Journal of Technology Law & Policy

Volume XVI – Fall 2015

ISSN 2164-800X (online)

DOI 10.5195/tlp.2015.177

http://tlp.law.pitt.edu

Forging a Balanced Presumption in Favor of Metadata Disclosure Under the Freedom of Information Act

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> *Governments face a crisis in the dissemination of public information. . . . The crisis derives from public expectations for optimal informational formatting; [T]he crisis is the government's ability and willingness to meet those demands. . . .*[1]

I. INTRODUCTION

On Independence Day, 1966, President Lyndon Johnson signed into law the Freedom of Information Act ("FOIA"), under which the public has a judicially enforceable right to access federal agency records with (ostensibly) limited exception.[2] In signing, President Johnson emphasized that democracy depends upon *qualified* government transparency:

> [FOIA] springs from one of our most essential principles: A democracy works best when the people have all the information that the security of the [United States] permits. No one should be able to pull curtains of secrecy around [federal government] decisions which can be revealed without injury to the public interest.[3]

* Law Clerk to Chief Judge Joy Flowers Conti, United States District Court for the Western District of Pennsylvania; J.D. *magna cum laude* 2015, University of Pittsburgh (Lead Executive Editor, *University of Pittsburgh Law Review*); B.A. 2009, University of North Florida. Thank you Professor Rhonda Wasserman for your advice and assistance on this paper and for an enlightening class on electronic discovery. Faculty for the University of Pittsburgh School of Law awarded this paper the *William H. Eckert Prize*.

[1] David S. Levine, *The Social Layer of Freedom of Information Law*, 90 N.C. L. REV. 1687, 1689 (2012).

[2] *See generally* 5 U.S.C. § 552 (2012).

[3] President Lyndon Johnson, Statement by the President Upon Signing the "Freedom of Information Act" (July 4, 1966), *available at* http://www.presidency.ucsb.edu/ws/index.php?pid=27700&st=Freedom+of+Information&st1=; *see also* U.S. DEP'T OF JUSTICE, U.S. DEPARTMENT OF

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Given the complexity of our democracy as it stands today, balancing government transparency with privacy and security under FOIA is perhaps more vital now than ever.

Since FOIA's enactment, however, technology has seen unprecedented innovation. Modern federal agencies rarely create or store paper records, opting instead for efficient and flexible electronic filing systems and records ("e-records"). Government e-records make up the "modern paper trail." As a result, public access to these government e-records is now fundamental to furthering the search for truth under FOIA.[4]

As technology evolves, questions arise concerning the extent to which FOIA requires the federal government to disclose its e-records. One critical question is whether FOIA requires the government to disclose the "metadata" associated with its e-records.

Metadata—or "data about data"—is electronic information that underlies and describes the e-record with which it is associated. Stripped of metadata, an e-record loses vital identifiers and descriptors, resulting in diminished functionality and searchability. With metadata, "vast storehouses" of otherwise unintelligible electronic data can be readily searched, organized, and, in many cases, verified for authenticity and integrity.[5] For these reasons, metadata can be a powerful tool to ensure *meaningful* public access to government e-records under FOIA.[6]

Though the disclosure of metadata under FOIA promotes government transparency, it raises serious concerns for federal agencies. Metadata may contain

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JUSTICE GUIDE TO THE FREEDOM OF INFORMATION ACT 20 (2009), *available at* http://www.justice.gov/oip/doj-guide-freedom-information-act-0 ("The basic purpose of the FOIA is to ensure an informed citizenry, vital to the functioning of a democratic society, needed to check against corruption and to hold the governors accountable to the governed." (citations omitted) (internal quotation marks omitted)); John Doe Agency v. John Doe Corp., 493 U.S. 146, 152 (1989) ("[In enacting FOIA,] Congress sought to reach a workable balance between the right of the public to know and the need of the government to keep information in confidence to the extent necessary without permitting indiscriminate secrecy." (citations omitted)). In 2009, President Barack Obama prompted government agencies to renew their "commitment to the principles embodied in FOIA" because "democracy requires accountability," "accountability requires transparency," and FOIA "encourages accountability through transparency." Presidential Memorandum for the Heads of Exec. Departments and Agencies Concerning the Freedom of Information Act, 74 Fed. Reg. 4683 (Jan. 21, 2009), *available at* http://www.justice.gov/sites/default/files/oip/legacy/2014/07/23/presidential-foia.pdf.

[4] *See* Peter S. Kozinets, *Access to Metadata in Public Records: Ensuring Open Government in the Information Age*, 27 COMM. LAW. 22, 22 (2010).

[5] *Id.*; *see also* GEORGE L. PAUL & BRUCE H. NEARON, THE DISCOVERY REVOLUTION 100 (2005) (noting metadata is a "critical part of the overall functioning of a computer application," though it is "not usually viewed by people looking at a screen or a printout").

[6] *See* Kozinets, *supra* note 4, at 23.

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privileged or private information or sensitive materials related to national security, none of which are subject to disclosure under FOIA. Consequently, metadata disclosure in response to FOIA requests may require federal agencies to expend substantial (taxpayer-funded) resources to sift through, redact or extract, and selectively release metadata.

A democratic dilemma exists, therefore, between the public's right to know *meaningfully* through metadata what its government is doing and the federal government's legitimate interests in reducing costs and protecting privacy and security—all of which are essential to effective self-government.

Despite these tensions, few would disagree that in this modern technological era FOIA should require the federal government to provide public information in "structured and useful formats" that are "socially optimized" to "best meet the public's analytical needs."[7] Metadata disclosure under FOIA provides the government an opportunity to start down this constructive path.

In what manner can FOIA provide the public presumptive access to agency metadata without sacrificing the government's legitimate interests in reducing costs and protecting privacy and security? At first glance, FOIA itself appears to provide little guidance; the statute does not mention metadata, let alone an express presumption favoring or disfavoring its disclosure. Federal courts, moreover, have yet to recognize metadata as a public "record" presumptively subject to disclosure under FOIA.[8] Continued technological innovation will amplify the saliency of these issues. Congress, agencies, and federal courts should seek to find a balanced solution *now*, rather than later.

This article proposes such a solution. Upon request, the public should have a presumptive right to readily reproducible agency metadata under FOIA—absent affirmative proof of substantial burden or express FOIA exemption—based upon: (1) the public's interest in *meaningful* access to government e-records in *optimal*

[7] Levine, *supra* note 1, at 1688.

[8] In 2011, a district judge for the United States District Court for the Southern District of New York held that FOIA requires the government to disclose metadata, but the court later withdrew its opinion and order based upon the parties' settlement. *See* Nat'l Day Laborer Org. Network v. United States Immigration & Customs Enforcement Agency, No. 10 Civ. 3488 (S.D.N.Y. 2011), *available at* http://ccrjustice.org/sites/default/files/assets/files/7-13-12%20AOS%20Opinion.pdf (ordering the government to disclose metadata in response to FOIA requests); http://www.rcfp.org/newsitems/docs/20110623_125651_metadata_withdraw_opinion.pdf (withdrawing the opinion and order based upon the parties' subsequent settlement). Commentators often cite this withdrawn opinion in relation to the propriety of metadata disclosure under FOIA. *See, e.g.*, Levine, *supra* note 1, at 1730–33. I address *National Day Laborer* in detail below.

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formats; (2) the express language of FOIA; and (3) the illusory demarcation between "metadata" and the e-record with which it is associated.

I expound upon these three justifications in turn below and conclude with a proposed framework addressing the circumstances and manner in which federal courts should require agencies to disclose metadata under FOIA. First, however, an understanding of the *technical* (as opposed to the *legal*) parameters of "metadata" is required.

II. METADATA: A TECHNICAL DEFINITION

As stated above, metadata is defined ubiquitously as data about data. While the word's origin is debated,[9] it is generally accepted that electronic metadata consists of structural[10] electronically-stored information ("ESI") that "describes, explains, locates," or otherwise "makes it easier" to retrieve, use, or manage an electronic information resource.[11] In general terms, metadata is often hidden ESI, created and recorded by a computer, that describes the characteristics of visible content-displaying ESI, such as a digital document, file, or email. Metadata can be created by software applications, users, or automatically by the computer's administrative filing system.[12] Importantly, users can alter or destroy metadata intentionally or unintentionally.[13]

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[9] *Compare, e.g.*, Jerold S. Solovy & Robert L. Byman, *Native Simplicity*, JENNER & BLOCK (Aug. 28, 2006), http://jenner.com/system/assets/assets/502/original/08_28_2006_Native_Simplicity.pdf?1314393734 ("'Metadata' is actually the registered trademark of the Metadata Corporation. Legend has it that the company's founder, Jack E. Myers, coined the term 'metadata' in 1969, intentionally designing it to be a term with no particular meaning. The word Metadata® was registered in the [United States Patent and Trade Office] in 1986."), *with* Cristian-Mihai, *Semi-Structured or Unstructured Data? Metadata*, ENTERPRISE TECHNOLOGY CONSULTANT (Feb. 7, 2013), http://enterprisetechnologyconsultant.wordpress.com/2013/02/17/semi-structured-or-unstructured-data-metadata/ ("The term 'metadata' was coined in 1968 by Philip Bagley, in his book 'Extension of programming language concepts.'").

[10] Metadata is "structural" because it has characteristics intertwined with the manner in which an electronic information resource constructs and organizes electronically stored information ("ESI").

[11] NAT'L INFO. STANDARDS ORG., UNDERSTANDING METADATA 1 (2004), *available at* http://www.niso.org/publications/press/UnderstandingMetadata.pdf; *see also* SEDONA CONFERENCE WORKING GRP. SERIES, THE SEDONA CONFERENCE GLOSSARY: E-DISCOVERY & DIGITAL INFORMATION MANAGEMENT 29 (4th ed. 2014) [hereinafter SEDONA CONFERENCE GLOSSARY 4TH], *available at* https://thesedonaconference.org/download-pub/3757 ("Metadata: The generic term used to describe the structural information of a file that contains data about the file, as opposed to describing the content of a file."). A personal computer is one example of an electronic information resource.

[12] Christopher R. Meltzer, *More Than Just Ones and Zeros: The Reproducibility of Metadata Under the Freedom of Information Act*, 9 ISJLP 327, 331 (2013).

[13] *Id.* (citing W. Lawrence Wescott II, *The Increasing Importance of Metadata in Electronic Discovery*, 14 RICH. J.L. & TECH. 10, 14–15 (2008)).

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Metadata reveals, for example, file designations and locations, creation and revision dates, authorship, substantive revision history, and "hidden codes" that determine paragraphing, font, and line spacing within text-displaying e-records.[14] For instance, metadata associated with email may include user address information and the dates and times at which the email was sent, received, replied to, forwarded, or carbon-copied.[15] Metadata related to Internet documents facilitates the "transmission of [digital] information" between the user's computer and the server on which the Internet document is located.[16] Metadata also includes Internet "cookies"—or text files stored within the user's computer that "track usage" and "transmit information back to the cookie's originator" to expedite Internet browsing recall.[17]

A. Three Metadata Subtypes

Metadata is generally divided into three subtypes: (1) substantive (or "application") metadata; (2) system (or "file system") metadata; and (3) embedded metadata—all of which are discussed in detail below.[18] A general understanding of the unique characteristics of these three metadata subtypes is critical to forging a balanced presumption in favor of metadata disclosure under FOIA.

1. Substantive Metadata

Substantive (or "application") metadata is created "as a function of" the application software (*e.g.*, Microsoft Word or Excel) with which the content-displaying e-record is created.[19] This metadata subtype is embedded within the e-record, moves with it when copied, and reflects "*substantive* changes made by the user."[20] "Substantive changes" embedded within a digital document include, for example, prior textual edits or editorial comments (including redline edits or "track

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[14] SHIRA A. SCHEINDLIN ET AL., ELECTRONIC DISCOVERY AND DIGITAL EVIDENCE: CASES AND MATERIALS 380 (2d ed. 2012).

[15] *Id.* ("For example, [email] has its own metadata elements that include, among about [twelve hundred] or more properties, such information as the dates that mail was sent, received, replied to or forwarded, blind carbon copy information, and sender address book information.").

