



# Rural Health Care Program: Delivering Transformative Benefits

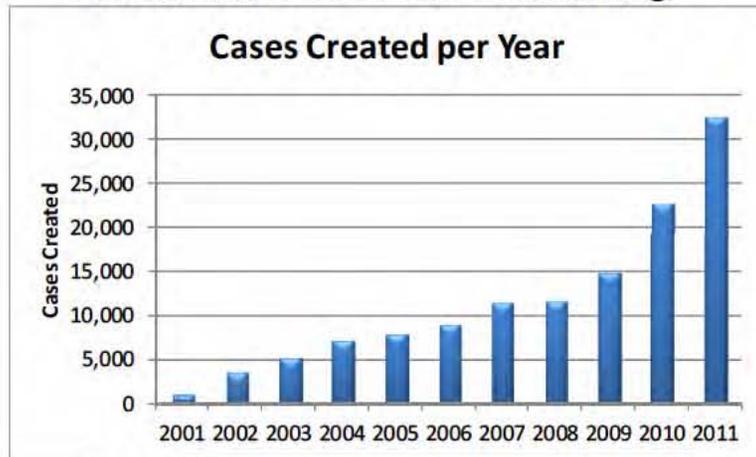
April 2012



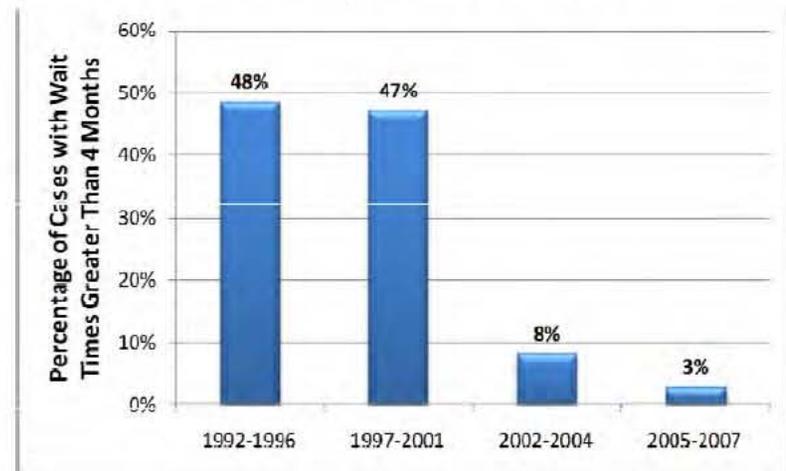
# RHCP Improves and Reduces the Cost of Health Care for Rural Alaska



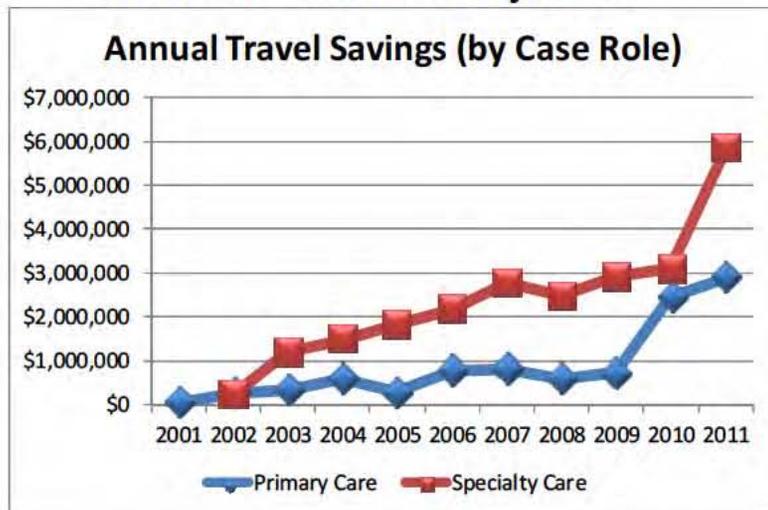
## Telehealth Cases are Increasing



## Telehealth Improves Access



## Telehealth Cuts Delivery Costs



- Provides access to primary care and specialists without travel, mitigating rural doctor shortage.
- Greatly reduces wait times for appointments.
- Enables regular behavioral health treatments.

