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### Should Local Governments Sell Local Spatial Databases Through State Monopolies?

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# SHOULD LOCAL GOVERNMENTS SELL LOCAL SPATIAL DATABASES THROUGH STATE MONOPOLIES?

Henry H. Perritt, Jr.\*

**ABSTRACT:** Local governments should resist the temptation to establish monopolies to exploit their spatial databases. Realizing the potential of new technology for this type of public information requires a policy assuring equal access to public geographic information in electronic formats, and promoting a diversity of sources and channels for the data. A number of legal doctrines reinforce these two foundational elements of public information policy. Public entities need not give their information resources away. They can recover their costs, but they should recover only marginal costs of dissemination, allowing the public to benefit from its investment in the fixed costs of data collection and organization.

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The Administration's National Information Infrastructure initiative and the commercialization of the Internet create an environment in which Geographic Information Systems (GISs) can realize their potential.<sup>1</sup> For that potential to be realized, however, private sector electronic publishers and individual citizens must have access to basic geographic data collected by public entities. Public entities need not give away their data without

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1. Exec. Order No. 12,906, 3 C.F.R. 882 (1994), links the National Information Infrastructure and spatial data.

recovering the cost of dissemination, but they must not set up monopolies to enable themselves or favored contractors to earn a profit from information collected and organized at taxpayer expense or to finance particular value-added elements at the expense of competitive access to those elements.

Publishers long have earned a return selling public information, and this opportunity tempts governments and their contractors to restrict access to increase revenues. More generally, the prospect of selling government information raises a number of legal, policy, and economic issues. For example, if the government gives or sells public information below cost, it may undermine market opportunities for private vendors. This is undesirable, because any system of dissemination of public information depends to some degree on the private sector. If the government eliminates competing sources of public information, it raises the price and creates the possibility that the government will control knowledge of its operations.

The temptations are the same and the legal issues similar at federal, state, and municipal levels of government in the United States and, indeed, in Europe.<sup>2</sup> This article focuses on the local level and on a particular type of information: spatial databases. Local-level spatial data will be one foundation for the emerging national spatial data infrastructure. Furthermore, this article explains why equal access must be the centerpiece of an information policy for GISs at federal, state, and local levels. It identifies the legal obligations of agencies to provide access to geographic information in electronic formats and argues that agencies are not entitled to copyright such information collected at taxpayer expense or to arrange for their contractors to copyright it. Finally, it shows how agency policy and private entrepreneurial strategy can function effectively in an electronic marketplace with a diversity of sources and channels for this important type of public information.<sup>3</sup>

## I. TECHNOLOGIES FOR PUBLISHING PUBLIC INFORMATION

Publications containing public information have distinct attributes of value for users. At the core is raw *content*. This is the basic message or data, with nothing added to help users find, retrieve, keep, or browse for

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2. See Henry H. Perritt, Jr., *Commercialization of Government Information: Comparisons between the European Community and the United States*, 4 INTERNET RESEARCH, Summer 1994, at 7.

3. Certain parts of the legal analysis of this article overlap a companion article published in the William & Mary Bill of Rights Journal, dealing with legal rights to access public information of all kinds. Henry H. Perritt, Jr., *Sources of Rights to Access Public Information*, 4 WM. & MARY BILL OF RIGHTS J. 179 (1995).

particular pieces of information.<sup>4</sup> Virtually all information products have something added to the raw content. Most products have at least some *chunking and tagging value* added. Print technologies accomplish this with page breaks, running headers and footers, and headlines and subtitles. Digital computer technologies use record and file boundaries, paragraph breaks and computer readable tags that can be pointed to from somewhere else. In spatial databases, the database schema and record definitions represent chunking and tagging value. More sophisticated products also have *pointers*, either pointers to other parts of the same document, as in a table of contents or index or cross reference (internal pointers), or pointers to another document, as in a conventional footnote reference, or an HTML reference to another resource on the Internet World Wide Web (external pointers). Beyond that are less tangible value-added features, like an extra copy (which provides *duplication value*), availability at another location (*distribution value*), *integrity assurance*, *billing and collection value*<sup>5</sup> and *promotion*.<sup>6</sup>

With print publishing technologies, the publisher bundles most of these attributes of value, and the consumer buys the entire bundle. Digital computer technologies, particularly as they are implemented or distributed on open systems like the Internet, permit unbundling of the attributes of value. One supplier may supply only raw content; another may supply value-added attributes such as pointers that the user combines with the raw content on demand;<sup>7</sup> still others might make available billing, collection, and promotion value.

Geographic Information Systems illustrate the bundling phenomenon in another way. A sophisticated GIS includes layers of content as well as

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4. An example would be an ASCII file (readable by any desktop computer word processing program) consisting of the text of a statute.

5. Billing and collection value might seem to shift points of view because it is more valuable to the seller than to the purchaser. On the other hand, the presence of billing and collection value makes it easier for the purchaser to buy something on the spot and therefore can be a form of value to the purchaser as well.

6. Marketing represents *promotion value*. The array of added value elements is described more fully in Henry H. Perritt, Jr., *Unbundling Value in Electronic Information Products: Intellectual Property Protection for Machine Readable Interfaces*, 20 RUTGERS COMP. & TECH. L.J. 415 (1994).

7. A page on a World Wide Web server or a cluster of Gopher menu items are examples of pure pointers. World Wide Web and Gopher are applications for information organization and retrieval on the Internet.

8. Marvin A. Sirbu and other researchers at Carnegie Mellon University have proposed a billing and collection server that would use public key encryption to facilitate charging for resources obtained through the Internet. See Marvin A. Sirbu, *Internet Billing Service Design and Prototype Implementation*, in PROCEEDINGS, TECHNOLOGICAL STRATEGIES FOR PROTECTING INTELLECTUAL PROPERTY IN THE NETWORKED MULTIMEDIA ENVIRONMENT 67 (1994) (Harvard Kennedy School of Government & MIT Program on Digital Open High-Resolution Systems).

distinct value-added elements. For example, a typical product has a base layer of land survey information, frequently in the form of a spatial database. Other layers of information in a GIS often include land ownership information,<sup>9</sup> utility easements, land use restrictions, cultural features (roads and structures), and topographic information. In conventional technologies, it is appropriate to think of each content layer as a transparent overlay. Taken together, they make up a value-added bundle.

