Education faces continual challenges due to the its lack of maintenance staff and funding.

Overpasses are more exposed to the elements and will require periodic maintenance. This maintenance with the use of may require the use of special equipment such as cranes, lifts, and other devices.

Underpasses can pose difficulties in mitigating flooding and water within underpasses as any buildup of water must be pumped out. Other underpass operations and maintenance concerns include vandalism and buildup of trash and debris. While underpasses are more protected from the elements than overpasses, they are harder to repair if major issues need to be addressed due to access issues.

Appendix D

Community Open House Boards

School Construction

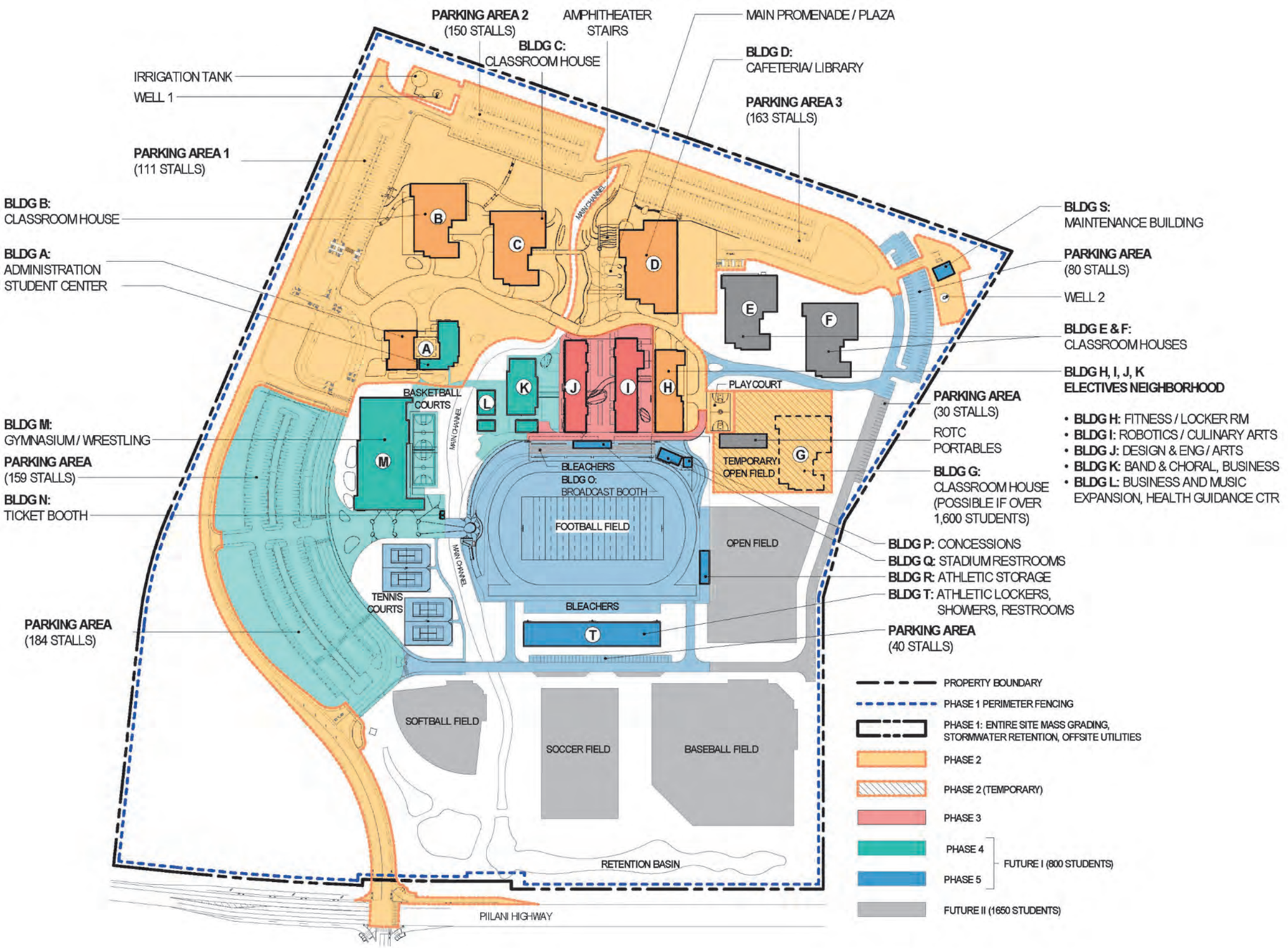
Photo Credit: Nordic PCL Construction

Photo Credit: Nordic PCL Construction

View of Cafeteria/Library

Cafeteria/Library

KŪLANIHĀKOʻI HIGH SCHOOL PHASING PLAN



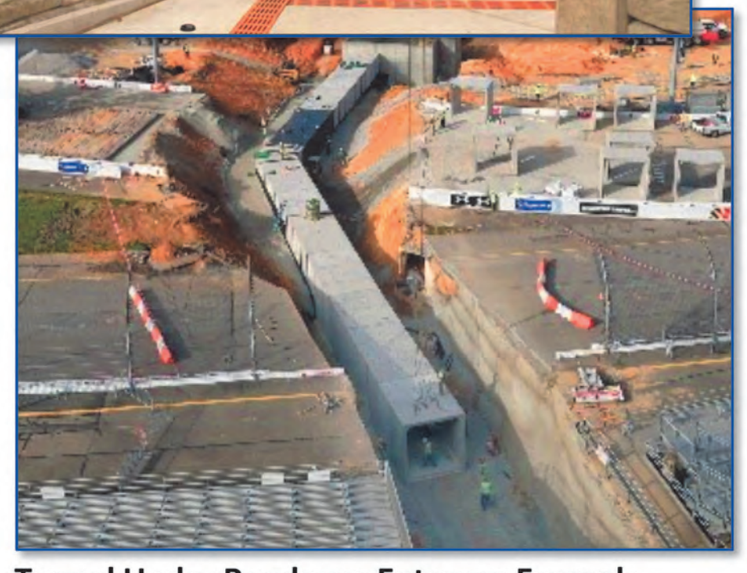
- **BLDG H:** FITNESS / LOCKER RM
- **BLDG I:** ROBOTICS / CULINARY ARTS
- **BLDG J:** DESIGN & ENG / ARTS
- **BLDG K:** BAND & CHORAL, BUSINESS
- **BLDG L:** BUSINESS AND MUSIC EXPANSION, HEALTH GUIDANCE CTR

