

## CHAPTER TWO

# Our Shared Vision and Goals for O'ahu's Transportation Future

The OahuMPO carried out a comprehensive outreach process to educate the community about the O'ahu Regional Transportation Plan (ORTP), and engage people in discussion about how they envision getting around in 2045 in efforts to better understand what transportation goals should be prioritized.

## Our Shared Vision

Transportation impacts our lives every day, whether we're commuting to work or school, picking up groceries, heading out to the beach, going for a hike, or simply getting out to exercise.

The ORTP 2045's vision statement presents an aspirational view of the future of the region's transportation system, reflecting values and desired outcomes expressed by our island community.

### VISION



In 2045, O'ahu's path forward is multimodal and safe. All people on O'ahu can reach their destinations through a variety of transportation choices, which are reliable, equitable, healthy, environmentally sustainable, and resilient in the face of climate change.

This shared vision for the future provides a benchmark for crafting a transportation system that serves all people on O'ahu. The vision, supporting goals, objectives, and strategies/policies will serve as a foundation for identifying investment priorities and policies, and measuring progress toward reaching our vision.

## Our Shared Goals, Objectives, and Performance Measures

For us to achieve our vision, we need goals to help focus our limited resources and evaluate our progress.

### Local Emphasis

Building on the FAST Act planning factors described in Chapter 1, OahuMPO developed the 2045 ORTP goals based on public input, feedback from its working group, committees, and Policy Board. For more information about the public involvement process, please read Appendix B. These goals help to guide future transportation decisions in the region. A corresponding set of objectives has been established to help the region move closer to the intended goals.

### National Emphasis

The FAST Act is the Federal law that governs national transportation planning and funding. It also provides guidance on transportation decision-making for metropolitan areas. The national emphasis is defined by the ten planning factors listed in Chapter 1. These planning factors, and the need to meet federal performance measures, form the basis of the regional goals and objectives developed for the 2045 ORTP. To see how the FAST Act Planning Factors match up to the 2045 ORTP Goal(s), see below for Table 2.0.

Each of the transportation investments recommended in Chapter 5 contributes to the achievement of the goals and objectives outlined. In many cases a proposed project or service will accomplish multiple goals and objectives. For example, improving transit service expands transportation choices and improves mobility for many O'ahu residents. Transit service expansion also has the potential to improve air quality, and enhance the region's economic vitality by providing access to jobs for a greater number of people.

## GOALS



1. Improve the safety of the transportation system;



2. Support active and public transportation;



3. Promote an equitable transportation system;



4. Improve the resiliency of the transportation system;



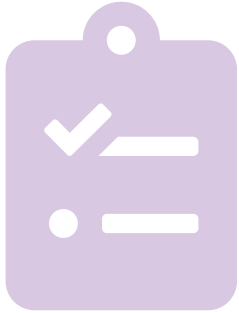
5. Preserve and maintain the transportation system;



6. Support a reliable and efficient transportation system; and



7. Improve air quality and protect environmental and cultural assets.

















## Performance Measures

The OahuMPO Policy Board has adopted federally required performance measures consistent with the Hawai'i Department of Transportation and the City and County of Honolulu Department of Transportation Services, as well as other performance measures, shown in the tables below to help determine the region's progress toward meeting its goals and objectives. These measures emphasize conditions that can be quantified with data and tools currently available to OahuMPO.

**THE NEXT SECTION** provides more information about the goals, objectives, and performance measures selected for the 2045 ORTP.



**Table 2.0: FAST Act Planning Factors & 2045 ORTP Goal(s)**

NO.	FAST ACT PLANNING FACTORS	2045 ORTP GOAL(S)
1	Increase the safety of the transportation system for motorized and non-motorized users	1 
2	Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns	2, 3, 7   
3	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	2 
4	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	6 
5	Increase the security of the transportation system for motorized and non-motorized users	1 
6	Increase accessibility and mobility of people and freight	2, 3  
7	Promote efficient system management and operation	6 
8	Emphasize the preservation of the existing transportation system	5 
9	Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation	4, 6  
10	Enhance travel and tourism	2 



## GOAL 1:

# Improve the safety of the transportation system

*Our path forward is safe*

According to the National Highway Traffic Safety Administration (NHTSA), Hawai'i ranks the **FIFTH HIGHEST** in proportion of speed-related fatal crashes

(Hawaii Strategic Highway Safety Plan, 2019)



Unfortunately, O'ahu experiences many crashes and associated fatalities and serious injuries on our roads, bridges, and paths. Many of these fatalities and serious injuries are associated with speeding and impaired driving, and disproportionately impact people walking and biking, and other vulnerable users, such as our kūpuna (older people) and our keiki (children). It's no surprise that safety was by far the top concern among those who participated in our engagement process, across all demographics.

Hawai'i has a higher than average proportion of traffic fatalities involving a speeding driver, compared to the rest of the United States. Over the past decade, approximately half of all fatal crashes in Hawai'i involved a driver who was reported as speeding. Preliminary data for 2020 year-to-date in Table 2.1 shows that 47-percent of fatal crashes involved speed. This tracks with data that shows an average of 46-percent of fatal crashes in Hawaii since 2012 were related to speed (Hawai'i Department of Transportation, 2020). The National Transportation Safety Board (NTSB) reported that urban environments tend to see drivers involved in a large proportion of crashes on roadways with posted speed limits of 35 mph. In examining the parallel between drivers in fatal crashes and posted speed limits, O'ahu's roadways with posted speed limits of 25 and 35 represent roadway environments with the largest number of crashes (Traffic Safety Facts 2018, NHTSA). More work needs to be done to understand what is causing these crashes, whether it be that these roads simply have more vehicles using them, roadway design, the actual posted speed limit, and/or another reason.

Hawai'i also ranks above the national average for drivers involved in fatal crashes who test positive for alcohol and/or drugs (Hawai'i Department of Health, 2008-2017). Preliminary 2019 figures show 59-percent of the traffic fatalities that were tested, tested positive for alcohol and/or drugs. Of the 15 fatalities of persons between the ages of 15 to 22, 13 posthumously tested positive for alcohol and/or drugs (Hawai'i Department of Transportation, 2020). Even with over 6,000 individuals arrested every year in Hawai'i (Hawaii Uniform Crime Reports, 2013-2017), 1 out 20 drivers or (5%) who survived, admitted to driving after they consumed too much alcohol in the past month (2012, 2014, 2016 Hawaii Behavioral Risk Factor Surveillance Survey).



