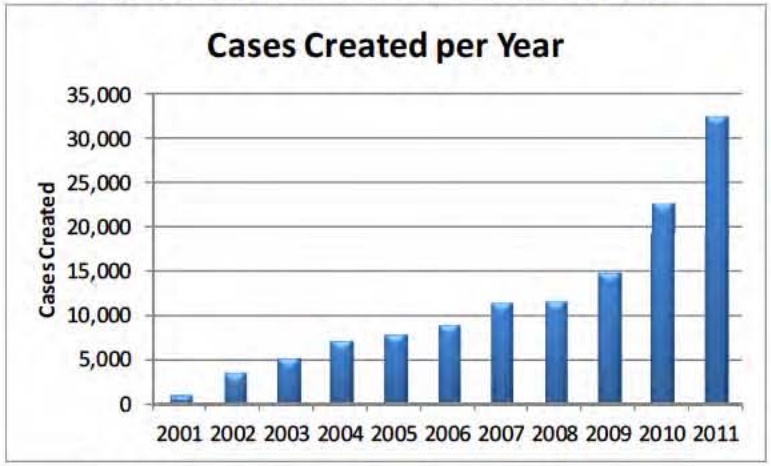
Rural Health Care Program:

Delivering Transformative Benefits

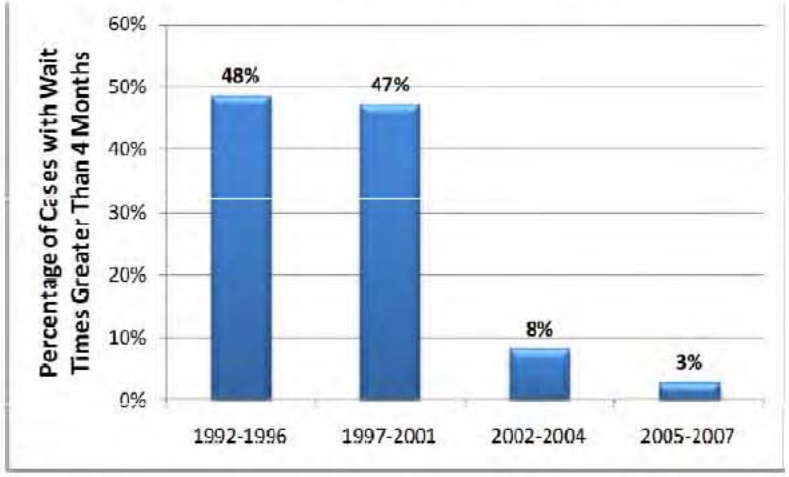
April 2012

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

Telehealth Cases are Increasing



Telehealth Improves Access



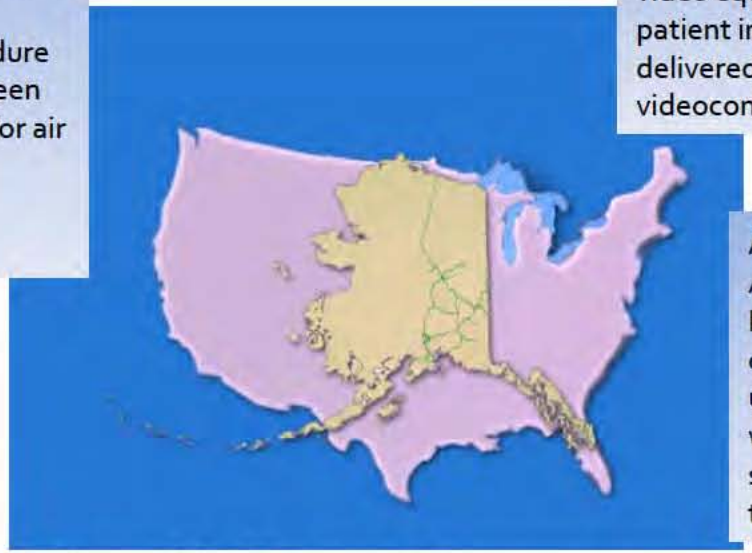
Telehealth Cuts Delivery Costs

- 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.