# Alaska Rural Health Care: Success Stories



A physician in Dillingham was able to demonstrate to a health aide how to relocate a toddler's dislocated elbow via videoconferencing – a procedure the aide had never done or been taught, mitigating the need for air ambulance transport to Dillingham.

Manilaq Association technicians had to boat to the village of Noorvik in poor weather conditions to install video equipment. They arrived to find a pregnant patient in labor, were able to set up the equipment, and delivered the Association's first "telebaby" via videoconferencing with a physician.



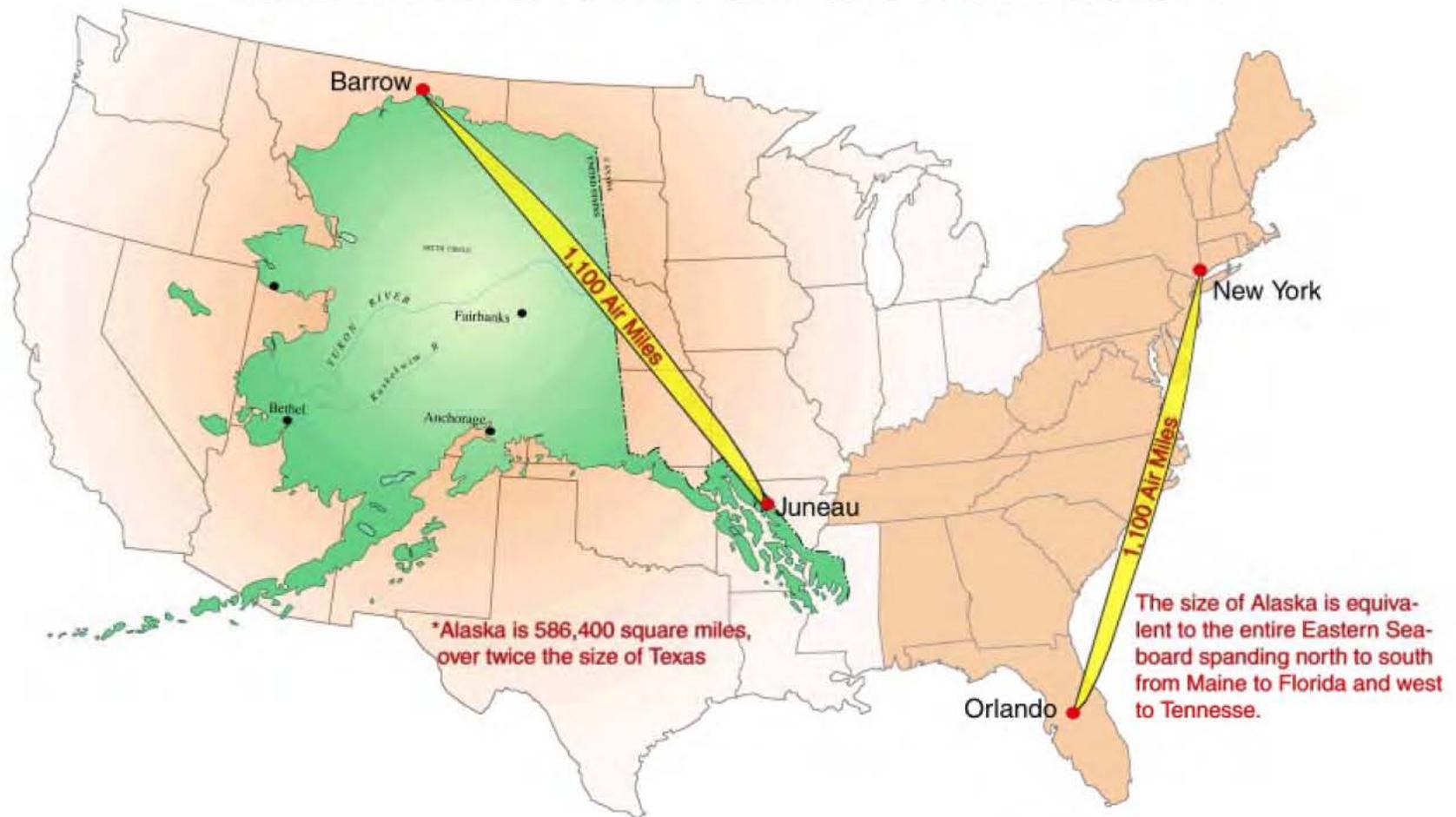
An 8 year-old cancer patient from Chevak, Alaska was being treated at Seattle Children's Hospital, isolated from her family. After a video connection was established and bandwidth was upgraded between the locations, the patient was able to connect with her family and friends several times a day, and her response to treatment dramatically improved.

