

# Tuesday, October 3, 2023

## MAKAI



2:00 - 2:45 **(Group 1)** Hawaiian Telcom: Building Fiber for Our Future



**Daniel Masutomi**  
*Director – Strategic  
Business Development &  
Network Planning &  
Engineering  
Hawaiian Telcom*



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*Senior Manager  
Network Planning & Sub-Sea  
Cable Systems  
Hawaiian Telcom*

2:55 - 3:40 **(Group 2)** Hawaiian Telcom: Building Fiber for Our Future

4:00 - 5:00 Informal networking session with light snacks

# Project URGENT - NTIA Middle Mile

**Hawaiian Telcom**

Dedicated to serving Hawaii, our home.

**Presentation to the Broadband Ho'ike  
October 3, 2023**

# Why Build Fiber Network?

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# Need for Broadband Continues to Grow



- The need for fast, reliable, and affordable broadband is present in every facet of our lives:
  - Workplace
  - Institutions of Education
  - Health Care
  - Employment
  - Government and Social Services
  - Commerce & Banking
  - and More

# Future-Proofing Our Network



- Future-proofing a network always starts with identifying the need, assessing the vulnerabilities, minimizing environmental effects, and ensuring we are able to manage and consistently maintain the network for the long term.
- Hawaiian Telcom's approach:
  - Continue to look at first mile alternatives to provide diverse options and opportunities to improve service quality
  - Identify key middle mile routes needed to extend and improve network infrastructure.
  - Look at long-term effects of climate change and its impacts on our islands
  - Continue to look at federal opportunities and partnerships to invest in expanding affordable and reliable high-speed internet access to unserved and underserved communities across the state.

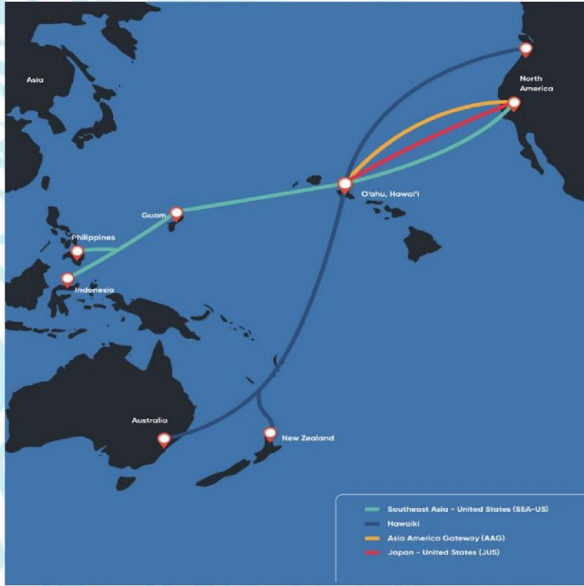
# Network Overview

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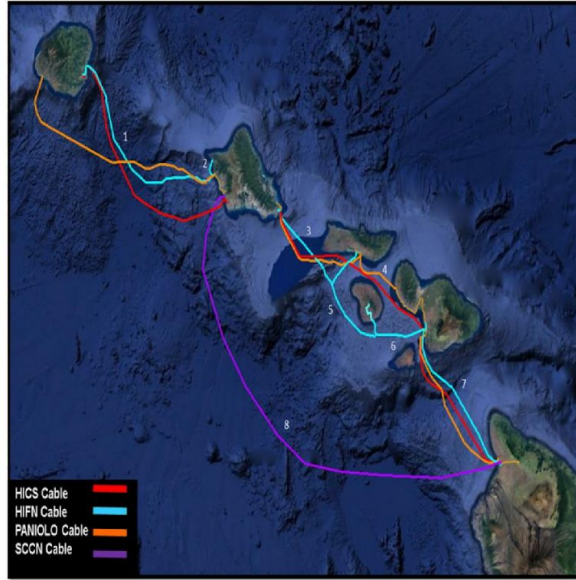
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# Network Overview