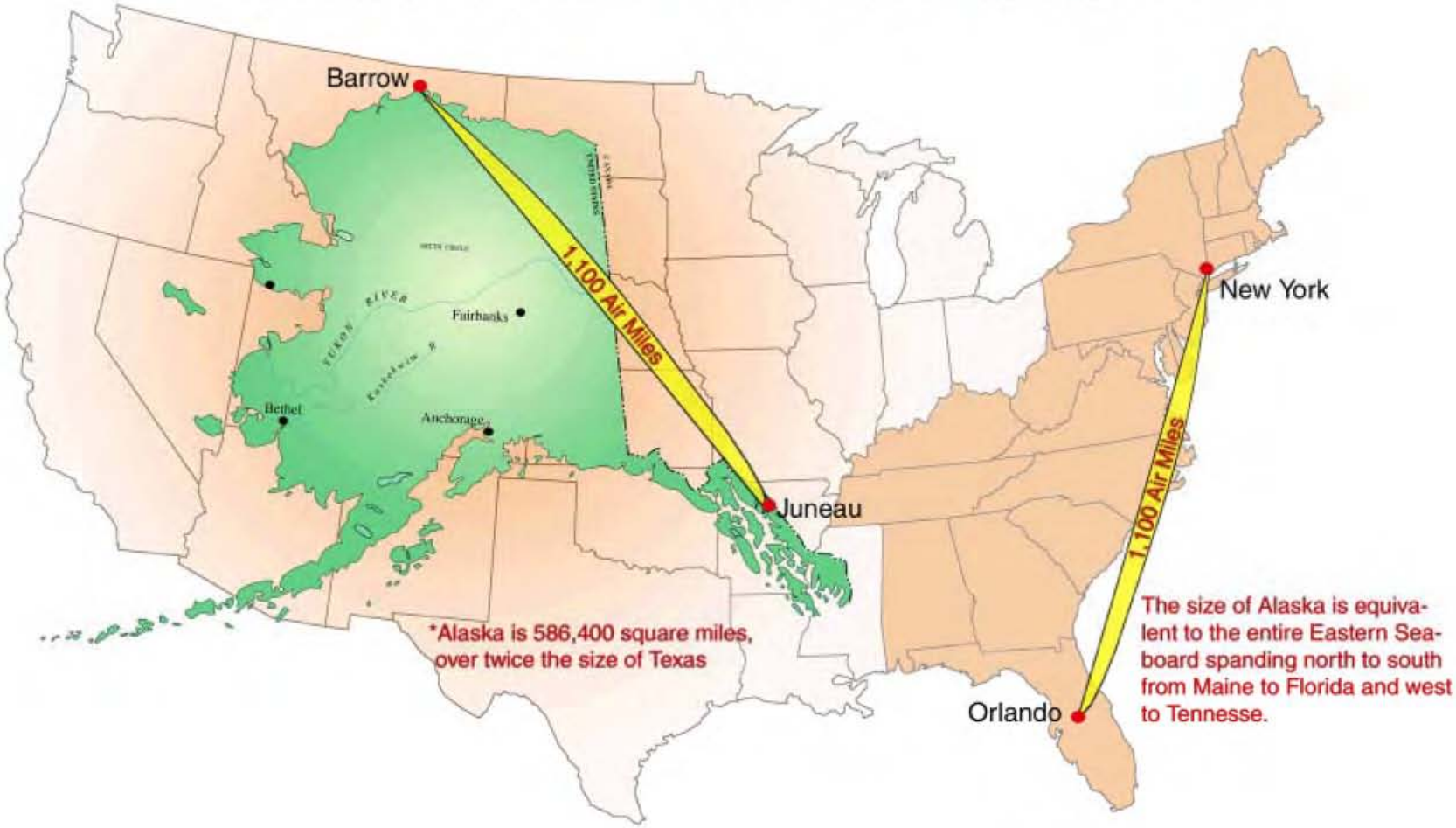


An 8 year-old cancer patient from Chevak, Alaska was being treated at Seattle Children's Hos, ital, isolated from her family. After a video connection was established and bandwidth was upgraded between the locations, the patient was able to connect with her family and friends several times a day, and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

