The Cost of Connectivity

A comparison of high-speed Internet prices in 22 cities worldwide

By Hibah Hussain, Danielle Kehl, Benjamin Lennett, Chiehyu Li, and Patrick Lucey[1], Open Technology Institute

July 2012

Report Summary

In this study, we compare high-speed Internet offerings in 22 cities around the world by price, download and upload speed, and bundled services. We have included some of the most relevant findings from our research in the report that follows, as well as a discussion of policy recommendations for the U.S. The report includes:

- A comparison of "triple play" offerings that bundle Internet, phone, and television services;
- A survey of the best available Internet plan for approximately $35 USD in each city;
- A comparison of the fastest Internet available in each city.

The results indicate that U.S. consumers in major cities tend to pay higher prices for slower speeds compared to consumers abroad. For example, when comparing triple play packages in the 22 cities surveyed, consumers in Paris can purchase a 100 Mbps bundle of television, telephone, and high-speed Internet service for the equivalent of approximately $35 (adjusted for PPP). By contrast, in Lafayette, LA, the top American city, the cheapest available package costs around $65 and includes just a 6 Mbps Internet connection. A comparison of Internet plans available for around $35 shows similar results. Residents of Hong Kong have access to Internet service with symmetrical download and upload speeds of 500 Mbps while residents of New York City and Washington, D.C. will pay the equivalent price for Internet service with maximum download speeds that are 20 times slower (up to 25 Mbps and upload speeds of up to 2 Mbps).

The results add weight to a growing body of evidence that suggests that the U.S. is lagging behind many of its international counterparts, most of whom have much higher levels of competition and, in turn, offer lower prices and faster Internet service. It suggests that policymakers need to re-evaluate our current policy approaches to increase competition and encourage more affordable high-speed Internet service in the U.S.

---

[1] *Hibah Hussain, Danielle Kehl, and Patrick Lucey are Research Associates for the New America Foundation's Open Technology Institute. Chiehyu Li is a Program Associate for the New America Foundation's Open Technology Institute. Benjamin Lennett is the Policy Director for the New America Foundation's Open Technology Institute.*

Introduction

Around the world, high-speed Internet access continues to increase in importance as a vital means of communication. Consumer demand for faster residential and mobile Internet access is growing at a rapid pace in both the United States and abroad. At the same time, the United States' international ranking in broadband speed, pricing and availability has been slipping in recent years, according to the yearly data gathered by the Organization for Economic Co-operation and Development (OECD) on global broadband markets.[1] Other examples of the U.S.'s decline can be found in Akamai's quarterly "State of the Internet" report, which analyzes connection speeds, Internet penetration, broadband adoption, and mobile usage, among other factors. In the fourth quarter Akamai report for 2011, the U.S. had fallen to 13th internationally in average measured connection speed, behind South Korea, Japan, Hong Kong, the Netherlands, Latvia, Switzerland, Ireland, the Czech Republic, and Romania, among others.[2]

Public interest and consumer advocates have cited the U.S.'s recent decline in global competitiveness as evidence of the need for policy reforms that will spur greater competition and investment from the nation's Internet providers.[3] Meanwhile, opponents of this view have dismissed these international rankings as deeply flawed and akin to comparing apples and oranges. They cite the United States' significantly lower population density and larger geographic size relative to other nations at the top of the rankings, which tend to have smaller land areas and greater population densities.[4] Both of these general qualities can make deployment of high-speed Internet infrastructure more cost-effective.

In this report, the Open Technology Institute examines how residential high-speed Internet services in U.S. cities compare to offerings in other cities around the world. The report focuses on the following cities:

U.S. Cities	International Cities
Bristol, Virginia	Amsterdam, Netherlands
Chattanooga, Tennessee	Berlin, Germany
Lafayette, Louisiana	Bucharest, Romania
Los Angeles, California	Copenhagen, Denmark
New York, New York	Dublin, Ireland
San Francisco, California	Hong Kong, China
Washington, DC	London, United Kingdom
	Mexico City, Mexico
	Paris, France
	Prague, Czech Republic
	Riga, Latvia
	Seoul, South Korea
	Tokyo, Japan
	Toronto, Canada
	Zürich, Switzerland

We selected a number of cities that ranked highly in surveys of Internet speeds, including many at the top of the list in the Akamai report, as well as major cities with relatively similar population sizes and densities. We also chose to include three smaller U.S. cities which have municipal broadband networks: Bristol, VA; Chattanooga, TN; and Lafayette, LA. These cities currently offer some of the fastest Internet connections in the U.S. because the local communities have invested in and built their own communications infrastructure.[5]

Currently, there is very little publicly available data on worldwide prices for high-speed Internet access. The OECD collects certain pricing information about its 34 member countries, but its data does not provide the same level of depth in terms of variables recorded or number of competitors surveyed as this report.[6] Even in the U.S., actual data on the cost of Internet connectivity is largely unavailable to the public and policymakers. The National Broadband Map maintained by the National Telecommunications Information Administration (NTIA) only includes data on Internet speeds and availability, and does not list any pricing information. The Federal Communication Commission (FCC) also does not collect or disclose any information related to the cost of residential or business Internet connectivity for the nation's service providers, even though this information is vital for determining the state of competition and whether the market is working for consumers. The pricing information that does exist is compiled by industry and marketing analysts and is only available for tens of thousands of dollars.

This report compares the prices and service plans available to consumers in different cities. We focused on collecting data at the city level to avoid the complications that arise when averaging out and comparing connectivity at the national level. Our researchers simulated the consumer experience by visiting the websites of providers in a given city. While collecting data about international cities, we found translating foreign languages and websites to be a challenge in some cases. However, it was often domestic Internet service providers (ISPs) from whom it was the most difficult to obtain pricing information. Details such as download speeds, data caps, and installation fees were not always clearly displayed. In addition, U.S. providers often required a consumer's phone number or address before disclosing available plans. As a result, the research represents a best effort attempt to collect accurate pricing and plan data.

Service Level Criteria and Metrics

In 2010 the Federal Communications Commission (FCC) updated its definition of broadband Internet service to a minimum speed of 4 megabits per second (Mbps) download and 1 Mbps upload. We used this metric as a threshold for our research and did not record any high-speed services where advertised download speeds were slower than 4 Mbps. For each plan, we collected data on the following metrics:

- Download and upload speeds
- Monthly costs
- Data caps & penalties (overage fees or slowed speeds)
- Activation and installation fees
- Modem and equipment rentals
- Contract lengths

All foreign currencies have been adjusted to U.S. dollars via the World Bank's purchasing power parity (PPP) metrics.[7] Unlike direct exchange rates, which are often volatile and do not account for global income disparities, PPP conversion rates adjust for differences in costs of living, price levels, and other factors that affect a consumer's purchasing power. This allows us to make more effective comparisons between the cities that we surveyed.[8]

In the report that follows, we have included some of the most relevant findings from our research as well as a discussion of the policy implications for the U.S. The sections in the report include:

- A comparison of "triple play" offerings that bundle Internet, phone, and television services;
- A survey of the best available Internet plan for approximately $35 USD in each city;
- A comparison of fastest speed available in each city.

All speeds in this report are based upon advertised speeds and listed in Mbps. Note that when certain information was not available, we have indicated this by marking "--" in the table. Research was conducted in May and June of 2012. For a comprehensive set of pricing information collected, please consult Appendix B.

Section 1: Triple Play Rankings

The term "triple play" generally refers to a bundle of services that includes high-speed Internet, telephone and television in a single monthly rate. Although it varies by country, consumers usually get discounts by subscribing to bundled services rather than paying individually for all three. Comparing triple play is a useful metric for most consumers as a substantial number of individuals purchase their high-speed internet in conjunction with television and phone packages. Triple play offerings are quite popular not only in the U.S., but also increasingly in other countries.[9]

In this section, we rank the pricing of all triple play packages across the cities we surveyed. Although there are a variety of premium channels and Voice over IP add-on services available, we have highlighted the conventional triple play packages for the purpose of direct comparisons. The plans listed in Table 1 will get a consumer a standard cable subscription with high-definition (HD) programming, basic phone service and the lowest tier Internet speed available. The table ranks triple play offerings available with the above criteria in each city. Prices listed are for the first 12 months of a contract and do not include introductory offers.

Table 1. Triple Play Rankings (Internet, Phone, and TV Bundles)

Rank	City	ISP	Download Speed	Upload Speed	Price (USD/PPP)	Network Technology	Data Cap (GB)
1	Riga	Balti-Com	20	5	25.43	Cable	None
2	Seoul	KT	50	50	32.74	Fiber	None
3	Paris	Free	100	50	34.47	Fiber	None
4	Seoul	LGplus	100	100	35.78†	Fiber	None
5	Paris	SFR	25	--	36.67†	ADSL	None
6	Paris	Bouygues Telecom	20	0.512	36.67	ADSL	None
7	Paris	Orange	20	--	37.53	ADSL	None
8	Copenhagen	Telia	20	1	40.36†	DSL	None
9	London	Virgin	30	--	43.03†	Fiber	None
10	Paris	Darty	100	5	43.56†	Fiber	None
11	Amsterdam	T-Mobile	20	1	44.64†	DSL	--
12	Berlin	TeleColumbus	16	1	44.93	Cable	None
13	London	BT	16	--	45.45	DSL	None
14	Riga	Lattelecom	20	20	45.66	Fiber	None
15	Hong Kong	City Telecom Limited	500	20	46.72	Fiber	None
...	...	...	...	...	...	...	...
30	Lafayette	AT&T*	6	1	65.60	DSL	250
32	Chattanooga	AT&T*	6	1	68.44	DSL	250
33	San Francisco	AT&T*	6	1	73.94	DSL	250
34	Los Angeles	Verizon*	7	--	79.99†	DSL	None
38	San Francisco	Comcast	20	4	89.97	Cable	300
39(t)	New York	RCN	25	2	89.99†	Cable	None
39(t)	Washington DC	RCN	25	2	89.99†	Cable	None
41	Washington DC	Verizon*	15	5	89.99†	DSL	None
43	Los Angeles	TimeWarner	10	1	89.99	Cable	None
46	Bristol	BVU	16	3	96.40	Fiber	None
47	Washington DC	Comcast	20	--	99.00	Cable	300
48	Bristol	Charter	15	3	99.97†	Cable	100
49	Chattanooga	Comcast	20	4	99.99	Cable	300
50	Lafayette	LUS	15	15	103.89	Fiber	1024
51	Bristol	CenturyLink*	10	0.7	107.26†	DSL	250
52	New York	Time Warner	15	0.78	112.69	Cable	None
53	San Francisco	Astound	10	1	124.00	Fiber	100
55	Chattanooga	EPB	30	30	129.51	Fiber	None**
56	Lafayette	Cox	15	1.5	133.96	Cable	200
57	New York	Verizon	10	2	154.98†	Fiber	None

This table ranks the top 15 triple play offers we found, and then indicates where the U.S. carriers that offer triple play services fall in the list.

'--' indicates that data could not be found.

**CenturyLink, Verizon, and AT&T partner with DirecTV to provide television services for these plans.*

***Reserves the right to enforce a bandwidth cap but does not define a specific limit.*

†Prices include some or all monthly equipment rental charges.

Section 2: What Can You Get For $35?

Affordability is often a barrier to subscribing to high-speed Internet service. According to a 2010 study conducted by the NTIA, individuals who currently do not have high speed Internet service at home are more likely to indicate price, rather than availability of services in their area, as the reason for not subscribing.[10] In this section we compare the best "bang for your buck" possible in our selected cities, ranking the top Internet service plans that we found priced around the equivalent of $35 in each city.

Table 2 ranks wireline or landline offerings such as cable broadband or fiber-optic broadband in terms of the highest speed available around the $35 price point. We display standalone Internet packages unless providers only offer Internet bundled with other services. Prices shown represent the best effort to display the regular prices for the first 12 months of a contract and do not include temporary introductory deals on the first three or six months of service, as those rates often increase substantially after expiration and do not reflect the long term cost for consumers. We do not include wireless or mobile broadband offerings in this table because the advertised speeds tend to be far lower than the hardline packages.

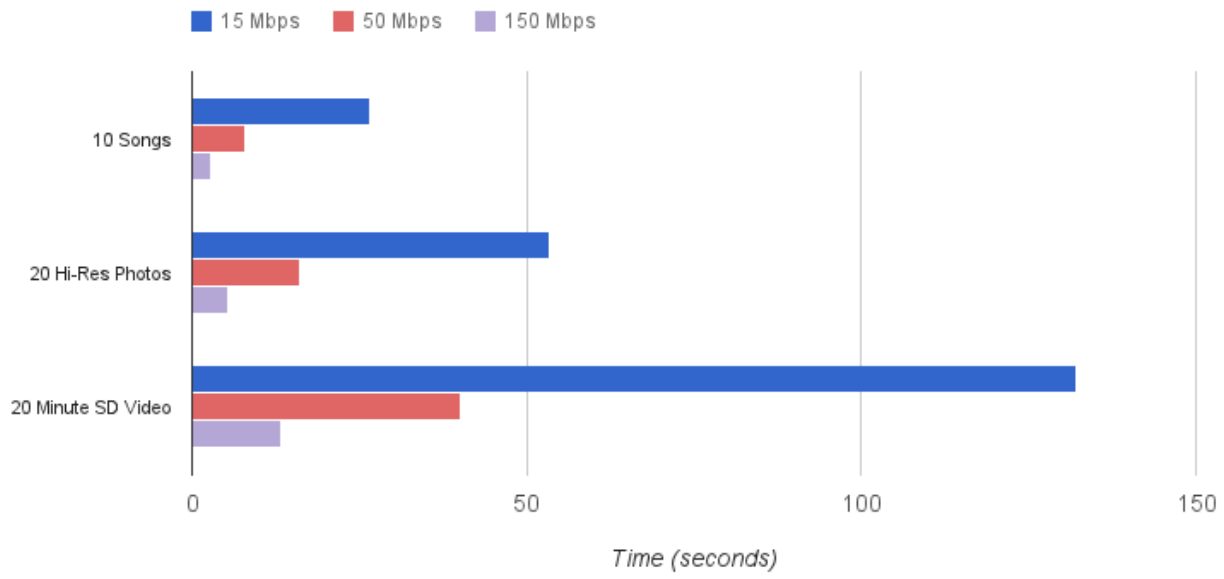
Table 2. What's the Best High-Speed Connection You Can Get for $35?

Rank	City	ISP	Download Speed	Upload Speed	Price (USD/PPP)	Network Technology	Data Cap (GB)
1	Hong Kong	3 in HK	500	500	37.34	Fiber	None
2(t)	Tokyo	Yahoo BB	200	200	26.85	Fiber	None
2(t)	San Francisco	Webpass	200	200	37.50	Fiber	--
4(t)	Riga	Balti-Com	100	100	31.14	Cable	None
4(t)	Seoul	LGplus	100	100	31.90	Fiber	None
6	Paris	Free*	100	50	34.47	Fiber	None
7	Bucharest	Romtelcom	100	32	28.52	Fiber	None
8	Berlin	Kabel Deutschland*	100	6	24.57	Cable	None
9	London	Virgin	60	--	28.03	Fiber	None
10	Amsterdam	Tele2	50	5	33.93	DSL	None
11	Copenhagen	ComX	40	40	37.94	Fiber	None
12	Prague	UPC	30	1	35.12	Fiber	None
13	Toronto	Acanac*	28	1	32.78	DSL	None
14	Zürich	UPC	25	2.5	32.89	Cable	--
15	New York	RCN	25	2	34.99	Cable	None
16	Washington DC	RCN	25	2	39.99	Cable	None
17	Dublin	Smart Telecom*	24	1	34.83	Fiber	350
18	Lafayette	LUS	15	15	34.95	Fiber	1024
19	Bristol	Charter	15	3	34.99	Cable	100
20	Los Angeles	Time Warner	10	1	29.99	Cable	None
21	Chattanooga	AT&T	6	1	24.95	DSL	250
22	Mexico City	Cablevision	4	--	37.75	Cable	--

'--' indicates that data could not be found.

**Offers included additional bundled services.*

What can speed do for you?



Mirror, mirror, on the wall, who's the fastest of all?

Comcast's national advertising campaign states that its broadband speeds are "the fastest in the nation." The claim stems from a 2011 PC Magazine study that ranked Comcast in the top speed tier of Internet service providers. However, the study only examined providers with a national presence, ignoring smaller providers.