ALTERNATIVE LOCATIONS

Examples of Alternatives

Pre-fab Overpass Example

Tunnel under Existing Bridge Example



Tunnel Under Roadway: Entrance Example and Construction Using Pre-Fab Sections

ASSUMPTIONS FOR ALL ALTERNATIVES

- Hawai‘i State Department of Education will operate grade-separated pedestrian crossing per LUC condition
  - It will be open during peak student walking/biking times and otherwise locked
  - It will end at school property (except for East Waipu’ilani Road Alternative)
- Designs consistent with State and Federal regulations
  - Americans with Disabilities Act (ADA) Compliant
  - Path wide enough for pedestrians and bicyclists
  - U.S. Army Corps of Engineers Clean Water Act Section 404 and 401
- Designs to include:
  - Ramps, and stairs (in most cases)
  - Pre-cast or pre-fabricated components, where feasible
  - Fencing, lighting, all-weather surfaces and finishes
- No land acquisition required
- Needed mauka connectivity from Ohukai area to school is not included

Alternatives Evaluation

Evaluation Criteria	Alternatives				
	Kūlanihāko'i Street		Waipu'ilani Gulch		East Waipu'ilani Road
	Overpass	Underpass	Overpass	Underpass	Overpass
	A	B	C	D	E
Usability / Travel Path					
# of students estimated to walk/bike to school[1]	205 students	205 students	155 students	155 students	125 students
New sidewalks needed on school campus *Shown in green on alternative boards*	0	0	0.23 miles	0.23 miles	0.20 miles
New offsite sidewalks needed to connect to the grade-separated pedestrian crossing *Shown in blue on alternative boards*	0	0	0.16 miles	0.15 miles	0.13 miles
New sidewalks to improve regional connectivity *Shown in red on alternative boards*	1.06 miles	1.06 miles	1.06 miles	1.06 miles	1.06 miles
Estimated Time to Completion[2]	3½ - 5 years	5½ - 7 years	5 – 6½ years	6 - 7½ years	6 – 7½ years
Design & Entitlements	*1 – 1½ years*	*2 - 2½ years*	*2 – 2½ years*	*2 - 2½ years*	*1½ – 2 years*
Construction Permitting, Bid & Procurement	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*	*1½ - 2 years*
Fabrication & Construction	*1 – 1½ years*	*2 – 2½ years*	*1½ – 2 years*	*2½ - 3 years*	*3 - 3½ years*
Perceived Safety Issues	Low	High	Low	High	Low
Estimated Rough Cost[3]	$10.8 – 14.1 mil	$18-23.4 mil	$13.8 – 18 mil	$23.4-30.5 mil[4]	$15.6-20.2 mil
Traffic Disruption on Pi'ilani Highway	Med	High	Low	Low	Med

This table highlights the priority evaluation criteria identified during the community listening sessions and the online survey

[1] Represents 25% of students who live within 2-mile of path of school and are assumed to walk or bike, while rest of students would drive or be driven to school. Number of students for each alternative is based on existing distribution of home locations and factored using a buildout student capacity of 1,600 students. Results rounded to nearest 5.

