

**TELETRANSPORTATION/TELECOMMUNICATIONS
ASSESSMENT AND PLAN FOR
DEL NORTE COUNTY, CALIFORNIA**

Phase One Report



Prepared for the

Tri Agency Economic Development Authority

**By:
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**Date:
June 21, 2006**

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Phase One Report

Table of Contents

Executive Summary	1
Preface.....	2
Introduction.....	2
Telecommunications Technology Is Forcing a Sea Change.....	2
The Rural Telecommunications Infrastructure Challenge.....	5
Phase One Report (Preliminary Phase)	6
Overview of Phase One Findings	6
Components and Activities of Phase One.....	7
Summary of Findings.....	13
Phase Two (“Plan for the Plan”)	14
Overview.....	14
Components and Activities of Phase Two.....	15
Phase Two work products to be delivered:.....	18
Appendix 1 – Maps	19
Antennas (multiple types).....	20
Charter Communications (fiber and Microwave).....	21
Curry County Communications (microwave).....	22
Fiber (to be confirmed).....	23
PacifiCorp (potential fiber route).....	24
Public Services Pool (microwave).....	25
US Cellular (Microwave).....	26
Verizon (microwave).....	27
Verizon (Switches).....	28
Verizon (Switches and Detail).....	29
Appendix 2 – Project Contacts	30
Appendix 3 – Documents Reviewed	34
Appendix 4 – Del Norte County 2002 RTP.....	39

Title page photo taken by John Irwin on June 1, 2006 at N 41° 16.701', W 124° 4.939', elevation 660'. Illustrates the remote nature of the region and the challenges for deploying infrastructure. This road is at the top of a remote hill and leads to microwave and cellular phone antennas.

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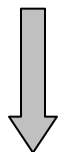
Executive Summary

Typically, it takes several months to gain an exact and detailed understanding of a region's telecommunications infrastructure and services status. However, due to the Consultant's experience and Kim Schmidt's introductions, we've actually made really good progress in the time allotted to this phase of the project but concede there's much more to be done.

The accomplishments include:

- an excellent start at building stakeholder awareness and participation in this project (see Appendix 2);
- a general and broad awareness of the need for expanding broadband capacity, access and competition in the region;
- a detailed mapping of the telephony infrastructure that includes the locations of telephony switches, microwave paths for commercial and public pooled interests, locations of antennas, and a start at mapping of broadband infrastructure (see Appendix 1);
- identification of potential alternate routes for infrastructure build outs (somewhat unexpected this early in the project);
- initiation of discussions with a major broadband provider to the area; and development and strengthening of relationships that will become necessary to the success of this endeavor (totally unexpected at this point in the project).

On a generally used "connectedness and readiness" scale, Del Norte County ranks between level 1 and 2. Suffice it to say that this is unacceptable. Serious planning and action will be required to move higher on the scale:

- 
1. Services are hard to get or expensive; few use the Internet regularly.
 2. High-speed services are more widely available; local web sites are limited.
 3. General access to high-speed services; web sites support transactions.
 4. Universal access to high-speed services; the Internet has changed the way all organizations operate and is fully integrated into everyday life.

Phase Two activities will result in a roadmap to the future, one that moves us up the scale. The strategic plan will be a comprehensive report with recommendations for a public, private, or public/private strategy that will:

- Be used as an active framework with which to immediately stimulate and facilitate advanced telecommunication, redundancy, and bandwidth improvements in Del Norte County.
- Strengthen physical and economic linkages with neighboring Curry, Oregon and Humboldt counties
- Foster enhanced and reliable teletransportation for both the public and private sectors
- Provide future economic development opportunities in the entire region.

Preface

The Tri Agency Economic Development Authority through the authorization of the first phase of this two-phase planning approach (i.e., “plan for the plan” and the ensuing detailed Strategic Plan) recognizes the rising importance and reality that nearly everything we do these days has some component of telecommunications inextricably linked to it. The importance of telecommunications infrastructure is further reinforced in the Comprehensive Economic Development Strategy (CEDS):

“Research opportunities for telecommunication and broadband infrastructure improvements under a collaborative and leveraged regional approach, which will involve and potentially benefit both the public and private sectors.”

In this report you will find the results of a Phase One broad assessment of the Del Norte County region’s telecommunications assets and a “plan for the plan” for Phase Two. Information gathered, even under the time-constraints for the Phase One study, has proven rewarding and provides a basis for the Phase Two recommendations. Indeed, we may already have initiated some level of activity generally not anticipated until the conclusion of a strategic planning process. This is consistent with the Consultant’s approach, one of planning and immediate execution as appropriate. Often our experience has shown us that achieving success in these matters do not occur in a linear fashion and we need to be prepared to strike while “the iron is hot.”

Our focus in this two-phase planning effort ultimately leads to actionable strategies for enhancing Del Norte’s availability and usage of broadband in the Internet Protocol enabled world of telecommunications. Yet we would be remiss if we did not address the current modes of telecommunications in the county. To this end the Phase One infrastructure assessment presents an inventory of the existing telecommunications infrastructure of the county, which predominantly is non-broadband. Existing research and analysis is employed wherever we could find it. Anecdotal information has also been included where appropriate. Likely we have missed something and will add in any new discoveries as we go forward.

Introduction

Telecommunications Technology Is Forcing a Sea Change

Telecommunications is the central nervous system of the American economy. It has revolutionized virtually every aspect of our lives and every industry, from education and health care to banking and finance. Between 1995 and 2004, advances in telecommunications and information technology were responsible for as much as 75% of U.S. labor productivity gains.

Today we are in the early stages of an historic telecommunications transition similar to the transition from telegraph to telephone service. However, the pace of change is now much faster as we transition from an analog narrowband circuit-switched telephone technology to a digital broadband Internet-protocol based multi-media network. At the start of the 21st century people and communities that lack broadband services are disadvantaged in the same way that people and communities without electricity or telephone service were disadvantaged in the first half of the twentieth century. We are in a continuing communications-information age revolution with far reaching implications. Like the expansion of railroads, the adoption of telephone technology, and

the distribution boon of our modern highway system, broadband is altering the fundamentals of our core infrastructure and how we live, work, learn and function politically.

Our world has been changed by the proliferation of the Internet, mobile phones, communication devices, e-commerce, and networks. These changes, however, mark only the very beginning of a new age of anytime/anywhere “connectedness.” The rapid emergence of broadband and establishment of true connectedness will entail a dramatic transformation in the very nature of our economies, societies and governments, as well as interpersonal and international relations.

Imagine today’s broadband as a footpath to easily access communications services like the Internet. Tomorrow’s broadband is a superhighway -- with state-of-the-art technologies that engage us visually, verbally and kinetically. Broadband offers us new forms of communications when we want them and how we want them.

Today, when we think of connecting with others, we think in terms of telecommunications based on voice transmission and computing based on isolated desktop PCs. The convergence of voice, data and video, the growth of communication bandwidth, and the low cost of access devices (fixed and mobile) are paving the way for a new, inclusive model of connectivity.

Quantitative studies now confirm that communities in which mass-market broadband is available experience more rapid growth in employment, the number of businesses overall, and businesses in information technology (IT) intensive sectors. The assumed, and oft touted, economic impacts of broadband are both real and measurable. Here is a short list of some of those areas seeing that impact in America today:

- Jobs, jobs, jobs!
- Our children, their futures
- Healthcare
- Access to government
- Public safety
- Not for profits
- Recreation
- Rural communities

Even as we start to see studies touting the impact of broadband on economies, we need to be aware that in many instances the exact value is difficult to ascertain. It may be fairly said that broadband is an “influencer” for increased economic growth. Some parallels exist in the evaluation methodologies applied to rail, highways and airports. While we might add up the immediately available cargoes or loads, the ripple effect throughout the rest of the economy is more difficult to compute. The exact contribution will be similarly argued for years to come, even though we can calculate the value of, for example, eCommerce at Christmas time.

With regard to continued expansion of the supply of telecommunications services, we need the participation of current and emerging telecommunications services providers. It is also in their best interests in serving the public needs (i.e., customers) to be engaged in these planning processes. This will go a long way to help ensure the solvency and profitability of those service providers by keeping them in touch with their markets. It is important to note that all services providers are businesses in one form or another (yes, even community-owned providers). For a business their fundamental motivations stem from profit and Return On Investment. Let’s always keep that in mind as we encourage and work with them to fulfill public policy goals and objectives.

A parallel effort needs to occur on the demand side of the equation. Here we must assist our residents, businesses, educators and others in understanding how to integrate these technologies into their lives, whether for profit, for service, or for entertainment purposes. Provisioning of these advanced telecommunications services and sustaining their availability requires sufficient demand to generate revenues for their maintenance and operation -- there still is no free lunch. Financing and revenue must come from somewhere. There is a great opportunity for creativity in these financing activities, especially by fostering additional demand with the ability to pay for the services out of expanded revenue streams resulting from the use of such services.

As yet there is no "cookie-cutter" approach to establishing and maintaining these services. The "successful" model or models are still emerging in an ever-shifting landscape of new technology and increased demands from consumers. A scan of available documentation of the many forms taken to provision these services is almost mind-boggling. "Best practices" do reflect some common threads, not the least of which is the use of collaborative models involving the community at large and creating sustainability through solid business practices.

