



Redwood
Coast
Region

Redwood Coast Connect

Demand Opportunities for Broadband
Deployment in Del Norte, Humboldt,
Mendocino and Trinity Counties

Peer Review Presentation



Methods of Investigation

- Surveys of both residents, businesses and public agencies
- Individual interviews with public agencies, business leaders
- Conversations with broadband providers
- Community meetings
- Convenings of community leaders, broadband providers and elected officials
- Focus groups of industry leaders

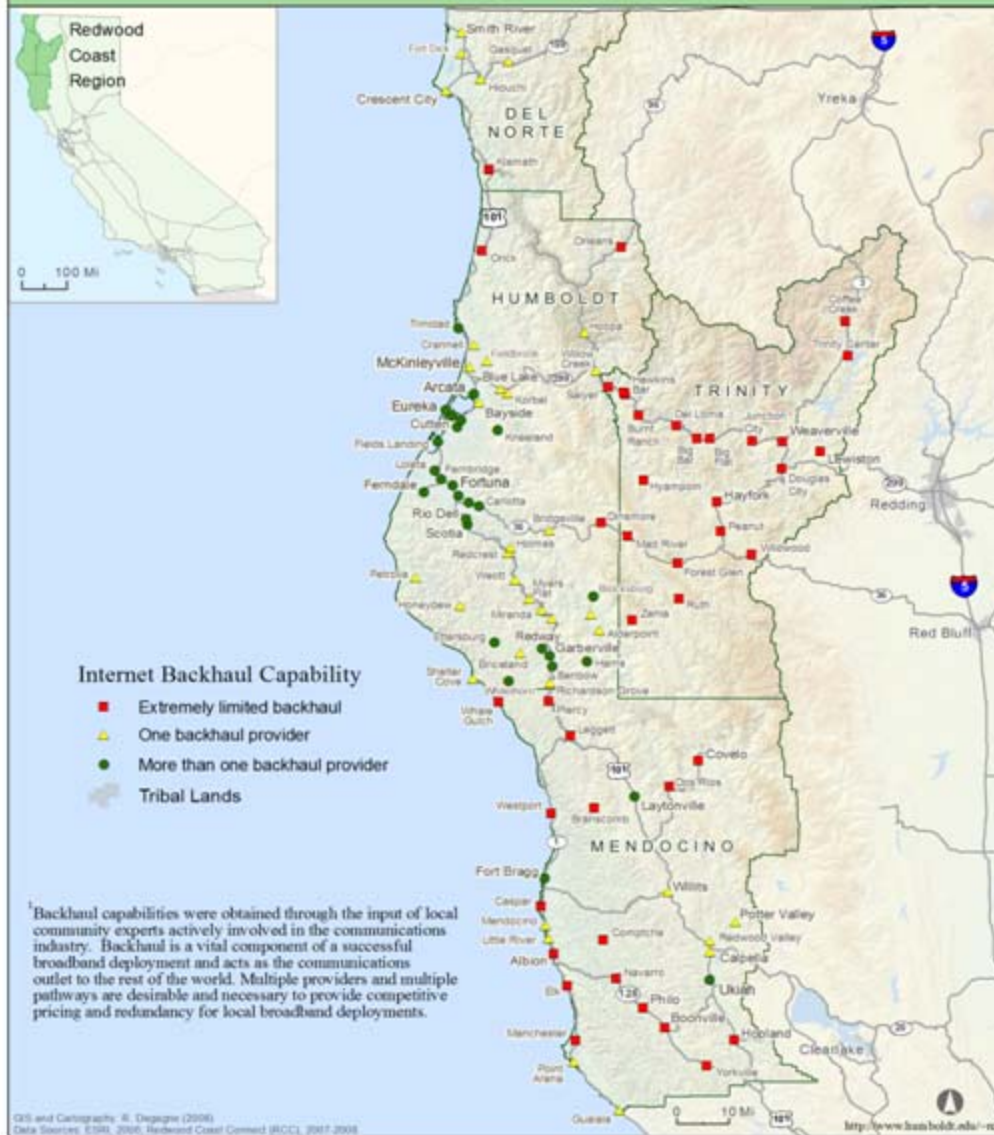
Key Findings

- Our North Coast communities do not fit the investment model of publicly traded companies
- Lack of middle mile is single greatest barrier to last mile deployment
- Reliability is more important as speed for business
- Private sector investment cannot be relied upon to make necessary investments to deploy broadband across the region w/o prompting