Just as Internet technologies make it possible to unbundle value-added elements and content, they also make it possible to unbundle related content layers. Thus, it is theoretically possible in an Internet-like architecture for one supplier to offer land records by placing them on a server connected to the Internet, for a second supplier to offer survey information on another server, and for a third supplier to offer utility easement information on a third server. A user desiring one or more of these content layers can assemble them along with value-added elements pertaining to retrieval of information for particular geographic areas, presentation features and other value-added elements and bundle them as desired. Suppliers can offer a subset of the total set of content layers and value-added elements, allowing the consumers to assemble a total bundle, or they can bundle a complete product, using the Internet as a kind of assembly line for just-in-time inventory management and production.

When raw governmental information is accessible to all producers of value-added products, the economics of publishing change dramatically, leading to a more competitive marketplace with lower barriers to entry. With Internet technology, a potential publisher needs only enough capital to establish a server that adds a particular type of value. The Internet thus provides demand economies of scope.<sup>10</sup> A good example of the attractiveness of Internet technology is the "Thomas" system, established by the Library of Congress to make Congressional materials available in full text. Established in a matter of weeks, Thomas uses a World Wide Web

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9. Depending on how the state keeps its land records, the ownership records may be the basic layer, with survey information following.

10. Economies of scope exist when the per unit cost is lower for a greater variety of unit types that are available from the same supplier. Demand economies of scope exist when economies of scope exist from the purchaser's perspective. In other words, in traditional publishing, demand economies of scope exist for a bookstore because a user faces lower per unit transaction cost when buying several items at once from a single, well stocked bookstore instead of searching through a series of bookstores. See F. SCHERER & D. ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 100-02 (3d ed. 1990) (explaining economies of scope). See generally David J. Teece, *Economies of Scope and the Scope of the Enterprise*, 1 J. ECON. BEHAV. & ORG. 223 (1980) (enterprise scope determined by transaction costs and realization of economies associated with simultaneous supply of inputs common to processes for producing distinct outputs); David J. Teece, *Towards an Economic Theory of the Multiproduct Firm*, 3 J. ECON. BEHAV. & ORG. 39 (1982) (exploring economies of scope for different inputs).

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technology on the Internet.<sup>11</sup> In contrast to a more limited service that took the Government Printing Office years to establish using mostly dial up access, Thomas is free.<sup>12</sup>

The Government Information Locator System (GILS), adopted by the executive branch of the federal government in December 1994, is a good model for how public agencies should participate in the National Information Infrastructure. The system is built on top of an international standard known as Z39.50, colloquially referred to as Wide Area Information Service (WAIS).<sup>13</sup> This standard makes it possible for a supplier to describe information in a standard header. The information content and its header are made available on servers connected to the Internet. Then, any potential user of the information can search all Z39.50 compliant information servers throughout the Internet, selecting only those items of interest. The Z39.50 standard by itself does not represent a database schema, but it comfortably accommodates database schemas as a part of the associated information product. The United States Geological Survey has been one of the earliest and most effective advocates of the Z39.50 approach to GILS.<sup>14</sup>

For the approach to work, participants must adhere to common standards so that the different content layers and value-added elements relate to each other correctly. At the most basic level, standardization means that the different content layers must have a common reference to spatial coordinates. Only then can the road that runs through the corner of a particular parcel and the easement that runs alongside it be correctly overlaid.

In the short run, the requisite standardization for completely disaggregating product bundles on a commercialized Internet is unlikely.<sup>15</sup> This lack, however, does not reduce the desirability of having the publicly owned pieces of the bundle freely available. Availability of basic survey and land ownership information enables a variety of entrepreneurs to relate other, privately acquired elements to the basic publicly collected information.

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11. See <http://thomas.loc.gov/>.

12. See generally *Gingrich Inaugurates Thomas: Republicans to Rethink Access to Government Info*, ELECTRONIC PUBLIC INFORMATION NEWSLETTER, Jan. 13, 1995, at 1-3 (describing Thomas system, running on an RISC-Chip Unix platform operating through a T1 connection to the Internet).

13. WAIS is a proprietary name owned by certain entrepreneurs originally associated with Thinking Machines Corporation.

14. This is significant for extension of the GILS model into the broad family of GIS information. Elliot Christian, of USGS was the principal architect and proponent of the GILS approach finally adopted. USGS has made available for free or at very low prices a variety of videotapes and other training materials on the Internet and on GILS.

15. See Henry H. Perritt, Jr., *Format and Content Standards for the Electronic Exchange of Legal Information*, 33 JURIMETRICS J. 265 (1993).

Conversely, if public agencies set up monopolies, they limit consumers and citizens to the ideas and value-added features of only one entrepreneur.

## II. THE TEMPTATION

Geographic information is an especially valuable type of public information. Land developers, those concerned with siting environmentally sensitive facilities, and public utilities pay substantial sums for integrated spatial databases. In many cases, profit-seeking entities collect much of the data necessary to an integrated spatial database. At the same time, government agencies, including those charged with collecting and maintaining geographic information like land records and survey information, face stringent budget constraints. As a result, it is natural for public agencies to suppose that they can ease their budget pressures and serve their publics better by appropriating some of the potential revenue stream; they can sell their information. Beyond that, it is natural for them to suppose that the quality of results and perhaps also the size of revenue stream can be increased by "partnerships" with private entities.

Unfortunately, this is but a short step away from imposing restrictions on what other vendors and distribution channels can do. Most public agencies responsible for geographic information have either a natural or de jure monopoly on the information. Monopolists perceive that they can increase their total revenue stream by setting prices higher than they would be in a competitive market. Monopolists also are tempted to extend their monopolies into downstream markets. Thus, public agency decisionmakers, behaving like rational monopolists in the private sector, implement their partnership aspiration by prohibiting private sector competition with their chosen partners. The result is a state monopoly that limits economic and technological benefits to a broad range of potential distributors of the public information. And, as the monopolies are extended downstream by exclusive "partnerships," they block competition in a variety of rapidly changing and diverse markets for value-added information products.

There may be theoretical circumstances of economies of scale and other determinants of natural monopoly in which such arrangements would be economically efficient.<sup>16</sup> However, such situations are rare and difficult to identify<sup>17</sup> because the pace of technology and the fragmentation of the

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16. *Alaska Airlines v. United Airlines*, 948 F.2d 536, 548 (9th Cir. 1991) (antitrust law tolerates efficient monopolies and natural monopolies; rejecting monopoly leveraging attack on computerized airlines reservation); Rudolph J. Peritz, *A Counter-History of Antitrust Law*, 1990 DUKE L.J. 263, 304; Comment, *Unestablished Businesses and Treble Damage Recovery under Section Four of the Clayton Act*, 49 U. CHI. L. REV. 1076, 1097 n. 55 (1982).

