

APPENDIX A

Pedestrian Priority Network Methodology

PRIORITY NETWORK DEVELOPMENT METHODOLOGY

The Pedestrian Priority Network is the network of walkways that connect people of all ages and abilities to the walkable places they need and want to go. The Pedestrian Priority Network is built on the idea that 1. the most important streets and bus routes must be pedestrian friendly streets, 2. business, mixed-use, and transit oriented development districts should be thoroughly walkable, and 3. schools and major destinations should be well connected with pedestrian facilities.

The Pedestrian Priority Network includes:

- Major road classifications (as identified by the *Highway Performance Monitoring System Roads for Hawaii HPMS as of 2015 (HDOT)*)
 - o Principal Arterial
 - o Minor Arterial
 - o Major Collector
 - o Minor Collector
- Bus Routes
- Transit Oriented Development Key Streets
 - o TOD Key streets available for all City and County of Honolulu TOD areas
 - Waipahu – is in the Ordinance 17-54
 - Everything except Waipahu is draft (still needs to be approved by Council to be official)
 - Note that East Kapolei is incomplete
 - o Kakaako
 - 1 of 2 – DTS created internal Key Streets list
 - 2 of 2 – Hawaii Community Development Authority's TOD Overlay Plan identifies "Primary" Pedestrian streets
- Streets in Mixed Use/Business Districts:
 - o BMX-3
 - o BMX-4
 - o B-1
 - o B-2
 - o Resort MX
- Special Routes
 - o K-12 schools
 - All public schools
 - Charter and private K-12 schools with enrollment 200 or more
 - o Universities and community colleges

- Senior centers and housing
- Major parks
 - Regional parks
 - District parks
 - Community parks
- Connections across gaps within the network
- Connections to limited access highway pedestrian overpass/underpasses or pedestrian bridges over water or gulches (ex: connection to pedestrian overpass over Kamehameha Hwy in Mililani)
- Existing shared-use paths
- Existing off-street walkways of significance
- Existing pedestrian bridges, overpasses, and underpasses that traverse highway, water, or topographic barriers

The above was used to determine an initial draft network. This network included streets in some areas where walking for transportation, beyond to the nearest bus stop, is unlikely due to land use conditions. The following methodology was used to remove streets and refine the Pedestrian Priority Network.

Methodology to remove:

- Low ADT – average daily traffic (under 4000 ADT) and doesn't connect a school or other significant walk generators
- Areas significantly separated by distance or elevation gain from other areas and without internal walk generators, particularly schools. (ex: Pacific Heights)
- Regional rural roads that connect a non-walkable distance between communities (ex: Kaukonahua Rd between Wahiawa and Waialua)
- When assessing areas for walk generators parks with the classification of neighborhood or higher were considered
- Bus ridership was analyzed to ensure bus stops with at least low-moderate activity, defined as daily stop activity of 50 or more, were not removed from the network

Appendix B

Project Prioritization Methodology and Demand Index Methodology

PROJECT PRIORITIZATION

Walkway projects for this plan were prioritized in two stages, first by using the variables summarized in Tables 1 and 2 and second by performing an equity analysis.

The metrics summarized in Table 1 and Table 2 (Tables 3 and 4 provide additional detail) were used to identify the Tier 1, 2, and 3 funding priorities with Tier 1 being the highest priority. A score is assigned to each project according to a) whether the project meets the criteria for each metric and b) the assigned weight for that particular metric. The projects are organized into the three prioritized tiers.

After the projects were assigned to their initial funding scenarios, a Title VI/Environmental Justice (T6/EJ) equity analysis was conducted to ensure that the investment level for each scenario is equitable with T6/EJ areas receiving a share of investments at least equal to their share of the population. The product of this analysis is a table that shows walkways improvement estimated costs by tier and whether the improvement is a T6/EJ area or not (provided in Appendix C). Projects would have been adjusted between funding priorities in order to achieve the desired equitable balance, however the analysis showed that the projects were already equitably distributed.

