

# Taxes and Fees on Communication Services

By David Tuerck, Ph.D., Paul Bachman, Steven Titch, and John Rutledge, Ph.D.<sup>1</sup>

## 1. Introduction

Communication services today consist of voice, video, and Internet access services delivered over telephone wires, cable TV lines, or wirelessly (via point-to-point signal transmission or satellite). In the past, each service relied on a different technology, allowing it to be purchased, regulated, and taxed separately. Today, all three can be delivered via all three technological platforms and are often offered in packages combining several different services using one or more platforms.

Cable television and telephone subscribers pay hefty taxes and fees on these services, while Internet access is largely untaxed. The burden on telephone and cable subscribers in 59 cities for which complete data are available is 13.40 percent. (See Figure 1.) This is more than twice the average general sales tax paid on other goods (6.61 percent). This report documents taxes and fees on communication services, describes their destructive consequences, and calls for tax and regulatory reform.

Taxes and fees on communication services also vary greatly from city to city, from one communication service to another, and

**Figure 1**  
**Average Monthly Bill, Taxes Paid, and Tax Rate on Communication Services**

| Service         | Average Monthly Bill | Average Tax Rate | Average Tax Paid |
|-----------------|----------------------|------------------|------------------|
| Cable TV        | \$52.36              | 11.69%           | \$6.12           |
| Wireline Phone  | \$49.33              | 16.87%           | \$8.32           |
| Wireless Phone  | \$49.98              | 11.78%           | \$5.89           |
| <i>Subtotal</i> | \$151.67             | 13.40%           | \$20.33          |
| Internet Access | \$36.50              | 0.71%            | \$0.26           |
| Total           | \$188.17             | 10.94%           | \$20.59          |

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<sup>1</sup> David Tuerck, Ph.D., is executive director of the Beacon Hill Institute (BHI) and professor and chairman of the Department of Economics at Suffolk University in Boston, Massachusetts; Paul Bachman is director of research at the Beacon Hill Institute; Steven Titch is a senior fellow of The Heartland Institute and managing editor of *IT&T News*; John Rutledge, Ph.D., is a senior fellow of The Heartland Institute and chairman of Rutledge Capital, a private equity investment firm.

depending on the technology used to deliver otherwise-similar services. These variations make little sense and often are the legacy of tax and regulatory decisions made before the advent of modern communication technologies.

Some taxes and fees are imposed *only* on communication services. The principal ones are listed in Figure 2. Most states and cities also impose general sales taxes and other taxes and fees on voice and video communication services, but not on broadband Internet access.

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| <p style="text-align: center;"><b>Figure 2</b><br/><b>Principal Taxes and Fees</b><br/><b>Imposed Only on</b><br/><b>Communication Services</b></p> <p><b>Video</b><br/>Franchise Fee<br/>Access Fee<br/>FCC User Fee</p> <p><b>Voice</b><br/>Federal Universal Service Fund<br/>911 Tax<br/>City Telecom Tax<br/>TDD (deaf tax)<br/>State Universal Service</p> |
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This study did not take into account corporate income or property taxes, even though communication companies pay those as well. Also excluded are nonprice concessions, such as non-repeating capital grants paid by cable companies and the cost of radio spectrum licenses paid by wireless companies. The 3 percent federal excise tax is excluded from wireless phone bills entirely and from the long distance portion of wireline phone bills. Part 2 of this report summarizes these and other methodological issues.

Parts 3 - 6 of this report documents the taxes and fees paid by communication service subscribers for each of 59 cities for which data were available. The entire database is available on two Web sites, [www.heartland.org](http://www.heartland.org) and [www.beaconhill.org](http://www.beaconhill.org).<sup>2</sup> Some highlights include:

- **Cable television subscribers** pay, on average, \$6.12 a month in taxes and fees, or 11.69 percent of the average monthly subscription cost. Lansing, Michigan and Carson City, Nevada impose the lowest burdens while cable subscribers in Charlotte, North Carolina and Tallahassee, Florida pay the highest rates.
- **Wireline telephone subscribers** pay, on average, \$8.32 a month in taxes and fees, or 16.87 percent of the average monthly telephone bill. Subscribers in Billings, Montana pay the least in taxes and fees while those in Los Angeles, California pay the highest rates.
- **Wireless telephone subscribers** pay, on average, \$5.89 a month in taxes and fees, or 11.78 percent of the average monthly bill. The lowest burdens are in Carson City, Nevada and the highest are in Omaha, Nebraska.
- **Broadband Internet subscribers** pay, on average, \$0.29 a month in taxes and fees if they use a Digital Subscriber Line (DSL) or \$0.23 a month if they use a cable modem to access the Internet, for an imputed rate of 0.71 percent for both types of service. State and local taxes on Internet access are banned by the Internet Tax Freedom Act in all but eight states and some cities in Colorado, where preexisting Internet access taxes were “grandfathered.”

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<sup>2</sup> The authors plan to update data in the tables frequently and to issue new editions of this report occasionally. Persons with new information are invited to contact the authors at the email addresses provided at the end of this report.

- **The total average monthly cost** of taxes and fees paid by household with cable TV, wireline and wireless phone, and Internet access is \$20.59, or 10.94 percent of the average monthly bill. The burden ranges from a low of \$10.93 (5.81 percent) in Lansing, Michigan to a high of \$30.22 (16.06 percent) in Tallahassee, Florida. Because broadband Internet access is rarely taxed, removing it from our calculations lowers the average monthly burden only slightly, to \$20.33, but raises the effective rate to 13.40 percent.

Part 7 shows how taxes and fees on communication services vary considerably by type of service and choice of electronic device used to receive the service. For example, average taxes and fees on wireline voice service are *twenty times higher* than taxes and fees paid on Voice over Internet Protocol (VoIP) service. Taxes and fees on video service from a cable company are likely to be more than double the taxes and fees on the same video service offered by telephone companies over their new fiber-optic and IP video networks.

Part 7 also finds communication taxes and fees are very high compared with general sales taxes imposed on other goods. The average general sales tax on other products is 6.61 percent, less than half the 13.40 percent paid on cable television and phone calls. The average household would save \$123.60 a year if taxes and fees on cable television and phone calls were the same as average general sales taxes on clothing, sporting goods, and household products.

Taxes and fees on telephone calls and cable TV often approach and even exceed taxes on liquor and tobacco. For example, taxes and fees paid by the average wireline telephone subscriber in a sample of 11 cities is higher than the average tax on beer. In Chicago and Los Angeles, taxes and fees on wireline phone service are higher than taxes on beer and liquor.

The average household would save \$123.60 a year if taxes and fees on cable television and phone calls were the same as general sales taxes on clothing, sporting goods, and household products.

Part 8 examines the negative impact of high and discriminatory communication taxes and fees, and finds they pose a heavy burden on consumers and distort consumer choices and investment decisions. Consumers pay approximately \$37 billion a year in communication taxes and fees. Low-income families pay ten times as much as upper-income families do as a percentage of their annual incomes.

Part 9 discusses what policymakers can do to improve the situation. Local and state governments can repeal, reform, or replace cable franchise laws that restrict competition and consumer choice; states can reduce and streamline taxes on communication services; and the national government can preempt state and local franchising authority, ban discriminatory taxes on communication services, and reform the Federal Universal Service Fund to reduce its cost.

Part 10 contains brief concluding remarks. Appendix 1 presents more detail on methodology, and Appendix 2 contains data used to calculate the national average general sales tax rate. Finally, at the end of the study are biographies of the authors, acknowledgment of persons who participated in the peer review process, and descriptions of the sponsoring organizations.

## 2. Methodology

The Heartland Institute commissioned the Beacon Hill Institute at Suffolk University (BHI) to conduct a survey of taxes and fees imposed by federal, state, and local governments on cable, wireline, and wireless communication service subscribers for a sample of U.S. cities. Figure 3 shows the nine sets of services and representative devices covered in this report.

| <b>Figure 3<br/>Selected Types of Communication<br/>Services and Devices</b> |   |  |   |
|--|---|--|---|
|  | <b>Voice</b>  | <b>Video</b>   | <b>Internet Access</b>  |
| <b>Wireline</b>  | Traditional telephone (PSTN-public-switched telephone network)<br><br>Voice over Internet Protocol (VoIP)   | Internet Protocol TV (IPTV), FiOS (Verizon), and U-verse (AT&T)  | Dial-up (not broadband)<br><br>Digital Subscriber Line (DSL)<br><br>Broadband over Power Lines (BPL)                |
| <b>Wireless</b>  | Cellular phone<br><br>Voice over Internet Protocol (VoIP) over Wi-Fi<br><br>Satellite (mostly specialized government and commercial applications) | Direct Broadcast Satellite (DBS) TV<br><br>Mobile Video<br><br>Multichannel Multipoint Distribution Service (MMDS) | Satellite Internet<br><br>Wi-Fi<br><br>MMDS (Clearwire)<br><br>Cellular (EV-DO, GSM)<br><br>Wi-Max (in development) |
| <b>Cable</b>   | Voice over Internet Protocol (VoIP)   | Multi-channel Cable TV   | Cable Modem   |

BHI sought data for the 50 largest cities in the U.S., measured by population, and the nation's 50 state capital cities.<sup>3</sup> BHI was able to collect complete data for 59 of these cities.

BHI identified the taxes and fees, calculated the dollar value and effective tax rates for each, and summed the values by service (video, voice, and Internet access) and technological platform (cable, wireline, and wireless). Data on prices and monthly bills for cable, wireline, and wireless phone services came from Federal Communications Commission reports.<sup>4</sup>

Data regarding cable video services were collected by BHI from local officials and franchise agreements. Generally the data are for the year 2005.

<sup>3</sup> The cities were chosen to take advantage of databases created by previous research and to encompass a large percentage of the nation's population while also capturing the situation in smaller cities.

<sup>4</sup> FCC, "Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services," 11th Report, September 29, 2006, p. 69 and Table 10 on p. 106, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-06-142A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-142A1.pdf) [accessed March 17, 2007]; FCC, *Report on Cable Industry Prices*, February 4, 2005, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-05-12A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-12A1.pdf) [accessed July 28, 2006], and FCC, *Statistics of the Long Distance Telecommunications Industry Report*, May 14, 2003, [http://www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/IAD/ldrpt103.pdf](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/ldrpt103.pdf) [accessed July 28, 2006].

BHI's data source for taxes and fees applied to wireline telephone services was a 2004 study by the Council on State Taxation (COST)<sup>5</sup> updated using proprietary information provided by the Coalition to Reform and Reduce Excessive Communication Taxes (CORRECT), a group of major companies from the wireline, wireless, and cable communication industries. The coalition's members separately compiled tax and fee information relevant to their own circumstances, and then estimated the projected taxes and fees paid by other communication service providers in their segments of the industry. This information was submitted to counsel for the coalition under a claim of privilege and aggregated by counsel to produce a database that was then given to BHI researchers under a confidentiality agreement. These data are generally for the 2004 and 2005 tax years.

The authors took into account criticisms of the COST study made by a coalition of local government associations,<sup>6</sup> as explained in Appendix 1.

Additional data on taxes and fees imposed on wireless service were taken from a 2004 study on wireless communication service by Scott Mackey,<sup>7</sup> who provided updated numbers for 2005. Those numbers, in turn, were verified by local and state officials contacted by BHI researchers.

This study and its complete data set are posted on the Web sites of The Heartland Institute ([www.heartland.org](http://www.heartland.org)) and the Beacon Hill Institute ([www.beaconhill.org](http://www.beaconhill.org)).

Paul Bachman and David Tuerck of BHI then worked with two Heartland senior fellows, Steven Titch and John Rutledge, to produce this summary and interpretation of the BHI database. The study then was edited and put through peer review by Heartland's president, Joseph Bast. Persons who participated in the peer review are identified on pages 43-44. This study and its complete data set are posted on the Web sites of The Heartland Institute ([www.heartland.org](http://www.heartland.org)) and the Beacon Hill Institute ([www.beaconhill.org](http://www.beaconhill.org)).

### 3. Cable Video Services

Franchise fees, access fees, and initial capital grants are the three most prominent industry-specific fees imposed on cable companies offering video service. In addition, state and local sales taxes, public utility taxes, and other transactional taxes often apply to these companies. Cable franchise agreements often are long documents that require additional perks and benefits to local governments and nonprofit organizations such as cash grants, free studios, free

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<sup>5</sup> Telecommunications Tax Task Force of the Council on State Taxation, "2004 State Study and Report on Telecommunications Taxation," Washington, DC, March 2005.

<sup>6</sup> "Local Government Perspective on Telecommunications Taxes: A Response to Industry's 2004 COST Study," Summer 2006, [http://www.gfoa.org/documents/TelecomTaxBriefing\\_FullReport.pdf](http://www.gfoa.org/documents/TelecomTaxBriefing_FullReport.pdf).

<sup>7</sup> Scott Mackey, "The Excessive State and Local Tax Burden On Wireless Telecommunications Service," *State Tax Notes* (July 2004): 181-194.

equipment, or free services.

The original intent of cable franchise fees was to impose a fee on cable companies for the use of public rights-of-way. Over time, franchise fees became a significant source of general revenues for many cities. The rationale for these fees is discussed in Part 9 of this report.

The 5 percent franchise fee “acts as an excise tax on services sold by companies that hold cable franchises” and is passed through to consumers the same way other transactional taxes are.

To protect cable customers from high and discriminatory taxes imposed by local governments, the Federal Communications Commission (FCC) established a formula for determining franchise fees based on a percentage of “gross video revenues” derived from the franchise area. The fees are capped at 5 percent, but some local franchising

authorities define “gross video revenues” expansively to include local advertising revenue and commissions paid to cable operators from home shopping networks.

The 5 percent franchise fee “acts as an excise tax on services sold by companies that hold cable franchises”<sup>8</sup> and is passed through to consumers the same way other transactional taxes are. Fees that genuinely reflect costs incurred by municipalities due to the use of public rights-of-way should not be counted as taxes, and when so identified were removed from these totals.

Capital grants and other nonprice concessions significantly raise prices and impose other costs on consumers. A study done in the 1980s estimated nonprice concessions accounted for 26 percent of the cost of building cable networks and 11 percent of operating expenses.<sup>9</sup> The FCC recently determined that such concessions are large and pose “undue burdens upon potential cable providers.”<sup>10</sup> The estimated welfare loss caused by taxes, fees, and capital grants and other nonprice concessions imposed on cable companies is addressed in Part 8.