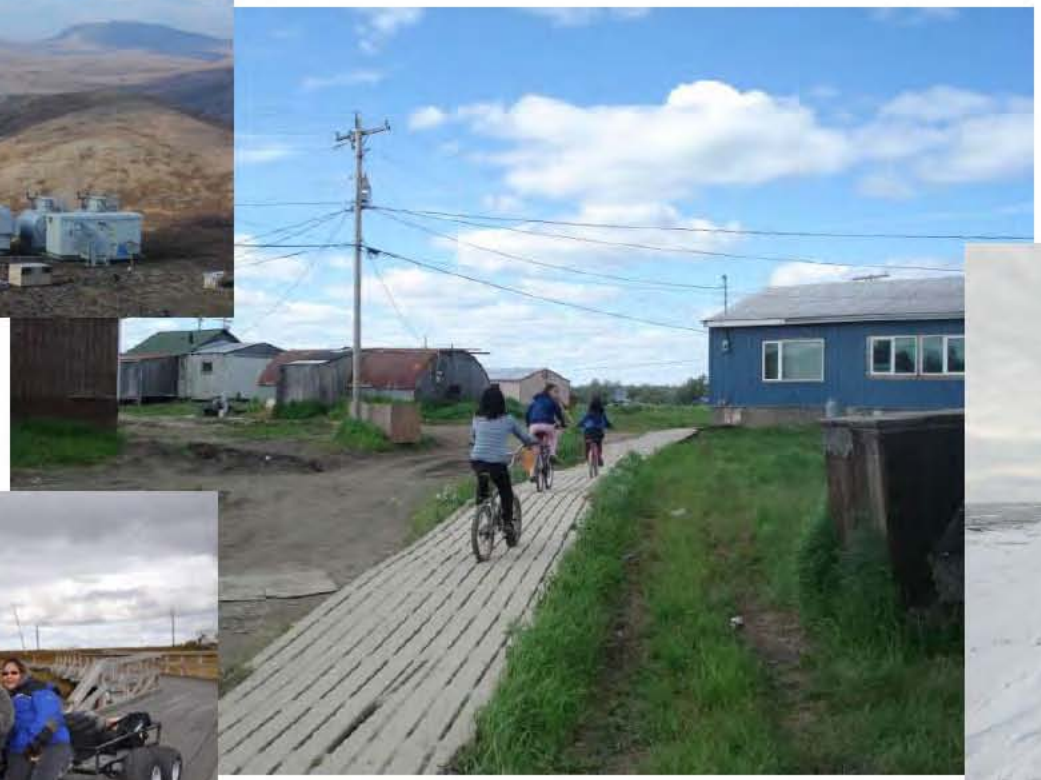
Unique Challenges

- 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 rura. ..ea. – 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.