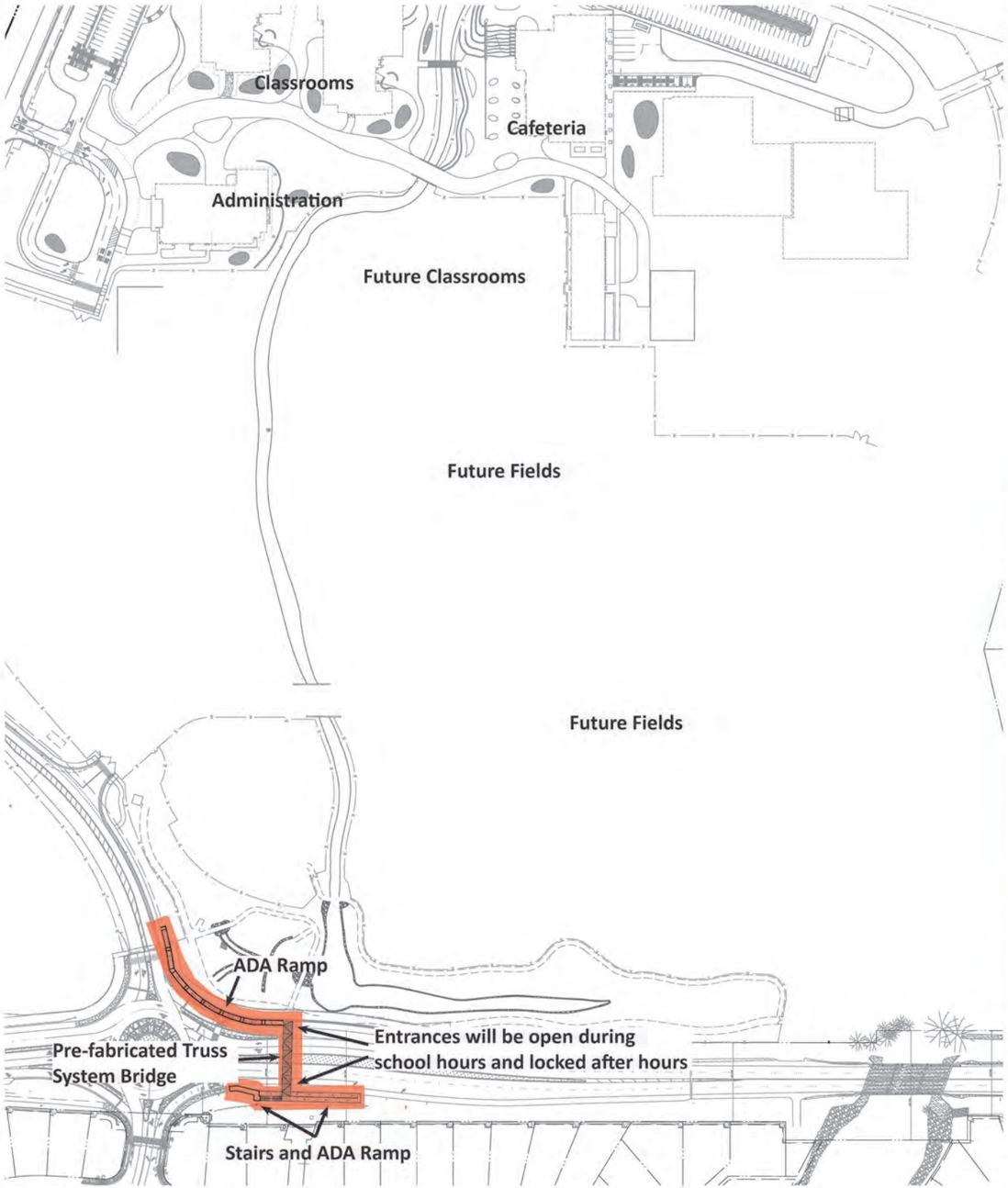
[2] Funding not secured at this time

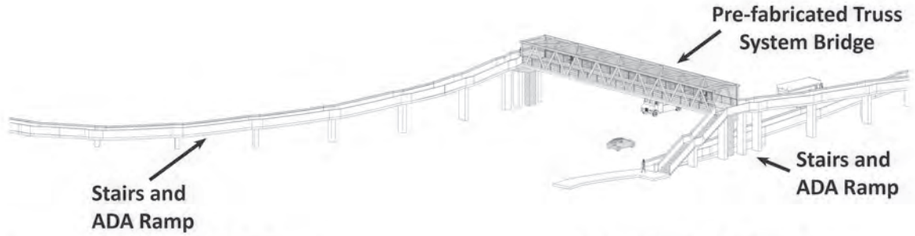
[3] Includes entitlements, design, permitting and construction. Present day costs based off design assumptions and similar construction work in the Kihei-Wailea Area; does not include future escalation

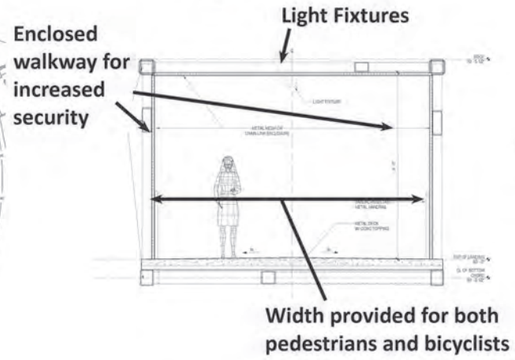
[4] Requires structural improvements to concrete channel lining and bridge