## First Mile

Network fiber and elements that connect **Hawai'i** to the Internet and World



## Middle Mile

Network fiber and transport elements connecting our Islands and Central Office together



## Last Mile

Network fiber and equipment that connects our customers to the Internet

# Network Overview

## First Mile

- Submarine Cables are our connections to the Internet
  - SEAUS
  - Hawaiki
  - Japan-US (retired July 2023)
  - Southern Cross Cable Network
  - Future 4th cable
- Types of traffic
  - IP Transit Traffic (aka Internet),
  - Peering Links - Google, Amazon, Akamai, Facebook, Netflix, etc.
  - Carrier Transport
  - Customer circuits


## Middle and Last Mile

- Submarine Cables
  - Hawai'i Inter-Island Cable System (HICS)
  - Hawai'i Island Fiber Network (HIFN)
  - Paniolo Cable Network (PCN)
  - Southern Cross Cable Network (SSCN) – leased capacity
  - Future Segments – NTIA Middle Mile Grant
- 6,000 sheath miles of Inter-Office Fiber Cable and Last Mile Fiber



# Middle Mile Project (NTIA)

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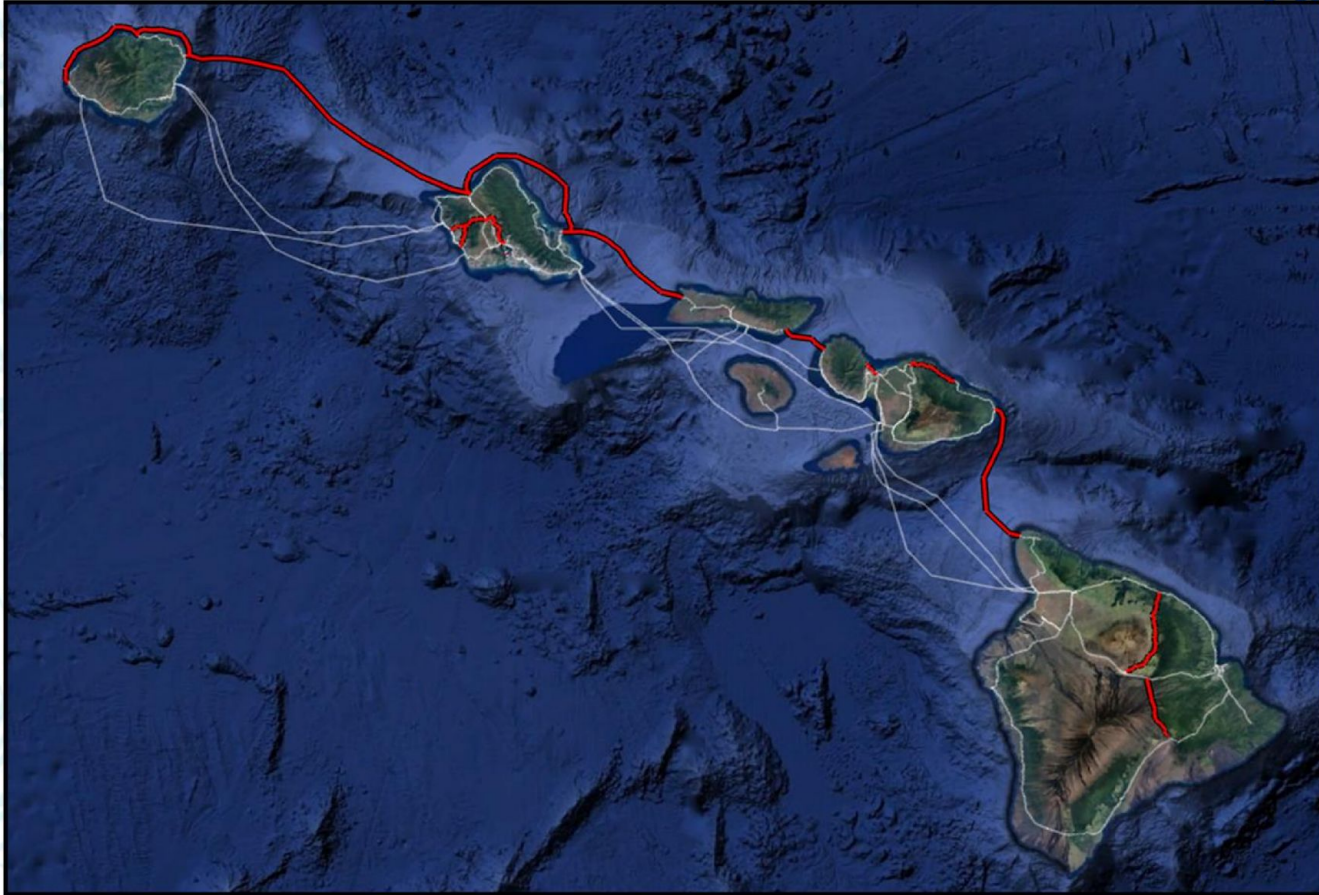
# Overview