17. See Thomas W. Hazlett, *Duopolistic Competition in Cable Television: Implications for Public Policy*, 7 YALE J. REG. 65, 117 (1990) (transaction costs of identifying efficient

market<sup>18</sup> tend to result in many vendors specializing in products or particular market segments. Moreover, there is no reason to suppose that public decisionmakers are better than consumers and entrepreneurs in picking technologies and product design; yet, that is exactly what they do to set up exclusive arrangements. The best market structure is one in which everyone is free to follow his or her instincts in commercializing new technologies and developing markets. The best information policy is one with a diversity of channels and sources for geographic information. Happily, that information policy is one that coincides with legal entitlements to access.

### **III. RESISTING THE TEMPTATION: INFORMATION POLICY PRINCIPLES**

To realize the potential of geographic information systems, federal, state, and local governments must honor two policies. First, whenever feasible, they must make electronic formats available. Second, they must allow and promote a diversity of channels and sources of public information.<sup>19</sup>

The first principle, that electronic formats should be made available, is consistent with a 1990 policy statement of the American Bar Association,<sup>20</sup> recommendations from the Administrative Conference of the United States,<sup>21</sup> policies adopted by the President's Office of Management and Budget,<sup>22</sup> and

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monopoly are high, especially because of the "moral hazard" of franchising agents eager to justify exclusive arrangements).

18. Market fragmentation is a natural result of the possibility of unbundling in new technological environments.

19. See generally Henry H. Perritt, Jr., Public Information in the National Information Infrastructure, Report to the Regulatory Information Service Center, General Services Administration, and to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, May 20, 1994 (available electronically through the Internet on the Villanova Information Law Chronicle, <http://www.law.vill.edu>).

20. ABA Recommendation No. 102, adopted by the American Bar Association House of Delegates, Aug. 1990 (guidelines for applying Freedom of Information Act to electronic formats); ABA Recommendation No. 109C, adopted by the House of Delegates of the American Bar Association, Aug. 12-13, 1991 (guidelines for federal and state agency dissemination of public information in electronic form). Both ABA recommendations are available at <http://www.law.vill.edu/Aba/adminlaw.html>.

21. Federal Agency Use of Computers in Acquiring and Releasing Information, 1 C.F.R. § 305.88-10 (1993); Henry H. Perritt, Jr., *Electronic Acquisition and Release of Federal Agency Information: An Analysis of ACUS Recommendations*, 41 ADMIN. L. REV. 253 (1989) (explanation of Recommendation 88-10 by its principal author); Henry H. Perritt, Jr., *Federal Electronic Information Policy*, 63 TEMPLE L. REV. 201 (1990) (elaboration of Freedom of Information Act concepts developed in Recommendation 88-10).

22. 58 Fed. Reg. 36068 (July 2, 1993). In late 1994, OMB also released draft guidelines for applying FOIA to electronic formats.



legislation passed by the Senate in 1994,<sup>23</sup> and expected to be reintroduced in the 104th Congress in 1995. To deny public access to electronic formats denies the public the benefits of public record formats paid for with public funds. Moreover, by increasing the cost of search and retrieval, it impairs public accessibility to public information. Indeed, without an electronic format, some records are practically unavailable.

The need for a diversity of sources and channels of information is based on the fact that no one supplier can design modern information products to suit the needs of all users. Any state-maintained or granted monopoly over public information is inimical to this diversity principle.<sup>24</sup>

One objection to these policies might be that they can lead to an information regime that seems to subsidize private sector activities. In evaluating this concern, it is important to distinguish between making information and value-added features already developed with taxpayer money for pursuit of agency missions available, and using new money to finance things of use only to particular private sector vendors. The former is not subsidization; it is allowing the public access to something it already has paid for.

#### **IV. LEGAL FRAMEWORK FOR PUBLIC ACCESS TO PUBLIC INFORMATION**

The law reinforces the two policies. As this section demonstrates, Freedom of Information acts entitle everyone to electronic formats when they exist, and they contravene exclusive arrangements.<sup>25</sup> Intellectual property law does not permit copyrights in basic public information. The First Amendment invalidates most restrictions on competitive publishing. Antitrust law is suspicious of state monopolies. Substantive due process and dormant Commerce Clause analysis subjects exclusive arrangements to close scrutiny.

##### **A. Freedom of Information Acts**

Federal and state Freedom of Information (FOI) acts grant a right to obtain and copy records held by governmental entities. At the federal level,

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23. S. 1782 (To Amend Title 5, United States Code, to Provide for Public Access to Information in an Electronic Format), passed the Senate on August 25, 1994. 140 Cong. Rec. D1046-02, Aug. 25, 1994.

24. See 44 U.S.C. § 3506(d), as amended by Paperwork Reduction Act of 1995, Pub. L. 104-13, 104th Cong., 1st Sess., 109 Stat. 163 (May 22, 1995) (requiring diversity and prohibiting exclusive arrangements); Committee on Government Operations, House of Representatives, *Electronic Collection and Dissemination of Information by Federal Agencies: A Policy Overview*, H.R. Rep. No. 560, 99th Cong., 2d Sess. 2 (1986) (criticizing exclusive arrangements preventing access to government information in electronic form).

25. 5 U.S.C. § 552 (1988).

the Freedom of Information Act (FOIA) extends to virtually all records held by federal agencies outside the judicial and legislative branches of government, including electronic formats. The FOIA is interpreted broadly, and its exemptions narrowly.<sup>26</sup> The purpose for which one requests an agency record is irrelevant. Thus, the FOIA entitles private redisseminators to public information notwithstanding agency efforts to block access in order to support exclusive distribution arrangements. In this way, it undercuts possible efforts to establish information monopolies.

This conclusion cannot be avoided by arguing that an agency has no duty to disclose electronically formatted information when the information is available in a paper format. In *Department of Justice v. Tax Analysts*,<sup>27</sup> The opinion also suggests that the existence of private property interests in electronic formats do not necessarily preclude the content from being "agency records."<sup>28</sup> Likewise, in *Armstrong v. Executive Office of the President*, the Court of Appeals for the D.C. Circuit held that under the federal records acts,<sup>29</sup> paper printouts of electronic communication systems are no substitute for the electronic records themselves.<sup>30</sup> From these cases, it is but a small step to the conclusion that the greater utility and accessibility of electronic formats justifies obligating agencies to disclose them when FOIA requesters prefer them.<sup>31</sup>

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26. See *John Doe Agency v. John Doe Corp.*, 493 U.S. 146, 151-52 (1989) (reiterating basic principle but finding that records requested by defense contractor were within law enforcement exemption even though not originally created for law enforcement purposes); *Dep't of Justice v. Tax Analysts*, 492 U.S. 136, 142 n.3 (1989) (burden on agency to show that requested records not within FOIA); *Assembly v. Dep't of Commerce*, 968 F.2d 916, 920 (9th Cir. 1992) (reiterating pro-disclosure policy of FOIA and affirming order that Commerce Department disclose computer tapes with census figures).