Hawai'i is ranked the **fourth highest** in the nation for impaired driving-related fatal crashes (Hawaii Strategic Highway Safety Plan, 2019)



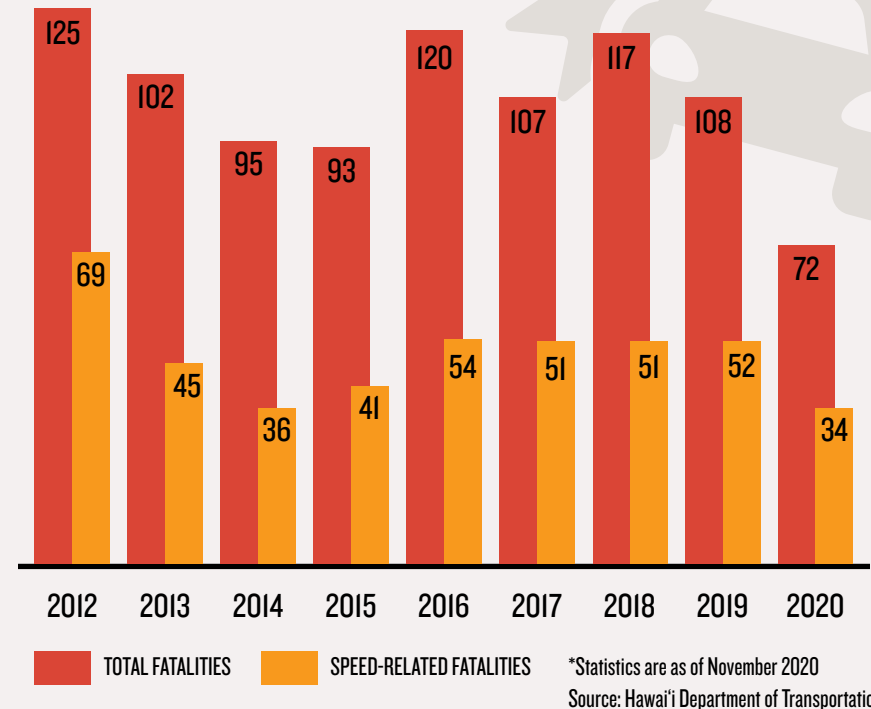
**59%** of the traffic fatalities that were tested, tested **positive for alcohol and/or drugs** (Hawai'i Department of Transportation, 2020)



Hawai'i has the **highest rate of older pedestrian fatalities** in the nation (Honolulu Age Friendly City Action Plan 2015)

Nationwide, older people, people of color, and people walking in low-income communities are disproportionately represented in fatal crashes involving people walking (Dangerous by Design, 2019). Hawai'i has the third highest rate of older pedestrian fatalities (ages 65+) in the nation (Web-based Injury Statistics Query and Reporting System, 2015-2019). The state is 14th in the nation for pedestrian fatalities among all age groups (Web-based Injury Statistics Query and Reporting System, 2015-2019). Most fatal pedestrian crashes occur around 5 AM and between 6 PM and 9 PM. Kūpuna (older people) die more often in pedestrian-vehicle crashes, but keiki (children) are often injured in crashes, especially near the school start time (7 AM - 8 AM) and end (2 PM - 3 PM) (2019 - 2024 Hawaii Strategic Highway Safety Plan). Statewide hospital data shows that traffic-related pedestrian crashes resulted in at least \$12 million in hospital costs in 2016. (2019 - 2024 Hawaii Strategic Highway Safety Plan).

**Table 2.1: Hawai'i Traffic Fatality Statistics**



Since 2012, speed-related crashes accounted for an average of **46%** of traffic fatalities

(Hawai'i Department of Transportation, 2020)

Bicyclist fatalities and serious injuries fluctuate over the years. Most fatal crashes occur between 6 AM and 10 AM. Most bicyclists who have died since 2014 were men over 55 years of age (2019 - 2024 Hawaii Strategic Highway Safety Plan). Kūpuna (older people) die more often in bicyclist-vehicle crashes, but keiki (children) are often injured in crashes, especially near the school start time (7 AM - 8 AM) and during the hours of 2 PM - 6 PM (2019 - 2024 Hawaii Strategic Highway Safety Plan). Statewide hospital data shows that traffic-related bicycle crashes resulted in at least \$5 million in hospital costs in 2016 (2019 - 2024 Hawaii Strategic Highway Safety Plan).

Across the island, residents expressed concerns about safety, many of them choosing this as their top priority for improvement in the future. Island residents attributed their concerns to the lack of safe infrastructure to walk and bike (including the lack of infrastructure that supports the mobility of those physically disabled), distracted driving, drunk driving, and speeding.

## Objectives and Performance Metrics

**Table 2.2: Goal I: Improve the safety of the transportation system**  
**FAST Act Planning Factor(s), Performance Measures, and Objective(s)**

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
SAFETY AND SECURITY	I.1.1 Number of fatalities*	I.1 Reduce the deaths and serious injuries on our roads, bridges, and paths
	I.1.2 Rate of fatalities*	
	I.1.3 Number of serious injuries*	
	I.1.4 Rate of serious injuries*	
	I.1.5 Total Bus and Paratransit Fatalities*	
	I.1.6 Bus and Paratransit Fatalities (per 100K VRM)*	
	I.1.7 Total Bus and Paratransit Injuries*	
	I.1.8 Bus and Paratransit Injuries (per 100K VRM)*	
	I.1.9 Total Bus and Paratransit Safety Events*	
	I.1.10 Bus and Paratransit Safety Events (per 100K VRM)*	
	I.1.11 Bus and Paratransit System Reliability (VRM/Mechanical Road Calls)*	
	I.2.1 Number of non-motorized fatalities and serious injuries*	I.2 Reduce the rate of deaths and serious injuries of people walking and biking

\* Indicates that the performance measure is a federal requirement

VRM: Vehicle Revenue Miles

Our kūpuna die more often in both pedestrian-vehicle and bicyclist-vehicle crashes, but **our keiki are often injured in crashes, especially near the school start time (7 AM – 8 AM) and during the hours of 2 PM – 6 PM.**

(2019 - 2024 Hawaii Strategic Highway Safety Plan)





● **A MŌ'ILĪ'ILĪ RESIDENT** who bikes to work every day chose safety as their top priority because they noted the need for greater investment in safer biking infrastructure and design. They noted that they do not feel safe using the bike lane on King Street because it is wedged between the sidewalk and parked cars, which obstructs the driver and biker's view of one another.

● **A WAIMĀNALO RESIDENT** recognized that people need to feel safe enough using non-automotive transportation modes, to move away from using their cars. This person stated that they would like to do more walking and biking, but don't currently feel safe using existing facilities.

● **A NĀNĀKULI RESIDENT** echoed the concerns of many of their neighbors about the large number of fatalities and other traffic incidents that occur along Farrington Highway. This person stated that the lack of sidewalks along Farrington Highway, the large number of cars on the road, and speeding cars were of particular concern.

● **A MĀKAHA RESIDENT**, who is the principal of a local elementary school, tied low attendance to the lack of safe routes to get to and from school. With parents leaving for work at 4:00 or 5:00 in the morning, children must navigate their way to school on their own. This community member compared their lack of safe infrastructure to affluent neighborhoods where there are sidewalks, good lighting, and good crosswalks.