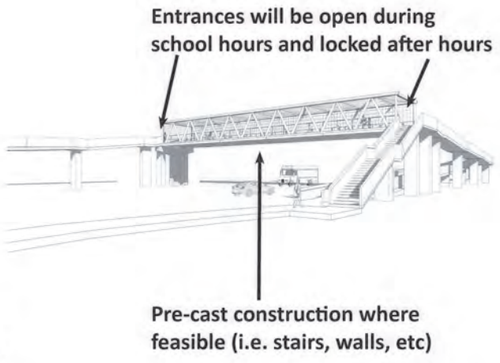
ALTERNATIVE A

Overpass near Kūlanihāko‘i Street







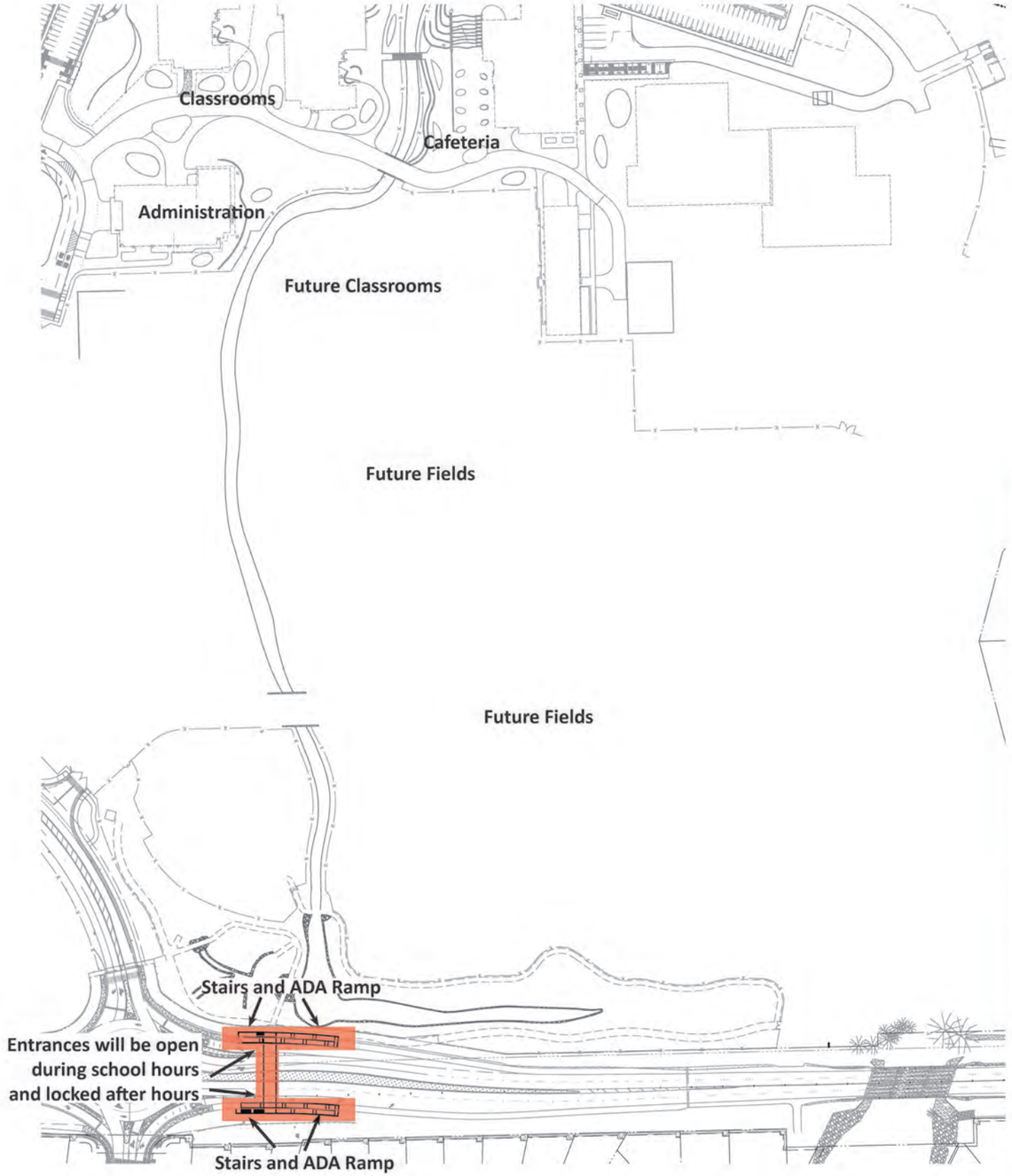


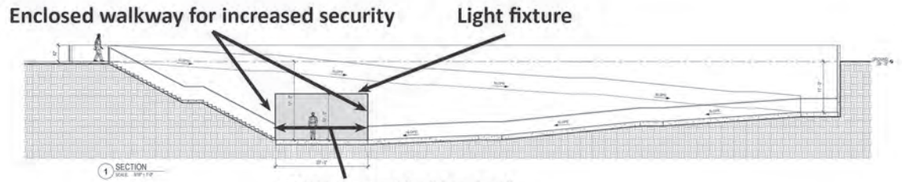
STUDENT DISTRIBUTION WITHIN 2-MILE TRAVEL PATH DISTANCE

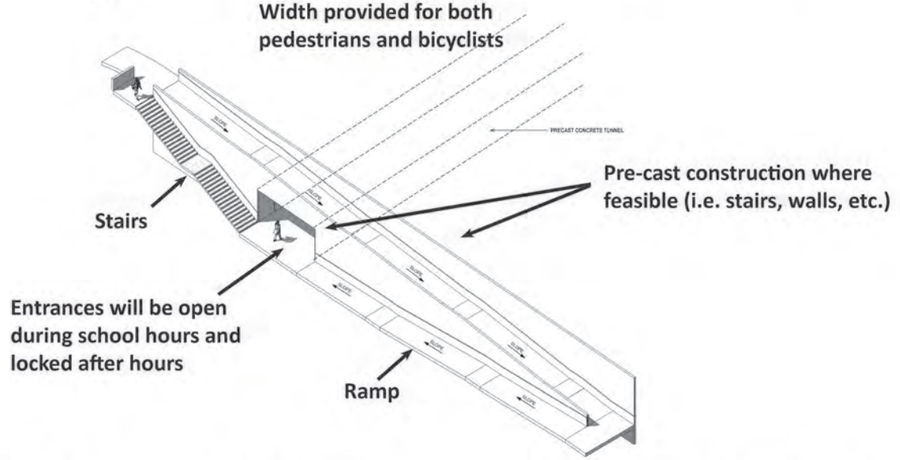
NEW SIDEWALK AND PATHS FOR CONNECTIVITY

ALTERNATIVE B

