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Wireless Report: Looking Back, Moving Forward

In this special two-month newsletter edition

we take a look at the state of wireless Internet service in the community. We've come a long way since OCS created the first local wireless accounts nearly five years ago. Much has changed, there has been a lot of growth, and there is certainly more to come.

The Internet Revolution. When OCS pioneered local Internet service as the community's first provider in 1995, dialup access using normal phone lines and modems was the only option. Speeds gradually became faster, and it was exciting to plod along from modems rated at 1200 kbps in the beginning to the eventual standard 56K variety. And when websites and online applications were still small and relatively simple, those speeds seemed perfectly acceptable.

But nothing in the Age of Technology remains the same for long. Today many businesses, government agencies, shopping networks, and distance learning programs are run entirely online. The speed of dialup Internet service, not to mention its need to connect and disconnect for each session, prompted the need for something faster.

The Broadband Revolution. The term "broadband" generally refers to that faster solution. Whether it is DSL over phone lines, or Cable over television cable, or wireless connections between antennas, broadband service is many times faster than dialup and it is "always on" and ready to use, with no need to disconnect. As broadband service has become more widespread and generally available and affordable, practical use of the Internet has literally exploded.

Limitations. Broadband over DSL requires specially conditioned phone lines and is limited by distance to approximately 2-3 miles from the nearest phone company switching center (downtown Porterville for example). Old-style television cable is unsuitable for Internet service and must be completely replaced throughout the community. Wireless requires a clear view to the nearest tower and can be subject to interference.

And, all methods of service delivery are at their fastest only when they are first deployed and are relatively empty, with few subscribers on the system to share the overall network resources – think of an LA freeway at 3 o'clock in the morning versus 3 o'clock in the afternoon. So, as different service providers succeed at delivering service to larger numbers of subscribers, they must essentially continue to widen their freeways or build more of them, while also adding express

lanes, car pools, and other methods to keep the traffic flowing.

And then there are the merge lanes and intersections where traffic can snarl and clog. In the Porterville area there are already several wireless service providers, and more are coming because our community is growing. However, the number of frequencies available for Internet service is limited by the FCC, so each new artery adds the potential for more interference and more potential congestion which cannot always be controlled.

For example, service on one wireless channel can overlap other nearby channels if the traffic intensity is high enough, creating interference. And since different channels are used by different operators, the cause of this kind of problem can often be traced to customers of another service provider over which there is no direct control. In these cases it is usually necessary to simply wait for the high nearby traffic bursts to subside, just as traffic clogs eventually clear up on the freeways.

These cycles from fast expressways (while they're new and empty) to freeways that can become slower (until they're upgraded) is a constant that is driven by market economics, consumer demand, outside interference, and the limitations of technology. Motorists, like Internet broadband subscribers, will often flock to new expressways until they too start losing their initial advantage—which may be temporary—and begin to slow down.

Somewhere in the middle, between way-fast initially and the possibility of too-slow eventually, is usually the happy medium for average service plans, performance, and pricing. Enjoy the speeds when a service is new, but don't expect that it will last as traffic loads begin to increase.

Solutions. As in the illustration above, the solutions are to widen the freeways, build more of them, or explore new technologies. However, there may be some problems related to these solutions ... widening may not be possible, new locations may not be available, and new technologies may have limitations or unsuitable tradeoffs, or may not yet exist.

Fortunately, at OCS we're already moving ahead in all of these directions. In just the last year we "widened" our coverage and capacity at existing tower locations through the addition of 4 new radio-antennas, and we also built 4 entirely new towers to expand coverage into more of our community's foothill and mountain valleys.

Our current network has grown to a grand total of 12 towers and 27 distribution radio-antennas, covering an expanse of 2,500 square miles ... and we have 4 more new towers planned for the coming year which will add up to 8 more radio-antennas for

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signal distribution and additional area coverage.

So there's been plenty of road widening and new construction going on at OCS! And new technology as well ... in the last year we've added 4 new generator backup systems, at our main office and at our solar-powered tower sites, and added long-term battery-backup systems at our utility-powered sites. We know that the reliability of our service is increasingly important and sometimes even "mission critical," and we continue to plan for emergencies before they happen.

We've also expanded service into new frequency bands to help reduce congestion in the community's higher-usage areas, and we can often move customers to a different plan type or frequency. Some of these options use new "designer antennas" that are so slim and petite they're hard to spot even on the front of homes. And in selected areas we'll soon be deploying new neighborhood solutions to further relieve traffic flow over our larger network arteries, much like building smaller feeder routes to help increase the efficiency of larger area freeways.

What else is new? Later this month we expect to start installing VoIP solutions (Voice over IP) that will completely eliminate the need for traditional phone lines and dramatically reduce the cost of long distance calling. The OCS solution has been two years in the making and we know it's going to be very popular. For a look at how OACYS VoicePlans are more complete than Vonage and even better than sliced bread, please see our August newsletter.

Also, VPNs are rapidly becoming the glue that binds homes and companies together over our wireless network. A VPN (Virtual Private Network) provides secure end-to-end communication between two points on a network, like a tunnel with security guards at each end. And since only OCS provides high-speed service into so many of our foothill and mountain communities as well as our towns it has never been easier, more feasible, more efficient, or more secure to create true telecommuter and work-from-home solutions.

The bottom line. All of our soon-to-be 24 years at OCS have been interesting and challenging, each in its own way, but none more so than those since 1995 in the Age of the Internet. And of those, the last five years in Wireless Broadband have been truly high adventure. Some of the excursions to our tower sites are what Disneyland used to call an E-Ticket ride, and we're building more towers to ensure that high-speed service is also available up into our surrounding foothill communities, where DSL and cable and other wireless services do not reach. These smaller pockets are not easy to serve, but OCS broadband service is what connects our community and we remain dedicated to providing nothing but the best.

And speaking of the best, that also describes our many loyal customers. We work hard to support them – all of you – because of the tremendous support we receive in return. For that we extend our sincere thanks and appreciation ... we make a great team, and the winners are all the communities we've connected together over so many years. We intend to keep it up, and we look forward to your ongoing support. *Thank you!*

WIRELESS SERVICE AREAS

Subscribers on our new Rocky Hill Exeter tower say service is GREAT!

- Porterville
- Springville
- Pleasant Valley
- River Island
- Globe Drive
- Strathmore
- Terra Bella
- Lindsay
- Exeter
- Visalia
- Yokohl Valley
- Camp Nelson
- In progress*
- Success Valley
- Richgrove

Our new Rocky Hill Exeter tower also covers Badger Hill Estates!

- **VIRUSES STOPPED BY OCS SYSTEM: 1,155,134** (last 30 days 23,155)
- **SPAM BLOCKED BY OCS SYSTEM: 28,815,360** (last 30 days 764,380)



Fan Mail

- "Thank you so much for "going the extra mile" to get wireless service to us, we love it!" -MR, 9/05
- "I am very happy with your service, it really flies!" -DB, 9/05
- "Your email filtering is wonderful compared to our previous wireless ISP!" -RS, 1/04

Ask about OACYS VoicePlans!

Work from home!!!

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OCS dialup and wireless plans are described at www.porterville.com

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