



Stanford Regulation, Evaluation, and Governance Lab

Working Paper Series

No. 26–2 · August 18, 2026

Code Rot

UC Law Journal (2026, forthcoming)

Daniel E. Ho

Lindsey Gailmard

Varun Magesh

Emily Robitschek

Suggested citation. Ho, Daniel E., Lindsey Gailmard, Varun Magesh, and Emily Robitschek (2026). “Code Rot.” UC Law Journal (forthcoming).

RegLab working papers are preliminary work circulated for discussion and comment. They do not represent the official views of any partner agency.

Contact: reglab@law.stanford.edu

Code Rot¹

Daniel E. Ho,² Lindsey Gailmard,³ Varun Magesh,⁴ Emily Robitschek⁵

Stanford Law School

Abstract

Concerns about the unwieldiness of law are perennial, spanning debates from the founding era to contemporary reform efforts on the left and right. We document and provide an account of what we coin “code rot”—the degradation of a legal code over time as provisions become obsolete, unlawful, or accreted to the point of practical incoherence. Code rot frustrates core rule-of-law commitments by eroding the law’s legibility, clarity, and enforceability. Rather than treating accumulations of obsolete or unenforceable provisions as isolated legislative failures, we argue that code rot is a predictable byproduct of how lawmaking works. Short electoral time horizons reward enacting new law over maintaining existing law, and no institution is charged with the systematic task of identifying and clearing provisions that no longer function.

We make five principal contributions. *First*, we conceptualize code rot as a predictable feature of modern lawmaking, arising whenever legislative incentives favor novelty over maintenance and no durable institutional capacity for systematic discovery exists. *Second*, we discuss how code rot affects legislatures, courts, administrative agencies, and the public. Rotten code imposes costs and risks on institutions, obscures the operative content of enacted law, and complicates the allocation of authority across the separation of powers. *Third*, we explain why existing reform mechanisms fall short. The U.S. Code alone contains roughly 33 million words. Major municipal codes, such as San Francisco’s, are not far behind. Recent efforts to leverage advances in artificial intelligence promise relief at parsing entire bodies of law. But many AI-assisted code simplification initiatives miss the mark, relying on general-purpose, naïve forms of AI that are ill-equipped to deal with statutory text. *Fourth*, we recount our first-of-its-kind partnership with the San Francisco City Attorney’s Office using a purpose-built statutory research analysis tool (STARA). The collaborative, exploratory, and consultative process culminated in a 350+-page ordinance that eliminated roughly one-third of San Francisco’s reporting requirements. The partnership shows how AI tools can enhance, and not undermine, the legibility of law. *Last*, in response to the political economy of code rot, we propose “Sludge Units” empowered to produce omnibus statutory

¹ We thank Nick Bagley, Andrea Bruss, David Chiu, Jon Givner, Leah Granger, Nick Maduros, Derek Ouyang, Jen Pahlka, and participants at the Niskanen Center’s webinar on Modernizing Municipal Code with Technology, the California State Leadership Summit, the San Francisco AI Forum, and the Denver GenAI Summit for thoughtful comments and feedback. This article does not necessarily reflect the perspectives of the San Francisco City Attorney’s Office.

² William Benjamin Scott and Luna M. Scott Professor of Law, Professor of Political Science and Computer Science (by courtesy), Senior Fellow at Stanford’s Institute for Human-Centered Artificial Intelligence (HAI), Senior Fellow at the Stanford Institute for Economic Policy Research (SIEPR), Director of Regulation, Evaluation, and Governance Lab (RegLab), Stanford University. Email: dho@law.stanford.edu.

³ Postdoctoral Scholar, RegLab, Stanford University.

⁴ Nonresidential Affiliate, RegLab; J.D. 2028, Harvard Law School.

⁵ Research Fellow, RegLab, Stanford University.

revision packages for expedited amendment-free up-or-down votes in Congress. We complement this proposal with a set of enabling conditions—public discovery capacity, open machine-readable legal infrastructure, public participation, and a computable statutes pilot. These efforts respond to challenges faced by the administrative state and Congress’s declining capacity to govern through statute, offering a framework for restoring law’s capacity to guide, constrain, and legitimate public power.

TABLE OF CONTENTS

<i>I. Diagnosing Code Rot</i>	16
A. Defining Code Rot	18
B. Causes of Code Rot	20
1. Superseding Legal Changes	20
2. Judicial Review	21
3. Accretion of Rules	22
4. Longstanding Neglect and Desuetude.....	23
5. Changes in Factual Practice	24
6. Political Economy	25
<i>II. Why Code Rot Matters</i>	27
A. Consequences for Legislative Bodies	28
B. Consequences for Administration	30
C. Consequences for the Judicial System	32
D. Consequences for the Public	35
<i>III. Existing Reform Efforts</i>	37
A. Federal Efforts	38
1. Code Revision	38
2. Retrospective Regulatory Review	39
B. State Efforts	44
C. Local Efforts	46
D. Previous Algorithmic Legal Reform Efforts	47
1. QuantGov and RegData	47
2. RegExplorer	48
3. Virginia Regulatory Reform	50
4. Racially Restrictive Covenants	52
<i>IV. A Collaborative Framework to Use AI for Code Reform</i>	52
A. Our Approach	55
B. How STARA Works	56
C. Collaboration with the San Francisco City Attorney’s Office	57
1. Building Trust: The Commission Search.....	58
2. Exploration: Scoping the Reform Agenda	59
3. Consultation: From Candidate Provisions to Ordinance.....	60
D. Response and Estimated Impact	63
E. Addressing Potential Objections	65
<i>V. Implications</i>	67

A.	Sludge Units: A Statutory Maintenance Commission	68
B.	Conditions for Sludge Units	70
1.	Institutionalizing Discovery	70
2.	Avoiding the Procurement Trap.....	71
3.	Law as Infrastructure: Machine-Readable Codes	72
4.	Enabling Public Participation in Code Reform.....	73
5.	The Problem of Proprietary Law	74
VI.	Conclusion.....	75

Introduction

There is no shortage of speculation about how artificial intelligence might transform law and government. Proponents envision AI systems⁶ that can instantly survey entire legal codes, flag obsolete rules, and generate legislative proposals at minimal cost.⁷ Skeptics worry about the performance of AI systems, including fears surrounding possible hallucinations, opacity of decision-making processes, and the delegation of value-laden legal judgments to algorithmic systems.⁸ What has been missing from the debate is something even more fundamental: concrete illustrations of how AI can be responsibly and transparently integrated into real reform efforts, what such integration actually looks like in practice, and what we learn from it. This Article fills that gap. We document a unique collaboration between researchers at Stanford and the San Francisco City Attorney’s Office that culminated in an ordinance to eliminate roughly one-third of the city’s reporting requirements. That demonstration—and its lessons—is the central contribution of this work.

The debate over AI-assisted legal reform is no longer hypothetical. Governments are now deploying AI for regulatory reform at scale, and the record is instructive. In July, the Department of Government Efficiency (DOGE) previewed a proposal to use an AI-based tool to scan roughly 200,000 federal rules and flag half for elimination, with seemingly limited staff feedback.⁹ A month later, DOGE unveiled a plan to deploy a large-language model (LLM) system called “SweetREX”—built on Google’s Gemini—to identify regulatory text not required by statute and facilitate the elimination of vast swaths of federal regulations.¹⁰ This initiative reflects a broader pattern in contemporary governance debates: Bold claims about the promise of transformative technology paired with little evidence of how AI tools perform when confronted with the

⁶ This Article uses “AI system” to mean a machine-based system that, for explicit or implicit objectives, infers how to generate outputs such as predictions, content, recommendations, or other decisions, and that may vary in its levels of autonomy and adaptiveness post-deployment. See Nat’l Inst. of Standards & Tech., U.S. Dep’t of Commerce, Artificial Risk Management Framework (AI RMF 1.0), NIST AI 1001-1, at 1 (2023) (similarly defining an “AI system” as “an engineered or machine-based system that can, for a given set of objectives, generate outputs such as predictions, recommendations, or decisions influencing real or virtual environments”). This definition is used descriptively throughout the Article and is not intended to track the scope of any particular statute or regulation discussed.

⁷ See, e.g., Nathan E. Sanders & Bruce Schneier, *AI Could Drastically Change How We Write Laws*, GOVERNING (Mar. 14, 2023); Nathan Sanders & Bruce Schneier, *AI Will Write Complex Laws*, LAWFARE (Jan. 16, 2025), <https://www.lawfaremedia.org/article/ai-will-write-complex-laws> [https://perma.cc/KLL3-4YR3].

⁸ See generally Danielle Keats Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249 (2008).

⁹ Ian Kullgren, *DOGE’s AI Plan to Kill 100,000 Rules Has a Bark Bigger Than Bite*, BLOOMBERG LAW (Aug. 12, 2025), <https://news.bloomberglaw.com/daily-labor-report/doges-ai-plan-to-kill-100-000-rules-has-a-bark-bigger-than-bite> [https://perma.cc/3WVP-SP3P].

¹⁰ Andrew Couts, *A DOGE AI Tool Called SweetRex Is Coming to Slash US Government Regulation*, WIRED (Aug. 14, 2025), <https://www.wired.com/story/sweetrex-deregulation-ai-us-government-regulation-doge/> [https://perma.cc/95XA-YXRH].

demands of real legal codes.¹¹ Still, most proposals remain abstract, untested, and detached from the institutional setting.

Importantly, the record already reveals these limitations. Off-the-shelf use of general AI is simply not up to the task. Pilot runs at the Department of Housing and Urban Development (HUD) misread statutory text,¹² and automated revisions and summarizations of public comments raise concerns about consistency with reasoned explanation and transparency requirements under the Administrative Procedure Act.¹³ Earlier this year, another AI system developed by DOGE to “munch” contracts with the Department of Veteran Affairs consistently misidentified the size of the contracts.¹⁴ The Department of Transportation announced plans to use AI to draft its regulations, but one demo resulted in a Notice of Proposed Rulemaking that lacked the actual text for the Code of Federal Regulations.¹⁵ The reliance on general-purpose or outdated models exposes the limits of AI alone as a vehicle for reform. The stakes are high. While AI can accelerate retrieval, it cannot substitute for discretion in statutory interpretation and

¹¹ See *Winning the AI Race: Strengthening US Capabilities in Computing and Innovation: Hearing Before the S. Comm. on Commerce, Science, and Transp.*, 119th Cong., (2025) (statement of Dr. Lisa Su, Chair & CEO, Advanced Micro Devices) (“AI is truly the most transformative technology of our time”); Ben Green, *Using AI to Reform Government Is Much Harder Than It Looks*, TECH POLICY PRESS (June 3, 2025) (“The deeper problem is the large gap between technical novelty and practical functionality.”)