Take Chattanooga, Tennessee, as an example. When you compare the download speeds of the highest tier residential broadband services offered by Comcast and Chattanooga EPB, the local fiber optic municipal broadband provider, there is a big difference. Comcast offers 105 Mbps, while EPB customers can get up to 1000 Mbps in their homes. Chattanooga EPB's maximum download speed is nearly 10 times as fast as the one offered by Comcast, but Comcast's advertising in Chattanooga still calls their service the "fastest in the nation."

In June 2012, the National Advertising Division of the Better Business Bureau publicly recommended that Comcast discontinue these claims or clearly qualify that they only apply in certain areas.

See "Sidebar References" at the back of the report for citations from the sidebar stories.

The San Francisco story: Local ISPs

Broadband connectivity in San Francisco lags behind global cities like Seoul and Hong Kong, but access in the Bay Area remains faster, more affordable, and far more flexible in comparison to other large U.S. cities like New York, Washington DC, and Los Angeles.

Why is this the case? One key factor is the presence of local ISPs. Compared to the other U.S. cities surveyed in this report, the Bay Area broadband market is the most diverse, boasting several popular local ISPs that deliver high-speed wireless and fiber access to residences and businesses. In addition to offering faster speeds than Comcast and Verizon, these ISPs tend to have lower prices and do not bind their customers to lengthy contracts. These ISPs have injected a competitive, innovative element to San Francisco's broadband market.

Sonic.net, for example, has grown into Northern California's largest independent ISP since it was founded in 1994. The company strings fiber over power lines, providing high speed access to over 40,000 customers. At the moment, Sonic offers cusomers in San Francisco 20 mbps download speeds as well as unlimited home phone for a flat month-to-month fee of $39.99. Sonic.net even offers a 1000 Mbps connection for $69.95 a month in parts of Marin County. Other local ISPs include Monkeybrains and Webpass, which provide "last mile" connectivity between fiber lines and residences via wireless devices.

Section 3: Speed Leaders

The speed of your Internet connection determines your ability to view web pages, download and upload content, and use applications and services like Voice over IP and two-way videoconferencing. As network technology has improved over the years, the general trend has been an increase in broadband connections speeds.[11] At the same time, however, the amount of bandwidth required by the average consumer increases as streaming video and sharing user-generated content becomes commonplace. Speed, therefore, remains an important metric for consumers evaluating their broadband options and considering how they plan to use the Internet.

In this section, we compare "speed leaders" and rank offerings in each city based on the fastest advertised Internet speeds found in our research. We chose basic Internet packages, without bundled services, unless the Internet service provider only offered bundled services. The offerings are ranked by download speeds, with higher upload speeds used to differentiate between plans that are tied. Advertised download speeds continue to be a major selling point for consumer Internet service and often are substantially higher than upload speeds. However, upload speeds are rising in importance as users create and share

Table 3. Wired Speed Leaders

Rank	City	ISP	Download Speed	Upload Speed	Price (USD/PPP)	Network Technology	Data Cap (GB)
1(t)	Hong Kong	3 in HK	1000	1000	48.59	Fiber	None
1(t)	Chattanooga, TN	EPB*	1000	1000	317.03	Fiber	None**
3	Amsterdam	KPN*	500	500	83.33	Fiber	--
4	Copenhagen	ComX	250	250	126.78	Fiber	None
5	Bristol, VA	BVU	250	30	259.95	Fiber	None
6(t)	Tokyo	Yahoo BB	200	200	26.85	Fiber	None
6(t)	San Francisco	Webpass	200	200	37.50	Fiber	--
6(t)	Riga	Lattelecom	200	200	62.80	Fiber	None
9	Toronto	Bell	175	175	106.52	Fiber	300
10	New York	Verizon*	150	35	159.98	Fiber	None
11	Dublin	eircom*	150	30	81.40	Fiber	500
12	Berlin	TeleColumbus*	128	4	67.89	Cable	None
13	Prague	UPC	120	10	56.19	Fiber	None
14	Bucharest	UPC	120	6	37.58	Fiber	--
15	Washington DC	Comcast	105	10	105.00	Cable	300
16(t)	Seoul	LGplus	100	100	23.04	Fiber	None
16(t)	Lafayette	LUS	100	100	199.95	Fiber	8192
18	Paris	Free*	100	50	34.47	Fiber	None
19	Zürich	Green	100	20	150.00	Fiber	--
20	London	BT*	100	15	53.03	Fiber	None
21	Los Angeles	TimeWarner	50	5	99.99	Cable	None
22	Mexico City	Iusacell*	40	--	211.99	Fiber	--

'--' indicates that data could not be found.

**Offers included additional bundled services.*

***Reserves the right to enforce a bandwidth cap by charging a fee, suspending, or terminate service but does not define a specific limit.*

more content and data. Higher upload speeds allow for more effective use of online video conferencing and the transfer of files to cloud-based storage options. While more ISPs are offering symmetrical service, where the download and upload speeds are equal, most providers continue the standard practice of engineering their networks to maximize download speeds.

We also include a separate category for mobile or wireless broadband services using a USB dongle or other means, but do not include smartphone data plans. For these wireless offerings we have listed the package with the lowest monthly data cap, although consumers often have the option to upgrade to a higher monthly data tier for additional fees.

It is important to note that the speeds listed represent the maximum speed advertised and not the actual speed of a service, which can vary widely depending on location and time of use. For example, a recent survey by PC Magazine found that actual 4G mobile broadband speeds ranged between 3 to 11 Mbps download and less than 1 Mbps to 7 Mbps for upload, which is considerably lower than advertised.[12]

Table 4. Wireless Speed Leaders

Rank	City	ISP	Download Speed	Upload Speed	Price (USD/PPP)	Network Technology	Data Cap (GB)
1(t)	Toronto	Rogers	100	50	17.88	Wireless (LTE)	0.1
1(t)	Hong Kong	3 in HK	100	50	18.39	Wireless (LTE)	0.4
1(t)	Berlin	Deutsche Telekom	100	50	98.70	Wireless (LTE)	30
4	Mexico City	Axtel-Acceso Universal	100	--	256.06	Wireless (WiMax)	None
5	Tokyo	Yahoo BB Softbank	76	10	53.70	Wireless (HDSPA)	5
6	Seoul	LGplus	75	-	36.38	Wireless (LTE)	5
7	Bucharest	Orange	43.2	5.76	40.59	Wireless	9
8(t)	Paris	Bouygues Telecom	42	5.8	11.38	Wireless	0.3
8(t)	Zürich	Swisscom	42	5.8	55.92	Wireless	10
10(t)	Chattanooga	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	Lafayette	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	Los Angeles	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	New York	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	San Francisco	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	Washington, DC	T-Mobile	42	1	39.99	Wireless (HSPA+)	2
10(t)	Prague	T-Mobile	42	--	63.22	Wireless	30
17	Amsterdam	Tele2	40	3	35.71	Wireless (HDSPA)	3
18	Dublin	Digiweb	30	1	47.91	Fixed wireless	100
19	London	Three.co.uk	21	5.76	11.92	Wireless	1
20	Copenhagen	Fullrate	15	1	34.14	Wireless	10
21	Bristol	Verizon	12	5	50.00	Wireless (LTE)	5
22	Riga	Tele2	6	--	51.14	Wireless	25

'--' indicates that data could not be found.

NOTE: The rankings are based upon the maximum advertised speeds for a wireless service. Actual speeds for wireless service can vary significantly. Additionally, in its online advertising, AT&T does not provide specific mobile speeds, making only relative speed claims ("up to 10x faster than 3G").

Policy Implications

When looking at the cost and speed of Internet access in major U.S. cities in comparison to other global cities, it is difficult to ignore the fact that the U.S. is so much more expensive than many of its international counterparts. As this report demonstrates, U.S. consumers often pay higher prices for slower service than many other parts of the world. For example, customers in Seoul, South Korea, can get a 100 Mbps connection for as low as the equivalent of $23 USD, while in Hong Kong, it's possible to subscribe to a 500 Mbps connection from 3 in HK for about $38 USD. By contrast, it costs between $100 and $300 per month to get a connection speed of over 100 Mbps in most U.S. cities—if such high speeds are even available at all.

Although various factors contribute to the cost and speed of Internet access in a community, a critical factor is competition. In markets where connections tend to be more affordable and faster, customers have access to at least three competitive ISPs offering similar plans. In the majority of U.S. cities, most consumers have a choice between a local telephone company and local cable company. According to the 2010 National Broadband Plan, 78 percent of households in the U.S. have a choice between two providers, while an additional 13 percent have just one option.[13]

There are some exceptions, however. For example, in San Francisco, several local ISPs have emerged to compete with the incumbent cable and telephone companies. Smaller providers such as Sonic.net and Astound are offering more affordable high-speed Internet plans compared to AT&T or Comcast. Moreover, in Lafayette, LA, in response to services of the municipal broadband provider, LUS Fiber, the incumbent cable operator, Cox changed its pricing strategy, ceasing to raise prices for three years straight when annual increases had been common before. Cox also introduced a new 50 Mbps speed tier in Lafayette in response to the higher speeds offered by LUS.[14]

The low level of competition that is common in much of the United States is not the case in many other developed nations. Unbundling policies, also known as open access, played a critical role in facilitating competition in the first transition to broadband in Europe and parts of Asia and are now central to efforts for the next generation networks.[15] Open access policies require that incumbent broadband providers offer to lease capacity on their networks to new entrants selling competing Internet services to consumers. They have been critical in creating a robust competitive marketplace in Japan and France, where new upstarts such as Yahoo BB and Free were able to compete with the telephone incumbents and now offer 100 mbps+ Internet connections at competitive prices. Moreover, contrary to criticisms of open access policies, many of the companies that got their start leasing access from incumbent providers have since invested substantially in building their own network infrastructure. (*See sidebar "Unbundling Policies in Paris"*)

Almost a decade ago, the FCC abandoned similar unbundling policies in the U.S. The decision reversed regulations implemented after the passage of the 1996 Telecommunications Act, which had required local telephone companies to open up access to their copper wiring to competitors. The original unbundling policy helped usher in new competition for telephone services, as well as enabling Internet service upstarts AOL and Compuserve to bring the first dial-up service to consumers. As a result, there were over 9,000 ISPs in the U.S. in the year 2000. By 2005, when a Supreme Court ruling upheld the FCC's decision to deregulate broadband service, the number had fallen by 74 percent to just under 2,500.[16]

Unrealized Competition

To justify deregulation back in 2005, the FCC predicted that in the future, cable and telephone companies in each community would effectively compete with each other to provide high-speed Internet service. However, this was a flawed approach from the beginning. Cable was able to offer a more attractive bundle of video programming and broadband plans than DSL-based providers. Moreover, cable network upgrade costs, largely limited to replacing equipment, were extremely modest compared to the need of telephone providers to build-out completely new infrastructure. According to figures from J:Com, the largest cable company in Japan, costs for upgrading to the Docsis 3.0 (capable of providing peak download speeds in excess of 100 Mbps) was just $20 per home passed. By comparison, Verizon spent an average of $817 per home to deploy its fiber-based FiOS service.[17]

The FCC also predicted that wireless broadband would become a third pipe into the home, competing directly

with high-speed cable and DSL service. Although wireless or mobile broadband services are now widely available, the speeds and costs (including data overage charges) in the U.S. are not competitive in comparison to wired offerings like cable or DSL. Competition in the mobile broadband market is also decreasing, as two of the nation's largest mobile and home telephone companies, Verizon and AT&T, have bought up rivals and approximately 75 percent of the wireless spectrum auctioned by the federal government.[18] The remaining mobile competitors have struggled to keep up, and new entrants face considerable hurdles to get into the market.

New technologies such as broadband over power line (BPL), and satellite were also expected to add to a vibrant marketplace of choices for consumers. However, for a variety of reasons, broadband over powerline never really took off. In 2010, the largest and most successful BPL demonstration in the United States shut down.[19] Satellite broadband is largely a last resort for rural residents, and it is hardly competitive with cable or even DSL given its slower speeds, high latency, and low data usage caps.

Prices Will Continue to Increase for U.S. Consumers

In December 2011, Verizon Wireless, Comcast, Time Warner Cable, Bright House Networks, and Cox Communications announced the sale of a large chunk of mobile broadband spectrum held by the cable companies. For Verizon, the deal will net them additional spectrum for their already sizeable stockpile, while the cable companies receive several billion dollars in cash. As part of the deal, the companies agreed on a series of joint re-sale, marketing, and technology development agreements. Beginning in January 2012, Comcast and Verizon Wireless debuted joint promotions in Portland and Seattle, offering customers who sign a two-year contract for both wireless and cable service a prepaid Visa card of up to $300. In addition, Comcast will promote Verizon Wireless service through its call centers and retail stores.[20]

The arrangements are certainly beneficial for companies and shareholders, but not so much for consumers. As Senator Herb Kohl (D-WI) offered in a statement at the Senate hearing on the deal, "Many now wonder if these agreements that we are examining... amount to a truce between one of the two largest phone companies and over 70 percent of the cable TV industry." Though the deal has yet to be approved by the FCC and the Department of Justice is investigating, if it goes through, the end result is likely to mean even higher prices for U.S. consumers over the long term. Cable already has a sizeable lead in high-speed residential broadband, as DSL offered by telephone companies has steadily lost market share.[21] A 2012 FCC report indicates that over 82 percent of residential broadband subscriptions above 6 Mbps download and 1.5 Mbps upload are delivered via cable modems.[22]

In the future, consumers wishing to subscribe to higher speed Internet services will likely face a near-monopoly from cable providers, as telephone providers have halted

Unbundling Policies in Paris

Paris has been known as a leader in many areas, but broadband competitiveness would rarely be the first to come to mind. Yet in the past decade, Paris has emerged as a model in providing fast speeds at competitive prices—a shift which can be traced back to government policies instituted a dozen years ago.

In 2000, France instituted an unbundling policy, and ARCEP, the national regulator for postal and electronic communications, forced the former state-owned monopoly, France Telecom (which sells mobile and Internet services as Orange), to open its network to rival operators. Almost immediately, independent ISPs and carriers from other countries began to lease access to France Telecom's infrastructure and compete to offer broadband services. New companies like Iliad (offering services since 2002 as Free) emerged as fierce competitors, benefitting from the fact that they did not have to pay the initial costs of laying wires. And now, those companies are beginning to build their own infrastructure in order to meet a growing demand for faster speeds at low prices.

Free, for example, has always charged the same monthly rate, but continued to add new features to its service. Today, Free offers competitive DSL prices in Paris, and has begun to lay its own fiber in the city to provide even faster speeds. Eligible customers can get a connection with download speeds of up to 100 mbps (50 mbps upload) for the monthly fee of €29.99 ($34.47 adjusted for PPP), the same cost as Free's standard DSL package. To get comparable speeds in most major US cities would cost over $100 per month.

wide scale upgrades of their networks. AT&T announced after reaching a little over half of its customer base with its more competitive fiber-to-the-neighborhood technology, U-Verse, that it would stop building at the end of 2011.[23] Verizon reached only around 14 percent of the nation with its fiber-to-the home FiOS service, before halting further deployments in 2010.[24] By partnering with cable companies, many have argued, Verizon has essentially "reliev[ed] itself of the need to expand FiOS."[25]

Instead, upgrades will likely continue to take the shape of higher speed offerings in areas where infrastructure already exists, as Verizon announced plans for a new, higher tier of broadband services in June 2012.[26] Meanwhile, unless consumers live in areas where Verizon and AT&T have already deployed FiOS or U-verse, they will have exactly one choice for high-speed Internet service.

The erosion in competition is also likely to reduce incentives for cable providers to upgrade their infrastructure to offer higher speeds, despite the fact that the data show how far the U.S. lags behind other countries. In 2006, even when DSL was more competitive, cable executives from the largest U.S. providers killed an upgrade to cable broadband technology that would have increased cable download speeds to at least 70 Mbps.[27] As a cable executive revealed in a round-table discussion a year later, "there [wasn't] any market pressure" to upgrade sooner.[28]

U.S. Needs to Re-Examine its Current Policies

For much of the past decade, the majority of Americans have had only two choices for high-speed broadband service. And with the Verizon/Cable deal, that choice may dwindle to one for the home, while Verizon and AT&T maintain a duopoly on mobile service. This alarming trend suggests that the U.S. needs a new approach to create robust broadband competition if it is to keep pace with its international peers. The FCC failed to adequately address these issues in the 2010 National Broadband Plan, even as it concluded that three quarters of the U.S. would "likely have only one broadband service provider that can offer very high peak download speeds." It also completely ignored the findings of its own study completed by the Berkman Center, which found that most of the world's broadband leaders utilized some form of open access or unbundling regulations to promote competition.