TABLE 1: MAJOR STREET SIDEWALK PROJECT PRIORITIZATION METRICS

METRIC	DEFINITION	SOURCE	WEIGHT
Return on Investment	Low cost + high demand	Plan cost levels and Pedestrian Demand Map	45%
Safety	High concentration of collisions	Collision Map	45%
Public Input	Overlaps geographically with frequent public comments related to pedestrians (within 100ft of a comment)	Public input from online surveys	10%
High Pedestrian Injury Corridor	On High Pedestrian Injury Corridor	HPI map	25% (bonus value on top of all other scores)

TABLE 2: SCHOOL ZONE WALKWAY PROJECT PRIORITIZATION METRICS

METRIC	DEFINITION	SOURCE	WEIGHT
School Need	No/low car households + Title I status	American Community Survey Department of Education	50%
Safety Need	High concentration of collisions + street classification	Collision Map HDOT	50%
High Pedestrian Injury Corridor	On High Pedestrian Injury Corridor	HPI map	25% (bonus value on top of all other scores)

***High Pedestrian Injury Corridor bonus scoring** – the High Pedestrian Injury Corridors are corridors with the greatest pedestrian safety needs. These relatively small set of streets are a priority for improvements and therefore will be given “bonus” points for 25% for projects on a HPI Corridor.

TABLE 3: DETAILED MAJOR STREET SIDEWALK PROJECT PRIORITIZATION METRICS

METRIC	DEFINITION	TOTAL WEIGHT	SCORING
Return on Investment	Low cost + high demand	45%	Score calculated by cost divided by 1-100 Demand Score
Safety	High concentration of collisions	45%	10 - 45% 9 – 40.5% 8 – 36% 7 – 31.5% 6 – 27% 5 – 22.5% 4 – 18% 3 – 13.5% 2 – 9% 1 – 4.5%
Public Input	Overlaps geographically with frequent public comments related to pedestrians	10%	10% - comment overlap 0% - no comment overlap
High Pedestrian Injury Corridor	On High Pedestrian Injury Corridor	25%	25% (bonus value on top of all other scores)

TABLE 4: DETAILED SCHOOL ZONE WALKWAY PROJECT PRIORITIZATION METRICS

METRIC	DEFINITION	TOTAL WEIGHT	SCORING
School Need – low car population	Households with one or no cars available (based on ACS census tract data)	25%	Low-car household percentage x 25% (ex: 34% low-car households = 8.5% score)
School Need – low income	Title I School status (based on Hawaii DOE data)	25%	Title I student percentage x 25% (ex: 91% Title I = 22.75% score)

TABLE 4: DETAILED SCHOOL ZONE WALKWAY PROJECT PRIORITIZATION METRICS

METRIC	DEFINITION	TOTAL WEIGHT	SCORING
Safety Need - Collisions	High concentration of collisions	25%	10 - 25% 9 - 22.5% 8 - 20% 7 - 17.5% 6 - 15% 5 - 12.5% 4 - 10% 3 - 7.5% 2 - 5% 1 - 2.5%
Safety Need – Street Classification	Higher street classifications	25%	Arterial – 25% Major collector – 16.66% Minor collector – 8.33% Local – 0%
High Pedestrian Injury Corridor	On High Pedestrian Injury Corridor	25%	25% (bonus value on top of all other scores)

Appendix C

Title VI and Environmental Justice Analysis

TABLE 1: TITLE VI AND ENVIRONMENTAL JUSTICE (T6EJ) ANALYSIS

	TOTAL POPULATION	POPULATION IN T6EJ			POPULATION OUT OF T6EJ		
	953,207	289,321	30%		663,886	70%	
TIER	TOTAL COST	COST IN T6EJ		PER CAPITA	COST OUT OF T6EJ		PER CAPITA
1	\$101,162,151	\$39,770,207	39%	\$137.46	\$61,391,944	61%	\$92.47
2	\$332,736,923	\$106,129,490	32%	\$366.82	\$226,607,433	68%	\$341.33
3	\$106,702,667	\$32,923,944	31%	\$113.80	\$73,778,723	69%	\$111.13

Notes: projects were considered "in" a T6EJ block group if any part of the project intersected the block group polygon.

