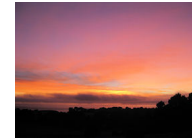


# Economic Impact of Broadband Access Essential not Optional

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## Economic Viability Depends On Broadband Access

Economic viability has become critically dependent upon universal affordable dependable broadband access.

No longer a frill or an option, people's economic lives now depend upon dependable broadband access in their homes, at their jobs, and in public places.

Those who do not have dependable access to broadband suffer significant economic harm. The poor and disadvantaged suffer disproportionately.

As a case study, this presentation examines how the failure of Esplanade.U.S, a south coast Internet Service Provider (ISP) in early 2011, adversely affected the economic health of Mendocino County's south coast.



## Esplanade.Uz: Internet Lifeline for the South Coast Cut

Esplanade.Uz was a small local privately owned business that at one point provided Internet access to around 400 customers on the south coast. For many of these customers the only other option was satellite access, and for some, there was no other option.

Esplanade's bandwidth was supplied by T1 lines in Gualala, and distributed using consumer-grade Wifi components (unregulated) with relay/distribution antennas often located in/on customers' buildings. Reliability and speed were remarkably good, but much affected by the weather. For much of its life Esplanade's customer support was very good.

Unfortunately, Esplanade went out of business early in 2011, leaving a large number of south coast residents and businesses without high-speed Internet access, and without many options.



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## Broadband Commute Reduces Pay

A "broadband commute" is when a person is forced to commute in order to have acceptable broadband access. Even a relatively short commute can reduce a person's pay 10%, and a one-way commute of half an hour reduces a person's pay by a third.

Round-Trip Commute Time (min)	Effective Hourly Rate	Effective Annual Rate <sup>1</sup>	Effective Annual Loss	Effective Pay Reduction
0	\$15.22	\$31,650	\$0	0%
10	\$14.28	\$29,709	\$1,941	6%
20	\$13.39	\$27,845	\$3,805	12%
30	\$12.53	\$26,054	\$5,596	18%
40	\$11.70	\$24,333	\$7,317	23%
50	\$10.90	\$22,676	\$8,974	28%
60	\$10.13	\$21,081	\$10,569	33%
120	\$6.07	\$12,625	\$19,025	60%

1. "County of Mendocino 2010 Comprehensive Economic Development Strategy", 2009, County of Mendocino, median annual pay



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## Esplanade's Negative Economic Impact

Considering only the cost of broadband commutes, it is clear that Esplanade's failure caused significant and ongoing loss on the south coast.

Round-Trip Commute Time (min)	Percent of All Drivers <sup>1</sup>	Commutes Per Work Day	Annual Commute Miles	Annual Commute Cost
10	8%	8	9,758	\$9,926
20	21%	21	54,481	\$55,419
30	27%	27	107,122	\$108,966
40	34%	34	176,698	\$179,739
50	6%	6	40,065	\$40,755
60	3%	3	26,716	\$27,176
120	1%	1	15,600	\$15,869
<b>Total</b>	<b>100%</b>	<b>100</b>	<b>430,440</b>	<b>\$437,848</b>

### Notes

- <sup>1</sup> "Mendocino County Economic & Demographic Profile 2010", 2011, Center for Economic Development, Chico Research Foundation
- <sup>2</sup> "County of Mendocino 2010 Comprehensive Economic Development Strategy", 2009, County of Mendocino



## Bedrock

Bedrock is the major supplier of concrete, rock, and gravel on the south coast with facilities in both Point Arena and Gualala. Bedrock also builds and maintains roads, and does construction site preparation.

When Esplanade ceased operation, Bedrock was forced to immediately obtain satellite Internet access, the only option available. Bedrock's extensive operations entail a great deal of regulatory interaction – government filings, coordination with planners, dealing with water quality and fish and game issues, and complying with in-stream gravel mining permits.

Bedrock's Karen Hay said, "Bedrock would go out of business without high-speed Internet access."

Bedrock's direct costs to deal with losing Esplanade were a few thousand dollars, for a two-year service plan that may not fill their long-term need.



## Point Arena Pharmacy

Point Arena Pharmacy cannot operate without broadband access.

Before a prescription is filled, the pharmacy submits a claim to the government or insurance company for approval – claims, approvals, and order placement for controlled drugs require broadband access.

To satisfy regulatory requirements, the pharmacy must regularly transfer large files through the Internet to agency websites.

When Esplanade failed, the pharmacy had to immediately obtain a two-year commitment to satellite service at an up front cost in excess of a thousand dollars.