Methodological problems, however, prevent the authors from including capital grants and other nonprice concessions in estimates of monthly taxes and fees paid by consumers. Grants and other nonprice concessions tend to act as sunk costs, which cannot be avoided and do not vary with output. Sunk costs are not *entirely* passed through to consumers in the form of higher prices. Some of the cost is absorbed by cable firms in the form of lower profits, and some takes

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<sup>8</sup> Jerry Ellig and Jerry Brito, “Video Killed the Franchise Star: The Consumer Cost of Cable Franchising and Proposed Policy Alternatives,” *Working Paper in Regulatory Studies*, Mercatus Center, February 2006, p. 14.

<sup>9</sup>See Mark A. Zupan, “The Efficacy of Franchise Bidding Schemes in the Case of Cable Television: Some Systematic Evidence,” *Journal of Law and Economics*, 1989, Vol. 32, pp. 401-405.

<sup>10</sup> “The record demonstrates that LFA [local franchise authority] demands unrelated to cable service typically are not counted toward the statutory 5 percent cap on franchise fees, but rather imposed on franchisees in addition to assessed franchise fees. Based on this record evidence, we are convinced that LFA requests for unreasonable concessions are not isolated, and that these requests impose undue burdens upon potential cable providers.” FCC, “Report and Order and Further Notice of Proposed Rulemaking,” FCC 06-180, March 5, 2007, p. 23.

the form of reduced investment and output. The effect on consumers is also likely to occur in time periods different than the one covered by this study.

These problems, which do not dispute or contradict the fact that consumers ultimately pay for capital grants and nonprice concessions, led the authors to exclude capital grants and other nonprice concessions from the estimate of monthly taxes and fees. This decision is discussed in more detail in Appendix 1. Because these costs are very large, leaving them out means our estimates are very conservative.

Figure 4 presents data for the average monthly taxes and fees paid by cable video subscribers in 59 cities. The average for these cities is \$6.12 per subscriber a month, or 11.69 percent of an average monthly bill of \$52.36. Lansing, Michigan, Carson City, Nevada, Baltimore, Maryland, and Colorado Springs, Colorado impose the lightest burdens on their cable subscribers, taking from \$1.63 to \$2.78 a month, or effective rates of 3.11 percent to 5.31 percent.

Cable subscribers with the highest burdens are in Raleigh, North Carolina, Charlotte, North Carolina, and Tallahassee, Florida, where rates exceed 20 percent.

Cable subscribers with the highest burdens are in Raleigh, North Carolina, Charlotte, North Carolina, and Tallahassee, Florida, where rates exceed 20 percent. These subscribers pay taxes and fees that are about 80 percent higher than the sample average.

Figure 4 also reveals substantial variation in the level of taxes and fees on cable subscribers between the largest and capital cities within the same state. Baltimore subscribers paid \$2.71 a month, for example, while Annapolis subscribers paid \$7.61. The intrastate variation is the consequence of local authorities granting cable franchises, whereas, for example, wireless licenses are auctioned by the national government and therefore are the same from state to state.

Cable video service providers compete directly with Direct Broadcast Satellite (DBS) providers and multimedia multipoint distribution service (MMDS) providers such as Clearwire, that are not subject to franchise fees and nonprice concessions. Satellite companies have increased their U.S. subscribers by nearly 25 million over the past 10 years, causing cable's share of the market to fall by more than 20 percent.<sup>11</sup>

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<sup>11</sup> Tim Feran, "The sky's the limit, satellite TV gives cable a run for its money," *The Columbus Dispatch*, November 27, 2006.

**Figure 4**  
**Monthly Taxes and Fees and Imputed Rate**  
**Paid by Average Subscribers to Cable Video Services**

| City                 | Tax    | Tax Rate | City                         | Tax           | Tax Rate      |
|----------------------|--------|----------|------------------------------|---------------|---------------|
| Lansing, MI          | \$1.63 | 3.11%    | Dallas, TX                   | \$6.72        | 12.84%        |
| Carson City, NV      | \$2.28 | 4.36%    | Madison, WI                  | \$6.81        | 12.99%        |
| Baltimore, MD        | \$2.71 | 5.18%    | Memphis, TN                  | \$6.90        | 13.18%        |
| Colorado Springs, CO | \$2.78 | 5.31%    | Santa Fe, NM                 | \$6.96        | 13.28%        |
| Portland, OR         | \$2.80 | 5.34%    | Fort Smith, AR               | \$7.00        | 13.36%        |
| Billings, MT         | \$2.91 | 5.56%    | Philadelphia, PA             | \$7.03        | 13.42%        |
| Salt Lake City, UT   | \$3.05 | 5.82%    | Omaha, NE                    | \$7.07        | 13.50%        |
| Las Vegas, NV        | \$3.19 | 6.09%    | Huntington, WV               | \$7.08        | 13.52%        |
| Los Angeles, CA      | \$3.26 | 6.22%    | St. Paul, MN                 | \$7.10        | 13.56%        |
| Wilmington, DE       | \$3.28 | 6.26%    | Augusta, ME                  | \$7.11        | 13.58%        |
| Columbus, OH         | \$3.33 | 6.35%    | Jefferson City, MO           | \$7.17        | 13.69%        |
| Casper, WY           | \$3.72 | 7.10%    | Atlanta, GA                  | \$7.27        | 13.88%        |
| Chicago, IL          | \$3.75 | 7.16%    | Davenport, IA                | \$7.42        | 14.17%        |
| Boston, MA           | \$4.04 | 7.71%    | Cheyenne, WY                 | \$7.44        | 14.22%        |
| Springfield, IL      | \$4.15 | 7.92%    | Charleston, SC               | \$7.51        | 14.34%        |
| Minneapolis, MN      | \$4.22 | 8.06%    | Little Rock, AR              | \$7.57        | 14.45%        |
| Sioux Falls, SD      | \$4.68 | 8.93%    | Annapolis, MD                | \$7.61        | 14.53%        |
| Seattle, WA          | \$4.80 | 9.17%    | Portland, ME                 | \$7.69        | 14.68%        |
| Milwaukee, WI        | \$5.29 | 10.10%   | Montgomery, AL               | \$7.73        | 14.75%        |
| Des Moines, IA       | \$5.39 | 10.29%   | Tucson, AZ                   | \$7.85        | 14.99%        |
| Denver, CO           | \$5.51 | 10.52%   | Manchester, NH               | \$7.87        | 15.03%        |
| Gulfport, MS         | \$5.71 | 10.91%   | Wichita, KS                  | \$7.90        | 15.08%        |
| Dover, DE            | \$5.73 | 10.94%   | Birmingham, AL               | \$8.53        | 16.29%        |
| Indianapolis, IN     | \$5.85 | 11.17%   | Concord, NH                  | \$8.53        | 16.29%        |
| Fort Wayne, IN       | \$6.08 | 11.61%   | Jacksonville, FL             | \$8.65        | 16.53%        |
| Fargo, ND            | \$6.24 | 11.91%   | Kansas City, MO              | \$9.19        | 17.55%        |
| Phoenix, AZ          | \$6.45 | 12.31%   | Raleigh, NC                  | \$10.96       | 20.92%        |
| Bismarck, ND         | \$6.56 | 12.52%   | Charlotte, NC                | \$10.97       | 20.94%        |
| Austin, TX           | \$6.61 | 12.62%   | Tallahassee, FL              | \$11.07       | 21.14%        |
| Sacramento, CA       | \$6.63 | 12.65%   | <b>Average for 59 cities</b> | <b>\$6.12</b> | <b>11.69%</b> |

## 4. Wireline Voice Services

Voice (or telephone) services can be provided by traditional wireline, wireless (cell phones), or cable networks. Cable networks may use the public switched telephone network (PSTN) via leased telephone lines or the newer Voice over Internet Protocol (VoIP). When voice services are provided by a wireline phone company or a cable company using the PSTN, one set of taxes and fees applies. Wireless calls are subject to a different set of taxes and fees, and calls placed using VoIP are very lightly taxed or not taxed at all.

Prominent taxes and fees that apply to wireline and cable PSTN voice services at the national and state levels include the Federal Universal Service Fund fee (a percentage of interstate end-user revenues that is reformulated each quarter, but for this analysis was set at 2.48 percent<sup>12</sup>), state sales taxes, and 911 fees. Local taxes include 911 fees, general sales taxes, excise taxes, and public utility taxes.

A 3 percent national excise tax on all wireless and on wireline long-distance calls was being phased out as this report was written, with tax collections ending on August 1, 2006. The tax was originally intended to apply to local service and long-distance service sold with prices that vary by time and distance (WATS service at the time the law was enacted). Even though the tax was still being collected by many phone companies during the time period chosen for this study, we have excluded the tax from all but local wireline calls so the results more accurately reflect tax burdens in 2007.

A 3 percent national excise tax on all wireless and on wireline long-distance calls was being phased out as this report was written, with tax collections ending on August 1, 2006.

Figure 5 shows total taxes and fees paid per month by the average wireline and cable PSTN voice customer in 59 cities, and the imputed average rate. The average for all cities studied is \$8.32 a month, or 16.87 percent of the average monthly bill of \$49.33. Subscribers in Billings, Montana, Dover, Delaware, and Lansing, Michigan, and Augusta, Maine, experience the lightest burdens, between \$4.32 (8.76 percent) in Billings and \$4.80 (9.73 percent) in Augusta.

Consumers in Los Angeles, California, Dallas, Texas, Kansas City, Missouri, and Memphis, Tennessee fare the worst. Their telephone bills carry taxes and fees ranging from 28.43 percent to 30.40 percent, with burdens ranging from \$14.02 to \$14.99 a month.

Figure 5 also shows there is less variance in intrastate tax and fee rates on wireline and cable telephone services than on video services offered by cable companies. For example, households in Dover, Delaware face nearly the same average burden a month, \$4.62, as households in Wilmington, Delaware, at \$4.82. This pattern demonstrates the majority of taxes and fees levied on wireline and cable voice services are administered at the national and state levels.

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<sup>12</sup> The latest rate is 10 percent on the interstate portion of a phone bill, which is about 25 percent of the total bill. See [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-05-2454A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-2454A1.pdf).

**Figure 5**  
**Average Monthly Taxes and Fees and Imputed Rate**  
**by Average Subscribers to Wireline Telephone Service**

| <b>City</b>      | <b>Tax</b> | <b>Tax Rate</b> | <b>City</b>                  | <b>Tax</b>    | <b>Tax Rate</b> |
|------------------|------------|-----------------|------------------------------|---------------|-----------------|
| Billings, MT     | \$4.32     | 8.76%           | Bismarck, ND                 | \$7.90        | 16.02%          |
| Dover, DE        | \$4.62     | 9.37%           | Charlotte, NC                | \$7.95        | 16.12%          |
| Lansing, MI      | \$4.77     | 9.67%           | Fargo, ND                    | \$8.15        | 16.53%          |
| Augusta, ME      | \$4.80     | 9.73%           | Philadelphia, PA             | \$8.16        | 16.55%          |
| Wilmington, DE   | \$4.82     | 9.77%           | Salt Lake City, UT           | \$8.44        | 17.12%          |
| Boston, MA       | \$5.11     | 10.36%          | Fort Smith, AR               | \$8.49        | 17.22%          |
| Madison, WI      | \$5.20     | 10.55%          | Tucson, AZ                   | \$8.68        | 17.60%          |
| Columbus, OH     | \$5.29     | 10.73%          | Colorado Springs, CO         | \$9.07        | 18.39%          |
| Charleston, SC   | \$5.30     | 10.75%          | Phoenix, AZ                  | \$9.08        | 18.41%          |
| Milwaukee, WI    | \$5.40     | 10.95%          | Portland, OR                 | \$9.10        | 18.45%          |
| Casper, WY       | \$5.57     | 11.30%          | Jefferson City, MO           | \$9.42        | 19.10%          |
| Concord, NH      | \$5.58     | 11.32%          | Jacksonville, FL             | \$9.59        | 19.45%          |
| Manchester, NH   | \$5.58     | 11.32%          | Little Rock, AR              | \$9.81        | 19.89%          |
| Minneapolis, MN  | \$5.62     | 11.40%          | Tallahassee, FL              | \$9.82        | 19.91%          |
| Portland, ME     | \$5.79     | 11.74%          | Huntington, WV               | \$9.90        | 20.08%          |
| Seattle, WA      | \$6.06     | 12.29%          | Baltimore, MD                | \$10.27       | 20.83%          |
| Indianapolis, IN | \$6.09     | 12.35%          | Annapolis, MD                | \$10.55       | 21.40%          |
| Davenport, IA    | \$6.12     | 12.41%          | Wichita, KS                  | \$10.88       | 22.06%          |
| Fort Wayne, IN   | \$6.15     | 12.47%          | Santa Fe, NM                 | \$10.94       | 22.19%          |
| Gulfport, MS     | \$6.27     | 12.72%          | Denver, CO                   | \$11.52       | 23.36%          |
| St. Paul, MN     | \$6.41     | 13.00%          | Omaha, NE                    | \$11.95       | 24.23%          |
| Cheyenne, WY     | \$6.55     | 13.28%          | Sacramento, CA               | \$12.53       | 25.41%          |
| Montgomery, AL   | \$6.63     | 13.45%          | Austin, TX                   | \$13.55       | 27.48%          |
| Des Moines, IA   | \$7.06     | 14.32%          | Springfield, IL              | \$13.70       | 27.78%          |
| Birmingham, AL   | \$7.35     | 14.91%          | Chicago, IL                  | \$13.70       | 27.78%          |
| Las Vegas, NV    | \$7.36     | 14.93%          | Memphis, TN                  | \$14.02       | 28.43%          |
| Carson City, NV  | \$7.38     | 14.97%          | Kansas City, MO              | \$14.35       | 29.10%          |
| Sioux Falls, SD  | \$7.53     | 15.27%          | Dallas, TX                   | \$14.42       | 29.24%          |
| Atlanta, GA      | \$7.58     | 15.37%          | Los Angeles, CA              | \$14.99       | 30.40%          |
| Raleigh, NC      | \$7.63     | 15.47%          | <b>Average for 59 cities</b> | <b>\$8.32</b> | <b>16.87%</b>   |

## 5. Wireless Voice Services

As with wireline and cable voice services, the main taxes and fees that apply to wireless telephone services (or more technically, Commercial Mobile Radio Service carriers) are national and state universal service fund taxes, state and local sales or excise taxes, and 911 fees. Once again the 3 percent national excise tax has been excluded from our analysis.

Wireless voice service has been the target of specific discriminatory city and state excise taxes across the country. In 2004, Baltimore imposed a \$3.50 a month tax on cell phone users, and Pennsylvania imposed a 5 percent gross receipts tax on top of the existing 6 percent sales tax. Municipal efforts to impose new taxes on cell phone users in two Oregon cities were turned back only after organized opposition emerged. According to a trade association for the wireless telephone industry, “between January 2003 and April 2004, wireless taxes grew nine times faster than that of general business.”<sup>13</sup>

Wireless voice service has been the target of specific discriminatory city and state excise taxes across the country.