The following slides are the Middle Mile routes submitted by HT as part of our Middle Mile grant application to NTIA filed in September 2022 and approved on June 16, 2023

Project requires matching funds from awardee:

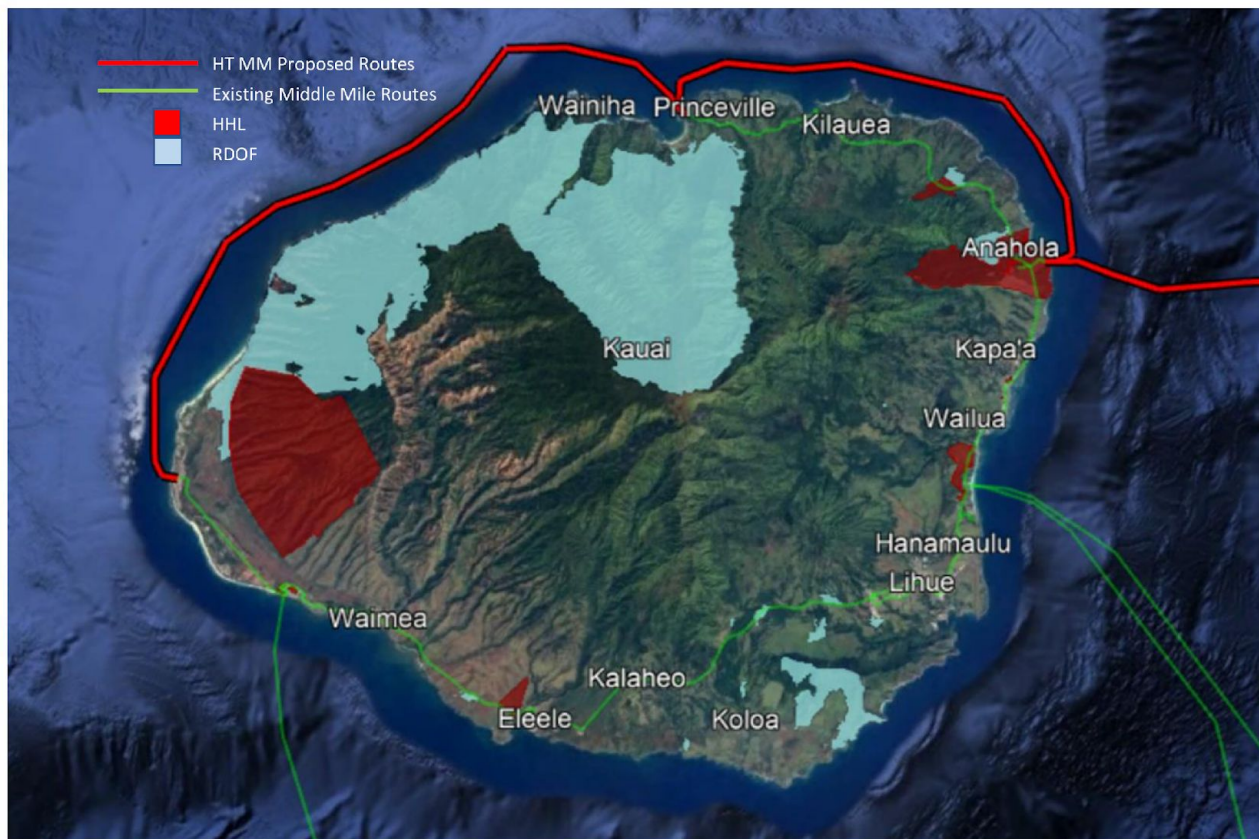
- Total NTIA Grant Awarded to HT: \$37,356,954.00
- In addition, HT will match well over 50% of the entire project's cost from its own funds