Instead, the Administration and the FCC seem to be singularly focused on freeing up more spectrum for mobile broadband. Theoretically, this could enable new entrants and allow existing wireless competitors to increase network capacity and offer faster speeds. However, the amount of spectrum that will actually be freed up for mobile broadband—and that will not just end up in the hands of the two largest providers—remains unclear. Moreover, without other policies such as policing anti-competitive pricing for special access lines (links that connect cell phone towers to the Internet and telephone networks), or empowering consumers to more easily switch providers by requiring unlocked phones, it is far from certain that the U.S. will develop a vibrant, competitive marketplace for mobile broadband.

Rather than focusing on spectrum auctions and the promise of wireless broadband, policymakers need to address the lack of competition in most of the U.S. and how policies can enable new competitors to enter the marketplace. Moreover policymakers should encourage competition from all sectors, including the public sector. In the past few years, a number of state legislatures have created significant barriers for local governments to build their own networks, even as community-owned networks in cities such as Chattanooga, TN, are offering world-leading broadband speeds. It should be no surprise that telephone and cable companies have often thrown their weight behind these state laws, claiming that it is unfair for government to compete with the private sector and promising to upgrade local network infrastructure, even as the they tell their shareholders the exact opposite.[29] The legal battle over these networks raises the question of who will invest in infrastructure and offer broadband services to compete with the cable and telecom monopolies if local communities are prevented from doing so in the future. As individuals and businesses become increasingly reliant on high-speed Internet access for work, healthcare, education, and other services, decreased investment, slower speeds, and higher prices will be a burden on the entire nation.

References

[1] Statistics for advertised speed, penetration, usage, pricing, and coverage available at "OECD Broadband Portal," Organization for Economic Co-operation and Development, http://www.oecd.org/document/54/0,3746,en_2649_34225_38690102_1_1_1_1,00.html [accessed July 17, 2012].

[2] Akamai Technologies, *The State of the Internet*, 4th Quarter, 2011 Report, ed. David Belson, http://www.akamai.com/stateoftheinternet/.

[3] Josh Levy, "Hey America! We're Ranked #16 in Broadband!" *The Huffington Post,* April 30, 2012, http://www.huffingtonpost.com/josh-levy/broadband-rankings-worldwide_b_1400630.html [accessed July 17, 2012]. Also see "In broadband race, USA is not No. 1," Editorial, *USA Today*, December 11, 2011, http://www.usatoday.com/news/opinion/editorials/story/2011-12-06/Guess-whos-No-1-in-broadband-Hint-Its-not-USA/51683876/1 [accessed July 17, 2012].

[4] Robert McDowell, "Broadband Baloney," *Wall Street Journal,* July 24, 2007, http://online.wsj.com/article/SB118524094434875755.html [accessed July 17, 2012].

[5] For more information on the municipal networks in Bristol, Chattanooga, and Lafayette, see Christopher Mitchell, *Broadband at the Speed of Light: How Three Communities Built Next Generation Networks*, Institute for Local Self Reliance and the Benton Foundation, April 2012, http://www.ilsr.org/broadband-speed-light/.

[6] Criteria for the OECD Broadband Price Collections, available at "OECD Broadband Portal."

[7] For the PPP conversion tables used in this report, see 2010 data at "PPP conversion factor, GDP (LCU per international $)," World Bank, http://data.worldbank.org/indicator/PA.NUS.PPP [accessed July 17, 2012].

[8] PPP definition taken from the World Bank Data & Statistics, available at "Quick reference table," World Bank, http://econ.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20399244~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html. [accessed July 17, 2012]. Also see Fredric A. Vogel, "What Is A Purchasing Power Parity?" The World Bank, http://siteresources.worldbank.org/ICPINT/Resources/270056-1255977254560/6483625-13388 [accessed July 17, 2012].

[9] Julian Clocer, "Triple play subscriptions to quadruple," *Broadband TV News,* July 18, 2011, http://www.broadbandtvnews.com/2011/07/18/triple-play-subscriptions-to-quadruple [accessed July 17, 2012].

[10] National Telecommunications and Information Administration, *Exploring the Digital Nation: Home Broadband Internet Adoption in the United States,* November 2010, http://www.ntia.doc.gov/files/ntia/publications/esa_ntia_us_broadband_adoption_report_11082010_1.pdf [accessed July 17, 2012].

[11] For historical trends on the increase of connection speeds, see *The State of the Internet*, 48.

[12] Mark Sullivan, "3G and 4G Wireless Speed Showdown: Which Networks Are Fastest?" *PCWorld*, April 17, 2012, http://www.pcworld.com/article/253808/3g_and_4g_wireless_speed_showdown_which_networks_are_fastest.html [accessed July 17, 2012].

[13] Federal Communications Commission, *Connecting America: The National Broadband Plan*, March 2010, http://www.broadband.gov/plan/ [accessed July 17, 2012].

[14] *Broadband at the Speed of Light: How Three Communities Built Next Generation Networks*, 28-9. In Lafayette, LA, Cox had raised prices six times in four years, but when LUS Fiber was about to come online, Cox kept its prices stable for three straight years. Additionally, Cox chose Lafayette as the first market to deploy a 50 Mbps offering because it is a "competitive market."

[15] For more information on open access policies worldwide and their impact on competition, see Section 4: Competition and Access from The Berkman Center for Internet & Society at Harvard University, *Next Generation Connectivity: A Review of Broadband Internet Transitions and Policy Worldwide*, February 2010, http://cyber.law.harvard.edu/pubrelease/broadband/ [accessed July 17, 2012].

[16] Teletruth, "Killing Off 7000 Independent Internet Service (ISPs) Providers by the FCC Created Net Neutrality Problems," November 29, 2007, http://www.newnetworks.com/parttwosummary.htm [accessed July 17, 2012].

[17] Saul Hansell, "World's Fastest Broadband at $20 per home," *New York Times: Bits Blog*, April 3, 2009, http://bits.blogs.nytimes.com/2009/04/03/the-cost-to-offer-the-worlds-fastest-broadband-20-per-home/ [accessed July 17, 2012].

[18] Stacey Higginbotham, "Verizon's spectrum deal with cable is the end of broadband competition," *GigaOm*, December 2, 2011, http://gigaom.com/broadband/verizons-spectrum-deal-with-cable-is-the-end-of-broadband-competition/ [accessed July 17, 2012].

[19] Karl Bode, "Most Successful US Broadband Over Powerline Network Shut Down," *Broadband DSL Reports*, April 8, 2010, http://www.dslreports.com/shownews/Most-Successful-US-Broadband-Over-Powerline-Network-Shut-Down-107812 [accessed July 17, 2012].

[20] Jesse Ward, "Industry Demands Scrutiny of Verizon-Cable Agreements," NCTA Blog New Edge, January 23, 2012, http://www.ntca.org/new-edge/wireless/industry-demands-scrutiny-of-verizon-cable-agreements [accessed July 17, 2012].

[21] Susan P. Crawford, "The Looming Cable Monopoly," *Yale Law & Policy Review*, Vol. 29, December 2010, http://yalelawandpolicy.org/29/the-looming-cable-monopoly [accessed July 17, 2012].

[22] Federal Communications Commission, *Internet Access Services: Status as of June 30, 2011*, June 2012, http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0614/DOC-314630A1.pdf [accessed July 17, 2012].

[23] Dave Burstein, "AT&T's Stankey: U-Verse Build Virtually Over," *Broadband DSL Reports*, May 18, 2011, http://www.dslreports.com/shownews/ATTs-Stankey-Uverse-Build-Virtually-Over-114279 [accessed July 17, 2012].

[24] Karl Bode, "The Press Realizes the FiOS Party is Over," *Broadband DSL Reports*, March 30, 2010, http://www.dslreports.com/shownews/The-Press-Realizes-The-FiOS-Party-Is-Over-107639 [accessed July 17, 2012].

[25] "Verizon's Worrisome Cable Deals," Editorial, *New York Times*, December 24, 2011, http://www.nytimes.com/2011/12/25/opinion/sunday/verizons-worrisome-cable-deals.html [accessed July 17, 2012].

[26] Jon Brodkin, "Faster Than Your Router Speed? Verizon Doubles FiOS Speeds to 300Mbps," *Ars Technica*, May 30, 2012, http://arstechnica.com/information-technology/2012/05/faster-than-your-router-verizon-doubles-fios-speeds-to-300mbps/ [accessed July 17, 2012].

[27] Alan Breznick, "CableLabs Kills Interim DOCSIS Standard," *Light Reading*, June 28, 2006, http://www.lightreading.com/document.asp?doc_id=98169 [accessed July 17, 2012].

[28] CTO Roundtable Discussion, compiled by Leslie Ellis, "How Sexy is HFC? (Answer: Plenty)," *CED Magazine*, May 1, 2007, http://www.cedmagazine.com/articles/2007/05/how-sexy-is-hfc%3F-(answer%3A-plenty.) [accessed July 17, 2012].

[29] Denise Roth Barber, "Dialing Up the Dollars: Telecommunications Interests Donated Heavily to NC Lawmakers," National Institute on Money in State Politics, March 20, 2012, http://www.followthemoney.org/press/ReportView.phtml?r=484&utm_campaign=nc-broadband-report-e-alert&utm_medium=email&utm_source=nimsp-contacts [accessed July 17, 2012].

Sidebar References

"The San Francisco Story: Local ISPs"

"Pando Networks Releases 2011 American Broadband Study," Pando Networks, http://www.pandonetworks.com/Pando-Networks-Releases-2011-American-Broadband-Study [accessed July 17, 2012].

Cathy Bussewitz, "Sonic.net builds super-fast network for future," *Santa Rosa Press Democrat*, May 6, 2012, http://www.pressdemocrat.com/article/20120506/BUSIN

ESS/120509761/1036/business?Title=Sonic-net-builds-super-fast-network-for-future [accessed July 17, 2012].

Thomas Claburn, "Monkey Brains: Silly Name, Serious Broadband," *InformationWeek*, August 3, 2010, http://www.informationweek.com/news/infrastructure/management/226500209?pgno=1 [accessed July 17, 2012].

Rob Pegoraro, "Gigabit Internet for $70: the unlikely success of California's Sonic.net," *Ars Technica*, February 26, 2012, http://arstechnica.com/tech-policy/2012/02/gigabit-internet-for-80-the-unlikely-success-of-californias-sonicnet/ [accessed July 17, 2012].

"Mirror, Mirror, On The Wall: Who's the Fastest of All?"

Carey O'Neill, "Comcast Asked To Change Ad Claims," *Chattanooga Times Free Press*, June 14, 2012, http://timesfreepress.com/news/2012/jun/14/comcast-asked-to-change-ad-claims/ [accessed July 17, 2012].

"Unbundling Policies in Paris"

Scott J. Wallsten and Stephanie Hausladen, "Net Neutrality, Unbundling, and their Effects on International Investment in Next-Generation Networks," *Review of Network Economics*, Vol. 8, Issue 1, 2009, http://econpapers.repec.org/article/bpjrneart/v_3a8_3ay_3a2009_3ai_3a1_3an_3a6.htm [accessed July 17, 2012].

Jennifer Schenker, "Vive La High Speed Internet!" *Bloomberg Businessweek*, July 18, 2007, http://www.businessweek.com/stories/2007-07-18/vive-la-high-speed-internet-businessweek-business-news-stock-market-and-financial-advice [accessed July 17, 2012].

APPENDICES

Appendix A: City Information

Country	City	Purchasing Power Parity	Total Population	Population Density (square miles)	Population Density (square kilometers)
Canada	Toronto	1.22	2,615,060	10,896	4,150
China	Hong Kong	5.33	3,156,500	91,500	35,700
Czech Republic	Prague	14.22	1,262,106	6,573	2,545
Denmark	Copenhagen	7.88	549,050	16,115	6,222
France	Paris	0.87	2,234,105	54,892	21,196
Germany	Berlin	0.81	3,501,872	10,170	3,927
Ireland	Dublin	0.86	527,612	11,880	4,588
Japan	Tokyo	111.45	13,189,000	15,615	6029
Latvia	Riga	0.35	706,413	5,956	2,300
Mexico	Mexico City	7.92	8,851,080	15,447	5,960
Netherlands	Amsterdam	0.84	780,559	9,183	3,564
Romania	Bucharest	1.65	1,677,985	19,068	3,564
South Korea	Seoul	824.57	9,794,304	41,895	16,181
Switzerland	Zurich	1.52	372,857	10,999	4,243
UK	London	0.66	8,200,100	13,509	5,223
USA	Bristol, VA	1.00	17,835	1,370.6	527.2
USA	Chattanooga, TN	1.00	167,674	1,222.5	470.2
USA	Lafayette, LA	1.00	120,623	2,450.1	942.3
USA	Los Angeles, CA	1.00	3,792,621	8,092.30	3,124.45
USA	New York, NY	1.00	1,585,873	69,467.5	26,718.3
USA	San Francisco, CA	1.00	3,273,190	17,179.2	6,632.9
USA	Washington, DC	1.00	617,996	9,856.5	3,791

Notes and Sources

Data on population size and density includes the cities themselves and not the greater metro areas. For Hong Kong, data reflects the urban area of the city, which includes parts of Hong Kong Island and the Kowloon Peninsula. For New York City, data reflects New York County only, which is conterminous with the island of Manhattan, because pricing data in this report reflects only offers available in Manhattan.

Information on population size and density of U.S. cities was gathered from the 2010 U.S. Census Bureau statistics, available at http://www.census.gov.

Information on population size and density of international cities was gathered from the most recently available information provided by each government's Census Bureau or Bureau of Statistics.

Appendix B: Full Data Set

In the following pages, we provide charts for each city detailing all of the broadband internet plans we found in each of our cities. The metrics listed include:

- ISP
- Network Technology
- Bundled Services
- Download Speed (Mbps)
- Upload Speed (Mbps)
- Price in USD (adjusted for PPP, where appropriate)
- Data cap (GB)
- Contract Length

We list all available plans found in our best-effort research, organized by carrier. The charts first detail the wired options found in a city, followed by the advertised wireless plans. All data was collected in May and June of 2012.

Additional charts, tables, and research results can be found in the web version of the report, available on the New America Foundation's website at http://oti.newamerica.net/publications/policy/the_cost_of_connectivity.

The following notations are used in the tables that follow:

- 'None' = no data cap
- 'N/A' = not applicable
- '-' = data could not be found

Appendix B. Full Data – Amsterdam, Netherlands

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
KPN	DSL	Internet	8	1	29.76	-	12, 24 month
KPN	DSL	Internet, Phone	8	1	35.71	-	12, 24 month
KPN	DSL	Internet, Phone, TV	8	1	54.76	-	12, 24 month
KPN	DSL	Internet	40	4	35.71	-	12, 24 month
KPN	DSL	Internet, Phone	40	4	47.62	-	12, 24 month
KPN	DSL	Internet, Phone, TV	40	4	66.67	-	12, 24 month
KPN	DSL	Internet	50	5	41.67	-	12, 24 month
KPN	DSL	Internet, Phone	50	5	59.52	-	12, 24 month
KPN	DSL	Internet, Phone, TV	50	5	78.57	-	12, 24 month
KPN	Fiber	Internet, Phone	50	50	47.62	-	12, 24 month
KPN	Fiber	Internet, Phone, TV	50	50	66.67	-	12, 24 month
KPN	Fiber	Internet, Phone	100	100	59.52	-	12, 24 month
KPN	Fiber	Internet, Phone, TV	100	100	78.57	-	12, 24 month
KPN	Fiber	Internet, Phone	500	500	83.33	-	12 month
KPN	Fiber	Internet, Phone, TV	500	500	102.38	-	12 month
Solcon	DSL	Internet, Phone	8	1	29.76	-	-
Solcon	DSL	Internet, Phone	20	1	35.71	-	-
T-Mobile	DSL	Internet	4	1	14.88	-	12, 24 month
T-Mobile	DSL	Internet	20	1	28.57	-	12, 24 month
T-Mobile	DSL	Internet, Phone	20	1	34.52	-	12, 24 month
T-Mobile	DSL	Internet, Phone, TV	20	1	44.64	-	12, 24 month
T-Mobile	Fiber	Internet	30	3	35.65	-	12, 24 month
T-Mobile	Fiber	Internet	60	6	47.56	-	12, 24 month
T-Mobile	Fiber	Internet, Phone, TV	60	6	101.13	-	12, 24 month
Tele2	DSL	Internet	20	1	30.95	None	12 month
Tele2	DSL	Internet, Phone	20	1	38.69	None	12 month
Tele2	DSL	Internet, Phone, TV	20	1	47.62	None	12 month
Tele2	DSL	Internet	50	5	33.93	None	12 month
Tele2	DSL	Internet, Phone	50	5	41.67	None	12 month
Telfort	DSL	Internet	8	1	23.81	None	12 month
Telfort	DSL	Internet	25	3	25.60	None	12 month
Telfort	DSL	Internet, Phone	25	3	31.55	None	12 month
Telfort	DSL	Internet, Phone, TV	25	3	44.64	None	12 month
Telfort	DSL	Internet	40	5	29.76	None	12 month
UPC	Cable	Internet, TV	25	1.5	50.60	-	12 month
UPC	Cable	Internet, Phone, TV	25	1.5	56.55	-	12 month
UPC	Cable	Internet, Phone, TV	50	2.5	62.50	-	12 month
UPC	Cable	Internet, TV	60	6	62.50	-	12 month
UPC	Cable	Internet, Phone, TV	100	5	77.38	-	12 month
UPC	Cable	Internet, TV	120	10	80.36	-	12 month

Continued on the following page.