## Unique Challenges

- Enormous with low population: 570,627 square miles,
  - ~1.2 persons per square mile, compared to 103.8 persons per square mile in the lower 48.
- Limited road/pipeline/rail system - Over 200 communities are "off-road."
- No intertied electric power grid in rural areas – power must be locally generated using diesel generators
- Maximum Allowable Distance dwarfs Lower 48 – e.g. Bethel to Anchorage: 340 miles; Anchorage to Barrow: 750 miles
- Few anchor institutions in rural areas other than schools and clinics.



## SIZE AND DISTANCE COMPARISON



\*Alaska is 586,400 square miles, over twice the size of Texas

The size of Alaska is equivalent to the entire Eastern Seaboard spanning north to south from Maine to Florida and west to Tennessee.

# “Extreme” Rural Alaska: Isolated and Remote Villages



# Example of an RHCP-Supported Telehealth Network - YKHC



Bethel Regional Hospital  
(Bethel, AK, pop. 5,960)



Atmautluak Clinic  
(Atmautluak, AK, pop. 277)

# ConnectMD Medical Network

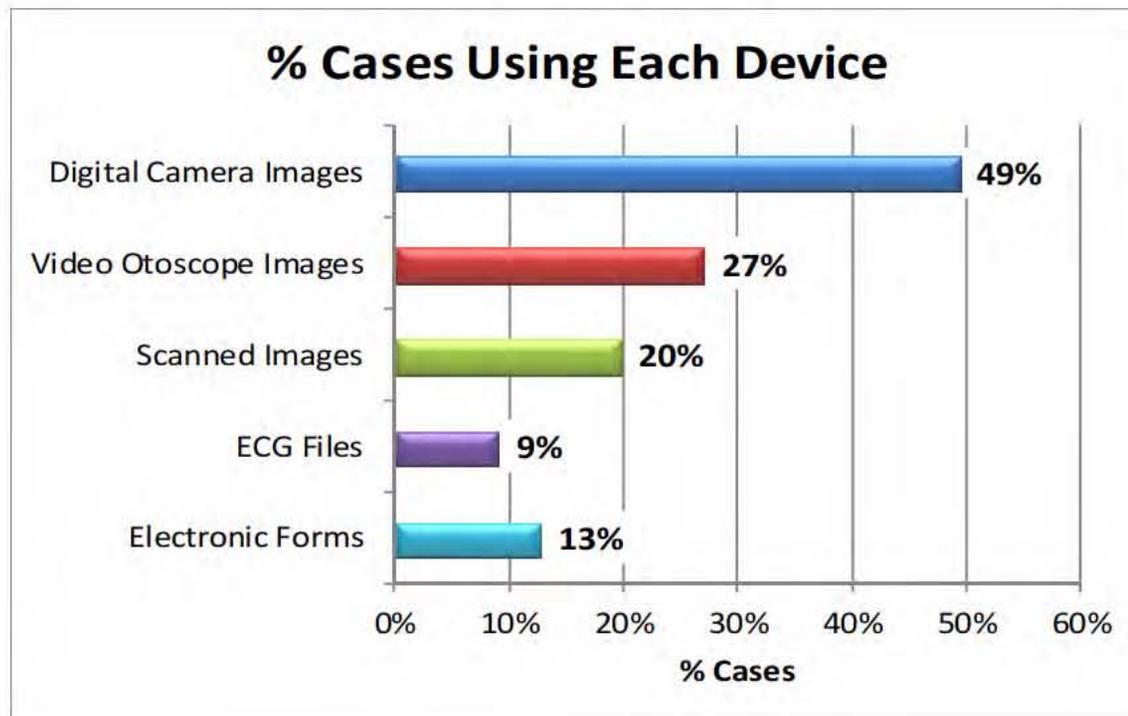


The ConnectMD medical network is a collaborative environment of over 200 clinics, hospitals, and medical organizations throughout Alaska and the Pacific Northwest.