# New Middle Mile High Level Overview



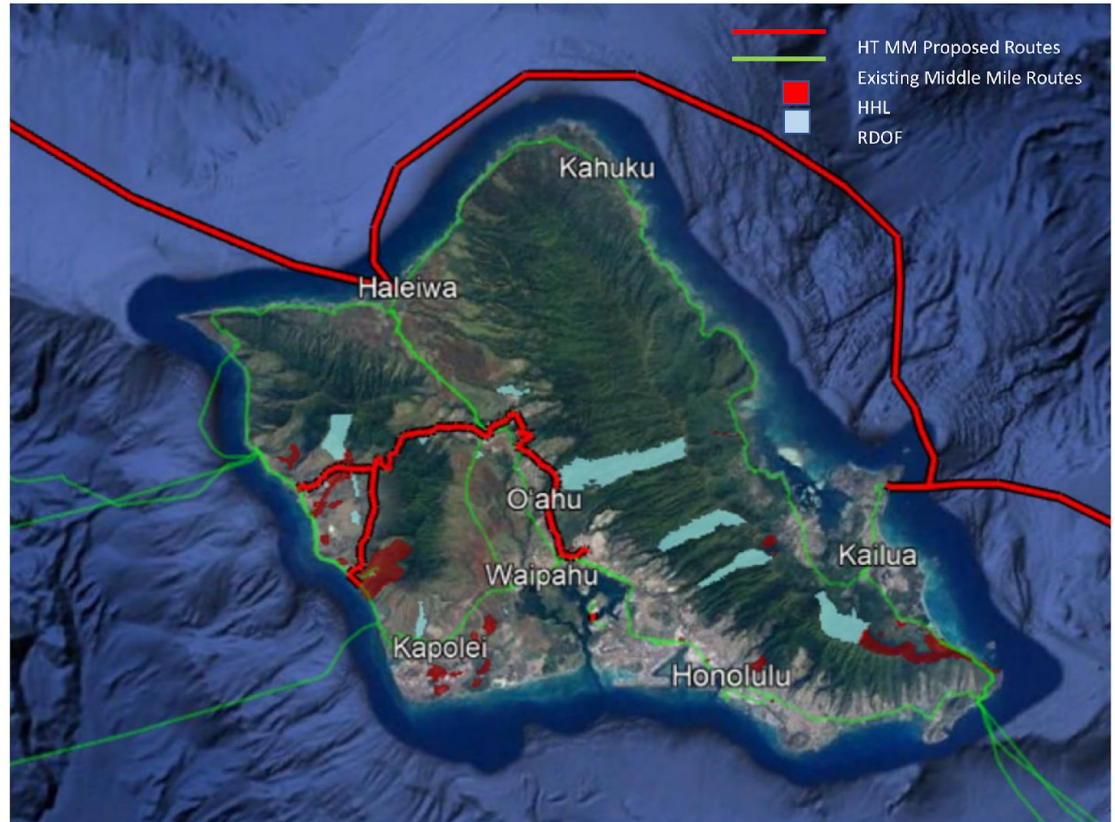
# Kauai Middle Mile Routes

- New Middle Mile Routes:
  - Festoon Waialua to Anahola
  - Festoon Anahola to Princeville
  - Festoon Princeville to PMRF
- New MM Benefits
  - Targets rural, underserved, unserved communities on Kauai
  - Mitigates Climate Change effects:
    - Frequent landslides
    - Festoon immune to sea level rise
  - Diversity for HHL and PMRF



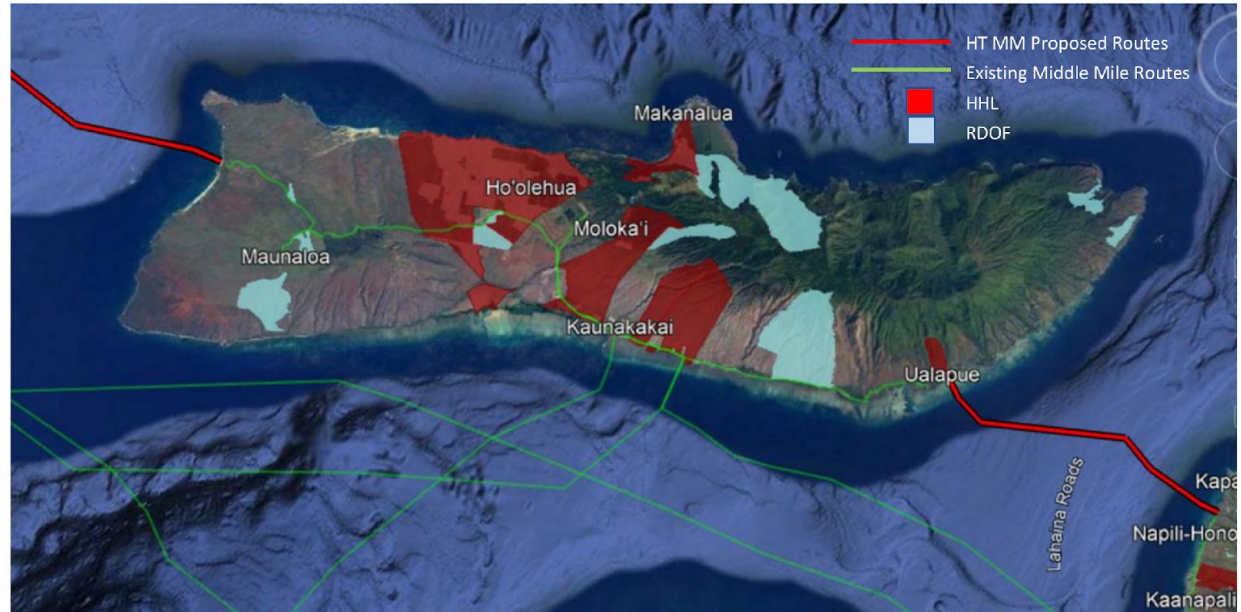
# Oahu Middle Mile Routes

- New Middle Mile Routes:
  - Festoon Kaneohe Marine Corp Base to Waialua
  - Terrestrial Wahiawa to Nanakuli
  - Terrestrial Wahiawa to Waianae
  - Terrestrial Wahiawa to Pearl City
  - Festoon KMCB to West Molokai
  - JBPHH HDD to Ford Island
- New MM Benefits:
  - Targets rural, underserved, unserved communities
  - Mitigates climate change effects:
    - Non-coastal terrestrial routes
    - Festoon immune to sea-level rise
    - Lower latency paths are created



