

# MAUNAKEA SHUTTLE

## Conceptual Pilot Program Proposal

Submitted by

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### I. PURPOSE

Develop and implement a pilot shuttle system for transporting multiple persons operating on a schedule for the visiting public seeking access to, and within the University of Hawai‘i managed lands.

### II. GOALS AND OBJECTIVES

1. Address the concerns of Governor Ige regarding access as outlined in his 10-point plan for better stewardship for Maunakea
2. Develop operation logistics, for example, shuttle scheduling, fee structures, and personnel requirements, and reservation systems
3. Determine operations and economic feasibility of operating a shuttle program,
4. Reduce visual and physical impacts to the cultural, natural and scientific resources by limiting the number of individual vehicles traversing in the UH managed lands
5. Provide safe transportation to visitors using drivers trained in first aid and experienced in driving on the unimproved, steep roads with sharp bends to the summit area of Maunakea
6. Educate visitors about the cultural and natural history of Maunakea; cultural significance to Native Hawaiians and safety information on visiting Maunakea

### III. BACKGROUND INFORMATION

Information below is provided by the Office of Maunakea Management

#### **Governor Ige’s 10-Point Plan for Better Stewardship**

In 2015, following a visit to the summit of Maunakea and observing the large number of people who were there to view the sunset, Governor Ige announced a 10-point plan for better stewardship of Maunakea. One of the actions of his plan called for moving “access rules that significantly limit and put conditions on non-cultural access to the mountain expeditiously through the process.”

#### **Administrative Rules governing public and commercial activities**

In compliance with the State Auditor’s 1998 report on the management of Maunakea, the University sought legislative authority to promulgated administrative rules governing

public and commercial activities on UH's managed lands on Maunakea. After several years the legislature granted the University the authority to promulgate rules. Hawai'i Administrative Rules, Chapter 20-26, on the University's managed lands, were developed and approved by the Governor in January 2020. Regarding vehicular access HAR §20-26-38(b)(2), states:

“Access by private vehicles may be restricted for public safety and welfare, for the protection of resources, and to reduce congestion. Restrictions may include, but are not limited to, setting a maximum number of private vehicles allowed within the UH management areas at a time, restricting the areas in which private vehicles may operate, or utilizing shuttle vehicles in lieu of private vehicles. “

### **Vehicle Numbers Exceed Available Parking**

The number of vehicles driven by independent travelers has increased significantly over years and with this increase a corresponding increase in the number of visitors (See Figure 1). Parking at the Visitor Information Station (VIS) is limited to about 50 paved parking stalls and approximately 40 additional spaces for vehicles to park in a nearby gravel lot.

When the lots fill up, visitors park on adjacent DLNR dirt roads and surrounding areas that are not designated or designed for parking. Along the road adjacent to UH's parcel is an archaeological site of concern to DLNR. This, plus the impact to the physical condition of UH's neighbor's land, is of concern to UH. The number of vehicles that go to the Visitor Information Station (VIS) during the late afternoon/evening period, exceeds the number of parking stalls. When the VIS was offering public star gazing the high volume of vehicles overwhelmed the staff's ability to control parking and overflow parking spilled onto DLNR's lands.

Figure 2 shows there is a greater number of vehicles that drive to the Halepōhaku compared to the summit particularly during the 4 pm – 7 pm period, the sunset/star-gazing period. During 2018 the VIS was still offering stargazing, although on a limited number of days per week.

### **Visitor Profile**

A survey of visitors to Maunakea in 2012 was conducted by the University of Hawai'i at Hilo's Sociology Department. This survey focused on the peak time of visitors during the period of sunset and stargazing. The survey which included two seasonal counts were Spring and Summer found that 65% and 69.1% of the vehicles surveyed during the Spring and Summer, respectively, were rental vehicles driven by tourists. In comparison, 19% (Spring) and 17.8% (Summer) were privately owned vehicles.