Appendix B. Full Data – Amsterdam, Netherlands (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Ziggo	Cable	Internet, TV	8	1	44.23	-*	Month to month
Ziggo	Cable	Internet, Phone, TV	10	1	50.00	-*	--
Ziggo	Cable	Internet, TV	30	3	56.13	-*	Month to month
Ziggo	Cable	Internet, Phone, TV	50	5	61.90	-*	--
Ziggo	Cable	Internet, TV	80	8	77.56	-*	Month to month
Ziggo	Cable	Internet, Phone, TV	120	10	79.76	-*	--
KPN	Wireless	Internet	7.2	2	35.71	2	12, 24 month
KPN	Wireless	Internet	7.2	2	53.57	5	12, 24 month
T-Mobile	Wireless	Internet	7.2	2	23.81	2.5	12, 24 month
T-Mobile	Wireless	Internet	14.4	2	47.62	15	12, 24 month
Tele2	Wireless (HSDPA)	Internet	7.2	2	41.61	1	12, 24 month
Tele2	Wireless (HSDPA)	Internet	7.2	2	59.46	2.5	12, 24 month
Tele2	Wireless	Internet	40	3	35.71	3	12 month

**Ziggo's terms of service warn against "overuse," but do not specifically define a cap.*

.

Appendix B. Full Data – Berlin, Germany

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
1&1	DSL	Internet, Phone	6	-	30.85	None	24 month
1&1	DSL	Internet, Phone	16	-	37.02	None	24 month
1&1	DSL	Internet, Phone	16	-	24.68	100	24 month
1&1	DSL	Internet, Phone	50	-	43.20	None	24 month
Deutsche Telekom	DSL	Internet, Phone	16	1	36.98	None	12 months
Deutsche Telekom	DSL	Internet, Phone	16	1	43.15	None	24 month
Deutsche Telekom	DSL	Internet, Phone	16	1	55.49	None	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	16	1	49.32	None	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	16	1	55.49	None	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	25	5	61.67	100	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	25	5	67.84	100	24 month
Deutsche Telekom	DSL	Internet, Phone	50	10	55.49	200	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	50	10	61.67	200	24 month
Deutsche Telekom	DSL	Internet, Phone, TV	50	10	67.84	200	24 month
Kabel Deutschland	Cable	Internet, Phone	8	0.6	15.93	None	24 month
Kabel Deutschland	Cable	Internet, Phone	16	1	22.10	None	24 month
Kabel Deutschland	Cable	Internet, Phone	32	2	24.57	None	24 month
Kabel Deutschland	Cable	Internet, Phone, TV	32	2	46.67	None	24 month
Kabel Deutschland	Cable	Internet, Phone	100	6	24.57	None	24 month
Kabel Deutschland	Cable	Add TV to any plan	N/A	N/A	23.30 to 36.91	N/A	-
O2	DSL	Internet, Phone	16	-	30.85	50	24 month
O2	DSL	Internet, Phone	16	-	37.02	50	24 month
O2	DSL	Internet, Phone	50	10	37.01	50	24 month
O2	DSL	Internet, Phone	50	10	43.19	50	24 month
TeleColumbus	Cable	Internet, Phone	16	1	24.57	None	24 month
TeleColumbus	Cable	Internet, Phone	32	1	30.85	None	24 month
TeleColumbus	Cable	Internet, Phone	64	2	43.20	None	24 month
TeleColumbus	Cable	Internet, Phone	128	4	67.89	None	24 month
TeleColumbus	Cable	Add TV to any plan	N/A	N/A	20.36	N/A	-
Versatel	DSL	Internet, Phone	6	0.5	36.91	-	24 month
Versatel	DSL	Internet, Phone	16	0.8	43.09	-	24 month
Vodafone	DSL	Internet, Phone, TV	16	0.8	43.15	-	24 month
1&1	Wireless	Internet	7.2	-	37.02	0.5	24 month
Deutsche Telekom	Wireless	Internet	21.6	-	49.32	3	24 month
Deutsche Telekom	Wireless (HSPA+)	Internet	42.2	5.76	74.01	10	24 month
Deutsche Telekom	Wireless (LTE)	Internet	100	50	98.70	30	24 month

Continued on the following page.

Appendix B. Full Data – Berlin, Germany (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
E-plus	Wireless	Internet	7.2	-	6.17	0.05	24 month
E-plus	Wireless	Internet	7.2	-	12.35	0.5	24 month
E-plus	Wireless	Internet	7.2	-	18.52	1	24 month
E-plus	Wireless	Internet	7.2	-	24.69	5	24 month
O2	Wireless	Internet	7.2	-	26.53	5	24 month
O2	Wireless	Internet	7.2	-	18.40	10	12 month
O2	Wireless	Internet	14.4	-	38.88	7.5	24 month
Vodafone	Wireless (LTE)	Internet	21.6	5.7	40.11	3	24 month
Vodafone	Wireless (LTE)	Internet	42.2	5.7	52.46	6	24 month
Vodafone	Wireless (LTE)	Internet	50	10	64.80	10	24 month

Appendix B. Full Data – Bristol, Virginia, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
BVU	Fiber	Internet	6	1	26.36	None	Month to month
BVU	Fiber	Internet	12	2	35.16	None	Month to month
BVU	Fiber	Internet	16	3	39.56	None	Month to month
BVU	Fiber	Internet	20	5	49.95	None	Month to month
BVU	Fiber	Internet	30	10	59.95	None	Month to month
BVU	Fiber	Internet	50	20	99.95	None	Month to month
BVU	Fiber	Internet	110	20	169.95	None	Month to month
BVU	Fiber	Internet	250	30	259.95	None	Month to month
BVU	Fiber	Internet	1000	50	319.95	None	Month to month
BVU	Fiber	Add phone	N/A	N/A	14.64	N/A	Month to month
BVU	Fiber	Add TV	N/A	N/A	42.20	N/A	Month to month
CenturyLink	DSL	Internet	10	0.7	59.95	250	24 month
CenturyLink	DSL	Internet, Phone	10	0.7	63.32	250	24 month
CenturyLink	DSL	Internet, Phone, TV*	10	0.7	107.26	250	24 month
Charter	Cable	Internet	15	3	34.99	100	24 month
Charter	Cable	Internet, Phone, TV	15	3	99.97	100	24 month
Charter	Cable	Internet	30	4	46.99	250	24 month
Charter	Cable	Internet, Phone	30	4	59.98	250	24 month
Charter	Cable	Internet, Phone, TV	30	4	116.97	250	24 month
AT&T	Wireless (HSPA+)	Internet	-	-		5	24 month
Verizon	Wireless (LTE)	Internet	12	5		5	24 month
Verizon	Wireless (LTE)	Internet	12	5		10	24 month

**CenturyLink television offered in a partnership with DirecTV.*

Appendix B. Full Data – Bucharest, Romania

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
ALLNET	Fiber	Internet	4	-	18.18	-	24 month
ALLNET	Fiber	Internet	10	-	30.30	-	24 month
ALLNET	Fiber	Internet	30	-	45.45	-	24 month
ALLNET	Fiber	Internet	50	-	90.91	-	24 month
Comtel	Fiber	Internet	10	-	18.04	None	6, 12, 24 month
Comtel	Fiber	Internet	20	-	32.45	None	6, 12, 24 month
Comtel	Fiber	Internet	30	-	45.45	None	6, 12, 24 month
Comtel	Fiber	Internet	50	-	63.64	None	6, 12 month, 24 month
DCN Telecom	Fiber	Internet	4	-	16.18	None	--
DCN Telecom	Fiber	Internet	10	-	21.58	None	--
DCN Telecom	Fiber	Internet	20	-	26.97	None	--
iLink	Fiber	Internet	30	-	18.18	None	12 month
iLink	Fiber	Internet	50	-	24.24	None	12 month
iLink	Fiber	Internet	100	-	42.42	None	12 month
Madnet	Fiber	Internet	40	-	21.21	None	Month to month, 12, 24 month
Madnet	Fiber	Internet, TV	40	-	24.24	None	Month to month, 12, 24 month
Madnet	Fiber	Internet	50	-	22.73	None	Month to month, 12, 24 month
Madnet	Fiber	Internet, TV	50	-	27.27	None	Month to month, 12, 24 month
Madnet	Fiber	Internet	60	-	27.06	None	Month to month, 12, 24 month
Madnet	Fiber	Internet, TV	60	-	36.36	None	Month to month, 12, 24 month
Madnet	Fiber	Internet	80	-	32.47	None	Month to month, 12, 24 month
Madnet	Fiber	Internet, TV	80	-	39.39	None	Month to month, 12, 24 month
RCS & RDS	Cable	Internet	5	-	23.64	None	12 month
RCS & RDS	Fiber	Internet	50	-	17.58	None	-
RCS & RDS	Fiber	Internet	100	-	23.64	None	-
Romtelcom	ADSL	Internet	20	1	28.52	None	-
Romtelcom	ADSL	Internet, Phone	6	1	40.27	None	-
Romtelcom	ADSL	Internet, Phone, TV	6	1	53.68	None	-
Romtelcom	VDSL	Internet, Phone	20	-	40.27	None	-
Romtelcom	ADSL	Internet, Phone	20	1	50.33	None	-
Romtelcom	VDSL	Internet, Phone, TV	20	-	53.68	None	-
Romtelcom	ADSL	Internet, Phone, TV	20	1	63.75	None	-

Continued on the following page.

Appendix B. Full Data – Bucharest, Romania (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Romtelcom	VDSL	Internet	50	16	28.52	None	--
Romtelcom	Fiber	Internet, Phone	50	16	40.27	None	--
Romtelcom	Fiber	Internet, Phone, TV	50	16	53.68	None	--
Romtelcom	VDSL	Internet, Phone	50	16	50.33	None	--
Romtelcom	VDSL	Internet, Phone, TV	50	16	63.75	None	--
Romtelcom	Fiber	Internet	100	32	28.52	None	--
Romtelcom	Fiber	Internet, Phone	100	32	50.33	None	--
Romtelcom	Fiber	Internet, Phone, TV	100	32	63.75	None	--
UPC	Fiber	Internet	10	2	11.27	--	12 month
UPC	Fiber	Internet, TV	10	2	26.30	--	12 month
UPC	Fiber	Internet	20	3	18.79	--	12 month
UPC	Fiber	Internet, TV	20	3	33.82	--	12 month
UPC	Fiber	Internet	60	4	30.06	--	12 month
UPC	Fiber	Internet, TV	60	4	45.09	--	12 month
UPC	Fiber	Internet	120	6	37.58	--	12 month
UPC	Fiber	Internet, TV	120	6	52.61	--	12 month
Mediasat	Satellite	Internet	6	1	80.61	4	12 month
Mediasat	Satellite	Internet	8	2	121.77	8	12 month
Mediasat	Satellite	Internet	10	2	159.65	13	12 month
Mediasat	Satellite	Internet	10	4	262.48	25	12 month
Orange	Wireless	Internet	21.6	5.76	21.65	1	12 month
Orange	Wireless	Internet	21.6	5.76	27.06	3	12 month
Orange	Wireless	Internet	21.6	5.76	35.18	5	12 month
Orange	Wireless	Internet	43.2	5.76	40.59	9	12 month
Orange	Wireless	Internet	43.2	5.76	67.65	30	12 month

Appendix B. Full Data – Chattanooga, Tennessee, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
AT&T	DSL	Internet	6	1	24.95	250	12 month
AT&T	DSL	Internet, Phone, TV**	6	1	68.44	250	12 month
AT&T	DSL	Internet	12	1.5	48.00	250	12 month
AT&T	DSL	Internet	12	1.5	48.00	250	12 month
AT&T	DSL	Internet	18	1.5	53.00	250	12 month
AT&T	DSL	Internet	18	1.5	53.00	250	12 month
Comcast	Cable	Internet	6	1	49.95	300	-
Comcast	Cable	Internet	20	4	56.95	300	-
Comcast	Cable	Internet, Phone	20	4	39.99	300	24 month
Comcast	Cable	Internet, Phone, TV	20	4	99.99	300	24 month
Comcast	Cable	Internet, Phone, TV	20	4	119.99	300	24 month
Comcast	Cable	Internet	30	6	66.95	250	
Comcast	Cable	Internet, Phone, TV	30	6	139.99	300	24 month
Comcast	Cable	Internet, Phone, TV	30	6	159.99	300	24 month
Comcast	Cable	Internet, Phone, TV	30	6	199.99	300	24 month
Comcast	Cable	Internet	50	10	114.95	300	-
Comcast	Cable	Internet	105	10	199.95	300	-
EPB	Fiber	Internet	30	30	57.99	*	Month to month
EPB	Fiber	Internet, Phone	30	30	68.83	*	Month to month
EPB	Fiber	Internet, Phone, TV	30	30	129.51	*	Month to month
EPB	Fiber	Internet	50	50	69.99	*	Month to month
EPB	Fiber	Internet, Phone	50	50	79.03	*	Month to month
EPB	Fiber	Internet, Phone, TV	50	50	139.35	*	Month to month
EPB	Fiber	Internet	100	100	139.99	*	Month to month
EPB	Fiber	Internet, Phone	100	100	138.53	*	Month to month
EPB	Fiber	Internet, Phone, TV	100	100	196.75	*	Month to month
EPB	Fiber	Internet	1000	1000	349.99	*	Month to month
EPB	Fiber	Internet, Phone	1000	1000	317.03	*	Month to month
EPB	Fiber	Internet, Phone, TV	1000	1000	368.95	*	Month to month
AT&T	Wireless (HSPA+)	Internet	-	-	50.00	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month
Verizon	Wireless (LTE)	Internet	12	5	50.00	5	24 month
Verizon	Wireless (LTE)	Internet	12	5	80.00	10	24 month

**In their terms of service, Chattanooga EPB reserves the right to enforce a bandwidth limit, but do not specify a cap.*

***AT&T Television service offered in a partnership with DirecTV.*

Appendix B. Full Data – Copenhagen, Denmark

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
ComX	Fiber	Internet	2	2	15.10	None	6 month
ComX	Fiber	Internet	5	5	17.64	None	6 month
ComX	Fiber	Internet	10	10	23.98	None	6 month
ComX	Fiber	Internet	20	20	27.79	None	6 month
ComX	Fiber	Internet	40	40	37.94	None	6 month
ComX	Fiber	Internet	60	60	44.29	None	6 month
ComX	Fiber	Internet	100	100	76.02	None	6 month
ComX	Fiber	Internet	250	250	126.78	None	6 month
DLG Tele	DSL	Internet	10	1	27.79	None	6 month
DLG Tele	DSL	Internet	20	1	37.94	None	6 month
Energimidt	Fiber	Internet	30	30	34.14	None	6 month
Energimidt	Fiber	Internet	40	40	37.94	None	6 month
Energimidt	Fiber	Internet	60	60	50.63	None	6 month
Energimidt	Fiber	Internet	90	90	63.32	None	6 month
Fullrate	DSL	Internet	6	1	22.72	None	6 month
Fullrate	DSL	Internet	12	1	25.25	None	6 month
Fullrate	DSL	Internet	20	2	31.60	None	6 month
Fullrate	DSL	Internet	35	5	44.29	None	6 month
Fullrate	DSL	Internet	50	10	54.44	None	6 month
Perspektiv	ADSL	Internet	5	1	25.25	None	6 month
Perspektiv	ADSL	Internet	10	1	31.60	None	6 month
Perspektiv	ADSL	Internet	20	2	37.94	None	6 month
Perspektiv	VDSL	Internet	30	3	44.29	None	6 month
Perspektiv	VDSL	Internet, Phone	30	3	50.51	None	6 month
Perspektiv	VDSL	Internet	40	4	50.63	None	6 month
Perspektiv	VDSL	Internet, Phone	40	4	56.85	None	6 month
Perspektiv	VDSL	Internet	50	5	63.32	None	6 month
Perspektiv	VDSL	Internet	50	10	76.02	None	6 month
Perspektiv	VDSL	Internet, Phone	50	5	69.54	None	6 month
Perspektiv	VDSL	Internet, Phone	50	10	82.23	None	6 month
Stofa	Fiber	Internet	15	2	22.72	None	Month to month
Stofa	Fiber	Internet	30	3	31.52	None	Month to month
Stofa	Fiber	Internet	50	5	41.69	None	Month to month
Stofa	Fiber	Internet	111	11	50.60	500	Month to month
TDC	DSL	Internet	20	2	31.60	None	6 month
TDC	DSL	Internet, Phone	20	2	37.94	None	6 month
TDC	DSL	Internet, Phone	20	2	44.29	None	6 month
TDC	DSL	Internet, Phone, TV	20	2	53.17	None	6 month
TDC	DSL	Internet, Phone, TV	20	2	65.86	None	6 month
TDC	DSL	Internet, Phone, TV	20	2	72.21	None	6 month
TDC	Fiber	Internet, Phone	50	10	50.63	None	6 month

Continued on the following page.