## Dairy Farmer and Family

A Manchester dairy farmer depends on broadband access for breaking weather conditions, veterinary information, regulatory information and filings, locating and purchasing farm equipment, banking, health insurance, and other small business activities.

The children are home-schooled, and require broadband access for course materials and research. One is taking college-level courses online at College of the Redwoods – lectures and tests, with pictures and video delivered via broadband.

Cell phones and radio often don't work on the farm, broadband access is critical. When the tsunami warning from Japan was triggered, neither cell phone nor radio were working, Highway 1 at the Garcia was closed, and the lack of broadband access sealed the farm off from emergency information.



## City of Point Arena

Internet access at Point Arena City Hall is provided by WildBlue (satellite.) This connection is not completely reliable, and has significant bandwidth limits, but was uninterrupted by the demise of Esplanade, providing a safety net for the community.

Pooling resources around this connection, the City of Point Arena, Coast Community Library, South Coast Seniors, and Green Flash Wireless, created temporary public Internet access at Point Arena City Hall during normal business hours.

City information resources are firewalled from public access, but public use of WildBlue bandwidth contributes to excess bandwidth consumption. The City clearly needs dependable broadband access.



## Coast Community Library

Coast Community Library (CCL) provides the south coast with free open public access to reliable high-speed Internet. For many residents, the library is the only place they can go for Internet access in a business/study compatible environment.

When Esplanade died, CCL was no longer able to provide public Internet access. CCL's Internet access remained dark almost six months until mid-summer 2011.

Local patrons' lives were disrupted. Their ability to run their businesses, their personal lives, and the education of their children was significantly compromised.

Tourists were unable to read their email, make reservations, get directions, etc. – they were stuck out in the middle of nowhere with no connection to elsewhere. They took away a less than optimal memory of Mendocino County.



## South Coast Seniors

South Coast Seniors (SCS) provides essential services to the senior population of the south coast.

Before Esplanade went under, SCS staff helped seniors use the SCS Internet connection to deal with Social Security, Welfare, Medicaid, insurance issues, medical appointments, etc. SCS' Internet literacy class had to be discontinued due to lack of high-speed Internet.

With virtually all forms, reports, and information online, loss of the Internet wastes valuable staff time because all staff must now share a single slow dial-up line. SCS came within hours of losing a \$20,000 grant because of its lost Internet access.

Losing high-speed Internet hurt SCS economically, and impaired its ability to provide critical social services to the south coast.



## House in the Country

House in the Country produces custom art prints at its 10,000 square foot printing facility in Point Arena, employing 10 people, and generating almost \$1,000,000 in revenue through nationwide sales to decorators, designers, retailers and catalogs.

House in the Country requires broadband access because much of its business is based on its website, which is managed from a separate facility in Oregon that routinely photographs artwork located in Point Arena. Oregon has broadband access, and Point Arena does not.

When Esplanade ceased operation, House in the Country was forced to immediately lease their own T1 line, costing about \$15,000 for a three year contract.



## Arena Theater

As a largely volunteer operated non-profit, the Arena Theater depends on broadband access to communicate with its membership and to advertise its shows.

Selling tickets, booking films, negotiating contracts, purchasing specialized equipment, coordinating volunteers, were all significantly compromised by Esplanade's failure.

The bookkeeper, who lives an hour away in Boonville and depends upon high speed Internet, must now make more expensive trips to Point Arena. Loss of high-speed Internet has increased the number of volunteer hours needed to operate the theater, putting the theater in a difficult situation.

Industry pundits claim streaming video is the wave of the future for small theaters. Without reliable broadband access, the economic future of Arena Theater is murky.



## Green Flash Wireless

I formed Green Flash Wireless shortly after Esplanade imploded to explore how to restore high-speed Internet to Esplanade's former clients. However, both my home and my downtown Point Arena office had been served by Esplanade, so I had no Internet access at first.

This meant I couldn't shop for routers, radios, antennas, software, and all the other gear needed to plan and build an Internet service provider. I couldn't access regulatory information, or contact potential partners.

I lost a great deal of time in the beginning, as I had to share a slow US Cellular connection with three other people, and that connection only worked in my office, but not at home.



## **Conclusion: Mendocino County's Economic Viability Depends On Universal Broadband Access**

Esplanade's demise was a wakeup call for Mendocino county – universal, affordable, dependable, broadband access is critically required to maintain Mendocino's economic viability. Without broadband access, Mendocino County will become a third-world county.

"We didn't truly understand how important broadband access was until we lost it." Local wag...

*Broadband deployment throughout the County must be made a top economic development priority for the County.*

