



Telecom Competition In Ohio

June 2013

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For generations – long before the Internet or wireless technologies – Ohioans communicated exclusively over a *landline* network, making local and long distance telephone calls.

Telecom has now become an extremely broad term, encompassing landline, wireless, video and data communications from hundreds of competitors, using dozens of different technologies.

Within the last 15 years, the landline business has been dramatically altered. Some phone companies have diversified, others are simply fading; but all continue to face intense competition.

This report from the Ohio Telecom Association (OTA) outlines the impact of competition on Ohio's incumbent local telephone companies. Some highlights:

- Telecom in Ohio is a \$20 billion annual industry.¹
- OTA members contribute more than \$4 billion annually to Ohio's economy and employ 20,000 Ohioans.²
- The average household downloads 52 GB of data per month, an increase of almost 100% in just the last year.³
- OTA members invest \$1 billion annually in the telecom network – constantly making upgrades to carry this increased data.⁴
- Ohio incumbent local telephone companies have lost 64% of their lines since 2000 to competing technologies, such as wireless and VoIP.⁵
- 41.3% of homes in Ohio are wireless-only and no longer have a landline phone.⁶
- There are 4.3 wireless phones in use for every landline phone in Ohio.⁷

- The number of wireless accounts surpassed landlines in 2004.⁸
- 90% of Ohioans have a wireless phone, but there is a growing segment with *two or more* wireless phones, e.g. personal and business. As a result, there are an estimated 11.8 million wireless phones in use in Ohio, equating to 102% of the population.⁹
- One-half of wireless customers now carry a smart phone which can transmit and receive data over the Internet. This has doubled in just the last year.¹⁰
- Thirty-four percent of Ohio adults own a tablet computer, such as an iPad.¹¹
- Smart phones and tablet computers place additional demands on the landline network, highlighting the need for ongoing investment.
- High-speed Internet (broadband) is available to 99% of homes and businesses in Ohio.¹²
- A consumer with a landline phone, high-speed Internet, subscription video and a wireless phone spends a minimum of \$235 per month.¹³
- Designations between the “phone company,” the “cable company” and the “wireless carrier” have blurred. Providers are entering each others’ businesses and competing for market-share.

For additional information, please contact Charles R. Moses, President, Ohio Telecom Association, 614-221-3231 or moses@ohiotelecom.com.

The Marketplace

The telecom marketplace in Ohio is highly competitive, with hundreds of companies selling a range of voice, video and data services to Ohio's 11.5 million residents and 900,000 businesses.

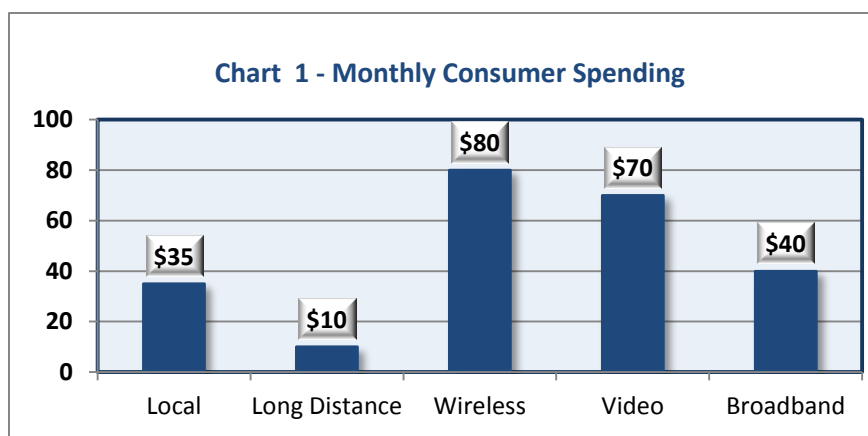
Telecommunications in Ohio is now a \$20 billion annual industry. Wireless leads the pack among all providers with \$6.8 billion in annual revenues – 50% of which is derived from data plans.¹⁴

Table 1 - Telecom Revenue in Ohio (In Billions)

Service	2012
Local (ILEC and CLEC)	\$2.5
Long Distance	\$1.0
Wireless and Wireless Data	\$6.8
Subscription Video	\$3.8
Broadband	\$6.2
TOTAL	\$20.3

Source: Cronin Communications

The average monthly bill for those with all services is \$235. Value-added items, such as mobile Internet access, digital video recording, on-line movie rentals and high-definition signals, can easily add more than \$50. For a family of four, telecom is a substantial household expenditure.