Appendix B. Full Data – Copenhagen, Denmark (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
TDC	Fiber	Internet, Phone, TV	50	10	76.02	None	6 month
TDC	Fiber	Internet, Phone, TV	50	10	82.36	None	6 month
TDC	Fiber	Internet, Phone, TV	50	10	114.09	None	6 month
Telenor	ADSL	Internet	10	1	25.25	None	6 month
Telenor	ADSL	Internet, Phone	10	1	37.82	None	6 month
Telenor	ADSL	Internet	15	1	31.60	None	6 month
Telenor	ADSL	Internet, Phone	15	1	44.16	None	6 month
Telenor	ADSL	Internet	20	1	37.94	None	6 month
Telenor	ADSL	Internet	20	2	44.29	None	6 month
Telenor	ADSL	Internet, Phone	20	1	50.51	None	6 month
Telenor	ADSL	Internet, Phone	20	2	56.85	None	6 month
Telia	DSL	Internet	10	1	25.25	None	6 month
Telia	DSL	Internet	14	1	30.33	None	6 month
Telia	DSL	Internet	20	1	31.60	None	6 month
Telia	DSL	Internet, Phone	20	1	39.09	None	6 month
Telia	DSL	Internet, TV	20	1	40.36	None	6 month
Telia	DSL	Internet, TV	20	1	59.39	None	6 month
Telia	DSL	Internet, TV	20	1	70.81	None	6 month
Telia	DSL	Internet, Phone, TV	20	1	40.36	None	6 month
DLG Tele	Wireless	Internet	4	-	18.91	10	6 month
Fullrate	Wireless (HSDPA)	Internet	4	1	3.68	0.6	6 month
Fullrate	Wireless (HSDPA)	Internet	4	1	12.56	10	6 month
Fullrate	Wireless (HSDPA)	Internet	15	1	34.14	10	6 month

Appendix B. Full Data – Dublin, Ireland

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Digiweb	DSL	Internet	24	0.768	53.13	150	12 month
Digiweb	DSL	Internet, Phone	24	0.768	82.73	150	12 month
eircom	DSL	Internet, Phone	24	0.768	69.77	250	12 month
eircom	Fiber	Internet, Phone	25	8	58.14	100	12 month
eircom	Fiber	Internet, Phone	50	20	69.77	250	12 month
eircom	Fiber	Internet, Phone	150	30	81.40	500	12 month
Magnet	Fiber	Internet, Phone	8	1	59.29	None	Month to month
Magnet	Fiber	Internet	24	1	46.51	None	Month to month
Magnet	Fiber	Internet, Phone	24	1	70.92	None	Month to month
Magnet	Fiber	Internet, Phone	30	5	46.50	None	Month to month
Magnet	Fiber	Internet, Phone, TV	30	5	76.73	None	Month to month
Magnet	Fiber	Internet	60	8	46.51	None	Month to month
Magnet	Fiber	Internet, Phone	60	8	62.78	None	Month to month
Magnet	Fiber	Internet, Phone, TV	60	8	88.36	None	Month to month
Magnet	Fiber	Internet	100	10	63.95	None	Month to month
Magnet	Fiber	Internet, Phone	100	10	74.41	None	Month to month
Magnet	Fiber	Internet, Phone, TV	100	10	99.99	None	Month to month
Smart Telecom	Fiber	Internet, Phone	24	1	34.83	350	12 month
Vodafone Ireland	DSL	Internet	8	-	46.51	40	12 month
Vodafone Ireland	DSL	Internet	8	-	55.81	300	12 month
Vodafone Ireland	DSL	Internet, Phone	8	-	52.33	40	12 month
Vodafone Ireland	DSL	Internet, Phone	8	-	60.47	300	12 month
Vodafone Ireland	DSL	Internet	24	-	63.95	350	12 month
Vodafone Ireland	DSL	Internet, Phone	24	-	68.60	350	12 month
Digiweb	Satellite	Internet	6	1	47.22	4	24 month
Digiweb	Satellite	Internet	8	2	70.34	8	24 month
Digiweb	Satellite	Internet	10	2	94.50	None	24 month
Digiweb	Satellite	Internet	10	4	153.60	None	24 month
Digiweb	Fixed wireless	Internet, Phone	8	1	41.27	60	12 month
Digiweb	Fixed wireless	Internet, Phone	30	1	47.91	100	12 month

Continued on the following page.

Appendix B. Full Data – Dublin, Ireland (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Imagine	Wireless (WiMax)	Internet	7	0.512	41.37	None	12 month
Imagine	Wireless (WiMax)	Internet, Phone	7	0.512	53.19	None	12 month
Imagine	Wireless (WiMax)	Internet	10	0.512	53.19	None	12 month
Imagine	Wireless (WiMax)	Internet, Phone	10	0.512	65.01	None	12 month
Meteor	Wireless	Internet	7.2	2	9.29	1	12 month
Meteor	Wireless	Internet	7.2	2	20.08	5	12 month
Meteor	Wireless	Internet	7.2	2	23.63	10	12 month
Meteor	Wireless	Internet	7.2	2	29.53	20	12 month
Meteor	Wireless	Internet	7.2	2	23.63	20	18 month
Meteor	Wireless	Internet	7.2	2	29.53	30	18 month
Meteor	Wireless	Internet	14.4	5.76	9.29	1	12 month
Meteor	Wireless	Internet	14.4	5.76	20.08	5	12 month
Meteor	Wireless	Internet	14.4	5.76	23.63	10	12 month
Meteor	Wireless	Internet	14.4	5.76	29.53	20	12 month
Meteor	Wireless	Internet	14.4	5.76	23.63	20	18 month
Meteor	Wireless	Internet	14.4	5.76	29.53	30	18 month
O2	Wireless	Internet	7.2	2	23.24	5	Month to month
O2	Wireless	Internet	7.2	2	23.63	15	6, 12, 18 month
O2	Wireless	Internet	21	5.76	23.24	5	Month to month
O2	Wireless	Internet	21	5.76	23.63	15	18 month
Onwave	Satellite	Internet	6	1	46.45	4	Month to month
Onwave	Satellite	Internet, Phone, TV	6	1	52.27	4	Month to month
Onwave	Satellite	Internet	8	2	69.71	8	Month to month
Onwave	Satellite	Internet, Phone, TV	8	2	75.52	8	Month to month
Onwave	Satellite	Internet	10	2	92.97	None	Month to month
Onwave	Satellite	Internet	10	4	145.29	None	Month to month
Onwave	Satellite	Internet, Phone, TV	10	2	98.78	None	Month to month
Onwave	Satellite	Internet, Phone, TV	10	4	151.10	None	Month to month
Ripplecom	Fixed wireless	Internet	8	1	52.31	70	12 month
Ripplecom	Fixed wireless	Internet, Phone	8	1	63.94	70	12 month
Three	Wireless	Internet	21.1	5.76	11.80	1	12, 18 month
Three	Wireless	Internet	21.1	5.76	23.63	15	12, 18 month
Three	Wireless	Internet	21.1	5.76	35.45	60	12, 18 month

Appendix B. Full Data – Hong Kong, China

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
City Telecom	Fiber	Internet	500	20	40.90	None	24 month
City Telecom	Fiber	Internet, Phone	500	20	41.09	None	24 month
City Telecom	Fiber	Internet, TV	500	20	41.09	None	24 month
City Telecom	Fiber	Internet, Phone, TV	500	20	46.72	None	24 month
City Telecom	Fiber	Internet, Phone	1000	20	50.47	None	24 month
City Telecom	Fiber	Internet, TV	1000	20	50.47	None	24 month
City Telecom	Fiber	Internet, Phone, TV	1000	20	56.10	None	24 month
3 in HK	Fiber	Internet	100	100	29.83	None	30 month
3 in HK	Fiber	Internet	200	200	29.83	None	30 month
3 in HK	Fiber	Internet	500	500	37.34	None	30 month
3 in HK	Fiber	Internet	1000	1000	48.59	None	30 month
PCCW	Fiber	Internet	18	1	44.65	None	24 month
PCCW	Fiber	Internet	30	10	44.65	None	24 month
PCCW	Fiber	Internet	100	30	55.91	None	24 month
PCCW	Fiber	Internet	300	300	55.91	None	24 month
PCCW	Fiber	Internet	500	500	65.29	None	24 month
PCCW	Fiber	Internet	1000	1000	93.43	None	24 month
i-cable	Cable	Internet	10	1.5	46.53	None	-
i-cable	Cable	Internet	50	10	55.91	None	-
i-cable	Cable	Internet	130	10	93.43	None	-
3 in HK	Wireless (4G LTE)	Internet	100	50	18.39	0.4	24 month
3 in HK	Wireless (4G LTE)	Internet	100	50	54.18	2	24 month
3 in HK	Wireless (4G LTE)	Internet	100	50	93.43	None	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	7.2	5.76	12.76	0.4	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	7.2	5.76	12.76	0.4	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	7.2	5.76	61.54	5	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	7.2	5.76	37.15	5	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	21	5.76	12.76	0.4	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	21	5.76	12.76	0.4	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	21	5.76	74.67	5	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	21	5.76	65.29	5	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	42	5.76	12.76	0.4	24 month
3 in HK	Wireless (DC-HSPA+)	Internet	42	5.76	84.05	5	24 month
PCCW	Wireless (3G-HSPA)	Internet	7.2	5.6	35.46	2.5	24 month
PCCW	Wireless (3G-HSPA)	Internet	7.2	5.6	42.78	5	24 month
PCCW	Wireless (3G-HSPA)	Internet	21	5.6	46.53	5	24 month
PCCW	Wireless (3G-HSPA)	Internet	21	5.6	39.21	2.5	24 month

Appendix B. Full Data – Lafayette, Louisiana, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
AT&T	DSL	Internet	6	1	24.95	250	12 month
AT&T	DSL	Internet, Phone	6	1	54.95	250	12 month
AT&T	DSL	Internet, Phone, TV*	6	1	65.60	250	24 month
Cox	Cable	Internet	15	1	52.99	200	24 month
Cox	Cable	Internet, Phone, TV	15	1	133.96	200	24 month
Cox	Cable	Internet, Phone, TV	15	1	151.98	200	24 month
Cox	Cable	Internet	25	2	64.99	250	24 month
Cox	Cable	Internet, Phone	25	2	94.98	250	24 month
Cox	Cable	Internet, Phone, TV	25	2	161.98	250	24 month
Cox	Cable	Internet	50	5	99.99	400	24 month
Cox	Cable	Internet, Phone, TV	50	5	201.98	400	24 month
LUS	Fiber	Internet	15	15	34.95	1024 to 8192**	Month to month
LUS	Fiber	Internet, Phone, TV	15	15	125.89	1024 to 8192**	12 month
LUS	Fiber	Internet, Phone, TV	15	15	145.89	1024 to 8192**	12 month
LUS	Fiber	Internet, Phone, TV	15	15	109.89	1024 to 8192**	Month to month
LUS	Fiber	Internet	40	40	49.95	1024 to 8192**	Month to month
LUS	Fiber	Internet, Phone, TV	40	40	160.89	1024 to 8192**	12 month
LUS	Fiber	Internet	75	75	99.95	1024 to 8192**	Month to month
LUS	Fiber	Internet	100	100	199.95	1024 to 8192**	Month to month
AT&T	Wireless (HSPA+)	Internet	-	-	50	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month

**AT&T Television service offered in a partnership with DirecTV.*

***LUS enforces a data cap between 1 and 8 terabytes (1024 and 8192 GB) depending on the plan tier.*

Appendix B. Full Data – London, UK

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap	Contract Length
BT	DSL	Internet, Phone	16	-	19.69	10	18 month
BT	DSL	Internet, Phone	16	-	27.27	40	18 month
BT	DSL	Internet, Phone	16	-	39.39	None	18 month
BT	DSL	Internet, Phone, TV	16	-	45.45	None	18 month
BT	Fiber	Internet, Phone	38	-	27.27	40	18 month
BT	Fiber	Internet, Phone, TV	38	-	33.33	None	18 month
BT	Fiber	Internet, Phone	76	19	39.39	None	18 month
BT	Fiber	Internet, Phone, TV	76	19	45.45	None	18 month
BT	Fiber	Internet, Phone, TV	100	15	53.03	None	18 month
O2	ADSL2+	Internet	16	1.1	26.52	None	12 month
O2	ADSL2+	Internet	16	2	39.39	None	12 month
O2	ADSL2+	Internet, Phone	16	1.1	46.21	None	12 month
O2	ADSL2+	Internet, Phone	16	2	59.09	None	12 month
Orange	DSL	Internet, Limited Phone	14	1	35.61	None	12 month
Orange	DSL	Internet, Unlimited Phone	14	1	43.18	None	12 month
PlusNet	DSL	Internet, Limited Phone	16	-	24.59	10	12 month
PlusNet	DSL	Internet, Unlimited Phone	16	-	28.38	60	12 month
PlusNet	Fiber	Internet, Limited Phone	38	-	24.98	40	18 month
PlusNet	Fiber	Internet, Limited Phone	38	-	32.56	120	18 month
PlusNet	Fiber	Internet, Unlimited Phone	38	-	30.29	40	18 month
PlusNet	Fiber	Internet, Unlimited Phone	38	-	37.86	120	18 month
Sky	DSL	Internet, Limited Phone	14	1.3	33.71	None	12 month
Sky	DSL	Internet, Limited Phone, TV	14	1.3	60.23	None	12 month
Sky	DSL	Internet, Unlimited Phone, TV	14	1.3	67.80	None	12 month
Sky	Fiber	Internet, Limited Phone	40	2	48.86	None	12 month
Sky	Fiber	Internet, Limited Phone, TV	40	2	79.17	None	12 month
Sky	Fiber	Internet, Unlimited Phone, TV	40	2	86.74	None	12 month
Talk Talk	DSL	Internet, Phone	14	-	26.89	40	12 month
Talk Talk	DSL	Internet, Phone	14	-	43.94	None	12 month
Virgin	Fiber	Internet	30	-	21.97	None	18 month
Virgin	Fiber	Internet, Phone	30	-	37.88	None	18 month
Virgin	Fiber	Internet, Phone, TV	30	-	43.03	None	18 month
Virgin	Fiber	Internet	60	-	28.03	None	18 month
Virgin	Fiber	Internet, Phone	60	-	40.91	None	18 month
Virgin	Fiber	Internet, Phone, TV	60	-	68.18	None	18 month
Virgin	Fiber	Internet	100	-	38.64	None	18 month
Virgin	Fiber	Internet, Phone	100	-	59.70	None	18 month
Virgin	Fiber	Internet, Phone, TV	100	-	136.36	None	18 month

Continued on the following page.