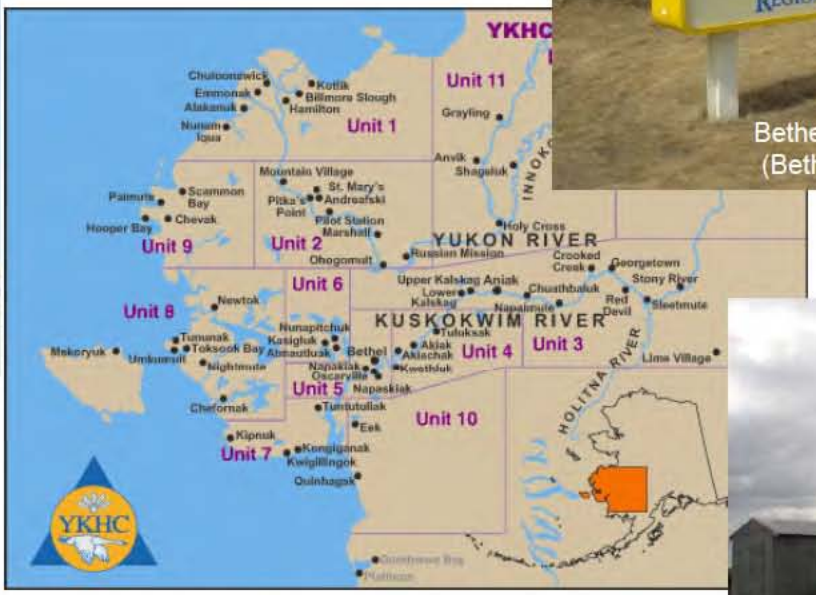
SIZE AND DISTANCE COMPARISON



"Extreme" Rural Alaska:
Isolated and Remote Villages



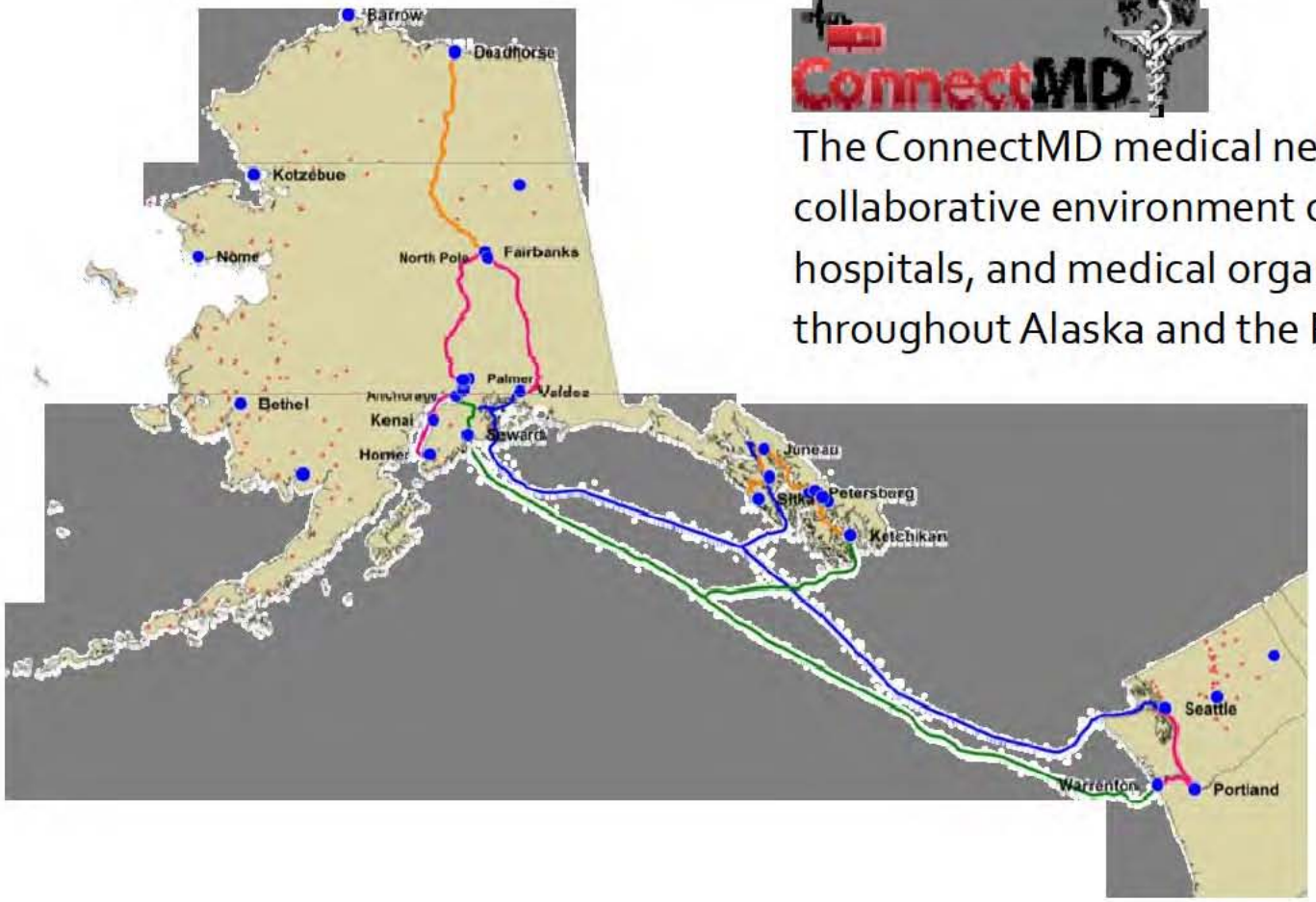
Example of an RHCP-Supported Telehealth Network - YKHC



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

Atmautluak Clinic
(Atmautluak, AK, pop. 277)