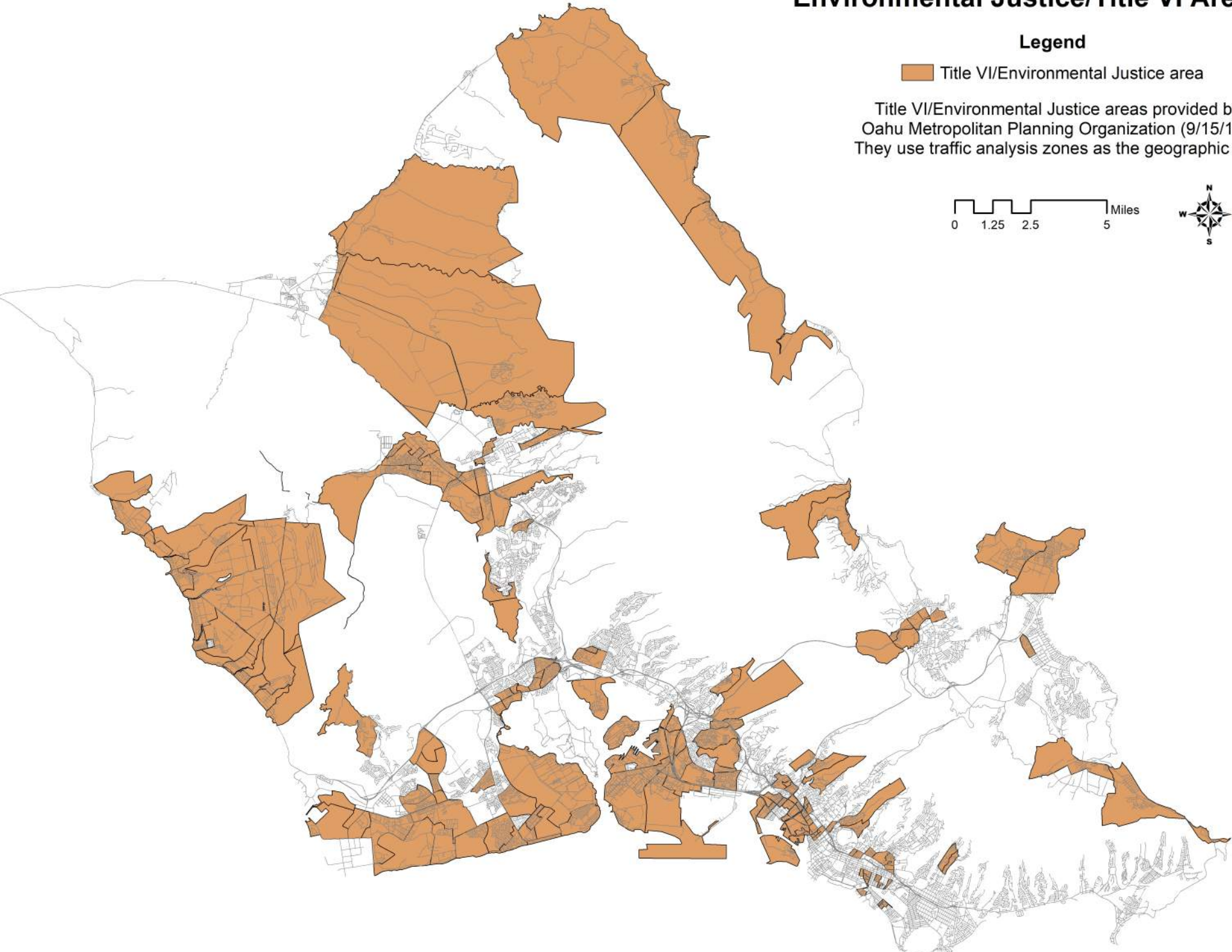
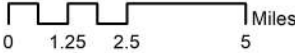
Tier 1 includes about 4 projects that are technically "shared" between T6/EJ and non-T6/EJ

Environmental Justice/Title VI Areas

Legend

 Title VI/Environmental Justice area

Title VI/Environmental Justice areas provided by Oahu Metropolitan Planning Organization (9/15/16). They use traffic analysis zones as the geographic unit.