[16] *Id.*

[17] *Id.*

[18] *See, e.g.*, Aguilar v. Immigration & Customs Enforcement Div., 255 F.R.D. 350, 354 (S.D.N.Y. 2009); Meltzer, *supra* note 12, at 332.

[19] *Aguilar*, 255 F.R.D. at 354.

[20] SEDONA CONFERENCE WORKING GRP. SERIES, THE SEDONA CONFERENCE GLOSSARY: E-DISCOVER & DIGITAL INFORMATION MANAGEMENT 3 (3d ed. 2010) [hereinafter SEDONA CONFERENCE GLOSSARY 3D] (emphasis added), *available at* https://thesedonaconference.org/download-pub/471.

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changes" within Word documents[21]) and data that "instructs" the computer with respect to the fonts and formatting to be displayed on screen or in hard copy.[22] Importantly, substantive metadata may identify who created the e-record, any users who made revisions or editorial comments, and the dates and times at which those users made such revisions or comments.[23]

2. System Metadata

System (or "file system") metadata reflects logistical information generated automatically by a user's operating system to track an e-record's "demographics," which include an e-record's file name, size, location, and usage history.[24] System metadata is *not* embedded within the e-record to which it relates but can "usually" be retrieved easily from the operating system in which it is externally stored.[25] System metadata may reflect authorship information and the dates and times at which an e-record was created or modified.[26] Importantly, access to system metadata facilitates "more functional" interaction with related e-records because it "significantly improves [the] ability to access, search, and sort large numbers of [e-records] efficiently."[27]

3. Embedded Metadata

Embedded metadata consists of "text, numbers, content, data," and other digital information the user "directly or indirectly input[s]" into an e-record's

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[21] *See* Meltzer, *supra* note 12, at 332 n.25 ("The 'track changes' function . . . shows any alterations made to previous drafts of a [digital] document and the identities of the users who made the changes. . . . Though the 'track changes' [may be] deleted on the viewable surface of a document, the 'track[] changes' are often still stored within the substantive metadata. . . . [If] [the track changes are] . . . not removed, [they can] reveal secret information to other parties." (quoting Matthew Robertson, *Why Invisible Electronic Data is Relevant in Today's Legal Arena*, 23 J. AM. ACAD. MATRIM. LAW 199, 203 (2010))).

[22] *Aguilar*, 255 F.R.D. at 354 (noting that because of the substantive information contained within substantive metadata, it "need not be routinely produced [in non-FOIA litigation] unless the requesting party shows good cause" (citations omitted) (internal quotation marks omitted)); *see also* Meltzer, *supra* note 12, at 332.

[23] Meltzer, *supra* note 12, at 332.

[24] SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 22.

[25] *Id.*; *Aguilar*, 255 F.R.D. at 354.

[26] *Aguilar*, 255 F.R.D. at 354 ("Courts have commented that most system . . . metadata lacks evidentiary value because it is not relevant [in non-FOIA litigation]. System metadata is relevant [in non-FOIA litigation], however, if the authenticity of a document is questioned or if establishing who received what information and when is important to the claims or defenses of a party." (citations omitted) (internal quotation marks omitted)).

[27] *Id.*

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"native file."[28] While substantive and system metadata are "routinely extract[able]" during the processing and conversion phases of FOIA production (and non-FOIA electronic discovery), users generally cannot remove embedded metadata from its related e-record.[29] In most instances, it exists only within the e-record's original "native file,"[30] meaning the e-record's default format. This includes, for example, a Word document in ".docx" format, access to which is typically available only through Microsoft Word, the software program on which the document was created originally.[31] Embedded metadata is typically invisible to the user viewing the native file's "output display" on screen or in hard copy.[32] Examples of embedded metadata include formulae underlying an Excel spreadsheet,[33] hidden columns or references and fields for automatic numbering systems in a Word document, sound files within a Microsoft PowerPoint presentation file (known as "externally" or "internally" linked files), and hyperlinks to HyperText Markup Language ("HTML") files or Uniform Resource Locators ("URLs") related to Internet documents.[34]

Embedded metadata is generally considered "crucial" to understanding certain e-records.[35] The archetypal example is a "complicated" Excel spreadsheet, which may be "difficult to comprehend" without the ability to view the formulae underlying the output in each cell.[36] For these reasons, courts have deemed embedded metadata "generally discoverable" in non-FOIA litigation, requiring its production "as a matter of course."[37]

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[28] *Id.* at 354–55.

[29] SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 19.

[30] *Id.*

[31] *In re* Priceline.com Inc. Sec. Litig., 233 F.R.D. 88, 89 (D. Conn. 2005); *see also* SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 35 (defining "Native Format" as the original file structure in electronic documents, which is determined by the original creating application).

[32] *Aguilar*, 255 F.R.D. at 355.

[33] Meltzer, *supra* note 12, at 333; *see* Robertson, *supra* note 21, at 204 ("Spreadsheet and database output [in, for example, an Excel spreadsheet file] often contain calculations, query formula[e], or hidden columns that are not visible in printed versions and can only be accessed within the 'native' applications. . . . [Therefore,] spreadsheet output may be difficult to understand without the ability to view the formula[e] underlying the printed output.").

[34] *Aguilar*, 255 F.R.D. at 355; *see also* Meltzer, *supra* note 12, at 333 n.29 (citing Wescott, *supra* note 13, at 4).

[35] *Aguilar*, 255 F.R.D. at 355.

[36] *Id.*

[37] *Id.*

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B. E-Records in "Static" Format With Accompanying "Load Files"

As discussed above, a "native file" is an e-record in its default, original format, which includes embedded metadata. An e-record in "static" (or "imaged") format, on the other hand, merely contains and displays a *fixed* image of the e-record as it would look in native format.[38] Users generally cannot view, access, process, or extract metadata associated with e-records in static format standing alone, meaning the static file's displayed information or text cannot be manipulated.[39] For example, when a user converts a Word document to a static format like Portable Document Format ("PDF")[40] or Tagged Imaged File Format ("TIFF"),[41] the text, font, and spacing of the displayed static image cannot be manipulated as would have been possible in native format (*i.e.*, Word format).[42]

Before converting an e-record in native format to static format, certain of the e-record's metadata[43] can be processed, preserved, and electronically associated with its static file in a "load file." Load files are digital files separate from, but directly correlated with, static files that indicate, among other things, "where individual pages or files belong together as documents" and "where each document

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[38] *See* SEDONA CONFERENCE GLOSSARY 4TH, *supra* note 11, at 30.

[39] *Id.*

[40] SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 39 (defining a PDF file as "[a] file format technology developed by Adobe Systems to facilitate the exchange of documents between platforms regardless of originating application by preserving the format and content").

[41] *Id.* at 50 (defining a TIFF file as a digital file in "supported graphic file format, . . . [which stores] bit-mapped images with many different compression formats and resolutions" that can display in "black and white, gray-scale[], or color"); *see also* PSEG Power N.Y., Inc. v. Alberici Constructors, Inc., Civ. A. No. 05-657, 2007 WL 2687670, at *4 n.2 (N.D.N.Y. Sept. 7, 2007) ("[TIFF is] a flexible and adaptable file format for storing images and documents used worldwide. TIFF files use [Lempel-Ziv-Welch, or 'LZW'] lossless compression without distorting or losing the quality due to the compression. In layman's terms, TIFF is very much like taking a mirror image of many documents in [a] format that can be compressed for storage purposes.").

[42] Applications like Adobe Reader XI© allow users to make comments and annotations directly onto a static file's displayed image, but the reader should not confuse this functionality with the ability to manipulate the actual, original text, font, and spacing of an e-record in native format. *See Adobe Reader XI Features*, ADOBE, http://www.adobe.com/products/reader/features.html (last visited Nov. 10, 2014). By way of illustration, readers would be able to manipulate this footnote's **TEXT**, *font*, and s p a c i n g with access to this article in ".docx" (*i.e.*, native) format. If, however, the reader converted the article's native file to PDF, the reader would lose the ability to manipulate the original digital information as would have been possible in native file. Granted, the reader could add annotations and comments to the PDF image using applications like Adobe, but this is akin to writing comments in pen within the margins of a printed textbook.

[43] Embedded metadata is typically lost when an e-record is converted into static format. *See* Meltzer, *supra* note 12, at 333 n.28 (citing Jason Krause, *Sloppy Redaction: To Err is Automated*, N.J. L.J. 26 (2009)).

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DOI 10.5195/tlp.2015.177 ● http://tlp.law.pitt.edu

begins and ends."[44] Consequently, users can extract system and substantive metadata[45] from (most) native files, input that metadata into load files, convert the native files into static format, and produce the static and load files together, thus preserving the e-record's displayable content and metadata in two separate files.[46]

III. JUSTIFYING THE PUBLIC'S RIGHT TO AGENCY METADATA UNDER FOIA

With this fundamental understanding of metadata's technical parameters in mind, a fair question arises. How can *metadata*—seemingly nugatory and often hidden digital information—promote government transparency under FOIA? Consider the following.

A. Metadata Facilitates Meaningful *Access to Agency E-Records*

In early 2008, the world's economic system unraveled. Catalyzed by years of subprime lending, systemic regulatory and institutional laxity, and unreserved greed, the United States' housing bubble burst, spilling panic into the world's financial markets.[47] Previously "sky-high" home prices turned "decisively downward," shackling homeowners to upside-down mortgages and unsalable residences.[48] For many borrowers, default was inevitable. The resulting ripple effect was soon apparent to mortgage lenders.[49]

Housing markets crumbled. Investment banks felt the reverberations. The value of mortgage-backed securities declined sharply. Weighed down by its "thick"

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[44] SEDONA CONFERENCE GLOSSARY 4TH, *supra* note 11, at 27.

[45] *See supra* note 43.

[46] The utility of producing static files with load files under FOIA is discussed in greater detail below.

[47] What caused the 2008 financial crisis is, of course, beyond the scope of this article. See, for example, Martin Neil Baily et al., *The Origins of the Financial Crisis*, BROOKINGS (Nov. 2008), http://www.brookings.edu/~/media/research/files/papers/2008/11/origin%20crisis%20baily%20litan/11_origins_crisis_baily_litan.pdf, for a thorough account of the 2008 crash.

[48] Joel Havemann, *The Financial Crisis of 2008: Year in Review 2008*, ENCYCLOPEDIA BRITANNICA, http://www.britannica.com/topic/Financial-Crisis-of-2008-The-1484264 (last visited Sept. 21, 2014).

[49] Crippled by delinquent mortgages and in desperate need of rescue, Countrywide Financial—America's largest mortgage lender—sold its stock in January 2008 to Bank of America for $4 billion—a fraction of its market value. *Bank of America Agrees to Purchase Countrywide Financial Corp.*, BANK OF AM. (Jan. 11, 2008), http://investor.bankofamerica.com/phoenix.zhtml?c=71595&p=irol-newsArticle&ID=1095252#fbid=GvDsVlOpH2v; David Mildenberg, *Bank of America to Acquire Countrywide for $4 Billion (Correct)*, BLOOMBERG (Jan. 14, 2008, 9:08 PM), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aqKE9kRcKDEw.

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mortgage-backed securities portfolio, worldwide investment bank Bear Stearns ("Bear") found itself perilously close to bankruptcy, the news of which sent shockwaves around the globe.[50]

To stop the bleeding, the Federal Reserve (the "Fed") brokered an unprecedented deal. Guided by the Fed, investment bank JPMorgan Chase agreed to purchase Bear at the "fire-sale" price of $2.00 per share.[51] Time was of the essence. But JPMorgan hesitated to take on such a risk without a safety net. To facilitate a "prompt" merger, the Fed—through its New York regional bank—created and capitalized a special purpose entity called "Maiden Lane LLC" to purchase and hold approximately $30 billion of Bear's most volatile assets.[52] In effect, the Fed would issue Bear a *publicly-funded* loan (secured by Bear's poisoned assets) to facilitate a speedy, palliative merger with JPMorgan. American taxpayers would bear the risk of loss in its entirety—a circumstance unprecedented in the central bank's history.[53]

News of the Fed's extraordinary loan stirred Mark Pittman's interest. As a financial analyst and reporter for *Bloomberg News*,[54] Pittman filed FOIA requests with the Fed in April and May 2008 seeking records identifying the financial institutions to which the Fed secretly extended "emergency" credit and any assets accepted as collateral therefor.[55]

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[50] Robin Sidel et al., *The Week That Shook Wall Street: Inside the Demise of Bear Stearns*, WSJ.COM (Mar. 18, 2008, 11:59 PM), http://www.wsj.com/articles/SB120580966534444395.