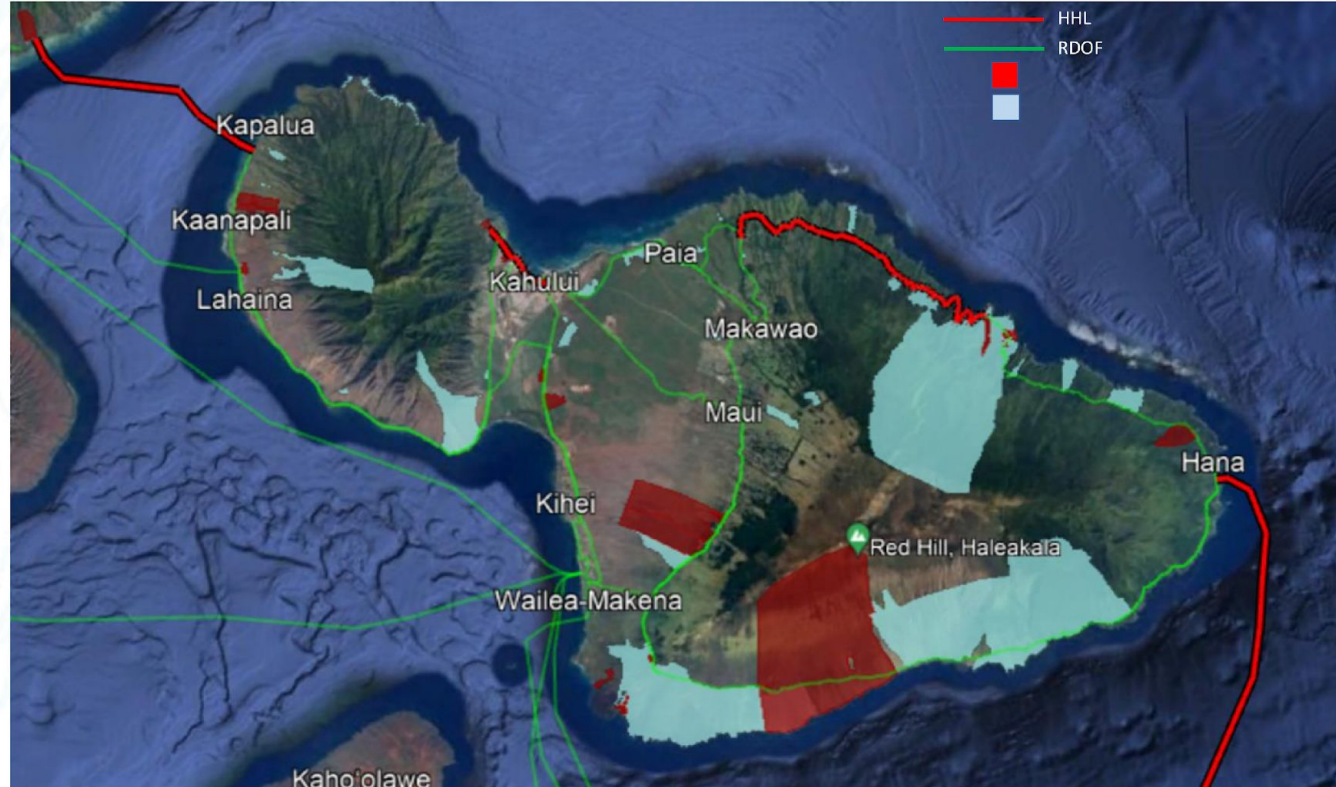
# Molokai Middle Mile Routes

- New Middle Mile routes:
  - New interisland fiber landing sites ties to existing HT infrastructure in West and East Molokai
- New MM Benefits:
  - Targets rural, underserved, unserved communities
  - Mitigates climate change effects:
    - More brush fires brought on by extreme droughts due to climate change
  - Diversity off island to prevent East and West Molokai from isolation