27. 492 U.S. 136 (1989) (requiring Department of Justice to make available under FOIA copies of district court decisions in its possession).

28. Justice Blackmun, the lone dissenter, thought that FOIA was not the appropriate vehicle for a commercial enterprise to obtain access to its raw material. 492 U.S. at 156, 157 (Blackmun, J., dissenting). The rejection of Justice Blackmun's views strengthens the inference that the FOIA is an appropriate vehicle for private publishers to obtain access to basic content for their publications.

29. *Tax Analysts* recognized the appropriateness of borrowing definitions from records preservation statutes in interpreting the FOIA. 492 U.S. at 145 (quoting 44 U.S.C. § 3301 (1989)).

30. 1 F.3d 1274, 1282-83 (D.C. Cir. 1993) (electronic versions were not merely extra copies of paper versions because electronic records contain certain additional data); *id.* at 1286-87 (same).

31. *Cf. Armstrong v. Executive Office of the President*, 810 F. Supp. 335, 341 (D.D.C.) (enumerating features of electronic records not present in paper printouts of same records), *aff'd*, 1 F.3d 1274 (D.C. Cir. 1993). Many state courts have construed their FOIAs in this fashion. *Cf. Petroleum Information Corp. v. U.S. Dep't of the Interior*, 976 F.2d 1429, 1437 (D.C. Cir. 1992) (affirming order that agency disclose legal land description computer database file, and rejecting argument that the Department of the Interior need not provide magnetic tape

Although state public records laws are not identical to FOIA, and state courts may interpret similar language differently, there is broad agreement on certain basic propositions. First, electronic formats are covered by state FOIAs.<sup>32</sup> Second, the requestor can insist on a computer-readable format when the agency has both paper and computer-readable formats available.<sup>33</sup> Third, most state statutes, like the federal FOIA, do not allow for interest balancing or assessing the reason for access.<sup>34</sup> The mere fact that an

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on the ground that the material was available in paper form from other sources and from the agency itself).

32. See, e.g., *Jersawitz v. Hicks*, 448 S.E.2d 352, 353 (Ga. 1994) (real estate deed records on computer tape); *Maher v. Freedom of Information Comm'n*, 472 A.2d 321, 325 (Conn. 1984) (Commission had power to compel agency to disclose computer tapes when requester paid the cost of production, notwithstanding statutory language that referred to disclosure of "printouts"); *Stephan v. Harder*, 641 P.2d 366, 374 (Kan. 1982) (computer file listing names of physicians and amount of public funds paid for abortions); *In re Szik Szay*, 436 N.Y.S.2d 558, 563 (Sup.Ct. 1981) (computerized county assessment rolls); *Minnesota Medical Ass'n v. State*, 274 N.W.2d 84, 88 (Minn. 1978) (computer tapes containing abortion data); *Brownstone Publishers, Inc. v. New York City Dep't of Bldgs*, 560 N.Y.S.2d 642, 643 (App. Div. 1990) (publisher intending to sell computer database on subscription basis entitled to computer formats with statistical information on every parcel of real property in New York City, where agency had proposed printing a million sheets of paper at a cost of \$10,000 for the paper, taking five or six weeks, and having publisher reconvert into computer usable form at a cost of hundreds of thousands of dollars).

33. In *Margolius v. City of Cleveland*, 584 N.E.2d 665 (Ohio 1992), the Ohio Supreme Court emphasized that "a set of public records stored in an organized fashion on a magnetic medium also contains an added value that inherently is a part of the public record. Here, the added value is not only the organization of the data, but also the compression of the data into a form that allows greater ease of public access." *Id.* at 669. "Consider two sets of identical public records kept on paper—one set organized in a file cabinet, and another kept as a random set of papers stacked on the floor. Certainly we would not permit an agency to discharge its responsibility by providing access to random set while precluding the disclosure of the organized set, even though both sets are 'readable' as required by the statute." In *State ex rel. Athens County Property Owners Assoc. v. City of Athens*, 619 N.E.2d at 440, the Ohio court of appeals, relying on *Margolius*, explained:

The basic tenet . . . is that a person does not come—like a serf—hat in hand, seeking permission of the lord to have access to public records. Access to public records is a matter of right. The question in this case is not so much whether the medium should be hard copy or diskette. Rather, the question is "can a government agency, which is obligated to supply public records, impede those who oppose its policies by denying the value-added benefit of computerization?"

*Id.* at 439. The court affirmed an order compelling the city to make its diskettes containing rental property information available to the requesters, noting, however, that to the extent the proprietary software was necessary to make use of the data, the requesters must obtain their own copies of the proprietary software.

Few state FOI statutes obligate an agency to set up new means of access. See *Seigle v. Barry*, 422 So.2d 63, 66 (Fla. App. 1982) (access must be given to computerized data through programs already in use by public agency, but new programs need not be written).

34. The only occasion for considering the commercial nature of a requester's motivation

individual or entity may obtain income from an activity that serves a public purpose does not negate the public nature of the activity. When a commercial publisher disseminates public information, it is serving a public purpose—the very purpose that is the central justification for FOIAs.