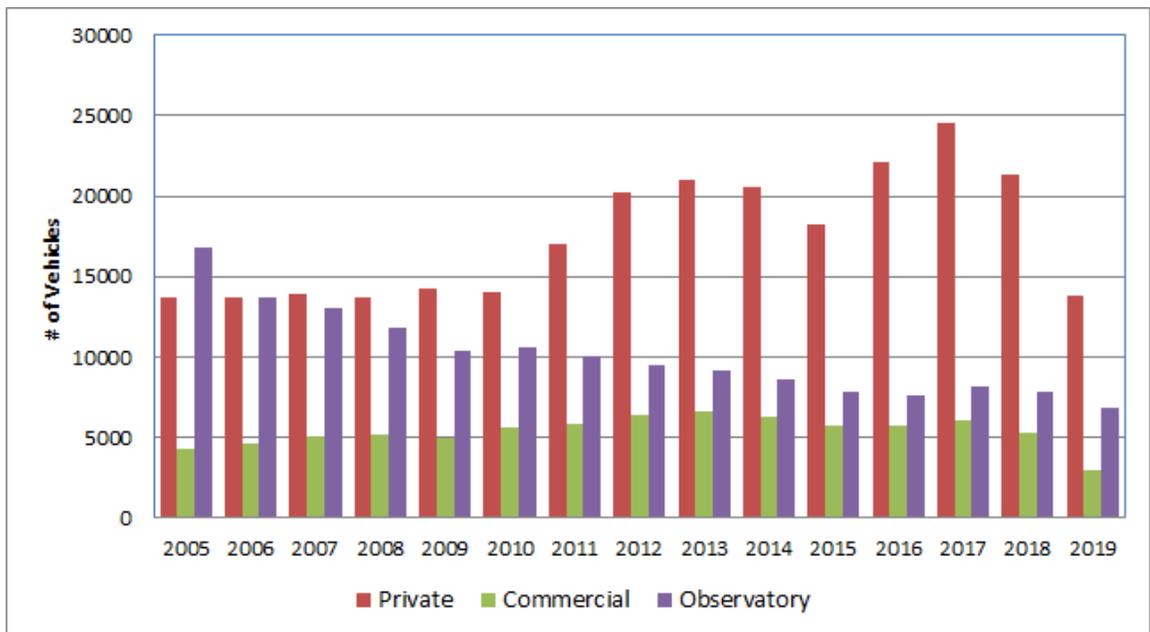


Figure 1. Number of vehicles driven by observatory personnel, commercial tours and private (independent) travelers. Note: 2018 and 2019 are not considered normal years. In 2018 the volcanic eruption impacted the number of visitor arrivals to the island. In 2019, the VIS was closed due to construction and the road to the University’s managed lands, including the summit, was closed from the middle of July to the end of the year due to protests. Source: Office of Maunakea Management.

The survey also included a breakdown of the purpose of the visits to the Maunakea:

	Spring (%)	Summer (%)
Visit an observatory	33.9	32.9
Cultural practices	6.4	4.6
Play in/see snow	5.5	1.0
Watch the sunset	56.6	59.6
Star gazing	74.9	66.8

According to the Office of Maunakea Management, the average number of people on the summit during the sunset period is about 277 of which 154 are transported by permitted commercial tour operators and 123 are tourists driving on their own.

### Safety

Maunakea is natural visitor attraction. It is the highest point in the Pacific and a people (tourists) can drive from sea level to summit in little over 2 hours and enjoy the spectacular vistas and sunset. However, many people are not aware of the hazards of visiting the mountain. The Office of Maunakea Management (OMKM) has a brochure for visitor called “Visiting Mauna Kea Safely and Responsibly”. This brochure describes the physical hazards to one’s health that could occur while visiting the summit, which is about 14,000 ft above sea level, especially for people with health conditions, pregnant women and those who may have gone scuba diving within the past 24 hours. The brochure also describes hazards driving on a steep, winding and gravel road and the need to use 4-wheel drive vehicles.