Appendix B. Full Data – London, UK (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Orange	Wireless	Internet	7.2	-	18.94	0.5	18 month
Orange	Wireless	Internet	7.2	-	26.52	2	18 month
Orange	Wireless	Internet	7.2	-	45.45	5	18 month
Three.co.uk	Wireless	Internet	21	5.76	24.23	15	24 month
Three.co.uk	Wireless	Internet	21	5.76	11.92	1	24 month
Vodafone	Wireless	Internet	7.2	-	4.55	0.25	Month to month
Vodafone	Wireless	Internet	7.2	-	11.36	0.5	Month to month
Vodafone	Wireless	Internet	7.2	-	22.73	2	Month to month

Appendix B. Full Data – Los Angeles, California, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
AT&T U-Verse	DSL	Internet	6	1	43.00	250	12 month
AT&T U-Verse	DSL	Internet	12	3	48.00	250	12 month
AT&T U-Verse	DSL	Internet	18	3	53.00	250	12 month
AT&T U-Verse	DSL	Internet	24	3	63.00	250	12 month
TimeWarner	Cable	Internet	10	1	29.99	None	12 month
TimeWarner	Cable	Internet, Phone, TV	10	1	89.99	None	12 month
TimeWarner	Cable	Internet	15	2	39.99	None	12 month
TimeWarner	Cable	Internet, TV	15	2	49.99	None	12 month
TimeWarner	Cable	Internet	20	2	49.99	None	12 month
TimeWarner	Cable	Internet	30	5	59.99	None	12 month
TimeWarner	Cable	Internet	50	5	99.99	None	12 month
Verizon	DSL	Internet, Local and Long Distance Phone	7	-	54.99	None	24 month
Verizon	DSL	Internet, Local and Long Distance Phone, Deluxe TV	7	-	89.99	None	24 month
Verizon	DSL	Internet, Local Phone	7	-	50.99	None	24 month
Verizon	DSL	Internet, Local Phone, Deluxe TV	7	-	79.99	None	24 month
Verizon	DSL	Internet, TV, Local and Long Distance Phone	7	-	84.99	None	24 month
Verizon	DSL	Internet, TV, Local Phone	7	-	74.99	None	24 month
AT&T	Wireless	Internet	-	-	50.00	5	24 month
Clear	Wireless	Internet	6	-	49.99	None	-
Sprint	Wireless (WiMax)	Internet	10	-	79.99	12	24 month
Sprint	Wireless (WiMax)	Internet	10	-	49.99	6	24 month
Sprint	Wireless (WiMax)	Internet	10	-	34.99	3	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month
Verizon	Wireless (LTE)	Internet	12	5	50.00	5	24 month
Verizon	Wireless (LTE)	Internet	12	5	80.00	10	24 month

NOTE: AT&T advertises that its Fiber-to-the-Node service, U-Verse, is available in the Los Angeles area at speeds of 12, 18, and 24 Mbps. However, it is not listed on the National Broadband Map, nor could we find actual details about its availability in the city. Verizon Television services offered in a partnership with DirecTV.

Appendix B. Full Data – Mexico City, Mexico

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/ PPP)	Data Cap (GB)	Contract Length
Cablevision	Cable	Internet	4	-	37.75	-	-
Cablevision	Cable	Internet, Phone, TV	4	-	94.57	-	-
Cablevision	Cable	Internet	6	-	75.63	-	-
Cablevision	Cable	Internet	8	-	100.88	-	-
Cablevision	Cable	Internet, Phone, TV	12	-	126.14	-	-
Iusacell-Totalplay	Fiber	Internet, Phone, TV	10	-	99.62	-	-
Iusacell-Totalplay	Fiber	Internet, Phone	15	-	81.94	-	-
Iusacell-Totalplay	Fiber	Internet, Phone, TV	20	-	132.45	-	-
Iusacell-Totalplay	Fiber	Internet, Phone, TV	30	-	186.74	-	-
Iusacell-Totalplay	Fiber	Internet, Phone, TV	40	-	211.99	-	-
Maxcom	ADSL	Internet, Phone	4	2	48.99	None	-
Maxcom	ADSL	Internet, TV	4	2	56.69	None	-
Maxcom	ADSL	Internet, Phone, TV	4	2	91.92	None	-
Megacable	Cable	Internet	5	-	53.03	None	Month to month
Megacable	Cable	Internet	10	-	103.53	None	Month to month
Megacable	Cable	Internet	20	-	126.26	None	Month to month
Axtel-Acceso Universal	Wireless (WiMax)	Internet, Phone	10	-	60.86	None	Month to month
Axtel-Acceso Universal	Wireless (WiMax)	Internet, Phone	30	-	91.92	None	Month to month
Axtel-Acceso Universal	Wireless (WiMax)	Internet, Phone	50	-	129.8	None	Month to month
Axtel-Acceso Universal	Wireless (WiMax)	Internet, Phone	100	-	256.06	None	Month to month
Iusacell	Wireless	Internet	21.6	-	75.63	10	24 month
Iusacell	Wireless	Internet	21.6	-	63.00	5	24 month
Iusacell	Wireless	Internet	21.6	-	50.38	3	24 month
Iusacell	Wireless	Internet	21.6	-	37.75	2	24 month
Iusacell	Wireless	Internet	21.6	-	31.44	0.5	24 month
Iusacell	Wireless	Internet	21.6	-	28.91	0.1	24 month
Iusacell	Wireless	Internet	21.6	-	25.13	0.05	24 month
Iusacell	Wireless	Internet	21.6	-	18.81	0.01	24 month
Movistar	Wireless	Internet, Phone	3.5	-	252.4	2	-
Movistar	Wireless	Internet, Phone	3.5	-	201.89	1.6	-
Movistar	Wireless	Internet, Phone	3.5	-	126.14	1	-
Movistar	Wireless	Internet, Phone	3.5	-	100.88	0.8	-
Movistar	Wireless	Internet, Phone	3.5	-	75.63	0.6	-
Movistar	Wireless	Internet, Phone	3.5	-	50.38	0.4	-
Movistar	Wireless	Internet, Phone	3.5	-	37.75	0.2	-
Telcel	Wireless	Internet	7.2	-	75.63	10	Month to month
Telcel	Wireless	Internet	7.2	-	63.00	5	Month to month

Appendix B. Full Data – New York, New York, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
New York Connect	Cable	Internet	10	0.512	49.99	-	-
RCN	Cable	Internet	25	2	34.99	None	Month to month
RCN	Cable	Internet, TV	25	2	79.99	None	Month to month
RCN	Cable	Internet, Phone, TV	25	2	89.99	None	Month to month
RCN	Cable	Internet	50	6	49.99	None	Month to month
RCN	Cable	Internet, TV	50	6	89.99	None	Month to month
RCN	Cable	Internet, Phone, TV	50	6	99.99	None	Month to month
RCN	Cable	Internet	75	10	89.99	None	Month to month
RCN	Cable	Internet, TV	75	10	114.99	None	Month to month
RCN	Cable	Internet, Phone, TV	75	10	124.99	None	Month to month
Time Warner	Cable	Internet	15	0.78	39.94	None	Month to month
Time Warner	Cable	Internet, TV	15	0.78	101.70	None	Month to month
Time Warner	Cable	Internet, Phone, TV	15	0.78	112.69	None	Month to month
Time Warner	Cable	Internet	30	5	49.99	None	Month to month
Time Warner	Cable	Internet, TV	30	5	111.75	None	Month to month
Time Warner	Cable	Internet, Phone, TV	30	5	122.74	None	Month to month
Time Warner	Cable	Internet	50	5	79.99	None	Month to month
Time Warner	Cable	Internet, TV	50	5	141.75	None	Month to month
Time Warner	Cable	Internet, Phone, TV	50	5	152.74	None	Month to month
Verizon	DSL	Internet	7	-	29.99	None	Month to month
Verizon	Fiber	Internet	10	2	74.99	None	Month to month
Verizon	Fiber	Internet, Phone	10	2	85.79	None	Month to month
Verizon	Fiber	Internet, TV	10	2	139.98	None	Month to month
Verizon	Fiber	Internet, Phone, TV	10	2	154.98	None	Month to month
Verizon	Fiber	Internet	20	5	89.99	None	Month to month
Verizon	Fiber	Internet, Phone	20	5	94.99	None	Month to month
Verizon	Fiber	Internet, TV	20	5	154.98	None	Month to month
Verizon	Fiber	Internet, Phone, TV	20	5	160.98	None	Month to month
Verizon	Fiber	Internet, TV	150	35	159.98	None	Month to month
Verizon	Fiber	Internet, Phone, TV	150	35	170.78	None	Month to month
AT&T	Wireless (LTE)	Internet	-	-	50.00	5	24 month
Clear	Wireless	Internet	6	1.5	49.99	None	Month to month
Clear	Wireless	Internet	6	1.5	49.99	None	Month to month
Sprint	Wireless (WiMax)	Internet	10	-	79.99	12	24 month
Sprint	Wireless (WiMax)	Internet	10	-	49.99	6	24 month
Sprint	Wireless (WiMax)	Internet	10	-	34.99	3	24 month

Continued on the following page.

Appendix B. Full Data – New York, New York, USA (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month
Verizon	Wireless (LTE)	Internet	12	5	50.00	5	24 month
Verizon	Wireless (LTE)	Internet	12	5	80.00	10	24 month

NOTE: The New York City data includes only Internet sevice providers that operate in Manhattan.

Appendix B. Full Data – Paris, France

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Bouygues Telecom	ADSL	Internet, Phone, TV	20	0.512	36.67	40	-
Bouygues Telecom	Fiber	Internet, Phone, TV	100	5	36.67	-	-
Darty	ADSL	Internet	20	0.512	25.17	None	12 month
Darty	Fiber	Internet, Phone	100	5	40.11	None	12 month
Darty	Fiber	Internet, Phone, TV	100	5	43.56	None	12 month
Free	ADSL	Internet, Phone, TV	28	1	34.47	None	-
Free	Fiber	Internet, Phone, TV	100	50	34.47	None	-
Orange	ADSL	Internet	8	-	24.14	None	Month to month
Orange	ADSL	Internet, Phone, TV	20	-	37.53	None	12 month
Orange	Fiber	Internet, Phone, TV	100	10	38.97	None	12 month
SFR	ADSL	Internet	25	-	18.28	None	Month to month
SFR	ADSL	Internet, Phone, TV	25	-	36.67	None	Month to month
SFR	Fiber	Internet, Phone, TV	100	-	40.11	None	Month to month
Teleconnect	ADSL	Internet, Phone	20	-	36.67	None	Month to month
Bouygues Telecom	Wireless	Internet	42	5.8	11.38	0.3	24 month
Bouygues Telecom	Wireless	Internet	42	5.8	22.87	1	24 month
Bouygues Telecom	Wireless	Internet	42	5.8	34.37	3	24 month
Bouygues Telecom	Wireless	Internet	42	5.8	57.36	6	24 month
Orange	Wireless	Internet	7.2	5.76	44.71	0.1	12 month
Orange	Wireless	Internet	14.4	-	44.71	0.1	12 month
SFR	Wireless	Internet	21	-	9.20	0.25	Month to month
SFR	Wireless	Internet	21	-	25.29	1	Month to month
SFR	Wireless	Internet	21	-	39.08	3	Month to month
SFR	Wireless	Internet	42	-	9.20	0.25	Month to month
SFR	Wireless	Internet	42	-	25.29	1	Month to month
SFR	Wireless	Internet	42	-	39.08	3	Month to month

Appendix B. Full Data – Prague, Czech Republic

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
O2	DSL	Internet	16	1	35.16	None	12 month
O2	DSL	Internet, TV	16	1	45.71	None	12 month
O2	DSL	Internet, Phone, TV	16	1	54.15		12 month
O2	DSL	Internet	25	2	42.19	None	12 month
O2	DSL	Internet, TV	25	2	52.74	None	12 month
O2	DSL	Internet, Phone, TV	25	2	61.18	None	12 month
UPC	Fiber	Internet	30	1	35.12	None	12 month
UPC	Fiber	Internet	60	6	42.12	None	12 month
UPC	Fiber	Internet, TV	60	6	45.64	None	12 month
UPC	Fiber	Internet, Phone, TV	60	6	49.16	None	12 month
UPC	Fiber	Internet	120	10	56.19	None	12 month
UPC	Fiber	Internet, TV	120	10	59.56	None	12 month
Vodafone	ADSL	Internet	8	-	35.13	None	--
Vodafone	ADSL	Internet	16	-	52.74	None	--
T-Mobile	Wireless	Internet	10.8	-	28.06	3	36 month
T-Mobile	Wireless	Internet	10.8	-	31.58	3	24 month
T-Mobile	Wireless	Internet	10.8	-	33.68	3	12 month
T-Mobile	Wireless	Internet	10.8	-	35.09	3	Month to month
T-Mobile	Wireless	Internet	42	-	59.70	30	36 month
T-Mobile	Wireless	Internet	42	-	63.22	30	24 month
T-Mobile	Wireless	Internet	42	-	60.41	30	12 month
T-Mobile	Wireless	Internet	42	-	70.25	30	Month to month
Vodafone	Wireless	Internet	21	-	36.12	3	--

Appendix B. Full Data – Riga, Latvia

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Baltcom	Fiber	Internet	20	20	28.46	None	--
Balti-Com	Cable	Internet	20	5	23.06	None	12 Month, Month to month
Balti-Com	Cable	Internet	20	5	17.43	None	24 month
Balti-Com	Cable	Internet, Phone, TV	20	5	31.14	None	12 Month, Month to month
Balti-Com	Cable	Internet, Phone, TV	20	5	25.43	None	24 month
Balti-Com	Cable	Internet	100	100	31.14	None	Month to month
Balti-Com	Cable	Internet	100	100	25.43	None	12 month
Balti-Com	Cable	Internet	100	100	22.57	None	24 month
Balti-Com	Cable	Internet, Phone, TV	100	100	34.86	None	Month to month
Balti-Com	Cable	Internet, Phone, TV	100	100	32.00	None	12 month
Balti-Com	Cable	Internet, Phone, TV	100	100	30.00	None	24 month
Lattelecom	Fiber	Internet	100	100	42.8	None	24 month
Lattelecom	Fiber	Internet, Phone	100	100	45.66	None	24 month
Lattelecom	Fiber	Internet, TV	100	100	45.66	None	24 month
Lattelecom	Fiber	Internet, Phone, TV	100	100	71.37	None	24 month
Lattelecom	Fiber	Internet	200	200	62.8	None	24 month
Lattelecom	Fiber	Internet, Phone	200	200	74.23	None	24 month
Lattelecom	Fiber	Internet, TV	200	200	74.23	None	24 month
Lattelecom	Fiber	Internet, Phone, TV	200	200	85.66	None	24 month
Lattelecom	Fiber	Internet	20	20	28.51	None	12 month
Lattelecom	Fiber	Internet, Phone	20	20	45.66	None	12 month
Lattelecom	Fiber	Internet, TV	20	20	57.09	None	12 month
Lattelecom	Fiber	Internet, Phone, TV	20	20	45.66	None	24 month
Tele2	Wireless	Internet	4	-	17.11	5	12 month
Tele2	Wireless	Internet	4	-	19.83	5	24 month
Tele2	Wireless	Internet	4	-	30.23	15	12 month
Tele2	Wireless	Internet	4	-	31.66	15	24 month
Tele2	Wireless	Internet	6	-	51.14	25	12 month
Tele2	Wireless	Internet	6	-	52.57	25	24 month

Appendix B. Full Data – San Francisco, California, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
Astound	Fiber	Internet	10	1	54.95	100	Month to month
Astound	Fiber	Internet, Phone, TV	10	1	124.00	100	Month to month
Astound	Fiber	Internet	18	2	74.95	300	Month to month
Astound	Fiber	Internet, Phone, TV	18	2	144.00	300	Month to month
Astound	Fiber	Internet	50	5	124.95	300	Month to month
Astound	Fiber	Internet, Phone, TV	50	5	174.00	300	Month to month
AT&T	DSL	Internet, Phone	6	1	43.95	250	12 month
AT&T	DSL	Internet, TV	6	1	49.93	250	12 month
AT&T	DSL	Internet, Phone, TV	6	1	73.94	250	12 month
AT&T U-Verse	DSL	Internet	6	1	43.00	250	12 month
AT&T U-Verse	DSL	Internet	12	1	48.00	250	12 month
AT&T U-Verse	DSL	Internet	18	1	53.00	250	12 month
AT&T U-Verse	DSL	Internet	24	3	63.00	250	12 month
Comcast	Cable	Internet	6	1	49.95	300	24 month
Comcast	Cable	Internet	20	4	49.99*	300	24 month
Comcast	Cable	Internet, Phone, TV	20	4	89.97	300	24 month
Comcast	Cable	Internet, TV	20	4	69.99	300	24 month
Comcast	Cable	Internet	30	6	72.95	300	24 month
Comcast	Cable	Internet, Phone, TV	30	6	119.99	300	24 month
Comcast	Cable	Internet	50	15	114.95	300	24 month
Comcast	Cable	Internet	105	20	199.95	300	24 month
i-Step Communications	Cable	Internet	8	1	83.00	-	-
i-Step Communications	DSL	Internet	10	1	91.00	-	-
i-Step Communications	DSL	Internet	15	1	98.00	-	-
Sonic.net	Fiber	Internet, Phone	20	2.5	39.99	None	-
Webpass	Fiber	Internet	200	200	50.00	-	Month to month
Webpass	Fiber	Internet	200	200	37.50	-	12 month
AT&T	Wireless (LTE)	Internet	-	-	50.00	5	24 month
i-Step Communications	WiMAX	Internet	4.5	4.5	799.00	-	-
i-Step Communications	WiMAX	Internet	6	6	999.0	-	-

Continued on the following page.