Source: Cronin Communications

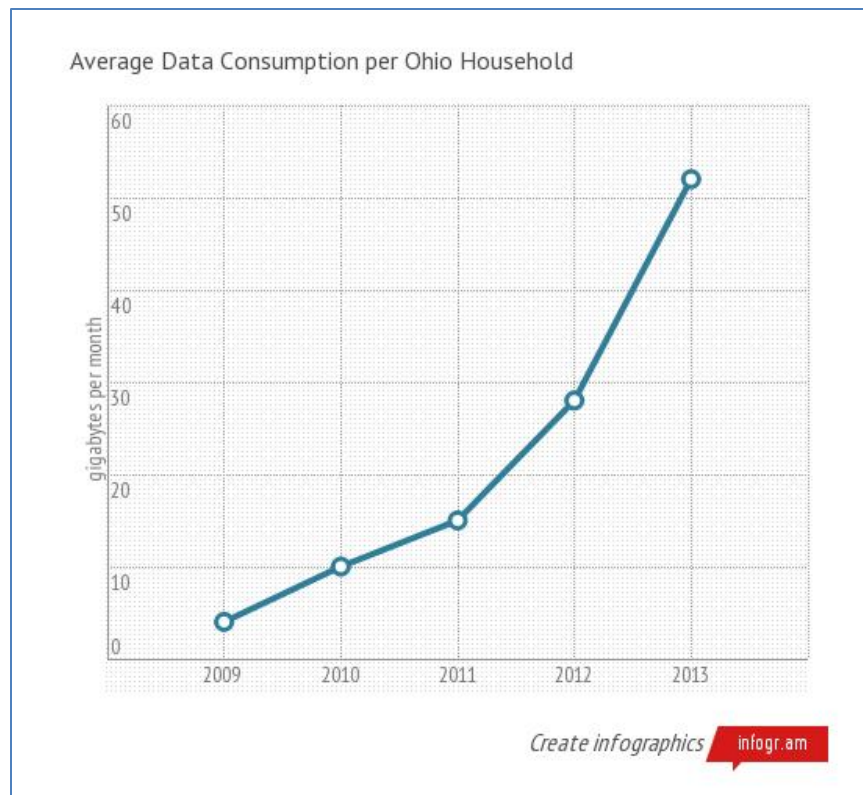
The Network

Even though 41.3% of homes have eliminated landline voice service, there still remains a secure phone line to virtually every residence and business in Ohio. The telephone network is the backbone of Internet and wireless communications. Without it, the Internet could not operate, many wireless calls could not be completed and data could not be transmitted or received.

As consumers download more and more data to their multiple devices, they assume the network will be able to accommodate their activities: video streaming to their tablet computers, web browsing from their smart phones, high-definition television channels on their HDTVs – all occurring simultaneously in many homes.

The average home now consumes 52 GB of data per month and has almost doubled in one year.

Chart 2 – Data Consumption



As a result, the landline network – again, the backbone of the Internet – is bursting at the seams. Wireless providers have responded with data caps and charges for overages, but most of the incumbent local phone companies in Ohio do not restrict data consumption. Consumers and policy-makers have come to expect data consumption to be unlimited.

Ohio's incumbent local phone companies have invested tens-of-billions-of-dollars and will spend billions more to increase bandwidth and capacity. New technologies, such as fiber-to-the-home can fulfill the need, but at a cost. **Fiber connections can easily exceed \$10,000 per home in rural areas.**

Business, educational institutions, government agencies and health care providers rely on faster Internet connections for their very existence and to provide critical services. Ohio's incumbent local phone companies bear the responsibility of supporting commerce and the overall quality-of-life in the state.