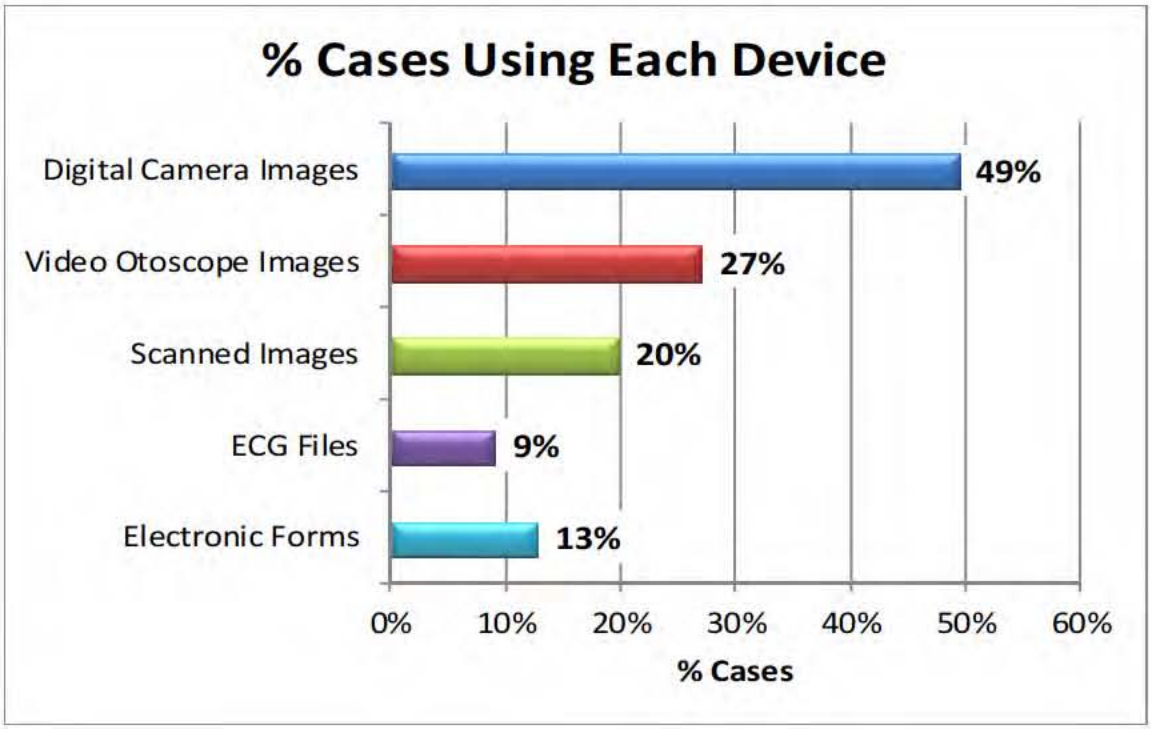
ConnectMD Medical Network



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.