[51] Steve Schaefer, *A Look Back at Bear Stearns, Five Years After its Shotgun Marriage to JPMorgan*, FORBES (Mar. 14, 2013, 9:34 AM), http://www.forbes.com/sites/steveschaefer/2013/03/14/a-look-back-at-bear-stearns-five-years-after-its-shotgun-marriage-to-jpmorgan/. The selling price was later increased to $10 per share. *Id.*

[52] *Bear Stearns, JPMorgan Chase, and Maiden Lane LLC*, FEDERAL RESERVE (Aug. 2, 2013), http://www.federalreserve.gov/newsevents/reform_bearstearns.htm; *see also Press Release: Summary of Terms and Conditions Regarding the JPMorgan Chase Facility*, FEDERAL RESERVE BANK OF N.Y. (Mar. 24, 2008), http://www.newyorkfed.org/newsevents/news/ markets/2008/rp080324b.html.

[53] *See* Sidel et al., *supra* note 50.

[54] Tragically, Mark Pittman succumbed to heart disease in November 2009. *Federal Reserve FOIA Release Timeline*, BLOOMBERG (2014), http://www.bloomberg.com/chart/ini3jl5OaEuw.

[55] Bloomberg L.P. v. Bd. of Governors of Fed. Reserve Sys., 649 F. Supp. 2d 262, 267–68 (S.D.N.Y. 2009). But for one reference to the Fed's "databases" and "spreadsheets," Bloomberg's FOIA request (reproduced in full below) did not include requests for Fed metadata or particular e-record formats:

> For all securities posted between April 4, 2008 and May 20, 2008 as collateral to the Primary Dealer Credit Facility, the discount window, the Term Securities Lending Facility, and the Term Auction Facility (the "Relevant Securities"), [Bloomberg] request[s] copies of: [1] all forms and other documents submitted by the party posting the Relevant Securities as

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By November 2008, the Fed failed to provide a meaningful response to Pittman's FOIA requests. Pittman and Bloomberg, therefore, filed suit against Bloomberg in the United States District Court for the Southern District of New York seeking FOIA disclosure on grounds that:

> The government documents [sought] are central to understanding and assessing the government's response to the most cataclysmic financial crisis in America since the Great Depression. The effect of that crisis on the American public has been and will continue to be devastating. Hundreds of corporations are announcing layoffs in response to the crisis, and the economy was the top issue for many Americans in the recent elections.[56]

The district court agreed with Bloomberg.[57] Following two appeals and nearly three years after Pittman's initial FOIA request, the district court ordered the Fed to

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> part of the application for the loan; [2] all receipts and other documents given to the party posting the Relevant Securities as part of the application for the loan; [3] records sufficient to show the names of the Relevant Securities; [4] records sufficient to show the dates that the Relevant Securities were accepted and the dates that the Relevant Securities were redeemed; [5] records sufficient to show the amount of borrowing permitted as compared to the face value, also known as the "haircut"; [6] records sufficient to describe whether valuations or "haircuts" for the Relevant Securities changed over time; [7] records sufficient to show the terms of the loans and the rates that the borrowers must pay; [8] records sufficient to show the amount that the Federal Reserve has accepted of each of the Relevant Securities; [9] records sufficient to show which, if any, Relevant Securities have been rejected as collateral and the reasons for the rejections; [10] all *databases* and *spreadsheets* that list or summarize the Relevant Securities; and [11] records, including contracts with outside entities, that show the employees or entities being used to price the Relevant Securities and to conduct the process the lending.

Id. at 267–68 (emphasis added).

[56] *Id.* at 270; Complaint at 1, Bloomberg L.P. v. Bd. of Governors of Fed. Reserve Sys., 649 F. Supp. 2d 262 (S.D.N.Y. 2009) (Civ. A. No. 08-9595) ("In response to the [2008 Financial Crisis], the Fed has vastly expanded its lending programs to private financial institutions. To obtain access to this public money and to safeguard the taxpayers' interests, borrowers are required to post collateral. Despite the manifest public interest in such matters, however, none of the programs themselves make reference to any public disclosure of the posted collateral or of the Fed's methods in valuing it. Thus, while the taxpayers are the ultimate counterparty for the collateral, they have not been given any information regarding the kind of collateral received, how it was valued, or by whom.").

[57] *See Bloomberg*, 649 F. Supp. 2d at 282.

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release the requested information to Bloomberg under FOIA.[58]

In response to the court's order, Fed attorney Yvonne Mizusawa physically handed two CD-ROMs to Bloomberg representatives in the lobby of the Martin Building in Washington, D.C.[59] Both disks contained an identical set of 894 digital files containing tens of thousands of previously classified Fed loan documents.[60]

Over the next several months, Bloomberg processed the Fed documents, the aggregate of which exceeded twenty-nine thousand pages and eighteen massive digital spreadsheets.[61] Bloomberg synthesized the information contained in the documents with data released under the Dodd-Frank Act to create and publish an "exhaustive" and interactive database on its Internet website.[62] Through its metadata-powered database, Bloomberg charted and ranked private banks and companies by the amount each borrowed from the Fed during the financial crisis.[63]

Bloomberg's interactive database painted an unsettling picture for the American public. The data revealed that between August 2007 and April 2010, the Fed engaged in more than twenty-one thousand loan transactions, secretly advancing *$1.2 trillion* in public money to private banks and companies around the world.[64] The database made clear that the federal government risked public money on an astronomical scale to bail out hundreds of private entities—with no intention of informing the American public.[65]

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[58] Craig Torres, *Fed Releases Discount-Window Loan Records During Crisis Under Court Order*, BLOOMBERG (Mar. 31, 2011, 1:25 PM), http://www.bloomberg.com/news/2011-03-31/federal-reserve-releases-discount-window-loan-records-under-court-order.html.

[59] *Id.*

[60] *Id.*

[61] Levine, *supra* note 1, at 1719–21.

[62] *Id.* at 1719. To view Bloomberg's database, see Bradley Keoun et al., *The Fed's Secret Liquidity Lifelines*, BLOOMBERG, http://www.bloomberg.com/data-visualization/federal-reserve-emergency-lending/#/overview/?sort=nomPeakValue&group=none&view=peak&position=0&compare list=&search= (last visited Nov. 11, 2015).

[63] Levine, *supra* note 1, at 1719. I highly recommend taking a moment to visit and interact with Bloomberg's database, the URL of which is provided in the preceding footnote.

[64] *Id.*

[65] While I question the Fed's apparent unwillingness to share this information with the public, I do not indict the Fed's decision to make these loans, the propriety of which is far beyond the scope of this article (and my knowledge). This illustration simply demonstrates that metadata can be a powerful tool to inform the public about their government's inner workings.

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Commentators called Bloomberg's work in creating the database an "enormous breakthrough in the public interest."[66] Because of metadata, users could browse Bloomberg's database with ease to find transaction-specific information concerning the very banks and companies with which they conducted business. With metadata, Bloomberg did what the federal government "would not (or could not)" do: release information of momentous public importance in a "*socially usable* format."[67] Without metadata, the general public[68] may have been denied its right to meaningfully assess "what [its] government [was] doing"—the very aim of FOIA.[69] As commentator David S. Levine noted:

> When [government] information is presented *usefully*, the public can immediately become an information intermediary . . . by analyzing and exploiting [the] information through groundbreaking informational technologies. . . . As information intermediaries, the public can then look for patterns, correlations, and smoking guns in the information received and share those results with others. However, [when] presented *suboptimally*, the same information and data requires the public to initially decipher what has been produced and then optimize the data on its own before analysis of the information can commence in earnest, much less be shared with others. Therefore, it is no longer socially or technologically acceptable to put information in merely a good or decent format; . . . rather, the expectation is that it should be presented in an *optimal* format.[70]

While compelling, I cite Bloomberg's case[71] merely to illustrate that metadata has power to promote government transparency under FOIA.[72] Bloomberg's case

[66] Torres, *supra* note 58.

[67] Levine, *supra* note 1, at 1719–20 (emphasis added).

[68] By "general" members of the public, I mean those unable or without time or resources to glean matters of momentous public importance from tens of thousands of pages of arcane Fed loan documents.

[69] Levine, *supra* note 1, at 1687. Databases users agreed, commenting that "Bloomberg is to be congratulated for digging into [the Fed's loan programs] and providing an interactive database to help [the public] understand the magnitude of what the Fed has been doing, in secret. Frankly the data is chilling." Keoun et al., *supra* note 62 (first user comment).

[70] Levine, *supra* note 1, at 1691 (emphasis added).

[71] For an excellent commentary about how Bloomberg's case demonstrates the shortcomings of the federal government's FOIA response infrastructure and culture, *see id.* at 1717–21.

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does not reveal where policymakers may start to forge a balanced presumption in favor of metadata disclosure under FOIA. Court documents from Bloomberg's case do not indicate the Fed contested disclosure of metadata specifically. Neither the district nor circuit court ruled explicitly whether FOIA required the Fed to produce metadata. Policymakers must, therefore, look elsewhere to solve FOIA's democratic dilemma. As with any question concerning a statute, FOIA's text provides the best place from which to start.[73]

B. FOIA's Text Supports Metadata Disclosure

FOIA's text expressly supports a presumption in favor of metadata disclosure *if* it is requested and reasonably described, readily reproducible by the agency, and not exempt from disclosure under FOIA's exclusions.

In pertinent part, FOIA provides that upon "any request" for "records" "reasonably describe[d]," each "agency"[74] "shall make [such] records promptly available to any person."[75] Preliminarily, FOIA provides little affirmative guidance with respect to whether metadata constitutes a "record" subject to disclosure.[76] FOIA does not, however, expressly *exclude* metadata from its definition of a "record" either. The statute's definition of a "record" is non-exhaustive and extends explicitly to agency "*information*" "in *any* format, including *electronic* format."[77]

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[72] For further examples illustrating how public access to government metadata can foster government transparency, see Kozinets, *supra* note 4, at 23 (discussing how the *Miami Herald* published a *Pulitzer Prize* award-winning "analysis of data relating to damage caused by Hurricane Andrew" in 1992, in which researchers merged public metadata related to sixty thousand "official damage inspection reports" with other public records to create and publish a map showing that the storm caused greater damage to subdivisions built after 1980 when the government approved lax building, zoning, and inspection protocols); Kozinets, *supra* note 4, at 29 n.13 (discussing how the *New York Times* conducted a computer analysis of tens of thousands of federal accident reports from railroad crossing deaths and injuries, leading to a seven-part series detailing lax government oversight of railroad crossing safety (citing Walt Bogdanich, *In Deaths at Rail Crossings, Missing Evidence and Silence*, N.Y. TIMES (July 11, 2004), http://www.nytimes.com/2004/07/11/national/11RAILS.html)).

[73] *See, e.g.*, Rowland v. Cal. Men's Colony, 506 U.S. 194, 211 n.12 (1993) ("A statute's meaning is inextricably intertwined with its purpose, and we will look to statutory text to determine purpose because the purpose of an enactment is embedded in its words even though it is not always pedantically expressed in words." (internal quotation marks omitted)).

[74] For FOIA's definition of an "agency," see 5 U.S.C. §§ 551(1), 552(f)(1) (2012).

[75] *Id.* § 552(a)(3)(A).

[76] That FOIA does not mention metadata expressly makes sense in light of the time-period in which Congress enacted it. But even FOIA's 1996 "Electronic Freedom of Information" amendments ("E-FOIA") say nothing about metadata. *See generally* Electronic Freedom of Information Act Amendments of 1996, Pub. L. No. 104-231, 110 Stat. 3048 (1996), *available at* http://www.gpo.gov/fdsys/pkg/BILLS-104hr3802enr/pdf/BILLS-104hr3802enr.pdf.