APPENDIX D

Funding Sources

POTENTIAL FUNDING SOURCES

Federal, state, county and local organizations provide funding for pedestrian and complete streets projects and programs. The most recent federal surface transportation funding program, Fixing America's Surface Transportation Act (FAST Act), which determines federal funding availability, was signed into law in December 2015. FAST Act funding is distributed to Federal and State surface transportation funds. Most of these resources are available to the City through the Hawaii Department of Transportation (HDOT) and the Oahu Metropolitan Planning Organization (OahuMPO).

Table 1 summarizes the applicability of these various funding sources to project types, planning efforts, and programs proposed in this plan. More detailed descriptions of the each funding source are presented in the sections below.

TABLE 1: FUNDING SOURCE APPLICABILITY MATRIX

FUNDING SOURCE	RECREATION & TRAILS	TRANSIT ACCESS PROJECTS	SAFETY	PLANNING AND PROGRAMS	RURAL	HIGHWAY ON/OFF RAMPs	SIDEWALK PROJECTS
DOT BUILD Discretionary Grants	●	●	●	○	●	●	●
National Highway Performance Program	○	○		◐	◐	◐	○
Highway Safety Improvement Program	◐	○	●	○	◐	◐	◐
Railway-Highway Crossings Program	◐	◐	◐	◐	◐	◐	◐
Congestion Mitigation and Air Quality Improvement	○	◐	○	◐	◐	◐	◐
Federal Lands Access Program	◐	○	○	◐	◐	○	◐
Surface Transportation Block Grant Program	●	●	●	●	●	●	●
Urbanized Area Formula Grant (FTA 5307)	○	◐	○	○	○	○	◐
Enhanced Mobility of Seniors & Individuals with Disabilities (5310)	○	◐	○	○	◐	○	◐
State of Good Repair Grants (5337)	○	◐	◐	◐	○	○	◐
Bus and Bus Facilities Infrastructure Investment Program (5339)	○	◐	○	○	◐	○	○
Hawaii Transportation Alternative Program	●	●	●	●	●	●	●
Recreational Trails Program (Na Ala Hele Trail and Access Program)	●	○	○	◐	●	○	○
Land and Water Conservation Fund	◐	○	○	◐	○	○	○
State Safe Routes to School Special Fund	◐	◐	◐	◐	◐	◐	◐
State Highway Fund	◐	○	◐	◐	◐	●	◐
City and County of Honolulu Funds	●	●	●	●	◐	◐	●

Note: 1. ● Indicates that funds may be used for this category; ○ indicates that funds may not be used for this category, and ◐ indicates that funds may be used, though restrictions apply.
 Source: Fehr & Peers, 2018.

FEDERAL PROGRAMS

The majority of public funds for pedestrian and trails projects are derived through a core group of federal and state programs and grants. These include:

- **US Department of Transportation BUILD Discretionary Grants:** As of 2018, BUILD grants replace the pre-existing TIGER grant program. BUILD is a competitive grant program intended to fund projects that will have a significant local or regional impact.
 - The maximum grant award for the 2018 cycle is \$25 million for a single project.
 - At least 30% of funds must be awarded to projects located in rural areas.
 - *Oahu's most recent funding year:* TIGER 2009 for Reconstruction of Pier 29
 - *Eligible pedestrian project types:* complete streets projects including traffic calming, new sidewalks, crosswalk improvements, shared-use paths, landscaping, and drainage improvements.

Federal Highway Administration (FHWA) Programs

The City and County of Honolulu (CCH) has programmed funds from the NHPP, HSIP, CMAQ, STBG, and TAP (former TA) in the most recent Oahu MPO Transportation Improvement Program (TIP).