Once again we state that it is a "must" to include the services providers in the evolving definition of community. Today one of the challenges is in the definition of "community." It now takes on some interesting meaning and approaches in the "connected world" and is no longer bound by neighborhood or city lines. When this has occurred, their profitability increases as well as their ratings for service satisfaction plus there is a continued expansion of services to meet well defined needs.

To remain competitive in the world Del Norte County businesses, institutions and residents must have available to them the most advanced telecommunications technologies and services AND the knowledge of how to use them. Our analysis confirms what many already know. Del Norte County is falling behind in its telecommunications capabilities. Indeed, this could be the most significant bottleneck facing economic and community development planners.

Economic diversification is the cornerstone of a healthy, growing community. By expanding and taking full advantage of telecommunications infrastructure, Del Norte County can become a world-class destination for a wide variety of businesses, healthcare, retirees and tourism. A 21st century county benefits from leveraging the communication technologies available to it, improving the quality of life and standards of living for all residents. Listed here are just a few of the ways in which we will all benefit:

- Access to world-class telecommunications services that will enable community leaders to actively recruit companies to the county.
- Family wage jobs will become the rule and not the exception due to expanded employment opportunities.
- New options will become available for businesses to establish operations in rural areas as well as providing employees with the choice of working from their homes.
- Educators and students alike will have the opportunities to develop skills and knowledge by employing telecommunication services to work with and learn from people around the world.
- Healthcare options will grow dramatically for communities and their residents in the area. Online consultations, diagnostics, and patient monitoring will be

available to those requiring special assistance. Medical staff will have access to state-of-the-art training.

- Public safety, of greater concern than ever before, will operate with improved efficiency and responsiveness.
- Housing will become more affordable due to rising incomes of prospective homebuyers.

We are now in the process of transitioning to the 21st century economy, the knowledge era. To compete in this emerging economic reality we need to be connected and we need a population that is prepared to take advantage of the opportunities afforded through these technologies. Each era has critical, enabling infrastructures, for example:

- Agriculture (pre 1880's)
- Industrial (1880's - 1980's)
- Knowledge (1980's -)
- Roads, Irrigation, Canals, Ocean Navigation
- Electric, Rail, Highways, Telephone
- Computing, Communications

We are now in an era where we can no longer leave our critical infrastructure planning to others. It's become my strongly held belief, substantiated by a growing body of evidence, that it is NOT the responsibility of vendors and service providers to do economic and community development planning for our communities, especially as it relates to technology (e.g., telecommunications providers). This is among the responsibilities we share as residents and community leaders. For too long now there has been a tendency to defer on this activity and then to get upset when the private sector's capital plans evolve differently from a desired direction for development by the community (e.g., telecommunications offerings). Providers and residents will benefit from sharing in a solid understanding of community needs and direction. Providers, just as residents, businesses and other community institutions, must be active participants in this process so as to be aware of desired outcomes for the community.

It is in the county's economic, security and societal interest to have robust broadband connections to all residents who want them and, equally important, for these same residents to know how to use them. Ensuring that we have the underlying infrastructure (e.g., high-speed broadband) in place is critical to the future of any Information Age Community. It's only when these tools are deployed and used by a substantial number of the population will we see the benefits of a 21st century economy and community.

The Rural Telecommunications Infrastructure Challenge

Del Norte County is an example of the rural challenge. Among the issues affecting a rural consumer's ability to access advanced telecommunications services comparable to those available to urban consumers are the continuation of stable funding mechanisms to encourage needed network investment in rural America and emerging issues associated with the delivery of multimedia services. The Consultant is no apologist for the telcos or cablecos but rather seeks to present an honest and real view of the challenges. After all is said and done, even with the huge public policy implications, this is still a business and a very complex one at that.

The broadband/Internet Protocol (IP) revolution provides the ability to integrate voice, data, and video into multimedia packages (i.e., voice, video and high speed Internet) that satisfy a wide variety of needs from entertainment to education to keeping elderly family members in touch with the world while housebound. Delivering these customer services requires significant

additional investment in rural networks, and stable cost recovery mechanisms. It also requires that all service providers have reasonable access to Internet backbones and to video content.

Maintaining and evolving rural network infrastructure remains critical to meeting the needs of rural consumers and their communities, including the provision of new IP-based services like Voice over Internet Protocol (VoIP). Rural telecommunications companies are stepping up to meet this need but cannot succeed based solely on competitive model assumptions applied to more urban areas due to the lower density, higher cost characteristics of rural service areas.

The financial challenges involved can be found in this example using national averages for a multimedia implementation, and multimedia is seen as the path to implementation for our rural areas.

Assume a basic triple-play package is \$99 per month

- \$40 for video
- \$30 for high-speed Internet
- \$29 for voice

Note: The incremental revenue is \$70 per month (\$40 + \$30)

The average incremental cost is \$92.91 per month and includes:

- Customer premises wiring and electronic costs
- Transport through the rural company's network
- ISP costs
- VSP costs (including content)

This results in a -\$22.91 per month. Advertising, premium video, other services, and other sources of revenue will be needed to eliminate the shortfall. This model does not include legal costs or increased costs due to traversing difficult terrain.

These are among the subjects that must be addressed by telecommunications providers to ensure infrastructure and services deployment in rural America. Perhaps the significant difference these days is the need and acceptance of the public and private sectors to collaborate and cooperate in a new level of public-private partnerships.

Phase One Report (Preliminary Phase)

Overview of Phase One Findings

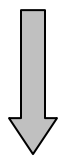
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Phase Two activities will result in a roadmap to the future, one that moves us up the scale.

Components and Activities of Phase One

What follows is a report of activities and results tied to the steps outlined in the RFP.

1. *Identify key stakeholders and form a teletransportation/telecommunications task force to provide ongoing input and guidance.*

The first step in this planning process is to identify stakeholders and then to form a Teletransportation / Telecommunications Task Force (T3F) with representatives from stakeholder groups. The T3F may be a subcommittee of an existing community/economic development committee or a separate committee. The T3F should consist of an appropriate number of members, including representatives of at least the following sectors:

- | | |
|--|---|
| • <i>local government</i> | • <i>telecommunications providers</i> |
| • <i>business</i> | • <i>healthcare</i> |
| • <i>economic development</i> | • <i>libraries</i> |
| • <i>education</i> | • <i>tribes</i> |
| • <i>criminal justice, law enforcement, and emergency services</i> | • <i>non-profits, arts, culture, and history groups</i> |
| • <i>other significant groups or sectors with the community</i> | |

Outcome

Thanks to Kim Schmidt’s introductions and participation in meetings, we were able to expedite contacting and meeting with stakeholders. This saved many hours of telephone tag, setting up meetings and convincing participants to hold such a meeting. We would not have

made this level of progress without Kim's participation. Please refer to Appendix 2 for a list of contacts.

Overall the meetings with the stakeholders indicated a good awareness of the value and need for enhanced broadband access for the region. This is an important and encouraging point to note as in many communities we've had to start by educating stakeholders as to the value and need for the technology. A number indicated a desire to learn more about the technologies for broadband delivery as well as to further understand the potential for use. Only one group indicated a satisfaction with the status quo. There is an apparent high willingness to be partners in the next steps of the project.

Two committees or task forces are recommended:

- a Teletransportation / Telecommunications Task Force (T3F) with representatives as follows:
 - Economic Development **
 - Healthcare
 - Education and libraries
 - Government – state, county city **
 - Public Safety
 - Recreation
 - Tribes (3)
** -- Kim Schmidt, Tri Agency EDA?
- Regional IT/Network Managers

The IT/Network Managers would be considered as subordinate to the T3F.

This is the one area of Phase One targets that was not brought to completion and needs to be addressed ASAP.

2. *Review Regional Transportation Plan (RTP) Guidelines for RTP requirements and information relating to teletransportation to establish study requirements and parameters.*

The Phase Two Strategic Plan will address each of the 5 policy and objective statements (see Appendix 4). Additionally, where appropriate recommendations are likely to bring these policy and objectives statements into a more current view of this topic.

3. *Review the Del Norte Local Transportation Commission (LTCO) Regional Transportation Plan and Teletransportation Mode Elements, as well as other recent and pertinent telecommunications studies.*

Outcome

See Appendix 3 for a list of documents, reports and white papers reviewed to date.

On review of the telecommunications planning reports one sees that there have been several attempts taking a community-based approach to promote telecommunications infrastructure improvements in the region. While this approach has raised awareness, these approaches have not proceeded from the point of producing recommendations of a somewhat generic

nature. In the final analysis of successful attempts to promote expansion of broadband offerings there is a real need to get to the business side of the equation.

No one should be faulted for not moving forward on this in the past, as this is a daunting, very complex and extremely time consuming task.

The relationship with OCZMA continues is strong and continues to grow, as evidenced by this recent email sent out by Onno Husing to a wide variety of chamber EDs, Port Commissioners, elected officials, and other telecommunications planners on the Oregon coast.