Investment in Ohio

OTA's members contribute more than \$4 billion annually to Ohio's economy and more than \$1 billion annually in the network, making the incumbent local phone companies an economic driver in the state. Following are examples from four diverse telecom businesses:

AT&T (a large telco)

- \$1.5 billion in capital investment between 2010 and 2012.
- \$120 million investment for phase one of a new data center in Akron.
- 73 company owned retail stores, and 632 authorized dealers in Ohio.
- 970 new jobs for network upgrades and expanded services.

Frontier Communications (a mid-size telco)

- Approximately 960 employees in Ohio.
- 115 new jobs since July 2010.
- 395,000 access lines and 133,000 broadband connections in 80 of the state's 88 counties.
- More than \$145M in capital investments in Ohio since July 2010.

Conneaut Telephone (a small, rural telco)

- 43 employees.
- Support for local school districts with fiber to connect schools and to broadcast sporting events, performances and graduations.
- Provide IT support to the school districts.
- Provide metro Ethernet to hospitals and clinics.
- Provide fiber broadband to government agencies.

Verizon Wireless (a wireless carrier)

- \$830 million to extend 4G LTE to 45 Ohio cities and towns from 2010 to 2012, which included adding new cell sites and upgrading equipment on existing cell sites; installing permanent backup generators at cell sites; and prepping the backbone for 4G LTE at urban and rural locations across the state.
- \$2.4 billion total investment in Ohio since 2000.
- 4,300 total Verizon employees in Ohio.

Telecom Regulation

Many telecom regulations predate broadband and wireless – back when a home telephone was one’s only connection to the world. The Ohio regulatory structure we have today is still based on the old copper phone network.

Technology and competition have deemed many telco regulations unnecessary or irrelevant: 90% of the population (not households) has a wireless phone, and 71% has an Internet connection. More than 90% of homes also subscribe to television service, primarily satellite or cable.¹⁵ All of these services have grown much larger than landline phone service.

Just in the last two years, there has been yet another surge in technology adoption: 50% of wireless users now have a smart phone; 34% of Ohio adults now own a tablet computer, such as an iPad; 40% of homes use digital video recording for time-shifted television viewing; over-the-top video (video content acquired from websites, such as Netflix) is regularly used by 25% of homes.¹⁶

In January 2013, the Federal Communications Commission began implementing “Connecting America: a Plan to Reform and Modernize the Universal Service Fund and Intercarrier Compensation System.”

Among the many rule changes, the commission is phasing out its support programs for landline phone service and reallocating the funds for broadband deployments. Clearly, broadband is the new American entitlement, and local phone service is no longer the driver of telecom policy. Approximately \$4.6 billion will be spent nationally every year for the next six years on getting broadband to unserved or underserved areas. Since broadband is already deployed to 99% of homes and businesses in Ohio, it is unclear how much federal funding will reach the state.

In undertaking these changes, the FCC did not coordinate with individual states or consider its impacts on state regulations. It simply recommends in the most general fashion that each state utility commission reconsider its regulations, based on federal changes.

Nationwide, state-by-state, public utilities commissions and legislatures are evaluating the impact of the FCC order and modernizing their policies to create a level playing field for all telecom providers. More than half of states have enacted comprehensive market reform laws to address the changing telecommunications marketplace. Ohio took a step toward such action with SB 162, the Telecommunications Modernization Act of 2010.

Carrier of Last Resort (COLR)

COLR is a regulation requiring local phone companies to supply and maintain a phone line to every residence, business or organization that requests one, regardless of the expense or profitability of the customer or the lost opportunity to deploy new network technologies to serve Ohio consumers and businesses.

Ohio's legislature and PUCO are known nationally for adopting telecom policies that balance the realities of the marketplace and needs of consumers. However, other states are moving much further ahead than Ohio and completely deregulating the local phone industry, recognizing the effects of competition and technology.

Lifeline Support

For many low-income consumers, the landline phone is the first telecom expense to be cut. Although they are paying more for their wireless and video services, the landline is considered much more expendable.