Underpass near Kūlanihāko‘i Street





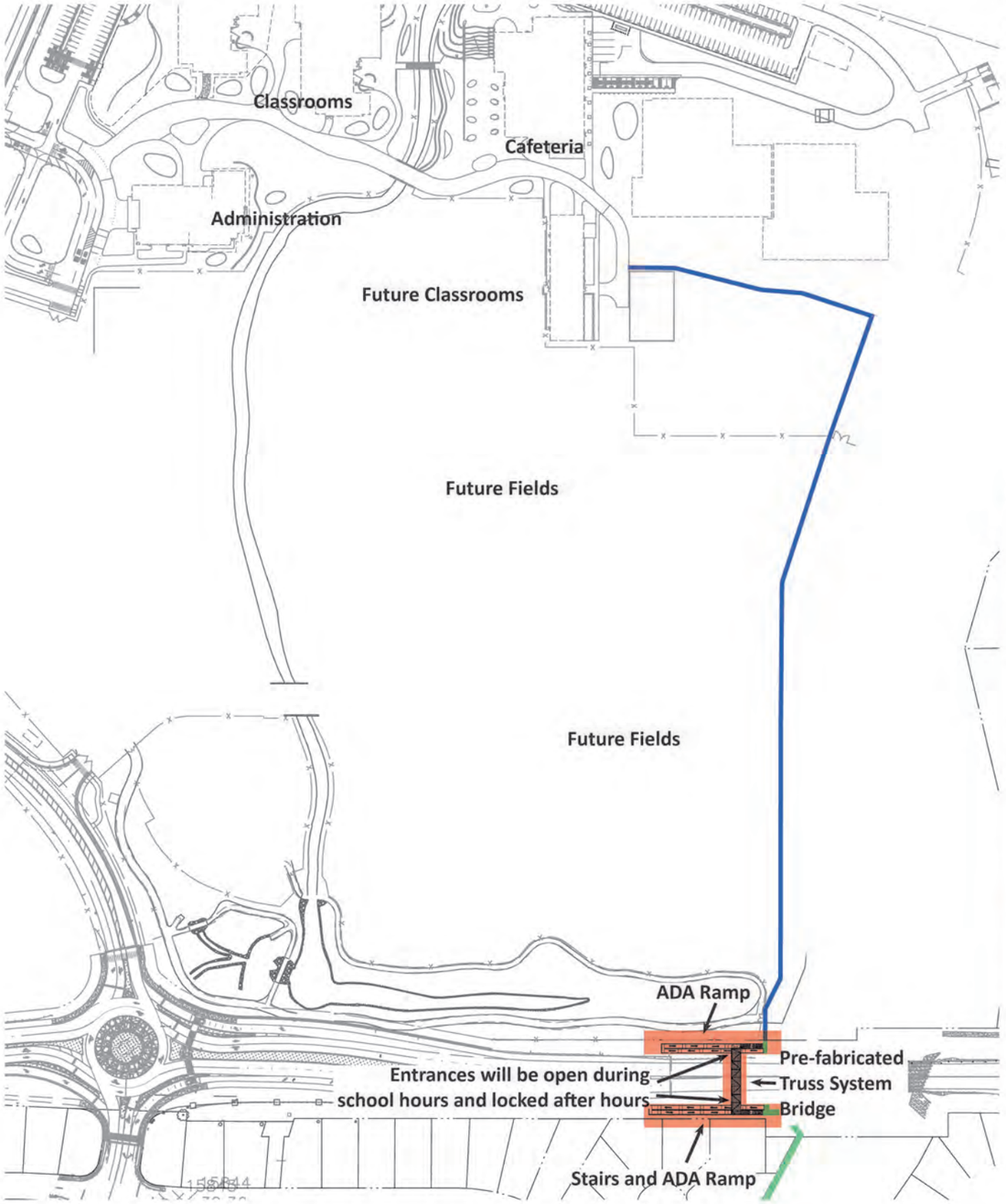


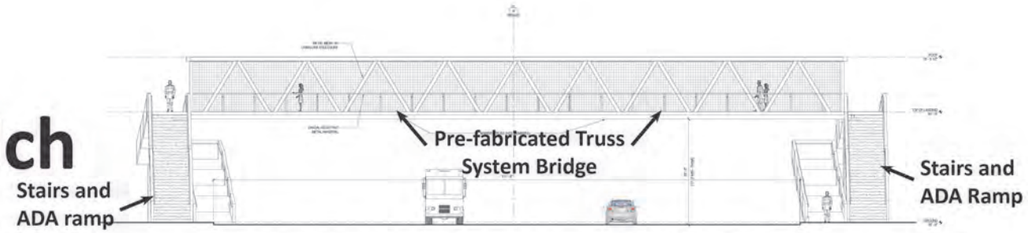
STUDENT DISTRIBUTION WITHIN 2-MILE TRAVEL PATH DISTANCE

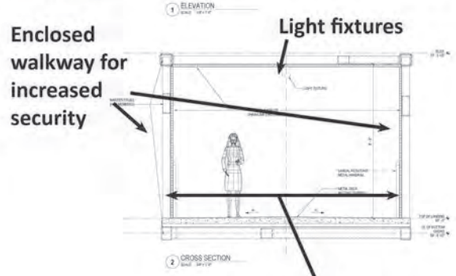
NEW SIDEWALK AND PATHS FOR CONNECTIVITY

ALTERNATIVE C

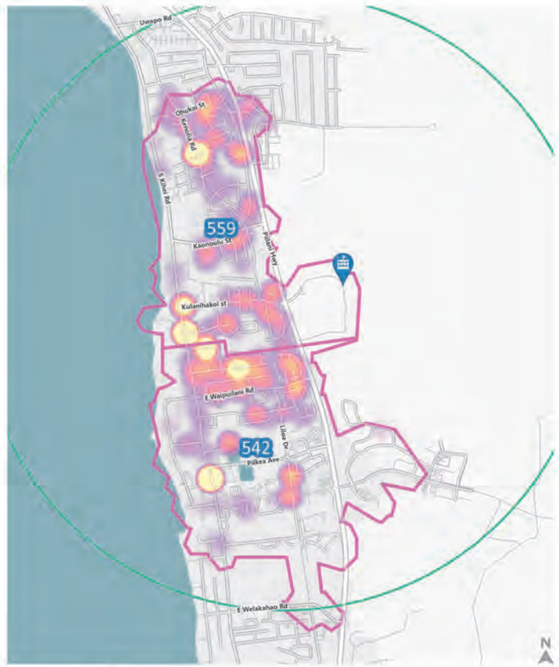
Overpass near the Waipu‘ilani Gulch