[77] *See* 5 U.S.C. § 552(f)(2) (2012) (emphasis added); *see also* DEBORAH CAO, TRANSLATING LAW 107 (2007) ("[T]here are two types of statutory definitions: exhaustive and non-exhaustive.

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FOIA's definition, therefore, readily encompasses government metadata, which—by its very nature as structural ESI—contains federal agencies' electronically-formatted information. FOIA, moreover, mandates that agencies "shall" provide "records" "in *any* form or format requested" if the records are "readily reproducible[78] by the agency in that form or format."[79] The government would be hard-pressed, therefore, to argue the plain language of FOIA's phrase "*any* form or format" excludes readily reproducible metadata.

Clues concerning what constitutes a FOIA "record" appear in an interrelated federal records statute as well. Guided by the canons of statutory construction *in pari materia* and the "whole code" rule,[80] federal courts should look to the Federal Records Act ("FRA"), which defines an agency "record" non-exhaustively as "includ[ing] all . . . machine readable materials . . . regardless of physical form or characteristics."[81] Like FOIA, the FRA's definition of a "record" readily

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Exhaustive definitions declare the complete meaning of the defined term and completely displace whatever meanings the defined term might otherwise bear in ordinary or technical usage. . . . [N]on-exhaustive definitions presuppose rather than displace the meaning that a defined term would bear in ordinary usage [and are] normally introduced by the verb 'include.' . . .").

[78] The requirement that an agency record must be "readily reproducible" is discussed in detail below.

[79] 5 U.S.C. § 552(a)(3)(B) (2012). These provisions are the result of E-FOIA, the purpose of which was to "acknowledge the government's increased use of electronic technology" and to "encourage agencies to use such technology to *enhance* public access to government records." Meltzer, *supra* note 12, at 339 (citing H.R. REP. NO. 104-175, at 19 (1995) (emphasis added)); *see also* Scudder v. CIA, 25 F. Supp. 3d 19, 35 (D.D.C. 2014) ("The use of the word 'any' to modify the form or format requested must . . . be given an 'expansive' reading, subject only to whatever limitation Congress imposed in the statute. Here, agencies 'shall' provide responsive records in requested forms or formats, so long as the agency is able to readily reproduce the responsive record in the form or format requested. . . . [T]his requirement applies without regard to the form or format in which the agency maintains the record.").

[80] *See* BLACK'S LAW DICTIONARY 862 (9th ed. 2009) ("It is a canon of construction that statutes that are *in pari materia* [or 'on the same subject'] may be construed together, so that inconsistencies in one statute may be resolved by looking at another statute on the same subject."); WILLIAM N. ESKRIDGE, JR. ET AL., CASES AND MATERIALS ON LEGISLATION: STATUTES AND THE CREATION OF PUBLIC POLICY 1066 (4th ed. 2007) (describing the "whole code rule," under which "interpreters must consider the provision [at issue] in light of the whole [United States Code] as well as the whole statute," and the *in pari materia* rule, under which the interpreter looks to other similar statutes for interpretive guidance). The FRA sets forth the government's obligation to *retain* records while FOIA addresses the government's obligation to *disclose* records to the public upon request. The FRA's connection with FOIA is discussed in the next footnote.

[81] *See* 44 U.S.C. § 3301 (2012). The FRA, as amended, relates to FOIA because it "establishes the framework for [all] records [and e-records] management programs" with respect to all federal agencies, which necessarily includes those agencies subject to FOIA. *See, e.g.*, Dep't of Educ., *Federal Records Act*, U.S. DEP'T OF EDUC., http://www2.ed.gov/policy/gen/leg/fra.html (last modified Aug. 9, 2005) ("Federal [agency] records may not be destroyed[,] except in accordance with the procedures described in [the FRA]."). Notably, the National Archives and Records Administration itself equates FRA "records" with FOIA "records." *See* United States Nat'l Archives & Records Admin., *Frequently*

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encompasses metadata—*i.e.*, electronic material that is machine readable by computers. That neither FOIA nor the FRA expressly exclude readily reproducible metadata from the definition of an agency "record" supports the conclusion that courts may require its disclosure without running afoul of FOIA's plain language.

The express language of FOIA also provides the government protection from unreasonably broad requests for metadata. FOIA first requires the party seeking disclosure to affirmatively "request" and "reasonably describe" the "form or format" of the "records" sought.[82] Based upon this language, agencies are absolved from any obligation to search for and disclose metadata where the party seeking it does not "request" it *and* describe it "reasonably."[83] The burden is first on the party seeking disclosure to frame its request for metadata in precisely constructed, narrowly described terms that are "reasonable" from the agency's (and, if necessary, the court's) point of view.[84]

Asked Questions about Federal Records Management, NAT'L ARCHIVES, http://www.archives.gov/records-mgmt/faqs/federal.html (last updated July 7, 2015) ("Records are defined in various statutes, including the [FRA] and [FOIA].").

[82] *See* 5 U.S.C. §§ 552(a)(3)(A), (B) (2012).

[83] *See id.*

[84] What constitutes a "reasonably described" FOIA request is agency-specific, but see, for example., Nat'l Sec. Counselors v. CIA, 898 F. Supp. 2d 233, 274, 278 (D.D.C. 2012) ("[FOIA's] phrase 'requests for records [that] reasonably describes such records' was added to the FOIA in 1974, and it replaced the phrase 'request for identifiable records.' The Senate Judiciary Committee Report accompanying this amendment stated that, the identification standard in the FOIA should not be used to obstruct public access to agency records[,] and the amendment makes explicit the liberal standard for [the] identification that Congress intended. The House Committee on Government Operations Report accompanying the amendment clarified that[] a description of a requested document would be sufficient if it enabled a professional employee of the agency who was familiar with the subject area of the request to locate the record with a reasonable amount of effort. The . . . linchpin inquiry in determining whether a request 'reasonably describes' the records sought is whether the agency is able to determine precisely what records [are] being requested. . . . Federal courts' jurisdiction under the FOIA is not limited to denials of requests that reasonably describe the records sought, and an agency is not the final arbiter of whether a FOIA request 'reasonably describes' the records it seeks. Thus, a FOIA requester dissatisfied with an agency's decision about whether a request 'reasonably describes' the records it seeks may seek judicial review of that question. . . . [The] question of whether a particular FOIA request reasonably describes the records sought is a highly context-specific inquiry, ill-suited to abstract analysis without a formal (or at least officially acknowledged) agency interpretation of the 'reasonably describes' requirement." (citations omitted) (internal quotation marks omitted)); 32 C.F.R. § 1900.12 (2012) ("A [FOIA] request [for Central Intelligence Agency ("CIA") records] need only reasonably describe the records of interest. This means that documents must be described sufficiently to enable a professional employee familiar with the subject to locate the documents with a reasonable effort. Commonly this equates to a requirement that the documents must be locatable through the indexing of [the CIA's] various systems."). FOIA itself does not require cross-agency uniformity with respect to what constitutes a "reasonably described" request for agency records, but at least one federal court has noted that the "meaning of FOIA should be the same no matter which agency is asked to produce its records." Tax Analysts v. IRS, 117 F.3d 607, 613 (D.C. Cir. 1997).

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Where metadata is requested and reasonably described, the agency can still avoid its disclosure in litigation by demonstrating to the court that e-records with metadata are not "readily reproducible" in the "form or format" requested.[85] FOIA provides federal district courts power "to enjoin" agencies from "withholding agency records" and to "order the production" of records "improperly withheld" from the requester.[86] FOIA places the "burden . . . on the agency" to prove that a request for a certain record format is not "readily reproducible."[87] But FOIA explicitly requires federal courts to "accord *substantial* weight" to agency affidavits declaring that a requested record format is not "readily reproducible."[88] This provision grants federal agencies an immediate and automatic evidentiary advantage over a requester asserting that e-records with metadata are "readily reproducible."[89]

FOIA also provides explicit protection for agencies from undue *financial* burden at the frontend of a FOIA request for metadata. "[T]o carry out" disclosure under FOIA, the statute orders agencies to promulgate regulations "specifying the

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[85] 5 U.S.C. § 552(a)(3)(B) (2012); *see also Scudder*, 25 F. Supp. 3d at 34 ("'[R]eadily' does imply that an agency is relieved of its obligation to fulfill a format request that is onerous, but the . . . second sentence in 5 U.S.C. § 552(a)(3)(B) . . . informs the meaning of 'readily' in the first sentence of this subsection: 'Each agency shall make reasonable efforts to maintain its records in forms or formats that are reproducible for purposes of this section.' In order to 'give effect' . . . to this second sentence, the statute must be read as requiring an agency to take affirmative steps toward maintaining records in 'reproducible' formats such that they are 'readily reproducible' when sought out by FOIA requesters."); *Scudder*, 25 F. Supp. 3d at 38 ("'[R]eadily reproducible' is not . . . synonymous with 'technically feasible.' The Court may consider the burden on the [agency] in determining whether the documents at issue are 'readily reproducible' in the format the plaintiff requests.").

[86] 5 U.S.C. § 552(a)(4)(B) (2012).

[87] *Id.*

[88] *Id.* § 552(a)(4)(C) (emphasis added); *see also Scudder*, 25 F. Supp. 3d at 39 ("This subsection plainly instructs that substantial deference is due an agency's 'reproducibility' determination, but such deference does not amount to a blanket exemption from judicial review of the agency's justification for declining to comply with a specific format request or failing to maintain records in readily reproducible formats, as required under the first and second sentences of 5 U.S.C. § 552(a)(3)(B). The House Report supports this interpretation, stating that "[a]gencies must make a 'reasonable effort' to comply with requests [for records] in other formats" than the format kept by agency in ordinary course. Thus, the Court must evaluate the [agency's] determination of whether the instant records are 'readily reproducible' in light of the 'reasonable efforts' requirement."); *Scudder*, 25 F. Supp. 3d at 39 ("Although the [agency] is correct that 5 U.S.C. § 552(a)(4)(B) requires courts to defer to agencies' determinations of their own technical capabilities and the burden placed on them in complying with requests for documents in specific formats, such deference is not equivalent to acquiescence, and even declarations invoking national security must provide a basis for the FOIA requester to contest, and the court to decide, the validity of the withholding." (citations omitted) (internal quotation marks omitted)).

[89] *See* Meltzer, *supra* note 12, at 361 (noting Congress included § 552(a)(4)(C) in the 1996 E-FOIA amendments because it expected that "some ESI would not be readily reproducible and that the government agency requested to produce such information would have the best knowledge to speak of its technical ability").

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schedule of fees applicable to the processing of [FOIA] requests."[90] Requester fees must be based upon the market's "reasonable standard charges" for record "search[es]," "duplication," and "review."[91] In cases involving requests for e-records with metadata, an agency's FOIA regulations may require requesters to share in the financial costs required to search for and prepare metadata for disclosure.[92] Agencies can readily ascertain prevailing rates for metadata searches, extraction, duplication, and review. The phrase "reasonable standard charges" is broad enough to cover costs associated with metadata redaction, extraction, and disclosure—even if such costs are high. Importantly, FOIA's grant of fee-allocating authority to agencies is sufficiently broad that agencies can adopt regulations apportioning fees to requesters *specifically* for searching, reviewing, and producing metadata under FOIA.[93] FOIA, therefore, safeguards agencies from the potentially

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[90] 5 U.S.C. § 552(a)(4)(A)(i) (2012). FOIA specifies that:

> Such agency regulations shall provide that—(I) fees shall be limited to reasonable standard charges for document search, duplication, and review, when records are requested for commercial use; (II) fees shall be limited to reasonable standard charges for document duplication when records are not sought for commercial use and the request is made by an educational or noncommercial scientific institution, whose purpose is scholarly or scientific research; or a representative of the news media; and (III) for any request not described in (I) or (II), fees shall be limited to reasonable standard charges for document search and duplication.

Id. § 552(a)(4)(A)(ii).

[91] *Id.* § 552(a)(4)(A)(ii).