Appendix B. Full Data – San Francisco, California, USA (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
LMi.net	Fixed Wireless	Internet	6	3	55.00	None	Month to month
LMi.net	Fixed Wireless	Internet	12	6	90.00	None	Month to month
LMi.net	Fixed Wireless	Internet	24	9	130.00	None	Month to month
Monkeybrains	Wireless	Internet	20	8	35.00	None	--
Sprint	Wireless (WiMax)	Internet	10	-	79.99	12	24 month
Sprint	Wireless (WiMax)	Internet	10	-	49.99	6	24 month
Sprint	Wireless (WiMax)	Internet	10	-	34.99	3	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month
Unwireline Ltd.	Fixed wireless	Internet	6	3	49.95	-	12 month
Unwireline Ltd.	Fixed wireless	Internet	6	6	89.95	-	12 month
Unwireline Ltd.	Fixed wireless	Internet	10	6	89.95	-	12 month
Unwireline Ltd.	Fixed wireless	Internet	14	8	129.95	-	12 month
Verizon	Wireless (LTE)	Internet	12	5	50.00	5	24 month
Verizon	Wireless (LTE)	Internet	12	5	80.00	10	24 month

Appendix B. Full Data – Seoul, South Korea

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
KT	Fiber	Internet	50	50	30.93	None	36 month
KT	Fiber	Internet	50	50	32.74	None	24 month
KT	Fiber	Internet	50	50	34.56	None	12 month
KT	Fiber	Internet, Phone	50	50	32.74	None	24 month
KT	Fiber	Internet, Phone	50	50	34.56	None	12 month
KT	Fiber	Internet, TV	50	50	32.74	None	24 month
KT	Fiber	Internet, TV	50	50	34.56	None	12 month
KT	Fiber	Internet, Phone, TV	50	50	32.74	None	24 month
KT	Fiber	Internet, Phone, TV	50	50	34.56	None	12 month
KT	Fiber	Internet	100	100	34.93	None	48 month
KT	Fiber	Internet	100	100	37.11	None	36 month
KT	Fiber	Internet	100	100	39.29	None	24 month
KT	Fiber	Internet	100	100	41.48	None	12 month
KT	Fiber	Internet, Phone	100	100	34.93	None	48 month
KT	Fiber	Internet, Phone	100	100	32.74	None	36 month
KT	Fiber	Internet, Phone	100	100	39.29	None	24 month
KT	Fiber	Internet, Phone	100	100	41.48	None	12 month
KT	Fiber	Internet, TV	100	100	39.29	None	24 month
KT	Fiber	Internet, TV	100	100	41.23	None	36 month
KT	Fiber	Internet, TV	100	100	34.93	None	48 month
KT	Fiber	Internet, TV	100	100	41.48	None	12 month
KT	Fiber	Internet, Phone, TV	100	100	31.05	None	48 month
KT	Fiber	Internet, Phone, TV	100	100	42.45	None	36 month
KT	Fiber	Internet, phone, TV	100	100	39.29	None	24 month
KT	Fiber	Internet, Phone, TV	100	100	41.48	None	12 month
LGplus	Fiber	Internet	10	10	20.25	None	36 month
LGplus	Fiber	Internet	10	10	23.1	None	24 month
LGplus	Fiber	Internet	10	10	26.1	None	12 month
LGplus	Fiber	Internet	10	10	35.78	None	None
LGplus	Fiber	Internet	100	100	23.04	None	36 month
LGplus	Fiber	Internet	100	100	27.53	None	24 month
LGplus	Fiber	Internet	100	100	31.9	None	12 month
LGplus	Fiber	Internet, Phone	100	100	24.86	None	36 month
LGplus	Fiber	Internet, TV	100	100	38.2	None	36 month
LGplus	Fiber	Internet, Phone, TV	100	100	35.78	None	36 month
SK	Fiber	Internet	10	10	27.89	None	36 month
SK	Fiber	Internet	100	100	24.26	None	36 month
SK	Fiber	Internet	100	100	30.32	None	36 month
KT	Wireless (4G Wibro)	Internet	40.32	-	12.13	10	24 month
KT	Wireless (4G Wibro)	Internet	40.32	-	18.19	20	24 month
KT	Wireless (4G Wibro)	Internet	40.32	-	24.26	30	24 month
KT	Wireless (4G Wibro)	Internet	40.32	-	30.32	50	24 month
LGplus	Wireless (4G LTE)	Internet	75	-	36.38	5	24 month
LGplus	Wireless (4G LTE)	Internet	75	-	60.64	10	24 month

Appendix B. Full Data – Tokyo, Japan

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
NTT East	Fiber	Internet	200	200	42.40	None	24 months
NTT East	Fiber	Internet, Phone	200	200	47.11	None	24 months
NTT East	Fiber	Internet, TV	200	200	55.11	None	24 months
J:COM	Cable	Internet	12	2	37.50	None	24 months
J:COM	Cable	Internet	40	2	51.82	None	24 months
J:COM	Cable	Internet, Phone	40	2	42.40	None	24 months
J:COM	Cable	Internet, TV	40	2	44.68	None	24 months
J:COM	Cable	Internet	160	10	56.53	None	24 months
J:COM	Cable	Internet, Phone, TV	160	10	85.24	None	24 months
Yahoo BB	Fiber	Internet	200	200	26.85	None	24 months
Yahoo BB	ADSL	Internet	12	1	33.22	None	24 months
Yahoo BB	ADSL	Internet, Phone	12	1	48.22	None	24 months
Yahoo BB	ADSL	Internet	26	1	36.04	None	24 months
Yahoo BB	ADSL	Internet, Phone	26	1	51.05	None	24 months
Yahoo BB	ADSL	Internet	50	3	36.99	None	24 months
Yahoo BB	ADSL	Internet	50	12.5	39.81	None	24 months
Yahoo BB	ADSL	Internet, Phone	50	3	51.99	None	24 months
Yahoo BB	ADSL	Internet, Phone	50	12.5	54.81	None	24 months
NTT DoCoMo	Wireless (4G LTE)	Internet	75	25	53.70	5	24 months
NTT East	Wireless (3G W-CDMA (HSDPA HSUPA))	Internet	54	-	45.22	None	-
Yahoo BB Softbank	Wireless (3G DC-HSDPA)	Internet	7.2	5.7	39.30	None	-
Yahoo BB Softbank	Wireless (4G DC-HSDPA)	Internet	42	5.7	34.81	None	24 months
Yahoo BB Softbank	Wireless (3G DC-HSDPA)	Internet	76	10	53.70	5	24 months

Appendix B. Full Data – Toronto, Canada

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap	Contract Length
Acanac	DSL	Internet, Phone	12	1	36.02	None	12 month
Acanac	DSL	Internet, Phone	12	1	37.70	None	6 month
Acanac	DSL	Internet, Phone	12	1	40.94	None	Month to month
Acanac	DSL	Internet, Phone	16	8	38.48	None	12 month
Acanac	DSL	Internet, Phone	16	8	40.12	None	6 month
Acanac	DSL	Internet, Phone	16	8	43.43	None	Month to month
Acanac	Cable	Internet, Phone	28	1	32.78	None	12 month
Acanac	Cable	Internet, Phone	28	1	37.70	None	6 month
Acanac	Cable	Internet, Phone	28	1	42.58	None	Month to month
Bell	Fiber	Internet	5	1	30.29	15	Month to month
Bell	Fiber	Internet	15	10	40.94	75	Month to month
Bell	Fiber	Internet, Phone, TV	15	-	128.69	300	Month to month
Bell	Fiber	Internet	25	10	49.14	125	Month to month
Bell	Fiber	Internet	50	50	65.53	250	Month to month
Bell	Fiber	Internet	175	175	106.52	300	Month to month
Cogeco	Cable	Internet	14	1	49.96	80	12 month
Cogeco	Cable	Internet	20	1.5	49.12	80	12 month
Cogeco	Cable	Internet	30	2	57.34	175	12 month
Cogeco	Cable	Internet	55	2	90.12	250	12 month
Nexicom	DSL	Internet	12	1	46.68	None	24 month
Nexicom	DSL	Internet	16	1	50.78	None	24 month
Nexicom	DSL	Internet	25	7	63.89	None	24 month
Rogers	Cable	Internet	28	1	50.79	120	Month to month
Rogers	Cable	Internet	32	1	59.01	150	Month to month
Rogers	Cable	Internet, Phone, TV	28	1	93.86	120	24 month
Teksavvy	DSL	Internet	12	1	32.78	75	Month to month
Teksavvy	DSL	Internet	12	1	34.42	300	Month to month
Teksavvy	DSL	Internet	12	1	45.07	None	Month to month
Teksavvy	DSL	Internet	16	1	35.24	75	Month to month
Teksavvy	DSL	Internet	16	1	37.70	300	Month to month
Teksavvy	DSL	Internet	16	1	49.17	None	Month to month
Teksavvy	DSL	Internet	25	7	43.43	300	Month to month
Teksavvy	DSL	Internet	25	7	63.93	None	Month to month
Teksavvy	Cable	Internet	28	1	38.48	300	Month to month
Teksavvy	Cable	Internet	28	1	50.78	None	Month to month
Velcom	DSL	Internet	12	1	32.78	400	Month to month
Velcom	DSL	Internet	12	1	43.43	None	Month to month
Velcom	DSL	Internet	16	1	35.24	400	Month to month
Velcom	DSL	Internet	16	1	47.50	None	Month to month

Continued on the following page.

Appendix B. Full Data – Toronto, Canada (Continued)

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Velcom	DSL	Internet	25	7	40.94	400	Month to month
Velcom	DSL	Internet	25	7	60.61	None	Month to month
Velcom	Cable	Internet	28	1	38.48	300	Month to month
Bell	Wireless (LTE)	Internet	100	50	32.70	0.1	Month to month
Bell	Wireless (LTE)	Internet	100	50	39.61	0.1	12 month
Bell	Wireless (LTE)	Internet	100	50	34.49	0.1	24 month
Bell	Wireless (LTE)	Internet	100	50	32.70	0.1	36 month
Rogers	Wireless	Internet	7.2	-	38.30	3	Month to month
Rogers	Wireless	Internet	7.2	-	46.57	5	Month to month
Rogers	Wireless	Internet	7.2	-	58.86	10	Month to month
Rogers	Wireless	Internet	7.2	-	75.25	15	Month to month
Rogers	Wireless	Internet	21	5.76	8.20	0.1	Month to month
Rogers	Wireless	Internet	21	5.76	20.49	0.25	Month to month
Rogers	Wireless	Internet	21	5.76	81.96	1.5	Month to month
Rogers	Wireless	Internet	100	50	17.88	0.1	Month to month, 12, 24, or 36
Rogers	Wireless	Internet	100	50	30.17	0.5	Month to month, 12, 24, or 36
Rogers	Wireless	Internet	100	50	42.47	2	Month to month, 12, 24, or 36
Rogers	Wireless	Internet	100	50	58.86	5	Month to month, 12, 24, or 36
Rogers	Wireless	Internet	100	50	75.25	9	Month to month, 12, 24, or 36
Rogers	Wireless	Internet	100	50	42.47	10	36 month
Telus	Wireless	Internet	75	-	28.69	2	Month to month, 12, 24, or 36
Telus	Wireless	Internet	75	-	49.18	6	Month to month, 12, 24, or 36

Appendix B. Full Data – Washington, DC, USA

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD)	Data Cap (GB)	Contract Length
Comcast	Cable	Internet	6	1	49.95	300	24 month
Comcast	Cable	Internet	20	4	62.95	300	24 month
Comcast	Cable	Internet, Phone, TV	20	4	99.00	300	24 month
Comcast	Cable	Internet, TV	20	4	69.00	300	24 month
Comcast	Cable	Internet	30	6	72.95	300	24 month
Comcast	Cable	Internet, Phone, TV	30	6	139.00	300	24 month
Comcast	Cable	Internet	105	10	105.00	300	24 month
RCN	Cable	Internet	25	2	39.99	None	Month to month
RCN	Cable	Internet, Phone, TV	25	2	89.99	None	Month to month
RCN	Cable	Internet, TV	25	2	79.99	None	Month to month
RCN	Cable	Internet	50	6	49.99	None	Month to month
RCN	Cable	Internet, Phone, TV	50	6	99.99	None	Month to month
RCN	Cable	Internet, TV	50	6	89.99	None	Month to month
RCN	Cable	Internet	75	6	79.99	None	Month to month
RCN	Cable	Internet, Phone, TV	75	6	124.99	None	Month to month
RCN	Cable	Internet, TV	75	6	114.99	None	Month to month
Verizon	DSL	Internet	15	5	43.77	None	Month to month
Verizon	DSL	Internet, Phone, TV	15	5	89.99	None	24 month
AT&T	Wireless (LTE)	Internet	-	-	50.00	5	24 month
Clearwire	Wireless	Internet	6	1	49.99	None	Month to month
Sprint	Wireless (WiMax)	Internet	10	-	79.99	12	24 month
Sprint	Wireless (WiMax)	Internet	10	-	49.99	6	24 month
Sprint	Wireless (WiMax)	Internet	10	-	34.99	3	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	39.99	2	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	49.99	5	24 month
T-Mobile	Wireless (HSPA+)	Internet	42	1	79.99	10	24 month
Verizon	Wireless (LTE)	Internet	12	5	50.00	5	24 month
Verizon	Wireless (LTE)	Internet	12	5	80.00	10	24 month
Verizon	Wireless (LTE)	Internet	50	20	144.95	None	12 month

NOTE: Verizon Television service offered in a partnership with DirecTV.