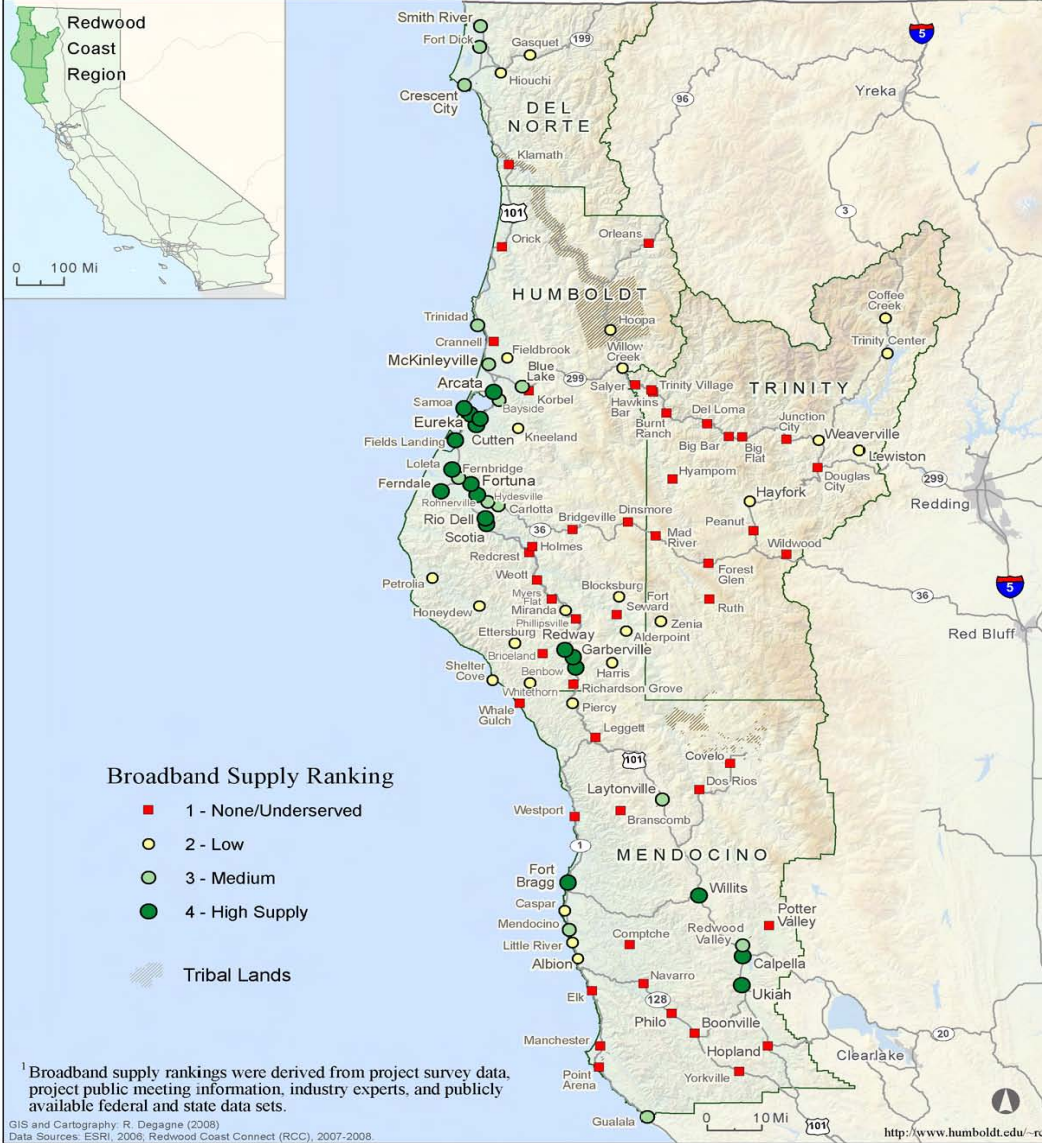
Other Findings

- Large population centers have reasonably high quality broadband access at least for the limited uses we currently have.
- 60% of communities unserved/underserved
 - Business needs often indistinguishable from residential needs (small businesses)
 - Telecom companies, cable companies, mobile devices and wireless ISPs' may well be anchor tenants
- Public sector is generally well-connected
- Subsidization of middle mile will be required