Im, rovin_ 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

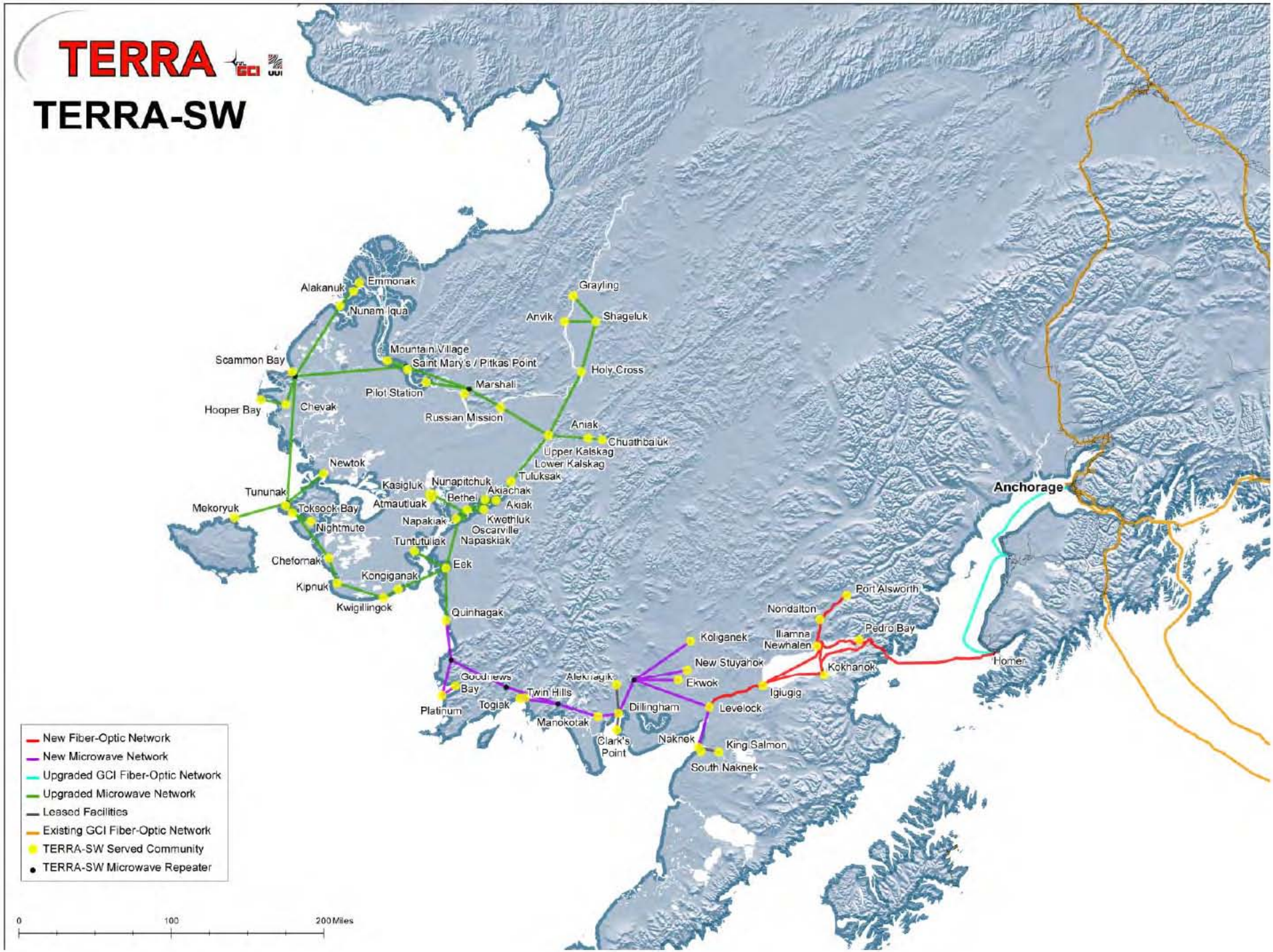
» $102 Million GCI Capital invested to date (DeltaNet and TERRA Southwest)

<u>TERRA-Southwest and future expansion of TERRA is not possible without USF support.</u>

TERRA

TERRA

TERRA-SW

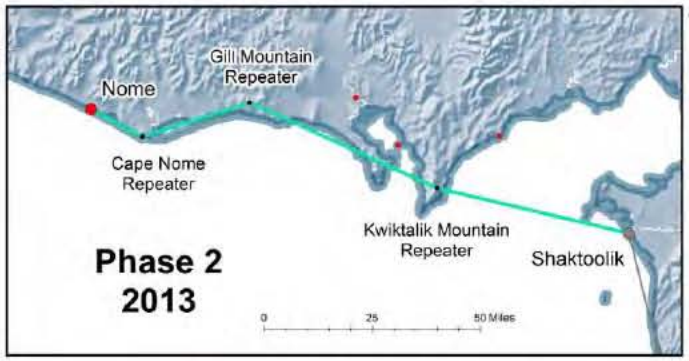


Making History:

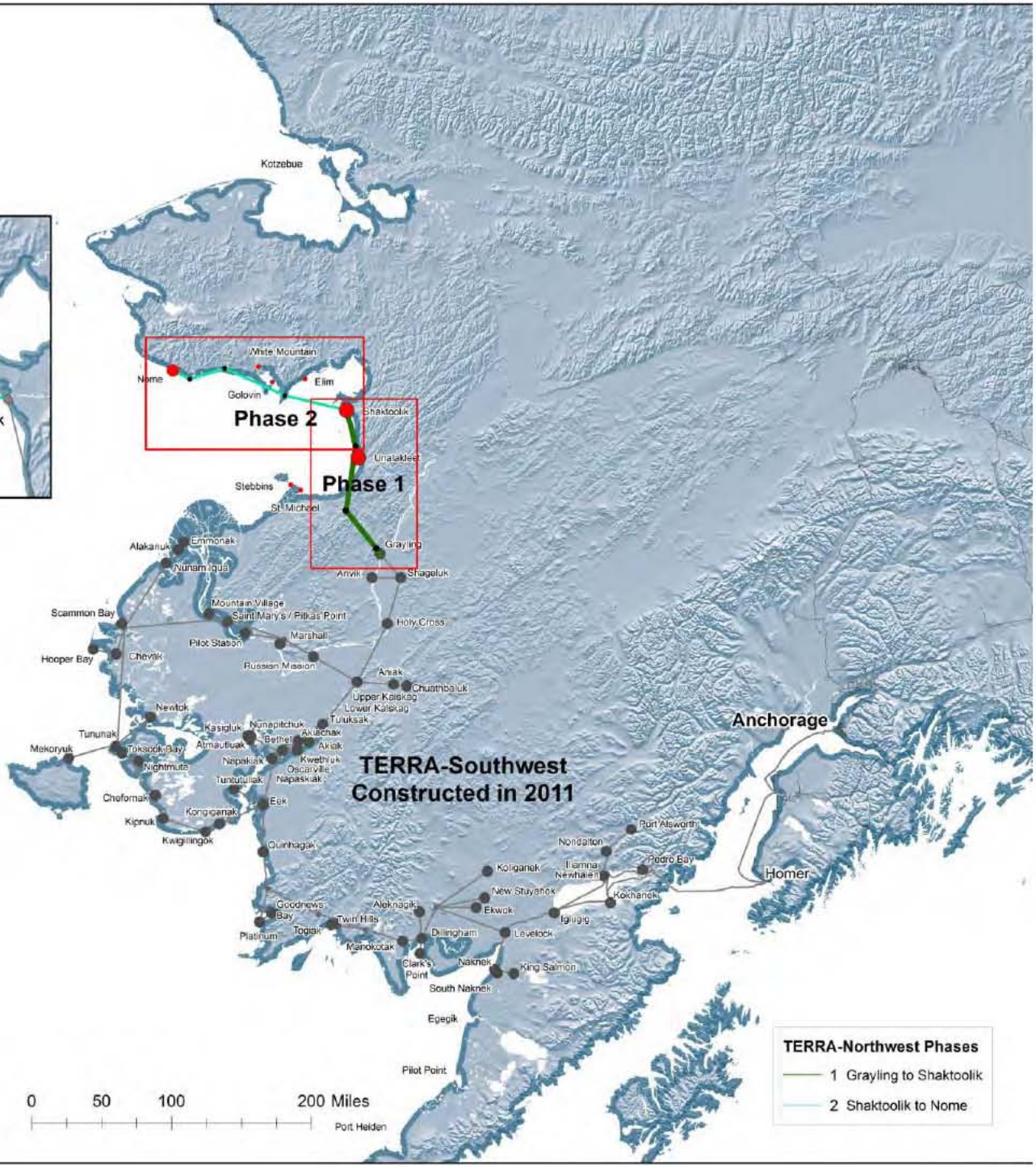
First Video Teleconference on TERRA Southwest