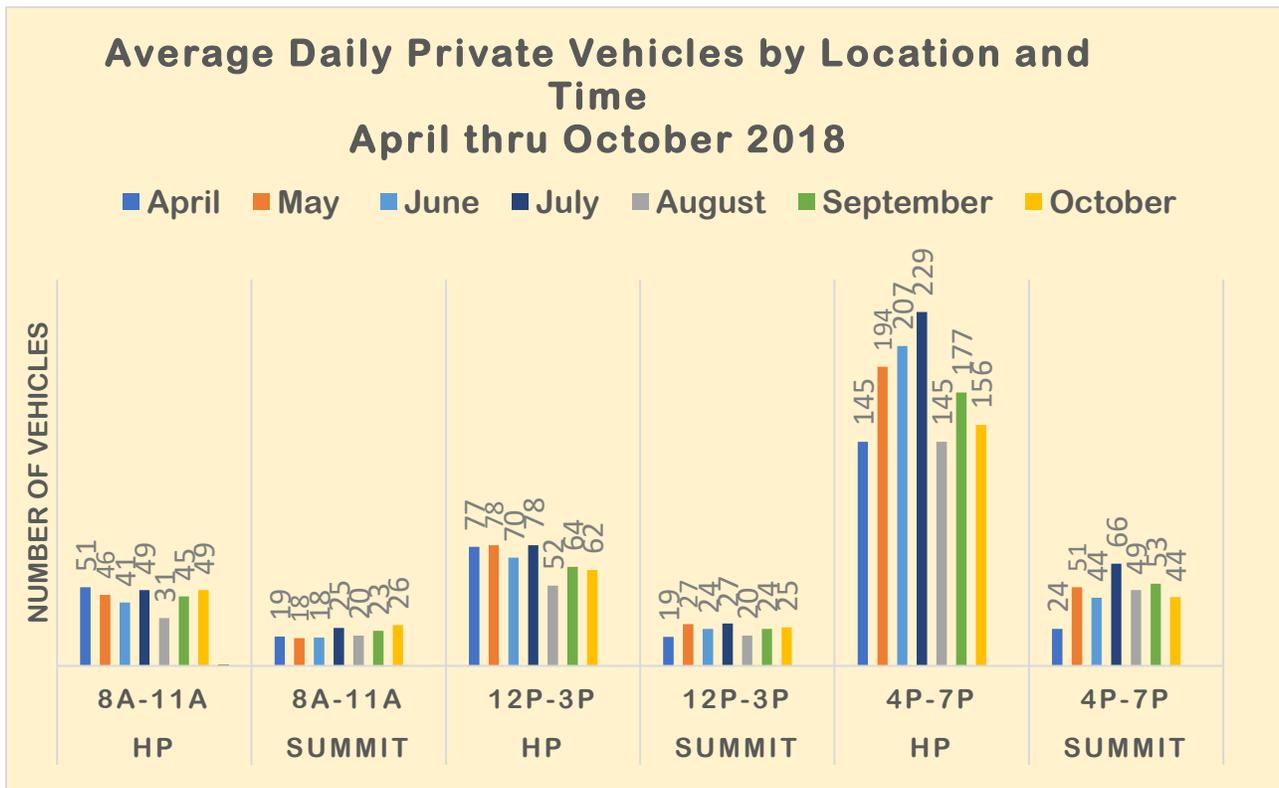


Figure 2. Comparison of the number of vehicles go to Halepōhaku (VIS) vs. summit by time of day. Note: In Mid December 2018 public star gazing was suspended due start of construction of the ingress/egress that added additional visitor parking. Source: Office of Maunakea Management.

A shuttle system would help mitigate potential health related incidents by informing people of the hazards of visiting high altitudes, ensuring passengers are properly acclimate at the VIS before ascending the summit. The shuttle system will comply with PUC regulations regarding the transport of people and with the University’s policy requiring adequate insurance and will include UH and the State as an additional insured to the shuttle enterprise’s policy. The shuttle will employ drivers who are trained to drive on the road reducing potential accidents, and will be certified to administer first aid.