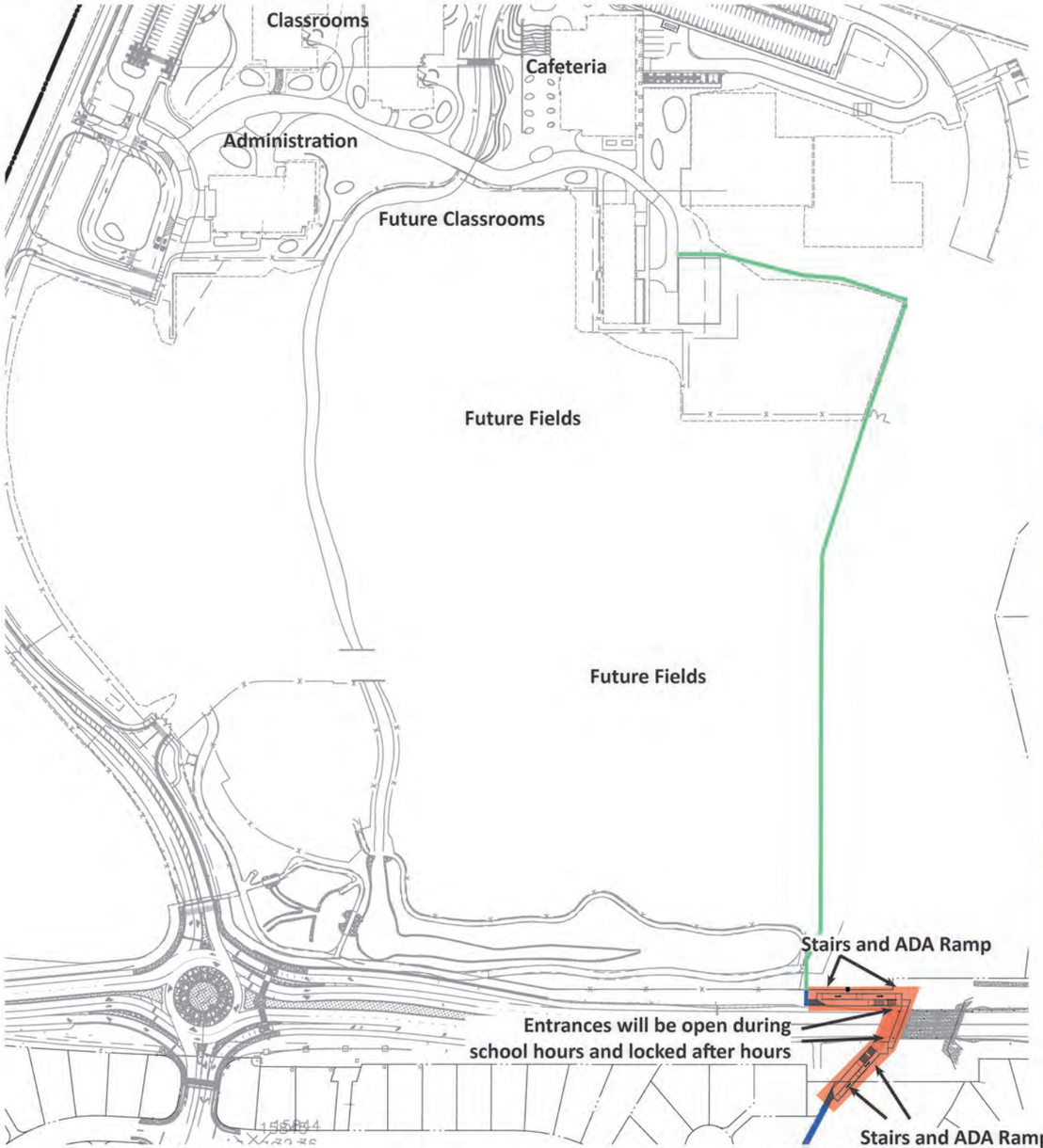
STUDENT DISTRIBUTION WITHIN 2-MILE TRAVEL PATH DISTANCE

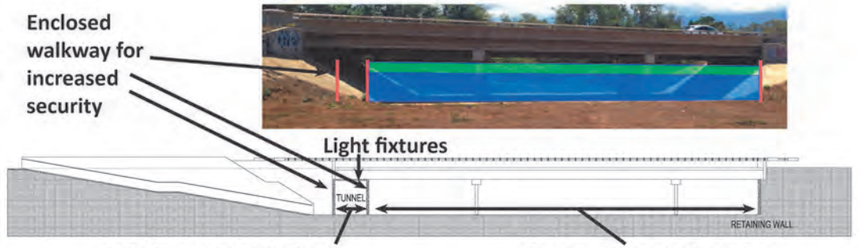


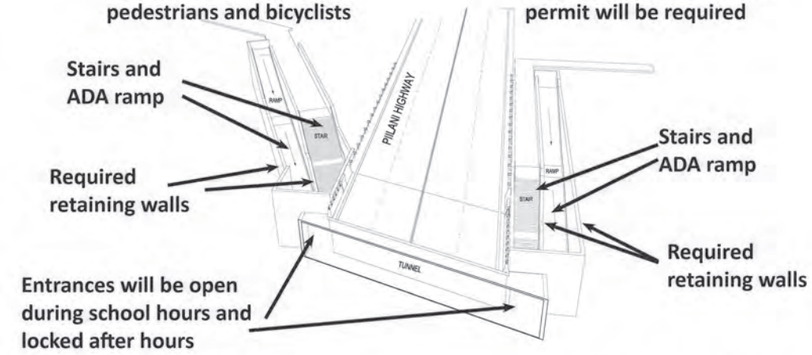
NEW SIDEWALK AND PATHS FOR CONNECTIVITY

ALTERNATIVE D

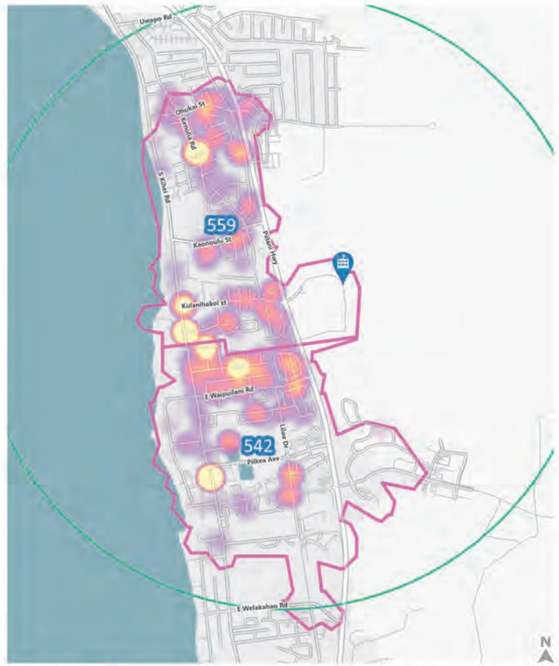
Underpass using Waipu‘ilani Gulch existing highway bridge