¹² Hannah Natanson, Jeff Stein, Dan Diamond & Rachel Siegel, *DOGE builds AI tool to cut 50 percent of federal regulations*, WASH. POST (July 26, 2025), <https://www.washingtonpost.com/business/2025/07/26/doge-ai-tool-cut-regulations-trump/> [https://perma.cc/2YFY-GW4A] (“‘There were a couple places where the AI said the language was outside of the statute,’ the employee said, ‘and actually, no - the AI read the language wrong, and it is actually correct.’”); Matt Bracken, *DOGE pitched AI-fueled ‘regulation extermination’ tool to HUD*, FEDSCOOP (May 11, 2026), <https://fedscoop.com/doge-pitched-ai-fueled-regulation-extermination-tool-to-hud/> [https://perma.cc/ABK8-7T6J] (discussing “explicit instructions” to HUD to default to rescission).

¹³ Cary Coglianese & David Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, 105 GEO. L. J. 1147, 1207-1208 (2017) (discussing model disclosures necessary to satisfy APA requirements).

¹⁴ Brandon Roberts, Vernal Coleman & Eric Umansky, *DOGE Developed Error-Prone AI Tool to “Munch” Veterans Affairs Contracts*, PROPUBLICA (Jun. 6, 2025), <https://www.propublica.org/article/trump-doge-veterans-affairs-ai-contracts-health-care> [https://perma.cc/DH57-2T2D] (The AI system “hallucinated the size of contracts, frequently misreading them and inflating their value. It included more than a thousand were each worth \$34 million, when in fact some were for as little as \$35,000.” At least two dozen contracts were canceled (as of June 2025) as a result of the system’s output, including a contract “to maintain a gene sequencing device used to develop better cancer treatments” and another for “blood sample analysis in support of a VA research project.”).

¹⁵ Jesse Coburn, *Government by AI? Trump Administration Plans to Write Regulations Using Artificial Intelligence*, PROPUBLICA (Jan. 26, 2026), <https://www.propublica.org/article/trump-artificial-intelligence-google-gemini-transportation-regulations> [https://perma.cc/SG2H-UTQJ].

stakeholder engagement.¹⁶ Agencies still must “examine the relevant data and articulate a satisfactory explanation.”¹⁷

This Article starts from a different premise. Rather than asking what AI might do for law or regulation in theory, we ask what it can do in practice. We demonstrate how an affirmative collaborative process can be employed responsibly to aid in legal and regulatory maintenance. And yet, the starting point for our discussion is the same realization that has prompted DOGE’s aggressive streamlining attempts and has sparked abundance theorists on the left to focus on regulatory streamlining:¹⁸ that the modern state is drowning in its own rules and requirements.

The volume, complexity, and opacity of statutes, regulations, and intersecting codes make it difficult for even the government to understand what the law is.¹⁹ Code rot—provisions that are outdated, obsolete, or unenforceable due to the accumulation of or changes to legal requirements—contributes to the opacity of legal requirements. These decayed remnants of prior legislative or regulatory regimes clutter the law and obscure what the law is. As these provisions accumulate and interact, they generate what we describe as policy sludge²⁰: a dense and often incoherent web of mandates that hinders effective governance and undermines democratic oversight.

As we show, code rot is a structural feature of modern statutory governance with direct implications for constitutional values of transparency and democratic accountability. Courts routinely insist that the “law on the books” provides fair notice of legal obligations, that legislatures speak through enacted text, and that agencies remain bound by statutory commands.²¹ Yet code rot destabilizes each of these values. When large portions of statutory

¹⁶ David Freeman Engstrom, Daniel E. Ho, Catherine Sharkey & Mariano-Florentino Cuéllar, *Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies* (Admin. Conf. of the U.S., Fe. 2020), <https://law.stanford.edu/wp-content/uploads/2020/02/ACUS-AI-Report.pdf> [https://perma.cc/689Q-3WBL]; see also James Goodwin & Arvind Salem, *FAR from the APA: How Federal Procurement Law Is Undermining Reasoned Agency Decisionmaking*, YALE J. ON REG.: NOTICE & COMMENT (June 8, 2026), <https://www.yalejreg.com/nc/far-from-the-apa-how-federal-procurement-law-is-undermining-reasoned-agency-decision-making-by-james-goodwin-and-arvind-salem/> [https://perma.cc/TQA8-4VYD] (describing the disconnect between transparency required in rulemaking and procurement of “black box” AI models).

¹⁷ See *Motor Vehicle Mfrs. Ass’n v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 42-43 (1983); *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 514-16 (2009).

¹⁸ See, e.g. Nicholas Bagley, *The Procedure Fetish*, 118 MICH. L. REV. 345, 400 (2019).

¹⁹ Debates over the Affordable Care Act sparked calls for members of Congress to read the legislation, prompted by concerns that legislators did not understand or even read the content of the massive bill. See Kim Zetter, *Read the Bill, Group Tells Congress*, WIRED (Feb. 27, 2009), <https://www.wired.com/2009/02/read-the-bill-g/>

²⁰ Faiz Surani, Lindsey A. Gailmard, Allison Casasola, Varun Magesh, Emily J. Robitschek, Christine Tsang, Derek Ouyang & Daniel E. Ho, *Cleaning Up Policy Sludge: An AI Statutory Research System* (Stanford Inst. for Human-Centered Artificial Intelligence & Stanford RegLab, Policy Brief, June 2025), <https://hai.stanford.edu/assets/files/hai-reglab-policy-brief-cleaning-up-policy-sludge-stara.pdf> [https://perma.cc/WV8B-GEY9].

²¹ See LON L. FULLER, *THE MORALITY OF LAW* 39-41 (1969) (discussing legality principles of clarity, promulgation, and congruence).

codes are obsolete, unenforceable, or superseded, the code is no longer a reliable statement of the law. This Article argues that code rot constitutes a systemic rule-of-law problem, rather than simply a matter of legislative housekeeping. The examples below, drawn from nearly a century of American law and every level of government, are illustrative rather than exhaustive; the point is how pervasive and persistent the problem has proven to be.

Concerns about statutory obsolescence and legibility are not new. They predate the modern administrative state and have recurred with every major expansion of public law. In the 1970s, for example, then-Professor Ruth Bader Ginsburg enlisted a team of Columbia Law students to comb through the United States Code to identify provisions that discriminated on the basis of sex, laying the groundwork for equal rights litigation.²² Despite months of effort, the final report acknowledged the list was not exhaustive.²³ A decade later, the Reagan administration's Department of Justice attempted to count the number of federal crimes, ultimately abandoning the project after an intensive two-year effort.²⁴ The DOJ official in charge proclaimed, "You will have died and resurrected three times" and still not know the true number.²⁵ When the DOJ cannot ascertain the law, how can ordinary people?

The scale and consequences of code rot have grown as the administrative state has expanded. For example, in 2021, California passed legislation requiring counties to identify and redact racial covenants in property records. In Santa Clara County alone, efforts to identify these clauses required sifting through tens of millions of historical deeds.²⁶ Los Angeles County spent \$8 million on a contract to use keyword searches to complete the process in seven years.²⁷

The problem is hardly confined to obscure or archaic provisions. Common statutory requirements, such as congressionally mandated reports, provide a case study in bureaucratic overload. Congress lacks a comprehensive accounting of the reporting mandates it has imposed. There is no definitive search method for identifying all reporting obligations within the U.S.

²² See Brenda Feigen, *Memoriam Justice Ruth Bader Ginsburg*, 134 HARV. L. REV. 882, 883 (2021) (describing "weaponize[ing]" the list of statutes that discriminated on the basis of sex).

²³ See U.S. COMM'N ON CIVIL RIGHTS, SEX BIAS IN THE U.S. CODE, 3–5, 16–17 (1977), (noting that the initial research and draft were prepared by Ruth Bader Ginsburg and Brenda Feigen-Fasteau "assisted by a group of Columbia Law School students," and stating, "Our study is not comprehensive... [t]he report is extensive, but not exhaustive.").

²⁴ See Gary Fields & John R. Emshwiller, *Many Failed Efforts to Count the Nation's Federal Criminal Laws*, WALL ST. J. (July 23, 2011), <https://www.wsj.com/articles/SB10001424052702304319804576389601079728920> [https://perma.cc/H56J-QM88] ("You will have died and resurrected three times," and still be trying to figure out the answer, said Ronald Gainer, a retired Justice Department official.").

²⁵ *Id.*

²⁶ Santa Clara County Clerk-Recorder's Office, *Unlawfully Discriminatory Restrictive Covenant Modification Program*, <https://clerkrecorder.santaclaracounty.gov/recording-documents/modify-restrictive-covenants-documents/unlawfully-discriminatory-restrictive-covenant-modification-program> [https://perma.cc/HBM3-5D2F].

²⁷ Jaclyn Cosgrove, *Racist History Lives on in Millions of Housing records. L.A. County is about to fix that*, L.A. TIMES (Feb. 6, 2024), <https://www.latimes.com/california/story/2024-02-06/l-a-county-will-remove-racist-restrictive-covenant-language-from-millions-of-documents> [https://perma.cc/55JN-LFVT].

Code, so no one is quite sure how many reports agencies are required to produce.²⁸ The official list compiled by the Clerk of the House of Representatives is widely understood to be incomplete.²⁹ Political economist Francis Fukuyama noted, these reports are an example of the ways in which “government is made inefficient by the layers of rules bureaucrats themselves are forced to labor under.”³⁰

The persistence of the reporting requirements under the Presidential \$1 Coin Act³¹ illustrates the staying power of code rot. Consistent with its statutory mandate to suggest legislative action, the Federal Reserve Board recommended in its 2012 end-of-year report to eliminate the annual reporting requirement under the Act.³² The reason was simple: The Treasury Secretary had already suspended production of the Presidential \$1 coin for circulation, as the Board pointed out in its report.³³ As of 2016, the program had ended entirely. Nevertheless, the reporting requirement persists. For over a decade, the Federal Reserve has dutifully submitted annual reports recommending the elimination of the reporting requirement, yet its polite pleas for relief have fallen on deaf ears. The issue of outdated, redundant, or overly burdensome reporting requirements has garnered the attention of the press³⁴ and presidential administrations,³⁵ as well as Congress itself.³⁶ Yet efforts to streamline agency reporting requirements have failed to

²⁸ See KATHLEEN E. MARCHSTEINER, CONG. RSCH. SERV., R46862, HOW ARE REPORTING REQUIREMENTS SUBMITTED TO CONGRESS? 6-8 (2021) (“There is no single repository or database for digitized or physical reports submitted to Congress.”).

²⁹ See, e.g., WILLIAM T. EGAR, CONG. RSCH. SERV., R46357, CONGRESSIONALLY MANDATED REPORTS: OVERVIEW AND CONSIDERATIONS FOR CONGRESS 8-9 (2020) (noting that the Clerk report “may not provide a complete accounting” of statutory requirements); U.S. GEN. ACCOUNTING OFF., PAD-82-12, *A Systematic Management Approach Is Needed for Congressional Reporting Requirements* 5 (Nov. 25, 1981) (“Finally, the lack of adequate records makes exact counting virtually impossible.”).

³⁰ Francis Fukuyama, *Why doesn't government work in the US?*, FIN. TIMES (May 30, 2025), <https://www.ft.com/content/44a69ce3-7398-40f4-9fff-5c89e04b6d38?sharetype=blocked>.