“I have been in regular contact with John Irwin who is doing important survey/scoping work in Del Norte County and I think we would benefit by meeting and reviewing some of those results.” *Email, June 16, 2006*

In addition we've ensured an ongoing dialogue with Curry County Commissioners, economic development interests, SOCC, IT directors, network managers and others.

4. *Identify existing telecommunications infrastructure and perform initial assessment of demand and future requirements in Del Norte County.*

Outcome

In our discussions we heard several instances of perceived and real needs for expansion of broadband capacity and access opportunities. Additional investigation using online resources and follow-up discussions with area residents and with experts residing outside of the area added to the growing level of baseline information.

It will take considerable additional investigation to put a number on overall broadband capacity needs. In some quarters this approach is considered passé, once you reach a certain level of demand profile. Del Norte may have already reached that threshold – we need a gigabit Ethernet backbone to reach into the region with 10 – 100 mbps local loops.

A summary of the broad findings of current telecommunications infrastructure, initial demand analysis, current gaps and future requirements follows (Please note that while we made note of the demographic and economic status of the area, this report does not address that topic. Phase Two will address this in the context of leveraging broadband):

- Overall, there is a general lack of understanding of the details of the telecommunications business and what is involved in the way of investment and support to deliver services. This is a very different level of knowledge from knowing how to build and manage a network. Further, this is not to be an apologist for the telcos or cablecos but rather to highlight the need for understanding how to work with the private sector to build the business case that produces the investment necessary to raise the telecommunications services profile for the region. This is a very complex business, especially given the remoteness of the area, its terrain and density of population.
- Telecommunications services in the region predominantly are non-broadband in nature. There is little or no competition in this market, save perhaps between wireline and cellular services. Indeed, this competition over telephony may have contributed to an

erosion of market share for Verizon with the result of a decrease in profits for an already marginally profitable market. This can result in further reducing the incentive to invest in the physical infrastructure in this market.

- Charter offers a broadband package through cable modems. Verizon has not turned up DSL in the county. Wireless broadband is predominantly through WiFi connections that use either Charter access or Verizon T-1 access. Satellite broadband is now available through two vendors: Hughes and WildBlue.
- There are reports of Quality of Service (QoS) issues with telephony (i.e., “dial tone” or voice) as well as with T-1 and DS-3 services. There are numerous tales that support the thesis that Verizon is out of capacity on its current network, especially out of the south. One rumor has it that 11 T-1 line requests are being held due to a lack of capacity on the microwave network. This somewhat flies in the face of the fiber feed running down the Oregon coast (the one that feeds Charter’s network in Del Norte). But this in part could be induced due to regulatory constraints imposed on telephony. As of this writing we have not been able to confirm or deny this finding.
- Based on our previous work over the past several years to bring route redundancy to the region, we can say for certain that this is a major issue for the area. Whether it is for reasons relating to public safety, commerce, healthcare or education, this lack of route redundancy remains a major and significant barrier to the area’s economic and quality of life “health.” Our work to date with Verizon on this matter has not yielded results, in the face of their many promises to the contrary. Again the realities of the “business” of telecommunications come to play. There is no real incentive (i.e., positive ROI) in such an investment in redundancy.
- Terrain and population density are factors that greatly increase the challenge for providing increased broadband capacity and competition as well as route redundancy.
- In recent years Charter Communications has built out their hybrid fiber coaxial network in the region. This already has had a positive impact on the region. Very recently Charter added the third DS-3 Verizon feed to their capacity. This expanded their capacity but falls short of the impending projected demand for services. They have been able to traverse the LATA issues as they offer only broadband and subscriber TV services. Also, as typical for these networks, the services are focused predominantly in the more densely populated areas.
- Charter is restricted in their offerings by the technology utilized to provide them with DS-3’s. Even with the addition of a third DS-3 recently, they foresee a substantial bottleneck in meeting growing needs of the region. Highly desirable would be access to a gigabit Ehternet backbone. This will require substantial investment and this means a clear understanding of the demand potential needs to be conveyed to Charter senior management. Charter uses a “cost plus” approach to building its financial models as the “build it and they will come approach” has not met with success (they are not alone in this).
- Schools districts are guaranteed a DS-3 (equivalent of 40+ T-1’s at 1.5 mbps per T-1) through CA legislation. However, that connection has proven to have QoS issues. Point-to-point connections for the schools within the district are via T-1 lines. A recent report from outside of the schools is that Charter will be replacing the point-to-point network sometime in the next year with a fiber overbuild. This has yet to be confirmed. Growing needs for bandwidth to support 21st century educations means that the schools need an as yet to be determined amount of bandwidth to provide for growth in the use of EdTech.
- Distance education (DE) offerings through the local community college campus are scant. This is a mode of education that particularly appeals to working populations,

especially women who typically make up 60% or more of the DE enrollments. Developing a DE program to meet the needs of regional populations is on the radar at Redwood but funding, DE knowledgeable staff and the lack of an affordable robust broadband constitute barriers. Home ownership of PCs is not a perceived barrier. Internet access is available at the library but their hours do not match the needs of the typical DE student.

- Bandwidth needs are growing for the Elk Valley Rancheria. Recent acquisition of broadband from Charter provides them with additional capacity. However, given the overview of plans we heard in our meeting, their needs have the potential to grow substantially greater.
- The Smith River Rancheria has already taken advantage of Charter's offerings, utilizing bursts up to the maximum available for their needs. Given their plans as shared with us, their need for expanded capacity will also grow. Today among their offerings is telemedicine/video conferencing between sites. However, there is potential for even greater bandwidth needs as they explore the higher end telemedicine uses (e.g., digitized radiological studies such as X-rays and CT Scans), distance education and access to government applications.
- Yurok Tribe economic and community development are throttled due to the lack of adequate telecommunications infrastructure. In many areas of the reservation not even dial tone is available, never mind broadband. Bringing advanced telecommunications services to the Yurok Tribe would be a significant improvement to their economic development and quality of life, especially for healthcare, education, access to government, and public safety.
- Sutter hospital is unable to offer higher end telemedicine offerings with their current bandwidth (4 T-1's). In order to support applications, such as CT Scans, minimal requirements rise to a minimal 100 mbps level with gigabit Ethernet offerings set as a desired goal. Without the use of these higher end applications available there will likely continue to be a need to use airlift capabilities to send patients to Medford or other locations. This increases risks for patients and "lifts" their reimbursement dollars from the area.
- The aging of the population presents an additional challenge for providing services to keep people in their homes as long as possible. There are many ways in which we can use technology to improve the lives of seniors and persons with disabilities. This has a "two-fer" benefit: improves the quality of lives and creates additional jobs to support the delivery of these enhanced services.
- Local area businesses experience slow downs with their current Charter bandwidth offerings, likely due to overall capacity issues in the existing network.
- The lack of route redundancy has hurt business when there is a cut in the Verizon services. Verizon telephony is fed through the Camas Valley on a leased CenturyTel route. The entire south coast is a spur off of that connection. When the fiber is cut anywhere between Roseburg and the coastal cities, business transactions depending on telecommunications cease. This factor also limits the desirability of the area for businesses investments, such as call centers. This can also be seen a looming public safety issue.
- Lone Eagles living outside the Charter footprint are reduced to low quality dial-up connections. Only recently has some relief presented itself through satellite technology. These small independent businesses bring critical dollars to the area. Attracting these sorts of enterprising individuals to the area would help boost the economy while retaining the quality of life factors critical to many.

- Public safety telecommunications may also be in a precarious situation, although this has yet to be substantiated. Questions regarding surge capacity for switches in the region in addition to the lack of route redundancy need additional analysis. Conversion of law enforcement, EMT and other public safety radios also needs evaluation in light of the FCC requirement to replace all such radios with narrow band equipment by 2013. In one discussion with Crescent City officials it was apparent that this issue was not on the radar (we did send background material to them).
- A fairly detailed mapping of known telecommunications infrastructure is now available (see Appendix 1). We need to meet with the IT Directors/Network Managers to see what else they might add. Telephony infrastructure is largely known. It's the detailed knowledge of fiber runs and broadband access points that remain somewhat clouded.

The information and understanding now in hand is only the tip of the iceberg. Much additional work needs to be accomplished. For example, we have not begun the understanding the technology literacy and e-readiness of the population. As with any set of tools merely having them in your possession is not sufficient. Knowing what to do with them is at the heart of the matter, and so too it is with broadband.

5. *Identify existing telecommunications infrastructure planning and development activities being conducted by various organizations or individuals throughout Del Norte County, including, but not limited to: Native American Tribes and Rancherias; City, County, and State governments; Del Norte County Unified School District; College of the Redwoods; private businesses; non-profit organizations; and other relevant groups or individuals.*

Outcome

Unfortunately, this turned out to be a very small list with only one serious prospect for Del Norte County, tentative plans revealed by Charter. But then...that's why we are undertaking this effort.

We had heard that there was a project to bolster the transmission capacity on the southern Verizon microwave network. However, this turned out to be a rumor that somehow arose out of the Orick Wireless Broadband Project (see below).