● **A HAU'ULA RESIDENT** shared with us that they know many people who have lost their lives on the road. This person works at a local elementary school and revealed that they know of at least two teachers who have been involved in crashes and worries about the safety of the students.

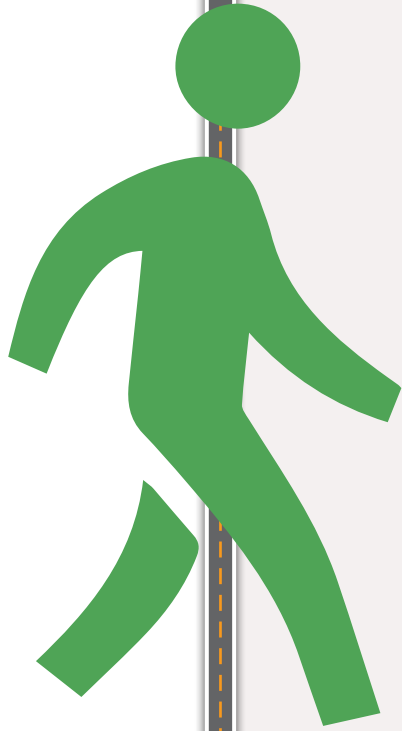
● **A KAIMUKĪ RESIDENT** shared that they personally know three people who have been impacted by crashes, two who have died in the crashes and the other who survived but will not be able to return to normal life.

● **AN 'ĀINA HAINA RESIDENT** chose safety as their top priority, because they've personally witnessed three bicycle crashes with cars.

● **A MAKAKILO RESIDENT** chose safety as their top priority because their neighborhood roads are unsafe due to a lack of crosswalks and drivers frequently speeding on roads in Makakilo.







## GOAL 2:

# Support active and public transportation

*Our path forward is more multi-modal*

**30-50%** of trips made by people driving alone are under 3 miles

(OahuMPO Travel Demand Forecasting Model, Version 6 and INRIX Report)

**14%** of residents carpool to work, among the highest in the country

(American Community Survey, 2018)

About 2/3 of O'ahu residents drive alone to work (American Community Survey, 2018), with the average trip being a little over eight miles (OahuMPO Travel Demand Forecasting Model, Version 6). Many residents drive for other purposes, such as to recreational activities, to get their groceries, among other things. However, between 30-50% of those driving for purposes other than work, drove less than three miles (OahuMPO Travel Demand Forecasting Model, Version 6). This means there is a tremendous opportunity for us to support active and public transportation, for O'ahu residents to be healthier and to reduce our transportation

emissions. If we can provide safe, convenient, reliable, and efficient active and public transportation, we may shift a good portion of those driving alone for short trips to healthier and environmentally sustainable modes. There is also a great opportunity to supplement our existing, primarily community led carpooling efforts. A little over 14% of residents carpool to work, one of the highest carpooling rates in the country (American Community Survey, 2018).





70% of O'ahu households are within one-quarter mile of a bus stop (American Community Survey, 2017 and 2017 General Transit Feed Specification). On O'ahu, the average commute time by public transportation takes about twice as long as the average commute by car. In 2018, the average commute by car, truck, or van took about 28 minutes, whereas the average commute by public transportation took 50 minutes, with those living west of the primary urban center experiencing much higher commute times by public transportation than residents living elsewhere on O'ahu (American Communities Survey, 2018). The average length of a trip made by public transportation is almost 5 ½ miles (OahuMPO Travel Demand Forecasting Model, Version 6).

Many island residents expressed the desire to have multiple transportation choices, particularly to not rely on their private vehicles. Those who conveyed that they were reluctant to switch their transportation mode voiced their desire for more frequent and reliable bus service, more TheHandi-Van service, and safer bicycling and pedestrian infrastructure. Those who live in rural and

**70% of O'ahu households are within one-quarter mile of a bus stop**

(American Community Survey, 2017 and 2017 General Transit Feed Specification)

urban fringe areas on O'ahu noted that TheBus and TheHandi-Van service is limited, compared to urban Honolulu, with some participants noting transit service averaging once every 30 minutes to an hour, and/or the need to make multiple transfers just to reach a destination only a few miles from their home. TheHandi-Van riders expressed frustration with long waits during peak morning and afternoon periods, an inefficient reservation system, lack of responsiveness by customer service staff, and the need for smaller vehicles (e.g., vans or SUVs) to accommodate those with special needs. O'ahu residents also acknowledged the importance of the health benefits of walking and biking, and desired safer and more comfortable places to engage in active lifestyles. Providing transportation choices that are safe, convenient, healthy, and reliable between jobs, housing, schools, services, and amenities is vital to the shared prosperity of island residents.

# Objectives and Performance Metrics

**Table 2.3: Goal 2: Support active and public transportation**  
**FAST Act Planning Factor(s), Performance Measures, and Objective(s)**

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
<b>ENVIRONMENT, ENERGY CONSERVATION, AND QUALITY OF LIFE</b> <b>INTEGRATION AND CONNECTIVITY</b> <b>ACCESSIBILITY AND MOBILITY</b> <b>TRAVEL AND TOURISM</b>	2.1.1 Commute mode share of people using active transportation	2.1 Increase commute mode share of people using active transportation
	2.1.2 Lane mileage of low stress bike facilities	
	2.2.1 Commute mode share of people taking transit for all trips	2.2 Increase commute mode share of people taking transit
	2.2.2 TheBus ridership	
	2.2.3 TheHandi-Van ridership	
	2.3.1 Commute mode share of people driving alone for all trips	2.3 Decrease commute mode share of people driving alone
	2.3.2 Commute mode share of people carpooling for all trips	
	2.3.3 Vehicle miles traveled per capita	

## Transit

- **A SALT LAKE RESIDENT** recognized that more people riding the rail and bus, means less cars on the road. This person stated however, that we need more investment in transit to make sure that it is convenient, otherwise people will not give up driving their car.
- **A PEARL CITY RESIDENT** envisions a transportation future where the rail and bus are well-integrated. This person recognized the need for direct and express bus service to rail stations for the two to be well-integrated, just as this resident experienced in Japan.