³¹ Presidential \$1 Coin Act of 2005, Pub. L. No. 109-145, § 104(3)(B)(iii), 119 Stat. 2664, 2671 (2005) (requiring the Board and the Secretary to submit an annual report with “such recommendations for legislative action ... as [they] may determine to be appropriate”).

³² Bd. of Governors of the Fed. Reserve Sys., *Annual Report to the Congress on the Presidential \$1 Coin Program* 3 (June 2012), <https://www.federalreserve.gov/publications/other-reports/files/dollarcoin2012.pdf> [<https://perma.cc/Q9Y2-272L>] (proposing elimination of the annual reporting requirement by striking 31 U.S.C. § 5112(p)(3)(B)).

³³ *Id.* (“On December 13, 2011, the Department of the Treasury (Treasury) announced that the Secretary had suspended the minting of Presidential \$1 coins for circulation”).

³⁴ David Fahrenthold, *Unrequired Reading: Many of the Thousands of Reports Mandated by Congress will only Gather Dust*, WASH. POST, (May 3, 2014), https://www.washingtonpost.com/sf/national/2014/05/03/unrequired-reading/?itid=sr_1_272c07a6-74c1-4f4e-aacb-293f57676b01 [<https://perma.cc/L5ZS-NYT7>].

³⁵ White House, *Calling on Congress to Eliminate Outdated and Duplicative Reporting Requirements* (June 25, 2014), <https://obamawhitehouse.archives.gov/blog/2014/06/25/calling-congress-eliminate-outdated-and-duplicative-reporting-requirements> [<https://perma.cc/M483-P8DX>].

³⁶ CONG. RSCH. SERV., R42490, REEXAMINATION OF AGENCY REPORTING REQUIREMENTS: ANNUAL PROCESS UNDER THE GPRAMODERNIZATION ACT OF 2010 (GPRAMA) (2013), <https://crsreports.congress.gov/product/pdf/R/R42490>; CONG. RSCH. SERV., IN12471, PROPOSED CHANGES TO STATUTORY PROCESS FOR REEXAMINATION OF CONGRESSIONAL REPORTING REQUIREMENTS (2024), <https://www.congress.gov/crs-product/IN12471>.

identify the report on the Presidential \$1 Coin as obsolete, despite the fact that it requires reporting on a program whose underlying activity has permanently ceased.

This is not an isolated instance. Press accounts have highlighted the burdens on federal agencies of advancing congressional “pet” projects through reporting requirements that long outlast the enacting legislative coalition’s interest or tenure. In 2000, Congress passed the Dog and Cat Protection Act, which required U.S. Customs and Border Enforcement to submit an annual report on enforcement activities under the Act. The report required the coordination of fifteen different federal employees spanning six offices.³⁷ Notably absent is any accounting of the burden such requirements impose on the agency itself, leading to a mismatch between reporting burdens and the informational value of many reports—a report on the Social Security Administration’s printing operations took ninety-five employees four months to complete.³⁸ All this effort and resources dedicated to producing a report that few members of Congress (or citizens) may even know about, let alone read.³⁹

Recent administrations have sought to reform these practices. The current Trump administration has actively solicited public input to help identify obsolete, outdated, or unnecessary rules in the Code of Federal Regulations (C.F.R.). The Federal Communications Commission (FCC) published a public notice with the particularly evocative title, “In Re: DELETE, DELETE, DELETE,” requesting comments about regulations to slash⁴⁰ and highlighting the widespread desire for reform. Simplification efforts are not confined to deregulatory or conservative administrations. In 2024, San Francisco voters approved a ballot measure to streamline the city’s advisory bodies, prompted by a civil grand jury finding.

These examples reveal a broader failure of legal maintenance. Governments at all levels are simultaneously burdened by legal obligations and unaware of the immense toll of their mandates. This struggle is not a modern artifact. In the United States, early codification movements were motivated by a desire to make the law legible and coherent.⁴¹ While the United States Code is

³⁷ See Fahrenthold, *supra* note 34.

³⁸ Neil Gorsuch & Janie Nitze, *America Has Too Many Laws*, THE ATLANTIC (Aug. 5, 2024), <https://www.theatlantic.com/ideas/archive/2024/08/america-has-too-many-laws-neil-gorsuch/679237/> [https://perma.cc/BAQ4-UXRQ] (“...one report on the printing operations of the Social Security Administration took 95 employees more than four months to complete.”).

³⁹ *Id.* (“‘To be honest, a lot of the reports that have been mandated from these federal agencies are so overwhelming that I [didn’t] generally look at them,’ said former congressman Cliff Stearns (R-Fla.), who served in the House from 1989 until last year.”)

⁴⁰ Press Release, Fed. Comm’n Comm’n, *FCC Chairman Carr Launches Massive Deregulation Initiative* (Mar. 12, 2025), <https://www.fcc.gov/document/fcc-chairman-carr-launches-massive-deregulation-initiative> [https://perma.cc/L3WU-JPEX].

⁴¹ CHARLES WARREN, A HISTORY OF THE AMERICAN BAR 508 (1911) (“The popular trend towards codification was the result of five intermingling factors: first, the old, underlying antagonism of the American public towards the Common Law, as being English origin; second, the ever-active jealousy, entertained by laymen in a democracy,

intended to be the comprehensive compilation of the general and permanent laws enacted by Congress, legislators have long noted the inclusion of ineffectual text in the Code. Representative Roy G. Fitzgerald complained about this very issue when introducing the 1926 Code, its earliest version. He noted a continual role for Congress in clarifying statutory text:

Nearly one-half of it, I believe, is taken up with useless matter. When I say that I call your attention to certain of its titles which are filled with repetitions, which are filled with statements of obsolete matter, but they are the law and have never been repealed You will find there provisions in regard to Indian agents and many things which have been done away with and no longer exist in the United States [I]t is our intention to present from time to time different titles of this code with real revisions, so that the obsolete matter may be cut out and the law may be stated tersely and clearly.⁴²

Nearly a century later, the same issues Representative Fitzgerald identified persist in the Code. For example, 25 U.S.C. § 3 references the obsolete “Indian agent” provisions, requiring the Commissioner of Indian Affairs⁴³ to create and update materials to inform “Indian agents and inspectors” of their statutory duties.⁴⁴

Provisions like these are not merely unenforceable; they actively hinder legal interpretation and governance. To decipher what legal requirements included in the Code apply to individuals or government requires knowledge of relevant provisions, as well as any superseding legal changes. Ironically, those were the sorts of barriers to accessibility that codification movements were trying to alleviate.⁴⁵ This problem is particularly acute in statutory interpretation, which requires understanding the statutory context including the surrounding text, the complete act, or similar

towards lawyers, as a privileged class and a monopoly, and consequent desire to make the law a layman’s law; third, the increase in the number of law reports deemed, even then, to be ‘vast and unwieldy;’ fourth, the success of the Code Napoleon in Europe; fifth, the influence of Jeremy Bentham.”).

⁴² 69 Cong. Rec. 5,976 (1927) (statement of Rep. Roy G. Fitzgerald).

⁴³ The title “Commissioner of Indian Affairs” has not been used since 1981. Between 1981 and 2003, the title “Deputy Commissioner” was used for the position. In 2003, the title was changed to “Director.” See Bureau of Indian Affs., *Bureau Directors*, U.S. DEP’T OF INTERIOR, <https://www.bia.gov/bia/history> [https://perma.cc/RV7K-A6M6].

⁴⁴ See 25 U.S.C. § 3 which states, “It shall be the duty of the Commissioner of Indian Affairs to cause to be compiled and printed for the use of Indian agents and inspectors the provisions of the statutes regulating the performance of their respective duties, and also to furnish said officers from time to time information of new enactments upon the same subject.”

⁴⁵ See JEREMY BENTHAM, *Petition for Codification*, in THE WORKS OF JEREMY BENTHAM 547 (J. Bowring Ed. 1843) (“We hear of tyrants, and those cruel ones: but, whatever we may have felt, we have never heard of any tyrant in such sort cruel, as to punish men for disobedience to laws or orders which he had kept them from the knowledge of.”); Terry DiFilippo, *Jeremy Bentham’s Codification Proposals and Some Remarks on Their Place in History*, 22 BUFF. L. REV. 239, 242 (1972) (“Informing the citizens of the law, or as Bentham put it, making the laws ‘cognoscible,’ would be impossible unless both of two related goals were attained. First, the law must be clear and simple enough for the ‘plain’ man to be capable of grasping it. Second, the law must be ‘promulgated’ or made accessible to the citizen.”).

provisions elsewhere in the code. Textualists rely on the codified language,⁴⁶ but rotten provisions pose challenges for interpretation.

Some scholars have proposed methods for simplifying statutory interpretation⁴⁷ to produce more uniform interpretation, including extending *stare decisis* to judicial decisions regarding interpretative methodologies in federal courts.⁴⁸ Others have argued that consistent “interpretative regimes” enhance legislative control by enabling Congress to predict courts’ interpretations of statutes.⁴⁹ However, these proposals do not envision how rotten code may interfere with this process. The ability to not only identify relevant statutory provisions, but also identify rot has the potential to aid in statutory interpretation by surfacing relevant statutory context⁵⁰ and, as a result, improve fidelity to Congress’s will.

At the same time, clarifying the law by removing “rotten” provisions presents a productive legislative path for Congress to harness and channel the appetite for public sector reform⁵¹ at a time when partisan division in Congress has all but ground legislation to a halt.⁵² Yet technical and institutional obstacles make even common-interest statutory reform difficult. These obstacles are both informational and organizational. Lawmakers often lack a comprehensive inventory of the statutory or regulatory obligations they have created, and no institution is charged with identifying and reconciling rotten provisions. Both sides fail to focus on the connection between objectives and implementation, leading to several pathologies, including the “procedure fetish”⁵³ approach or the “everything-bagel”⁵⁴ approach to policy. The cumulative effect of these “rotten” provisions is code rot, which degrades the legal code over time by undermining the coherence and legibility of the law.

⁴⁶ See, e.g., William N. Eskridge, Jr., Brian B. Slocum & Kevin Tobia, *Textualism’s Defining Moment*, 121 COLUM. L. REV. 1611, 1619 (2023); Daniel A. Farber & Phillip Frickey, *Legislative Intent and Public Choice*, 74 VA. L. REV. 423, 454 (1988).

⁴⁷ Nicholas Quinn Rosenkranz, *Federal Rules of Statutory Interpretation*, 115 HARV. L. REV. 2085 (2002).

⁴⁸ See Sydney Foster, *Should Courts Give Stare Decisis Effect to Statutory Interpretation Methodology?*, 96 GEO. L.J. 1863 (2008).

⁴⁹ William N. Eskridge, Jr. & John Ferejohn, *Politics, Interpretation, and the Rule of Law*, in *THE RULE OF LAW: NOMOS XXXVI* 265, 267-70 (Ian Shapiro ed., 1994).