[92] For example, the Environmental Protection Agency ("EPA") charges requester fees under FOIA based upon a fee schedule. *See* 40 C.F.R. § 2.107(c)(2) (2014) ("In responding to FOIA requests, the [EPA] will charge [requestors]: . . . [1] Search fees; . . . [2] Duplication fees; . . . [and] [3] Review fees. . . ."); *see also Fee Schedule*, U.S. ENVTL. PROTECTION AGENCY, http://www.epa.gov/pesticides/foia/fees.htm (last visited Nov. 16, 2014) (stating, "if [FOIA request-related] fees are likely to exceed $250.00, the [EPA has] discretion to require advance payment [from the requester] prior to commencing any work"). The CIA, likewise, charges fees for certain FOIA requests. *Fees and Waivers (FOIA)*, CENT. INTELLIGENCE AGENCY, http://www.foia.cia.gov/fees-and-waivers-foia (last visited Nov. 16, 2014) ("Fees Charged by the CIA for Processing FOIA Requests: [1] Searches: Time expended in looking for and retrieving material, either paper or electronic indices, that may be responsive to the request, including personnel hours (clerical and professional) or computer time[;] [2] Reviews: Professional time spent determining the releasability of a record (blacking out or redaction of text) under legal guidelines, excluding the resolution of legal or policy issues[;] [3] Reproduction: Generating a copy of a requested record in the appropriate medium, for example, paper or computer disk.").

[93] To assist agencies in "carry[ing] out" disclosure, FOIA broadly orders each agency to promulgate regulations "specifying the schedule of fees applicable to the processing of [FOIA] requests." 5 U.S.C. § 552(a)(4)(A)(i) (2012). While I did not find an agency fee schedule relating specifically to metadata disclosure under FOIA, nothing in the language of § 552(a)(4)(A)(i) (or elsewhere in FOIA) prevents agencies from crafting regulations allocating fees specifically for metadata production. Notably, however, no individual agency would have authority to promulgate regulations governing fee allocations applicable to all agencies and all FOIA requests for metadata. Centrality of

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high costs of disclosing metadata where those agencies adopt regulations embracing requester fee allocations. If a FOIA requester seeks metadata that is prohibitively expensive to review, redact, and disclose, FOIA provides agencies the ability to require the requester to either share in those costs or alter its request to something manageable for both parties.[94]

Finally, FOIA's exemptions expressly safeguard the government from compelled disclosure of security-sensitive, private, and privileged information potentially contained in requested metadata. FOIA does not require agencies to disclose: (1) records deemed "secret" for national defense or foreign policy reasons; (2) records of an agency's internal personnel rules and practices; (3) records exempted by several specific federal statutes; (4) records disclosing trade secrets and privileged confidential commercial or financial information; (5) records disclosing inter-agency or intra-agency communications that *would be* privileged in non-FOIA litigation with the agency; (6) records that, if produced, would invade upon personal, private interests (*e.g.*, medical files); (7) records compiled for certain law enforcement purposes; (8) records related to agency regulation of financial institutions; and (9) geological and geophysical information and data related to wells.[95] FOIA's plain language does not bar the application of these exemptions to requested agency metadata. Thus, while the government must provide "reasonably segregable portion[s]" of any "record" to which a FOIA

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authority within one agency is not necessarily a negative in the context of FOIA fee schedules. Federal agencies respond to varying volumes and types of FOIA requests using myriad methods. For example, the EPA receives approximately ten thousand FOIA requests per year using an "end-to-end" e-discovery service with "new procedures, processes[,] and a supporting suite of commercial off-the-shelf . . . tools." *See* EPA, *EPA Information Resources Management Strategic Plan FY 2013–15*, 14, *available at* http://www.epa.gov/oei/irmstrategicplan.pdf (last visited Nov. 16, 2014) (noting FOIA requests for "[e]lectronic files" can include "images, videos, audio, email[,] and any other unstructured or semi-structured electronic information"). At the other end of the spectrum, the National Park Service, for example, received only around 600 FOIA requests in its fiscal year 2013. *See National Park Service FOIA Log*, NAT'L PARK SERV., http://www.nps.gov/aboutus/foia/upload/FY13_FOIA_LOG_FOR_WEB-2.pdf (last visited Nov. 16, 2014). Consequently, a "one-size-fits-all" regulatory scheme governing the allocation of fees for metadata disclosure may be unnecessary and may actually impede agencies from developing individualized approaches to metadata disclosure that would best meet their own idiosyncratic needs and response infrastructures.

[94] Of course, agency regulations interpreting FOIA and carrying the force of law are subject to judicial review under the *Chevron* doctrine. *See generally* Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837 (1984). In addition, the Administrative Procedure Act (the "APA") provides that agency action cannot be arbitrary or capricious. *See generally* 5 U.S.C. § 500 *et seq.* (2012). Using these doctrines, FOIA requesters can challenge unreasonable fee allocations in federal court.

[95] 5 U.S.C. §§ 552(b)(1)–(9) (2012).

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exemption does not attach, agencies can avoid disclosing metadata that falls within these exemptions, provided the agency carries its burden of proof.[96]

Based upon FOIA's plain language, federal courts can permissibly conclude FOIA creates a presumptive right to readily reproducible agency metadata if requested, reasonably described, and not exempt from disclosure. Commentators who argue metadata disclosure will burden the government financially and cause serious national security and privacy issues should take into account the plain language of FOIA.[97] The statute creates explicit protections for the government, as it: (1) places the initial burden on the requester to seek and describe metadata "reasonably"; (2) provides agencies an automatic and "substantial" evidentiary advantage in litigation with respect to whether metadata is "readily reproducible"; (3) broadly empowers agencies to adopt regulations allocating the costs of metadata disclosure to requesters; and (4) exempts from disclosure metadata containing private and security-sensitive matters.

C. The Illusory Line Between an E-"Record" and Its "Metadata"

Federal courts should construe FOIA as presumptively favoring the disclosure of requested, readily reproducible metadata because the public has a right to *real* government e-records. A legal principle that defines metadata as conceptually

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[96] *See id.* § 552(a)(4)(B) ("[T]he court . . . may examine the contents of . . . agency records *in camera* to determine whether such records or any part thereof shall be withheld under any of the exemptions set forth in subsection (b) of this section, and the burden is on the agency to sustain its action."). The reader should not conflate the *textual* fact that agencies "*can*" avoid disclosure of metadata *under the plain language of FOIA's exemptions* with the notion that agencies can, *in actuality*, do so practically, cheaply, and effectively. Some commenters posit that modern redaction methods have yet to catch up with metadata disclosure, especially where e-records are disclosed in native format. *See, e.g.*, Meltzer, *supra* note 12, at 345–52 ("[T]he complexities of electronic information and computer forensics have rendered [paper-era redaction methods] ineffective for electronically stored documents. Any information that is redacted from the native file of a record is never fully deleted from the file and can be recovered."). That current redaction technology is ineffective has no bearing on FOIA's text providing that federal courts can apply the plain language of FOIA's exclusions to exempt covered metadata from disclosure. Redaction technology may very well catch up, in which case FOIA's plain language stands ready. In any event, it is well-established that load files containing system and substantive metadata can be redacted effectively. *See, e.g.*, *Lexbe eDiscovery Software & Servs., Redaction*, LEXBE.COM, http://ediscovery.lexbe.com/resources/ediscovery-101/redaction/ (last visited Nov. 16, 2014) ("Don't Forget [to] Review & Redact the Load File[:] Many [e-discovery] productions will include a load file that contains production or Bates numbers, metadata[,] and other information. Consideration of redacted documents should be given to reviewing the associated load file data and redacting as well if needed. Additionally, some load files include in the load file itself extracted or [Optical Character Recognition, or 'OCR,'] text associated with [an e-record in static format]. If the document is redacted . . . the associated text in the load file should be redacted as well.").

[97] *See generally* Meltzer, *supra* note 12 (arguing throughout that metadata disclosure under FOIA will lead to substantial financial costs for the government and serious national security and privacy issues given the state of redaction methods in 2009). Current redaction shortcomings are (we hope) ephemeral; FOIA's purpose and text (in the absence of amendment) are not.

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divorced from its related e-record ignores the technical reality that metadata is part and parcel of the e-record to which it relates. The real e-record includes metadata, which does not stand on its own apart from its associated e-record.[98]

Federal and state judicial decisions[99] more fully explicate the contours of what makes up a *real* record under FOIA and similar state freedom of information laws. The most compelling of these decisions is *Armstrong v. Executive Office of the President*,[100] in which the United States Court of Appeals for the District of Columbia Circuit highlighted the *qualitative* differences between agency records produced with and without metadata. *Armstrong* is discussed in detail below.

1. Armstrong v. Executive Office of the President

Armstrong involved White House correspondence concerning the Iran-Contra scandal through "PROFS"—an early email system used by the federal

[98] *See* Kozinets, *supra* note 4, at 26.

[99] While my research uncovered only one applicable (non-withdrawn) federal court decision, several state courts have interpreted state law to hold that real e-records include associated metadata. For purposes of brevity and consistency with the purpose of this article, I do not discuss these state court decisions in detail, all of which rely upon state freedom of information laws, not FOIA. Nonetheless, these decisions provide persuasive authority in interpreting FOIA. For further reading, see Fagel v. Dep't of Transp., 991 N.E.2d 365, 372 (Ill. App. Ct. 2013), *appeal denied*, 996 N.E.2d 12 (Ill. 2013) (state agency violated Illinois' freedom of information law by furnishing a "locked" version of an Excel spreadsheet missing key pieces of embedded metadata); O'Neill v. City of Shoreline, 240 P.3d 1149, 1154 (Wash. 2010) ("Metadata may contain information that relates to the conduct of government and is important for the public to know. It could conceivably include information about whether a document was altered, what time a document was created, or who sent a document to whom. Our broad [Washington public records law] exists to ensure that the public maintains control over their government, and we will not deny our citizenry access to a whole class of possibly important government information. [A]n electronic version of a record, including its embedded metadata, is a public record subject to disclosure. There is no doubt here that the relevant [email at issue] itself is a public record, so its embedded metadata is also a public record and must be disclosed."); Irwin v. Onondaga Cnty. Res. Recovery Agency, 895 N.Y.S.2d 262 (N.Y. App. Div. 2010) (requiring the production of system metadata in response to a request for e-records under New York's freedom of information law); Lake v. City of Phoenix, 218 P.3d 1004, 1007–08 (Ariz. 2009) ("Arizona's public records law requires that the requestor be allowed to review a copy of the 'real record.' It would be illogical, and contrary to the policy of openness underlying the public records laws[] to conclude that public entities can withhold [embedded metadata] in an electronic document, such as the date of creation, while they would be required to produce the same information if it were written manually on a paper public record."); *see also* Lake v. City of Phoenix, 207 P.3d 725, 739 (Ariz. Ct. App. 2009) (Norris, J., dissenting), *vacated in part*, 218 P.3d 1004 (Ariz. 2009) ("Under [Arizona's version of FOIA], barring issues of confidentiality and public safety—issues not presented [in this case], a person asking to inspect a public record is entitled to inspect the real record. If we were dealing with a public record that began its 'life' on paper, a person asking to see it would be entitled to see it—all of it. A person asking to see an electronic version of a public record should be treated no differently."). Notably, I did not find a single judicial decision—federal or state—holding (or even intimating) that metadata should *not* be considered part and parcel of the e-record to which it relates.

[100] 1 F.3d 1274 (D.C. Cir. 1993).