Wireless telephone companies also pay the national government to license the radio spectrum they use to reach their customers. By one estimate, these payments, which total some \$20.6 billion to date, work out to about \$1.4 billion a year (in 2001), equivalent to a tax of about 2.1 percent of revenues.<sup>14</sup> These payments clearly have an effect on consumer welfare, but like the capital grants and nonprice concessions paid by cable companies, they cannot easily be translated into the equivalent of a monthly fee or tax paid by consumers. For this reason, these fees are not included in the current analysis. The decision to exclude these fees is described in more detail in Appendix 1.

Figure 6 presents the monthly taxes and fees paid and the imputed rates for 59 cities. On average, wireless telephone service subscribers pay \$5.89 in taxes and fees per month, or 11.78 percent of an average monthly bill of \$49.98.

Wireless telephone customers in Carson City and Las Vegas, Nevada, Portland, Oregon, Billings, Montana, and Dover, Delaware pay the lowest taxes and fees on their wireless telephone services. Wireless customers in Seattle, Washington, Jacksonville, Florida, Chicago, Illinois, Tallahassee, Florida, and Omaha, Nebraska pay the most, between \$3.25 and \$4.78 a month more than the national average wireless customer.

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<sup>13</sup> Jim Schuler, CTIA assistant vice president-policy, quoted in Mary Lou Jay, “Taking Their Toll: Is Excessive Taxation Penalizing Wireless Consumers for Embracing Technology?” *Wireless News*, n.d., accessed December 1, 2006, [http://transcoder.usablenet.com:8080/tt/www.ctia.org/news\\_media/index.cfm/AID/10253](http://transcoder.usablenet.com:8080/tt/www.ctia.org/news_media/index.cfm/AID/10253).

<sup>14</sup> Scott R. Mackey, “Wireless Carriers and Right-of-Way Fees,” August 2002, unpublished manuscript provided to the authors.

**Figure 6**  
**Monthly Taxes and Fees and Imputed Rate Paid by**  
**Average Subscribers to Wireless Telephone Service**

| <b>City</b>          | <b>Tax</b> | <b>Tax Rate</b> | <b>City</b>                  | <b>Tax</b> | <b>Tax Rate</b> |
|----------------------|------------|-----------------|------------------------------|------------|-----------------|
| Carson City, NV      | \$1.81     | 3.62%           | Minneapolis, MN              | \$5.51     | 11.02%          |
| Las Vegas, NV        | \$1.81     | 3.62%           | St. Paul, MN                 | \$5.52     | 11.04%          |
| Portland, OR         | \$2.09     | 4.18%           | Santa Fe, NM                 | \$5.57     | 11.14%          |
| Billings, MT         | \$3.71     | 7.42%           | Atlanta, GA                  | \$5.62     | 11.24%          |
| Dover, DE            | \$3.96     | 7.92%           | Fort Wayne, IN               | \$5.68     | 11.36%          |
| Wilmington, DE       | \$3.96     | 7.92%           | Gulfport, MS                 | \$5.74     | 11.48%          |
| Milwaukee, WI        | \$3.99     | 7.98%           | Springfield, IL              | \$5.99     | 11.98%          |
| Madison, WI          | \$4.01     | 8.02%           | Indianapolis, IN             | \$6.01     | 12.02%          |
| Boston, MA           | \$4.04     | 8.08%           | Little Rock, AR              | \$6.34     | 12.69%          |
| Davenport, IA        | \$4.27     | 8.54%           | Bismarck, ND                 | \$6.54     | 13.09%          |
| Jefferson City, MO   | \$4.37     | 8.74%           | Denver, CO                   | \$6.74     | 13.49%          |
| Lansing, MI          | \$4.53     | 9.06%           | Fargo, ND                    | \$6.77     | 13.55%          |
| Casper, WY           | \$4.55     | 9.10%           | Wichita, KS                  | \$6.93     | 13.87%          |
| Columbus, OH         | \$4.68     | 9.36%           | Memphis, TN                  | \$6.99     | 13.99%          |
| Annapolis, MD        | \$4.74     | 9.48%           | Fort Smith, AR               | \$7.08     | 14.17%          |
| Des Moines, IA       | \$4.77     | 9.54%           | Phoenix, AZ                  | \$7.11     | 14.23%          |
| Augusta, ME          | \$4.89     | 9.78%           | Sioux Falls, SD              | \$7.17     | 14.35%          |
| Portland, ME         | \$4.89     | 9.78%           | Salt Lake City, UT           | \$7.84     | 15.69%          |
| Birmingham, AL       | \$4.94     | 9.88%           | Baltimore, MD                | \$8.24     | 16.49%          |
| Montgomery, AL       | \$4.94     | 9.88%           | Philadelphia, PA             | \$8.24     | 16.49%          |
| Charlotte, NC        | \$5.04     | 10.08%          | Sacramento, CA               | \$8.53     | 17.07%          |
| Raleigh, NC          | \$5.04     | 10.08%          | Austin, TX                   | \$8.79     | 17.59%          |
| Kansas City, MO      | \$5.07     | 10.14%          | Dallas, TX                   | \$8.79     | 17.59%          |
| Concord, NH          | \$5.16     | 10.32%          | Los Angeles, CA              | \$8.91     | 17.83%          |
| Manchester, NH       | \$5.16     | 10.32%          | Seattle, WA                  | \$9.14     | 18.29%          |
| Charleston, SC       | \$5.24     | 10.48%          | Jacksonville, FL             | \$9.23     | 18.47%          |
| Huntington, WV       | \$5.24     | 10.48%          | Chicago, IL                  | \$9.24     | 18.49%          |
| Cheyenne, WY         | \$5.37     | 10.74%          | Tallahassee, FL              | \$9.33     | 18.67%          |
| Colorado Springs, CO | \$5.39     | 10.78%          | Omaha, NE                    | \$10.67    | 21.35%          |
| Tucson, AZ           | \$5.41     | 10.82%          | <b>Average for 59 cities</b> | \$5.89     | 11.78%          |

## 6. Broadband Internet Access

Consumers can access the Internet using traditional telephone lines via either dial-up or Digital Subscriber Line (DSL); wireless phones, using EV-DO or GSM technology; satellite using services provided by DirecTV and EchoStar; cable lines using cable modems; fiber-optic lines typically offered by cable companies and increasingly by telephone companies; and wireless transmission services such as Wi-Fi, Multimedia Multipoint Distribution Service (MMDS), or coming soon, Wi-Max. Wireless broadband Internet access is growing rapidly, accounting for 58 percent of the 11 million new broadband subscribers who signed up in the first half of 2006.<sup>15</sup>

State and local governments are generally prohibited from taxing Internet service by the Internet Tax Freedom Act (ITFA), passed in 2004, although the act allows eight states and some cities in Colorado to collect taxes imposed and enforced prior to November 1, 2005. One might think the ITFA means nearly all Internet access is untaxed, but the reality is complicated by changing state and federal rulings on what constitutes “Internet access” and what parts of a phone or cable bill might still be subject to tax. Once again, tax policies differ according to the technology used:

One might think the ITFA means nearly all Internet access is untaxed, but the reality is complicated by changing state and federal rulings on what constitutes “Internet access” and what parts of a phone or cable bill might still be subject to tax.

- Accessing the Internet via **cable modem, Wi-Fi, and satellite services** is generally exempt from state and local taxes and franchise fees, as well as national Universal Service Fund (USF) fees.
- Accessing the Internet via **wireline dial-up (not broadband) service** is taxed at the same rate as wireline phone calls, although the Internet Service Provider’s monthly charge is exempt from taxation in most states.
- Accessing the Internet using **digital subscriber line (DSL) service** was exempted from national USF fees when the FCC ruled it was a data service and not a telecommunication service. The Internet Tax Freedom Act clarified that both the DSL service fee and the telecommunication service used to provide the service are to be exempt from state taxes under national law, except for those states with taxes grandfathered under the act.
- Finally, accessing the Internet via **wireless devices** may or may not be taxed depending upon how it is provided and billed. In most states, stand-alone Blackberry services or monthly Internet access plans (“air cards”) are exempt. However, if the service is bundled with a voice service plan for a fixed price, the service may be taxable depending upon whether the provider separately states the charge or has the capability to identify the non-taxable part of the bundle in its “books and records.”

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<sup>15</sup> As reported in “Broadband Breakout,” *The Wall Street Journal*, February 22, 2007.

Wireless Internet access was too recent a development, and the rules too complex, for our database to capture any data that could be extrapolated to a national average. In the course of researching this paper, the authors came across many anecdotal accounts of taxes being applied to the Internet portion of a phone or cable bill, but presumably this is no longer commonplace as the FCC and IRS have clarified their policies on taxing Internet access. Consequently, the only Internet taxes included in the current study are those “grandfathered” under the ITFA.

In the course of researching this paper, the authors came across many anecdotal accounts of taxes being applied to the Internet portion of a phone or cable bill, but presumably this is no longer commonplace.

Figure 7 shows average taxes paid and tax rates for the nine cities in this study that are known to tax Internet access. Their rates range from 0.88 percent to 6 percent. Averaged across all of the states in this study, the “grandfathered” states are responsible for a national mean average monthly tax of \$0.29 for telephone company digital subscriber line (DSL) subscribers (0.71 percent of the average monthly bill of \$32.00) and \$0.23 for cable modem subscribers (0.71 percent of the average monthly bill of \$41.00).

Since the tax rates on the two Internet services are the same, from this point forward we simplify the analysis by assuming an average monthly bill of \$36.50, an average monthly tax of \$0.26, and a national average tax rate on Internet access of 0.71 percent. We acknowledge this is not precise, since the market is not evenly split between DSL and cable modem, but we doubt any further adjustments we could make would add any precision to what is, after all, a very small part of the tax burden on communication services.

**Figure 7**  
**Monthly Taxes and Fees and Imputed Rate Paid by**  
**Average Subscribers to Broadband Internet Service**

| City           | Tax    | Tax Rate | City                         | Tax           | Tax Rate     |
|----------------|--------|----------|------------------------------|---------------|--------------|
| Birmingham, AL | \$2.19 | 6.00%    | Milwaukee, WI                | \$1.83        | 5.00%        |
| Montgomery, AL | \$2.19 | 6.00%    | Santa Fe, NM                 | \$1.83        | 5.00%        |
| Bismarck, ND   | \$1.83 | 5.00%    | Sioux Falls, SD              | \$1.46        | 4.00%        |
| Fargo, ND      | \$1.83 | 5.00%    | Seattle, WA                  | \$0.32        | 0.88%        |
| Madison, WI    | \$1.83 | 5.00%    | <b>Average for 9 cities</b>  | <b>\$1.70</b> | <b>4.65%</b> |
|                |        |          | <b>Average for 59 cities</b> | <b>\$0.26</b> | <b>0.71%</b> |

## 7. Total Taxes and Fees on Communication Services

In this section, all the taxes and fees imposed on consumers of communication services are summed and compared to general sales taxes imposed on other goods. Consumers who subscribe to all four services have an estimated average monthly bill of \$188.17, being \$52.36 for cable, \$49.33 for wireline telephone, \$49.98 for wireless telephone, and \$36.50 for Internet access. The burden of taxes and fees is reported as average monthly payment, as a percentage of the average monthly bill, and in terms of the average tax rate imposed on other products.

### Taxes and Fees Vary by State

Figure 8 combines the taxes and fees reported in Figures 4 through 7 and lists the monthly burden faced by average consumers in 59 cities who have cable, wireline telephone, wireless telephone, and Internet services. The average monthly cost imposed on consumers is \$20.59, for an imputed rate of 10.94 percent.

The total burden ranges from a low of \$10.93 (5.81 percent) in Lansing, Michigan to a high of \$30.22 (16.06 percent) in Tallahassee, Florida. Consumers in the cities of Kansas City, Missouri, Austin and Dallas, Texas, Omaha, Nebraska, and Tallahassee, Florida endure the highest burden. Meanwhile, consumers in Lansing, Michigan, Billings, Montana, Carson City, Nevada, Wilmington, Delaware, and Las Vegas, Nevada enjoy the lowest rates.

Since Internet access is rarely taxed, removing it from the bundle of communication services reveals the relatively higher average taxes on cable television, wireline telephone, and wireless telephone, the three remaining services. The average monthly bill for cable TV, wireline phone, and wireless phone totals \$151.67 per month. Taxes and fees on these three services total \$20.33 a month, or 13.40 percent of the average monthly bill.

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| Taxes and fees on cable TV, wireline phone, and wireless phone services total \$20.33 a month, or 13.40 percent of the average monthly bill. |
|--|

### Taxes and Fees Vary by Technology

Figure 9 presents descriptive statistics of the taxes and fees applied in all 59 cities. Other than Internet service (which is taxed only by a few states), cable television services on average experienced the lowest rate, 11.69 percent versus 11.78 percent for wireless phone and 16.87 percent for wireline. Due to differences in monthly bills, wireless customers pay the lowest dollar amount in taxes and fees, at \$5.89 a month, \$2.43 lower than the wireline average of \$8.32 and \$0.23 lower than the \$6.12 a month paid by cable television subscribers.

Calculating the standard deviation enables us to measure the average amount by which monthly tax payments and tax rates differ from the mean average. Sixty-eight percent of all measurements fall within one standard deviation of the average, and 95 percent of all measurements fall within two standard deviations of the average.