⁵⁰ See, e.g., *United Sav. Ass’n of Tex.*, 484 U.S. at 371; *Smith v. United States*, 508 U.S. 223, 234 (1993); *Brown v. Gardner*, 513 U.S. 115, 118 (1994).

⁵¹ Frank Newport, *Public Support for Making U.S. Government More Efficient*, Gallup, (Nov. 22, 2024), <https://news.gallup.com/opinion/polling-matters/653657/public-support-making-government-efficient.aspx> [https://perma.cc/9MJL-5FLJ] (“55% of Americans say the government is doing too much, with 41% saying the government should do more -- a 14-percentage-point gap, slightly greater than the overall trend average”).

⁵² Gurjit Kaur & Patrick Jarenwattananon, *118th Congress to be the most unproductive in decades*, NPR, (Sept. 21, 2023), <https://www.npr.org/2023/12/21/1221040449/118th-congress-to-be-the-most-unproductive-in-decades> [https://perma.cc/73ZS-XN84].

⁵³ See generally Bagley, *supra* note 18.

⁵⁴ See EZRA KLEIN & DEREK THOMPSON, *ABUNDANCE* 113 (2025).

The informational deficit is severe at every level of government. At the federal level, for instance, members of Congress may not know what reports agencies are required to submit, despite a requirement that the Clerk of the House produce, for each session of Congress, a list of reports to be made to Congress.⁵⁵ And, still this list is far from comprehensive.⁵⁶ In part, Congress's own unawareness stems from the sheer volume and complexity of many of the requirements it has created. Even as Congress has periodically sought to eliminate reporting requirements for agencies,⁵⁷ it continues to require new reports. For example, in 2014, Congress eliminated forty-eight reports, only to create another seventy new reporting requirements.⁵⁸

Similarly, at the local level, municipal codes and charters have ballooned to such an extent that the legal requirements they create are unclear. An investigation by a civil grand jury in San Francisco found that the city did not have a complete list of authorized commissions.⁵⁹ Put differently, the very structure of government was illegible because the code was inscrutable. In another example, a report by the New York Department of State articulated the difficulties that frequent amendments pose for city charters and the commissions tasked with revision: "Many existing charters have been weakened and complicated by frequent piecemeal revisions over many years."⁶⁰ Jen Pahlka and Andrew Greenway describe such provisions as "barnacles on a boat, naturally occurring but in need of periodic removal." Without removal, such provisions create a "cascade of rigidity," causing government dysfunction.⁶¹

Further, because lawmakers may only have a partial inventory of relevant statutory provisions, they have limited information about opportunities for streamlining statutory requirements. Recent efforts by presidential administrations to eliminate of redundant and unwieldy reporting

⁵⁵ THE CLERK, U.S. HOUSE OF REPRESENTATIVES, 118th CONG., H.Doc. 118-87, REPORTS TO BE MADE TO CONGRESS (2024), <https://www.govinfo.gov/content/pkg/CDOC-118hdoc97/pdf/CDOC-118hdoc97.pdf> [<https://perma.cc/GPX5-AQKH>].

⁵⁶ See *supra* notes 28-29 and accompanying text.

⁵⁷ U.S. Gen. Accounting Off., *Statement of Morton A. Myers, Director, Program Analysis Div., Before the Subcomm. on Legislation & Nat'l Sec. of the H. Comm. on Gov't Operations, on H.R. 6686, the Congressional Reports Elimination Act of 1980* (July 24, 1980), <https://www.gao.gov/assets/112864.pdf> [<https://perma.cc/W9BJ-MW5E>]; *Eliminate Useless Reports Act of 2024*, H.R. 5301, 118th Cong. (enrolled bill), <https://www.congress.gov/118/bills/hr5301/BILLS-118hr5301enr.pdf> [<https://perma.cc/6P6Q-LAKL>].

⁵⁸ See Fahrenthold, *supra* note 34.

⁵⁹ Carolyn Stein, *How many commissions does San Francisco have? More than necessary report finds*, S.F. CHRON. (June 21, 2024), <https://www.sfchronicle.com/bayarea/article/commission-san-francisco-city-19524342.php> ("San Francisco has a lot of commissions — so many that the city doesn't even have a comprehensive list of all of them, a new report by the city's civil grand jury found.").

⁶⁰ N.Y. Dep't of State, *Revising City Charters in New York State* (2024), <https://dos.ny.gov/system/files/documents/2024/09/revising-city-charters.pdf> [<https://perma.cc/J9MB-TMYJ>].

⁶¹ JENNIFER PAHLKA & ANDREW GREENWAY, *THE HOW WE NEED NOW: A CAPACITY AGENDA FOR 2025 AND BEYOND* 19 (2024), https://www.niskanencenter.org/wp-content/uploads/2024/12/Niskanen-State-Capacity-Paper_-Jen-Pahlka-and-Andrew-Greenway-2.pdf [<https://perma.cc/H7F2-UCPE>].

requirements have failed to identify many obsolete provisions.⁶² This can also result in trivial changes to the statutory text despite efforts at more substantive reform. For instance, congressional efforts to reform the criminal statutes have served to simply “rearrange the confusion”⁶³ or implement other minor changes, like substituting the phrasing “30 days” for “one month” in one statute.⁶⁴

These challenges to administration and legislation stem from the same fundamental source. Statutes and code are large and complex, making complete enumeration of requirements difficult. Individual provisions typically reference definitions or other statutory provisions elsewhere in the code,⁶⁵ creating a web of interconnected requirements that is difficult to parse. Moreover, requirements governing the same issues are, in general, not confined to a particular segment of the code, and instead may be interspersed throughout different titles. Requirements that agencies provide a report to Congress, for instance, appear in 50 different titles of the code. Similarly, over two-thirds of provisions criminalizing certain behavior appear in titles other than Title 18, the federal criminal code.⁶⁶ This complicates manual efforts to develop comprehensive statutory surveys, as researchers must scour the entire code to ensure complete, accurate coverage.

These features of legal codes also pose challenges for automated approaches to statutory research. Common approaches to automated research typically rely on keyword searches. Yet statutory surveys based on even advanced keyword searches of the Code are imprecise and incomplete.⁶⁷ Similar legal requirements may be created in a variety of ways and simple searches ignore dependencies in the Code that contain key context for the provision.

⁶² See, e.g., Beth Cobert, *Calling on Congress to Eliminate Outdated and Duplicative Reporting Requirements*, THE WHITE HOUSE, PRESIDENT BARACK OBAMA (June 25, 2014), <https://obamawhitehouse.archives.gov/blog/2014/06/25/calling-congress-eliminate-outdated-and-duplicative-reporting-requirements> [https://perma.cc/ZR4N-YQVE] (describing that an additional 74 reports were identified to be recommended for elimination or consolidation after a previous review).

⁶³ Dick Thornburgh, *Codification and the Rule of Law*, Remarks at the Conference on Criminal Law Reform 5 (Jan. 22, 1990), <https://www.justice.gov/sites/default/files/ag/legacy/2011/08/23/01-22-90.pdf> [https://perma.cc/Q92T-MPEC] (“Those revisions, however, have resulted primarily in rearranging the confusion. In alphabetical order. Other than a-b-c, the revision has been ineffectual.”).

⁶⁴ *Id.* at 5.

⁶⁵ Michael J. Bommarito II & Daniel Martin Katz, *Properties of the United States Code Citation Network* (Mar. 23, 2010) (unpublished manuscript), <https://arxiv.org/pdf/0911.1751> [https://perma.cc/RYL2-WACF].

⁶⁶ A widely cited congressional figure from the House’s Over-Criminalization Task Force (2014) put the total at “more than 4,450” federal crimes, “more than 1,500” of which were in Title 18. See *Criminal Code Reform: Hearing Before the Over-Criminalization Task Force of 2014 of the H. Comm. on the Judiciary*, 113th Cong. 5 (2024) (statement of Rep. John Conyers, Jr.).

⁶⁷ See, e.g., Blair & Maron, *infra* note 380.

However, recent advances in LLMs⁶⁸ have made automated approaches to parsing large bodies of text more tractable. Recently, scholars deploying LLMs to perform statutory reasoning tasks⁶⁹ have identified that there is more work to be done to improve reasoning chains.⁷⁰ Lawmakers have also looked to AI tools, particularly as a solution to rot. Senator Mike Lee, Senator Cynthia Lummis, and Congressman Andy Biggs introduced legislation to modernize retrospective regulatory review, which would direct the Office of Information and Regulatory Affairs (OIRA) to use AI to streamline OIRA’s review of existing regulations.⁷¹ Off-the-shelf models without consultation and review by legal experts cannot address code rot. Instead, LLM tools that address code rot must be purpose-built with legal and technical expertise to incorporate relevant statutory context.

This Article offers a responsible framework for identifying and addressing code rot through the application of a novel AI-enabled statutory research system. We proceed in five parts.

Part.I defines the phenomenon of code rot, differentiating rot from simply “bad” or complex law. We use the term “code rot” to refer to legal provisions that may be unenforceable, unlawful, or outdated due to the accumulation of or changes to legal requirements within and across levels of government. In doing so, we adopt a more expansive view of the conditions under which code rots. By conceiving of code rot as not only legal provisions that are outdated or unlawful, but also provisions that are accreted to unwieldiness, we show how ignorance of previous legal requirements creates untenable burdens for agencies obligated to navigate them. We provide illustrative examples of rotten provisions from the U.S. Code, California Code, and San Francisco Municipal Code. We also explain why code rot is not merely a collection of isolated failures, but a predictable byproduct of how the U.S. legislative system is organized because electoral incentives favor enacting new law over maintaining existing law, and legislative institutions currently lack durable capacity for discovery or cleanup.

Part.II frames the stakes of code rot for effective governance. We argue that code rot directly and indirectly undermines government quality. Government is “driving a car with the brake stuck to the floor.”⁷² Code rot directly deteriorates government quality by bogging agencies down in

⁶⁸ See Sanders & Schneier, *supra* note 7.

⁶⁹ Andrew Blair-Stanek, Nils Holzenberger & Benjamin Van Durme, *Can GPT-3 Perform Statutory Reasoning?*, in PROCEEDINGS OF THE NINETEENTH INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND LAW 22 (2023).

⁷⁰ See, e.g., Venkatesh Mishra, Bimsara Pathiraja, Mihir Parmar, Sat Chidananda, Jayanth Srinivasa, Gaowen Liu, Ali Payani & Chitta Baral, *Investigating the Shortcomings of LLMs in Step-by-Step Legal Reasoning*, NAACL 2025 FINDINGS (2025).

⁷¹ Press Release, Mike Lee, Senator, Lee Introduces Modernizing Retrospective Regulatory Review Act for 119th Congress (Feb. 20, 2025), [https://www.lee.senate.gov/2025/2/lee-introduces-modernizing-retrospective-regulatory-review-act-for-119th-congress#:~:text=Mike%20Lee%20\(R%2DUT\),is%20co%2Dsponsored%20by%20Sen.](https://www.lee.senate.gov/2025/2/lee-introduces-modernizing-retrospective-regulatory-review-act-for-119th-congress#:~:text=Mike%20Lee%20(R%2DUT),is%20co%2Dsponsored%20by%20Sen.) [https://perma.cc/5SJR-6Q4E].