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government.[101] As the Reagan administration ended in the late-1980s, agency officials printed and stored paper hard copies of various PROFS emails to comply with the FRA, under which an agency cannot destroy its "records" unless it does so in compliance with FRA procedures.[102] The agency officials planned to dispose of the original electronic PROFS email files, which contained metadata describing electronic "[d]irectories, distribution lists, acknowledgements of receipts," and "similar [descriptive] materials" not displayable in the paper printouts.[103] A private research firm filed FOIA requests for the original electronic PROFS emails and sued in federal court to enjoin their destruction as violative of the FRA.[104]

The D.C. Circuit Court of Appeals held the FRA required the government to preserve the *original* electronic PROFS emails containing related metadata because the emails constituted agency "records" distinct from their paper printouts.[105] The court observed that the electronic emails were "qualitatively different" from their paper printouts because they were not "copies" or "identical twins" but, at most, "kissing cousins."[106] The printouts did not display "non-screen" descriptors contained within the emails' metadata, meaning a "later reader" would be unable to "glean" from the printouts "such basic facts as who sent or received" the email and "when it was received."[107] With only paper printouts, "*essential transmittal information*" relevant to a "fuller understanding of the context and import of [the] electronic communication[s]" would "*simply vanish*."[108]

The court's rejection of the government's position that the electronic emails were mere "'extra copies'" of their paper printouts was "far more than judicial nitpicking."[109] The court emphasized the importance of the information contained within the metadata, observing that:

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[101] *See Armstrong*, 1 F.3d at 1279–80; Kozinets, *supra* note 4, at 24.

[102] Armstrong v. Bush, 721 F. Supp. 343, 347 (D.D.C. 1989), *aff'd in part*, *rev'd in part*, 1 F.3d 1274 (D.C. Cir. 1993); *Armstrong*, 1 F.3d at 1278 (citing 44 U.S.C. § 3301 *et seq.* (1988)).

[103] *Armstrong*, 721 F. Supp. at 347.

[104] *Id.* For a discussion concerning the relationship between FOIA and the FRA, see *supra* note 81.

[105] *Armstrong*, 1 F.3d at 1283.

[106] *Id.* (internal quotation marks omitted).

[107] *Id.* at 1280.

[108] *Id.* (emphasis added).

[109] *Id.* at 1285.

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> [w]ithout the missing information [contained in the PROFS emails' metadata], the paper [printouts]—akin to traditional memoranda with the "to" and "from" cut off and even the "received" stamp pruned away—are *dismembered documents indeed*. [Paper texts] alone may be of *quite limited utility* to researchers and investigators studying the formulation and dissemination of *significant policy initiatives at the highest reaches of our government*. [T]he omitted information [contained in the metadata] may be of *tremendous historical value* in demonstrating what agency personnel were involved in making a particular policy decision and what officials knew, and when they knew it. The "[t]omorrow, and tomorrow, and tomorrow" of government will be allowed to "creep in [their] petty pace from day to day" without benefit of the "last syllable of recorded time." [citing William Shakespeare's *Macbeth*]. . . . [T]he practice of retaining only the *amputated* paper [printouts] is flatly inconsistent with Congress' evident concern with preserving a complete record of government activity for historical and other uses [under the FRA].[110]

The court's reasoning in *Armstrong* supports a presumption in favor of metadata disclosure under FOIA. Paper printouts of electronic documents are effectively identical to e-records produced in "static" format without metadata in accompanying load files, the production of which would omit "essential transmittal information" relevant to a "fuller understanding of the context and import" of the e-record of which the metadata is a part.[111]

Bloomberg's FOIA case against the Fed—discussed above—proves instructive here. Like the bare hard copy printouts in *Armstrong*, Fed loan e-records stripped of metadata would have been of "quite limited utility" to Bloomberg's "researchers and investigators," who sought to "study . . . the formulation and dissemination of significant policy initiatives at the highest reaches of our government."[112] If Bloomberg had access only to static images without metadata containing information "of tremendous historical value," the public might have

[110] *Id.* (emphasis added).

[111] *Armstrong*, 1 F.3d at 1280.

[112] *Id.* at 1285.

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been blocked from its right to access the "*real* record" in a meaningful way, in accordance with the purpose of FOIA.[113] Federal courts should, therefore, rely on *Armstrong* to construe FOIA as presumptively favoring the disclosure of requested readily reproducible metadata.

IV. FORGING A BALANCED PRESUMPTION IN FAVOR OF THE DISCLOSURE OF METADATA UNDER FOIA: A PROPOSED LEGAL FRAMEWORK

As demonstrated by the three justifications set forth above, a presumption favoring the disclosure of requested, readily reproducible agency metadata has power to advance the fundamental purposes of FOIA. Such a presumption would assist the public in "monitor[ing] the conduct of their officials" as a check on government abuses. This would, in turn, "foster . . . public trust and confidence" in the "legitimacy and integrity of government decisions" and promote "democratic self-government" and "public participation" by "opening the conduct of government to public scrutiny."[114]

Federal courts can craft such a presumption in a way that safeguards the government's legitimate interests in reducing financial burdens and protecting privacy and national security. To assist in this process, I propose the following balanced approach.

In deciding a dispute over metadata disclosure under FOIA, federal courts should first require requesters to affirmatively ask for and reasonably describe any metadata sought, as required by FOIA. Second, courts should individually assess the propriety of disclosure with respect to *each* metadata subtype requested, applying the evidentiary burdens suggested below to determine whether the agency has proved the requested metadata is not "readily reproducible." I discuss both steps of this proposed framework in detail below.

A. Step One: The Public Must "Request" and "Describe" Metadata "Reasonably"

Where a FOIA requester broadly seeks agency records in electronic format, federal courts should not presume FOIA automatically compels the disclosure of all related metadata. *Armstrong* shows metadata is an intrinsic part of the e-record to which it relates—but federal courts are bound by FOIA's plain text, which places the initial burden *on the public* to "request" and "*reasonably* describe" any agency

[113] *Id.*; *cf.* Lake v. City of Phoenix, 218 P.3d 1004, 1007–08 (Ariz. 2009) (emphasis added).

[114] *See* Kozinets, *supra* note 4, at 29.

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records sought.[115] A broad demand for agency "e-records" does not affirmatively "request" or "reasonably describe" related metadata under FOIA. Such a request does not place the agency on notice with respect to the specific metadata sought. Rather, it thrusts upon the agency the burden to divine the requester's intent, in violation of Congress' directive that *the requester* bear the initial responsibility to make reasonably clear the government records it seeks. To hold otherwise would violate FOIA's plain text and undermine its purpose of *qualified* government transparency. Therefore, the presumption favoring metadata disclosure under FOIA should not activate where a party seeking agency e-records has not: (1) requested metadata affirmatively and formally in its initial FOIA request;[116] and (2) designated the agency metadata it seeks specifically[117] using a "reasonable description,"[118] as required by FOIA.

Federal courts should assess whether a FOIA request for metadata is "reasonably described" based upon the specific facts of each case, circuit precedent defining a "reasonably described" FOIA request, and the court's own experience with the particular parties throughout the litigation. While federal courts should

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[115] *See* 5 U.S.C § 552(a)(3)(A) (2012) ("[E]ach agency, upon any *request* for records [that] . . . *reasonably describes* such records and . . . is made in accordance with published rules stating the time, place, fees (if any), and procedures to be followed, shall make the records promptly available to any person." (emphasis added)).

[116] Section 552(a)(3)(A)'s text plainly requires agencies to respond to "*any* request" for records. This plausibly encompasses requests for metadata made *after* the initial FOIA request for e-records. But the text also requires requesters to comply with "published [procedural] rules" governing FOIA requests. Agencies burdened by belated metadata requests may, therefore, craft rules *requiring* requesters to seek metadata in the initial FOIA request. This would mitigate an agency's initial searching, processing, redaction, and production burden. Such a rule would compel requesters seeking e-records to place the agency on notice explicitly *from the outset* that they also seek agency metadata. Moreover, an agency can use this authority to draft procedural requirements for FOIA request amendments or even exceptions to the "initial request" rule comporting with its own unique needs and response infrastructure. For examples of an initial formal FOIA request letter from a private entity and a government agency, respectively, see *Sample FOIA Request Letters*, NAT'L FREEDOM OF INFO. COALITION, http://www.nfoic.org/sample-foia-request-letters#foireq (last visited Nov. 23, 2014); *How to File a FOIA Request*, CENT. INTELLIGENCE AGENCY, http://www.foia.cia.gov/foia_request (last visited Nov. 23, 2014).

[117] It may be difficult for FOIA requesters to "specifically" identify agency metadata. An agency (we hope) knows intimately the manner in which it creates and stores its own e-records; requesters, on the other hand, generally do not. Agencies must, nevertheless, respond to "requests" for metadata that are "reasonably described." Federal courts should, therefore, take into account this informational asymmetry when assessing the specificity and "reasonableness" of a formal request for e-records and metadata under FOIA.

[118] For examples illustrating how agencies define a "reasonable request" for records under FOIA, see *supra* note 84. *Cf.* Meltzer, *supra* note 12, at 356–57 ("If metadata is not specifically requested, the agency should not have to reproduce it at all. . . . [T]o have go through [the] . . . metadata [of all requested e-records individually] would only increase the burden on an agency and potentially worsen the backlogs that currently affect the FOIA request process.").

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duly defer to an agency's fair and formal definition of a "reasonably described" request, FOIA does not require courts to consider the agency's definition as dispositive. In fact, FOIA's plain text does not require federal courts to accord weight to an agency's "reasonable description" criteria.[119] This contrasts sharply with FOIA's requirement that courts must accord "*substantial* weight" to agency affidavits concerning whether records are "readily reproducible."[120] That Congress ordered courts to give weight to agency declarations with respect to "reproducibility" but did not do so for "reasonably described requests" suggests that federal courts may (and should) rely upon more than the mere "say-so" of the agency when assessing whether a request for agency metadata is "reasonably described."

For example, if the court construes the agency's "reasonable description" criteria for metadata requesters as arbitrary or unduly burdensome, or if the agency fails to publish its "reasonableness" requirements conspicuously, the court may choose to read a FOIA request for metadata broadly in favor of the requester. Conversely, if a requester describes the metadata it seeks imprecisely (or not at all) in the face of an agency's fair and readily ascertainable criteria, the presumption should not activate, and the court should not order the agency to disclose the metadata associated with the requested e-records.

The (subsequently withdrawn) opinion in *National Day Laborer Organizing Network v. United States Immigration & Customs Enforcement Agency*[121] demonstrates the burdensome consequences of compelling the government to disclose metadata where the requester fails to formally ask for and reasonably describe it in its initial, formal FOIA request. There, the plaintiffs submitted broad FOIA requests in February 2010 merely for agency e-records,[122] assuming the requests included related metadata. The agencies, however, produced only static files. In a July 2010 email, the plaintiffs responded by requesting "[E]xcel documents in [E]xcel file format[,] not as PDF screen shots."[123] The plaintiffs did not formally request metadata until December 2010—ten months after its initial

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[119] The *Chevron* doctrine and the APA, of course, compel judicial deference to the agency's reasonable interpretations of FOIA. *See supra* note 94.

[120] 5 U.S.C. § 552(a)(4)(B) (2012) (emphasis added).

[121] Nat'l Day Laborer Org. Network v. United States Immigration & Customs Enforcement Agency, No. 10 Civ. 3488 (S.D.N.Y. 2011), *available at* http://smu-ediscovery.gardere.com/Natl-Day-Laborer-Organizing-Network-v.-U.S.-Immigration-and-Customs-Enforcement-Agency%5B1%5D.pdf. *See supra* note 8 for a discussion with respect to why the court withdrew its opinion in *National Day Laborer*.

[122] *Id.* at 1.

[123] *Id.* at 6.

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request for e-records.[124] Despite the government's argument that the plaintiffs' vague July 2010 email and belated formal metadata request constituted an impermissible expansion of their initial FOIA request,[125] the court required the government to disclose the metadata,[126] ignoring FOIA's requirement that the plaintiffs must "request" records with a "reasonable description." The court noted that while "the language of" the plaintiffs' July 2010 e-mail was "*less than crystal clear*," it was "sufficient to put [the government] on notice of [the plaintiffs'] requests regarding form of production."[127]

The plain language of FOIA is at odds with the withdrawn opinion in *National Day Laborer*. As stated, metadata *is* an intrinsic part of the real e-record—*but* it is also difficult and expensive to disclose for the government.[128] In tacit recognition of the government's burden, FOIA's text absolves agencies of the obligation to disclose records that have not been "requested" and "reasonably described." An informal request using a vague, "less than crystal clear" description via email to an agency representative five months after an initial formal FOIA request broadly seeking "e-records" should not constitute a "reasonably described"

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[124] *Id.*

[125] The government argued, as I do now, that "If a party wants metadata, it should [a]sk for it. Up front. Otherwise, if [the party] ask[s] too late or ha[s] already received the document in another form, [it] may be out of luck." *Id.* at 12–13.