- **National Highway Performance Program (NHPP):** provides support for the condition and performance of the National Highway System.
 - Formula apportionment
 - The State may transfer up to 50% of NHPP funds to another FAST Act formula program.
 - *Eligible pedestrian project types:* funds may be used for pedestrian crossing treatments at National Highway System on/off ramps.
- **Highway Safety Improvement Program (HSIP):** provides funds to reduce traffic fatalities and serious injuries on all public roads.
 - Formula apportionment
 - *Eligible pedestrian project types:* funds may only be used if the project addresses a priority in Hawaii's Strategic Highway Safety Plan, addresses a safety issue identified through a data-driven process, and contributes to reduction in fatalities and serious injuries.
 - **Railway-Highway Crossings Program:** provides funds for the elimination of hazards at railway-highway crossings.

- Formula apportionment
 - Set-aside from the Highway Safety Improvement Program (HSIP) apportionment
 - *Eligible pedestrian project types*: projects at all public crossings including roadways, bike trails and pedestrian paths
- **Congestion Mitigation & Air Quality Improvement (CMAQ)**: provides a flexible funding source for transportation projects and programs to help meet the requirements of the Clean Air Act.
 - Formula apportionment
 - The State may transfer up to 50% of CMAQ funds to another FAST Act formula program.
 - *Eligible pedestrian project types*: Funds may be used for a transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in reducing air pollution, and that is included in the OahuMPOs current transportation plan and transportation improvement program (TIP).
- **Federal Lands Access Program**: provides funds for projects on Federal Lands Access Transportation Facilities that are located on or adjacent to, or that provide access to Federal lands.
 - Formula apportionment
 - *Eligible pedestrian project types*: Funds may be used for pedestrian projects that provide access to or within federal lands.
- **Surface Transportation Block Grant Program (STBG)**: provides flexible funding to best address State and local transportation needs.
 - Formula apportionment
 - The State may transfer up to 50% of STGB funds to another FAST Act formula program
 - *Eligible pedestrian project types*: any pedestrian projects.
 - **Transportation Alternatives (TA)**
 - A set- aside from the overall STBG funding amount
 - All TA projects must be funded through a competitive process at the State level (see State program described below) and through the metropolitan planning process (see OahuMPO program described below).

- *Eligible pedestrian project types:* a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects
- **Recreational Trails Program:**
 - See State Recreational Trails program below
 - A set-aside of funds from the TA Set-Aside

Federal Transit Administration (FTA) Programs

CCH has programmed funds from FTA programs 5307, 5310, 5337, and 5339 in the most recent OahuMPO Transportation Improvement Program (TIP). Currently, DTS conducts all bus stop access projects and uses FTA funding for many of those projects.

- **Pilot Program for Transit-Oriented Development Planning – Section 20005(b):** provides funding to local communities to integrate land use and transportation planning in new fixed guideway and core capacity transit project corridors.
 - Comprehensive planning projects covering an entire transit capital project corridor
 - *Eligible pedestrian project types:* studies on multimodal connectivity and accessibility, improvements to transit access for pedestrian and bicycle traffic.
- **Urbanized Area Formula Grants (5307):** provides funding for all preventative maintenance and some ADA capital costs.
 - *Eligible pedestrian project types:* bus stop improvements to increase mobility for transit users of all ages and abilities, pedestrian access to transit, and the number of ADA accessible bus stops
- **Enhanced Mobility of Seniors & Individuals with Disabilities (5310):** provides funding to transit-related projects that enhance mobility for seniors and individuals with disabilities.
 - *Eligible pedestrian project types:* travel training, accessible paths to bus stops including curb ramps, sidewalk enhancements, accessible pedestrian signals, improved signage, and mobility management program.
- **State of Good Repair Grants (5337):** provides capital project funding for maintenance of existing fixed guideway transit systems. These grants can also be used to develop and implement Transit Asset Management plans.
 - *Eligible pedestrian project types:* passenger stations and terminals to ensure an acceptable level of passenger comfort is maintained

- **Bus & Bus Facilities Infrastructure Investment Program (5339):** provides funding to replace, rehabilitate and purchase buses, related equipment, and to construct bus-related facilities. This includes technological or other innovations to modify low or no emission vehicles or facilities.
 - *Eligible pedestrian project types:* construction of enhanced bus-related facilities or fleet upgrades