- Five years ago, **A KĀNE'ŌHE RESIDENT** did not see the value of prioritizing TheBus, TheHandi-Van, or Rail. That has changed, since this person's mother suffered a stroke. They now know firsthand what it takes to help a person with a disability like their mother. This resident relies on the TheHandi-Van to help get their mother around, especially to doctor's appointments. They compared the cost of the TheHandi-Van with other options, such as Uber and Lyft, and there was no way they could afford getting their mother around, if it was not for TheHandi-Van services.
- **A WAHIAWĀ RESIDENT** expressed the need to invest in TheBus, TheHandi-Van, and Rail as a means to improve safety and help get families to and from work. They acknowledged that Wahiawā is a commuter town, and that families need to have a good way to get to and from work. This resident expressed the desire to improve bus service to encourage more residents to take public transit. With less cars on the road, this may lessen the likelihood of people walking being hit by cars.
- **A MILILANI RESIDENT** indicated that investing in TheBus, TheHandi-Van, and Rail is a top priority because Central O'ahu is expecting more development in the future. This resident voiced the desire for more efficient, frequent, and reliable bus service, especially bus service to/from the rail, to better accommodate the increase in expected population and cars on the road, otherwise one would not be able to get their car out of their driveway due to traffic.
- **A HAWAI'I KAI RESIDENT** who does not own a car, relies on their mom for transportation most days. However, their mom is not able to take them to their internship in town. It currently takes 20 minutes to walk to the closest bus stop from their house. Their other option would be to bike for 40 minutes from their house to their internship and arrive sweaty.
- **A HAU'ULA RESIDENT** recognized that a large segment of their community's population is older and disabled. They conveyed the need for our transportation system to support this segment of our population.




COMMUNITY  
VOICES




## Walking and Biking

-  **A KA'A'AWA RESIDENT** indicated that Kamehameha Highway is dangerous place to walk and bike. This person prioritized active transportation, as they recognized that there aren't very many paths or sidewalks for walking and biking, in Ko'olauloa.
-  **A KAKA'AKO RESIDENT** envisions a transportation future where we would decrease the number of car lanes and increase the width of pedestrian and bicycle lanes. The reason this person chose active transportation as their top priority, is that they believe that a greater investment in pedestrian and bicycle infrastructure will increase the safety of bicyclists and pedestrians, and drivers would also be more sensitive and aware of the space between themselves, bicyclists, and pedestrians.
-  **A WAHIAWĀ RESIDENT** noted that you can't have active transportation, if it's not safe. Without safe infrastructure, a community can't promote safe routes to school and healthy living.
-  **A HAWAI'I KAI RESIDENT** mentioned that they do not feel safe biking in the bike lanes and wishes the bicycling infrastructure was separated and elevated from traffic, and well-lit, just like in the Netherlands.



-  **A KAILUA RESIDENT** recognized the connection between safe infrastructure, the number of people walking, and traffic levels. This person chose active transportation as their top priority, noting that if sidewalks and paths are safer, then people are more likely to walk, and less likely to drive, especially in their neighborhood. The participant also mentioned that safer infrastructure will also help people be healthier, due to an increase in physical activity.
-  **A LILIHA RESIDENT** envisions a transportation future where we invest more in making ADA accessibility improvements to help make it easier for those with disabilities to get around.
-  **A NU'UANU RESIDENT** envisions all vehicular roads turned into bike facilities, and everyone on O'ahu would bike and be healthy.

## Decrease SOV

-  **A LILIHA RESIDENT** envisions a transportation future where we decrease the need for people to transport themselves places, including encouraging more people to work from home. This person noted that if people do need to get somewhere, we would increase carpool usage.





## GOAL 3:

# Promote an equitable transportation system

---

*Our path forward is equitable*

One of the largest transportation challenges people in historically marginalized communities face is their disproportionate transportation costs. The cost of transportation is 34 percent higher for O‘ahu residents than the national average (Ola O‘ahu Resilience Strategy, 2019). A major contributing factor is the price of gasoline and diesel, among the highest in the country (Ola O‘ahu Resilience Strategy, 2019). Pair that with the high cost of housing, particularly in the urban core of Honolulu, where most jobs are, and many residents relocate to marginally more affordable suburban neighborhoods. This has led to increasing commute times, distances, and

associated transportation costs, while encouraging urban sprawl. Urban sprawl further exacerbates issues of access to services and amenities for those who don’t live in the urban core. As a result, people are forced to be dependent on their vehicles, experience long transit travel times, and/or those services and amenities being inaccessible.

Island residents who stated that equity was their first priority did so primarily for three reasons, (1) concerns about transportation affordability, (2) the lack of transportation investment in their communities, and (3) their lack of access to jobs, schools, services, and other amenities.

### Transportation Affordability

O'ahu residents expressed their concerns about the costs associated with driving and taking transit. Many who noted their concerns about the high costs associated with driving, also expressed the desire for reliable and efficient alternatives to driving to mitigate those high costs.

### Transportation Investment

Those primarily located in the rural areas of O'ahu, felt that their communities lack investment in their transportation facilities. Many compared their transportation facilities to those in urban Honolulu and/or affluent areas of O'ahu and noted their lack of certain facilities and how poorly maintained their existing facilities are.

### Lack of Access

Island residents indicated their frustration with the lack of amenities near where they live. They revealed their desire to not drive both within their community and outside of their community just to get to most destinations and services they use every day. Instead, many residents envision a future where they could access their jobs, schools, services, and other amenities ideally by foot, otherwise by bicycle or transit. Residents also stated challenges around infrequent and unreliable bus service, topography, unsafe infrastructure, lack of sidewalks, and shade/trees also make accessing amenities unsafe and/or uncomfortable.



+34%

The cost of transportation is 34 percent higher for O'ahu residents than the national average

## Objectives and Performance Metrics

Table 2.4: Goal 3: Promote an equitable transportation system  
FAST Act Planning Factor(s), Performance Measures, and Objective(s)