[126] *Id.* at 13. The court noted, "Given Plaintiffs' July [2010] e-mail and [the government's] tardy productions, I cannot accept this lame excuse for failing to produce the records in a usable format." *Id.* As discussed throughout this article, I agree that the government *should* produce records in "*usable formats*"—but FOIA's plain text places the burden on the requester to *affirmatively seek* what it considers "usable" from the outset. What is "usable" to a requester in one context may not be "usable" to a different requester in another. The withdrawn opinion in *National Day Laborer* would have the *agency* define for the requester what a "usable format" is. This is practically and textually incorrect.

[127] *Id.* (emphasis added).

[128] *See, e.g.*, Reply Memorandum of Law in Further Support of the Government's Motion for a Stay Pending Appellate Review at 8–10, *Nat'l Day Laborer*, No. 10 Civ. 3488 (S.D.N.Y. 2011), *available at* https://ccrjustice.org/sites/default/files/assets/files/Doc%2085%20Reply%20Mem%20of%20Law%20in%20Support%20of%20Def%20Motion%20for%20Stay.pdf (last visited Nov. 23, 2014) (discussing the government's burden and arguing for nondisclosure on grounds that the agencies' "existing FOIA practices [do not provide] a mechanism to review, much less redact, metadata"; that the agencies "have access to software that has been used in the civil discovery context to produce metadata, [but] such software would not provide an adequate solution" because it was "not available for FOIA purposes" based upon its use "in active criminal investigations"; that using such software would, in any event, "exponentially increase the time and expense of processing FOIA requests" and "would not allow for the redaction of exempt metadata," meaning "[a]ny fields with exempt information would simply not be produced"; that "produc[ing] a [mere] *sampling* of Excel spreadsheets in TIFF format with load files for this *one* FOIA request [would have required the] FBI [to] train[] [fifteen] FOIA analysts to use [the e-discovery software] program on a temporary basis, [even though] the program was being utilized by [the] FBI's Financial Crimes Section and reached maximum capacity as a result of that office's ongoing investigations"; and that the agencies at issue receive hundreds of thousands of FOIA requests per year (emphasis in original)).

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"request" for metadata under FOIA. Strict enforcement of this threshold requirement will ensure that the government is *actually* on notice from the outset that the requester seeks metadata, thus allowing the agency to craft a response protocol compatible with its particular needs and infrastructure.

B. Step Two: Courts Should Assess the Propriety of Metadata Disclosure Individually by Metadata Subtype

Assuming an affirmative, reasonably described FOIA request for nonexempt agency metadata, federal courts should individually assess the propriety of disclosure with respect to *each* metadata subtype requested.[129] As discussed above, metadata exists in three subtypes: (1) substantive; (2) system; and (3) embedded. The disclosure of each individual subtype under FOIA raises unique technical, legal, and practical concerns. A blanket presumption in favor of disclosure applying indiscriminately to all three metadata subtypes would overlook these unique concerns, damaging FOIA's careful balancing of *qualified* government transparency. A more nuanced approach is required.

Federal courts can craft such a nuanced approach by requiring the government to satisfy a distinct evidentiary burden[130] with respect to whether each requested metadata subtype is "readily reproducible" by the agency.[131] As noted, FOIA places the burden on the government to prove that metadata is not "readily reproducible."[132] However, FOIA is silent with respect to the legal parameters of that burden. In light of this silence, and for the reasons set forth below, federal courts should require the government to adduce substantial evidence of burden to overcome the presumption favoring the disclosure of *system* metadata. *Substantive* metadata, on the other hand, will almost always fall within FOIA's "deliberative-process" exemption. In the rare case in which a party seeks nonexempt substantive metadata, however, courts should require the government to show substantial

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[129] Of course, if the requester excludes (intentionally or inadvertently) a metadata subtype from its request, the court need not address the propriety of its disclosure. In such a case, the requester has failed to "request" and "reasonably describe" the metadata subtype, thus absolving the agency from any obligation to search for and disclose it.

[130] The majority of FOIA disputes in federal court are resolved through motions for summary judgment filed under Federal Rule of Civil Procedure 56. *See, e.g.*, Rebecca Silver, *Standard of Review in FOIA Appeals and the Misuse of Summary Judgment*, 73 U. CHI. L. REV. 731, 735 (2006). Because Rule 56 requires the court to determine whether there is a "genuine dispute as to any material *fact*," evidentiary burdens play a central role in the disposition of FOIA disputes at summary judgment. *See* FED. R. CIV. P. 56(a) (emphasis added). For these reasons, tailoring unique burdens of proof to each metadata subtype would allow federal courts to breathe life into the presumption favoring metadata disclosure under FOIA.

[131] *See* 5 U.S.C. § 552(a)(3)(B) (2012).

[132] *See id.* § 552(a)(4)(B).

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evidence of burden to avoid its disclosure. With respect to disputes over *embedded* metadata, courts should require the government to satisfy a lesser showing of burden, with one exception for embedded metadata that is essential to understanding the e-record to which it relates. Each metadata subtype and its corresponding evidentiary burden[133] is discussed in detail below.

1. Whether System Metadata Is "Readily Reproducible"

As stated above, federal courts should require the government to adduce *substantial* evidence of burden to overcome the presumption favoring the disclosure of requested, nonexempt *system* metadata. Several factors counsel in favor of requiring a high evidentiary burden here. Recall that system metadata reflects *logistical* (as opposed to substantive) information used to track an e-record's demographics. Importantly, these include the "essential transmittal information" discussed in *Armstrong*, including, for example, an e-record's file name, author, creation and modification dates and times, size, location, and usage history.[134] System metadata, moreover, has considerable power to facilitate

[133] Concededly, this approach may require the court to "characterize" the type of metadata the requester seeks in its initial FOIA request to ascertain the appropriate evidentiary burden the government must satisfy. This may prove difficult in certain cases given that metadata's *legal* definition is elusive. Technology evolves, and ESI cannot always be made to fit within immutable, wooden legal categories. *See* Lucia Cucu, *The Requirement for Metadata Production Under* Williams v. Sprint/United Management Co.*: An Unnecessary Burden for Litigants Engaged in Electronic Discovery*, 93 CORNELL L. REV. 221, 235–36 (2007) ("Because there is no clear definition of the word 'metadata,' using it as a basis for law can lead to confusion."). This "characterization" issue may lead to wasteful litigation and gamesmanship over whether a specific piece of ESI is "metadata" and, if so, whether it constitutes a particular metadata subtype. This complicated issue merits its own article—but I have a few thoughts. Agencies may mitigate "characterization" risks by using their broad authority under FOIA to craft regulations (and amendments responsive to technological developments) that: (1) define the three metadata subtypes in terms specific to the agency; (2) require requesters to simply "check a box" indicating which of the three metadata subtypes they seek in their formal FOIA request; and (3) require requesters to agree in writing not to litigate their subtype choice should a dispute arise. Requesters, on the other hand, may combat agency gamesmanship by crafting their initial FOIA request for metadata in reliance upon, and written citation to, circuit precedent (both binding and persuasive) and the particular agency's own rules, if any, defining the *legal* parameters of its own metadata. These solutions are, of course, imperfect and incomplete. But lawyers cannot escape that we must formulate and apply, as President Barack Obama once noted, narrow rules and arcane procedure to an uncooperative reality. *See generally* BARACK OBAMA, DREAMS FROM MY FATHER: A STORY OF RACE AND INHERITANCE (2004); *cf.* OLIVER WENDELL HOLMES, THE COMMON LAW 1 (1881) ("The life of the law has not been logic; *it has been experience*. . . . The law embodies the story of a nation's development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics." (emphasis added)).

[134] *See* Aguilar v. Immigration & Customs Enforcement Div., 255 F.R.D. 350, 354 (S.D.N.Y. 2008) (noting system metadata is "relevant" in non-FOIA litigation "if the authenticity of a document is questioned or if establishing 'who received what information and when' is important to the claims or defenses of a party" (internal citations omitted)); *cf.* Meltzer, *supra* note 12, at 334 n.34 ("The production of system metadata has the least potential for devastating consequences if it [is] released to the public, as it typically does not store any confidential or personally identifiable information. In non-FOIA . . . cases, courts have commented that most system metadata lacks evidentiary value because it is

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meaningful access to government e-records because it "significantly improves" the "ability to access, search, and sort large numbers of [e-records] efficiently."[135]

System metadata's power to promote government transparency, combined with the relative ease with which it can be extracted,[136] supports that the government should disclose it upon reasonable request, absent proof of *exceptionally* burdensome circumstances or express FOIA exemption. Procedurally, therefore, federal courts should require agencies to prove by *clear and convincing evidence* that requested, nonexempt system metadata is not "readily reproducible."[137] If the agency fails to make this showing, the court should require the government to disclose the requested e-records in static format with accompanying load files containing requested system metadata,[138] redacted as necessary for applicable FOIA exemptions.

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not relevant. In addition, courts have generally only found system metadata relevant if the requesting party is trying to establish who received what information and when. Because system metadata is created automatically by the user's application or operating system[,] system metadata can potentially provide an objective means of authenticating many electronic documents. However, despite the date and time stamps that are automatically created an individual who alters a document may not be the individual that the operating system says." (citations omitted) (internal quotation marks omitted)); *see also* SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 22.

[135] *See* Aguilar, 255 F.R.D. at 354.

[136] *Id.*

[137] *See* BLACK'S LAW DICTIONARY, *supra* note 80, at 636 ("[C]lear and convincing evidence [is] evidence indicating that the thing to be proved [*i.e.*, for our purposes, whether system metadata is 'readily reproducible' by the agency] is highly probable or reasonably certain. This is a greater burden than preponderance of the evidence, the standard applied in most civil trials. . . ."); Price v. Symsek, 988 F.2d 1187, 1191 (Fed. Cir. 1993) ("[C]lear and convincing evidence [is] evidence [that] produces in the mind of the trier of fact an abiding conviction that the truth of a factual contention is *highly probable*." (emphasis added)). The potential factors relevant to determining the "reproducibility" of system metadata are myriad and infinitely agency-specific. Consequently, I intentionally omit them here (after several abortive attempts at crafting a comprehensive set thereof). A federal court should, therefore, assess the factors relevant to the particular request and agency before it, deciding whether the agency has adduced evidence in satisfaction of its burden. For the court to grant summary judgment in favor of the agency, for instance, the agency must show that a rational trier of fact could conclude from the record before it that the agency has proved by clear and convincing evidence that the requested system metadata is not "readily reproducible." *See generally* Anderson v. Liberty Lobby, Inc., 477 U.S. 242 (1986) (describing Rule 56's summary judgment standard). This test should be exacting and difficult for the government to overcome, notwithstanding FOIA's direction that courts must accord "substantial weight" to agency declarations concerning whether records are "readily reproducible." *See* 5 U.S.C. § 552(a)(4)(C) (2012).

[138] *Cf. Aguilar*, 255 F.R.D. at 356–57 ("[I]n an effort to replicate the usefulness of native files while retaining the advantages of static productions [with respect to non-FOIA litigation], image format productions typically [should be] accompanied by load files, which are ancillary files that may contain textual content and . . . system metadata. . . . Weighing the advantages and disadvantages of different forms of production, . . . it is sufficient to produce . . . [e-]records in PDF or TIFF format accompanied by a load file containing searchable text and selected metadata. [This is adequate because] production is in usable form, e.g., electronically searchable and paired with essential metadata." (citations omitted));

Volume XVI – Fall 2015 ● ISSN 2164-800X (online)
DOI 10.5195/tlp.2015.177 ● http://tlp.law.pitt.edu

2. Whether Substantive Metadata Is "Readily Reproducible"

Substantive metadata is particularly troublesome. FOIA makes it *extremely* difficult for requesters to access it. In nearly every case, an agency's substantive metadata will fall readily within FOIA's "deliberative-process" exemption under § 552(b)(5). As a result, disputes over whether substantive metadata is "readily reproducible" will arise only in the rare and extraordinary case, if at all.