January 12, 2012

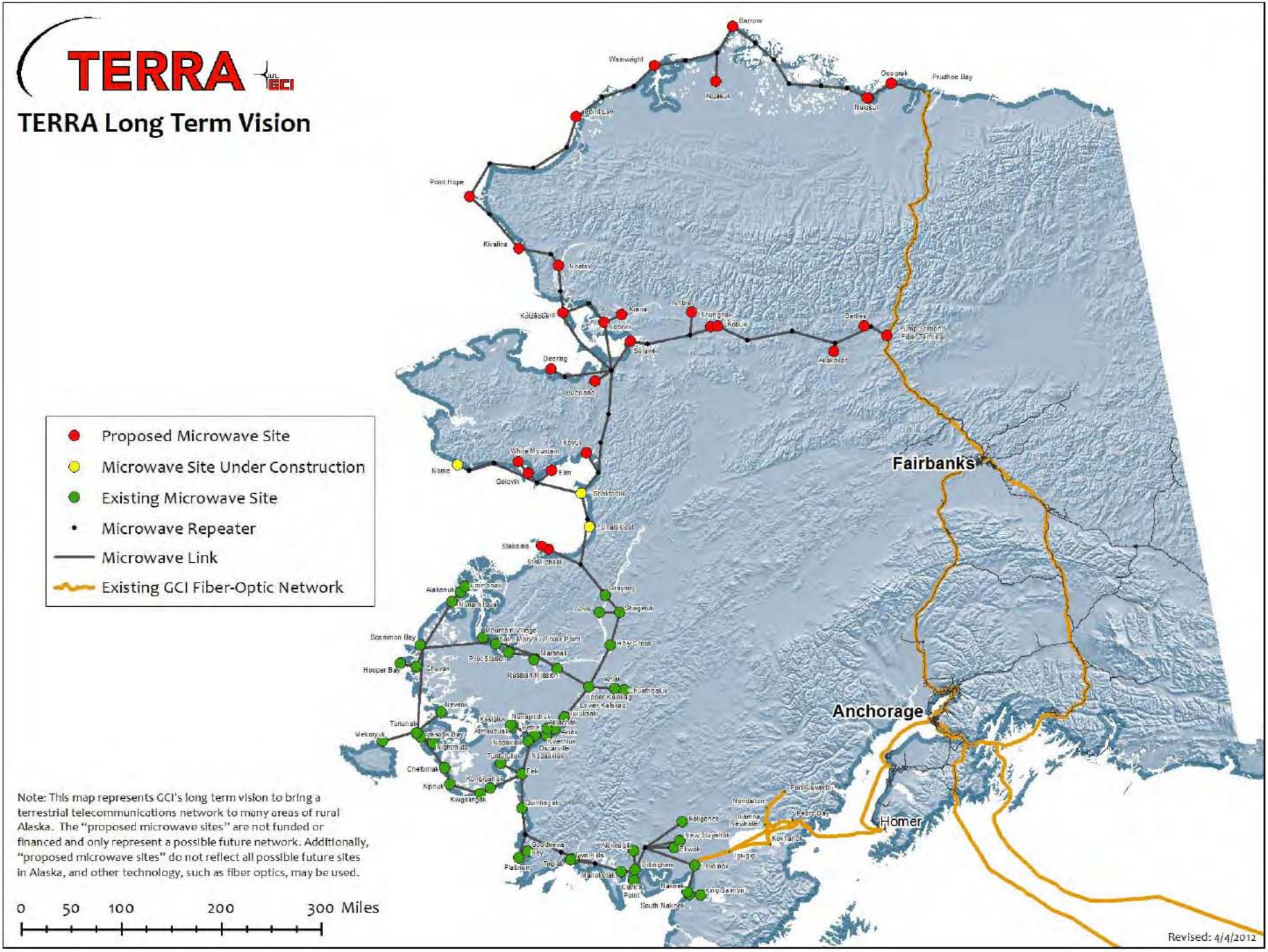
TERRA


Nome
Gill Mountain Repeater
Cape Nome Repeater
Kwiktalik Mountain Repeater
Shaktoolik
Phase 2
2013
0
25
50 Miles

Shaktoolik
Shaktoolik
Phase 1
2012
Unalakleet Repeater
Unalakleet
Unalakleet
0 5 10 15 Miles
Otter Creek Repeater
Holy Cross Hills Rptr
GRAYLING
Grayling


Kotzebue
White Mountain
Nome
Elim
Golovin
Phase 2
Shaktoolik
Unalakleet
Stebbins
Phase 1
St Michael
Grayling
Anvik
Shageluk
Alakanuk
Emmonak
Nunam Iqua
Scammon Bay
Mountain Village
Saint Mary's / Pitkas Point
Holy Cross
Pilot Station
Marshall
Hooper Bay
Chevak
Russian Mission
Anvik
Chuathbaluk
Upper Kalskag
Lower Kalskag
Tuluksak
Newtok
Tununak
Kasigluk
Nunapitchuk
Akiachak
Atmautluak
Bethel
Akiak
Mekoryuk
Toksook Bay
Nightmute
Napakiak
Kwethluk
Oscarville
Napaskiak
Tuntutuliak
Chefornak
Eek
Kongiganak
Kipnuk
Kwigillingok
Quinhagak
Anchorage
TERRA-Southwest
Constructed in 2011
Port Alsworth
Nondalton
Pedro Bay
Iliamna
Newhalen
Koliganek
Homer
New Stuyahok
Kokhanok
Ekwok
Aleknagik
Igiugig
Goodnews Bay
Twin Hills
Togiak
Platinum
Dillingham
Levelock
Manokotak
Clark's Point
Naknek
King Salmon
South Naknek
Egegik
Pilot Point
Port Heiden
0 50 100 200 Miles
TERRA-Northwest Phases
1 Grayling to Shaktoolik
2 Shaktoolik to Nome

TERRA Long Term Vision



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.

0 50 100 200 300 Miles

Revised: 4/4/2012