**Figure 8**  
**Average Monthly Taxes and Fees Paid by**  
**Subscribers to All Four Communication Services**

| City                 | Tax     | Tax Rate | City                         | Tax     | Tax Rate |
|----------------------|---------|----------|------------------------------|---------|----------|
| Lansing, MI          | \$10.93 | 5.81%    | Jefferson City, MO           | \$20.96 | 11.14%   |
| Billings, MT         | \$10.94 | 5.81%    | Baltimore, MD                | \$21.22 | 11.28%   |
| Carson City, NV      | \$11.47 | 6.10%    | Montgomery, AL               | \$21.49 | 11.42%   |
| Wilmington, DE       | \$12.06 | 6.41%    | Tucson, AZ                   | \$21.94 | 11.66%   |
| Las Vegas, NV        | \$12.36 | 6.57%    | Huntington, WV               | \$22.22 | 11.81%   |
| Boston, MA           | \$13.19 | 7.01%    | Fort Smith, AR               | \$22.57 | 11.99%   |
| Columbus, OH         | \$13.30 | 7.07%    | Phoenix, AZ                  | \$22.64 | 12.03%   |
| Casper, WI           | \$13.84 | 7.35%    | Bismarck, ND                 | \$22.83 | 12.13%   |
| Portland, OR         | \$13.99 | 7.43%    | Annapolis, MD                | \$22.90 | 12.17%   |
| Dover, DE            | \$14.31 | 7.60%    | Fargo, ND                    | \$22.99 | 12.22%   |
| Minneapolis, MN      | \$15.35 | 8.16%    | Birmingham, AL               | \$23.01 | 12.23%   |
| Milwaukee, WI        | \$16.51 | 8.77%    | Philadelphia, PA             | \$23.43 | 12.45%   |
| Augusta, ME          | \$16.80 | 8.93%    | Raleigh, NC                  | \$23.63 | 12.56%   |
| Des Moines, IA       | \$17.22 | 9.15%    | Little Rock, AR              | \$23.72 | 12.60%   |
| Colorado Springs, CO | \$17.24 | 9.16%    | Denver, CO                   | \$23.77 | 12.63%   |
| Gulfport, MS         | \$17.72 | 9.42%    | Springfield, IL              | \$23.84 | 12.67%   |
| Davenport, IA        | \$17.81 | 9.46%    | Charlotte, NC                | \$23.96 | 12.73%   |
| Madison, WI          | \$17.85 | 9.49%    | Santa Fe, NM                 | \$25.30 | 13.45%   |
| Fort Wayne, IN       | \$17.91 | 9.52%    | Wichita, KS                  | \$25.71 | 13.66%   |
| Indianapolis, IN     | \$17.95 | 9.54%    | Chicago, IL                  | \$26.69 | 14.18%   |
| Charleston, SC       | \$18.05 | 9.59%    | Los Angeles, CA              | \$27.16 | 14.43%   |
| Portland, ME         | \$18.37 | 9.76%    | Jacksonville, FL             | \$27.47 | 14.60%   |
| Manchester, NH       | \$18.61 | 9.89%    | Sacramento, CA               | \$27.69 | 14.71%   |
| St. Paul, MN         | \$19.03 | 10.11%   | Memphis, TN                  | \$27.91 | 14.83%   |
| Concord, NH          | \$19.27 | 10.24%   | Kansas City, MO              | \$28.61 | 15.20%   |
| Salt Lake City, UT   | \$19.33 | 10.27%   | Austin, TX                   | \$28.95 | 15.39%   |
| Cheyenne, WY         | \$19.36 | 10.29%   | Omaha, NE                    | \$29.69 | 15.78%   |
| Seattle, WA          | \$20.32 | 10.80%   | Dallas, TX                   | \$29.93 | 15.91%   |
| Atlanta, GA          | \$20.47 | 10.88%   | Tallahassee, FL              | \$30.22 | 16.06%   |
| Sioux Falls, SD      | \$20.84 | 11.08%   | <b>Average for 59 cities</b> | \$20.59 | 10.94%   |

**Figure 9**  
**Variability of Average Monthly Taxes and Fees Paid by**  
**Subscribers to Cable, Wireline, Wireless, and Internet Services**

| Statistic          | Cable   |          | Wireline |          | Wireless |          | Internet Access |          | Total   |          |
|--------------------|---------|----------|----------|----------|----------|----------|-----------------|----------|---------|----------|
|                    | Tax     | Tax Rate | Tax      | Tax Rate | Tax      | Tax Rate | Tax             | Tax Rate | Tax     | Tax Rate |
| Min                | \$1.63  | 3.11%    | \$4.32   | 8.76%    | \$1.81   | 3.62%    | \$0.00          | 0.00%    | \$10.93 | 5.81%    |
| Max                | \$11.07 | 21.14%   | \$14.99  | 30.40%   | \$10.67  | 21.35%   | \$2.19          | 6.00%    | \$30.22 | 16.06%   |
| Mean               | \$6.12  | 11.69%   | \$8.32   | 16.87%   | \$5.89   | 11.78%   | \$0.26          | 0.71%    | \$20.59 | 10.94%   |
| Standard Deviation | \$2.21  | 4.22%    | \$2.94   | 5.96%    | \$1.93   | 3.87%    | \$0.65          | 1.78%    | \$5.19  | 2.76%    |

For total monthly taxes and fees paid on all communication services, the standard deviation is \$5.19 (2.76 percent). Cities with monthly taxes and fees greater than \$25.78 (13.70 percent) are more than one standard deviation above the mean. Cities with monthly taxes and fees less than \$15.40 (8.18 percent) are more than one standard deviation below the mean. Taxes and fees on wireline service vary the most, as shown by the standard deviation of \$2.94 (5.96 percent).

The data in Figure 9 make clear that taxes and fees vary greatly according to the type of technology used to deliver otherwise-identical services. Consider:

- A typical phone call placed with a wireline phone is subject to taxes and fees of 16.87 percent, while a call billed at the same rate but placed over a cell phone is subject to taxes and fees of 11.78 percent.
- If placed using a Voice over Internet Protocol (VoIP) service like Vonage, or the “digital phone” services increasingly offered by cable companies, the call in most states won’t be subject to *any* taxes or fees.
- A typical pay-per-view movie ordered through a cable TV box is subject to taxes and fees amounting to 11.69 percent, while the same movie downloaded over the Internet using a service such as Vongo or Amazon.com is not subject to *any* taxes or fees.
- The new video services being offered by wireline phone companies will probably be taxed at 5 or 6 percent, depending on the prevailing franchise fee, but possibly more.
- Time spent on the Internet using a broadband connection is not subject to taxes or fees, except in the eight states with grandfathered taxes, but the same amount of time spent on the Internet using a wireline dial-up connection is subject to the same taxes and fees as a wireline phone call, 16.87 percent.

These cost disparities can be seen from a consumer’s perspective by applying the imputed average tax-and-fee rates to similarly priced services. Figure 10 shows the varying rates and dollars per month cost of communication taxes and fees on a hypothetical telephone calling package costing \$35.99 a month. The wireline customer pays \$5.81 more per month than the

VoIP customer for the same service. Over the course of the year, the wireline customer pays \$69.72 more – nearly enough to pay for two months of VoIP service – in excess taxes and fees.

**Figure 10**  
**Tax and Fee Disparities on a \$35.99/month Phone Service Package**

| Technology | Price   | Tax Rate | Ratio to lowest tax rate | Tax Amount | Total Monthly Bill |
|------------|---------|----------|--------------------------|------------|--------------------|
| Wireline   | \$35.99 | 16.87%   | 23.76                    | \$6.07     | \$42.06            |
| Wireless   | \$35.99 | 11.78%   | 16.59                    | \$4.24     | \$40.23            |
| VoIP       | \$35.99 | 0.71%    | 1.00                     | \$0.26     | \$36.25            |

Figure 11 compares taxes and fees paid on a hypothetical premium video service such as HBO, offered by a cable company or phone company for \$11.95 per month, compared with a Web-based subscription service offering a menu of the same types of movies for the same price and wireless cell phone-based movie services which, while not available now, are likely to be available within the next 12 months as bandwidth technology improves and videos downloaded via wireless networks become easier to move to larger handheld devices, such as iPods. In this case, the cable customer pays \$1.40 a month in taxes and fees, more than double the \$0.60 paid by the wireline telephone customer. The wireless subscriber would pay \$1.41 a month.

**Figure 11**  
**Tax and Fee Disparities on a \$11.95/month Premium Movie Subscription**

| Technology           | Price   | Tax Rate | Ratio to Lowest Tax Rate | Tax Amount | Total Monthly Bill |
|----------------------|---------|----------|--------------------------|------------|--------------------|
| Cable TV             | \$11.95 | 11.69%   | 16.46                    | \$1.40     | \$13.35            |
| Wireless*            | \$11.95 | 11.78%   | 16.59                    | \$1.41     | \$13.36            |
| Wireline Telephone** | \$11.95 | 5.00%    | 7.04                     | \$0.60     | \$12.55            |
| Third-party Internet | \$11.95 | 0.71%    | 1.00                     | \$0.08     | \$12.03            |

\* Service not yet available, assumes current wireless taxes would apply.

\*\* Assuming a 5 percent franchise fee.

Figures 10 and 11 also display the ratio of taxes and fees on the specific service and on the service with the lowest average monthly burden. A person placing a phone call using a wireline phone pays an imputed rate 24 times higher than a person using VoIP. A cable TV subscriber pays an imputed rate twice that of a wireline phone company video customer for the same video content service. All this compared to *no or nearly no tax at all* on a subscription video service offered by a third-party provider over the Internet. There does not seem to be any rationale or logic behind these variations.

The seeming absurdity of the current tax regime is growing worse over time as people increasingly watch videos on their cell phones, place calls using their cable modems, and connect to the Internet with devices ranging from personal computers to cell phones to iPods. With new devices such as Microsoft XBox, Internet downloads are not confined to a desktop PC or iPod screen, but can be displayed on any TV screen in the house. As the Reuters news service recently reported:

Annual consumer spending on Internet downloads of movies and TV shows will top \$4 billion in 2011, up from just \$111 million last year. According to Adams Media Research, the growth will be fueled by the introduction of hardware devices such as Apple TV, a \$299 box that converts videos downloaded from the Internet into signals that can be played on high-definition television sets. Adams is betting that video downloads will ramp up gradually as Apple TV and similar devices win acceptance among consumers.<sup>16</sup>

### **Relative to General Sales Taxes on Other Goods**

A comparison of communication taxes and fees to general sales tax rates imposed on other goods reveals a sizeable difference: Subscribers to cable and telephone services in the 59 cities for which we have data pay taxes and fees that are *twice as high* as the national average sales tax on other goods.

The Tax Foundation was asked to calculate the national average general sales tax in the U.S. for this study. Using its own database of state, county, and local sales taxes, it compiled total state sales tax rates, determined the percentage of national personal income affected by each state's taxes, and then calculated a weighted average tax rate. The conclusion: The national average sales tax rate is equal to 6.61 percent. Appendix 2 presents the data used for this estimate.

Subscribers to cable and telephone services pay taxes and fees that are twice as high as the national average sales tax on other goods.

The average taxes and fees paid by subscribers to cable and telephone services, 13.40 percent of the average bill, is more than two times the national average sales tax rate of 6.61 percent. In other words, telephone calls and cable services are taxed at twice the rate as clothing, sporting goods, and other household products.

The average consumer in the U.S. pays \$20.33 per month (\$243.96 a year) in taxes and fees on cable television and phone service. If those taxes and fees were no higher than the general sales tax applied to other goods and services, he or she would pay only \$10.03 per month (\$120.36 a year) in communication taxes and fees, for a savings of \$10.30 a month (\$123.60 a year).

A closer examination of taxes in 11 cities finds higher average taxes and fees on communication services as well as higher general sales taxes on other goods. (See Figure 12.) Cable and

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<sup>16</sup> "Spending on Video Downloads to Surge," Reuters, February 22, 2007.

telephone taxes in those cities average 14.77 percent<sup>17</sup> and general sales taxes imposed on other goods average 7.58 percent. Once again, communication taxes and fees are about twice as high as taxes on other goods.

**Figure 12**  
**Communication Service Taxes and Fees Compared with**  
**Taxes on Other Goods and Services\***

| City             | Medicine | Food   | General Sales | Beer   | Liquor | Tobacco | Wireline Phone | Wireless Phone | Cable TV |
|------------------|----------|--------|---------------|--------|--------|---------|----------------|----------------|----------|
| Birmingham, AL   | exempt   | 9.00%  | 9.00%         | 27%    | 54%    | 31%     | 14.91%         | 9.88%          | 16.29%   |
| Jacksonville, FL | exempt   | exempt | 7.00%         | 19%    | 23%    | 28%     | 19.45%         | 18.47%         | 16.53%   |
| Chicago, IL      | 1.00%    | 1.00%  | 9.00%         | 20%    | 23%    | 64%     | 27.78%         | 18.49%         | 7.16%    |
| Charlotte, NC    | exempt   | 2.00%  | 7.50%         | 21%    | 36%    | 29%     | 16.12%         | 10.08%         | 20.94%   |
| Minneapolis, MN  | exempt   | exempt | 7.15%         | 16%    | 22%    | 48%     | 11.40%         | 11.02%         | 8.06%    |
| Phoenix, AZ      | exempt   | exempt | 8.10%         | 16%    | 21%    | 45%     | 18.41%         | 14.23%         | 12.31%   |
| Des Moines, IA   | exempt   | exempt | 6.00%         | 15%    | 42%    | 28%     | 14.32%         | 9.54%          | 10.29%   |
| Los Angeles, CA  | exempt   | exempt | 8.25%         | 17%    | 21%    | 39%     | 30.40%         | 17.83%         | 6.22%    |
| Raleigh, NC      | exempt   | exempt | 7.00%         | 20%    | 36%    | 29%     | 15.47%         | 10.08%         | 20.92%   |
| Seattle, WA      | exempt   | exempt | 8.80%         | 18%    | 50%    | 54%     | 12.29%         | 18.29%         | 9.17%    |
| Milwaukee, WI    | exempt   | exempt | 5.60%         | 13%    | 19%    | 35%     | 10.95%         | 7.98%          | 10.10%   |
| Average          | 0.09%    | 1.09%  | 7.58%         | 18.36% | 31.50% | 39.09%  | 17.41%         | 13.26%         | 12.54%   |

\* Sources: Drugs, Food, and General Sales tax rates - Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/sales.html>); Beer rates - Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/beer.html>; Liquor rates - Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/liquor.html>; Tobacco rates - Federation of Tax Administrators, <http://www.taxadmin.org/fta/rate/cigarette.html>; Additional data, where necessary, were compiled from each state's Department of Revenue Web site, as well as the Retirement Living Information Center's Web site <http://www.retirementliving.com/RLstate1.html>. Calculations on effective tax rates for beer, liquor, and tobacco were done by Sean Parnell of The Heartland Institute. For a complete description of his methodology, visit The Heartland Institute's Web site at [www.heartland.org](http://www.heartland.org).

Figure 12 also reports the 11 cities' tax rates on medicine and food – products that often are given preferential treatment under tax codes because they are considered essential goods – and on alcohol, beer, and tobacco – products taxed at high levels presumably to discourage consumption. Food and drugs are generally exempt from state and local sales and excise taxes, while alcohol, beer, and tobacco are subject to higher so-called “sin” taxes.

Since communication services generate no known negative effects on users and nonusers, and indeed are generally recognized to produce positive effects on users and nonusers, one might expect their tax rates to more closely resemble those on medicine and food than those on alcohol,

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<sup>17</sup> This was derived by multiplying the average monthly bills for cable TV, wireline phone, and wireless phone by the average tax rates reported in the last row of Figure 12, and then dividing that figure (\$21.79) by the total monthly bill (\$151.67).

beer, and tobacco. But that is not the case.

Average taxes and fees on cable and telephone services in the 11 cities in Figure 12 are 164 times as high as taxes on medicine and 13 times as high as taxes on food. While average taxes on alcohol, beer, and tobacco were greater than the average imputed rate of taxes and fees on the three communication services, the average imputed rate on wireline phone service was higher than the average tax on beer.