In addition to statutory entitlements to public information, many states recognize a common law entitlement. For example, in *Higg-a-Rella, Inc. v. County of Essex*,<sup>35</sup> the New Jersey Supreme Court used such an entitlement to grant access to electronic versions of tax assessment records. However, common law is usually uncertain, both with respect to the kinds of information that can be obtained and the kinds of requests or interests that justify access. Unlike FOIAs, these common law doctrines balance the interest of the requester in obtaining access against the interest of the agency in denying access.<sup>36</sup>

The policies identified earlier support interpreting state records access laws broadly, so that they, like the federal FOIA, extend to all electronic formats and preclude public agency efforts to set up information monopolies.<sup>37</sup>

## **B. Intellectual Property Law**

Section 105 of the Copyright Act disables federal agencies from obtaining a copyright in public information.<sup>38</sup> Although this disability does not extend to state or local agencies, arguments based on the Copyright Act itself and on the copyright and patents clause of the United States Constitution potentially limit state or local copyrights in public information. First, under § 102 of the Copyright Act, copyright does not extend to factual

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is when access rights must be balanced against privacy rights under a privacy exemption to access duties. There, the scope of the privacy exemption depends on whether the invasion of privacy is “unreasonable” or “unwarranted.” *United States Dep’t of Defense v. Federal Labor Relations Auth.*, 114 S.Ct. 1006, 1012 (1994) (to decide whether a record is within exemption 6, a court must “balance the public interest in disclosure against the interest Congress intended the exemption to protect” in order to decide whether the invasion of privacy would be “unwarranted”).

35. Nos. A155/156/157/158/159/178, Sept. Term 1994, 1995 WL 424423 (N.J. July 19, 1995).

36. See Henry H. Perritt, Jr. & James A. Wilkinson, *The Federal Advisory Committee Act After Five Years*, 63 GEO. L. J. 725 (1975).

37. In other words, state records access statutes should be written and applied as prescribed in the 1990 ABA policy statement, as most recent state FOI judicial decisions have done.

38. 17 U.S.C. § 105 (1988).

information.<sup>39</sup> Consequently, no copyright in survey information or basic records of land ownership should be recognized.<sup>40</sup>

Second, Congress lacks the power under the patents and copyrights clause of the Constitution to extend copyright protection beyond that necessary to provide incentives for creative efforts under *Feist v. Rural Telephone Service Co.*,<sup>41</sup> and the many court of appeals opinions recognizing the centrality of the economic incentive.<sup>42</sup> Such incentives are unnecessary for public agencies, since these entities have a statutory duty to collect, organize and disseminate information, such as that represented in spatial databases.<sup>43</sup>

Third, several modern cases, building on a cluster of cases decided in the Nineteenth Century,<sup>44</sup> support the proposition that states may not assert a copyright in some public materials even though copyright statutes seem to permit it. In *Building Officials and Code Administration v. Code Technology, Inc.*,<sup>45</sup> the First Circuit expressed doubt as to whether a privately developed model code subsequently adopted by state legislature could qualify for

39. 17 U.S.C. §102 (1988) allows copyright in "original works of authorship." Facts are outside the scope of this phrase because no original effort is involved with respect to pre-existing facts. Section 102(b) itself states that copyright protection does not extend to "any idea, procedure, process, system, method of operation, concept, principle, or discovery . . . ."

40. See *Mason v. Montgomery Data, Inc.*, 765 F.Supp. 353, 355 (S.D.Tex. 1991) (factual matters such as the abstract, tract boundaries and ownership name and tract size are not copyrightable), *rev'd*, 967 F.2d 135 (5th Cir. 1992) (underlying data could be portrayed in a variety of ways; thus the plaintiff's portrayal in its maps could be protected without preempting free use of the underlying facts).

41. 499 U.S. 340, 354 (1991) (impermissible to create monopoly through copyright without necessary justification of encouraging creation of writings by authors).

42. See, e.g., *National Rifle Ass'n v. Hand Gun Control Federal*, 15 F.3d 559, 561 (6th Cir. 1994) (use of mailing list was fair use; noting that scope of prima facie copyright protection is limited to uses of a work that would undermine the incentive for creation). See also *Sony Corp.*, 464 U.S. at 429 (discussing goals and incentives of copyright protection); *Twentieth Century Music Corp. v. Akin*, 422 U.S. 151, 156 (1975) ("ultimate aim is by this incentive [securing a fair return for author's creative labor] to stimulate artistic creativity for the general public good.").

43. Of course, the principle that copyright protection is unavailable when it is unnecessary does not eliminate copyright protection for value added enhancements to public information as long as they are not supplied in the performance of a public duty. But the enhancements must entail some originality. The Supreme Court in *Feist* specifically rejected the idea that originality can result simply from "sweat of the brow" in gathering facts. Compilations are copyrightable only to the extent of their original selection or arrangement. "A subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement." 499 U.S. at 349.

44. See *Rand McNally & Co. v. Fleet Mgmt. Systems, Inc.*, 591 F.Supp. 726, 736. (N.D. Ill. 1983).

45. 628 F.2d 730 (1st Cir. 1980).

copyright. It reasoned that the public “owns the law” not just because it pays the salaries of those who write the statutes and judicial opinions, but because “each citizen is a ruler, a law-maker,” and therefore “the citizens are the authors of the law.”<sup>46</sup> Beyond that, due process guarantees access because it requires notice of legal obligations.<sup>47</sup> These principles are irreconcilable with permitting a copyright holder to decide when, where, and how the code could be reproduced and made publicly available.<sup>48</sup>

*Georgia v. Harrison Company*<sup>49</sup> directly brought into play the possibility of a copyright by the state as opposed to the assertion of copyright by state contractors in early cases. “The courts of this country have long held that neither judicial opinions or statutes can be copyrighted.”<sup>50</sup> “A state’s ‘ownership’ of its statutes does not preclude anyone from publishing those statutes.”<sup>51</sup> The public must have free access to the state laws, unhampered by any claim of copyright, whether that claim be made by an individual or the state itself.<sup>52</sup>

These recent cases analyzed several cases from the 1800s to support their reasoning and conclusion.<sup>53</sup> In *Wheaton v. Peters*,<sup>54</sup> the Supreme Court stated, “no reporter has or can have any copyright in the written opinions delivered by this court, and . . . the judges . . . cannot confer on any reporter any such right.”<sup>55</sup> *Banks v. Manchester*<sup>56</sup> invalidated a state law which purported to allow an official reporter to obtain a copyright on the opinions of the Ohio Supreme Court. “Work done by judges constitutes the authentic exposition and interpretation of the law . . . [and] is free for publication to all . . . .”<sup>57</sup> In *Nash v. Lathrop*,<sup>58</sup> the Massachusetts Supreme Judicial Court ordered the reporter of decisions to permit a competing publisher to examine and copy opinions in the reporter’s custody.<sup>59</sup>

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46. *Id.* at 734.

47. *Id.*

48. *Id.* at 735.

49. 548 F. Supp. 110 (1982), *vacated*, 559 F.Supp. 37 (N.D. Ga. 1983) (on unanimous request of parties after settlement).

50. *Id.* at 113 (citing early cases).

51. *Id.* at 114.