Rumors of an earlier effort somehow related to schools and the Gasquet area turned out to be a dead-end as there is no apparent project underway today. However, there is merit to the underlying assumption that something had been in the works as confirmed by a discussion with PacifiCorp. In that discussion a comment was made that a few years ago someone had called asking about use of the PacifiCorp power line route but that nothing had come of it. We ran out of time to chase down the history of this effort and to see if there is still something in the works. Follow-up is planned.

Orick Wireless Broadband Project - Summer-Fall 2006 - This project will develop a business plan for wireless broadband infrastructure for the town of Orick, which lies forty miles north of Eureka on US Highway 101. Orick, an unincorporated town in Humboldt County, lacks broadband Internet service. In paving the way for broadband, the project can create significant jobs by facilitating Orick's high tourism and business development potential. How they will get sufficient broadband to Orick needs to be further explored. The Consultant knows the parties awarded the contract. Follow-up is planned.

Humboldt County Redundant Fiber Project – 2006 - Redwood Coast Rural Action (RCRA), Redwood Region Economic Development Commission (RREDC), and Redwood Technology Consortium (RTC) recently formed a Working Group on Universal Regional Connectivity. North Coast residents, educational institutions, government agencies, and businesses are desirous of increasing the reliability of telecommunications, offering competitive choices in telecommunications providers, and enabling expansion of broadband coverage. NERATECH is overseeing this project, which is funded by the County of Humboldt. The report will be completed before summer, 2006.

During the course of our early investigations we have identified a few prospects for enhancing the region's broadband capacity:

- identification of 2 potential alternate routes for infrastructure build outs – use of the PacifiCorp ROW from Cave Junction to Smith River and joining up with fiber built to Somes Bar in Siskiyou County (somewhat unexpected this early in the project);
- initiation of discussions with a major broadband provider to the area (totally unexpected at this point in the project);
- a WiMax deployment for the area; and
- various ownership alternatives ranging from public, private to public-private.

As a direct result of Consultant's involvement with other regional and Oregon telecom planning efforts, we are now seeing a readiness to include Del Norte's interests in those emerging efforts. As a number of these are held in strictest confidence and are of a very sensitive nature due to the complexity of the negotiations, details will not be broadcast through this report.

All of these are in very early analysis with significant research and analysis ahead. Other developments are likely to unveil themselves as we proceed. All of the opportunities face significant barriers, for example terrain, financing, legal issues, and knowledge of how to use deployed assets.

6. *Present written and oral draft report to LTCO and the Tri-Agency outlining key issues and preliminary findings.*

Outcome

This report describes the Phase One accomplishments and contains recommendations for proceeding with Phase Two. Phase Two will be considerably more detailed and will address both the supply and demand sides of this topic.

Summary of Findings

The result of this Phase One assessment is eye opening as to the telecommunications resources available and not available in Del Norte County; the need for fostering expanded access to the resources and knowledge of how to take full advantage of these resources; and the realization that what we have today simply will not suffice in today's climate nor in the foreseeable future. The Phase One results, a broad assessment of the current environment that has led to recommendations for a "plan for the plan," reinforce the need to continue to plan for the future,

to work closely with the private sector to ensure we are not left further behind and to ensure they are kept abreast of the rapidly emerging demands of the markets they serve.

To ensure a continuing expansion of the supply of telecommunications services we need the participation of current and emerging telecommunications services providers. It is also in their best interests in serving the public needs (i.e., customers) to be engaged in these planning processes. By no means are we finished with our infrastructure growth. Indeed we lag and are impeded in our growth opportunities. New applications are coming on line everyday and these applications require more and more bandwidth.

Even as we work to improve the supply side of advanced telecommunications services offerings, we must also address the demand side of the equation. This might be characterized by the “so what...” question as in “so what...” if you have broadband, how will you use it? This is a critical question demanding to be answered. This cuts to the preparation, nurturing and sustaining of a 21st century economy and community. This investment can be comparable, if not larger, than the investment to be made into the infrastructure necessary to support a 21st century county. A parallel effort needs to occur on the demand side of the equation. Here we must assist our residents, businesses, educators and others in understanding how to integrate these technologies into their lives, whether for profit, for service, or for entertainment purposes. Lifelong education and workforce development must be addressed for us to succeed with these tools.

Phase Two (“Plan for the Plan”)

Overview

Phase One provided us with basis for proceeding by providing a high level view of the issues and challenges. Among the topics to be addressed in Phase Two we include:

- Recommendations for resolution of the route redundancy problem
- Alternatives for vastly improved broadband access and capacity
- Strategies to ensure e-readiness of the population
- Regional approaches that ensure inclusion of Del Norte in all future telecom planning

At the heart of this planning process is an awareness of the growing need for and importance of cooperation and collaboration, public and private. The Tri Agency Economic Development Authority has set the tone for this and leads by example. It’s important to open the discussion and participation to all who would make the needs of the county (and region) to be a priority in determining outcomes related to economic development and quality of life. “Working together” makes sense. It especially makes sense when framed in a context similar to other critical economic development infrastructure -- water systems, sewers, roads, electricity, and other shared infrastructure. Here's an opportunity to work together to identify needs here-to-fore not fully documented and to then set about finding ways to fill those needs...together. Taking action on the goals identified by the planning group can result in positive impacts to the economic climate in the region and will also positively impact the quality of life for the region’s residents.

The Phase Two outcome, a strategic plan, will help the county to speed delivery of vital human services, better use existing resources, attract new resources, facilitate neighborhood planning and community organizing, and build learning networks through which people with similar interests can share their diverse experiences. Education, healthcare, governments, businesses, not

for profits, myriad other organizations, and individual residents all will be positioned to take advantage of the benefits afforded through expanded opportunities for sharing information and knowledge through access to advanced communications capabilities.

Components and Activities of Phase Two

1. Continue to work with local and regional stakeholders and the identified task forces to further expand analysis and collaboration of infrastructure options.
 - Finalize the composition of the committees (i.e., T3F and IT/Network Managers) and gain commitment for participation.
 - Meet with the T3F and share the Phase 1 outcomes. Further develop details and periodically present these findings to the T3F for review and feedback.
 - Meet with stakeholders, potential anchor tenants, IT/Network Managers, service providers, political entities, utility commissions, and hold town hall update meetings as appropriate. This is important to ensure collaboration and cooperation as we move through the process to reach a set of final outcomes.
 - Conduct a survey of prospective broadband users to evaluate understanding of uses of technology, price points, take rate potential and technology literacy levels. Use the chamber mailing list plus the stakeholder list created through this planning process.
 - Provide periodic publicly available communications and solicit public input.
2. Continue to coordinate with OCZMA and other public and private entities to determine linkages and possible areas of collaboration for teletransportation / telecommunications infrastructure improvements and capacity building opportunities in Del Norte County.
 - Develop and build relationships in support of the effort to bring cutting edge telecommunications technologies to the region (similar to Phase Two, Item 3 but focused on regional outcomes). These efforts will include, but are not necessarily limited to:
 - identification of opportunities for collaboration,
 - exploration of legal mechanisms for organizational development and cooperation, and
 - fostering the building of relationships and linkages to support infrastructure development for healthcare, education, government, commerce, not for profits, public safety, and other areas that may emerge from identification of stakeholders and potential anchor tenants for broadband demand aggregations.
 - Participate in appropriate OCZMA-sponsored and other Oregon-based meetings on behalf of the Tri-Agency.
 - Continue to build on existing relationships in southern Oregon and build new relationships in northern California.
 - Participate in meetings as necessary to maintain open communications and to receive feedback.
 - Meet with utility commissions, politicians and other bodies as necessary to develop a thorough understanding of legal and political solutions.
 - Evaluate infrastructure ownership alternatives and recommend options for enhancing infrastructure offerings.
3. Coordinate with the Humboldt County Community Development Services Department, Curry County telecommunications planning entities and other public and private entities to

determine linkages and possible areas of collaboration for teletransportation / telecommunications infrastructure improvements and capacity building opportunities in Del Norte County. This includes participation in appropriate Humboldt and Curry County meetings on behalf of the Tri-Agency (similar to Phase 2, Item 2 but with outcomes focused within the county).

- Explore all avenues for reaching goals. Foster relationships built on collaboration and cooperation with an open and thorough digesting of all possibilities. This effort requires considerable patient interaction with interested and even hostile parties to an approach.
4. Prepare a comprehensive report with recommendations for a public, private, or public/private strategy that will:
- a. Be used as an active framework with which to immediately stimulate and facilitate advanced telecommunication, redundancy, and bandwidth improvements in Del Norte County.
 - b. Strengthen physical and economic linkages with neighboring Curry, Oregon and Humboldt counties
 - c. Foster enhanced and reliable teletransportation for both the public and private sectors
 - d. Provide future economic development opportunities in the entire region.
- The draft and final report will be a thorough and detailed documentation of accumulated research and analysis. The many dimensions of the impact of telecommunications technologies will be fully addressed and a roadmap to the future will be provided. The deliverable will be thorough, reflecting a well-considered understanding of the facts and realities of the context of the situation to be addressed.
 - Recommendations for a mission statement, vision, goals, action items and tasks will be provided and coordinated with the CEDS and RTP approaches. It will provide a roadmap for both infrastructure provisioning and services (supply side) and economic development (e.g., commerce, e-commerce and workforce development) and quality of life considerations (demand side). Quality of life considerations include those elements of critical community infrastructure directed at healthcare, education, access to government, public safety, caring for seniors and persons with disabilities, not for profits, recreation and other aspects of quality of life for a modern American community.
 - The recommendations will stress the importance of not only ensuring adequacy of telecommunications infrastructure but also of what to do with it. We need to provide a solid answer to the “so what...” questions, as in “so what” if you have a great infrastructure? What will you do with it? How do we prepare our populations for solid participation in 21st century economic and quality of life realities? The recommendations will pose tangible and realizable outcomes for the county’s residents as well as a roadmap for achievement.
 - The importance of regional efforts will be presented – “think regionally, act locally.” The tectonic shifts occurring in the global and regional economy mean that Del Norte County needs to understand how it can fit into this paradigm shift rooted in the rise of the knowledge-based economy. Del Norte County cannot afford to act in isolation. We must prepare our populations and through telecommunications technologies we can ensure that Del Norte County residents have an equal opportunity to compete in the regional, national and global landscape.