⁷² Pahlka & Greenway, *supra* note 61, at 6.

unproductive procedures and tasks. Indirectly, code rot degrades government quality by undermining core democratic objectives that facilitate oversight and effective implementation.

Part.III situates our work in existing conceptions of outmoded code and reform efforts. We highlight federal, state, and local efforts in the U.S. to address code rot, as well as efforts outside of the U.S. We also discuss recent attempts to use AI tools to prune legal codes and explain why those efforts have fallen short.

Part.IV describes our collaborative framework to develop AI to enable code reform responsive to the practical and technical challenges that have stymied previous efforts. We describe how we developed our Statutory Research Assistant (STARA),⁷³ a language processing model capable of generating comprehensive, accurate, and well-reasoned statutory research, including surveys of all relevant laws in a given domain. We illustrate how such a tool can be integrated with a consultative, collaborative process with the San Francisco City Attorney’s Office, culminating in a 362-page ordinance to eliminate roughly one-third of San Francisco’s reporting requirements. Jen Pahlka and Robert Gordon described this as an exemplar of “Cities and States That Are Getting It Right” in the *New York Times*,⁷⁴ sparking tremendous interest in these efforts. What most AI-driven reform efforts get wrong is treating the risks of procuring such technology as a reason to avoid it altogether. We show how a collaborative process with technology as an *assistive* tool, rather than as a tool to displace human judgment, can enable reform to strengthen democratic institutions.

Part.V presents a novel institutional proposal to directly grapple with the political economy of code rot. The structural solution we outline are “Sludge Units,”⁷⁵ or statutory maintenance commissions modeled on the Defense Base Realignment and Closure (BRAC) process, empowered to produce omnibus statutory cleanup packages for expedited, amendment-free up-or-down votes. We identify conditions that make this proposal workable: new institutional models for discovery sprints; public data infrastructure for statutory code and regulation; and, support for collaborative models. Ultimately, we view this as one responsible pathway to address growing challenges faced by the administrative state.

I. Diagnosing Code Rot

⁷³ Faiz Surani, Lindsey A. Gailmard, Allison Casasola, Varun Magesh, Emily J. Robitschek & Daniel E. Ho, *What Is the Law? A System for Statutory Research (STARA) with Large Language Models*, in PROCEEDINGS OF THE TWENTIETH INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND LAW (2025), <https://dl.acm.org/doi/10.1145/3769126.3769219>.

⁷⁴ Robert Gordon & Jennifer Pahlka, *The Cities and States That Are Getting It Right*, N.Y. TIMES (July 22, 2025), <https://www.nytimes.com/2025/07/22/opinion/trump-budget-state-city-local.html>.

⁷⁵ The name “Sludge Unit” is chosen deliberately to echo the “Nudge Units” that proliferated in government since the UK’s Behavioural Insights Team was established in 2010, as well as calls to reduce regulatory “sludge.” See generally RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (2008); Cass R. Sunstein, *Sludge and Ordeals*, 68 DUKE L. J. 1843 (2019).

A legal code in the broadest sense is a collection of laws organized into subjects.⁷⁶ In this work, we focus on legal codes that purport to collect all permanently applicable rules made by a particular rulemaking body. One simple example is the U.S. Code, which collects and arranges by subject the text of all laws with a permanent effect passed by Congress.⁷⁷

Early codification movements in the United States were motivated by a desire to make the law legible.⁷⁸ In 1866, Congress passed legislation authorizing the President to appoint a commission to oversee the preparation and publication of the first statutory revision.⁷⁹ From the start, the effort was beset with difficulties. Congress grew concerned that the revision was not faithful to the original text of the statutes, making passage nearly impossible.⁸⁰ In 1873, the task was transferred from the commission to Thomas Jefferson Durant, a Washington, D.C., attorney, who oversaw the final revisions.⁸¹

In 1874, after nearly a decade, the *Revised Statutes of the United States* were enacted into federal law,⁸² repealing and replacing all previous federal laws. However, the experiment was met with controversy after numerous errors in the revision had changed the substance of the law overnight.⁸³ The 1874 revision was quickly followed by the *Revised Statutes of 1878* to address these errors and update the revision to include laws passed in the intervening years.⁸⁴ The 1874 revision remains the only complete revision to have been enacted as law. Subsequent revisions have established only “prima facie,” not legal, evidence of the law.⁸⁵

⁷⁶ See, e.g., Dru Stevenson, *The Costs of Codification*, U. ILL. L. REV. 1129, 1129 n.2 (2014); Jean Louis Bergel, *Principal Features and Methods of Codification*, 48 LA. L. REV. 1073 (1988).

⁷⁷ LAURA DEAL, CONG. RSCH. SERV., R45190, FROM SLIP LAW TO UNITED STATES CODE: A GUIDE TO FEDERAL STATUTES FOR CONGRESSIONAL OFFICES 2 (2023).

⁷⁸ Norman W. Spaulding, *The Luxury of the Law: The Codification Movement and the Right to Counsel*, 73 FORDHAM L. REV. 373 (2004).

⁷⁹ Act of June 27, 1866, ch. 140, 14 Stat. 74, “An Act to provide for the Revision and Consolidation of the Statute Laws of the United States.”

⁸⁰ See Brief for the Institute for Justice as Amicus Curiae Supporting Respondent at 13, *Health and Hospital Corporation of Marion County v. Talevski*, Docket No. 21-806 (S. Ct. 2023), citing 2 Cong. Rec. 646, 648 (1874).

⁸¹ *Id.*

⁸² The *Revised Statutes of 1874* are sometimes referenced as the *Revised Statutes of 1873*. See Ralph H. Dwan & Ernest R. Feidler, *The Federal Statutes—Their History and Use*, 22 MINN. L. REV. 1008, 1012 (1938) (“However, the [1874] revision purports to be only of laws enacted before December 1, 1873. Therefore, in making the distinction, it would seem more accurate to refer to the books of the first edition as the Revised Statutes of 1873.”)

⁸³ *Id.* at 1012. See also Michael J. Lynch, *The U.S. Code, Statutes at Large, and Some Peculiarities of Codification*, 16 LEG. REF. SERV. Q. 69, 70 (1997) (“Despite allegedly elaborate reviews of the end product, a storm of protest arose, reacting to numerous errors that produced changes in the law not anticipated by Congress when it enacted at one stroke a complete body of laws for the nation.”).

⁸⁴ Andrew Winston, *The Revised Statutes of the United States: Predecessor to the U.S. Code*, Library of Congress, (July 2, 2015), <https://blogs.loc.gov/law/2015/07/the-revised-statutes-of-the-united-states-predecessor-to-the-u-s-code/#:~:text=The%20Revised%20Statutes%20of%201874%20was%20an%20official%20codification%20of,1874%20relating%20to%20that%20department> [https://perma.cc/K8J9-T8XY].

⁸⁵ See Lynch, *supra* note 83, at 70.

State efforts were motivated by similar democratic impulses, but also sought to clarify inherited legal traditions. In Louisiana, for instance, codification reflected inherited Spanish and French legal traditions.⁸⁶ Early codification efforts in New York, Alabama, Georgia, Tennessee, and Virginia⁸⁷ provided a template for later state-level codification efforts in western territories.⁸⁸

The purpose of codification remains making the law accessible and legible, enabling the public to determine what the law is, and making it easier for the legislature to amend or clarify its directives.⁸⁹ Over the years, Congress has authorized commissions to assist with comprehensive reform⁹⁰ and explicitly directed those commissions to incorporate relevant legal context.⁹¹ For example, the first efforts to create a United States Code directed commissioners to include annotations citing relevant state and federal court decisions and to create an index of the laws.⁹²

Many codes include a disclaimer, warning the reader that the source text of slip laws supersede the mere compilation of items into a code.⁹³ But in practice, courts, the public, and Congress rely on the structure and annotation of the code.⁹⁴ In *Georgia v. Public Resource.Org*, Chief Justice Roberts acknowledged the “practical significance” of a code that accurately communicates binding legal obligations and highlights the kind of misunderstandings that can occur when reading code that does not communicate legal obligations.⁹⁵

A. Defining Code Rot

We introduce the concept of code rot to refer to the accumulation of statutory provisions that no longer perform their intended legal function, independent of disagreement over their policy

⁸⁶ Agustin Parise, *Codification of the Law in Louisiana: Early Nineteenth-Century Oscillation Between Continental Europe and Common Law Systems*, 27 TUL. EUR. & CIV. L.F. 133, 140 (2012).

⁸⁷ See Erwin C. Surrency, *The Georgia Code of 1863 and Its Place in the Codification Movement*, 11 J. S. LEGAL HIST. 81, 83-85 (2003).

⁸⁸ See, e.g., Andrew P. Morriss, Scott J. Burnham & James C. Nelson, *Debating the Field Civil Code 105 Years Late*, 61 MONT. L. REV. 370, 373 (2000) (describing the adoption of the Field Code by the Dakota territory, California, and Montana); *Id.* at 89 (describing the influence of Alabama code on Georgia’s codification efforts).

⁸⁹ See Stevenson, *supra* note 76, at 1131 (describing how codification enabled legislators to more easily borrow from other legal codes).

⁹⁰ See U.S. House of Rep., *Office of Law Revision Counsel*, <https://history.house.gov/People/Appointed-Officials/Law-Revision-Counsel/> [https://perma.cc/2MEW-7NAA].

⁹¹ Act of June 27, 1866, ch. 140, § 2, 14 Stat. 74, 75 (directing the revisers to include references to federal and selected state court decisions and to provide an index).

⁹² *Id.* at 75.

⁹³ See, e.g. 1 U.S.C. § 1.; S.F., Cal., Bus. and Tax Code Preface.

⁹⁴ Daniel B. Listwa, *Uncovering the Codifier’s Canon: How Codification Informs Interpretation*, 127 YALE L.J. 464, 465–66 (2017) (arguing that courts routinely rely on code placement, captions, and organizational structure in statutory interpretation). See also *Yates v. United States*, 574 U.S. 528, 537–39 (2015) (looking to the title and placement of § 1519 within the U.S. Code to construe the term “tangible object”).

⁹⁵ *Georgia v. Public.Resource.Org, Inc.*, 590 U.S. 255, 274 (2020) (Roberts, C.J.) (noting that Georgia “undersells the practical significance” of its annotations).

merits. A statute may be normatively controversial yet legally effective;⁹⁶ conversely, a statute may have broad political support and yet be legally ineffective due to supersession, judicial invalidation, or institutional changes⁹⁷. Code rot encompasses this second category: Provisions that have lost their operative legal force regardless of their continuing political popularity or policy appeal.

Provisions become ineffective in (at least) two distinct ways. Some lose their formal legal force altogether: they are superceded,⁹⁸ judicially invalidated, or otherwise voided,⁹⁹ yet they persist on the books. Others retain full formal legal force—they remain valid, binding law that could in principle be enforced—but nonetheless fail to perform their intended function, whether because they have gone unenforced in practice, no longer correspond to any regulated conduct, or have accreted to unwieldiness,¹⁰⁰ such that agencies and citizens cannot reasonably track or comply with the mandates.