52. *Id.*

53. *Id.* at 732-34.

54. *Wheaton v. Peters*, 33 U.S. (8 Peters) 591 (1834).

55. *Id.* at 668.

56. *Banks v. Manchester*, 128 U.S. 244 (1888).

57. *Id.* at 253.

58. 6 N.E. 559 (1886).

59. “It is against sound public policy to prevent this, or to suppress and keep from the earliest knowledge of the public the statutes or the decisions and opinions of the justices.” *Id.* at 560.

Two other early federal cases, *Davidson v. Wheelock*<sup>60</sup> and *Howell v. Miller*,<sup>61</sup> held that although the reporter could obtain a valid copyright on his compilation and analysis, anyone could freely copy the laws themselves.<sup>62</sup> So too, in *Matter of Gould & Co.*,<sup>63</sup> the Connecticut supreme court held that the reporter of opinions was not entitled to withhold slip opinions from competing publishers, but must allow the public to make copies without inquiry as to the requester's purpose.<sup>64</sup>

There is, of course, the counter argument that spatial databases held by local governments should escape the restrictions on copyright articulated in these cases concerning statutes and judicial opinions. But spatial databases are the same as statutes and judicial opinions in all legally relevant respects. The rationale of the public-information copyright cases is that basic data for the legal system must be freely accessible and not controlled by any exclusive arrangements. To apply this rationale, one must ask whether the information in question is pertinent to the operation of the legal system. Must citizens have access to understand their rights and obligations? The answer is "yes" with respect to land records. One cannot adhere to zoning regulation unless one knows the classification of particular areas of land. One cannot enjoy the privileges of property ownership and avoid trespassing on others' property unless one knows the boundaries of parcels of land and easements. One cannot participate meaningfully in legislative debates and judicial proceedings concerning land and land use unless one has access to the facts that will determine the outcome of such proceedings. It is hard to see how local spatial databases are any different in this regard from judicial opinions and legislative materials.

### C. Trademark Protection

Unlike copyright, trademark is potentially available to all three levels of government, and it raises fewer problems in implementing the policy precepts. A trademark protects the reputation for quality associated with particular suppliers of goods and services. It does this by reducing the

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60. 27 F. 61 (C.C.D. Minn. 1866) (denying statutory compiler who was "awarded" copyright as the lowest bidder an injunction against competing publication of legislative text).

61. 91 F. 129 (6th Cir. 1898) (affirming denial of injunction against competing publisher of state code). Much of the opinion rejected the defendants' argument that they could not be enjoined from publication because they had been ordered by the state to publish their compilation.

62. The court emphasized that "no one can obtain the exclusive right to publish the laws of a state in a book prepared by him." 91 F. at 137. If one cuts from another's book the general laws of a state and used the pages thus cut, and nothing more from the first work, to prepare a competing compilation, there would be no copyright infringement.

63. 2 A. 886 (Conn. 1885).

64. *Id.* at 890.

likelihood of consumer confusion about the origin of similar products and services.<sup>65</sup> Thus, assuming other statutory criteria are satisfied, a public agency could obtain a trademark for its information products and limit the use of the trademark to its licenses.<sup>66</sup> Conceivably, a local government could obtain a trademark for the “official version” of a spatial database. In this way, public agencies could reduce the risk that poor quality information might endanger the public, but permit a diversity of channels and sources to exist. If consumers prefer an unofficial source, they would be free to reject the trademarked, official source.

#### **D. First Amendment**

When a monopoly is granted or asserted with respect to public information through copyright or otherwise, the monopoly may be enforced by denying access to the information or by penalizing publication of the information. Punishing publication or dissemination directly collides with the First Amendment’s protection of publishing and speaking, and denying access indirectly collides with the First Amendment’s free speech and free press protections.<sup>67</sup>

The Court of Appeals for the Second Circuit accepted the general proposition that the First Amendment can entitle a publisher to electronic formats of state legislative material in *Legi-Tech, Inc. v. Keiper*,<sup>68</sup> which involved a New York statute giving preferential access to a database of legislative proceedings. The court of appeals noted that information about legislative proceedings are vital to the functioning of government and to the exercise of political speech, which is at the core of the First Amendment.<sup>69</sup> Denying the private press access to such information on an equal basis with individual citizens and the preferred state publisher was an exercise of censorship that allowed the government to control the form and content of

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65. *Nebraska Irrigation v. Kock*, 523 N.W.2d 676, 679 (Neb. 1994).

66. See 18 U.S.C. § 711 (1995) (prohibiting private use of “Smokey the Bear”); 19 Op. Atty. Gen. 361 (1889) (United States appropriated figure of eagle with letters “U.S.” under it, and may prevent private manufacturers from using it); cf. *Vuitton et Fils S.A. v. J. Young Enterprises*, 644 F.2d 769, 775 (9th Cir. 1981) (national insignia unprotectable); *Geo. Washington Mint, Inc. v. Washington Mint, Inc.*, 349 F. Supp. 255, 262 (S.D.N.Y. 1972) (trademark of doubtful validity because might mislead customers into thinking they were doing business with government); *In re Application of Gorham Mfg. Co.*, 41 App. D.C. 263 (1913) (affirming denial of registration of mark that looked like official seal of British government agency).

67. *Turner Broadcasting Sys. v. FCC*, 114 S. Ct. 2445, 2469 (1994) (recognizing relationship between access to information and the First Amendment).

68. 766 F.2d 728 (2d Cir. 1985).

69. *Id.*



the information reaching the public.<sup>70</sup> There was nothing natural about a monopoly that arose out of a combination of LRS' special access to information and Chapter 257's prohibition on competitors having access to LRS' database.<sup>71</sup> The Court of Appeals also rejected New York's claim of a privilege to discriminate against republishers to prevent competitors from getting a free ride on its costly investment,<sup>72</sup> although it suggested that a price that would negate free riding would be permissible.<sup>73</sup>

When copyright is the basis for access or publication restrictions, the First Amendment plays a background role. "Copyright law incorporates First Amendment goals by ensuring that copyright protection extends only to the forms in which ideas and information are expressed and not to the ideas and information themselves."<sup>74</sup> First Amendment considerations also shape determinations of fair use under the Copyright Act.<sup>75</sup>

Because the First Amendment is concerned with public debate, it might be argued that the First Amendment should protect public access to legislative, judicial, and administrative agency decisions, but not factual data gathered for utilitarian purposes like those in spatial databases. Nevertheless, even geographic information pertains directly to property ownership and the use of public ways. Not only is enjoyment of property—a core interest protected by the federal and state constitutions—tied up in this type of information, but also much political debate surrounds ownership and use of property. One can hardly participate effectively in a debate about a zoning ordinance without access to the zoning map, even though the map is arguably utilitarian.