5. Prepare a supplement to be included in the existing RTP for LTCO.
 - Work closely with the LTCO to understand exactly what is required to gain official approval for inclusion in the RTP. Ensure that the supplement has been vetted by the appropriate groups (e.g., T3F, stakeholders and other parties to the proposition).
6. Present written draft plan and draft updated elements of the RTP for review.
 - Present the draft supplement to the LTCO, encourage critical feedback and make modifications as necessary.
7. Incorporate comments from review and present final written and oral report to LTCO, the Tri-Agency, and other public forums as deemed necessary by the Tri-Agency.
 - Return to the LTCO and present the final version of the supplement for approval.
 - Present the supplement to the Tri-Agency and other forums as may be deemed appropriate.
 - Present any and all findings and reports as may be necessary to communicate recommendations to stakeholders, potential anchor tenants (if so determined) and any other groups that might benefit for a complete understanding of the proposed path ahead. Post the results to key Websites.
 - By this time in the process there should be “no surprises” and we will have commitments to the plan recommendations in hand.

Budget Estimates (hours and dollars) for Phase Two (Main Study Phase):

Please note: These are estimates only. I am committed to improving the overall status of telecommunications access and usage in the region and will consider reasonable compensation that fits with available funding.

	<i>Previous</i>	<i>Revised</i>
1. Continue to work with local and regional stakeholders, service providers, utility commissions, political leaders and the various committees to further expand analysis and collaboration of infrastructure options. Note: Increase due to addition of survey plus additional anticipated meetings	80	120
2. Coordinate with OCZMA and other public and private entities (e.g., service providers, utility commissions, political leaders) that are required to determine linkages and possible areas of collaboration for teletransportation/telecommunications infrastructure improvements and capacity building opportunities in Del Norte County. This includes participation in appropriate OCZMA-sponsored and other Oregon-based meetings on behalf of the Tri-Agency.	80	160
3. Coordinate with the Humboldt County Community Development Services Department and other public and private entities to determine linkages and possible areas of collaboration for teletransportation / telecommunications infrastructure improvements and capacity building opportunities in Del Norte	100	100

	<i>Previous</i>	<i>Revised</i>
County. This includes participation in appropriate Humboldt County meetings on behalf of the Tri-Agency.		
4. Prepare a comprehensive draft report with recommendations for a public, private, or public/private strategy that will: <ul style="list-style-type: none"> a. Be used as an active framework with which to immediately stimulate and facilitate advanced telecommunication, redundancy, and bandwidth improvements in Del Norte County. b. Strengthen physical and economic linkages with neighboring Curry County, Oregon and Humboldt County c. Foster enhanced and reliable teletransportation for both the public and private sectors d. Provide future economic development opportunities in the entire region. 	160	160
5. Prepare a supplement to be included in the existing RTP for LTCO.	20	20
6. Present written draft plan and draft updated elements of the RTP for review.	30	20
7. Incorporate comments from review and present final written and oral report to LTCO, the Tri-Agency, and other public forums as deemed necessary by the Tri-Agency.	60	40
Estimated hours:	530	620
Total charged hours at \$50/hour discounted rate for not for profits:	\$26,500	\$31,000
Estimated expenses:	\$8,000	\$8,000
Total amount:	\$34,500	\$39,000

Phase Two work products to be delivered:

- A comprehensive Del Norte County Teletransportation / Telecommunications Strategic Plan, emphasizing the coordination with similar efforts in Curry and Humboldt counties toward an integrated, realistic, and regionally based cooperative strategy, to include private sector interaction and potentially necessary legislative actions and remedies.
- Updated teletransportation element of RTP.
- A detailed roadmap to the future of telecommunications for Del Norte County.
- A transfer of knowledge of the telecommunications business to area residents, as appropriate, to build capacity within the region for moving ahead.

Appendix 1 – Maps

The following maps were produced using DeLorme Topo 6.0. This product provides precise positioning using GPS coordinates. Layers provide for enhanced viewability as these mappings can become quite cluttered, especially when viewed as extracts presented on 8 ½ x 11” paper. On request the full-sized bit maps (up to 25 Mb and poster-sized) are available. Acquisition of the DeLorme product (less than \$100) is highly recommended. With a copy of the product we can then exchange the .ani files that make up the layers. This would also allow for additional mapping input from parties in the region.

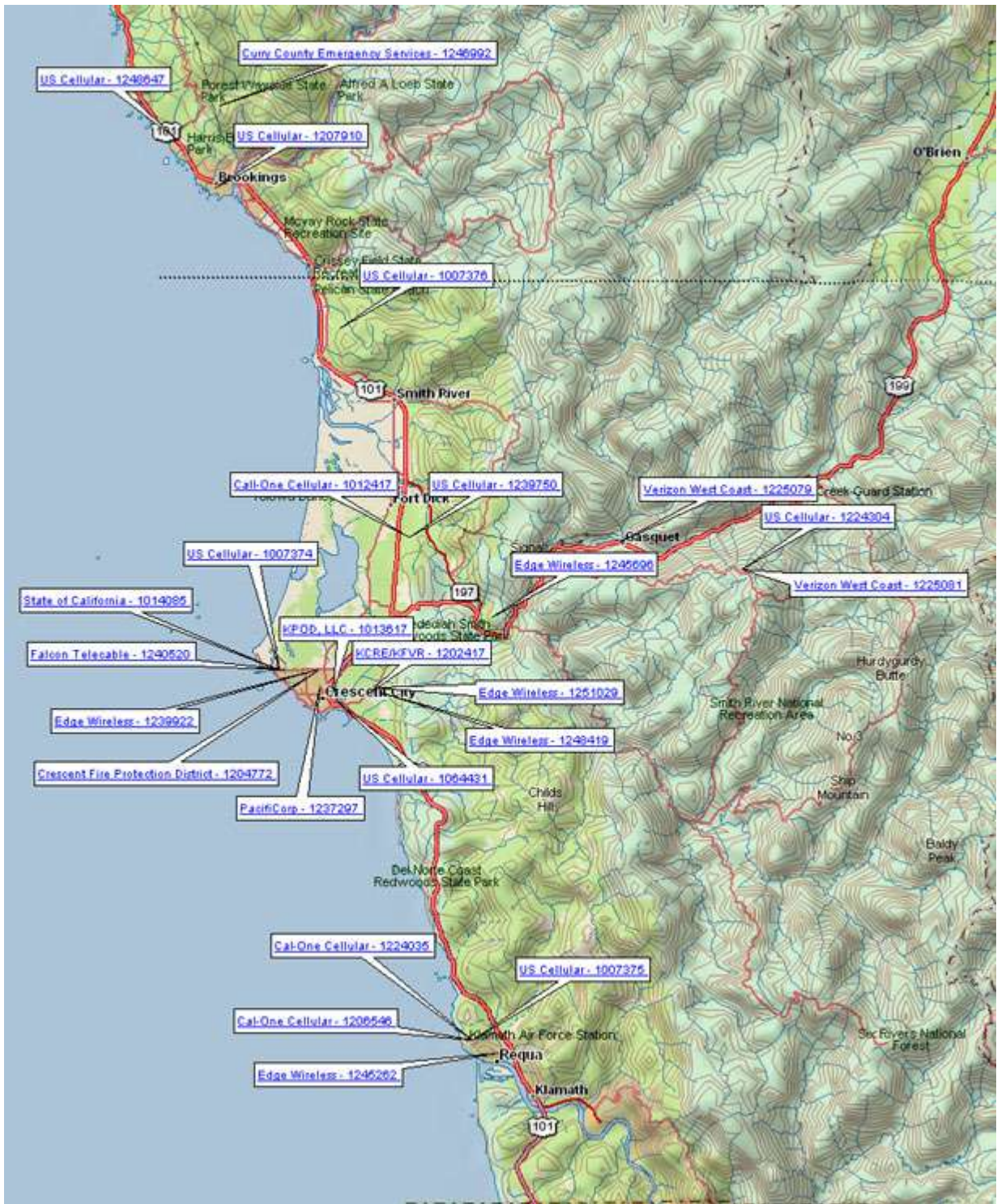
Note that many of the map notes text are blue and underlined. When viewed online with an Internet connection these are hyperlinks that take you directly to original sources. Two online resources provided the bulk of the GPS mapped data:

Federal Communications Commission
www.fcc.gov

Telcodata.us Telecommunications Database
www.telcodata.us

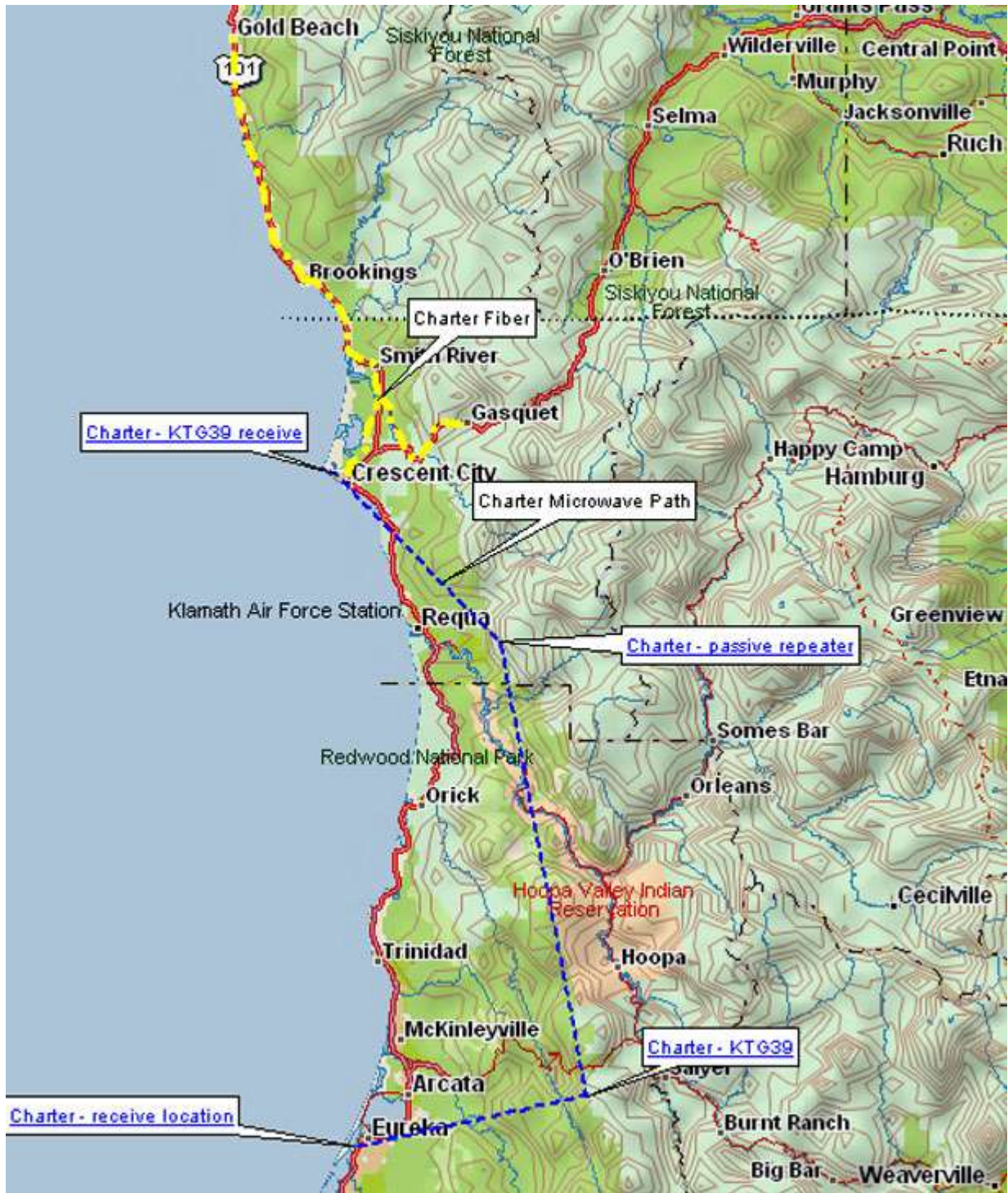
These databases are rich in detailed data; require expertise for searches and for comprehending the results, and lots of patience in extracting and compiling the data. It should be noted that the vast majority of data made available in this format is directed at non-broadband telecommunications (not subject to the same level of reporting due to federal law). Broadband mapping here is therefore based on anecdotal information; assembled from bits and pieces provided through rumor, online marketing promotions and the occasional online map. More work needs to be done with regard to broadband mapping to develop the same level of detail as for other telecommunications infrastructure. This will require extensive fieldwork or contributions of mapping details from the broadband providers.

The maps that follow were produced as low-resolution .jpg files to fit on an 8 ½ x 11” sheet of paper. They have been substantially reduced from their original sizes. Map renderings were produced using a variety of settings for contours (included or not), zoom levels, and other techniques.

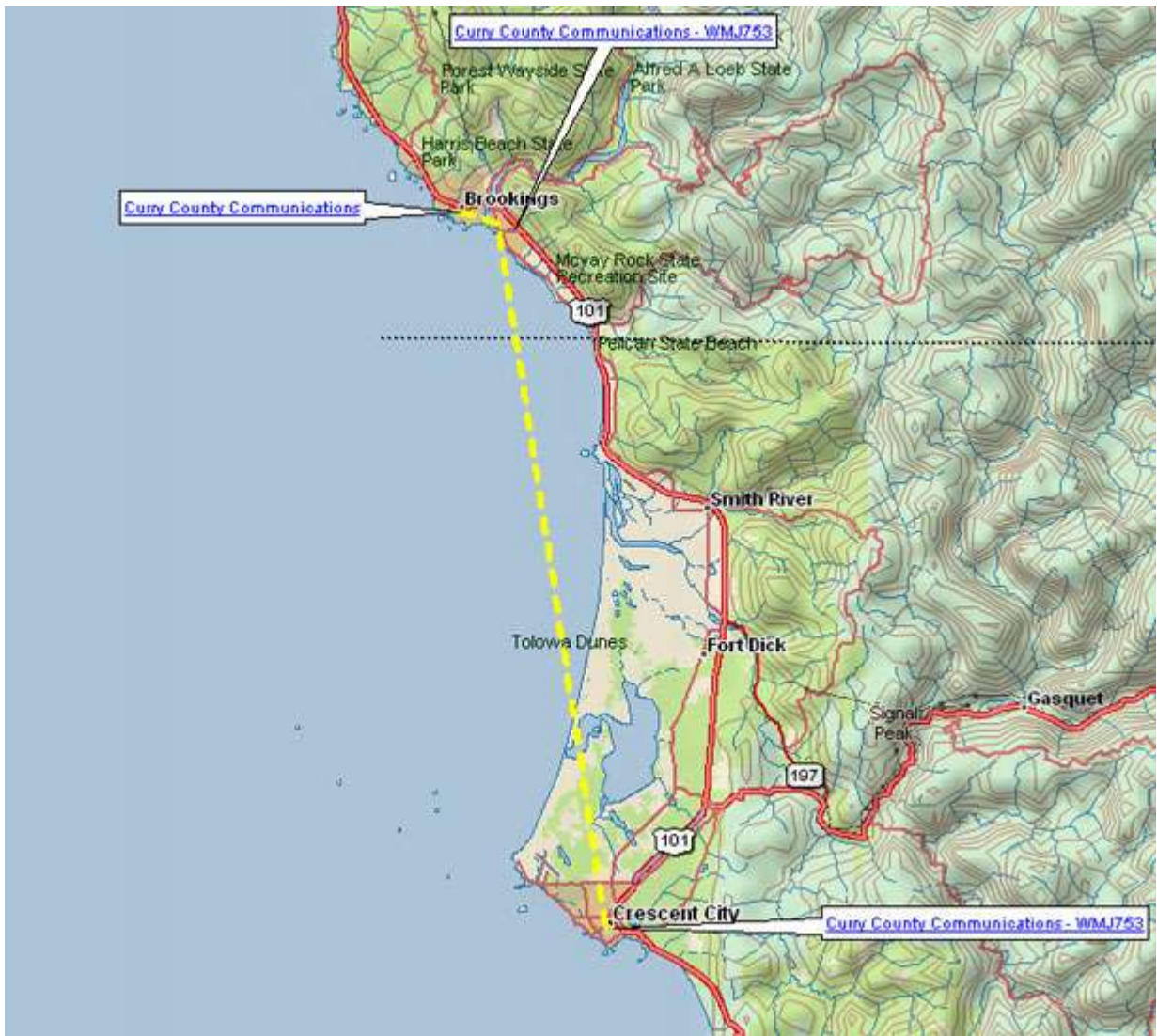


Antennas (multiple types)

Note: Only antennas that meet the FAA for reporting are included in the FCC database.