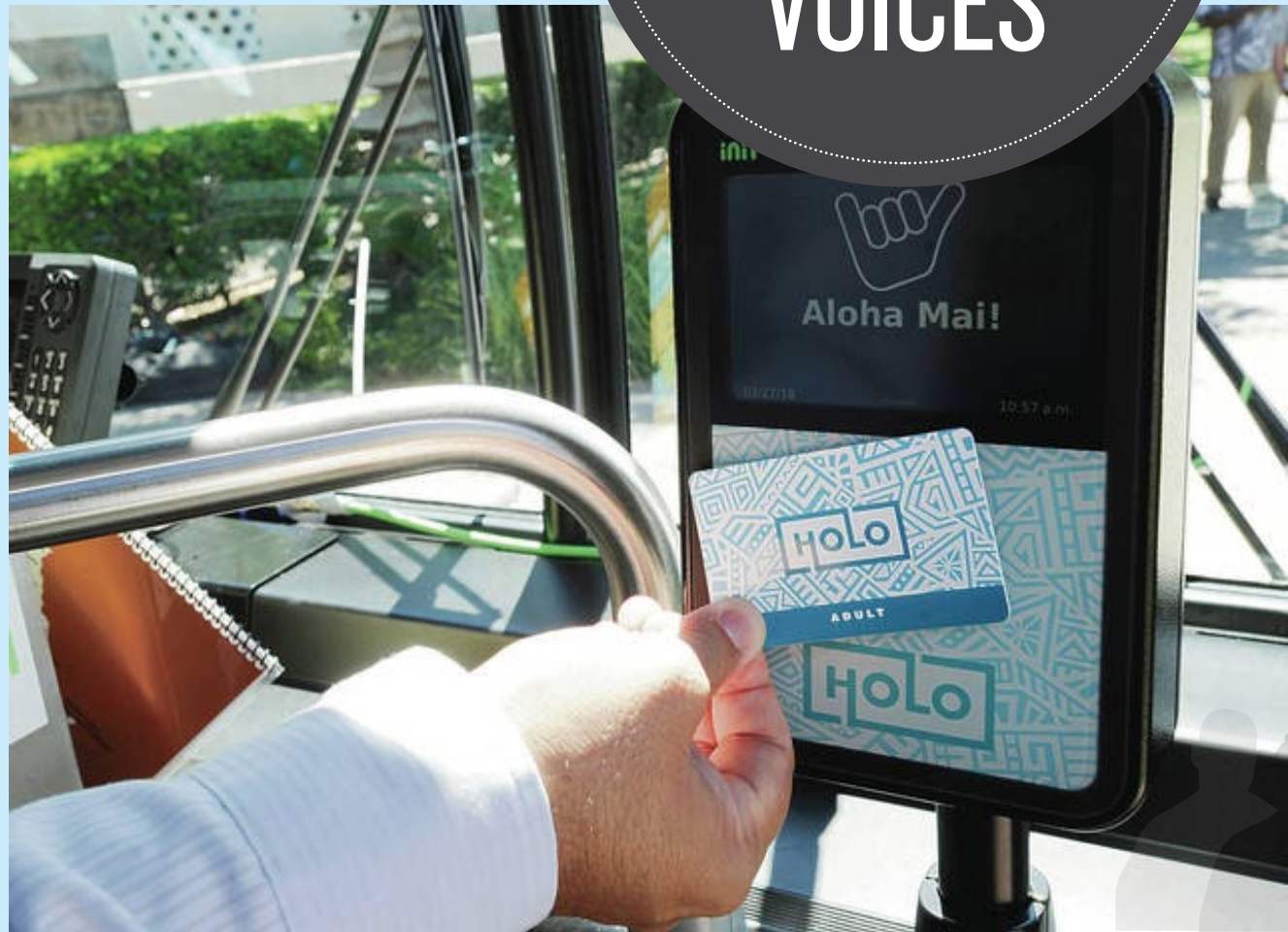
FAST Act Planning Factor(s)	Performance Measure	Objective(s)
QUALITY OF LIFE ACCESSIBILITY AND MOBILITY	3.1.1 Percent of households within 1/4 mile of a transit stop	3.1 Increase access to pedestrian, bicycle, and transit options for mobility constrained populations
	3.1.2 Percent of jobs within 3/4 mile of a transit stop	



## Lack of Access

- A NU'UANU RESIDENT** envisions a transportation future where people can live, work, and play in the same area, just like in urban Honolulu. This person would like to see a holistic approach to this, while also taking into consideration the needs of specific communities.
- A WAI'ALAE** grandma shared that she has grandchildren that live in different parts of the island. She chose equity as her top transportation priority, because she recognized the importance of having a reliable transportation system that allows all people to travel where they need to go, despite where they live, just like her grandchildren.
- A MILILANI RESIDENT** indicated that equity is their top priority because they feel it is important that everyone has equitable access to different transportation options. In particular, they voiced the need to make it easier for all people to access the bus.
- A KA'A'AWA RESIDENT** chose equity as their top priority because of the lack of access to many amenities and services in their community. They cited that many of Ko'olauloa's amenities and services have been moved to town, like their Satellite City Hall. This person would like the ability to access necessary amenities and services without having to go to town.

- A MĀ'ILI RESIDENT** noted how difficult it was to reach all of their needed amenities within in their neighborhood. This person chose equity as their top priority because they believe that you should be able to access all one's amenities without having to travel to town.





## Transportation Affordability

- **A WAI'ANAE RESIDENT** envisions a transportation future where TheBus and other forms of transit are free. This participant recognized that the cost of transportation makes up a large portion of people's income and hits low-income people particularly hard.
- **A KAHANA RESIDENT** recognized that many of our most needy people, cannot afford to own and drive a car. This person recognized the importance of prioritizing TheBus because it provides a way for our neediest people to get around. However, this person stressed the need for TheBus to be reliable.
- **A FOSTER VILLAGE RESIDENT** chose equity as their top transportation goal because they believe that all people should have an affordable and dependable mode of transportation.
- **A KALIHI RESIDENT** expressed the belief that all individuals regardless of his or her economic situation should have equal access to quality, affordable transportation.

## Transportation Investment

- **A KALIHI RESIDENT** noted that nicer neighborhoods have nicer bus stops, with many bus stops in Kalihi in disrepair or are uncomfortable. This participant stated that, where you live determines the quality of a community's transportation facilities and impacts the transportation options a person has. A Mā'ili, Mākaha, Nānākuli and Wai'anae resident expressed their frustration that the folks on the Wai'anae Coast pay the same amount of taxes, but little investment and transportation improvements are made in their community. This participant noted that if you compare the pedestrian infrastructure along the Wai'anae Coast to other places on O'ahu, it is much more dangerous to walk in Wai'anae, than elsewhere.
- **A WAIALUA RESIDENT** chose equity as their top priority because they felt that the North Shore and other rural parts of O'ahu don't receive nearly as much investment as urban Honolulu, and other more urban parts of the island. This participant noted that though the residential population on the North Shore is small, additional transportation investment in sidewalks, bike paths, road maintenance, and transit is needed due to the large number of tourists.
- **AN 'EWA RESIDENT** recognized that compared to 'Ewa and wealthier neighborhoods on O'ahu, Wai'anae roads are in poor condition, they lack bike routes and sidewalks. This person chose equity as their top priority because they believe Wai'anae needs greater investment to improve the quality of their transportation facilities.





## GOAL 4:

# Improve the resiliency of the transportation system

---

### *Our path forward is resilient*

In the future, O'ahu is expected to experience an increase in sea level rise and heavy rainfall. The Hawai'i Sea Level Rise Vulnerability and Adaptation Report states that with 3.2 feet of sea level rise, almost 18 miles of O'ahu's coastal roads would become impassible, jeopardizing access to and from many communities. Moreover, the report estimates that this level of sea level rise could displace over 13,000 residents.

Regarding rainfall, according to Hawai'i's Changing Climate: Legislative Briefing Sheet 2010, recent years have seen decreases in rainfall levels, but the amount of rain falling in the heaviest downpours (defined as the heaviest 1 percent of all events) has increased approximately 12 percent in Hawai'i between 1958 and 2007. Heavy rainfall can present challenges for our emergency management agencies and first responders, as well as trigger other severe events, such as flash flooding, mudslides, and large debris flowing over roads and bridges.

A resilient transportation system will require a coordinated effort. Preparing and protecting our island's transportation infrastructure for climate change is a complex and large-scale challenge that will require unprecedented shifts in policies and coordination among City and State agencies, the federal Government, private sector, and non-profit groups.