#### *Education and Outreach*

An important aspect for those visiting Maunakea, especially out-of-state visitors, is understanding the cultural history of Maunakea and why it is significant to Native Hawaiians. While on the shuttle, the drivers will serve can help to educate visitors not only about the cultural importance of Maunakea, but the mountain’s environmental uniqueness and the history of astronomy and why the mountain is best place on earth to do land-based astronomy.

#### **IV. SHUTTLE SCHEDULE – PHASED PROGRAM**

This is a pilot program to develop and implement a shuttle system to transport people from a designated area (to be determined by the Department of Hawaiian Home Lands) near the Saddle road and Maunakea Access road junction to the VIS, and from the VIS to the

summit. The plan is to implement a phased program starting with a limited schedule working up to a full day's schedule, if it is determined to be necessary and practicable.

### **University of Hawaii's and Governor's concerns**

Given the University's desire to implement a program to manage access, implementing a shuttle system as Hawaii begins to emerge from restrictions imposed on travelers to Hawaii due to COVID-19 conditions, may be an ideal time. Introducing the shuttle program while visitations are relatively low, provide opportunities to work out logistics, operations, fee schedules and other management activities. Due to restrictions on visitors to Hawaii, marketing efforts have slowed making it a good time to start anew regarding educating visitors about how to visit Maunakea. Social media in particular is a good way to get the word out that to access the upper elevations of Maunakea is by shuttle.

To address the Governor's concerns, Phase I of this shuttle proposal is designed to limit the number of private vehicles, in particular to the summit region, and, hence reduce the number of people. Phase II will include a shuttle system between an area designated by DHHL on their property near the Saddle Road and Maunakea Access Road junction, as an appropriate area for a shuttle pick-up/drop off point and parking lot for visitor vehicles.

### **Phase Ia – Sunset shuttle service between the VIS and the Summit**

#### ***Objective:***

- 1) Address the Governor's concern about limiting the number of vehicles and people on the summit during the heaviest visited time of the day by managing non-cultural visitation.***
- 2) Provide safe transportation.***
- 3) Educate visitors about the significance of Maunakea from a cultural, environmental and scientific perspective.***
- 4) Reduce wear and tear of the gravel road by limiting the number of vehicles.***

The COVID Pandemic and the resulting virtual shutdown of tourism to the island resulting in low visitor counts to Maunakea provides an opportunity to initiate a pilot program to explore various options regarding shuttle schedule, passenger limits at the summit, and fees.

Until such time when the State fully opens up to transpacific travelers and the number of vehicles to the VIS approaches parking capacity, the initial shuttle service will be between the VIS and the summit (Summit Run) during the sunset viewing period.

#### **Schedule and Reduction in Number of Vehicles**

Based on pre-COVID estimated daily visitor counts on the summit at sunset and limiting that number to address the Governor's and University's concerns about too many people, an average 47 visitor vehicles would be replaced by 4 shuttle vans.

The concern by the Governor was that the number of people he observed while on his 2015 visit to the summit during sunset was too many. It is suggested for this pilot program that an initial number of Free and Independent Travelers (FIT), that is, visitors who drive on their own to the summit, be limited to about 40, approximately 1/3 the total estimated number of FITs on the summit (see discussion above under Visitor Profile in the section III. Background Information). Changes to the maximum allowable number of FITs will require discussions with UH.

Many visitors to the mountain are unfamiliar with driving on the steep, winding, gravel road. Rangers help educate visitors about engaging their vehicles in low gear while descending the mountain as well as helping drivers engage their vehicles in 4-wheel drive. Visitors may not be aware of health-related hazards of venturing to high altitude areas, or are unfamiliar with the symptoms of the onset of altitude sickness, which can be life threatening. Finally, visitors are not likely to know or understand the cultural, environmental or scientific significance of Maunakea, the shuttle driver can provide a talking tour as he drives his passengers to the summit.