# The Future: Greater Need for High Bandwidth Low-Latency Connections



- Demand for telehealth bandwidth is increasing rapidly.
- Latency disrupts critical physician / patient interactions, particularly for telepsychiatry.
- Electronic health records systems mandated by health care reform are designed for low-latency networks and work poorly on geostationary satellite networks.



# Improving the RHC Program



- Disburse support more than twice per year (reduces carrying costs).
- Require applicants to submit their applications within 120 days of the start of the funding year, or of the service start date, whichever is later.
- Like e-rate, increase service provider access to information about pending applications to speed error correction.
- Increase online application availability and transparency, and consistency between online and paper forms.
- Clarify that reimbursement for satellite services should not be capped by rates for unavailable terrestrial services.
- Expand eligible health care providers to include skilled nursing facilities, but without a “majority of beds” test in small communities that are unlikely to have more than one site health care delivery site.
- Eliminate the requirement under 47 C.F.R. § 54.601(a)(4) for each site to be a considered a separate health care provider.
- Support video conferencing services, as e-rate already does.

## What won't help deliver telehealth



- Don't require health care providers to become telecommunications network operators as the proposed Health Care Infrastructure Program would do.
- Don't ignore operations and maintenance costs, in addition to network construction.
- Don't set unattainable minimum speed requirements.

# TERRA



GCI's TERRA Vision: Terrestrial for Every Region of Rural Alaska

» What is TERRA?

- Hybrid fiber optic and microwave network
- Removes limitations of satellite service
- Will provide broadband service

» Why TERRA?

- Participation in the modern economy requires broadband
- Rural users not at parity with urban users
- Applications are challenged by the latency and capacity constraints of satellite

» First Phase: TERRA Southwest

- \$88 Million Project (USDA- RUS: \$44M grant \$44m loan)
- Connects 65 communities
- 404 miles of fiber, 13 new microwave towers

» \$102 Million GCI Capital invested to date (DeltaNet and TERRA Southwest)