As an island community, residents are acutely aware of our vulnerabilities to climate change and the impacts we are already experiencing, more frequent heavy rainfall and flooding, and sea level rise, among other things. Residents, particularly on the Waiʻanae Coast and those living in the Koʻolaupua region expressed the urgent need for our transportation system to be resilient. Residents expressed concerns about our transportation system being prepared for the immediate impacts of more frequent heavy rainfall and flooding, as well as the short and long-term impacts of sea level rise. Residents also voiced their concerns about the ability for their communities to be able to enter/exit their neighborhoods to access things such as food and vital services, if roadways are closed due to severe disasters.

3.2 feet of sea level rise would cause 18 miles of Oʻahu's coastal roads to become impassible, and **displace over 13,000 residents**



## Objectives and Performance Metrics

**Table 2.5: Goal 4: Improve the resiliency of the transportation system**  
**FAST Act Planning Factor(s), Performance Measures, and Objective(s)**

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
<b>RESILIENCY AND RELIABILITY</b>	4.1.1 Redundant access for people with one road in and out	4.1 Provide redundant emergency access to all parts of Oʻahu, especially for people and emergency responders in singular access communities
	4.1.2 Bus service provision during emergencies	
	4.2.1 Percent of roadways within the 6 ft sea level rise exposure area	4.2 Reduce the long-term vulnerability of Oʻahu's transportation facilities, particularly flooding and sea level rise caused by climate change and disaster risks, while being conscious of environmental and cultural impacts



● **A KA'A'AWA RESIDENT** envisions a transportation future where we move high-risk coastal roads inland. This resident expressed the urgency to move these roads inland, now, as every year their community faces road closures due to the need for emergency repairs, and increased sea level rise and flooding will only exacerbate this.

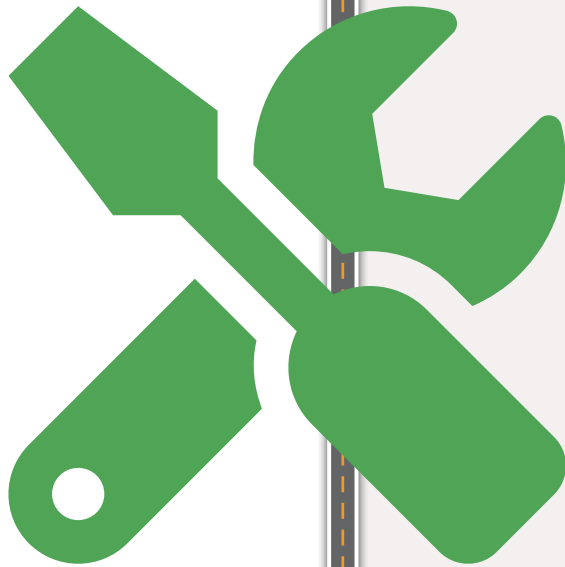
● **A KAHANA RESIDENT** envisions a transportation future where we raise Kamehameha Highway and other high-risk coastal roads to mitigate the impacts of sea level rise. This person advocated for raising the highway, rather than relocating the highway inland, to protect the freshwater sources present in their community.

● **A HAU'ULA RESIDENT** chose resiliency as their top priority, noting that any time there are landslides on Pali Highway and Likelike Highway, the Ko'olaupia community is severely impacted.

● **A NIU VALLEY RESIDENT** recognized that we live on an island and will be impacted by climate change. They mentioned that the floods of 2018 flooded Kalaniana'ole Highway, which impeded residents from going anywhere.

● **A KA'A'AWA RESIDENT** voiced concerns about whether O'ahu's transportation facilities are prepared for sea-level rise and flooding, especially Kamehameha Highway. This person noted that their community could lose a large portion of Kamehameha Highway due to impending disasters and the need to be prepared.





## GOAL 5:

# Preserve and maintain the transportation system

*Our path forward is maintained*

O'ahu, and Hawai'i as a state face unique maintenance challenges. Challenges related to O'ahu's location in a tropical zone, predominant coastal environment, geologic and topographic factors, and dependence on imported supplies make maintenance of our transportation facilities expensive and difficult. In addition, many of O'ahu's transportation facilities are vulnerable to the impacts of climate change and sea level rise, as discussed in the resilience section.

With the growing gap between funding needs and availability, there is a need to invest more in maintaining and preserving existing transportation facilities and extending the life of facilities to the

greatest extent possible. In addition, the ability to adequately invest in maintenance and regular replacement of aging transit vehicles has a direct impact on the safety, reliability, and overall quality of transit services

O'ahu residents recognized the need to better maintain our transportation facilities. Many voiced concerns about the quality of our roads, with potholes being a common concern. In addition, residents were concerned about the quality of our sidewalks, noting that some sidewalks were uneven and/or tree roots have uprooted the sidewalk. Others voiced their concerns about the quality of our transit vehicles and facilities.

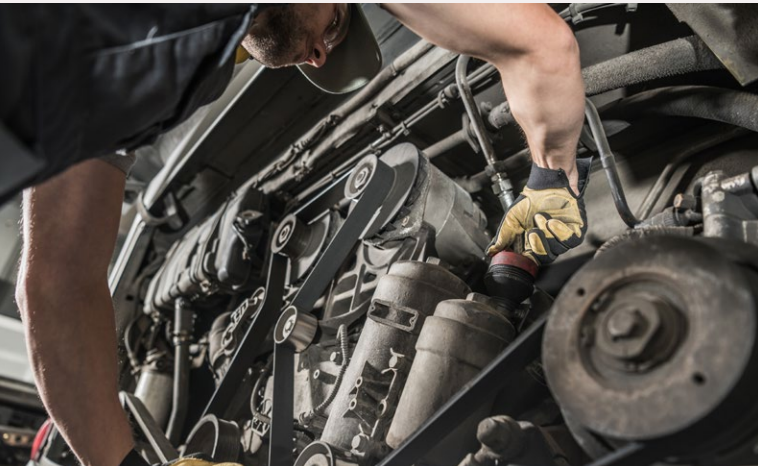
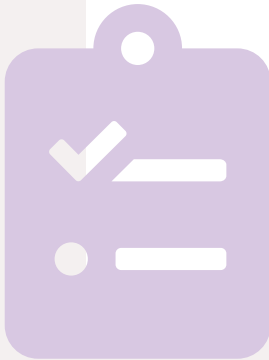


# Objectives and Performance Metrics

Table 2.6: Goal 5: Preserve and maintain the transportation system  
FAST Act Planning Factor(s), Performance Measures, and Objective(s)