In several cities, so-called “sin taxes” are lower than communication taxes and fees. In Chicago and Los Angeles, for example, taxes and fees on wireline phone users are higher than taxes on beer and liquor.

Other researchers have compared taxes and fees imposed on communication companies (rather than consumers) versus other types of businesses and arrived at conclusions similar to ours. A study performed by Ernst & Young in 2005 found “the telecom industry’s state and local effective business tax rate

Average taxes on cable and telephone services in the 11 cities in Figure 12 are 164 times as high as taxes on medicine and 13 times as high as taxes on food.

(ETR) ... is 2.5 times higher than the average rate for all industries. From the perspective of non-business consumers, the multiple taxes on telecom purchases result in an ETR on sales that is 2.3 times higher than the ETR on sales of other selected goods and services.”<sup>18</sup>

The Council on State Taxation (COST) study partially relied on for the present research found the average combined tax rate – national, state, and local – on telecom services is three times higher than the general business rate – 18.7 percent versus 6.12 percent.<sup>19</sup> That analysis included the 3 percent national excise tax on phone calls, property taxes, and other costs excluded from the present analysis.

## 8. Negative Impacts of High Taxes and Fees

Taxes and fees on communication services that are twice as high as taxes on other goods and services impose a heavy burden on consumers and distort consumer choices and investment decisions, resulting in large and unnecessary social costs. In addition, excessive taxes and fees reduce capital spending on the country’s communications network, which reduces productivity, output, and employment and erodes the ability of U.S. companies to compete in global markets.

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<sup>18</sup> Ernst & Young, “Total State and Local Taxes Paid by the Telecommunications Industry FY 2004,” July 14, 2005.

<sup>19</sup> Council on State Taxation (COST), *2004 State Study and Report on Telecommunications Taxation*, p. 4.

## Burden on Consumers

The total annual cost of taxes and fees paid by communications customers can be estimated by multiplying by 12 the average monthly taxes paid by cable TV, wireline phone, and wireless phone customers, and then multiplying those numbers by the numbers of franchised cable, wireline, and wireless customers in the U.S. in the fourth quarter of 2005, the latest quarter for which comparable data are available. Figure 13 shows the results.

The total annual bill, approximately \$37 billion, represents a massive redistribution of wealth from communication consumers to government treasuries. As large as it is, this estimate is *less* than the true burden on consumers, which includes losses due to reduced investment, productivity, and consumption. Estimates of those losses appear later in this section.

**Figure 13**  
**Estimated Total Taxes and Fees Paid on**  
**Cable TV and Telephone Services in 2005**

| Service           | # Customers | Average Annual Taxes and Fees per Customer | National Total Taxes and Fees Paid |
|-------------------|-------------|--|------------------------------------|
| Franchised Cable* | 65,400,000  | \$73.44                                    | \$4,802,976,000                    |
| Wireline Phone**  | 175,400,000 | \$102.00                                   | \$17,890,800,000                   |
| Wireless Phone**  | 203,700,000 | \$70.68                                    | \$14,397,516,000                   |
| Total             | n.a.        | \$246.12                                   | \$37,091,292,000                   |

\* FCC, *Twelfth Annual Report on the Status of Competition in the Market for the Delivery of Video Programming*, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-06-11A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-11A1.pdf)

\*\* FCC, *Local Telephone Competition: Status as of December 31, 2005*, July 2006, pp. 2-3. [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-266595A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-266595A1.pdf)

## Effect on Low-Income Households

Taxes and fees on communication services are regressive with respect to income: Their rate as a percent of household income declines as household income rises.<sup>20</sup> A family that earned the upper limit of the lowest quintile of households in the country (\$24,780) and paid the average amount in communication taxes and fees (\$247.08) shouldered a tax and fee burden of about 1.0 percent. A household that earned the median average income (\$44,334) and paid the same amount in communications taxes and fees paid only half as much, about 0.56 percent, of its annual income. A household in the top income quintile, earning \$173,640 a year, paid an effective communication tax rate of only 0.14 percent, about one-tenth the rate paid by low-income households.

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<sup>20</sup> Campbell R. McConnell, *Economics*, 9th Edition (New York: McGraw-Hill Book Company, 1984), pp. 118-121.

Looking back to Figure 8, we see a typical consumer in Chicago with a wireline and wireless phone and cable TV pays \$26.69 a month (\$320.28 a year) in communication taxes and fees. Residents of Los Angeles pay \$27.16 a month (\$325.92 a year), and residents of Tallahassee, Florida pay more than any other city in our sample, \$30.22 a month – a hefty \$362.64 a year. Twelve of the 59 cities in our sample collect more than \$300 a year from a typical household. For households in the lowest income quintile, these are considerable tax burdens.

If taxes and fees on cable television and phone services were no higher than general sales taxes on other goods, the average household would save approximately \$123.60 a year. The savings in big cities would be much higher, even though their general sales taxes tend to be higher than the national average. Based on the numbers in Figure 12, the average household in Chicago would save \$156.53 a year if cable and phone services were taxed at the 9.0 percent general sales tax rate. In Los Angeles, the annual savings would be \$175.85.

If taxes and fees on cable television and phone services were no higher than those on other goods, the average household would save approximately \$123.60 a year.

High communication taxes and fees make it more difficult for middle- and low-income households to afford services beyond basic phone and cable TV. This is a genuine problem because access to the Internet at home is quickly becoming the way parents monitor their children’s performance in schools, take advantage of flex-time to do work-related activities at home, learn new skills, and find out about new employment opportunities.

Public officials who are concerned about the so-called “digital divide” sometimes support grants to nonprofit groups to give away free computers or provide free public access to broadband at public locations. But a more effective strategy would simply be to lower the price of communication services by repealing discriminatory taxes and fees.

If communication services were not subject to discriminatory taxes and fees, the monthly tax bill would be about \$10.30 lower, which means more low-income families could afford to sign up for broadband services.<sup>21</sup> As other authors have pointed out,<sup>22</sup> reducing the tax burden on communication services is the most direct and efficient way to get people with modest incomes connected to the Internet.

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<sup>21</sup> According to a survey conducted in 2001 by the General Accounting Office, 27.4 percent of respondents who then had only narrowband Internet access said they would be willing to pay between \$5 and \$10 a month more for high-speed Internet access. U.S. General Accounting Office, “Characteristics and Choices of Internet Users, Report to the Ranking Minority Member, Subcommittee on Telecommunications, Committee on Energy and Commerce, House of Representatives,” February 2001, p. 48, <http://www.gao.gov/new.items/d01345.pdf>.

<sup>22</sup> Wayne A. Leighton, “Broadband Deployment and the Digital Divide: A Primer,” *Cato Policy Analysis* #410, August 7, 2001, p. 27.

## Distortion of Consumer Choices and Investment Decisions

While taxes on communication services are substantial, the out-of-pocket expense is only part of the burden imposed on consumers and producers. As Ellig and Taylor explain:

When taxes and fees increase prices, consumers buy less of the service, and they are worse off as a result. In economic terminology, the value that consumers forego, minus the price they would have paid, is the “forgone consumer surplus.” Similarly, when prices inflated by regulation prompt consumers to use less of a service, producers sell less of it. The operating profits they lose on the sales they don’t make are called “forgone producer surplus.” ... The total forgone surplus is also called a “deadweight loss.”<sup>23</sup>

The average tax on cable television service, which we previously estimated to be 11.69 percent, reduces consumer demand for cable television by between 17.5 percent and 35.0 percent.

To determine the effect of taxes, fees, and government regulations on the amount of communication services purchased, economists use an estimate of price sensitivity called elasticity of demand. Basic telephone service tends not to be very price-sensitive, but other communication services are. Price elasticity estimates for cable television demand generally range from -1.5 to -3.0.<sup>24</sup> In other words, a one percent increase in the price of cable causes

demand to fall between 1.5 and 3.0 percent. The price elasticity of demand for wireless phone service is between -.43 and -.71 when estimating the number of people who subscribe, and -1.12 and -1.29 when estimating the number of minutes used.<sup>25</sup>

The average tax on cable television service, which we previously estimated to be 11.69 percent, reduces consumer demand for cable television by between 17.5 percent and 35.0 percent. The average tax on wireless telephone services of 11.78 percent reduces the number of wireless phone customers by 5.1 - 8.4 percent and the number of minutes used by 13.3 - 15.3 percent.

Ellig and coauthors have estimated the annual deadweight loss due to cable taxes and fees<sup>26</sup> and wireless taxes and fees<sup>27</sup> at \$2.6 billion and \$8.8 billion, respectively. In each case, the

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<sup>23</sup> Jerry Ellig and James Nicholas Taylor, “The Consumer Costs of Wireless Taxes and Surcharges,” *Working Paper in Regulatory Studies*, Mercatus Center, March 2006, Table 1, p. 17. This paper is forthcoming in *Loyola Consumer Law Review*, Vol. 19, #1.

<sup>24</sup> See Jerry Brito and Jerry Ellig, “Public Interest Comment on Video Franchising,” MB Docket No. 05-311; FCC 05-189, February 13, 2006, p. 16, for sources.

<sup>25</sup> Ellig and Taylor, *supra* note 23, pp. 15-16.

<sup>26</sup> Jerry Ellig and Jerry Brito, “Video Killed the Franchise Star: The Consumer Cost of Cable Franchising and Proposed Policy Alternatives,” *A Working Paper in Regulatory Studies*, February 2006, Table 4, p. 23. This paper is forthcoming in *Journal on Telecommunications and High Technology Law*, Vol. 5, #1.

<sup>27</sup> Ellig and Taylor, *supra* note 23.

deadweight loss does not include losses due to regulations, but only to taxes and fees.

Discriminatory taxation leads consumers to choose goods and services on the basis of how they are taxed rather than their quality or true costs. For example, when local governments impose franchise fees and sales taxes on cable video services, but satellite services are not taxed, some share of consumers will choose satellite service only because of the tax savings. Discriminatory taxes on communication services can have a major effect because consumers don't need to leave their homes to switch service providers.

This kind of consumer arbitrage was critical to the early success of Voice over Internet Protocol (VoIP) companies such as Vonage and 8 x 8. Consumers learned that when Vonage said service was \$29.99 a month, that was the charge that appeared on the bill. Cell phone customers, however, were surprised to get monthly bills with taxes and fees adding up to an average of \$5.89 (in the 59 cities for which we have complete data) and as much as \$10.67 (in Omaha, Nebraska, the city with the highest tax on wireless telephone service). The taxes have become so high that most wireless carriers have agreed to disclose the estimated monthly bill inclusive of taxes, fees, and surcharges at the time of purchase.

## 9. Paths to Reform

Policymakers at the national, state, and local levels all have opportunities to reduce taxes and fees on communication services and make them more uniform.

### Local Reforms

The biggest opportunity for reform at the local level is to reform video franchises. The days when local officials could view cable franchises as “urban oil wells” (in the memorable words of New York Mayor John Lindsay) are over. Franchise fees should be

brought in line with the opportunity cost incurred by a business's use of the public right-of-way (ROW) and nonprice concessions should be reduced or eliminated.

The days when local officials could view cable franchises as “urban oil wells” (in the memorable words of New York Mayor John Lindsay) are over.

Local governments tend to view cable franchises as an opportunity to collect rent on ROWs, but this is not the correct model. Rent is what is collected by owners who made investments in assets in the expectation that future payments would exceed their operating costs. Public ROWs are different. As Thomas Hazlett explains, they “are not constructed via risky capital invested by private owners, but are created by police powers of the government. It is counter-productive to maximize rent payments; it puts a dollar into one pocket (the municipality's) and takes many more out of others (belonging to the municipality's current and future cable subscribers).”<sup>28</sup>

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<sup>28</sup> Thomas W. Hazlett, “Cable TV Franchises as Barriers to Video Competition,” March 5, 2006, George Mason Law & Economics Research Paper No. 06-06, p. 14. Available from the Social Science Research Network at <http://ssrn.com/abstract=889406>. On page 7, Hazlett attributes the Lindsay quote cited at the

According to Hazlett, “The proper regulatory instrument is price, ensuring that entrants pay the opportunity cost of the resources consumed. This rule may be instituted without controlling entry via cable franchises. Imposing liability on operators for damage they inflict and for additional investments required to maintain ROWs forces incumbents and entrants to internalize the costs they impose.”<sup>29</sup> Hazlett goes on to cite newspaper publishers as companies that use public streets for deliveries and public sidewalks for vending machines yet “are regulated with generic laws that limit inconvenience or disruption in the community, no franchise needed.”<sup>30</sup>

Economists have repeatedly estimated the consumer benefits of ending local cable franchises.<sup>31</sup> Many of these past studies, while suggestive, were compromised by small sample sizes or reliance on FCC data now known to be inaccurate.<sup>32</sup>

The net annual social benefits of competition in cable markets nationwide would total \$2.9 billion (consumer surplus of \$8.9 billion minus producer losses of \$6 billion).

An econometric model originally published by the General Accounting Office in 2003<sup>33</sup> and then updated by the re-named Government Accountability Office in 2005<sup>34</sup> provides a credible estimate of the effect on consumer prices of competition in cable markets. The GAO authors created a large data sample (705 cable franchises), corrected errors in FCC’s database, specified a three-stage least squares

model with 22 variables, and concluded that basic service cable fees “were approximately 16 percent lower in areas where a second cable company – known as an overbuilder – provides service.”<sup>35</sup>

Assuming an elasticity of demand of 1.5 and if new entrants capture 25 percent of the marketplace, GAO’s estimate would mean the net annual social benefits of competition in cable markets nationwide would total \$2.9 billion (consumer surplus of \$8.9 billion minus producer

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opening of this section to a 1973 *New York Times* article by Albin Krebs.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

<sup>31</sup> A dozen empirical studies are surveyed in Jerry Ellig and Jerry Brito, *supra* note 26, pp. 6-9.

<sup>32</sup> See General Accounting Office, “Issues Related to Competition and Subscriber Rates in the Cable Television Industry,” GAO-04-8, October 2003, Highlights: “FCC’s cable rate report does not appear to provide a reliable source of information on the cost factors underlying cable rate increases or on the effects of competition.”

<sup>33</sup> Ibid. The model appears in Appendix 4.

<sup>34</sup> Government Accountability Office, “Telecommunications: Direct Broadcast Satellite Subscription Has Grown Rapidly, But Varies Across Different Types of Markets,” GAO-05-257, April 2005, Appendix 3.