Low-income consumers are eligible to receive "Lifeline Telephone Assistance" to reduce the cost of their monthly bills. Ohio has enhanced the federal Lifeline plan to include the following: households with income at or below 150% of the Federal Poverty Guidelines; those receiving general / disability assistance; and those receiving SSI assistance as blind and disabled (SSDI). Residents may apply for only one type of service – landline or wireless; are limited to one line per household; and may only enroll in Lifeline once at the same address during a 12-month period.

More than 900,000 Ohioans receive Lifeline support with the majority now choosing TracFone – a wireless service – as their provider.¹⁷

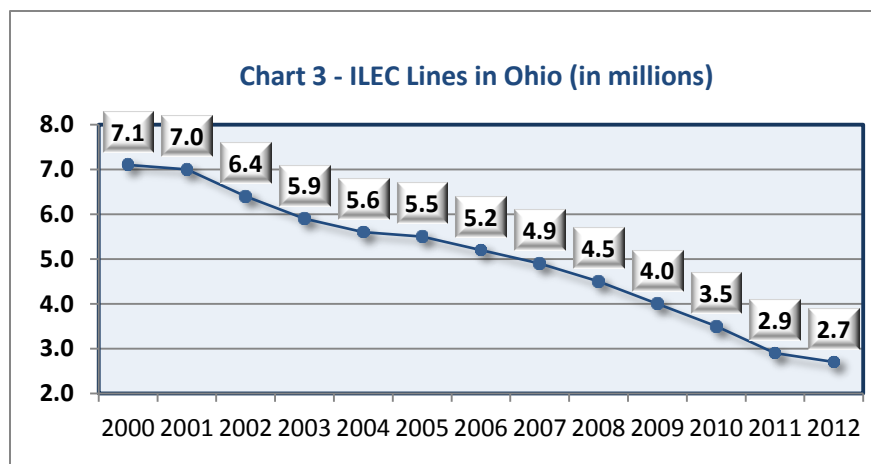
Ohio's Local Phone Companies

There are 42 local phone companies in Ohio. Also known as incumbent local exchange carriers (ILECs), they provide local phone service to defined geographic areas and are divided into two classifications:

- **Large Telcos.** Companies with 50,000 or more lines: AT&T Ohio, CenturyLink (two legal entities), Cincinnati Bell, Frontier, and Windstream (two legal entities).
- **The Independents.** 35 locally owned and operated ILECs. Some are incorporated as cooperatives; others are family-owned; and others are stock companies. They range in size from 300 lines to 25,000 lines and are listed in a following section of the report.

For more than a century, ILECs operated as government-sanctioned monopolies. Each company was assigned a geographic territory and became the sole provider of local phone service in that area. In exchange for this exclusivity, the government set rates, established service standards and restricted the income that companies could earn.

ILEC areas were opened up to competition with the passage of the federal Telecommunications Act of 1996; yet 17 years later, many of the state and federal regulations that were original conditions of their monopoly status still exist.



Source: FCC and Ohio Telecom Association

Ohio ILEC Facts

ILECs have lost 64% of their lines since peaking in 2000.

ILECs continue to lose lines at a rate of 6 - 10% per year.

41.3% of households have eliminated landline telephone service and are wireless-only.

25% of the average local bill is for taxes, surcharges and other regulatory fees.

100% of Ohio ILECs also provide high-speed Internet.

75% of ILECs are subscription television providers – transmitting video over their phone networks, as owners of a cable television system or as satellite agents.

New technologies have made incumbent local phone service largely obsolete. Many consumers prefer wireless and Internet communications to landline. With the demand for local phone service eroding, many ILECs are aggressively expanding to compete in new markets and diversifying with wireless, video and broadband. Such diversification, however, can cannibalize the ILEC's local phone customers and accelerate landline losses.

OTA companies invested \$1 billion in 2012 to upgrade their facilities, expand their markets and deploy broadband and other advanced telecommunications services. In an effort to become more innovative, ILECs are also transitioning to VoIP service, especially for large enterprise customers and for long distance calling. VoIP infrastructure costs are much less than the public switched network. Over time, VoIP will become the standard technology for transmitting voice communications (see following section, "VoIP Competition").