## **E. Antitrust Arguments**

The federal antitrust laws favor competition and thus support the information policy diversity precepts. Someone suffering antitrust injury caused by a monopoly of public information can collect damages and obtain injunctions against maintenance of the monopoly.<sup>76</sup> An explicit establishment

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70. *Id.*

71. *Id.*

72. *Id.* at 735.

73. *Id.* at 735-36. Legi-tech stipulated that it would be willing to pay a higher price than the general public, and the court speculated that this might encompass a price that would reflect lost revenue to LRS.

74. *Los Angeles News Service v. Tullo*, 973 F.2d 791, 795 (9th Cir. 1992).

75. 973 F.2d at 795. *See also* *Twin Peaks Prods. v. Publications Int'l*, 996 F.2d 1366, 1378 (2d Cir. 1993) ("except perhaps in an extraordinary case, 'the fair use doctrine encompasses all claims of First Amendment in the copyright field,'" citing numerous cases).

76. Consumers are the primary intended beneficiaries of the antitrust laws. Thus, consumers are more likely than competitors to have standing to litigate violations of the Sherman Act.

or grant of an information monopoly would be a *prima facie* violation of Section 2 of the Sherman Act, which prohibits monopolization.<sup>77</sup> If contracts between legally separate entities were involved, Section 1 would be violated as well.<sup>78</sup>

The only plausible argument against *prima facie* liability would be based on limited competitive effect.<sup>79</sup> The effect would be limited if the GIS and paper formats constituted substitute products. The restraint on competition then would be judged by considering the overall market, including paper and electronic formats. Because present markets for paper products are larger than those for GIS, restricting competition for GIS has a negligible impact on the total market.

Because of dramatic differences in utility and cost, however, the markets for electronic formats and paper formats should be considered separately for assessing the competitive effect of the state-granted monopoly.<sup>80</sup> In the separate market for GIS, a monopoly is fatal to competition.

Not all state-granted monopolies result in liability under the federal antitrust laws, however. States and municipalities regularly grant franchises and set prices for products and services. Similarly, a state monopoly with respect to public information might qualify for the "state action" exemption to the antitrust laws.<sup>81</sup> This exemption rests on the need to allow elbow room for state regulatory power, and in the mid-1980s, the Supreme Court relaxed federal antitrust scrutiny of municipal anti-competitive arrangements.<sup>82</sup> No

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77. 15 U.S.C. § 2 (1988).

78. 15 U.S.C. § 1 (1988) prohibits combinations or conspiracies that restrain trade, thus focusing on contracts that fix prices or limit output.

79. Except for *per se* violations of § 1, conduct potentially violating the Sherman Act is judged under a "rule of reason" analysis, which allows weighing the anticompetitive effect against procompetitive effect. Anti-competitive effect is judged with respect to a particular market. *Eastman Kodak Co. v. Image Technical Serv., Inc.*, 504 U.S. 451, 483 (1992) (remanding as to whether manufacturer unlawfully tied sale of service to sale of parts for line of its micrographic equipment).

80. Competitive effect in a defined market is essential for determining whether § 2 has been violated because one cannot determine if monopoly exists except relative to a particular market. Market definition is less central, but still important to § 1 analysis.

81. *See* *Federal Trade Comm'n v. Hospital Bd. of Directors*, 38 F.3d 1184 (11th Cir. 1984) (state action requirement shielded purchase by county hospital board of private hospital because powers granted to political subdivision by state contemplated anti-competitive effect); *Continental Bus Sys. v. City of Dallas*, 386 F. Supp. 359, 363 (N.D. Tex. 1974) (state action doctrine prevented city granted exclusivity to bus lines serving airport from giving rise to antitrust liability).

82. *See* *Hoover v. Ronwin*, 466 U.S. 558 (1984); *Town of Hallie v. City of Eau Claire*, 471 U.S. 34 (1985); *Southern Motor Carriers Rate Conference v. United States*, 471 U.S. 48 (1985); Thomas M. Jorde, *Antitrust and the New State Action Doctrine: A Return to Deferential Economic Federalism*, 75 CALIF. L. REV. 227, 228 (1987).

longer must a municipality demonstrate explicit state legislative intent to supplant competition with regulation. It is enough to show that the state legislature contemplated municipal anti-competitive activity or that this actually was the foreseeable or logical result of the legislation.<sup>83</sup> On the other hand, anti-competitive action under the authority of a general home rule grant would not qualify because the legislative direction is not specific enough.<sup>84</sup> Moreover, active supervision of the municipality by the state is no longer required;<sup>85</sup> when the municipality sanctions private anti-competitive conduct, the supervision of the private conduct need be only general and potential.<sup>86</sup> Thus, state statutory authorization for exclusive GIS arrangements would create a state-action immunity, but a general home rule statute would not.<sup>87</sup>

Indeed, one could argue that states and municipalities should be entitled to grant exclusive franchises to private entities to perform services that otherwise would be performed by government itself. Because governments historically had a natural or de jure monopoly on performance of public services exempt from antitrust liability, the argument would go, they should be able to delegate this immunity to their contractors. This conclusion, however, rests on the proposition that competition for the privatized service would harm essential public interests. Because public information policy benefits from a multiplicity of sources and channels, the opposite is true. Monopoly position is contrary to the public interest, and competition is furthered by a public information policy favoring diversity of channels and sources.

## F. Substantive Due Process and Equal Protection

Substantive due process under the Fourteenth Amendment of the United States forbids the deprivation of life, liberty, or property except when the deprivation is justified by a legitimate state interest. Equal protection analysis

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83. Jorde, *supra* note 82, at 242 (citing Hallie, 471 U.S. at 42).

84. *Id.* (citing Bolder, 455 U.S. 40; Hallie, 471 U.S. at 43).

85. *Id.* at 245 (discussing Hallie, 471 U.S. at 46 & n.10).

86. *Id.* (discussing SMC, 471 U.S. at 51, 61 n.23 & 66).