Redwood Coast Connect: Internet Backhaul Capability by Community¹



Redwood Coast Connect: Broadband Internet Supply per Community¹



Redwood Coast Connect: Demand for Broadband Internet per Community¹



Community Ranking Sheet

Humboldt County	Estimated Residences	Demand Rank	Supply Rank	Backhaul Needed	Estimated Annual Residential Revenues
Hoopa	1882	High	Low	Yes	247,907
Willow Creek	961	High	Low	Yes	126,679
Whitethorn	440	High	Low	Yes	57,925
Miranda	354	High	Low	Yes	46,587
Alderpoint	165	High	Low	Yes	36,339
Blocksburg	88	High	Low	Yes	11,556
Fieldbrook	Unknown	High	Low	Yes	unknown
Orleans	270	High	None	Yes	66,554
Weott	141	High	None	Yes	38,210
Myers Flat	133	High	None	Yes	29,193
Briceland	81	High	None	yes	17,806
Bridgeville	394	Medium	None	Yes	90.088
Kneeland	217	Low	Low	No	28,635
Shelter Cove	Unknown	Low	Low	Yes	Unknown

Proposed Middle Mile Architecture

- Last mile broadband deployment is impossible without the middle mile.

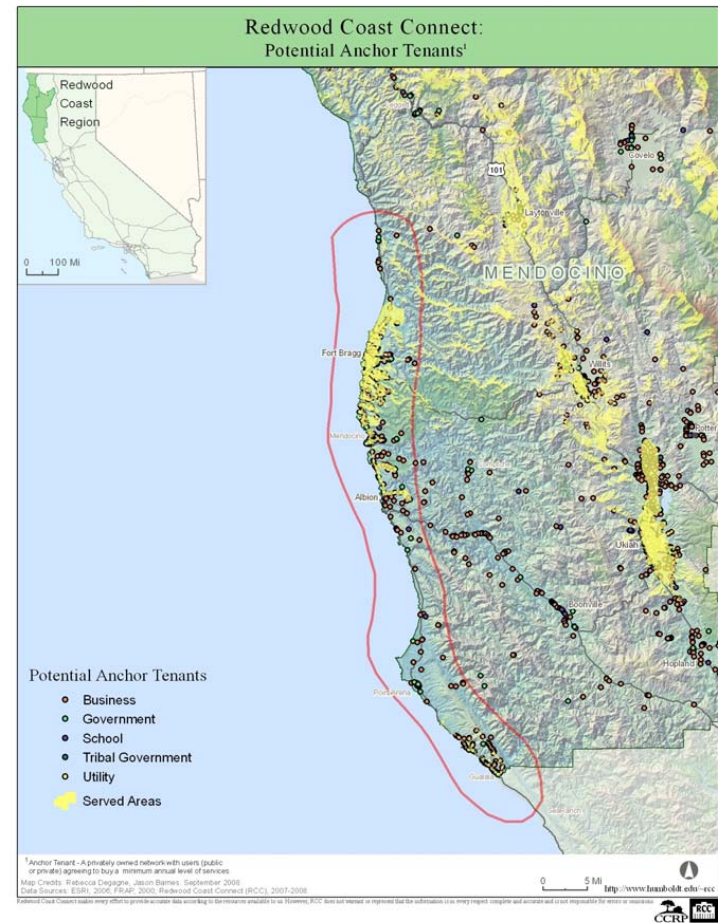


Route (all have redundancy potential)	No. of Towns Under- Served	Un- served	Counties	No. of Miles	Estimated Cost
Eureka to Redding	12	6	Humboldt, Trinity, Shasta	150	\$15-20m
Crescent City to Eureka	6	2	Del Norte, Humboldt	85	\$4-7m
Eureka to Red Bluff	8	4	Humboldt, Trinity, Tehama	140	\$10-20m
Ft Bragg to Ukiah	2	1	Mendocino	60	\$4-6m
Hwy 3 from Hwy 36 to Callahan	6	6	Trinity, Siskiyou	100	\$6-12m
Gualala/Sea Ranch to Hwy 101	4	2	Mendocino, Sonoma	80	\$4-7m
Willow Creek to Somes Bar	3	1	Humboldt, Siskiyou	48	\$3-6m
Crescent City to OR border & Medford	2	2	Del Norte, Oregon	110	\$4-7m