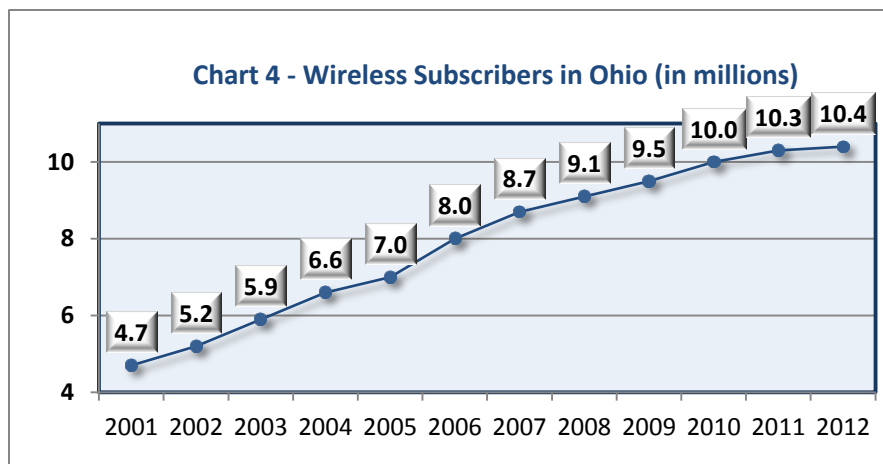
Even though 41.3% of homes have eliminated their ILEC phone service, the ILECs are still required to supply and maintain a phone line to every single home and business in their service areas. No other type of telecom provider has such a Carrier of Last Resort requirement.

Wireless Competition

Brimming with innovation, wireless continues to dominate the telecom industry. Wireless is now a \$6.8 billion industry in Ohio -- \$195 billion nationwide. There are an estimated 10.4 million wireless customers in Ohio, served by 11 wireless carriers.¹⁸

Wireless is much bigger than landline in terms of number of users, minutes-of-use, consumer-spending and total company revenues. An estimated 41.3% of homes in Ohio have completely eliminated local phone service and rely exclusively on wireless communications.

Data services are driving up wireless revenues with features, such as text messaging, email and Internet access from the handset. Data plans account for 50% of wireless revenues.



Source: CTIA and FCC

4G is a wireless broadband technology that promises speeds of 6-12 Mbps to the mobile device. However, wireless networks are shared, meaning the more users, the less available bandwidth for each individual device. As a result, the leading wireless providers have established data caps on Internet access and are charging for overages. For even the casual user – one who streams video, for example – **wireless broadband is not a viable alternative to landline broadband, such as DSL, cable modem service or fiber-to-the-home.**

Ohio Wireless Facts

90% of Ohioans have a wireless phone.

The average wireless bill is \$80 per month.

The average wireless call is only 1.8 minutes.

41.3% of homes are wireless-only.

Fifty percent of wireless revenues come from data plans.

50% of Ohioans own a smart phone that connects wirelessly to the Internet.

The average smart phone user has 45 "apps."

Internet access adds an average of \$40 per phone to the monthly bill.

VoIP Competition

VoIP is an acronym for Voice over Internet Protocol, a technology that allows customers to make and receive telephone calls over their broadband lines. There are a range of VoIP providers, from cable television companies to Skype to Vonage.

Although VoIP appears almost identical to traditional telephone service, it is defined by regulators as an “information” service, not a “communications” service. Therefore, VoIP is not subject to most of the regulations imposed on local telephone companies.

Cable VoIP

Tapping into their broadband lines, cable television companies began offering phone service more than a decade ago. Dubbed “Cable Telephony” or “Digital Voice,” the technology is VoIP. The only distinction between Vonage and a local cable company offering “digital voice” is scope. The local cable company promotes the service exclusively to its cable television and broadband customers, whereas Vonage promotes its service nationally to anyone with a broadband connection.