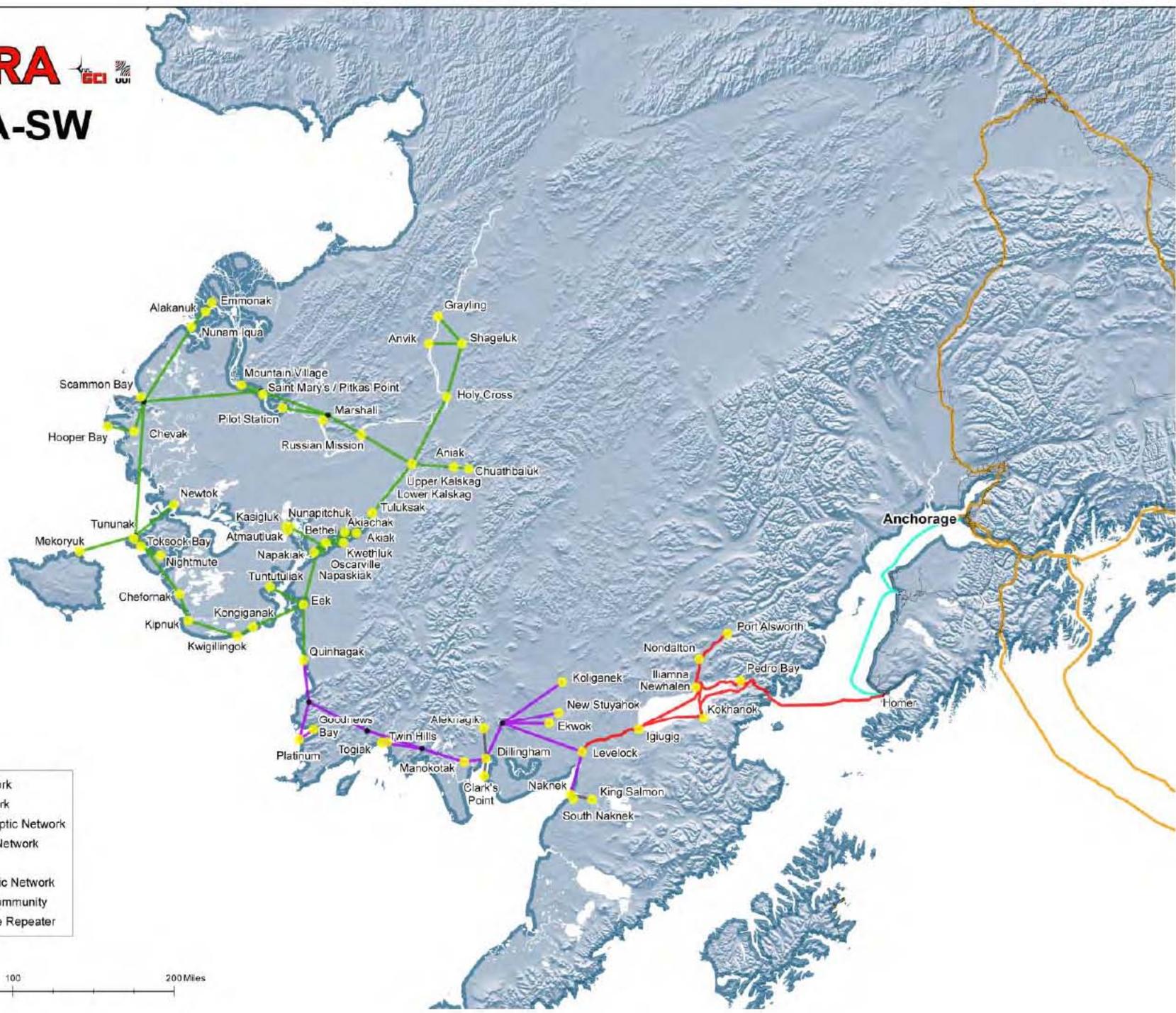
TERRA-Southwest and future expansion of TERRA is not possible without USF support.