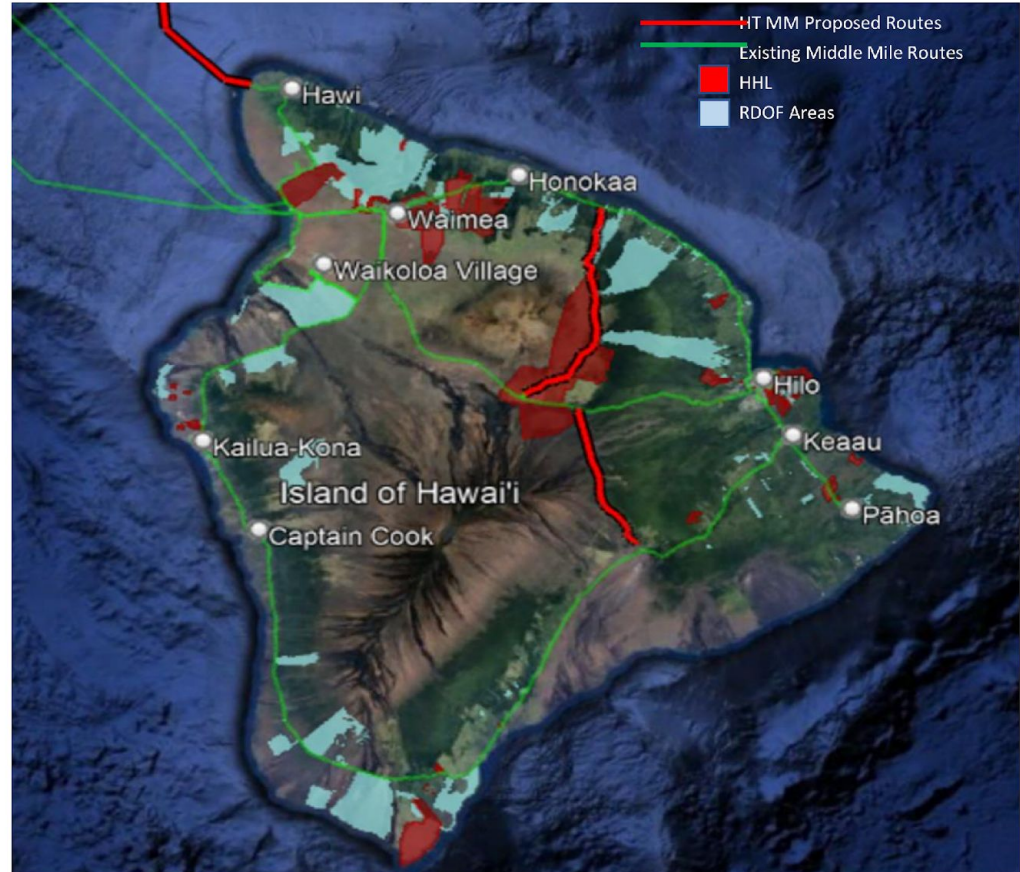
# Maui Middle Mile Routes

- New Middle Mile routes:
  - Festoon Honokowai to Ualapue
  - Terrestrial Haiku to Keanae
  - Terrestrial Kahului to Waiehu
  - Festoon Hana to Kohala
- New MM Benefits:
  - Targets rural, underserved, unserved communities
  - Mitigates climate change effects:
    - More brush fires brought on by droughts due to climate change
    - Sea level rise
  - Diversity to Hana through Kohala to prevent East Maui isolation



# Hawaii Island Middle Mile Routes

- New Middle Mile Routes:
  - Mana Road Middle Mile
  - Tree Planting Road Middle Mile
  - New Cable landing station at Upolu Point from Hana
- New MM Benefits:
  - Targets rural, underserved, unserved communities on Hawaii Island
  - Mitigates climate change effects
    - Inland fiber routes away from the coastline
  - Mitigates unpredictability of volcanic activity associated with Hawaii Island