As VoIP providers, cable telephony enjoys the competitive advantages outlined below. As of year-end 2012, there were an estimated 925,000 cable telephony customers in Ohio, or 20% of homes.¹⁹ The exact numbers are unknown, as cable telephony is not a regulated telecom service. Providers are not required to report customer counts, nor is there any oversight from the PUCO or FCC.

Other VoIP Competitors

Two other well known VoIP options are Skype with more than 650 million users worldwide and Vonage with 2.5 million customers in the U.S.²⁰ Whereas Skype is largely free or pay-as-you-go, Vonage charges a fixed monthly fee for unlimited local and long distance calls.

Ohio VoIP Facts

There are an estimated 925,000 cable VoIP customers (does not include other VoIP users, such as Vonage and Skype customers).

VoIP providers have little or no oversight from the PUCO or FCC.

Skype has 650 million users worldwide.

Vonage has 2.5 million U.S. subscribers.

VoIP uses the incumbent local phone company's network at no cost.

ILEC vs. VoIP Regulations

ILECs are required to comply with myriad regulations, many of which are vestiges of the old monopoly era. As a result, VoIP providers have a significant advantage in the marketplace. They have no obligation to serve all homes or businesses; they can charge less for service, as their rates are not regulated; and they save on costly regulatory fees.

Table 3 - Comparison of VoIP / ILEC Regulatory Requirements

Regulation	VoIP	ILEC
Telecom Taxes	Exempt	Applies
Universal Service Support	None	Available
Local Loop Facilities	None	Regulated
Quality of Service	Market Driven	Regulated
Disconnect for Non-Payment	At Will	Regulated
Billing Rules	None	Regulated
State Jurisdiction	None	Yes
Federal Jurisdiction	None	Yes
Access to LD Carriers	None	Regulated
911 Access	Required	Required
Tariffs	None	Required*
Lifeline	None	Required
Support of TDD and TDY	Required	Required

(Source: FCC and PUCO)

Passed in 2010, the Ohio Telecommunications Modernization Act affirmed that the state utilities commission (PUCO) has no authority to regulate VoIP and may only exercise its limited authority if it finds in a rulemaking that it is necessary for the protection, welfare and safety of the public.

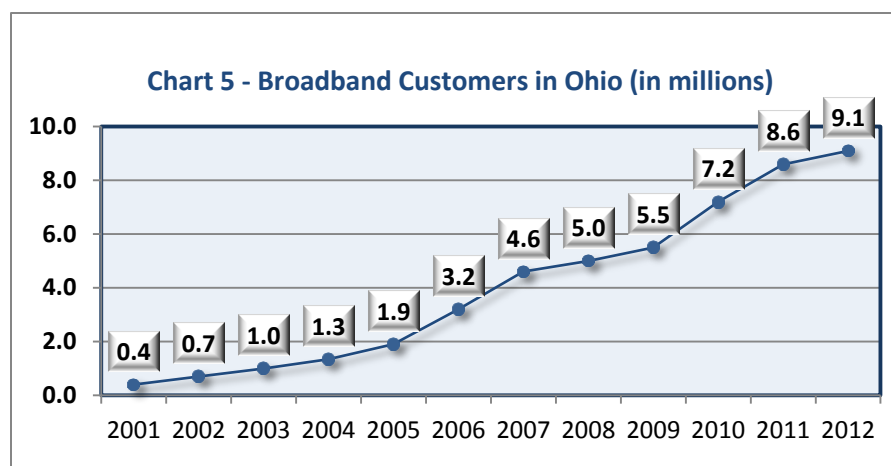
* The Act reduced ILEC tariff filing requirements to Basic Local Exchange Service (BLES), Carrier Access, N-1-1 services, pole attachments, pay telephone, toll presubscription, excess construction charges, inmate operator services and Telecommunications Relay Service (TRS).

Eventually, most voice communications will be transmitted as VoIP, even that of local phone companies, as the telecom network migrates to all IP. However, traditional telephone service is still heavily regulated, and VoIP is not.

Broadband Competition

The average home now contains thousands-of-dollars of consumer electronics, from tablet computers to high-definition televisions to smart phones. Many of these work over a broadband connection.