### **Phase Ib – Daytime prior to sunset shuttle service between the VIS and the summit**

***Objectives: See Phase Ia.***

Daytime travel is not as busy compared to the sunset period. If the visitor industry on Hawai'i Island recovers sufficiently that it become economically feasible, the shuttle service can be expanded to the daytime hours. According to the Office of Maunakea Management, vehicles begin arriving at the summit around 8 or 9 am and picks up slightly in the mid-afternoon.

#### **Schedule and Reduction in Number of Vehicles**

It is suggested a schedule for non-sunset viewing times could begin in the morning run throughout the day with the last shuttle departing before the sunset shuttles. Nine shuttle van runs would replace the average of 55 vehicles traversing to the summit per day during the daytime hours prior to sunset.

### **Phase IIa – Sunset shuttle service between the parking area near the Saddle Road and Maunakea Access Road Junction and VIS.**

***Objectives:***

- 1) Reduce traffic congestion and eliminate overflow parking onto the Department of Land and Natural Resources' neighboring Forest Reserve land.***
- 2) Reduce impacts to Forest Reserve lands due to overflow parking***

***Assumption:***

- 1) Nightly stargazing will resume at the VIS***
- 2) VIS normal hours of operations will be 9 am – 9:30 pm***

Shuttle service between the shuttle parking area near the Saddle Road and Maunakea Access Road junction (hereinafter referred to Saddle Road junction) can begin following the resumption of travel for out-of-state visitors to Hawai'i Island and/or the lifting of the 2-week quarantine. The recovery of tourism to the island along with the resumption of star gazing at the VIS will result in a significant increase in the number of vehicles to Maunakea, especially at the VIS. The 2012 survey of visitors to Maunakea (see Visitor Profile under Section III, Background Information) indicated that star gazing was the primary purpose for visiting Maunakea. This popular program draws a large number of visitors as indicated by the number of vehicles that go to the VIS. As shown in Figure 2 above, there are nearly 4 times more vehicles that go to the VIS during the sunset period compared to the number of vehicles that drive to the summit.

### Schedule and Reduction in Number of Vehicles

A suggested schedule would have shuttles departing the Saddle Road junction parking area for the VIS beginning in the late afternoon and continuing at regular intervals to drop off customers in time to board the sunset shuttles. Alternatively, all sunset shuttles can depart from the Saddle Road junction parking area instead of from the VIS. Non-summit-sunset shuttles could depart the Saddle Road junction parking area later but in time to arrive for the start of star gazing at the VIS. The average number of visitor vehicles, 179, would be replaced by 16 shuttle van runs during the 4 pm – 7 pm time period,

### **Phase IIb – Daytime shuttle service between the parking area near the Saddle Road and Maunakea Access Road junction and VIS**

***Objectives: See Phase IIa.***

The shuttle service between the Saddle Road junction and the VIS can be expanded upon recovery of tourism to the Island of Hawai‘i. Currently, visitor levels to the mountain is very low due to the COVID-19 pandemic and it is not economically viable to run a daytime shuttle service to the VIS. Compared to the average daily number of vehicles that go the VIS during the sunset period (179 vehicles), the average daily daytime vehicle counts (between 8 and 11 am, and 12 pm -3 pm) is considerably less (Table 1).

Currently there is ample parking at the VIS to accommodate the low visitor numbers. However, following the resumption of transpacific travel without the 2-week quarantine and with observed increases in vehicular traffic to Maunakea, the shuttle service should be implemented to establish a system that will be picked up by social and travel media and reported as “how to visit Maunakea.”

Table 1. Average daily number of vehicles that go only to the VIS.

Time of Day	Average Daily Number of Vehicles to the VIS
Daytime (8 am – 11 am)	45
Daytime (12 pm – 3 pm)	69
Sunset (4 pm – 7 pm)	179

### Schedule and Reduction in Number of Vehicles

Daytime shuttle service from the Saddle Road junction parking area could begin in the morning to coincide with the opening of the VIS. The estimated average of 114 visitor vehicles during the 8 am – 4 pm time period would be replaced by 7 shuttle van runs.