<sup>35</sup> Ibid., p. 33.

losses of \$6 billion).<sup>36</sup> Hazlett, who generated this estimate in 2006, says there is “a very large opportunity to improve consumer welfare” by repealing local video franchises, though he cautions that “in reality, eliminating municipal franchise barriers would not produce an instant nationwide build-out by entrants. Nor would a lack of reform necessarily block all competitive entry by wireline video providers.”<sup>37</sup>

## State Reforms

State reform efforts should focus on video franchise reform and comprehensive tax reform. On the first, states can replace, reform, or eliminate video franchise laws, following the example of such states as Texas, which in August 2005 was the first state to pass legislation creating statewide franchising. Since then, nine more states (Arizona, California, Indiana, Kansas, Michigan, New Jersey, North Carolina, South Carolina, and Virginia) have passed similar legislation. Arizona and Virginia streamlined and codified the rules of local franchising, but stopped short of authorizing statewide authority. The legislature in an eleventh state, Louisiana, passed video franchise reform legislation that was vetoed by the governor.<sup>38</sup>

The American Legislative Exchange Council (ALEC) has written model legislation for states interested in pursuing video franchise reform, though that model has been criticized for not going far enough in allowing incumbent cable companies to exit franchises when competitors enter their markets.

Both the American Legislative Exchange Council (ALEC) and the National Conference of State Legislatures (NCSL) have adopted resolutions calling for more uniform and less complicated taxes on communication services.

On state tax reform, policymakers will also find good models in states that have taken the lead in making their communication taxes and fees lower, simpler, and more uniform. Virginia and Ohio adopted legislation that streamlined and lowered communication taxes and fees, while Florida passed laws that streamlined but did not lower taxes and fees.

In Virginia, local governments can no longer impose their own taxes on communication services. Instead, all communication services are subject to the same 5 percent sales tax rate that is imposed on other goods and services. Fees for 911 service were equalized between landline and wireless services at \$0.50/month. Companies using public rights-of-way pay a single charge of 0.5 percent, intended to represent the actual cost of using the right-of-way and not simply a tax disguised as a fee. Companies make just one payment to the state, which then distributes money back to the local jurisdictions.

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<sup>36</sup> Thomas Hazlett, “Cable TV Franchises as Barriers to Video Competition,” George Mason University Law and Economics Research Paper Series, March 2006, pp. 63-66. [www.heartland.org/pdf/19021.pdf](http://www.heartland.org/pdf/19021.pdf).

<sup>37</sup> *Ibid.*, p. 66.

<sup>38</sup> Steven Titch, “Cable Franchise Reform Spreads,” *Budget & Tax News*, March 2007, pp. 1, 4.

Both ALEC and the National Conference of State Legislatures (NCSL) have adopted resolutions calling for more uniform and less complicated taxes on communication services. According to Neal Osten, federal affairs counsel for communication and interstate commerce with NCSL:

The taxes of all providers of services should be the same; no provider should be tax-free or taxed higher than others. Eventually, all taxes should be no higher than general business taxes. Collection and administration of the taxes should be simple, too, similar to what most states are doing with sales taxes right now.<sup>39</sup>

Local governments often oppose state communication tax and fee reforms because they fear a loss of revenue. However, a coalition of local governments that criticized the 2004 COST study on telecommunication taxes and fees, which included the National League of Cities, U.S. Conference of Mayors, and National Association of Counties, nevertheless agreed that reform of telecommunication taxes and fees is necessary:

Recognizing the convergence among different types of telecommunications services, local governments generally favor the imposition of taxes on a nondiscriminatory basis, regardless of the technologies used, on competing communications service providers that offer functionally equivalent services. They also favor reforms that will create a level playing field for competition among existing and new service providers. Further, they favor simplifying the administration of state and local taxes on communications services to encourage continued investments and innovations.<sup>40</sup>

One estimate puts the potential increase in local franchise fee receipts nationwide at between \$249 million and \$413 million per year.

Most opposition to video franchise reform comes from local government officials who fear losing the capital grants and nonprice concessions that cable incumbents now pay and fee-based revenue due to falling prices. But econometric models show that while video franchise reform would cause prices to fall, the

number of customers and the quantity of communication services they purchase would rise faster, resulting in higher total receipts for the industry and consequently greater tax revenues for local governments. One estimate puts the potential increase in local franchise fee receipts nationwide at between \$249 million and \$413 million per year.<sup>41</sup> This suggests there is room for state tax policy reforms that can win the acceptance of local officials.

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<sup>39</sup> Quoted in Mary Lou Jay, "Taking Their Toll: Is Excessive Taxation Penalizing Wireless Consumers for Embracing Technology?" *Wireless News*, CTIA, n.d.

<sup>40</sup> *Local Government Perspective on Telecommunications Taxes: A Response to Industry's 2004 COST Study*, Summer 2006, [http://www.gfoa.org/documents/TelecomTaxBriefing\\_FullReport.pdf](http://www.gfoa.org/documents/TelecomTaxBriefing_FullReport.pdf).

<sup>41</sup> Robert W. Crandall and Robert Litan, "The Benefits of New Wireline Video Competition for Consumers and Local Government Finances," Criterion Economics, LLC, n.d.

## National Reforms

National preemption of state and local tax and regulatory authority in this arena is justified for several reasons. First, communication services have clearly become a national and global form of commerce in the past decade, resulting in consumers and businesses outside the borders of particular cities and states being affected negatively by those states' and municipalities' tax and regulatory decisions. This is the basis for the FCC's assertion of jurisdiction over broadband services, VoIP, and cable video franchises. Second, there is precedent for preemption in the history of railroads in the U.S., when Congress passed the Railroad Revitalization and Regulatory Reform Act of 1976 preempting state and local governments from imposing discriminatory taxes on railroads.

The Federal Trade Commission recognizes that the optimal scale for a cable operator often exceeds the borders of a typical municipality, making state or national regulation more economically efficient than local regulation.<sup>42</sup> The FCC announced in March 2007 new rules limiting municipal franchising authority, including the creation of a "shot clock" requiring municipalities to act on applications for franchises within a set amount of time.<sup>43</sup> Legislation would be needed for the FCC to actually forbid or replace local franchising authority. Bills to do so have been introduced in Congress.

National legislation could prohibit discriminatory sales, use, or business taxes on communication services. Such a prohibition could extend to all three levels of government and "discriminatory" taxes would be defined as those that apply only to communication services or are imposed at rates higher than those paid by most other businesses. Exempted from the ban would be 911 fees, relay service fees, and other fees actually used to fund services to communication consumers that are specifically enumerated in the legislation.

State and local government could be given a reasonable period of time, but probably no more than three years, to phase out discriminatory taxes.

State and local government could be given a reasonable period of time, but probably no more than three years, to phase out discriminatory taxes. After that period, U.S. district courts would be authorized to invalidate taxes or fees they determine are discriminatory. With many states enjoying record growth in tax receipts,<sup>44</sup> this could be a good time to require that they update one part of their tax codes.

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<sup>42</sup> FTC, "Sports Programming & Cable Distribution: The Comcast/Time Warner/Adelphia Transaction," Report to the Senate Committee on Judiciary, December 7, 2006, p. 4.

<sup>43</sup> FCC, "In re Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984, as amended," FCC no. 06-180, March 5, 2007.

<sup>44</sup> Lois Romano, "Most States Have Budget Surpluses, Some Find Creative Uses for Cash," *Washington Post*, August 19, 2006, p. A04.

## Universal Service Fund Reform

With proper review, the revenue demands of the Federal Universal Service Fund (USF), as well as state USF funds, could be substantially reduced yet accomplish much more. The FCC should take back authority for universal service and reform both the pay-in mechanisms to reflect the larger base of communication companies now providing service, perhaps by moving to a per-number charge, and the dispersal mechanisms so they encourage the deployment of economical and innovative alternatives.

Vince Vasquez, a policy analyst for the Pacific Research Institute, writes:

By eliminating USF taxes and subsidies, lawmakers can facilitate new growth and investment in underserved communities without manipulating markets and dissuading industry innovation. Consumers will be exempt from rising phone bill fees, and free from funding dubious service providers fattening from the trough of public funds. Responsible companies will have more capital to finance new technologies, and could work cooperatively, rather than compulsively, with policy regulators to achieve public goals in quality service and affordable calling rates.<sup>45</sup>

The FCC should take back authority for universal service and reform both the pay-in mechanisms and the dispersal mechanisms.

Vasquez proposes a “seven-point road map” to reform the USF that includes changing the legal definition of universal service to a detailed and reasonable public goal, replacing the current board of directors with professional administrators without financial conflicts of interest, having the FCC inspector

general conduct thorough audits and investigations, and replacing corporate subsidies with consumer vouchers. The Mercatus Center also has proposed a series of USF reforms focusing on performance measures for the fund.<sup>46</sup>

## 10. Conclusion

This study has presented original research on taxes and fees on communication services in 59 cities in the U.S. The methodology used was extremely conservative. It included only taxes and fees known to be passed through, dollar for dollar, to consumers and not justifiable as payment for, say, expenses incurred during the use of public rights-of-way. Removed from the tally were the 3 percent national excise tax on phone calls, which was expiring as our research was underway, as well as capital grants and nonprice concessions paid by cable companies, even though other researchers have found them to be considerable. Also excluded was the cost of radio frequency leases incurred by wireless phone service providers.

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<sup>45</sup> Vince Vasquez, “Digital Welfare: The Failure of the Universal Service System,” Pacific Research Institute, February 2006, p. 21.

<sup>46</sup> Maurice McTigue and Jerry Ellig, “Performance Measures for FCC Universal Service Programs,” Mercatus Center, October 17, 2005, RSP 2005-07.

Taxes and fees imposed on the consumers of cable television and telephone services in the U.S. were found to be twice as high as general sales taxes on other goods – 13.40 percent versus 6.61 percent. Communication taxes and fees vary significantly from city to city: Consumers in the city with the highest taxes (Tallahassee, Florida) pay \$19.29 a month more – \$231 a year – than consumers in Lansing, Michigan, the city with the lowest taxes.

Communication taxes and fees also vary based on the type of communication service (television, telephone, and Internet access) as well as by the type of technology used to deliver otherwise-identical services. Taxes and fees on a phone call placed with a wireline phone are 24 times higher than the taxes and fees on a call placed using VoIP, while cable subscribers pay twice the taxes and fees on a video product as they are likely to pay for similar products delivered by telephone companies using IPTV technology.

High and discriminatory taxes and fees ought to be cut, simplified, and made uniform across different technology platforms.

Besides the direct burden of \$37 billion a year in taxes and fees on communication services, consumers also suffer needless social welfare losses, estimated to be more than \$11 billion each year, due to reduced consumption and investment.

Policymakers ought to act quickly to bring public policy up-to-date with the latest changes in the communication arena. High and discriminatory taxes and fees ought to be cut, simplified, and made uniform across different technology platforms. Some states have already taken the lead in enacting needed reforms; other states should follow. Similarly, the national government should step up its efforts to forbid state and local governments from imposing discriminatory taxes and fees on communication services and enforcing regulatory barriers to competition.



## Appendix 1: Methodology

The project goal was to obtain all of the information regarding local, state, and national taxes and fees imposed on consumers of cable, wireline, and wireless services. The original dataset consisted of 100 cities – the largest city, measured by population, and capital city in each of the 50 states. Researchers at the Beacon Hill Institute at Suffolk University in Boston were ultimately able to compile complete data on 59 cities. The finished product, besides this report, is a series of tables available online at [www.heartland.org](http://www.heartland.org) and [www.beaconhill.org](http://www.beaconhill.org) that displays the taxes and fees imposed on services in dollars per month and percent of the monthly bill for an average customer.

### Cable Video Services

BHI identified franchise fees, public, educational, or governmental (PEG) access fees, and initial capital grants as the three most prominent taxes and fees imposed on cable companies offering video service. It obtained these fees and taxes (the dollar amount paid by the cable franchise) by reviewing franchise agreements and contacting local officials. Documentation for all sources is available at BHI. Video services provided by wireline and wireless companies are too new for reliable data to be available, so no tax data pertaining to these services were collected or reported.

#### 1. Franchise Fee

Cable franchise fees are paid by the cable company to the local government in exchange for the use of public rights-of-way (ROWs). Because of the way these fees are calculated and collected, it is clear they are not based on actual costs incurred by local governments, but rather determined by how much municipalities believe they can charge. The franchise fee is typically 5 percent of the gross revenue from providing cable services.

#### 2. PEG Access Fees

FCC regulation allows local franchising authorities to require cable operators to set aside noncommercial channels for public, educational, or governmental (PEG) access. Cable companies may retrieve the cost of providing PEG channels from their subscribers in the form of monthly access fees.

Since it is up to the municipality to determine whether it wants to retrieve access fees from the cable providers, not all cities in our dataset contain a value for this fee. Generally, when access fees are applicable they are included in the franchise agreements as either a per-subscriber or monthly fee.

#### 3. FCC User Fee

Cable regulatory/user fees are determined by the FCC and are imposed on all cable television

systems. The FCC figure of \$0.72 per subscriber for fiscal year 2005 was used for all cities. The \$0.72 figure is divided by 12 months to attain the monthly value of \$0.06 tax per subscriber.<sup>47</sup>

#### 4. *Cable Television Relay Service (CARS) License*

The FCC charge of \$155 for the Cable Television Relay Service (CARS) license is too small to break out by subscriber, and thus the fee is not included in the tables.

#### 5. *Initial Capital Grants and other Nonprice Concessions*

Local franchising authorities may also require a one-time contribution, or initial capital grant, from cable operating systems. Capital grants may be used for a number of purposes, such as purchase of equipment needed to supply PEG access, refurbishing and upgrading video equipment, etc. Cable system providers also are often obligated to provide, free of charge, the initial connection and basic monthly service to municipal buildings, including public schools, libraries, and other public buildings.

As indicated in the text, these requirements can be very expensive, with one estimate from 1989 putting the cost at 26 percent of the cost of building cable networks and 11 percent of operating expenses. However, as indicated on pages 6-7, we decided not to include these costs in our calculation of taxes and fees on cable companies. Why?

It is an economic axiom that cost does not determine price, that businesses set their prices based on what consumers are willing to pay, and that their profit is the difference between that price and the firm's marginal costs. An increase in costs – particularly “sunk costs,” defined as spending that does not vary with profitability or the number of customers – may reduce profits but not prices, or lead a business to reduce output and keep profits and prices the same. In either case, the increase in cost will not cause an exactly equal change in prices. Hence, knowing the cost of capital grants and other nonprice concessions made by a cable company does not enable us to say whether or by how much the price of cable TV increased.

Consumers certainly do pay for these costs, partly through lower consumption due to less investment, partly through higher prices due to less competition (estimated by GAO to be about 16 percent), and partly through other trade-offs. When Ellig et al. estimate the deadweight loss due to cable taxes and fees at \$2.6 billion a year, they are capturing these effects. But it would be incorrect to simply add up these costs (some of them one-time expenses for long-lived assets, some of them repeating every year) and treat them no differently than the taxes and fees that are paid on a per-subscriber or percent of income basis.