Generally defined as high-speed Internet, broadband is a relative term: a 5 Mbps and a 1 Gbps connection are both considered broadband, but the difference in the two is tremendous. The 1 Gbps connection is 200 times faster!



Source: FCC

Wireless and wireline broadband providers are competing head-on to capture the customer's business. Although wireline technologies (DSL, cable, fiber) have the advantage of greater bandwidth, wireless benefits from mobility. The primary technologies used in broadband competition in Ohio are:

Table 4 – Broadband Competitors

Delivery Medium	No. of Providers
DSL (copper phone wires)	56
Other Wireline (T1, T3, etc.)	33
Cable Modem (cable television wires)	23
Fiber-optics	32
Fixed Wireless	23
Mobile Wireless	9

Source: FCC

Ohio Broadband Facts

Broadband is available to 99% of homes and businesses.

71% of homes subscribe to broadband.

Broadband is an average \$40 monthly expenditure (not including mobile wireless).

An estimated 1.3 million homes with access to broadband choose not to purchase it, due to relevancy and affordability.

17% of Ohioans are currently telecommuting

By 2015, 2 million Ohioans will telecommute.

It does not do it justice to say that the Internet has changed the world. It has an impact on everything we do in ways we could never have imagined. A recent Intel study on Internet activity shows just how much is being done online. The study found that, in one minute, more than 204 million emails are sent, 47,000 apps are downloaded, around 20 million photos and six million Facebook pages are viewed, and 1.3 million video clips are watched on YouTube. All of this happens in just one minute.

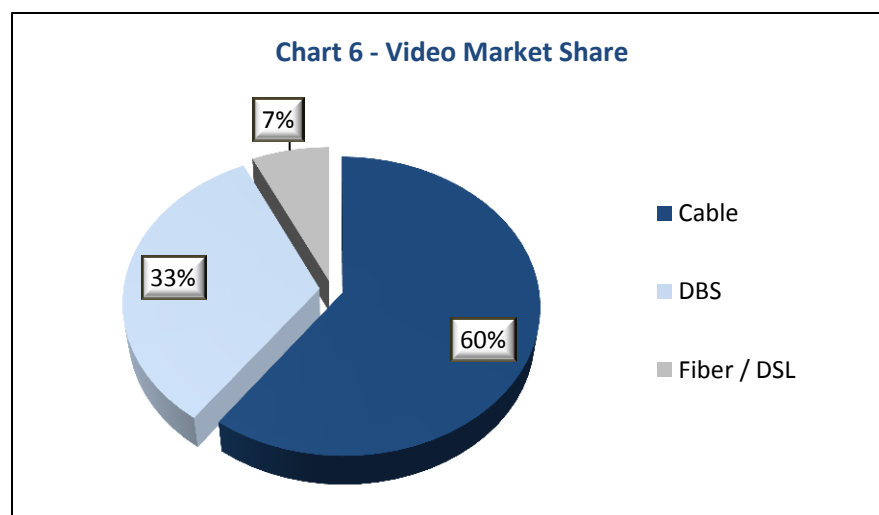
As more Ohioans purchase smart phones and tablet computers, such as the iPad, spending on broadband is increasing proportionally. For access to the cellular (mobile) broadband network, e.g. wireless 3G or 4G, each device requires its own broadband subscription under most plans at an additional expense: \$40 per month for the smart phone and another \$10 per month for the iPad, for example. As a result, approximately 50% of Ohioans pay two or more broadband bills each month: one for the wireline broadband to their homes; another for broadband to their smart phones; and perhaps still another for broadband to their tablet computers.

Video Competition

Like wireless, video is exploding with innovation, from three-dimensional imaging to whole-home DVR to digital voice (VoIP). As a result, video providers are enjoying a steady increase in customer spending.

There are 21 cable television companies serving Ohio and two Direct Broadcast Satellite (DBS) providers: DirecTV and Dish Network. The cable companies have been especially ambitious at deploying broadband and telephone service. In fact, in some Ohio towns, Time Warner has taken 20% of the voice market-share.²¹

For video service, cable has an advantage over satellite, but other providers are making in-roads: telcos transmitting video over DSL or fiber, fixed wireless systems and over-the-top video (OTT) acquired from the Internet. In fact, OTT video is a threat to all subscription television providers, as more free and paid content is available from an increasing number of video websites, such as Netflix.