National Park Service (NPS) Program

- **Federal Land and Water Conservation Fund (LWCF):** provides funding for land purchase, development of recreation facilities, redevelopment of older recreation facilities, and planning studies on recreation potentials, needs, opportunities and policies.
 - Competitive grant program

Federal formula grants are allocated to HDOT and OahuMPO and distributed throughout the state and county. Projects for the Oahu TIP are selected by the MPO in consultation with the HDOT and CCH. Distribution is allocated either competitively or proportionally according to jurisdiction population. A State may transfer up to 50 percent of any apportionment to another formula program. However, no transfers are permitted of Metropolitan Planning funds, funds suballocated to areas based on population (under either STBG or Transportation Alternatives), or funds set aside for the Recreational Trails Program.

STATE PROGRAMS

Several state-wide funding sources and regionally administered funding sources are available for pedestrian projects and efforts. CCH has recently used funds from the SRTS Special Fund.

State Highway Fund

- Managed by HDOT, these funds provide the local match for STIP projects
- Funds are used for design, construction, repair, and maintenance of the State Highway System.
- Current taxes, charges, and fees that generate revenue for the fund include highway fuel taxes, vehicle registration and licensing fees, vehicle weight tax, and motor vehicle rental and tour vehicle surcharge tax.

State Transportation Alternative Program (TAP)

- Competitive application process is managed by HDOT

- TAP provides federal funds for community-based projects that expand travel choices and enhance the transportation experience in Hawaii

State Recreational Trails Program (Na Ala Hele Trail and Access Program)

- Managed by the Division of Forestry and Wildlife within the Department of Land and Natural Resources

Safe Routes to School Program

- Managed by HDOT, provided by federal funds, specifically Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)
- Infrastructure and Non-Infrastructure projects are eligible
- \$500,000 awarded to City and County of Honolulu in 2016 for Kailua Bicycle Boulevard project

Safe Routes to School Special Fund

- State Funds collected as traffic violation surcharges
- Managed by HDOT
- Approximately \$150,000 awarded to City and County of Honolulu annually
- \$291,318 distributed to City and County of Honolulu in 2018

REGIONAL AND LOCAL PROGRAMS

City and County of Honolulu Funds

Funding sources include property tax, fees and charges for public services, and general obligation bonds.

METROPOLITAN PLANNING PROGRAMS

OahuMPO Transportation Alternative Program (TAP)

- Competitive application process is managed by OahuMPO
- TAP provides federal funds for community-based projects that expand travel choices and enhance the transportation experience in Hawaii

PROGRAMMED FUNDING

Funding is committed to certain projects through the local budget process and regional and state transportation planning processes. Local funds are committed through the Capital Improvement Program and State and Federal funds are committed through inclusion in the OahuMPO Transportation Improvement Program and Statewide Transportation Improvement Program.

CCH CAPITAL IMPROVEMENT PROGRAM (CIP)

Sidewalk projects in the City and County of Honolulu (the City) can be funded through the Capital Improvement Program although they currently account for a very small portion of CIP funds. Funding sidewalks has traditionally been a barrier for the City, but the recent passage of Ordinance 16-33 now allows for City funds to cover up to 100 percent of the cost of pedestrian infrastructure projects (sidewalks in particular) if deemed appropriate. Although City funds can pay for pedestrian projects, there is no dedicated funding source for sidewalk project. To date, there have been no local grant matches for pedestrian infrastructure.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

- Developed by OahuMPO
- Short-term, four-year implementation program for all federally-funded and/or regionally significant transportation projects within the MPO's planning area
- CCH total: \$97,451,000 approved for FY 2018 (combination of federal and local funds, excluding Honolulu Rail Transit Project)
- \$96,394,000 identified for FY 2019 (excluding the Honolulu Rail Transit Project)
- \$125,706,000 identified for FY 2020 (excluding the Honolulu Rail Transit Project)
- Projects are eligible for federal funds

OAHU REGIONAL TRANSPORTATION PLAN (ORTP)

- Developed by OahuMPO
- Long-term vision document (25-year horizon)
- Projects are eligible for federal funds