We re-visit this issue in the discussion, below, of the radio frequency licenses paid by wireless services. Consistency, as well as good methodology, compels us to exclude those costs as well.

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<sup>47</sup> Federal Communications Commission, “Regulatory Fees Fact Sheet: What You Owe – Cable Television Systems for FY 2005,” Washington, DC, July 2005.

## 6. *Letters of Credit and Performance Bonds*

In addition to capital grants, local governments may require cable providers to supply them with a letter of credit and/or a performance bond. These securities are established to ensure the faithful performance of the provisions of the franchise agreement. They are typically effective throughout the length of the agreement. Letters of credit and performance bonds are not included in the estimates of taxes and fees per subscriber because the letters and bonds are retrievable when the cable provider has satisfied all of its obligations to the municipality.

## **Wireline Telephone Services**

Taxes and fees paid by wireline telephone and cable companies to state and local governments came from the 2004 Council on State Taxation (COST) study,<sup>48</sup> and then verified and updated by BHI staff by contacting state and local officials. The COST report identified taxes and fees that are unique to the communication industry.

The COST study was criticized in 2006 by a coalition of local government associations<sup>49</sup> for combining user fees with taxes, not including corporate income taxes, and not taking into account accounting practices by some communication companies allegedly used to avoid paying local property taxes. We have considered these criticisms.

It is appropriate to include franchise fees that are charged as a percent of gross receipts because they clearly are not based on any real costs imposed on cities by the use of public rights-of-way, and they are passed through to consumers just as general sales taxes are. Like COST, we have removed genuine user fees and nonprice concessions. We agree with the critics, however, that it is incorrect to refer to fees as “transaction taxes,” and we do not dispute that such fees are legal.

Like the COST study, our analysis does not include corporate income taxes. Available data sources would not have allowed us to attribute specific amounts to consumers in specific cities, and so many variables influence corporate income tax collections on a year-to-year basis that selecting any one year would not have produced generalizable results.

COST’s critics point out that companies with costly physical assets generally pay less in corporate income taxes than companies with fewer assets because they are able to deduct depreciation expenses from their taxable earnings. But the rationale for the deduction is sound – buying assets is a legitimate business expense and should thereby be tax deductible – and all that depreciation does is defer the tax break that would otherwise be allowed. The critics either believe depreciation is an unjustified tax break, which isn’t true, or perhaps that the corporate income taxes paid by communication companies are less than those paid by companies in other industries that are similarly asset-heavy, which has not been proven.

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<sup>48</sup> Telecommunications Tax Task Force of the Council on State Taxation, “2004 State Study and Report on Telecommunications Taxation,” Washington DC, March 2005.

<sup>49</sup> “Local Government Perspective on Telecommunications Taxes: A Response to Industry’s 2004 COST Study,” Summer 2006, [http://www.gfoa.org/documents/TelecomTaxBriefing\\_FullReport.pdf](http://www.gfoa.org/documents/TelecomTaxBriefing_FullReport.pdf).

Our analysis does not include property taxes for similar reasons. Anecdotes about how some communication companies avoid paying local property taxes are not relevant to our analysis.

All national, state, and local taxes that are applicable to wireline voice services were applied as well to cable voice services provided over the PSTN via leased telephone lines. However, when cable companies provide telephone service with VoIP, the taxes on VoIP, to the extent they exist in only eight states, apply. This is one of the best examples of how government applies different tax formulas to the same service – even from the same company – when different technology platforms are used.

That many of these taxes and fees apply to cable provision of voice services when VoIP is not used to carry the signal was confirmed through conversations with several state and local officials (Maine, North Dakota, Kansas City) and customer service representatives of cable companies. Some cable representatives and local officials produced conflicting information, and in the absence of definitive answers, we assumed the same taxes and fees apply to cable and wireline voice services. The treatment of national taxes and fees is described below.

### 1. *National Excise Tax*

The IRS has agreed to stop collecting the national telephone excise tax of 3 percent, enacted in 1898 to fund the Spanish American War, levied on long-distance telephone calls. The repeal was in effect as of July 31, 2006. The IRS will issue refunds of tax collected on long-distance service for the past three years. Congressman Gary Miller introduced HR 1898, which proposes to abolish the national excise tax on all telephone services.<sup>50</sup> We have not included the tax in our estimates.

### 2. *Federal Universal Service Fund*

The Federal Universal Service Fund was established to provide subsidies for affordable communication services in low-income and rural areas. All providers of communication services, including but not limited to cellular telephone and paging, and private line services, are required to contribute to the Federal Universal Service Fund. A 1.00 percent tax rate, based on the COST report, was applied to all cable and wireline voice services.

### 3. *911 Tax*

Many states impose a 911 tax on voice providers to help fund the cost of providing this emergency service. Typically, revenue generated from the tax is used to offset maintenance, system upgrades, and the salaries of dispatchers paid by the state, county, and/or city in order to supply a 911 emergency service. State governments may also permit county and/or local governments to levy a 911 tax on cable/wireline voice providers.

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<sup>50</sup> Congressman Gary Miller, "IRS Abolishes Federal Long Distance Tax," <http://www.house.gov/garymiller/PhoneTax.html>.

In some cases, local officials provided estimates of taxes and fees per subscriber for a state and/or city 911 tax. Otherwise the rates reported in the COST study were used to compute the monthly charge.

## Wireless Telephone Services

The 2004 study of state and local taxes and fees imposed on the wireless communication industry by Scott R. Mackey provided state and local taxes and fees on wireless services.<sup>51</sup> The estimate of the monthly bill (\$49.98) is the Average Revenue per Unit (ARPU) in 2005, as calculated by CTIA and reported by the FCC.<sup>52</sup>

The major taxes and fees that apply to wireless telephone services include the Federal Universal Service Fund (2.48 percent) and state and local 911 fees described above. The 3 percent national excise tax on wireless phone customers ended in 2006 so we removed it from our calculations, even though many consumers in 2005 would have paid the tax.

We have chosen not to treat the cost of radio frequency licenses as a “fee” paid by wireless services for the same reasons given earlier in this appendix for excluding capital grants and other nonprice concessions paid by cable companies: Costs, particularly sunk costs, do not determine price. Evan Kwerel, an economist with the Federal Communications Commission, concurs:

Standard economic theory predicts that *sunk* costs are irrelevant to the pricing and output decisions of firms. A sunk cost is one that is not escapable. It does not vary with output or even if the firm goes out of business, and thus should have no effect on any business decision. The amount paid for a spectrum license in an auction is such a sunk cost. Once it is paid, the payment cannot be recovered from the government and it does not vary with output. Therefore, the historical cost of winning bids at auctions should have no effect on the price or availability of spectrum-based communications services for customers.<sup>53</sup>

Auctioning radio frequency licenses restricts supply and consequently raises consumer prices,<sup>54</sup> but this does not mean the cost of licenses is passed along to consumers in a dollar-for-dollar fashion as are the taxes and fees reported in this study. Regulations, by limiting competition and

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<sup>51</sup> Scott Mackey, “The Excessive State and Local Tax Burden On Wireless Telecommunications Service,” *State Tax Notes* (July 2004): 181-194.

<sup>52</sup> FCC, “Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services,” 11th Report, September 29, 2006, p. 69 and Table 10 on p. 106.

<sup>53</sup> Evan Kwerel, *Spectrum Auctions Do Not Raise the Price of Wireless Services: Theory and Evidence*, FCC, 2000. <http://wireless.fcc.gov/auctions/data/papersAndStudies/SpectrumAuctionsDoNotRaisePrices.pdf>.

<sup>54</sup> Auctioning off 200 MHz of currently unused or little-used radio spectrum would cause the per-minute price of wireless service to fall by 50 percent. See Thomas W. Hazlett et al., *Sending the Right Signals: Promoting Competition Through Telecommunications Reform*, U.S. Chamber of Commerce, September 22, 2004, pp. 68-69.

depressing consumption, impose large costs on cable and wireline phone customers as well as wireless customers. While other researchers have documented these effects, we have focused on what most people, including policymakers, would recognize as taxes and fees.

## **Broadband Internet Access Services**

The Internet Tax Freedom Act of 1998 – renewed in 2004 – prohibits state and local governments from imposing new taxes on the Internet through 2007.<sup>55</sup> Taxes prohibited by the bill include all taxes on Internet access services provided to end users, including sales and excise taxes.

However, the bill allows state Internet taxes that were “imposed and actually enforced prior to October 1, 1998,” granted that the provider of Internet services “had a reasonable opportunity to know ... that such agency has interpreted and applied such tax to Internet access services.” Of the eight states allowed to grandfather their Internet taxes, cities in six – Alabama, New Mexico, North Dakota, South Carolina, Washington, and Wisconsin – were included in our study.

Our conversations with state and local officials in other states confirmed they do not currently tax Internet access or that a tax is imposed only if the access is provided through fixed telephone lines and the Internet access service cannot be distinguished from telephone services.

## **Number of Subscribers**

Most public authorities were not able to provide the number of subscribers to each communication service for their city, and referred BHI to service providers who were also not forthcoming. However, the Federal Communications Commission (FCC) publishes data estimating the number of high-speed Internet access and wireless subscribers in each state. The FCC breaks out the Internet access data by medium of access including cable, wireless, satellite, and telephone. The FCC also produces telephone subscriber penetration rates for each state. The National Cable Television Association provides estimates of the total number of basic cable and residential cable telephone subscribers in the United States. These estimates were used to impute values for the number of subscribers for each city.

The U.S. Census Bureau estimates for population of the United States, the states, and each city in 2005 were used to distribute the FCC and NCTA national and state subscriber figures to each city. First, we calculated the ratio of the population of each state to the total U.S. population and the ratio of the population to each city to total state population. Next, we applied these ratios for each city to the FCC estimates of the number of subscribers in each state.

For example, the population ratio of Sacramento to California is 1.26 percent ( $454,330 / 35,842,038 = 1.26$  percent). The FCC estimates that California had 3,263,324 high-speed Internet data lines in 2005, and therefore we estimate Sacramento to have 41,118 DSL subscribers ( $3,263,324 \times 1.26$  percent = 41,118). A similar process was applied to all cities using the FCC estimates for DSL, cable broadband, and wireless voice and broadband subscribers.

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<sup>55</sup> The Internet Tax Freedom Act, Public Law 108-435 (2003).

The FCC estimates the percentage of households with a wireline telephone for each state. We applied this percentage rate for the respective state to the population estimates for each city. The FCC estimates that 95.4 percent of households in California have a wireline telephone, and we thus estimate Sacramento, for example, has 147,929 wireline telephone subscribers.

A similar approach was used to impute the NCTA estimate of total cable video subscribers in the United States to the cities. First the ratio of the population for each state was used to distribute the estimate of national cable subscribers to each state. Then the ratio of the city population to the state population was used to distribute our estimate of the number of cable subscribers in each state to the respective cities.

Using Sacramento as an example, the ratio of California's population to the U.S. population is 12.2 percent ( $36,132,147 / 296,410,404 = 12.2$  percent) and applying this ratio to the total number of cable subscribers in the United States reported by NCTA provides an estimate of 7,984,388 cable subscribers in California ( $65,500,000 \times 12.2$  percent = 7,984,388). We applied the ratio of Sacramento population to California population, 1.26 percent, to estimate the total number of cable subscribers in Sacramento, 100,397 ( $7,984,388 \times 1.257$  percent = 100,397). We computed the number of subscribers that get their telephone service through cable using the same method.

## **Average Monthly Bill**

Data on prices and monthly bills came from FCC's 2006 *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 2005 *Report on Cable Industry Prices*, and 2003 *Long Distance Telecommunications Industry Report*. Full citations with links appear in footnote 4 on page 4. The latest estimates for the average bills for wireline phone service available from the FCC were for the year 2002. We used the average compound growth rate for bills reported for the years 1995 through 2002 to raise the 2002 figures to an estimated 2005 level.

The total average monthly bill was estimated to be \$188.17, with \$52.36 for video service through cable, \$49.33 for telephone service through wireline, \$49.98 for telephone service through wireless, and \$36.50 for Internet. The bill for Internet service was calculated by taking the weighted average price of the two types of Internet service: cable, which has an average bill of \$41.00, and fixed line, which has an average bill of \$32.00.

The average bill was applied to all cities. For example, if the local cable franchise fee was reported as 5 percent of gross receipts and we were not able to obtain an annual revenue figure, we multiplied the 5 percent by the national average cable bill of \$52.36 to obtain the tax per subscriber. Consequently, similar tax rates result in similar tax bills across several cities, even though consumers in some cities (generally where higher-income families reside) clearly have higher average monthly bills than others.

## **Method of Calculation**

The computations of the effective tax rate, tax per subscriber, and annual tax revenue for each

service (video, voice, and Internet access) and tax depended on the data source and level of detail. The calculation method described below was employed for all three means of service delivery: cable, wireline, and wireless.

### *1. Annual Tax Revenue*

If the amount of annual tax revenue is available, BHI divided this figure by the number of subscribers and divided this result by 12 to obtain the estimate of the monthly tax paid per subscriber. For example, the franchise fee for Montgomery, AL was computed: ( $\$1.3 \text{ million reported annual tax revenue} / 44,413 \text{ subscribers}$ )/12 months = \$2.43 monthly tax per subscriber. We calculate the effective tax rate by dividing the average bill by the tax per subscriber (Montgomery, AL:  $\$2.43 \text{ tax per subscriber} / \$52.36 \text{ average cable bill} = 4.6 \text{ percent}$ ).

### *2. Tax Rate*

If the percentage tax rate is available, BHI multiplied the average bill by the percentage rate to obtain the monthly tax per subscriber. For example, the franchise fee for Sacramento, CA was computed:  $\$52.36 \times 5 \text{ percent} = \$2.62 \text{ tax per subscriber}$ . The annual tax revenue was calculated by multiplying the tax per subscriber figure by the number of subscribers and 12 months (Sacramento, CA:  $\$2.62 \times 100,397 \times 12 = \$3.16 \text{ million}$ ).

The percentage rate for some taxes (franchise fees in particular) applies to the firm's gross revenues, while others apply to the customer's bill. In the absence of any figure for gross revenues, we computed the annual revenue by using the average monthly bill as a proxy, multiplying the monthly bill by the tax rate and multiplying the result by the number of subscribers.

### *3. Tax per Subscriber*

If the monthly dollar amount paid per subscriber is available then BHI used it directly in the tax per subscriber column. The calculations for the effective tax rate and the annual tax revenue remain the same as in the previous two paragraphs.