Appendix B. Full Data – Zürich, Switzerland

ISP	Network Technology	Bundled Services	Download Speed	Upload Speed	Price (USD/PPP)	Data Cap (GB)	Contract Length
Green	DSL	Internet, Phone	10	1	42.76	--	12, 24 month
Green	DSL	Internet, Phone	20	2	51.32	--	12, 24 month
Green	DSL	Internet, Phone	30	3	64.47	--	12, 24 month
Green	Fiber	Internet	50	5	77.63	--	12, 24 month
Green	Fiber	Internet	100	5	90.79	--	12, 24 month
Green	Fiber	Internet	100	20	150.00	--	12, 24 month
Orange	DSL	Internet, Phone	5	0.5	32.24	None	12 month
Sunrise	DSL	Internet, Phone	5	1	38.82	None	12 month
Sunrise	DSL	Internet	10	1	45.39	None	--
Sunrise	DSL	Internet, Phone, TV	10	1	62.50	None	--
Sunrise	DSL	Internet, Phone	15	1	51.97	None	12 month
Sunrise	DSL	Internet, Phone	15	1	75.66	None	12 month
Sunrise	DSL	Internet, Phone, TV	20	2	82.24	None	--
Swisscom	DSL	Internet	10	2	32.24	None	12 month
Swisscom	Fiber	Internet, Phone, TV	10	1	65.13	None	12 month
Swisscom	DSL	Internet	20	2	45.39	None	12 month
Swisscom	Fiber	Internet, Phone, TV	20	2	82.24	None	12 month
Swisscom	Fiber	Internet, Phone, TV	50	5	117.76	None	12 month
UPC	Cable	Internet	10	1	25.66	--	12 month
UPC	Cable	Internet	25	2.5	32.89	--	12 month
UPC	Cable	Internet, Phone	25	2	36.18	--	12 month
UPC	Cable	Internet, Phone, TV	25	2.5	38.82	--	12 month
UPC	Cable	Internet	50	5	39.47	--	12 month
UPC	Cable	Internet, Phone	50	5	45.39	--	12 month
UPC	Cable	Internet, Phone, TV	50	5	52.50	--	12 month
UPC	Cable	Internet	100	7	49.34	--	12 month
UPC	Cable	Internet, Phone, TV	100	7	65.66	--	12 month
VTX	DSL	Internet, Phone	10	--	22.37	None	12, 24 month
VTX	DSL	Internet, Phone	12	--	30.92	None	12, 24 month
VTX	DSL	Internet, Phone	20	--	37.50	None	12, 24 month
VTX	Fiber	Internet, Phone	50	--	58.55	--	--
Orange	Wireless	Internet	--	--	12.50	1	12, 24 month
Orange	Wireless	Internet	--	--	32.24	5	12, 24 month
Sunrise	Wireless	Internet	--	--	29.61	1	12, 24 month
Sunrise	Wireless	Internet	--	--	32.24	10	12, 24 month
Sunrise	Wireless	Internet	--	--	38.82	10	12, 24 month
Sunrise	Wireless	Internet	--	--	51.97	10	12, 24 month
Swisscom	Wireless (HSPA)	Internet	7.2	2	12.50	0.5	12, 24 month
Swisscom	Wireless (HSPA)	Internet	7.2	2	32.24	5	12, 24 month
Swisscom	Wireless (HSPA)	Internet	42	5.8	55.92	10	12, 24 month

Appendix C: Sources for Pricing Data

Appendix C. Sources for Pricing Data

City	Country	ISP	Website
Amsterdam	Netherlands	KPN	http://www.kpn.com/prive/home.htm
Amsterdam	Netherlands	Solcon	http://www.solcon.nl/particulier/telefonie
Amsterdam	Netherlands	Tele2	http://www.tele2.nl/
Amsterdam	Netherlands	Telfort	http://www.telfort.nl/
Amsterdam	Netherlands	T-Mobile	http://www.t-mobile.nl/home
Amsterdam	Netherlands	UPC	http://www.upc.nl/internet/
Amsterdam	Netherlands	Ziggo	https://www.ziggo.nl/#producten/internet/
Berlin	Germany	1&1	http://dsl.1und1.de/
Berlin	Germany	Deutsche Telekom	http://www.t-mobile.de/
Berlin	Germany	E-plus	http://www.eplus.de/Kundenservice/
Berlin	Germany	Kabel Deutschland	http://www.kabeldeutschland.de/
Berlin	Germany	O2	http://dsl.o2online.de/
Berlin	Germany	TeleColumbus	http://www.telecolumbus.de/
Berlin	Germany	Versatel	http://www.versatel.de/dsl/angebote.php
Berlin	Germany	Vodafone	http://www.vodafone.de/privat/mobiles-internet-dsl.html
Bristol	United States	AT&T	http://www.att.com/shop/internet.html
Bristol	United States	BVU	http://www.bvu-optinet.com/
Bristol	United States	CenturyLink	http://www.centurylinkquote.com/tennessee/bristol
Bristol	United States	Charter	http://www.charter.com/storefront/index.jsp
Bristol	United States	Verizon	http://www.verizonwireless.com/b2c/plan-information/?page=mobileBroadband
Bucharest	Romania	ALLNET	http://www.allnet.ro/acasa
Bucharest	Romania	Comtel	http://www.comtelnetworks.ro/internet_acasa.php
Bucharest	Romania	DCN Telecom	http://www.dcn.ro/produse.html
Bucharest	Romania	iLink	http://www.ilink.ro/rezidential/internet/
Bucharest	Romania	Madnet	http://www.madnet.ro/acasa/
Bucharest	Romania	Mediasat	http://www.mediasat.ro/tooway_abonamente.html
Bucharest	Romania	Orange	http://www.orange.ro/internet-mobil/colibri/
Bucharest	Romania	RCS & RDS	http://www.rcs-rds.ro/internet-digi-net/cablelink/
Bucharest	Romania	Romtelcom	http://www.romtelecom.ro/personal/
Bucharest	Romania	UPC	http://www.upc.ro/internet/
Chattanooga	United States	AT&T	http://www.att.com/u-verse/explore/offer-details.jsp
Chattanooga	United States	Comcast	http://www.comcast.com/Corporate/shop/productoverview-tp99tv39.html
Chattanooga	United States	EPB	https://epbfi.com/

Appendix C. Sources for Pricing Data (Continued)

City	Country	ISP	Website
Chattanooga	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
Chattanooga	United States	Verizon	http://www.verizonwireless.com/b2c/plan-information/?page=mobileBroadband
Copenhagen	Denmark	ComX	http://www.comx.dk/internet/priser
Copenhagen	Denmark	DLG Tele	http://www.dlgtele.dk/privat/bredbaand/
Copenhagen	Denmark	Energimidt	http://www.energimidt.dk/
Copenhagen	Denmark	Fullrate	http://www.fullrate.dk/privat/bredbaand/
Copenhagen	Denmark	Perspektiv	http://www.perspektivbredband.dk/
Copenhagen	Denmark	Stofa	http://www.stofa.dk/bredbaand/hastigheder-og-priser
Copenhagen	Denmark	TDC	http://privat.tdc.dk/
Copenhagen	Denmark	Telenor	http://www.telenor.dk/privat/bredbaand/
Copenhagen	Denmark	Telia	http://ww3.telia.dk/bredbaand/priser/
Dublin	Ireland	Digiweb	http://www.digiweb.ie/home/broadband/dsl/index.html
Dublin	Ireland	eircom	http://www.eircom.net/pageA/?extlink=Products
Dublin	Ireland	Imagine	http://www.imagine.ie/index.html
Dublin	Ireland	Magnet	https://www.magnet.ie/
Dublin	Ireland	Meteor	http://www1.meteor.ie/mobilebroadband/billpay/
Dublin	Ireland	O2	http://www.o2online.ie/o2/shop/broadband/modems.php
Dublin	Ireland	Onwave	http://www.onwave.ie/
Dublin	Ireland	Ripplecom	http://www.ripplecom.net/home-broadband
Dublin	Ireland	Smart Telecom	http://www.smarttelecom.ie/home_broadband.aspx
Dublin	Ireland	Three	http://www.three.ie/products_services/broadband/index.html
Dublin	Ireland	Vodafone Ireland	http://www.vodafone.ie/
Hong Kong	China	3 in HK	http://www.three.com.hk/website/appmanager/
Hong Kong	China	City Telecom Limited	http://www.hkbn.net/2012/broadband.html
Hong Kong	China	i-cable	http://service.i-cable.com/broadband/home.html
Hong Kong	China	PCCW	http://www.netvigator.com/chi/index.php
Lafayette	United States	AT&T	http://www.att.com/shop/internet.html
Lafayette	United States	Cox	http://ww2.cox.com/residential/home.cox
Lafayette	United States	LUS	http://www.lusfiber.com/index.php/internet/pricing-guide
Lafayette	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
London	United Kindgom	BT	http://www.productsandservices.bt.com/consumerProducts/displayCategory.do?categoryId=CON-TOTAL-BB-R1
London	United Kindgom	O2	http://www.o2.co.uk/broadband
London	United Kindgom	Orange	http://www.orange.co.uk/

Appendix C. Sources for Pricing Data (Continued)

City	Country	ISP	Website
London	United Kindgom	PlusNet	http://www.plus.net
London	United Kindgom	Sky	http://www.sky.com/shop/broadband-talk/
London	United Kindgom	Talk Talk	http://www.sky.com/shop/broadband-talk/
London	United Kindgom	Three.co.uk	http://www.three.co.uk/
London	United Kindgom	Virgin	http://store.virginmedia.com/broadband.html
London	United Kindgom	Vodafone	http://www.vodafone.co.uk/personal/index.htm
Los Angeles	United States	AT&T	http://www.att.com/shop/internet.html
Los Angeles	United States	Clear	http://www.clear.com/plans
Los Angeles	United States	Sprint	http://shop.sprint.com/mysprint/shop/plan/
Los Angeles	United States	TimeWarner	https://order.timewarnercable.com/OfferList.aspx
Los Angeles	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
Los Angeles	United States	Verizon	http://www.verizonwireless.com/b2c/plan-information/?page=mobileBroadband
Mexico City	Mexico	Axtel-Acceso Universal	http://www.axtel.mx/servicios/casa/internet/acceso_universal/internet_mas_telefono
Mexico City	Mexico	Cablevision	http://www.cablevision.net.mx/internet
Mexico City	Mexico	Iusacell	http://www.iusacell.com.mx/
Mexico City	Mexico	Iusacell- Totalplay	http://www.totalplay.com.mx/
Mexico City	Mexico	Maxcom	http://www.maxcom.com/
Mexico City	Mexico	Megacable	http://www.megacable.com.mx/internet.php
Mexico City	Mexico	Movistar	http://www.movistar.com.mx/Internet-Planes-Q
Mexico City	Mexico	Telcel	http://www.bat.telcel.com/equipos_tarjetas.html
New York	United States	AT&T	http://www.att.com/shop/internet.html
New York	United States	Clear	http://www.clear.com/packages/details/id/off0040p
New York	United States	New York Connect	http://www.nyct.net/priceplans/pp_res_cable.html
New York	United States	RCN	http://www.rcn.com/new-york/high-speed-internet/services-and-pricing#
New York	United States	Sprint	http://shop.sprint.com/mysprint/shop/plan/
New York	United States	Time Warner	https://order.timewarnercable.com/OfferList.aspx
New York	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
New York	United States	Verizon	http://www22.verizon.com/home/fiosinternet/#plans
Paris	France	Bouygues Telecom	http://www.bbox.bouyguestelecom.fr/
Paris	France	Darty	http://www.dartybox.com/
Paris	France	Free	http://www.free.fr/adsl/internet.html
Paris	France	Orange	http://abonnez-vous.orange.fr/
Paris	France	SFR	http://adsl.sfr.fr/
Paris	France	Teleconnect	http://www.teleconnect.fr/

Appendix C. Sources for Pricing Data (Continued)

City	Country	ISP	Website
Prague	Czech Republic	O2	http://www.o2.cz/osobni/en/internet/
Prague	Czech Republic	T-Mobile	http://www.t-mobile.cz/
Prague	Czech Republic	UPC	http://www.upc.cz
Prague	Czech Republic	Vodafone	http://www.vodafone.cz/
Riga	Latvia	Baltcom	http://www.baltcom.lv/lv/baltcom/
Riga	Latvia	Balti-Com	http://www.balticom.lv
Riga	Latvia	Lattelecom	http://www.lattelecom.lv/majai/
Riga	Latvia	Tele2	http://www.tele2.lv/
San Francisco	United States	Astound	http://www.astound.net/home/bundles/packages.php
San Francisco	United States	AT&T	http://www.att.com/shop/internet/index.jsp?wtSlotClick=1-007CEY-0-5&tab=2#fbid=l3EqoqFwE5k
San Francisco	United States	Comcast	https://www.comcast.com/shop/buyflow2/products.cspx?inflow=1&back=1
San Francisco	United States	i-Step Communications	http://www.istep.com/internet/
San Francisco	United States	LMi.net	http://www.lmi.net/services/high-speed-wireless
San Francisco	United States	Monkeybrains	http://monkeybrains.net
San Francisco	United States	Sonic.net	sonic.net
San Francisco	United States	Sprint	http://shop.sprint.com/mysprint/shop/plan/plan_wall.jsp?tabId=pt_data_plans_tab&flow=AAL&planFamilyType=
San Francisco	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
San Francisco	United States	Unwireline Ltd.	http://www.unwirelineltd.com/consumer.php
San Francisco	United States	Verizon	http://www.verizonwireless.com/b2c/plan-information/?page=mobileBroadband
San Francisco	United States	Webpass	http://www.webpass.net
Seoul	South Korea	KT	http://shop.olleh.com/weblogic/HomeInternetServlet
Seoul	South Korea	LGplus	http://www.uplus.co.kr/
Seoul	South Korea	SK	http://www.skbroadband.com/
Tokyo	Japan	J:COM	http://www.jcom.co.jp/services/
Tokyo	Japan	NTT DoCoMo	http://www.nttdocomo.co.jp/service/data/xi/
Tokyo	Japan	NTT East	http://flets.com/hikariportable/
Tokyo	Japan	Yahoo BB	http://bbpromo.yahoo.co.jp/adsl/
Tokyo	Japan	Yahoo BB Softbank	http://mb.softbank.jp/
Toronto	Canada	Acanac	http://www.acanac.com/
Toronto	Canada	Bell	http://www.bell.ca/Bell_Internet
Toronto	Canada	Cogeco	http://www.cogeco.ca/web/on/en/residential/
Toronto	Canada	Nexicom	http://www.nexicom.net/residential/internet/dsl.php
Toronto	Canada	Rogers	https://www.orderrogers.ca/
Toronto	Canada	Teksavvy	http://teksavvy.com/en/res-internet.asp

Appendix C. Sources for Pricing Data (Continued)

City	Country	ISP	Website
Toronto	Canada	Telus	http://www.telusmobility.com/en/
Toronto	Canada	Velcom	http://www.velcom.ca/pricesontariodsl.htm
Washington, DC	United States	AT&T	http://www.att.com/shop/internet.html
Washington, DC	United States	Clearwire	http://www.clearwire.com
Washington, DC	United States	Comcast	http://www.comcast.com/Corporate/shop/productoverview-tp99tv39.html
Washington, DC	United States	RCN	http://www.rcn.com/dc-metro/
Washington, DC	United States	Sprint	http://shop.sprint.com/mysprint/shop/plan/plan_wall.jsp?tabId=pt_data_plans_tab&flow=AAL&planFamilyType=
Washington, DC	United States	T-Mobile	http://www.t-mobile.com/shop/plans/mobile-broadband-plans.aspx
Washington, DC	United States	Verizon	http://www.verizonwireless.com/b2c/plan-information/?page=mobileBroadband
Zurich	Switzerland	Green	http://www.green.ch/enUS/PrivateCustomers.aspx
Zurich	Switzerland	Orange	http://shop.orange.ch/en/plans/icat/internet
Zurich	Switzerland	Sunrise	http://www1.sunrise.ch/
Zurich	Switzerland	Swisscom	http://www.swisscom.ch/res/
Zurich	Switzerland	UPC	http://www.upc-cablecom.ch/en/b2c.htm
Zurich	Switzerland	VTX	http://www.vtx.ch/De

[page intentionally left blank]

© 2012 New America Foundation

This report carries a Creative Commons license, which permits re-use of New America content when proper attribution is provided. This means you are free to copy, display and distribute New America's work, or include our content in derivative works, under the following conditions:

Attribution. You must clearly attribute the work to the New America Foundation, and provide a link back to www.Newamerica.net.
Noncommercial. You may not use this work for commercial purposes without explicit prior permission from New America.
Share Alike. If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.

For the full legal code of this Creative Commons license, please visit www.creativecommons.org. If you have any questions about citing or reusing New America content, please contact us.

Main Office
1899 L Street, NW
Suite 400
Washington, DC 20036
Phone 202 986 2700
Fax 202 986 3696

California Office
921 11th Street
Suite 901
Sacramento, CA 95814
Phone 916 448 5189

NEW AMERICA FOUNDATION

WWW.NEWAMERICA.NET