FOIA's deliberative-process exemption shields from disclosure "pre-decisional" and "deliberative" agency communications.[139] Recall that substantive metadata reflects "*substantive* changes" to an e-record "made by the user."[140] These include, for example, track changes or textual revisions made by agency personnel in a Word document setting forth a draft agency regulation.[141] FOIA requests for these track changes and revisions will generally fall squarely within FOIA's deliberative-process exemption. These substantive alterations are: (1) inherently "pre-decisional," as *draft* revisions are necessarily antecedent to the adoption of the agency's final policy decision; and (2) inherently "deliberative," as they merely make recommendations or express opinions with respect to the agency's legal or policy matters *still in deliberation*.

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see also Meltzer, *supra* note 12, at 362–64 ("If [the court orders metadata disclosure under FOIA], the agency should only reproduce the metadata . . . in static form with accompanying load files. To mandate that an agency reproduce a record in native format . . . would be to mandate that an agency must expose itself to the risk that sensitive information is recovered by an enterprising adversary or organization. Producing a document in static form drastically decreases the possibility that any information that is redacted by an agency will be recovered. . . . This would ensure that the requester receives the requisite metadata without the high risk of exposing exempt information . . . [while also ensuring] that the records produced [are] still in a readable and usable format [for] the requesting party. . . .").

[139] *See* 5 U.S.C. § 552(b)(5) (2012) (exempting from disclosure agency communications that *would be* exempt in non-FOIA litigation with the agency, which encompasses the deliberative-process privilege); *cf.* Am. Immigration Council v. United States Dep't of Homeland Sec., 950 F. Supp. 2d 221, 239 (D.D.C. 2013) ("The deliberative-process privilege [encompassed within FOIA, 5 U.S.C. § 552(b)(5),] calls for disclosure of all opinions and interpretations [that] embody the agency's effective law and policy, while withholding all papers which reflect the agency's group thinking in the process of working out its policy and determining what its law shall be. In order to justify a withholding under this privilege, the government must prove two basic elements. First, it must demonstrate that the document qualifies as 'pre-decisional' in the sense that it was antecedent to the adoption of an agency policy. Second, the government must show that the document forms a direct part of the deliberative process in that it makes recommendations or expresses opinions on legal or policy matters." (internal quotation marks omitted)). For an excellent discussion explaining why substantive metadata will almost always fall within FOIA's deliberative-process exemption see, Meltzer, *supra* note 12, at 357–60.

[140] *See* SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 22.

[141] *See* Meltzer, *supra* note 12, at 332 & n.25 (citing Robertson, *supra* note 21, at 203) ("The 'track changes' function . . . shows any alterations made to previous drafts of a document and the identities of the users who made the changes. . . . Though the 'track changes' [may be] deleted on the viewable surface of a document, the 'tracked changes' are often still stored within the substantive metadata . . . [and] if it is not removed, [it can] reveal secret information to other parties.").

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DOI 10.5195/tlp.2015.177 ● http://tlp.law.pitt.edu

Of course, the government bears the burden of proving that FOIA's deliberative-process exemption shields requested substantive metadata from disclosure.[142] But the government's evidentiary burden with respect to whether § 552(b) exempts a requested record from disclosure has been historically light.[143] There is no reason to think this lighter burden would (or should) change where the parties dispute whether substantive metadata falls within the deliberative-process exemption. After all, "the ultimate objective" of the exemption "is to safeguard the deliberative *process* of agencies, not the [mere] paperwork generated in the course of that process."[144] Requests for substantive metadata will most often seek access to the agency's deliberative process, thereby activating the exemption.

In the rare case in which an agency cannot show that requested substantive metadata falls within FOIA's deliberative-process exemption, however, the court should require its disclosure unless the agency proves by *clear and convincing evidence* that it is not "readily reproducible." Nonexempt substantive metadata may include, for example, data that "instructs" a computer with respect to the fonts and formatting to be displayed on screen or in a hard copy printout of an e-record.[145] Data governing an agency e-record's formatting may facilitate *meaningful* access to government e-records, which counsels in favor of a higher evidentiary burden for cases in which a requester actually seeks it.[146] Where the government cannot meet this burden, the court should require the agency to disclose the requested e-records in static format with accompanying load files containing the requested nonexempt substantive metadata.

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[142] *See* § 552(a)(4)(B) ("[T]he court . . . may examine the contents of . . . agency records in camera to determine whether such records or any part thereof shall be withheld under any of the exemptions set forth in [§ 552(b)], and *the burden is on the agency* to sustain its action." (emphasis added)).

[143] *See, e.g.*, Mead Data Cent., Inc. v. United States Dep't of Air Force, 566 F.2d 242, 251 (D.C. Cir. 1977) ("[T]he burden [that] FOIA specifically places on the Government to show that the information withheld is exempt from disclosure [under § 552(b) requires the government to] provide a *relatively detailed* justification, specifically identifying the reasons why a particular exemption is relevant and correlating those claims with the particular part of a withheld document to which they apply." (emphasis added)).

[144] *See* Meltzer, *supra* note 12, at 358 (quoting Nat'l Wildlife Fed'n v. United States Forest Serv., 861 F.2d 1114, 1119 (9th Cir. 1988)).

[145] *See* Aguilar v. Immigration & Customs Enforcement Div., 255 F.R.D. 350, 354 (S.D.N.Y. 2008) (noting that because of the substantive information contained within substantive metadata, it "need not be routinely produced [in non-FOIA litigation,] unless the requesting party shows good cause" (citations omitted) (internal quotation marks omitted)); *see also* Meltzer, *supra* note 12, at 332.

[146] Of course, public access to *exempt* substantive metadata would have incredible power to advance government transparency. But FOIA provides only for *qualified*—not *absolute*—government transparency. Congress thought it necessary to expressly exempt pre-decisional and deliberative agency records from disclosure under FOIA. Federal courts are, therefore, powerless to override this exemption.

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3. Whether Embedded Metadata Is "Readily Reproducible"

With respect to FOIA disputes over embedded metadata, federal courts should allow the government to avoid disclosure by way of a lighter showing of burden, with one exception for "essential" embedded metadata.

Embedded metadata is unique because it exists only within, and generally cannot be removed from, its related e-record's "native file."[147] Consequently, a presumption favoring the disclosure of agency embedded metadata necessarily extends to the disclosure of agency native files—a proposition fraught with controversy. Information redacted from most native formats is "never fully deleted from the file and can be recovered" or "un-redact[ed]" with relative ease.[148] As a result, requiring embedded metadata (and, thus, native file) production under FOIA has potential to "open the floodgates for the inadvertent release of confidential [agency] information" ineffectually redacted from native files.[149] E-records in native format may also be difficult to "Bates" number,[150] and the requester may not have access to the software necessary to open the e-record in native format.[151] These factors counsel in favor of a lighter evidentiary burden for the agency opposing production.

In certain circumstances, however, embedded metadata may provide the only means through which the public can access a government e-record *meaningfully*. The archetypal example is a request for embedded metadata underlying an Excel spreadsheet, in which case embedded metadata is commonly essential to understanding the spreadsheet in its entirety.[152] Under these circumstances,

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[147] SEDONA CONFERENCE GLOSSARY 3D, *supra* note 20, at 19.

[148] Meltzer, *supra* note 12, at 345–55 (discussing, in detail, the implications of compelled native file disclosure under FOIA). This article is from 2009, but my research did not uncover any new, improved technology related to native file redaction.

[149] *Id.*

[150] For a definition of "Bates" numbering, see BLACK'S LAW DICTIONARY, *supra* note 80, at 172 ("Bates-stamp number[:] The identifying number that is affixed to a document or to the individual pages of a document. The term gets its name from a self-advancing stamp machine made by the Bates Manufacturing Company. The number is typically used to identify documents produced during discovery—Often shortened to *Bates number*; *Bates stamp*.").

[151] *See Aguilar*, 255 F.R.D. at 356.

[152] *See supra* note 33 (describing the difficulties associated with understanding Excel spreadsheets without embedded metadata); *cf.* Fagel v. Dep't of Transp., 991 N.E.2d 365, 372 (Ill. App. Ct.), *cert. denied*, 996 N.E.2d 12 (Ill. 2013) (state agency violated Illinois' freedom of information law by furnishing a "locked" version of an Excel spreadsheet missing key pieces of embedded metadata); *Aguilar*, 255 F.R.D. at 355 (noting embedded metadata is generally considered "crucial" to understanding certain e-records, for example, "complicated" Excel spreadsheets, which may be

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requesters should have an opportunity to rebut the government's showing that embedded metadata is not "readily reproducible."

Procedurally, therefore, the government should be able to meet its *initial* burden that requested, nonexempt embedded metadata is not "readily reproducible" with proof satisfying the *preponderance of the evidence* standard.[153] If the government makes this initial showing, the burden should shift to the requester to prove by a *preponderance of the evidence* that the information contained in the requested embedded metadata is: (1) *essential* to understanding the e-record to which it relates; (2) *qualitatively irreplaceable* when compared to any other agency metadata to which the requester has access under FOIA; and (3) *actually accessible* using the requester's electronic information resources, as determined as of the time of the initial FOIA request. If the requester fails to prove all three factors, the court should not require disclosure of the requested e-record in native format but may order disclosure in static format. If, however, the requester proves all three factors, the burden should shift back to the government to prove by a *preponderance of the evidence* that production of the requested e-record in native format will present actual, substantial national security or privacy risks that *cannot* be remedied through FOIA's exemptions and the agency's actual, reasonable redaction efforts. Only if the government fails to satisfy this final burden should the court require the government to disclose the requested e-record in native format, which will necessarily include embedded metadata. This framework will protect the public's interest in accessing essential embedded metadata while accounting for the government's concerns with respect to ineffectual native file redaction.

V. CONCLUSION

As noted by commentator Ari Schwartz, "[a]ccess to [government] information inevitably implicates other interests—in particular, cost, privacy, and security."[154] "Too often," however, "these important issues are unnecessarily seen

"difficult to comprehend" without the ability to view the metadata formulae underlying the output in each cell).

[153] *See* BLACK'S LAW DICTIONARY, *supra* note 80, at 1301 ("[P]reponderance of the evidence[:] [S]uperior evidentiary weight that, though not sufficient to free the mind wholly from all reasonable doubt, is still sufficient to incline a fair and impartial mind to one side of the issue rather than the other."); Neil Orloff & Jery Stedinger, *A Framework for Evaluating the Preponderance-of-the-Evidence Standard*, 131 U. PA. L. REV. 1159, 1159 (1983) ("In most civil cases, the requisite degree of persuasion is 'by a preponderance of the evidence.' This traditionally requires demonstrating that the existence of the contested fact is more probable than its nonexistence.").

[154] Ari Schwartz, *Using Open Internet Standards to Provide Greater Access in a Post-9/11 World*, 2 ISJLP 125, 135 (2006), *available at* http://moritzlaw.osu.edu/students/groups/is/files/2012/02/Schwartz___Final__formatted_.pdf.

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DOI 10.5195/tlp.2015.177 ● http://tlp.law.pitt.edu

as competing with [government] openness"—the purpose for which Congress enacted FOIA in 1966.[155] As discussed throughout this article, metadata can be a powerful tool to advance government transparency and accountability under FOIA.

Upon reasonable request, therefore, the public should have a presumptive right to readily reproducible agency metadata under FOIA—absent affirmative proof of substantial burden or express FOIA exemption—because: (1) the public has an interest in *meaningful* access to government e-records in *optimal* formats; (2) the express language of FOIA supports such a presumption; and (3) the line between "metadata" and the e-"record" to which it relates is illusory.

The presumption and legal framework I set forth above may help resolve FOIA's democrat dilemma by furthering the public's interest in federal government transparency while protecting the government's legitimate interests in reducing costs and protecting privacy and national security. This balanced solution would advance one of our nation's "most essential principles": that democracy "works best when the people have all the information that the security of the [United States] permits."[156]

[155] *Id.*

[156] Johnson, *supra* note 3.

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DOI 10.5195/tlp.2015.177 ● http://tlp.law.pitt.edu