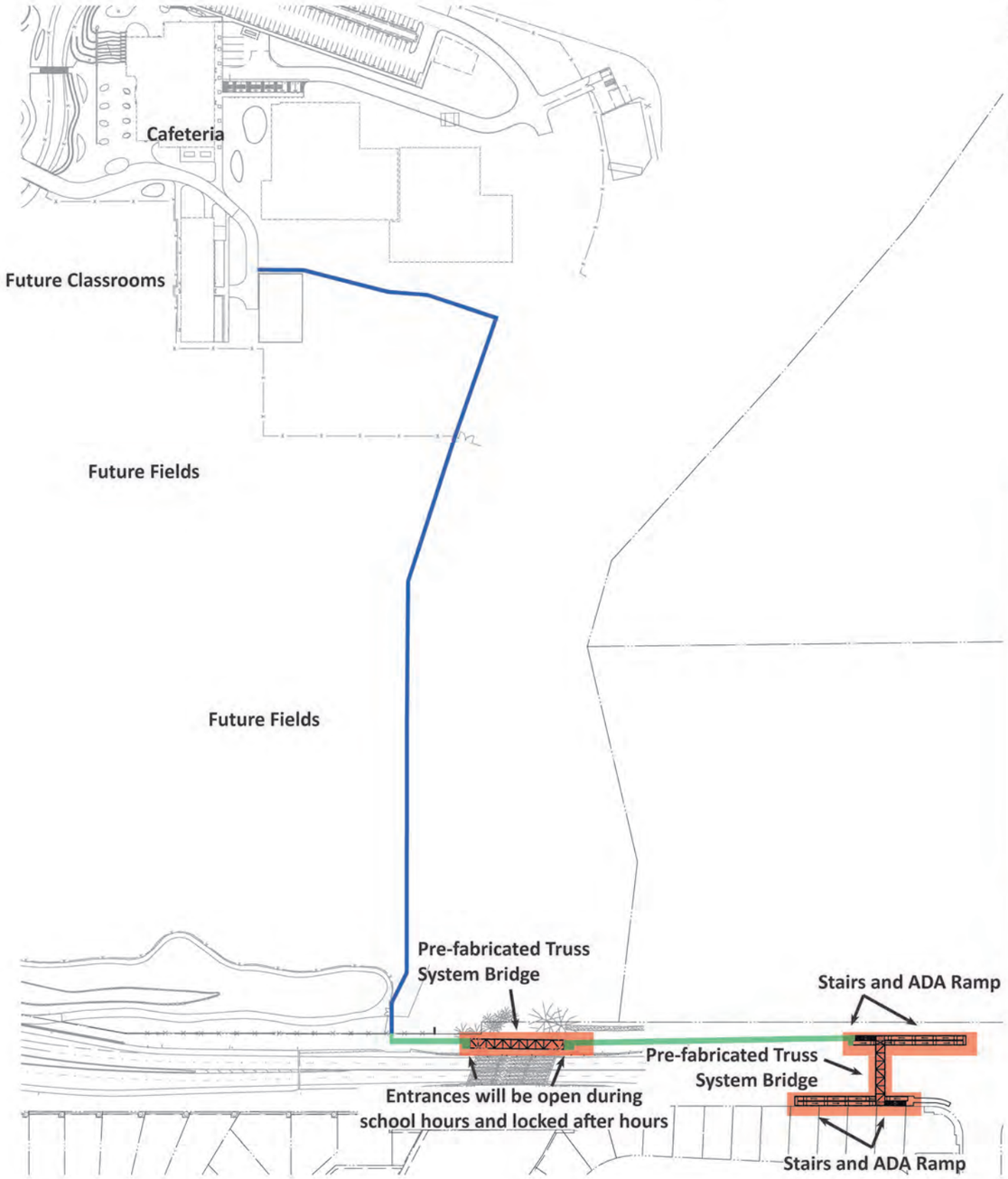
STUDENT DISTRIBUTION WITHIN 2-MILE TRAVEL PATH DISTANCE

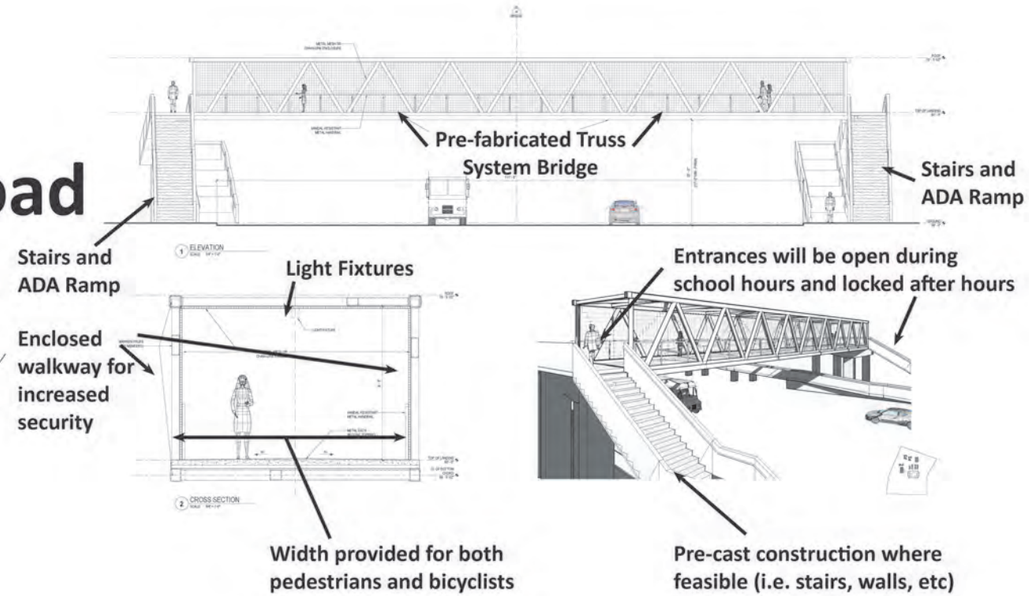


NEW SIDEWALK AND PATHS FOR CONNECTIVITY

ALTERNATIVE E

Overpass near East Waipu‘ilani Road





STUDENT DISTRIBUTION WITHIN 2-MILE TRAVEL PATH DISTANCE

NEW SIDEWALK AND PATHS FOR CONNECTIVITY

POTENTIAL SHORT-TERM SOLUTIONS

Until a permanent grade-separated pedestrian crossing is constructed

Maui Police Department Officer or crossing guard at the roundabout crosswalk

Bussing or shuttling students on campus from homes or satellite location

Roundabout

at Pi'ilani Highway and Kūlanihāko'i Street

Appendix E

Agency Consultation

APPENDIX E – AGENCY CONSULTATION

The following stakeholders listed by agency were part of the study's agency consultation process:

Hawai'i State Department of Education

- Randall Tanaka, Assistant Superintendent, Facilities & Operations
- Ed Ige, Facilities Director, Facilities & Operations
- Mitch Tamayori, Project Manager, Office of Facilities and Operations
- Gaylyn Nakatsuka, Architect, Office of Facilities and Operations
- Brenda Lowrey, Facilities Planner, Office of Facilities and Operations
- Roy Ikeda, Interim Public Works Administrator, Office of Facilities and Operations
- Desiree Sides, Complex Area Superintendent (Baldwin-Kekaulike- Kūlanihāko'i)
- Jaime Yap, Maui High School Principal, former Complex Area Superintendent (Baldwin-Kekaulike- Kūlanihāko'i)
- Halle Maxwell, Kūlanihāko'i High School Principal
- Tracy Lui, Kīhei Elementary School Principal
- Cyndi Rothdeutsch, Kamali'i Elementary School Principal
- Keith Hayashi, Superintendent
- Various Students, Lokelani Intermediate School and Kūlanihāko'i High School

Hawai'i State Department of the Attorney General

- Carter Siu, Deputy Attorney General, Education Division
- Ryan Roylo, Deputy Attorney General, Education Division

Hawai'i State Department of Transportation

- Ed Sniffen, Deputy Director for Highways
- George Abcede, Highways Administrator
- Ken Tatsuguchi, Head Planning Engineer, Highways Division Planning Branch
- Robin Shishido, District Engineer, Maui District
- Annette Matsuda, Maintenance Engineer, Maui District
- Ken Tatsuguchi, Head Planning Engineer, Highways Division Planning Branch