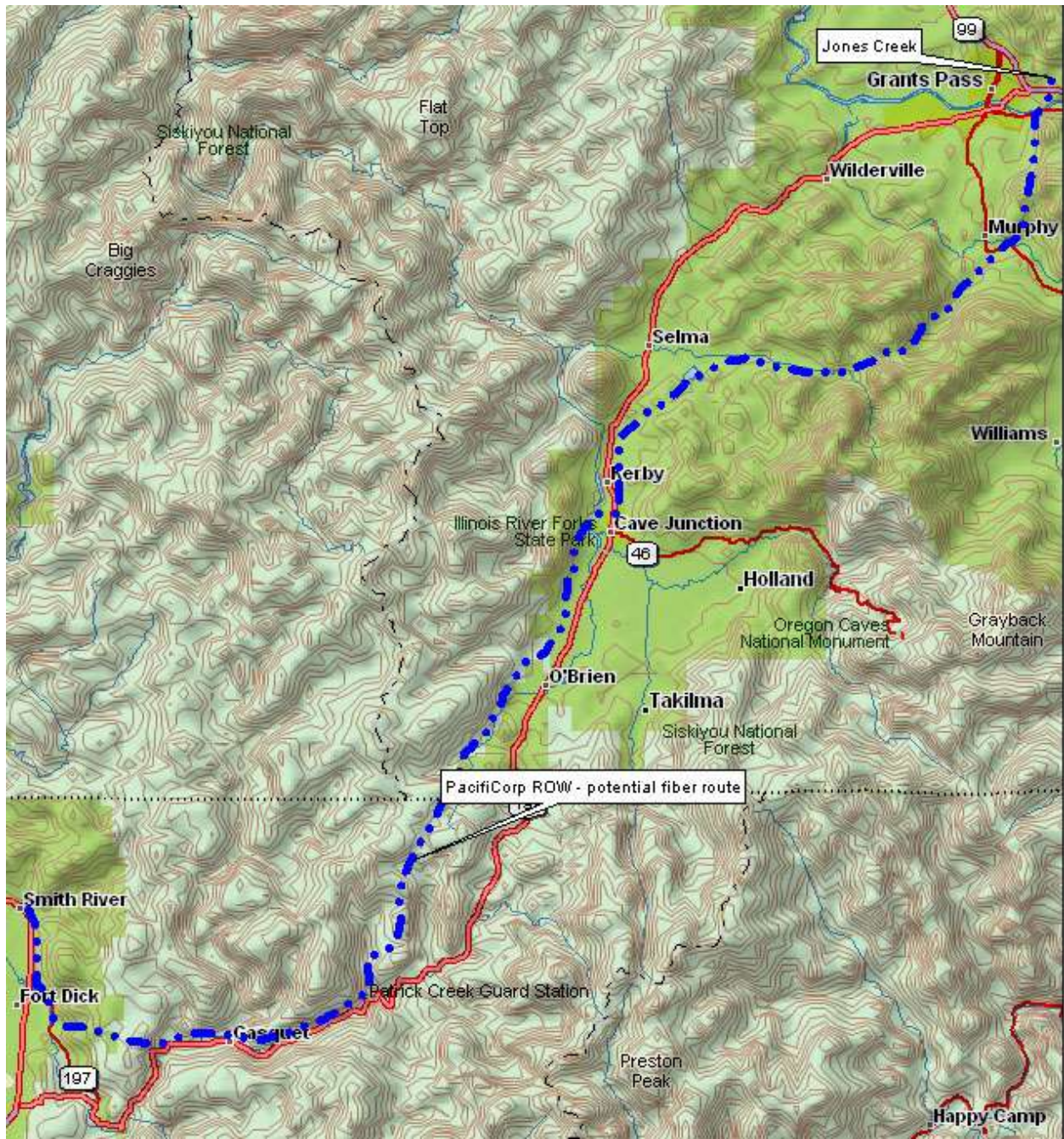
Charter Communications (fiber and Microwave)



Curry County Communications (microwave)



Fiber (to be confirmed)



PacifiCorp (potential fiber route)



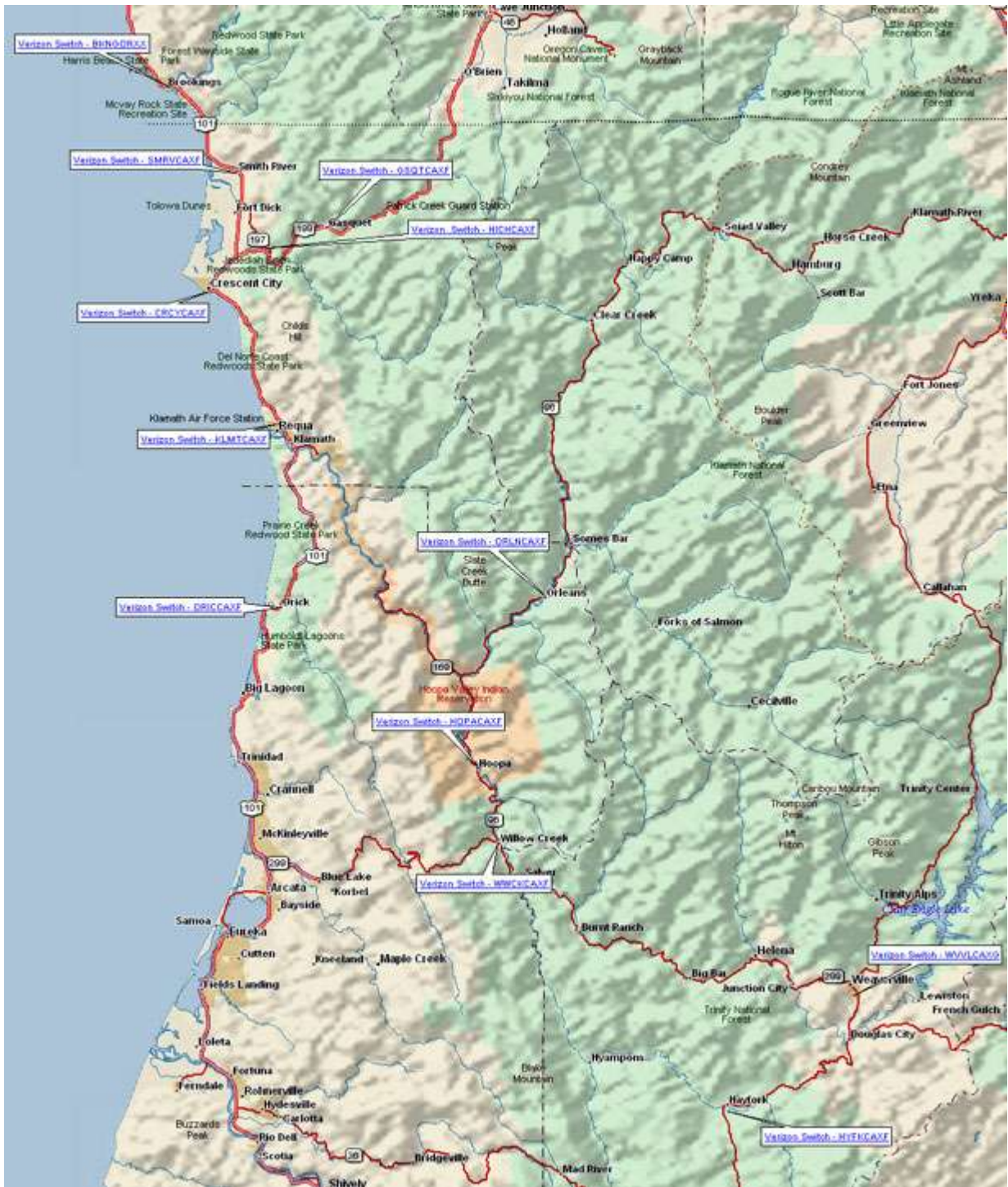
Public Services Pool (microwave)



US Cellular (Microwave)



Verizon (microwave)



Verizon (Switches)



Verizon (Switches and Detail)

Appendix 2 – Project Contacts

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Appendix 3 – Documents Reviewed

2002 Regional Transportation Plan for Del Norte County, Del Norte Local Transportation Commission (LTCO)

The Del Norte Regional Transportation Plan inventories existing transportation systems and describes the development needs of all modes of transportation. The Regional Transportation Plan reflects the mobility goals and objectives of the region and is directed at achieving a coordinated and balanced regional transportation system. It is the intent of the Del Norte Local Transportation Commission (LTCO) to utilize the document as a tool in providing a realistic direction for future transportation improvements in Del Norte County.

<http://dnltc.ca.gov/studies/2002RTP.pdf>, retrieved April 2006

California regional Planning Handbook

This Handbook describes the respective roles and responsibilities for District Transportation Planners with regional transportation planning duties, and for Transportation Planners within ORIP. The focus is Department interaction with the Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) in regard to Overall Work Programs (OWPs) and Regional Transportation Plans (RTPs), with emphasis on monitoring activities paid for with ORIP-administered transportation planning funds: state Rural Planning Assistance (RPA) and federal Consolidated Planning Grant (CPG).

http://www.dot.ca.gov/hq/tpp/offices/orip/2003_Regional_Planning_Handbook.pdf, retrieved April 2006

Supplement to the Regional Planning Handbook – California Department of Transportation (2003)

Intended to provide additional guidance to Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs) for their upcoming cycle of 2004/2005 RTPs.

http://www.dot.ca.gov/hq/tpp/RTP_Supp.pdf, retrieved April 2006

Broadband Deployment in California

California Public Utilities Commission, Chapters 1 – 9, appendices (Rights of Way Codes in the U.S., Broadband Policies and Practices in the U.S. and) and maps (Area Codes and LATAs, Technology per Zip Code, Broadband Providers per Zip Code, Number of Broadband Providers per Zip Code, Population By Zip Code, WiFi Hotspots per Zip Code), May 5, 2005, California Senate Bill 1563 requires the California Public Utilities Commission (CPUC) to convene a proceeding to identify the factors that prevent ubiquitous availability of advanced communications services and to develop a plan to address these barriers. To accomplish the goals set out in SB 1563, the CPUC initiated a rulemaking proceeding (R.03-04-003) on April 11, 2003.