87. One respected commentator proposed a limitation on the expansive "state action" immunity: that proprietary activities of municipal governments—"public activities that compete directly with private firms in the open market and that differ from them only in stockholder identity"—might be subject to greater antitrust scrutiny. Philip Areeda, *Antitrust Immunity for State Action After Lafayette*, 95 HARV. L. REV. 435, 443 (1981) (suggesting that waste disposal, water service, municipal transport, and public parks probably should not be included in the proprietary category and that mere regulation of zoning, cable television, and other public franchises would not be proprietary). However, Professor Areeda expressed concern that drawing the distinction between proprietary and nonproprietary activities always has proven troublesome.

is similar.<sup>88</sup> A state-established monopoly on electronic publishing adversely affects First Amendment interests and therefore should trigger strict scrutiny under the equal protection clause of the Fourteenth Amendment<sup>89</sup> and probably under substantive due process as well. It is difficult to see how an information monopoly is necessary to promote a legitimate state interest. Merely making money is not a legitimate state interest that would justify interference with private entrepreneurial interests, and it is difficult to justify information monopolies on the ground of ensuring an accurate flow of public information, because the less restrictive trademark approach is available to protect any interest in avoiding errors in public information.<sup>90</sup>

## V. PRICING PUBLIC INFORMATION

The legal and policy constraints on information monopolies still leave an enormous range of possibilities for disseminating electronic information products. First, virtually every major policy statement and access law permits governmental entities to charge for the cost of providing access to public information. Just as agencies may charge for the cost of providing access to raw content, so also may they charge for access to value-added features. There could potentially be a problem with agencies defining “value added” as anything in digital form or some other definition that could restrict access. Currently, such definitions of “public records” often “allow” cost recovery.<sup>91</sup>

Pricing arguments have much to do with the cost accounting issue of whether prices for public access to public information may reflect a portion of the fixed costs of agency information systems, perhaps including systems designed to collect public information. Most policy guidelines addressing cost accounting say that only the direct costs of providing public access should be recoverable. Even when this is the law or policy, however, determining direct cost is not simple. Automated information systems usually have a relatively high proportion of fixed costs for capital goods—hardware and software and communications facilities—that produce a variety of output

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88. *Bray v. Alexandria Women's Health Clinic*, 113 S.Ct. 753, 777 (1993) (Souter, J., concurring in part and dissenting in part, noting that civil rights conspiracy claim could be evaluated similarly under substantive due process or equal protection tests). *But see Nollan v. California Coastal Comm'n*, 483 U.S. 825, 835 n.3 (1987) (questioning whether equal protection and substantive due process standards are the same in property taking cases).

89. *See Arkansas Writers' Project, Inc. v. Ragland*, 481 U.S. 221 (1987) (state sales tax targeting general interest magazines, while exempting other publications, violated First Amendment rights).

90. Thus, state monopolies on public information could be vulnerable to attack under 42 U.S.C. § 1983, and 42 U.S.C. § 1985(3) when they are established at the state and local level, and to challenges as constitutional torts when they are established at the federal level.

91. *See* 44 U.S.C. § 3506(d)(4) (user fees shall not exceed cost of dissemination).

streams. When one of these streams is public access, how much of the fixed and joint cost should be allocated to that stream as opposed to others is essentially indeterminate. It may be sufficient simply to express a basic policy position on whether full costs or only direct costs should be reflected in the price for public information products and then to rely on the competition inherent in the diversity principle as a practical means of limiting the price that can be maintained for public information. Theoretically, private disseminators of public information will price at or close to marginal costs,<sup>92</sup> and if a public source is pricing much higher than marginal costs, consumers will buy from the private sources instead of the public source. Of course, greater reliability and visibility of the public source may command a premium price over marginal costs, but that merely reflects consumer preferences.

The best pricing strategy would be for the agency to price at marginal cost for access to the basic content, letting taxpayers pay the fixed costs of collecting and assembling this raw content, as is usually the case, if collection and assembly of the raw content is within the agency's statutory mandate. This presents no threat to private sector publishers because agencies have a natural monopoly for the raw information.<sup>93</sup> The policy preserves a role for private sector publishers not only when agency activity is limited to relatively raw forms of the information, but also when additional value-added features are paid for with public money. What is essential is that all private sector competitors have the benefit of the public investment at cost. As long as they do, taxpayer subsidy of agency activities does not threaten private activity that adds value.

In sum, any private adder of value should be able to access the agency-produced data at the agency's marginal cost, and to protect by intellectual property law any original value-added component. Private publishers may copyright their computer programs<sup>94</sup> and their selection and arrangement of publicly supplied information that meets the relatively low originality standards of *Feist*. Beyond that, trade secret protection may be useful for certain formats and computer program codes. In addition, the growing acceptability of patent protection for computer procedures may be useful for graphical image manipulation algorithms. Finally, trademark protection is regularly used to prevent competitors from appropriating the good name and

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92. Microeconomic theory says that competition will force prices to a level close to marginal cost. Edwin Mansfield, MICROECONOMICS: THEORY AND APPLICATIONS 241 (2d ed. 1975) ("at the equilibrium price, price will equal marginal cost for all firms that choose to produce, rather than shut down their plants.").

93. This natural monopoly does not mean that private sector entities are prohibited from collecting the information; it just means that it would not pay for them to do so.

94. See *Lotus Corp. v. Borland Corp.*, 49 F.3d 807 (1st Cir. 1995) (copyright extends to computer programs but not to data structures used to achieve compatibility between products).

goodwill of a private sector publisher, although it does not protect the underlying value-added elements like computer programs, formats, and selection and arrangement.<sup>95</sup>

## CONCLUSION

Local governments should resist the temptation to establish monopolies to exploit their spatial databases. Realization of the potential that new computer and digital communication technologies offers for geographic information systems will be enhanced by assuring equal access to public geographic information in electronic formats and promoting a diversity of sources and channels for this type of public information. Freedom-of-information, copyright, First Amendment, antitrust, Commerce Clause, and substantive due process principles all reinforce these two foundational elements of public information policy.

Public entities need not give their information resources away; it is appropriate for them to recover their costs, but they should seek to recover only the marginal costs of dissemination and allow the public to benefit from the public's investment in the fixed costs of data collection and organization.

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95. An interesting but speculative possibility is that certain "look and feel" aspects of computer products might be entitled to trade dress protection. *See* *Two Pesos v. Taco Cabana*, 112 S. Ct. 2753, 2757 (1992); Lauren S. Kellner, *Computer User Interfaces: Trade Dress Protection for "Look and Feel,"* 84 TRADEMARK RPTR. 337 (1994); Matthew E. Watson, *Trade Dress Theory and the Software Graphic User Interface: Sorting Through the Goopy Mess*, 34 JURIMETRICS J. 251 (1994).