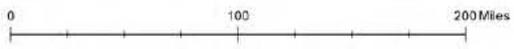
# TERRA

GCI UPI

## TERRA-SW

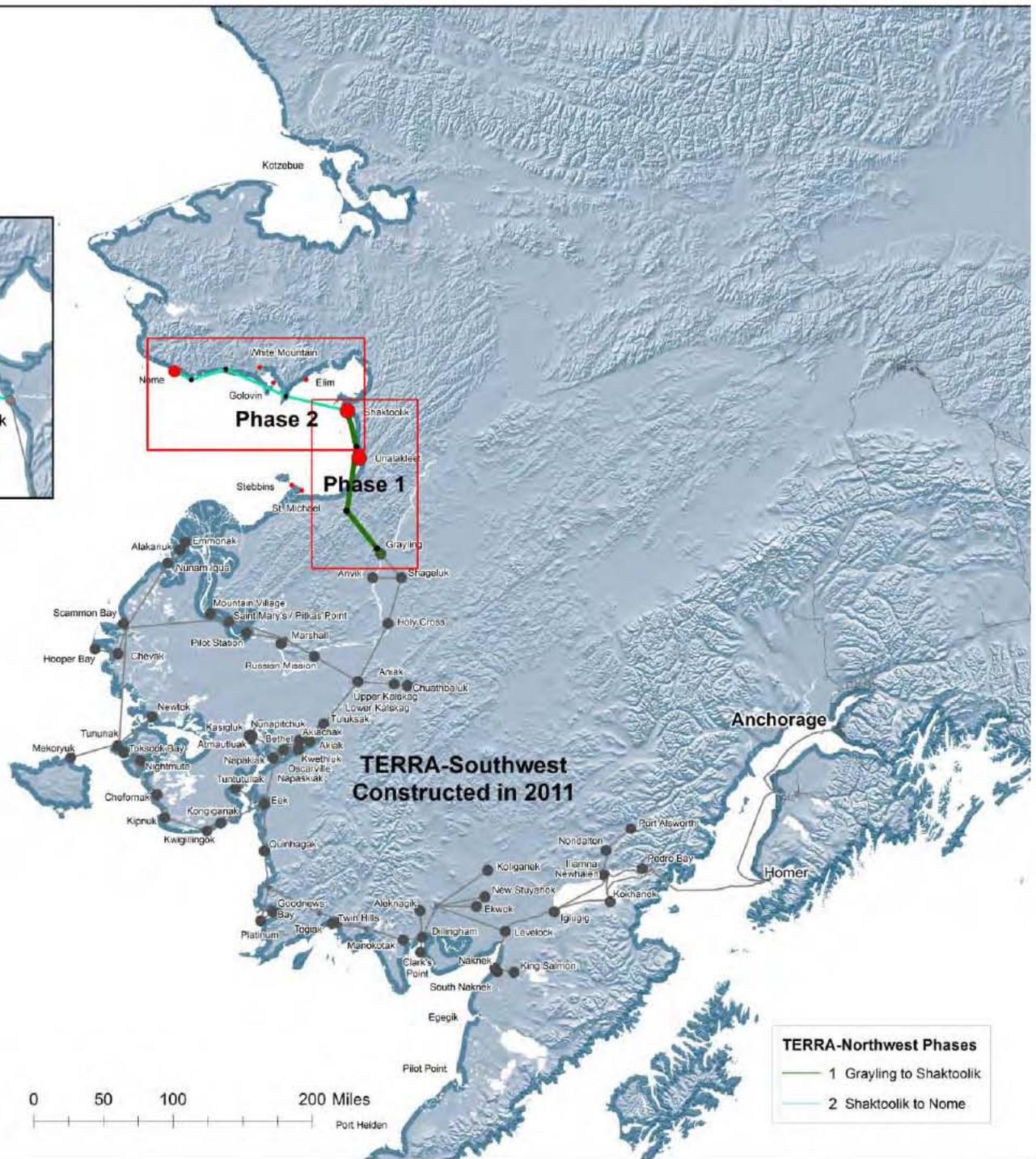
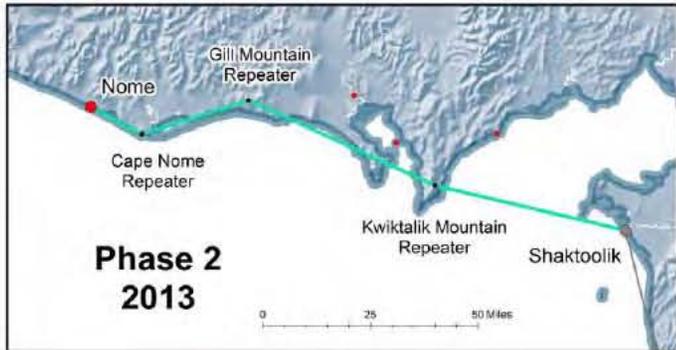


- New Fiber-Optic Network
- New Microwave Network
- Upgraded GCI Fiber-Optic Network
- Upgraded Microwave Network
- Leased Facilities
- Existing GCI Fiber-Optic Network
- TERRA-SW Served Community
- TERRA-SW Microwave Repeater