County of Maui:

- Michele McLean, Director, Planning Department
- Pam Eaton, Administrator, Long Range Planning

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROSS M. HIGASHI
EDUARDO P. MANGLALLAN
EDWIN H. SNIFFEN

IN REPLY REFER TO:

HWY-2969
HWY-PS 2.9450

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

September 13, 2022

VIA EMAIL: edward.ige@k12.hi.us

TO: EDWARD S. IGE, FACILITIES DIRECTOR
FACILITIES DEVELOPMENT BRANCH
DEPARTMENT OF EDUCATION

FROM: EDWIN H. SNIFFEN
DEPUTY DIRECTOR, HIGHWAYS DIVISION

SUBJECT: LAND USE COMMISSION (LUC) DOCKET NO. A11-794
STATE OF HAWAII, DEPARTMENT OF EDUCATION
KIHEI, MAUI, HAWAII, MAUI
TAX MAP KEY NO. 2-2-002:081
LUC CONDITIONS 1.C AND 1.D
DEPARTMENT OF EDUCATION JOB NO. Q55000-17

Thank you for your September 1, 2022, memorandum requesting our comments on the State LUC Docket No. A11-794, Conditions 1.c. and 1.d.

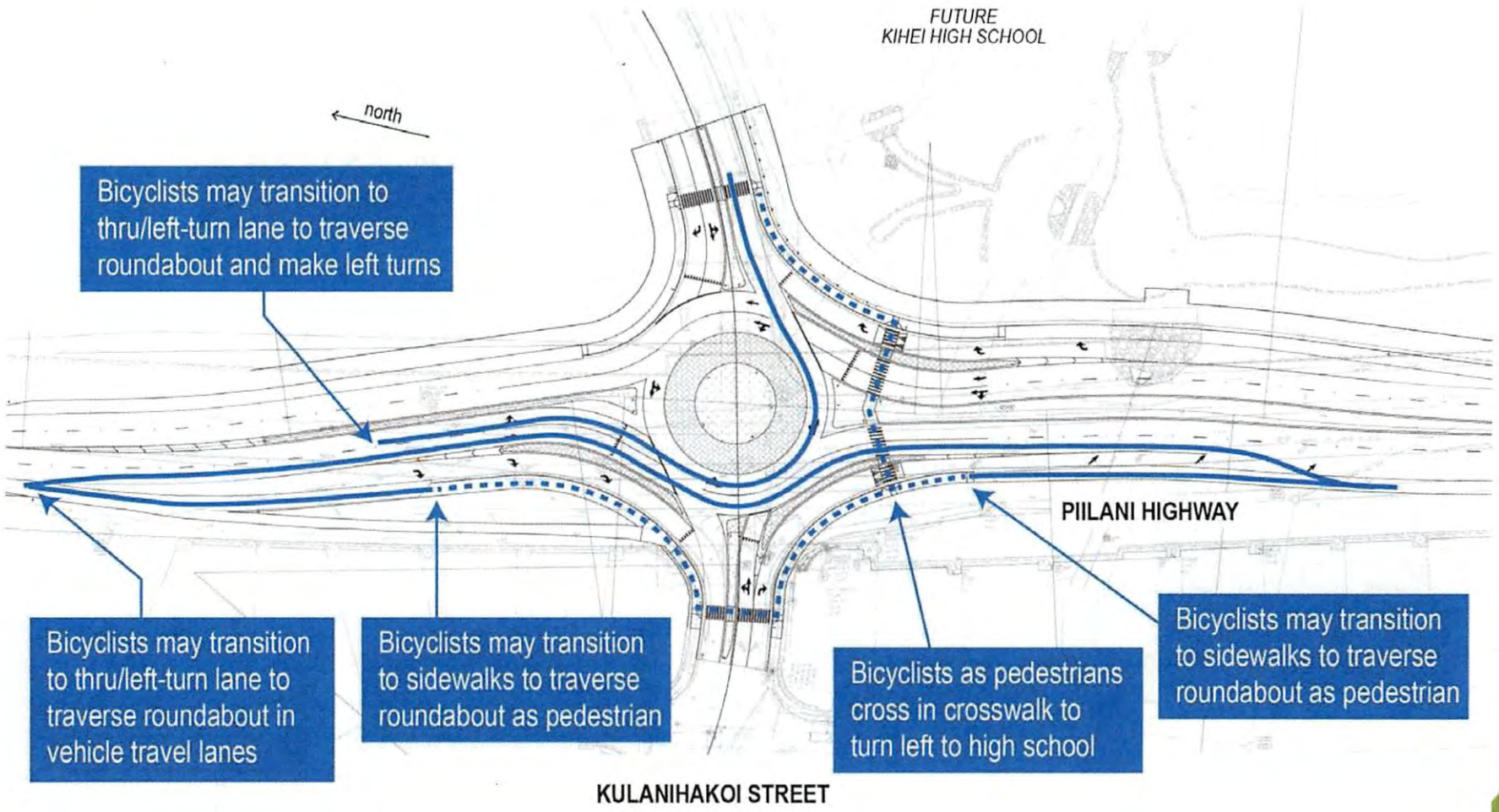
A portion of LUC Condition 1.c. requires "the access road to the high school shall be perpendicular to Piilani Highway for a minimum distance of 200 feet." The condition was crafted when a signalized intersection was proposed. The Hawaii Department of Transportation (HDOT) recommends removing this part of the condition because the present roundabout design negates the need for a perpendicular access road.

LUC Condition 1.d. requires "installation of paved shoulders along Piilani Highway fronting the high school, and provide accommodations for bicycles to the mutual agreement of Petitioner and DOT." HDOT confirms that the design of the roundabout fronting the school complies with the paved shoulders and bicycle access conditions. See the attached diagrams.

If you have any questions, please contact Ken Tatsuguchi, Engineering Program Manager, Highways Division, Planning Branch, at (808) 587-1830 or by email at ken.tatsuguchi@hawaii.gov.

Attachments

Bicycle User Accommodations at the Proposed Roundabout



Pedestrian User Accommodations at the Proposed Roundabout