Source: Cronin Communications

Smart televisions bring the Internet directly to an HDTV over a wi-fi connection. As with phone service, many consumers are eliminating their subscription video service and simply accessing all of their content from various websites. More than 1 million homes nationwide have “cut the video cord.”²² As evidence of the range of content available, the 2013 Super Bowl was streamed live from the broadcaster’s website.

Ohio Video Facts

90% of homes pay for subscription video service.

The average monthly video bill is \$70.

50% of homes contain at least one high-definition television. Hi-def signal is an additional expense of \$10-15 per month per television.

40% pay an additional \$10 per month for digital video recording (DVR).

Approximately 25% of homes regularly purchase video content from websites, such as Netflix, adding an average of \$10 to the monthly bill.

Most video providers require a set-top box for each television. The average consumer rents 2.5 set-top boxes at a rate of \$5 per box, or an additional \$12.50 per month.

About the Ohio Telecom Association

The Ohio Telecom Association (OTA) promotes the common interests of telecommunications companies serving the state. OTA represents 42 local phone companies (many of which also provide Internet access and subscription video), three wireless carriers and more than 100 associate member companies that supply goods and services to the industry.

OTA member companies employ more than 20,000 Ohioans and invest an average of \$1 billion annually in the state's telecommunications infrastructure.

OTA is the first established telecommunications association in the United States. It represents the industry before the Ohio General Assembly and the Public Utilities Commission of Ohio. OTA plays an active role in the formulation of telecommunications policy and helps create a business environment in which its members can provide the best telecommunications services possible.

Although they have many divergent interests, the OTA members are united in advocating for state policies and regulations that create a fair marketplace. No single type of telecom provider – wireline, wireless, VoIP – should be handicapped or be given an advantage in competing for the consumer's business.

OTA Large Company Members

Ohio has the distinction of being served by several large telcos (defined as having more than 50,000 lines). OTA is fortunate to count each one as a member. In other states, the larger companies tend to advocate on their own.

AT&T Ohio	CenturyLink (2 companies)	Cincinnati Bell
Frontier	Windstream (2 companies)	

OTA Small Company Members

The 35 small ILECs serve approximately 2.5% of Ohio's lines, primarily in rural areas and small towns.

Arcadia **	Arthur Mutual	Ayersville
Bascom Mutual	Benton Ridge	Buckland
Champaign	Columbus Grove *	Conneaut
Continental **	Doylestown	Farmers Mutual
Fort Jennings	Frontier of Michigan	Germantown *
Glandorf	Horizon Chillicothe	Kalida
Little Miami **	McClure	Middle Point Home
Minford	New Knoxville	Nova
Oakwood **	Orwell *	Ottoville Mutual
Pattersonville	Ridgeville	Sherwood Mutual
Sycamore	Telephone Service	Vanlue **
Vaughnsville	Wabash Mutual	

*A FairPoint company.

**A TDS Telecommunications Corporation company.

Wireless Company Members

AT&T Wireless	CBT Wireless	Verizon Wireless
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Contact

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Endnotes

¹ Based on average monthly spending, including taxes and surcharges, according to Cronin Communications, a national telecom research firm.

² As reported by members of the Ohio Telecom Association (OTA).

³ Sandvine Technologies.

⁴ OTA

⁵ Federal Communications Commission (FCC)

⁶ CTIA and OTA

⁷ FCC and OTA

⁸ FCC and OTA

⁹ CTIA

¹⁰ CTIA

¹¹ Pew Research Center

¹² OTA

¹³ Cronin Communications

¹⁴ CTIA

¹⁵ CTIA and FCC

¹⁶ Cronin Communications

¹⁷ FCC

¹⁸ CTIA

¹⁹ National Cable Telecommunications Association (NCTA)

²⁰ As reported by Vonage and Skype

²¹ Cronin Communications

²² Nielsen