### *4. Data Discrepancies*

In some instances, BHI collected data from different sources that provided conflicting results. In these cases, we used the revenue calculation that, in our opinion, provided the most reasonable result.

The COST and Mackey studies report the tax rate or flat dollar amount as either a single rate (e.g., \$0.50), a range (e.g., 5 percent to 10 percent), or broken out by city (5 percent for City A, 10 percent for City B). In the case of a flat rate or amount, BHI applied the reported figure to both the capital and largest city. In the case of a range, we apply the midpoint of the range (7.5 percent) to both cities to calculate the other values. If COST or Mackey report values that were

broken out for each city, then these are applied to the respective cities.

In some cases there exist discrepancies between the values reported by COST and Mackey for the same tax and city. We use the values reported by COST for taxes and fees that apply to wireline telephone services and those reported by Mackey for taxes and fees that apply to wireless services.

## **Appendix 2: National Average General Sales Tax**

The Tax Foundation was asked to calculate the national average general sales tax in the U.S., to provide a figure against which the tax on communication services could be compared. Using its own database of state, county, and local sales taxes, it compiled total state sales tax rates, determined the percentage of national personal income affected by each state’s taxes, and calculated a weighted average tax rate. The conclusion: The national average combined sales tax rate is 6.61 percent. Figure 14 presents the data used for this estimate.

**Figure 14**  
**Determination of a National Average Sales Tax Rate**  
**Weighted by Personal Income**

| <b>State</b> | <b>Sales Tax Rate (%)</b> | <b>Personal Income (\$)</b> | <b>% of Personal Income</b> | <b>Weighted Rate (%)</b> |
|--------------|---------------------------|-----------------------------|-----------------------------|--------------------------|
| Alabama      | 6.6689                    | 144,063,125                 | 0.0133                      | 0.0886                   |
| Alaska       | 3.1366                    | 25,030,875                  | 0.0023                      | 0.0072                   |
| Arizona      | 7.7518                    | 194,080,375                 | 0.0179                      | 0.1388                   |
| Arkansas     | 7.5130                    | 78,875,750                  | 0.0073                      | 0.0547                   |
| California   | 7.7517                    | 1,416,227,500               | 0.1307                      | 1.0129                   |
| Colorado     | 4.5072                    | 184,417,250                 | 0.0170                      | 0.0767                   |
| Connecticut  | 6.0000                    | 175,115,375                 | 0.0162                      | 0.0969                   |
| Delaware     | 0.0000                    | 33,205,625                  | 0.0031                      | 0.0000                   |
| Florida      | 6.4462                    | 651,143,250                 | 0.0601                      | 0.3873                   |
| Georgia      | 5.1027                    | 299,965,875                 | 0.0277                      | 0.1412                   |
| Hawaii       | 4.0000                    | 46,547,375                  | 0.0043                      | 0.0172                   |
| Idaho        | 6.0000                    | 43,940,125                  | 0.0041                      | 0.0243                   |
| Illinois     | 7.5460                    | 492,548,875                 | 0.0454                      | 0.3429                   |
| Indiana      | 6.0000                    | 205,783,750                 | 0.0190                      | 0.1139                   |
| Iowa         | 6.0689                    | 100,246,125                 | 0.0092                      | 0.0561                   |
| Kansas       | 6.8164                    | 96,268,000                  | 0.0089                      | 0.0605                   |
| Kentucky     | 6.0000                    | 124,049,875                 | 0.0114                      | 0.0687                   |
| Louisiana    | 8.3198                    | 133,489,875                 | 0.0123                      | 0.1025                   |

| State                          | Sales Tax Rate (%) | Personal Income (\$) | % of Personal Income | Weighted Rate (%) |
|--------------------------------|--------------------|----------------------|----------------------|-------------------|
| Maine                          | 5.0000             | 42,998,750           | 0.0040               | 0.0198            |
| Maryland                       | 5.0000             | 248,619,750          | 0.0229               | 0.1147            |
| Massachusetts                  | 5.0000             | 295,732,750          | 0.0273               | 0.1364            |
| Michigan                       | 6.0000             | 343,050,500          | 0.0317               | 0.1899            |
| Minnesota                      | 6.7320             | 200,716,750          | 0.0185               | 0.1247            |
| Mississippi                    | 7.0000             | 77,398,125           | 0.0071               | 0.0500            |
| Missouri                       | 6.0208             | 192,141,375          | 0.0177               | 0.1067            |
| Montana                        | 0.0000             | 28,711,000           | 0.0026               | 0.0000            |
| Nebraska                       | 6.3549             | 61,236,875           | 0.0057               | 0.0359            |
| Nevada                         | 9.4254             | 93,012,750           | 0.0086               | 0.0809            |
| New Hampshire                  | 0.0000             | 51,999,625           | 0.0048               | 0.0000            |
| New Jersey                     | 6.0000             | 406,538,750          | 0.0375               | 0.2251            |
| New Mexico                     | 6.3934             | 57,982,750           | 0.0054               | 0.0342            |
| New York                       | 8.2372             | 817,206,750          | 0.0754               | 0.6211            |
| North Carolina                 | 7.0628             | 284,344,625          | 0.0262               | 0.1853            |
| North Dakota                   | 5.6531             | 20,817,500           | 0.0019               | 0.0109            |
| Ohio                           | 6.7479             | 382,978,250          | 0.0353               | 0.2384            |
| Oklahoma                       | 6.8842             | 115,105,125          | 0.0106               | 0.0731            |
| Oregon                         | 0.0000             | 124,045,125          | 0.0114               | 0.0000            |
| Pennsylvania                   | 6.1194             | 455,575,250          | 0.0420               | 0.2572            |
| Rhode Island                   | 7.0000             | 39,945,500           | 0.0037               | 0.0258            |
| South Carolina                 | 5.4849             | 127,639,000          | 0.0118               | 0.0646            |
| South Dakota                   | 4.8003             | 26,725,250           | 0.0025               | 0.0118            |
| Tennessee                      | 9.3500             | 195,626,500          | 0.0181               | 0.1688            |
| Texas                          | 7.0989             | 805,403,500          | 0.0743               | 0.5275            |
| Utah                           | 6.3051             | 73,719,500           | 0.0068               | 0.0429            |
| Vermont                        | 6.0000             | 21,245,750           | 0.0020               | 0.0118            |
| Virginia                       | 5.0000             | 300,256,000          | 0.0277               | 0.1385            |
| Washington                     | 8.4899             | 238,152,000          | 0.0220               | 0.1866            |
| West Virginia                  | 6.0000             | 50,003,750           | 0.0046               | 0.0277            |
| Wisconsin                      | 5.3755             | 193,449,750          | 0.0178               | 0.0959            |
| Wyoming                        | 5.2957             | 20,879,250           | 0.0019               | 0.0102            |
| <b>Sum (weighted average):</b> |                    |                      |                      | <b>6.6070</b>     |

Source: Tax Foundation, original research provided to the authors on February 15, 2007.

## About the Authors

### **DAVID G. TUERCK, PH.D.**

*Executive Director, Beacon Hill Institute at Suffolk University*

**David G. Tuerck** serves as professor and chairman of the Department of Economics at Suffolk University in Boston, Massachusetts. Dr. Tuerck holds a doctorate in economics from the University of Virginia. His dissertation director was James M. Buchanan, Nobel Laureate in Economics.

Dr. Tuerck founded and serves as executive director of the Beacon Hill Institute (BHI), a nonprofit research and education organization affiliated with Suffolk University. He is the principal coauthor of scores of reports in recent years on the economic impact of state tax changes, prescription drug importation, and tort reform, and studies of the economics of municipal broadband initiatives.

Prior to joining Suffolk University in 1982, he was a director in the Economic Analysis Group at Coopers & Lybrand, Washington, DC. Prior to that, he served as director of the Center for Research and Advertising at the American Enterprise Institute.

### **PAUL BACHMAN**

*Director of Research, Beacon Hill Institute at Suffolk University*

**Paul Bachman** is director of research at the Beacon Hill Institute. He holds a Master of Science degree in international economics from Suffolk University and a Bachelor of Arts degree in politics from St. Joseph's University in Philadelphia.

### **STEVEN TITCH**

*Senior Fellow, The Heartland Institute*

**Steven Titch** is recognized internationally as one of today's top communication journalists and analysts. Titch became a Heartland Institute senior fellow in April 2004. He is also managing editor of *IT&T News*, Heartland's monthly publication for state legislators and policymakers on communication and information technology issues.

Titch previously was editorial director of *Telephony* magazine and its international spin-off, *Global Telephony*. Titch planned and executed *Telephony's* mid-90's turnaround and its 1996 redesign and relaunch. He also was founding editor of *Global Telephony*. While at *Telephony*, Titch authored several major investigative articles about the industry, including "Blind Faith" (September 1997) on the troubled commercial introduction of CDMA wireless technology worldwide. The article was a runner-up in its publication revenue group for a Jesse H. Neal Award for best business-to-business magazine article of the year.

Titch's experience as a communication industry journalist goes back to 1980, when he started his career as associate editor-telecommunications at *Electronic News*. He was founding editor of

*Cellular Business* (now *Wireless Review*), which in 1984 was the first business-to-business publication serving the nascent wireless industry, and Midwest Bureau Chief for *Communications Week* (now *Internet Week*).

**JOHN RUTLEDGE, PH.D.**

*Senior Fellow, The Heartland Institute*

**John Rutledge**, a senior fellow with The Heartland Institute, is chairman of Rutledge Capital and president of Mundell International University of Entrepreneurship in Beijing. He is also a board member of the Progress and Freedom Foundation and a senior fellow at the Pacific Research Institute.

Dr. Rutledge appears weekly on “Forbes on Fox” and on CNBC’s “Kudlow and Company.” He wrote the Business Strategy column for *Forbes* for more than a decade and now writes for Forbes.com, TheStreet.com, and *China Daily*. He also authors the Rutledge Blog on economic and technology issues at [www.rutledgeblog.com](http://www.rutledgeblog.com).

Dr. Rutledge is one of the principal authors of the U.S. Chamber of Commerce study on telecommunications reform and has written two books and hundreds of articles for *The Wall Street Journal*, the *American Spectator*, *Barron’s*, *Forbes*, *Fortune*, *National Review*, *Financial Times*, *U.S. News and World Report*, *Business Week*, and other publications. He has testified before congressional committees on tax, telecom, and technology issues and has advised government officials in the U.S., U.K., Ireland, and Kuwait.

Dr. Rutledge served on the faculties of Tulane University and Claremont McKenna College, where he taught monetary economics, international finance, and econometrics. In 1978, Dr. Rutledge founded the Claremont Economics Institute, an economic advisory business in Claremont, California. He holds a B.A. from Lake Forest College and a Ph.D. from the University of Virginia.

**PEER REVIEW**

The study was edited and put through peer review by **Joseph Bast**, president and CEO of The Heartland Institute, publisher of *IT&T News*, and author or editor of four policy studies on municipal broadband. He has made presentations on telecommunications policy to the National Governors Association, American Legislative Exchange Council, SuperComm 2005, Telecom Association of Michigan, Santa Barbara Industrial Association Economic Symposium, and State Policy Network.

The following individuals participated in the peer review of this report:

**Barry Aarons**, Research Fellow, Institute for Policy Innovation

**Jerry Ellig**, Director of the Regulatory Studies Program, Mercatus Center at George Mason University

**Michael Hicks**, Research Professor, Center for Business and Economic Research at Marshall

University

**Scott R. Mackey**, economist and partner, Kimbell Sherman Ellis LLP

**Bill Peacock**, Director, Center for Economic Freedom at the Texas Public Policy Foundation

The authors alone are responsible for any errors that might remain in the report.

## **About The Heartland Institute**

The Heartland Institute is an independent national nonprofit organization based in Chicago. Founded in 1984, it originally focused on Illinois issues. Over the years, Heartland evolved into a regional and now a national organization providing information to the nation's 8,300 state and national elected officials and more than 8,400 local officials. It has a staff of 30 and a 2007 budget of \$4.5 million.

Heartland operates *PolicyBot*, a Web-based clearinghouse for the work of some 350 think tanks and advocacy groups. Approximately 18,000 documents are available from the service for free. Heartland publishes five monthly newspapers as well as occasional books, policy studies, and shorter essays. Some 450 elected officials serve on Heartland's Legislative Advisory Board, and 100 academics and economists serve on a Policy Advisory Board.

Heartland welcomes your support as a member or donor. Memberships start at just \$29 a year, and additional contributions are tax deductible. For more information, visit its Web site at [www.heartland.org](http://www.heartland.org), call 312/377-4000, or write to The Heartland Institute, 19 South LaSalle Street #903, Chicago, Illinois 60603.

## **About the Beacon Hill Institute**

Founded in 1991, the Beacon Hill Institute (BHI) is the research arm of the Department of Economics at Suffolk University in Boston. The institute draws on faculty and student resources to produce readable, timely analyses of policy issues. It distributes its research to interested citizens and to key opinion leaders and policymakers through various print and electronic media, including its quarterly newsletter, *BHI NewsLink*; policy studies; *BHI FaxSheets*; policy forums; opinion editorials; radio and TV interviews; and its Web site ([www.beaconhill.org](http://www.beaconhill.org)).

Since its founding, BHI has employed its capabilities to acquire a reputation, not only in Massachusetts but also in other states and abroad, for its concise and incisive policy analyses. BHI's most notable accomplishments include:

- Constructing more than 25 STAMP models for states and cities across the nation. STAMP is a computer program designed to provide the user with the ability to perform tax policy "simulations" – analyses of how hypothetical tax changes will affect the state economy.

- Training undergraduate and graduate students in the application of market-based economics to public policy issues.
- Providing testimony before the U.S. Congress and the legislatures of Massachusetts, New Hampshire, Florida, Rhode Island, and Arizona.

BHI publications and events have been the subject of more than 1,000 reports, stories and opinion pieces in major newspapers and magazines across the United States, including the *Boston Globe*, *Boston Herald*, *Christian Science Monitor*, *Chronicle of Philanthropy*, *Financial Times*, *Los Angeles Times Magazine*, *New Republic*, *Newsweek*, *The New York Times*, *U.S. News and World Report*, *Wall Street Journal*, and *Washington Times*. Coverage in the electronic media includes ABC World News Tonight, C-SPAN, CBS Evening News, CNBC, Fox News, MSNBC, National Public Radio, and all major Boston radio and TV stations as well as AP, UPI, Reuters, and Bloomberg wire services.



**The Heartland Institute**

19 South LaSalle Street #903

Chicago, Illinois 60603

phone 312.377.4000 ● fax 312.377.5000 ● e-mail: [think@heartland.org](mailto:think@heartland.org)

Web: <http://www.heartland.org>

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