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
PRESERVATION	5.1.1 Percentage of pavements on the Interstate classified in good condition	5.1 Maintain and improve the condition of roadways, bridges, transit vehicles and facilities, and pathways
	5.1.2 Percentage of pavements on the Interstate classified in poor condition	
	5.1.3 Percentage of non-Interstate NHS pavements classified in good condition	
	5.1.4 Percentage of non-Interstate NHS pavements classified in poor condition	
	5.1.5 Percentage of NHS bridge classified in good condition	
	5.1.6 Percentage of NHS bridge classified in poor condition	
	5.1.7 Percentage of transit revenue vehicles that have met or exceeded their useful life benchmark for articulated buses, buses, cutaway buses, and vans	
	5.1.8 Percentage of transit service vehicles that have either met or exceeded their useful life benchmark for automobiles, trucks, and other rubber tire vehicles.	
	5.1.9 Percentage of transit passenger and maintenance facilities rated below condition 3 on the condition scale for passenger facilities, passenger parking facilities, maintenance facilities, and administrative facilities.	
	5.1.10 Percentage of pedestrian and bicycle facilities in good condition and poor condition (information forthcoming in the O'ahu Pedestrian Plan and O'ahu Bicycle Plan)	

NHS: National Highway System

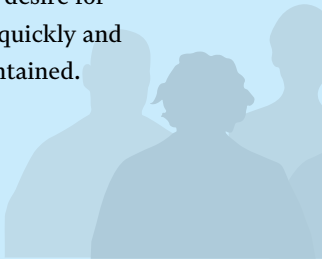


A **KĀHALA RESIDENT** recognized the importance of having a well-maintained transportation system. This person noted the safety implications, as well as its potential impacts on how people make their transportation choices. The participant indicated that residents may be more inclined to walk or bike, if those facilities are safe and well-maintained.

AN **ĀLIAMANU RESIDENT** envisioned a transportation future where all of our transportation facilities are well-maintained so that they are safer for pedestrians, bicyclists, and drivers alike.

A **MOKULĒ'IA RESIDENT** envisions a transportation future where we invest more in maintaining our roads. This person noted that for example, road repairs sometimes take months or years, before a repair crew is sent out to fix the issue.

A **KAPOLEI RESIDENT** noted that many of the roads they drive on are in poor condition, with many potholes. This person expressed the desire for potholes to be fixed more quickly and for roads to be better maintained.







## GOAL 6:

# Support a reliable and efficient transportation system

*Our path forward is reliable and efficient*

Due to our island geography, land-use patterns, and concentration of jobs in the primary urban core, about two-thirds of O'ahu residents drive alone to work (American Community Survey, 2018). Also referred to as single occupancy vehicles, driving alone exacerbates traffic congestion and commute times. In fact, from 2009 to 2017, O'ahu saw an 81% increase in the number of people (100 people to 181 people) who spend at least three hours commuting a day, even though the total work force only increased by 10.5% (Number of 'super commuters' in Honolulu jumps 81% since 2009, study finds, Pacific Business News, 2019). Compare O'ahu's 81% increase to the 32% nationwide increase in "super commuters", and it becomes apparent that island residents are

suffering from long commutes more so than many of our counterparts elsewhere (Number of 'super commuters' in Honolulu jumps 81% since 2009, study finds, Pacific Business News, 2019). Driving alone not only takes a toll on the reliability and efficiency of our commute, but also negatively impacts our air quality, quality of life, health, well-being, and our wallets.

O'ahu's freight network is a major component of the state's economic success. Freight supports jobs in freight-dependent businesses such as tourism and the retail trade. Approximately one-third of Hawai'i's economic output is directly dependent on freight—primarily the accommodation and food service, retail trade, and construction sectors

(Hawaii Statewide Freight Plan, 2018). These freight dependent sectors of the economy employ nearly 350,000 people, representing 38 percent of the total employment in Hawai'i (Hawaii Statewide Freight Plan, 2018). In addition, the freight network is needed to deliver the goods necessary for our island's survival. More than 80 percent of all goods consumed in Hawai'i are imported (Hawaii Statewide Freight Plan, 2018). The state is highly dependent on the efficient distribution of goods for survival. Freight operations generally operate so 90% of deliveries are on-time or earlier (Hawaii Statewide Freight Plan, 2018). Reducing the variability of travel time reduces the amount of extra time needed to ensure on-time deliveries and supports our economy.

# Objectives and Performance Metrics

Table 2.7: Goal 6: Support a reliable and efficient transportation system  
FAST Act Planning Factor(s), Performance Measures, and Objective(s)

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
RELIABILITY  ECONOMIC VITALITY	6.1.1 Percent of Persons-Miles Travelled on the Interstate are reliable	6.1 Improve the reliability of Interstate and Non-Interstate highways, freight networks, and transit
	6.1.2 Percent of Persons-Miles Travelled on the Non-Interstate are reliable	
	6.1.3 Truck Travel Time Reliability (TTTR) Index on Interstate System	
	6.2.1 Travel time of transit	6.2 Improve the efficiency of Interstate and Non-Interstate highways, freight networks, and transit

O’ahu, and the rest of the country have seen a steady increase in e-commerce, even before COVID-19 restrictions were put in place. More than 10 years ago, e-commerce was at 5.1% of total retail purchases, and it now accounts for 16% of total retail purchases (A decade in review: Ecommerce sales vs. retail sales 2007-2019, 2020). This significant increase in e-commerce has implications on our transportation system. Impacts locally have not been studied, but in general the impacts e-commerce has on our transportation system are increased congestion, vehicle miles travelled, local air pollutant emissions, and carbon dioxide emissions, especially with the rise of 2-day shipping, 1-day shipping, and even 1-hour shipping. As delivery times decrease, the environmental and societal

cost significantly increase (Keeping e-Commerce Environmentally Friendly—What Consumers Can Do, 2020). In order for goods to be delivered in a shorter period of time, delivery vehicles may depart before they are completely full, and the vehicle may not operate on an optimized route. Vehicles delivering goods with a one-day delivery timeframe can make 120-300 deliveries, while a vehicle delivering goods with a one-hour timeframe, can make only 10-15 deliveries (Keeping e-Commerce Environmentally Friendly—What Consumers Can Do, 2020). In theory, e-commerce should be the more environmentally friendly alternative to shopping in-store. When delivery vehicles drive an optimized route and operate when the vehicle is full, it produces less pollution and traffic congestion than if individuals

drove their personal vehicles to the store and back home. In reality, this is not the case for many people. People tend to buy one item at a time when online shopping, rather than multiple items, like when they shop in-person.

From 2009 to 2017, O’ahu saw an **81% increase** in the number of people who spend **at least three hours commuting** a day

(Pacific Business News, 2019)



O’ahu residents shared their concerns about the reliability and efficiency of our transportation system, with many of them worried about getting to work and school on time. Others have expressed their frustration with their long commutes driving and/or on TheBus. Some of those who ride TheBus revealed stories about how buses arriving early and late, or not arriving at all have negatively impacted their perception of TheBus as a reliable means of transportation.