<http://www.cpuc.ca.gov/static/telco/reports/broadbandreport.htm>, retrieved April 2006

Order Adopting Report in Fulfillment of Senate Bill 1563, May 5, 2005,

http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/46428.htm, retrieved April 2006

“On the Road to Gigabit Broadband: Are We there Yet?”

A self-assessment Guide for Communities

www.cenic.org/guide, retrieved April 2006

“Living in a Networked World: Humboldt County Telecommunications Infrastructure and Usage Assessment,” December 2004

This telecommunications assessment was an innovative planning program for the region’s digital future sponsored by the Humboldt County Economic Development Division.

Telecommunications services have major impacts on economies and society. This project will help the county participate in the new, wired economy.

http://redwoodtech.org/HotTopics/documents/126_final_report.pdf, retrieved April 2006

2004/2005 Overall Work Program

Del Norte County, Local Transportation Commission,

<http://dnltc.ca.gov/studies/LTC%20OWP%2004%2005.pdf>, retrieved April 2006

“Humboldt County Telecommunications Analysis,” Tina Nerat, June 2002,

This report is intended to provide information on telecommunications options available (and pending) to Humboldt County businesses. It will give service information by community, including costs provided by the telecommunications vendors. The report will also discuss pros and cons and recommendations for various options based on business requirements. A section of the report will also talk about residential options for Internet access.

http://www.neratech.net/docs/northcoast_bandwidth_2002.pdf, retrieved April 2006

“Telecommunications Issues in Humboldt and Del Norte Counties”

Prepared for CENIC 2003 Annual Conference, Santa Barbara, California, Tina Nerat, May 7, 2003

http://redwoodtech.org/HotTopics/documents/41_cenic.ppt, retrieved May 2006

“Northwest California Network Infrastructure Analysis: Del Norte and Humboldt Counties”

Science Applications International Corporation (SAIC), a San Diego-based research and engineering company, was retained by the Corporation for Education Network Initiatives in California (CENIC), to perform an assessment of the need for broadband network capabilities in Humboldt and Del Norte counties and the existing network infrastructure, and to identify alternatives for increasing the availability of high speed connectivity in the region.

August 11, 2003, <http://www.cenic.org/pubs/reports/nwccenicstudy.pdf>, retrieved April 2006

“The CSPP Readiness Guide for Living in a Network World,” July 2000

Welcome to the CSPP Readiness Guide for Living in the Networked World. This self-assessment tool is designed to help you and your community determine how prepared you are to participate in the Networked World.

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As with the advent of the railroads, the creation of our interstate highway system, and the roll out of universal electrical service, the Computer Systems Policy Project (CSPP) believes the promise of the Networked World—where everything and everyone is connected at all times through computer and communications technology—will engender one of the greatest paradigm shifts of the 21st century. While today’s information services and communications are largely based on relatively low-speed, wired access to the Internet, tomorrow’s will be enabled by seamless interaction among various devices and applications connected via advanced wired and wireless broadband networks.

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Representation of broadband in CA and OR. Contains several gross errors.

http://redwoodtech.org/HotTopics/documents/93_FiberNetwork_NoCA-1111A.pdf, retrieved May 2006

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2003 County Business Patterns for Del Norte, CA

<http://www.census.gov/epcd/cbp/map/03data/06/015.txt>, retrieved May 2006

Del Norte County QuickFacts

Census Bureau reports on Del Norte County characteristics.

<http://quickfacts.census.gov/qfd/states/06/06015.html>, retrieved May 2006

Assorted economic data from the Bureau of Economic Analysis Regional Economic Accounts

BEARFACTS 2004, business information, personal income, etc.

<http://www.bea.gov/beat/regional/reis/> and Bureau of Labor Statistics <http://www.bls.gov/>

California Labor Market Info

Monthly Labor Force Data for Counties

<http://www.labormarketinfo.edd.ca.gov/>

Federal Communication Commission infrastructure data

Main menu

<http://svartifoss2.fcc.gov/reports/index.cfm>

Assessment forms to be used in community meetings, Tina Nerat

http://redwoodtech.org/HotTopics/documents/86_assess_091404.ppt

Orick Wireless Broadband Project - Summer-Fall 2006

Given the existing state of infrastructure, this project will develop a business plan for wireless broadband infrastructure for the town of Orick, which lies forty miles north of Eureka on US Highway 101. Orick, an unincorporated town in Humboldt County, lacks broadband Internet service. In paving the way for broadband, the project can create significant jobs by facilitating Orick's high tourism and business development potential.

<http://www.neratech.net/docs/RFP-29.pdf>, retrieved June, 2006

Annual Compensation Rates for Telecommunication Placements in Controlled-Access Rights-Of-Way

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California's Independent Telephone Companies, January 2003

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K-12 High Speed Network, June 2005

Status of connectivity to California schools

<http://www.k12hsn.org/>, retrieved June 2006

BROADBAND NETWORKS IN K-12 PUBLIC EDUCATION: Achieving Last Mile Connectivity to California Schools, CENIC, June 2003

www.cenic.org, retrieved May 2006

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<http://www.co.siskiyou.ca.us/docs/Code%20of%20the%20West%2012-05.pdf>, retrieved May 2006

Siskiyou County, California - Telecommunications Strategic Plan, 2002

<http://www.co.siskiyou.ca.us/telecommunications/planning/telefinal.pdf>, retrieved May 2006

THE STATUS OF TELECOMMUNICATIONS COMPETITION IN CALIFORNIA, 2003

California Public Utilities Commission

<http://www.cpuc.ca.gov/PUBLISHED/REPORT/31223.htm>, retrieved May 2006

Telecommunications Issues in Humboldt and Del Norte Counties, Prepared for CENIC 2003 Annual Conference, Santa Barbara, California, Tina Nerat, Redwood Technology Consortium, May 7, 2003

<http://www.cenic.org/events/cenic2004/pres/tnerat.pdf>, retrieved May 2006

Appendix 4 – Del Norte County 2002 RTP

5F. TELE - TRANSPORTATION & PIPELINE TRANSMISSION, Pages 5-10 to 5-12 state...

GOAL: *Support tele-transportation as a mode of transportation that has significant potential to reduce trips, and improve underserved populations' access to public teletransportation services.*

5F.1 POLICY: *The LTCO will support funding strategies that facilitate teletransportation projects that provide trip reductions and increases in productivity.*

OBJECTIVE 1: In cooperation and coordination with the City of Crescent City and Del Norte County, support planning and capital development of local Internet, multimedia communications, and videoconferencing forms of transportation for individual and commercial use. (Supports City General Plan policy 3.G.3. and County General Plan Draft policy 8.H.3.)

5F.2 POLICY: *The LTCO will support the education of county and city governments, residents, businesses, and public agencies, regarding the benefits of teletransportation as an alternative to traditional surface transportation methods.*

OBJECTIVE 1: Make available to county and city staff up-to-date information on tele-transportation services and opportunities in the region.

5F.3 POLICY: *Promote improvements and coordination in local tele-transportation infrastructure in order to provide residents, businesses, and public institutions access to tele-transportation opportunities.*

OBJECTIVE 1: Conduct research and planning to determine what local need or needs exist for improved tele-transportation services.

OBJECTIVE 2: Work towards obtaining regulatory approval from the California Public Utilities Commission for enhanced telecommunications services.

OBJECTIVE 3: Support City General Plan policy 3.G.1 and County Draft General Plan policy 8.H.1. to encourage development of the highest standard possible of broad band internet, multimedia communications, and videoconference facilities by local public utility providers, public agencies, quasi-public agencies, and the local business community.

5F.4 POLICY: *Preserve and maintain, as feasible, improvements and progress made to communications infrastructure, which serves as the foundation for teletransportation.*

OBJECTIVE 1: Actively support continued access of a broadband connection to the World Wide Web and distribution of broadband Internet within the community.

OBJECTIVE 2: Actively support community access to full-motion videoconferencing equipment.

5F-5 POLICY: *Encourage the placement of new or relocated utility lines underground whenever feasible.*

OBJECTIVE 1: Support the City's policy requiring the placement of new or relocated utility lines underground whenever feasible. When undergrounding lines is not feasible, support the requirement that alignments not interfere with scenic resources.

OBJECTIVE 2: For projects to construct new and/or replace old major sewer and water pipes, encourage that new pipes be made of the strongest, most flexible materials available that are still economically feasible.