#### **Note about suggested schedules**

The overview of schedules presented below apply to non-COVID-19 conditions, or what is anticipated once tourism bounces back to “normal conditions.” It is anticipated that during the period when tourists beginning to return to Hawai‘i Island this pilot program can be implemented with downward adjustments to the schedule and number of vans. As tourist numbers pick up, the schedule will be adjusted to accommodate the growing number of visitors, demand, and preferences. The schedules are also based on the resumption of nightly stargazing at the VIS. Schedules were based on vehicle information provided by OMKM. Detailed schedules are available upon request by the University.

### **Shuttle schedule is subject to change**

As discussed above, the shuttle service schedules listed above are suggested schedules and are subject to modification based on discussions with the University, implementation experience, public demand and volume. The University will work with the shuttle vendor to determine the maximum number of people that can be accommodated during the various time periods. The schedule will depend heavily on visitor arrivals to the Hawai‘i Island.

### **Passenger Accounting**

Hui Ho‘olako will maintain a reservation system that will take and record advance reservations for shuttle space as well as “walk-up” passengers. Personnel will be stationed at the Saddle Road junction, including security and shuttle assistants.

Due to the remote location of the Saddle Road junction, no financial transactions will occur at that location. Instead all financial transactions will occur at the VIS. A reservationist and shuttle assistant will be stationed at the VIS to issue tickets and collect fees.

## **V. TRANSPORT VEHICLES**

Vehicles used to transport passengers will be 4-wheel drive vans not to exceed 14 passengers, plus the driver. These are similar to the vans currently allowed by the University’s permitted tour operators. All vans will be PUC registered and certified, driven by individuals who meet the legal requirements for transporting paid passengers.

## **VI. FISCAL PROJECTIONS**

Hui Ho‘olako projected passenger fees for the various phases. Table 2 provides ranges of fees that could be charged based on fees charged for tour operations on Hawai‘i island, the remoteness and uniqueness of Maunakea, visitor demand, and conditions imposed by the Governor and the University to limit the number of vehicles/people on the summit.

Table 2. Passenger fees.

	Phase Ia VIS – Summit Sunset	Phase Ib VIS – Summit Daytime	Phase IIa Saddle Road – VIS Sunset	Phase IIb Saddle Road – VIS Daytime
Passenger Fee	\$55-70	\$40 -55	\$20 -35	\$20 - 35

Details of revenues and expenses were projected for all phases and are not provided in the proposal but can be discussed with the University upon request.

In general, revenues are based on an estimate of average number people who visit the summit and those who only visit the VIS. Given the remoteness of the location, the only form of public transportation to access the summit and VIS, and relatively high demand for access to UH’s management lands, especially during sunset and stargazing, revenues for the combined phases could run into several millions of dollars.

Expenses were determined based on experience and information running commercial tour operations on Hawai'i Island and operating under conditions on the mountain. Being that this a pilot project, the project plans on using contract workers instead of hiring employees, which is generally a large percentage of operating expenses. The project will be required to pay UH a proportional share of road maintenance and VIS operating expenses, similar to what UH permitted commercial operators are charged. What is not included as part of expenses are lease rents, building maintenance costs and other vendor - land owner fees. These are to be negotiated with UH and DHHL.

Conducting operations at the shuttle parking area on DHHL lands, which lacks infrastructure, will result in reduced maintenance costs, but will require equipment needed to operate in such a venue, amenities such as portable restrooms, and security. It is anticipated that as DHHL moves forward with its Aina Mauna program, infrastructure will be installed to accommodate future commercial activities including parking. Or the vendor, in lieu of paying lease rent or a user fee, can provide some infrastructure improvements.