Over time, even with no ‘bad’ laws passed by the legislature, these mechanisms cause a code to *rot* over time, becoming a minefield of effective and ineffective law. This framing distinguishes code rot from the broader critique of “hyperlexis,” or the claim that there is simply too much law. Scholars have argued that the arguments typically marshalled to support the claim that law is too numerous or too complex rest on superficial aspects of law—raw counts or complexity.¹⁰¹ Code rot is distinct from the number or complexity of law, rather, it is the functional force of the law that determines rot. A code could contract but have more rot if the remaining provisions are increasingly obsolete or unenforceable. Conversely, a code could expand but remain rot-free. What distinguishes rotten law is not how much law there is, but whether it continues to do the work it was enacted to do.

⁹⁶ For example, state abortion bans. Melissa Deckman, *Why Abortion Bans Keep Getting Passed, Even Though They're Unpopular*, NEW REPUBLIC (July 11, 2024), <https://newrepublic.com/article/183672/abortion-bans-unpopular-mifepristone-polls-voters>.

⁹⁷ For example, the principles behind the Bipartisan Campaign Reform Act of 2002, 116 Stat. 81 (2002), are widely popular. Dave Levinthal, *Most Americans See Unlimited Election Spending as a Threat to Democracy: Poll*, OpenSecrets (Nov. 13, 2025), <https://www.opensecrets.org/news/2025/10/most-americans-see-unlimited-election-spending-as-a-threat-to-democracy-poll/>. However, many of its provisions no longer have legal effect following a series of Supreme Court decisions, including *Citizens United v. Fed. Election Comm’n*, 558 U.S. 310 (2010). *Campaign Finance and the Supreme Court*, Nat’l Conf. of State Legislatures (updated Feb. 7, 2023), <https://www.ncsl.org/elections-and-campaigns/campaign-finance-and-the-supreme-court> (collecting cases).

⁹⁸ See, e.g., Note, *Desuetude*, 119 Harv. L. Rev. 2209, 2209–10 (2006) (surveying the doctrine of desuetude in American law and its relationship to democratic accountability).

⁹⁹ Michael L. Smith, *Constitutional Interpretation and Zombie Provisions*, 40 GA. ST. U. L. REV. 603, 612 (2024).

¹⁰⁰ See Ruhl & Salzman, *Mozart and the Red Queen: The Problem of Regulatory Accretion in the Administrative State*, 91 GEO. L. REV. 757, 759–61 (2003).

¹⁰¹ The term “hyperlexis” originates with Bayless Manning, *Hyperlexis: Our National Disease*, 71 NW. U. L. REV. 767 (1977), and has since been invoked to describe claims that federal law has become too voluminous, too complex, or too costly to navigate. See also Peter H. Schuck, *Legal Complexity: Some Causes, Consequences, and Cures*, 42 DUKE L. J. 1 (1992). For a critique of formal “hyperlexis” claims, arguing that counts of words, pages, or regulations cannot themselves establish a normatively meaningful baseline for too-much law, see Mila Sohoni, *The Idea of Too Much Law*, 80 FORDHAM L. REV. 1585, 1602–10 (2012).

Prior literature has studied different ways that statutory provisions can ‘rot,’ examining the way that some changes (and not just ‘bad laws’) can render legislation ineffective.¹⁰² We extend past work by discussing the structural causes of rot, the cumulative effect of rot as a whole on the code, the way that it affects legislation and compliance, and avenues for improvement. Moreover, by developing and leveraging a tool capable of compiling comprehensive statutory surveys, we systematically identify obsolete, accreted, and unused statutory provisions, and demonstrate how such provisions interact both within and across legal codes to produce rot.

B. Causes of Code Rot

Drawing on our definition of code rot, we highlight how ineffective provisions accumulate in statutory codes over time. Changes to the code’s legal and factual context can render provisions ineffective, causing code rot. We identify and discuss five key sources of ineffective provisions: (1) superseding legal changes, (2) judicial review, (3) the accretion of rules, (4) longstanding neglect, and (5) changes in factual practice. As we explain below, these mechanisms share a common root: the political economy of legislating makes enactment easy and maintenance costly.

1. Superseding Legal Changes

Changes in the laws of superseding jurisdictions can render provisions in subordinate codes ineffectual by direct supersession, confusion, or contradiction. The “traditional effect” of such changes is to merely nullify laws without erasure.¹⁰³ The inferior text typically remains on the books¹⁰⁴ even though it no longer has operative force, requiring readers to consult external authorities to understand what law applies. One example of supersession is Chapter 24 of the San Francisco Administrative Code, which establishes and sets out guidelines for a Redevelopment Agency (RDA) authorized under California’s Community Redevelopment Law.¹⁰⁵ The California legislature abolished RDAs (and corresponding state law sections) in 2012,¹⁰⁶ but San Francisco’s RDA provisions remain codified. This is an instance of obsolete code that persists as

¹⁰² See e.g., Smith, *supra* note 99; Ruhl & Salzman, *supra* note 100, at 796 (describing how regulatory accretion poses challenges for compliance).

¹⁰³ See, e.g., Jonathan F. Mitchell, *The Writ-of-Erasure Fallacy*, 104 VA. L. REV. 933, 936-44 (2018) (explaining that judicial and other supersessions rarely delete statutory text); ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW* 336-39 (2012) (noting the general rejection of textual “erasure” in U.S. law).

¹⁰⁴ Richard Briffault, *The Challenge of the New Preemption*, 70 STAN. L. REV. 1995, 1997 (2018).

¹⁰⁵ S.F., Cal., Admin. Code § 24.

¹⁰⁶ In 2011, the California legislature enacted AB1X 26 to dissolve all RDAs statewide and AB1X 27 to offer an alternative payment program. See 2011–12 1st Ex. Sess., ch. 5 (ABx1 26); 2011–12 1st Ex. Sess., ch. 6 (ABx1 27); Cal. Health & Safety Code §§ 34170–34191.6 (successor-agency wind-down framework). The California Supreme Court upheld the dissolution under AB1X 26 and invalidated the alternative under AB1X 27. See *California Redevelopment Ass’n v. Matosantos*, 53 Cal. 4th 231 (2011).

deadwood. Broadly, scholars have long observed that statutory and code deadwood accumulates when positive law changes without coordinated code maintenance, undermining legibility of the law.¹⁰⁷ The RDA example reflects the general problem of superseding state law that has functionally nullified persisting local provisions.

2. Judicial Review

Judicial review of legislation also modifies or nullifies code provisions without changes in text. In practice, when these changes occur, invalidated laws remain codified.¹⁰⁸ Though “the disapproved law is described as having been struck down or rendered void . . . the federal judiciary has no authority to alter or annul a statute.”¹⁰⁹ Rather, the judiciary either (1) enjoins officials from enforcing or acting on the law or (2) determines how courts will interpret the law when it is applied.¹¹⁰ If the legal environment changes again, a law’s enforceability would change without a legislative act, as it did in the wake of *Dobbs*.¹¹¹ In some cases, rulemaking bodies respond to update the code in response to the judiciary.¹¹² More often, the code provisions remain dead or malformed, and once again, external research is required to understand one’s legal obligations.¹¹³

A vivid illustration: New York’s Education Law still directs the Board of Regents to report on disciplinary actions taken against “subversive” teachers—a Cold War era reporting mandate tied to the loyalty-oath disclosure scheme the Supreme Court struck down on First Amendment grounds nearly sixty years ago.¹¹⁴ If the point of codification was to make law legible, code rot achieves the opposite. As codified statutes are modified by superseding legal commands, it becomes more difficult to remain compliant, especially as the code does not change to reflect the actual set of rules that must be followed.¹¹⁵

¹⁰⁷ GUIDO CALABRESI, A COMMON LAW FOR THE AGE OF STATUTES 1-6 (1982) (diagnosing statutory obsolescence and discussing common law mechanisms for addressing statutory overhang); WILLIAM N. ESKRIDGE, JR., DYNAMIC STATUTORY INTERPRETATION 48-53 (1994) (discussing the need for adaptive interpretation and statutory evolution).

¹⁰⁸ Mitchell, *supra* note 103, at 936-37.

¹⁰⁹ Mitchell, *supra* note 103, at 933.

¹¹⁰ Mitchell, *supra* note 103, at 933.

¹¹¹ See generally William Aceves, *The Problem with Dobbs and the Rule of Legality* (Dec. 1, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4324447.

¹¹² See e.g. Ashleigh Allione, Comment, 66 AM. UNIV. L. REV. 145, 150 (2016).

¹¹³ Mitchell, *supra* note 103, at 987; *Georgia v. Public.Resource.Org, Inc.*, 590 U.S. (2020).

¹¹⁴ See *Keyishian v. Board of Regents*, 385 U.S. 589 (1967). The underlying substantive requirement was invalidated in 1967; yet the obligation to report on enforcing it remains on the books. See also Daniel E. Ho, Ananya Karthik, Emily J. Robitschek, Gabe Malek & Derek Ouyang, *The Abundance of Reports and Incapacity of States*, YALE J. ON REG. (forthcoming 2026), https://dho.stanford.edu/wp-content/uploads/JReg_Reporting.pdf; Shana Lynch, *How AI Is Helping States Cut Through Decades of Red Tape*, STANFORD REPORT (July 23, 2026), <https://news.stanford.edu/stories/2026/07/how-ai-is-helping-states-cut-through-decades-of-red-tape> [<https://perma.cc/RCB8-D9R8>] (discussing the provision as an example of outdated reporting requirements identified by a research team at Stanford RegLab).

¹¹⁵ See Mitchell, *supra* note 103, at 937.

3. Accretion of Rules

Some provisions are rendered ineffective by *external* changes, like superseding laws or judicial review. In some cases, provisions are rendered ineffective by changes *within the same code*. Accretion of statutes without careful revision and modification of the laws already on the books can create obsolete, ambiguous, contradictory, or confusing provisions that do not bind conduct.

For example, in the late 1990s, the California Legislature undertook an extensive overhaul of the state court system, consolidating different kinds of courts and reforming funding and court employment.¹¹⁶ The changes rendered many county ordinances¹¹⁷ and “hundreds of statutes” obsolete.¹¹⁸ The Legislature directed the California Law Revision Commission to prepare a report to remove obsolete provisions over the course of one year, due by January 1, 2002. In March 2002, the Law Revision Commission delivered Part I of their recommendations and requested additional time.¹¹⁹ In August 2022, the Commission delivered part IX (and counting).¹²⁰ This is not a story about the slow pace of the Commission. Rather, it demonstrates that California code is so complex that a dedicated team of legal experts requires years to understand how parts of the code may be rendered ineffective by a single statute.