# Making History: First Video Teleconference on TERRA Southwest January 12, 2012

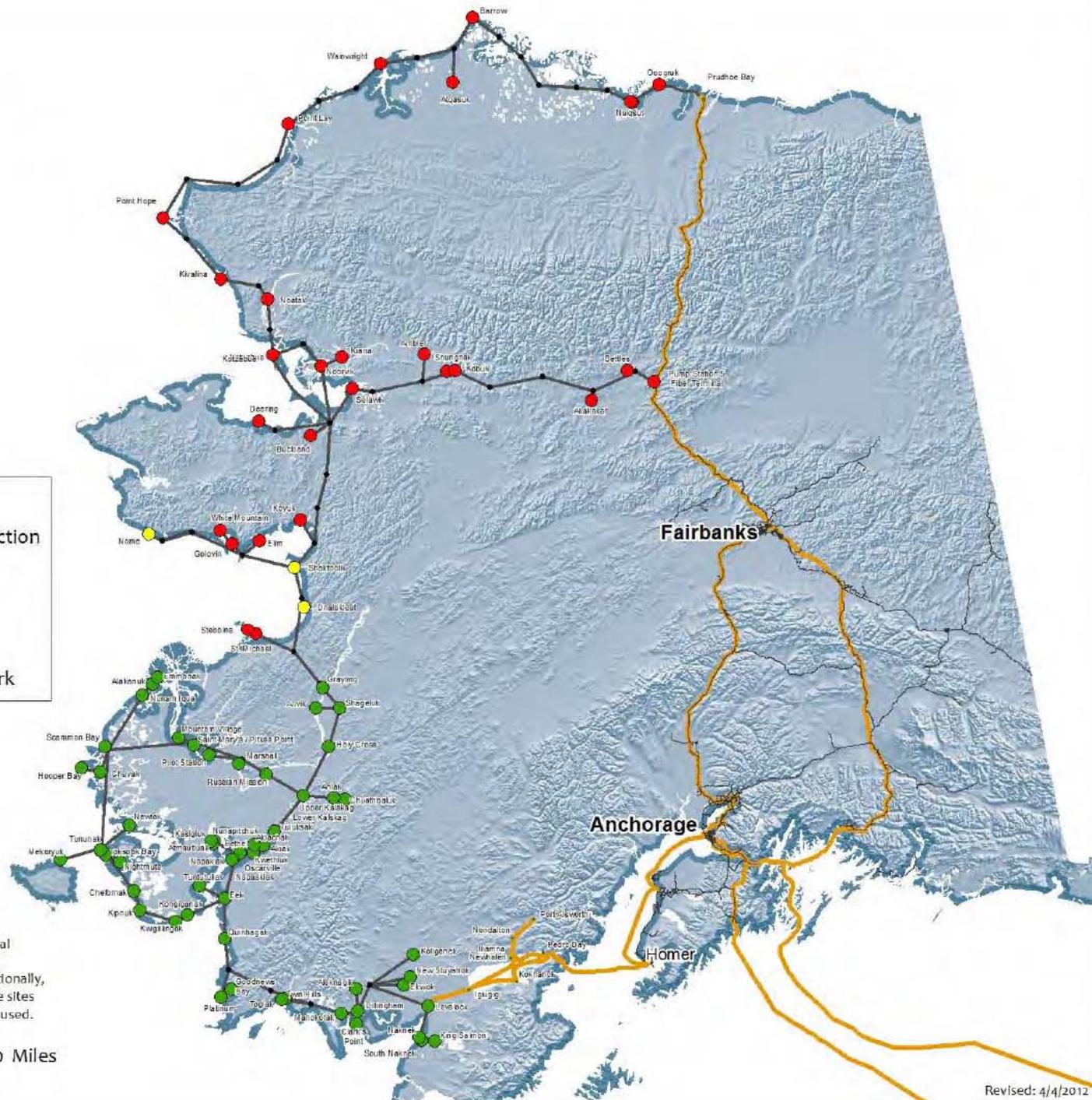




# TERRA AT GCI

## TERRA Long Term Vision

- Proposed Microwave Site
- Microwave Site Under Construction
- Existing Microwave Site
- Microwave Repeater
- Microwave Link
- Existing GCI Fiber-Optic Network



Note: This map represents GCI's long term vision to bring a terrestrial telecommunications network to many areas of rural Alaska. The "proposed microwave sites" are not funded or financed and only represent a possible future network. Additionally, "proposed microwave sites" do not reflect all possible future sites in Alaska, and other technology, such as fiber optics, may be used.