# COMMUNITY VOICES

## Reliability

- **A KAPOLEI** mother drives her two children to different schools, on different parts of the island. She conveyed the importance of having a reliable and efficient transportation system so that she can get her children to school on time, and herself to work in a timely manner.
- **A KAHANA RESIDENT** stated that due to the dangerous conditions of roads in Kahana, the road is often closed due to the weather, crashes, etc. This person expressed the desire to know about road closures ahead of time, so they know what to expect, or choose to take their trip another time. At the moment, this person gets road closure information from a community Facebook group.
- **A KAHANA RESIDENT** expressed the importance of a reliable transportation system so that they can get to their job on time. This

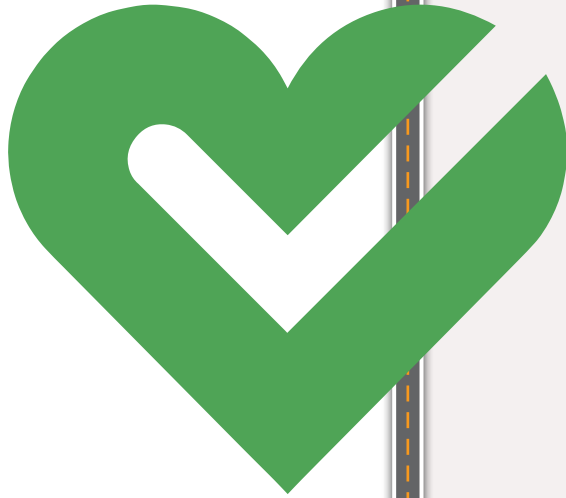
person revealed that they leave their house at 6:00AM in order to have a more reliable commute due to traffic congestion. However, they indicated that flooding and rockfalls have impacted their commute in the past, and that leaving early helps them to take into consideration unexpected occurrences.

- **A HAU'ULA RESIDENT** shared that they visit their Mom in town on the weekends and conveyed the importance of a reliable transportation system. This person expressed that it is really difficult for them to know whether they should drive the long route due to unexpected delays.
- **A HALE'IWA RESIDENT**, who runs a tourism company mentioned that clients increasingly do not want to rent a car when they visit O'ahu. However, many of them feel obligated to, as public transit is not reliable. This person noted that they have traveled to Japan, Singapore, and places in Europe, and enjoy using those public transit systems because one can get anywhere reliably and efficiently.
- **A MILILANI RESIDENT** recognized that the economy is impacted by the movement of goods. This person envisions a transportation future where we improve the coexistence of commercial and private vehicles on the road. For example, it was suggested that we consider not allowing freight vehicles on the road during peak traffic hours.

## Efficiency

- **A KULI'OU'OU RESIDENT** envisions a more efficient and reliable transportation future by staggering school start times and increasing the number of students using school buses. This person noted that traffic is less congested when school is out.
- **A HALE'IWA** student used to catch the bus to the University of Hawai'i at Mānoa. However, this person no longer catches the bus because of increasing commute times. This participant would like to catch the bus to campus but would like to see TheBus be more efficient.
- **A PŪPŪKEA RESIDENT** noted that there is a lot of traffic near Laniākea Beach. This person envisions there being a park-and-ride in a nearby community, and a shuttle service to Laniākea Beach to mitigate traffic and safety concerns in the area.
- **A WAIĀHOLE RESIDENT** chose reliability and efficiency as their top priority as they felt that traffic lights can be improved and synchronized to facilitate better traffic flow.





## GOAL 7:

# Improve air quality and protect environmental and cultural assets

*Our path forward has better air quality and enhanced and protected environmental and cultural resources*

Ground transportation produces  
**20% of all carbon pollution**  
on O'ahu

(Ola O'ahu Resilience Strategy, 2019)



### Air Quality

In 2017, the City and County of Honolulu committed to achieving 100% renewable fuel use for ground transportation for all City fleets by 2035 and all private vehicles by 2045. This is of particular importance for the health and well-being of the island, and its people, as ground transportation emissions make up a fifth of all carbon pollution on O'ahu (Ola Oahu Resilience Strategy, 2019). In addition, our reliance on imported energy keeps us exposed to price volatility and high annual transportation costs.

Transforming our transportation system to use renewable fuels and/or non-automotive modes will not only decrease greenhouse gas pollution, but it will also reduce our island's dependence on imported crude oil and lower operating, maintenance, and other long-term costs. It will improve ambient air quality and public health by reducing respiratory ailments associated with petroleum pollutants, as well as has the potential to decrease noise pollution.

## Environmental and Cultural Resources

O'ahu is home to a unique variety of plant and animal species. Often nicknamed the “Endangered Species Capital of the World,” the State of Hawai'i is home to 437 threatened and endangered species (U.S. Fish and Wildlife). Given that O'ahu is the most developed and populated island in the Hawaiian chain, plant and animal species often face greater threats of the loss and degradation of habitats, due to the negative impacts of the existing transportation system, construction of transportation projects, and stormwater runoff. These concerns may also apply to impacts on our cultural resources.



## Objectives and Performance Metrics

**Table 2.8: Goal 7: Improve air quality and protect environmental and cultural assets**  
**FAST Act Planning Factor(s), Performance Measures, and Objective(s)**

FAST Act Planning Factor(s)	Performance Measure	Objective(s)
<b>ENVIRONMENT, ENERGY CONSERVATION, AND QUALITY OF LIFE</b>	7.1.1 Nitrogen Oxide emissions related to ground transportation	7.1 Reduce ground transportation greenhouse gas emissions
	7.1.2 Volatile Organic Compounds emissions related to ground transportation	
	7.1.3 Particular Matter (PM2.5) emissions related to ground transportation	
	7.1.4 Carbon monoxide emissions related to ground transportation	
	7.2.1 Number of projects located outside of a 150ft buffer of Hawai'i Department of Land Natural Resources (DLNR) Conservation Resource Management Areas, C1 (High Conservation Resources) and C2 (Medium Conservation Resources)	7.2 Enhance and protect cultural and natural resources
	7.2.2 Number of projects located outside of a 150ft buffer of Watershed Protection Priority Areas*	
	7.2.3 Number of projects located outside of a 150ft buffer of Natural Resources Areas*	
	7.2.4 Number of projects located outside of a 50ft buffer of historic sites	

\* Includes areas owned and/or managed by state and local agencies, as well as private parties

## Air Quality

- A DOWNTOWN RESIDENT** who works in conservation recognized the importance of how our transportation choices impact the natural environment. Because of the work they do, this participant chose resiliency and environment as their top transportation priority as they feel we need greater investment in alternative modes of transportation that wouldn't have detrimental impacts on the environment, such as bike lanes and pedestrian walkways.
- A MĀNOA RESIDENT** envisions a transportation future where vehicles, including buses don't pollute the air. This person chose health and air quality as their top priority recognizing the negative impacts that conventional vehicles have on our air quality.

## Environmental & Cultural Resources

- A KALIHI RESIDENT** envisions a transportation future where we prevent cars from accessing environmentally sensitive areas. This person noted the negative impacts cars and people can have on these areas, including habitat destruction, erosion, and rubbish left in these areas.