Mendocino Coast Scenario

Capital and Revenue

- Total Demand Revenues
 - Residential \$158,875
 - Business \$ 31,050
 - Public \$ 66,000
 - Wholesale ?
- Estimated Capital
 - Backhaul \$3,520,000
 - Local Loop 558,386
- Discounted Cash Flow
 - w/o public \$1,030,579
 - w/public \$1,388,711
- Est. Subsidy \$2.5-3.5 million



Key State Policy and Program Considerations

- Anchor Tenants
 - Create new public-private partnerships utilizing public assets to support new infrastructure (cell towers)
 - Open closed networks (CENIC) for extending broadband into the hard to serve communities
 - Allow government offices in hard to serve communities participate in aggregation of demand

- Capital Funding

- Expand funding available to WISPs and other small local entrepreneurial enterprises.
- Include Community Services Districts providing broadband access to CASF funds.
- Provide grant funding to support the development of community-provider joint ventures.
- Support research and development of new technologies that hold promise for rural communities

- **Infrastructure Build Out**

- Create an “open trench” policy whereby state funded infrastructure projects at a minimum encourage burying of conduit or fiber whenever a ditch is open- issue at local, state and national levels
- Fund a pilot project to determine the viability of micro-trenching as an alternative to laying fiber in public right of way (Caltrans)
- Create publicly-owned infrastructure that can be leased by private operators willing to serve hard to serve communities.

Projects listed on the State Rural Broadband Stimulus Listing

- **Fiber from Fort Bragg to Ukiah:** Proposed fiber along Highway 20 to provide a redundant loop between the coast communities and the inland fiber line (along Highway 101).
- **Branscomb** (unserved) Wireless broadband building off Cahto Peak connections (35 residences)
- **Comptche** (unserved) Proposed project will utilize the current fiber running through town along Highway 101 and create a loop to serve surrounding pockets of homes. (100 residences)
- **Hopland** (unserved) Proposed project will utilize the current fiber running through town along Highway 101 and create a loop to serve surrounding pockets of homes. (350 residences)

- **Highway 1 South of Highway 128:** This project will utilize new fiber running on Highway 128 connecting at the intersection of Highway 1 on the coast and run south using fiber to serve the unserved communities of Elk, Manchester, Port Arena, Anchor Bay, Gualala, and Sea Ranch (which is actually located in Sonoma County).
- **Covelo:** ADSL 2+ utilizing extending reach of current backhaul infrastructure (300 residences)
- **Laytonville:** ADSL 2+ utilizing extending reach of current backhaul infrastructure (300 residences)
- **Potter Valley:** ADSL 2+ utilizing extending reach of current backhaul infrastructure (250 residences)
- **Redwood Valley:** ADSL 2+ utilizing extending reach of current backhaul infrastructure (700 residences)

- **Leggett:** Build microwave link from Cahto Peak in Laytonville to connect Leggett to the existing network (150 residences)
- **Willits/Brooktrails subdivision:** Pull fiber to remote locations, install remote terminal equipment for ADSL 2+ for customer access (1400 residences)
- **Albion-Little River:** Serving the communities of Albion, Caspar, Little River and Mendocino (1022 residences)
- **North of Fort Bragg:** serving the unserved communities of Westport and Cleone (310 residences)
- **Anderson Valley Project:** The communities of Yorkville, Booneville, Philo and Navarro are presently unserved. Proposed project will provide wireless service to these communities using microwave backhaul. (1565 residences)

Projects listed on the State Rural Broadband Stimulus Listing

RCC Mendocino TOTALS

- Estimated residences served 7,559
- Estimated project jobs 35
- Estimated new ongoing jobs 75

- **Total Mendocino County \$11,052,000**