Net revenues for just the summit shuttle service for sunset only and daytime service ranges from about \$410,00 to about \$1.4 million, before lease rents and user fees. Net revenues for the Saddle Road to the VIS is, as expected, to be much higher than those for the summit tours because there is a greater number of visitors that go only to the VIS, in particular during the late afternoon and star gazing period. The vendor will work closely with UH on reviewing visitor counts to the VIS to establish more accurate estimates regarding revenues for Phases IIa and IIb.

## **VII. DURATION**

This pilot program should operate for a minimum of five years, subject to renewal or conversion into a permanent program. In consideration of the uncertainty in the recovery of tourism to the Big Island, the minimum duration should be adjusted upward if the recovery is delayed by future shutdowns of flight travel and is slower than expected.

## **VIII. UNIVERSITY OF HAWAI'I**

This pilot program will be executed in collaboration with the University of Hawai'i. The program is designed to meet the needs of the University that reduces: 1) impacts to the resources and infrastructure by providing a means for reducing vehicular access; 2) conducting and providing a transportation service that respects the mauna; 3) providing safe transportation for visitors; and 3) educating passengers about the cultural, environmental and scientific significance of the mountain.

### **University of Hawaii's responsibilities**

The shuttle operator acknowledges that the University is responsible for establishing policies and procedures regarding access. One such policy involves:

- access concerning State of Hawai'i residents, cultural practitioners and hunters

It is also anticipated that the University will be responsible for:

1. Outreach, education, and conducting an awareness campaign prior to the start and during the early period following commencement of the shuttle service
2. Enforcing the shuttle program once it is launched

### **Coordinated activities with the University**

There are a number of activities that shuttle operator will coordinate with the University:

1. Shuttle service schedule
2. Determination and periodic review regarding limits on the number of vehicles and people accessing UH's managed lands
3. Financial and statistical reporting requirements, including passenger counts, number and van runs to used to assess a fee to help with maintenance of the road and VIS services
4. Determination of an acceptable maximum number of people allowed at any one time on the summit and at the VIS
5. Space for transacting business at the VIS and use of a portion of the old construction cabin for office space

## **IX. DEPARTMENT OF HAWAIIAN HOME LANDS (DHHL)**

The shuttle operator shall work with DHHL on access and use of an area between the Saddle road - Maunakea Access road junction and the Humu'ula Sheep Station for a shuttle staging area where people wishing to access the higher elevations of Maunakea can park their vehicles and catch the shuttle.

## **X. LONG TERM VISION**

It is the vision of Hui Ho'olako, for the University to enter into long-term collaboration with the community on programs that provide mutual benefits for the community, including the native Hawaiians, and the University. The shuttle program is considered the first of other collaborative community programs, as well as the first leg of a visitor experience program.

Once the shuttle system is fully-operational, the next step would be to provide visitors to Maunakea with a cultural, environmental, and scientific experience, culminating with star gazing blending Hawaiian and western perspectives. Hui Ho'olako considers operating the shuttle and the VIS as a means of providing a well-rounded, fully integrated access management program. Such a program would help UH achieve its management goals and respect for Hawaiian culture, as well as meet the educational aspect of its mission.

## **XI. ABOUT HUI HO'OLAKO**

Hui Ho'olako is a 501(c)(3) organization whose purpose is to:

1. Identify, evaluate, recommend, and implement and guide, manage, coordinate or oversee activities that: a) promote relief to the poor, distressed, or underprivileged; b) lessen neighborhood tensions; c) combat community deterioration, and d) perpetuate Native Hawaiian quality of life and values that dignify life for local Big Island residents and residents of the State o Hawai'i.

2. Advance, when possible, education or science by providing information for, or providing scientific or educational material, or coordinating/conducting forums, panels, lectures or other community outreach with a focus on enhancing the knowledge, skills, and education of beneficiaries and the community.

The objectives of Hui Ho'olako is to:

1. Identify projects that have high value or significant positive impact for the Department of Hawaiian Home Lands and its mission.
2. Take an active interest in civic, economic, social, health and moral welfare of our community including those of Hawaiian ancestry

FOR BOARD CONSIDERATION