The unemployment insurance (UI) system provides another vivid example of accretion in practice. The UI system is funded by federal and state government taxes,¹²¹ with the federal Department of Labor (DOL) writing regulations that states must satisfy to obtain federal funds.¹²² States then implement their own rules and administrative practices.¹²³ Only twenty-five years after the creation of the UI system, Gordon Wagenet of the Social Security Administration’s UI office noted that in state law, “the causes for which benefits are denied have multiplied, and the periods of disqualification have been made more severe,” expanding the set of rules that must be administered by state labor agencies.¹²⁴ The New Jersey Commissioner of Labor and Workforce Development later attributed the challenges of administering UI to a

¹¹⁶ Cal. L. Revision Comm’n, Statutes Made Obsolete by Trial Court Restructuring: Part I, 32 Cal. L. Revision Comm’n Reports 1 (2002), <https://clrc.ca.gov/pub/Printed-Reports/Pub213.pdf> [https://perma.cc/G72U-VC76].

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ Cal. Law Revision Comm’n, Statutes Made Obsolete by Trial Court Restructuring (Part 9): Jurisdictional Classification of a Drug Asset Forfeiture Proceeding, No. J-1408 (Aug. 2022).

¹²¹ JULIE M. WHITTAKER & KATELIN P. ISAACS, CONG. RSCH. SERV., IF10336, THE FUNDAMENTALS OF UNEMPLOYMENT COMPENSATION (2026) (“UC is financed by federal taxes under the Federal Unemployment Tax Act (FUTA) and by state payroll taxes under the State Unemployment Tax Acts (SUTA).”).

¹²² See generally Katherine Baicker, Claudia Goldin & Lawrence F. Katz, *A Distinctive System: Origins and Impact of U.S. Unemployment Compensation*, in THE DEFINING MOMENT: THE GREAT DEPRESSION AND THE AMERICAN ECONOMY IN THE TWENTIETH CENTURY 227 (1998).

¹²³ *Id.*

¹²⁴ R. Gordon Wagenet, *Twenty-five Years of Unemployment Insurance in the United States*, Aug. 1960 SOC. SEC. BULL. 50, 56 (1960).

“gauntlet of Federal requirements” that changed “[thirty] times, just in the past two years,”¹²⁵ with regulations more than seven thousand pages long—orders of magnitude greater than other assistance programs.¹²⁶ These cascading obligations did not arise from bad-faith drafting. They accumulated piecemeal as each successive Congress and legislature addressed new crises, creating a system difficult to untangle.

Accretion can also create *de facto* ineffective provisions when overlapping obligations are in tension without directly superseding one another. For example, the California Environmental Quality Act (CEQA) and California’s Housing Accountability Act (HAA) have conflicting normative presumptions and supersession approaches.¹²⁷ Courts have read CEQA to give “the fullest possible protection to the environment” while the legislature instructed HAA to “be interpreted and implemented in a manner to afford the fullest possible weight to the interest of, and the approval and provision of, housing.” At the same time “[n]othing in this section shall be construed to relieve the local agency from complying with . . . the California Environmental Quality Act.”¹²⁸ Though neither statute directly overturns or contradicts any provision of the other, the rights and obligations they grant municipalities are in tension. Either statute could be read to swallow the other, leaving obligations on builders and municipalities confused.¹²⁹ Not every tension in the law constitutes code rot—some ambiguity is the intended product of legislative compromise.¹³⁰ But the structural conflicts of this kind that paralyze administration and generate persistent litigation are a form of accretion-induced rot.

4. Longstanding Neglect and Desuetude

The volume of binding laws, particularly criminal laws, is limited by the executive’s ability and interest in actually enforcing them. As the volume of criminal infractions accretes over time,¹³¹

¹²⁵ *The Current Status of New Jersey’s Unemployment Insurance System and the Misclassification of Workers: Hearing Before the S. Lab. Comm.*, 2022 Leg., 220th Sess. 8, 9 (N.J. Mar. 10, 2022) (statement of Robert Asaro-Angelo, Comm’r, N.J. Dep’t of Lab. & Workforce Dev.), <https://pub.njleg.state.nj.us/publications/public-hearings/22/sla03102022.pdf> [https://perma.cc/F3JB-9KB5].

¹²⁶ *Id.*; Michael Bernick & Douglas J. Holmes, *Improving the Safety Net: Reforming an Unemployment Insurance Program to Serve the Jobless and Preserve Job Creation*, CA. FOUND. FOR COMMERCE & EDUCATION 2 (Aug. 2023), <https://cfce.calchamber.com/wp-content/uploads/2023/08/Improving-the-Safety-Net-UI-Report.pdf> [https://perma.cc/B3CV-VR3L] (“The complexity of California law also creates difficulty complying with federal requirements on rapid distribution of benefits, and likely generates excessive inaccurate eligibility determinations.”).

¹²⁷ Christopher S. Elmendorf & Timothy G. Duncheon, *When Super-Statutes Collide:*

CEQA, the Housing Accountability Act, and Tectonic Change in Land Use Law, 49 *ECOLOGY L. Q.* 655, 658 (2022).

¹²⁸ *Id.* at 660.

¹²⁹ *Id.* at 662.

¹³⁰ See Joseph A. Grundfest & Adam C. Pritchard, *Statutes with Multiple Personality Disorders: The Value of Ambiguity in Statutory Design and Interpretation*, 54 *STAN. L. REV.* 627, 628 (“Legislators with opposing view can then claim that they have prevailed in the legislative arena, and, as long as courts continue to issue conflicting interpretations, these competing claims of legislative victory remain credible.”).

¹³¹ GianCarlo Canaparo, Patrick A. McLaughlin, Jonathan Nelson & Liya Palagashvili, *Count the Code: Quantifying Federalization of Criminal* (Heritage Found. Special Report No. 251, Jan. 7, 2022), at 1,

the executive prioritizes those that are applicable to the current moment in time.¹³² The result is a vast swath of criminal provisions that remain codified, though they have not been enforced in hundreds of years and could likely not result in a conviction if they were prosecuted today.¹³³ For example, it is currently unlawful to or to advertise medicine for “female complaints”¹³⁴ or to operate a bakery in San Francisco that delivers or receives bread without maintaining a pine box with two coats of paint for bread delivery.¹³⁵ As far back as 1939, legal scholars were decrying the accumulation of age-old statutes that lay unenforced:

How can this ignoring of a substantial number of our laws fail to breed contempt for laws generally, and make for ‘individualistic’ interpretation by policeman, prosecutor, and judge? The police are bewildered when they read their criminal codes; citizens learn that some laws may be disobeyed with impunity; erratic and inconsistent policies alienate public cooperation. The bad apples in the barrel spoil the good ones. It is not easy to condone the growing practice of enforcing only part of our laws. And who is to decide which are the good ones and which are bad?¹³⁶

The legal doctrine of *desuetude* renders long-dormant statutes invalid and unenforceable, but courts in the United States have generally avoided applying the doctrine, insisting on explicit legislative change.¹³⁷ This raises the specter of selective enforcement of widely flouted, long-neglected laws and creates ambiguity and legal risk for people attempting to comply with the laws in good faith.¹³⁸

5. Changes in Factual Practice

Changes in factual practice may cause valid laws to regulate activity that nobody does anymore. These laws exist on the books, but they can never be applied because the underlying conduct no longer exists (and is unlikely to recur). In a sense, this is the inverse of neglect and desuetude: rather than regulated conduct becoming so commonplace that it is effectively no longer criminalized, the regulated conduct becomes nonexistent, so that the statute regulates an empty set. San Francisco regulates vaudeville houses and prohibits playing trick-of-the-loop for any

<https://www.heritage.org/sites/default/files/2024-05/SR251.pdf> [https://perma.cc/6UEV-XF5R] (“As of 2019, we found 1,510 statutes that create at least one crime. This represents an increase of nearly 36 percent relative to the 1,111 statutes that created at least one crime in 1994.”).

¹³² Cf. Stevenson, *supra* note 76, at 1170 (describing how executive enforcement is uneven across expanding criminal code provisions, with more prosecutions under the U.S. Code section for narcotics than most other sections combined); Joel S. Johnson, *Dealing with Dead Crimes*, 111 GEO. L. J. 94, 118 (2022) (describing risk of executive unexpectedly reviving long-unused criminal laws).

¹³³ Johnson, *supra* note 134, at 96.

¹³⁴ See Baker, *supra* note 113, at 137.

¹³⁵ S.F., Cal., Health Code §§ 434–435.

¹³⁶ Newman Baker, *Legislative Crimes*, 23 MINN. L. REV. 135, 138 (1939).

¹³⁷ Johnson, *supra* note 112, at 101.

¹³⁸ *Id.* at 119.

sum of money.¹³⁹ The consequences of this kind of ineffective law are less wide-ranging, but the risk of legal error may still exist, particularly when attempting to differentiate between effective laws that use outdated language and truly ineffective provisions.¹⁴⁰ In administration, laws that bind conduct unnecessarily may serve as a kind of ‘regulatory theater,’ codified smoke-and-mirrors that seem to highly constrain an industry while hardly regulating at all.¹⁴¹

C. Why Rot Persists: Political Economy

Beyond the mechanisms described above, code rot reflects structural features of legislative incentives that deserve explicit attention. This dimension of code rot is what gives it a predictable, systematic quality, rather than rendering it simply a collection of isolated failures. Legislators operate under short time horizons shaped by electoral cycles and the demands of constituent service, which creates incentives to prioritize novelty over maintenance—passing new laws rather than tending to the coherence of existing ones.¹⁴² The political rewards for enacting new legislation are clear and traceable, allowing legislators to demonstrate their relevance and responsiveness to issues of the day.¹⁴³ The rewards for legal maintenance are less visible to voters.¹⁴⁴ As a result, legislators across the ideological spectrum consistently underinvest in the underappreciated work of statutory maintenance.¹⁴⁵

This incentive structure is compounded by a tendency to treat statutes as finished products rather than as the beginning of a governance process. The public administration literature on implementation has long documented the consequences of this tendency.¹⁴⁶ Pressman and Wildavsky’s account shows how legislative proposals are designed around symbolic or electoral

¹³⁹ S.F., Cal., Bus. and Tax Code § 159; S.F., Cal., Police Code § 340.

¹⁴⁰ *Yick Wo v. Hopkins*, 118 U.S. 356 (1886) (highlighting selective enforcement of an 1880 San Francisco city ordinance requiring all laundries in wooden buildings to hold a permit).

¹⁴¹ David J. Wolfson & Mariann Sullivan, *Foxes in the Hen House: Animals, Agribusiness, and the Law: A Modern American Fable*, in *Animal Rights: Current Debates and New Directions*, 208 (Cass R. Sunstein & Martha C. Nussbaum eds., 2005).

¹⁴² DAVID R. MAYHEW, *CONGRESS: THE ELECTORAL CONNECTION* (1974); MORRIS P. FIORINA, *CONGRESS: KEYSTONE OF THE WASHINGTON ESTABLISHMENT* 39–49 (1989).

¹⁴³ R. DOUGLAS ARNOLD, *THE LOGIC OF CONGRESSIONAL ACTION* (1990) (legislators want to enact policies with concentrated benefits and diffuse costs).