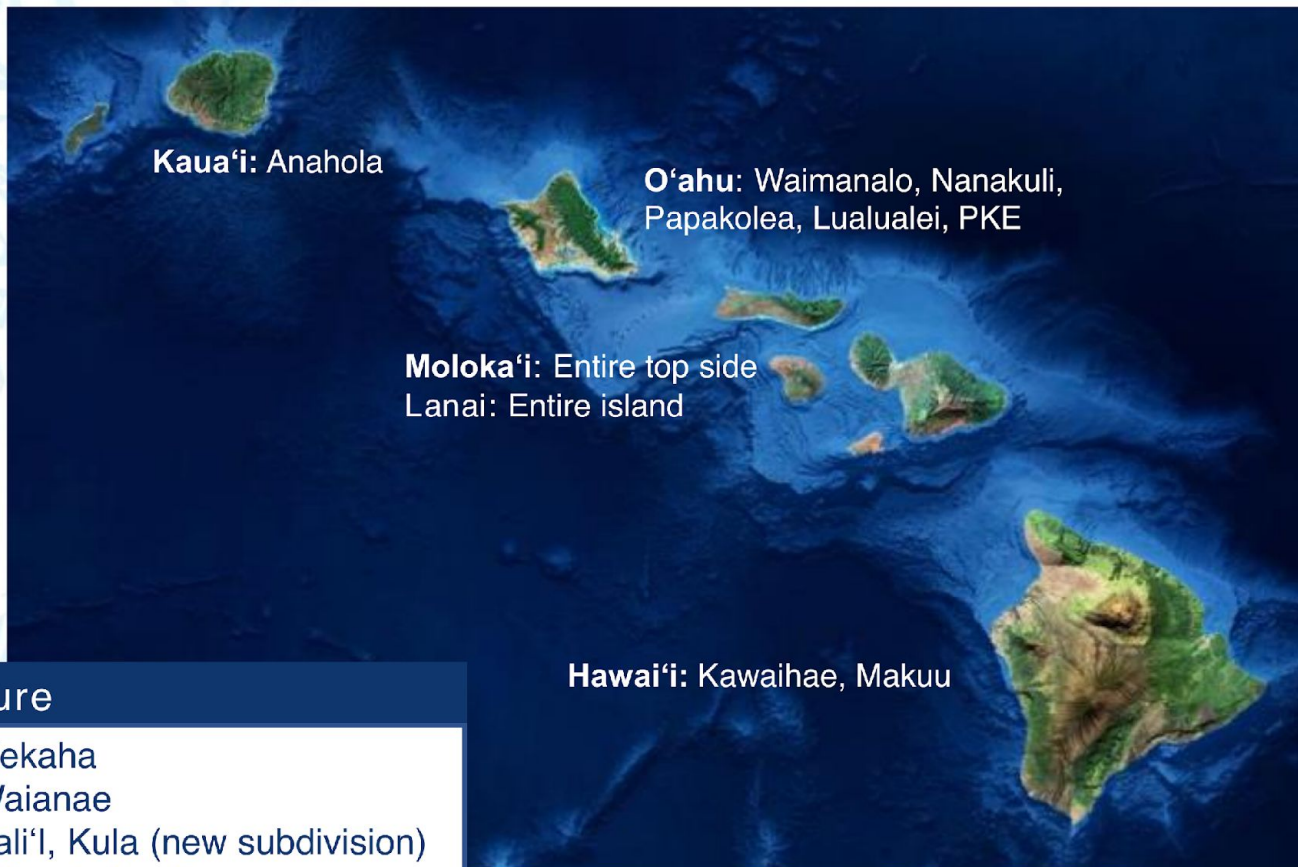
# Last Mile Update

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# Completed Fiber Build in DHHL Areas



## Near Future

- Kaua'i: Kekaha
- O'ahu: Waianae
- Maui: Leali'i, Kula (new subdivision)
- Hawai'i: Keaukaha, Paneawa, Kealakehe (new subdivision)



MAHALO!

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