¹⁴⁴ See, e.g., John Lapinski, Matt Levendusky, Ken Winneg & Kathleen Hall Jamieson, *What Do Citizens Want from Their Member of Congress?*, 69 POL. RSCH. Q. 535, 538 (2016) (showing that respondents in several nationally representative surveys prioritize issue-based representation).

¹⁴⁵ See, e.g., Donald C. Langevoort, *Statutory Obsolescence and the Judicial Process: The Revisionist Role of the Courts in Federal Banking Regulation*, 85 MICH. L. REV. 672, 674 (1987) (describing that many statutes remain unrevised because of the political difficulties associated with revision).

¹⁴⁶ See generally PRESSMAN & WILDAVSKY, *infra* note 147 (demonstrating how lack of administrative execution causes programs to fail); THEODORE J. LOWI, *THE END OF LIBERALISM: THE SECOND REPUBLIC OF THE UNITED STATES* (1979) (discussing how the political process routinely produces operationally vague statutes).

appeal rather than administrability,¹⁴⁷ so the procedural and administrative scaffolding that would make them workable is frequently omitted from the outset.

Subsequent scholarship has elaborated and extended this insight. Bardach's influential account of the "implementation game" showed that statutory mandates routinely invite strategic behavior by agencies and actors charged with carrying them out as each pursues its own interests within the discretion the statute provides.¹⁴⁸ Heckman and Smith's empirical work on federal job training programs found that statutory goals and administrative realities diverged significantly.¹⁴⁹ More recently, Moynihan and Herd have shown how the accretion of administrative burdens functions as a barrier to access, shaping who actually receives benefits and services a statute promises.¹⁵⁰

What unites these accounts is a common finding: legislation enacted without sufficient attention to implementation tends to lay the foundation for code rot. New mandates are layered atop existing ones. Agencies struggle to satisfy obligations that were never designed with administrative capacity in mind. Some obligations go unmet; others are satisfied in form but not substance. And over time, the gap between the law on the books and law in practice widens—not due to any single failure, but through the incentives that favor enactment over maintenance and novelty over coherence.

Scholars who study "hyperlexis"—the claim that law has become too voluminous or complex—have long debated why democratic lawmaking would be systematically unaligned with public preferences. Absent an account of why legislative processes would reliably over-produce law relative to what voters want,¹⁵¹ complaints about sheer volume of law are difficult to distinguish from ordinary policy disagreement. Our account of legislative underinvestment in maintenance supplies a process-based explanation, but for a narrower claim than hyperlexis critics typically make. We do not argue that legislatures enact more law than constituents prefer. Rather, we argue that legislatures, once they enact a law, systematically underinvest in maintaining it.

The inaccessibility created by code rot also creates political economy effects of its own. When codes become so complex and opaque that even legislators cannot navigate them, the informational advantage shifts to well-resourced private actors. The rise of model-legislation organizations, such as the American Legislative Exchange Council (ALEC), may be traced, at

¹⁴⁷ See generally JEFFREY L. PRESSMAN & AARON WILDAVSKY, IMPLEMENTATION: HOW GREAT EXPECTATIONS IN WASHINGTON ARE DASHED IN OAKLAND (1973).

¹⁴⁸ EUGENE BARDACH, THE IMPLEMENTATION GAME: WHAT HAPPENS AFTER A BILL BECOMES A LAW, 37-58 (1978).

¹⁴⁹ James J. Heckman & Jeffrey A. Smith, *The Determinants of Participation in a Social Program: Evidence from a Prototypical Job Training Program*, 22 J. LAB. ECON. 243, 278-84 (2004).

¹⁵⁰ DONALD P. MOYNIHAN & PAMELA HERD, ADMINISTRATIVE BURDEN: POLICYMAKING BY OTHER MEANS (2018).

¹⁵¹ See Sohoni, *supra* note 101, at 1624-26 ("It still remains hard to see why the vast and multifarious spectrum of individual and group preferences, channeled through the various political-economic configurations of Congress and the agencies, and averaged over decades, would reliably result in the net *over*-production of federal law.").

least in part, to capacity deficits.¹⁵² When state codes are inscrutable, legislators have an incentive to import pre-packaged model bills, which may only further contribute to the accretion of provisions unmoored from local legal context. The opacity of the code, therefore, reinforces the very lobbying dynamics that generate new provisions.

II. Why Code Rot Matters

While evaluations of legal systems may focus on the structures and policies they produce,¹⁵³ less attention is paid to whether the body of enacted law remains intelligible, coherent, and capable of guiding conduct and administration over time.¹⁵⁴ Our characterization of code rot brings this often-neglected dimension of governance into focus. When statutory codes accumulate obsolete, superseded, or internally inconsistent provisions, the problem is not merely that practices or rules are made inefficient, but that the system of law fails its most basic function of providing a publicly knowable and non-arbitrary framework for governance.¹⁵⁵

This failure has far-reaching implications. The rule of law presupposes that legal obligations can be identified, understood, and applied with reasonable consistency.¹⁵⁶ Yet without systematic revision, legal obligations become increasingly opaque, fragmented, and potentially arbitrary. Agencies are forced to triage among mandates they cannot fully satisfy. Courts confront statutory contexts saturated with ineffective or misleading provisions; and regulated actors face uncertainty over which rules bind them. In such an environment, discretion expands not because lawmakers have deliberately delegated authority,¹⁵⁷ but because the law has ceased to provide clear instructions.¹⁵⁸

¹⁵² ALEX HERTEL-FERNANDEZ, *STATE CAPTURE: HOW CONSERVATIVE ACTIVISTS, BIG BUSINESSES, AND WEALTHY DONORS RESHAPED THE AMERICAN STATES—AND THE NATION* (2019); Yvonne Wingett Sanchez & Rob O'Dell, *What is ALEC? 'The most effective organization' for conservatives, says Newt Gingrich*, CTR. FOR PUBLIC INTEGRITY, <https://publicintegrity.org/politics/state-politics/copy-paste-legislate/what-is-alec-the-most-effective-organization-for-conservatives-says-newt-gingrich/> [https://perma.cc/Q29V-B8RQ].

¹⁵³ Lewis A. Kornhauser, *Governance Structures, Legal Systems, and the Concept of Law*, 79 CHI.-KENT L. REV. 355, 355-56 (2004) (describing a social-scientific approach to understanding law as a governance structure).

¹⁵⁴ Jeremy Waldron, *The Rule of Law and the Importance of Procedure*, 50 NOMOS 3, 8-9 (2011) (discussing the importance of the procedure by which formal aspects of Rule of Law are realized).

¹⁵⁵ Richard Fallon, *The "Rule of Law" as a Concept in Constitutional Discourse*, 97 COLUM. L. REV. 1 (1997).

¹⁵⁶ Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175, 1179 (1989) ("Even in simpler times uncertainty has been regarded as incompatible with the Rule of Law. Rudimentary justice requires that those subject to the law must have the means of knowing what it prescribes."); American Bar Association, *What Is the Rule of Law?*, A.B.A. Rule of Law Initiative, <https://www.americanbar.org/advocacy/global-programs/who-we-are/rule-law-initiative/what-is-rule-of-law/> [https://perma.cc/BB9A-GWGR] ("Openness and transparency are essential. If people are unable to know and understand what the law is, they cannot be expected to follow it.").

¹⁵⁷ See generally JOHN D. HUBER & CHARLES R. SHIPAN, *DELIBERATE DISCRETION? THE INSTITUTIONAL FOUNDATIONS OF BUREAUCRATIC AUTONOMY* (2002).

¹⁵⁸ KENNETH CULP DAVIS, *DISCRETIONARY JUSTICE: A PRELIMINARY INQUIRY* 215-6 (1969).

Understanding code rot as a rule-of-law problem clarifies why its consequences are felt across institutional settings. The same degradation that undermines statutory interpretation also weakens democratic accountability, fuels selective enforcement, and erodes administrative capacity.¹⁵⁹ These downstream effects are often treated as distinct pathologies—failures of oversight, enforcement, legislative design.¹⁶⁰ In fact, they share a common source: the absence of effective mechanisms for legal maintenance.¹⁶¹

We next highlight how code rot undermines core principles of rule of law by outlining its implications for legislatures, administrative agencies, the judiciary, and the public. We show that code rot threatens the efficacy of legislation and administration of the law while posing challenges for the judiciary that must uncover what the law is. We further argue that code rot threatens the government's accountability to the People by obscuring, rather than clarifying, what the law is.

A. Consequences for Legislative Bodies

Codification of federal and state law during the latter half of the 18th century created a template for legal reform that legislators could consult and even copy, significantly reducing the cost of drafting legislation.¹⁶² Prior to codification, legislators often struggled to ascertain what law already existed: “[W]hen drafting or debating new legislation, there was endless confusion about previous or existing statutory law on the point.”¹⁶³ Codification enabled legislators to more easily uncover existing provisions and enabled them to “easily find, and adopt wholesale, entire codes or sections from other jurisdictions or from a bank of uniform codes and restatements,”¹⁶⁴ promoting “harmonization”¹⁶⁵ of the law across jurisdictions.

New York’s “Field Code” of 1848, for instance, became a template for California and other states to adopt with only modest edits.¹⁶⁶ Later, the Uniform Law Commission encouraged widespread adoption of standardized statutes. The Uniform Commercial Code has been adopted

¹⁵⁹ See Bagley, *supra* note 53, at 357.

¹⁶⁰ Daryl J. Levinson, *Foreword: Looking for Power in Public Law*, 130 HARV. L. REV. 31, 47 (2016) (discussing the interdependence of institutions).

¹⁶¹ Edward L. Rubin, *Law and Legislation in the Administrative State*, 89 COLUM. L. REV. 369, 373-75 (1989) (discussing law as structuring administration).

¹⁶² See Larry E. Ribstein & Bruce H. Kobayashi, *An Economic Analysis of Uniform State Laws*, 25 J. LEGAL STUD. 131, 133-36 (1996).

¹⁶³ See Stevenson, *supra* note 76, 1141.

¹⁶⁴ See Stevenson, *supra* note 76, at 1130.

¹⁶⁵ *Id.*

¹⁶⁶ See, e.g., Stephen N. Subrin, *How Equity Conquered Common Law: The Federal Rules of Civil Procedure in Historical Perspective*, 135 U. PA. L. REV. 909, 924-35 (1987) (discussing the diffusion of the Field Code); William Wirt Blume, *Adoption in California of the Field Code of Civil Procedure: A Chapter in American Legal History*, 17 HASTINGS L. J. 701, 701 (1966).

in every state,¹⁶⁷ and large portions of the Model Penal Code and Federal Rules of Evidence were similarly imported into state codes.¹⁶⁸ Codification allows drafters to see what laws already exist and import full titles or chapters from elsewhere, increasing legislative output.

By improving legislators' knowledge of the law, codification increased the volume of legislation, and brought about a change in the legislative process and the kinds of laws that were passed. "Congress and state legislatures now draft—and debate—new legislation with more complete knowledge of the existing body of statutory law, and most acts contain indicators about which provisions amend which sections of existing code."¹⁶⁹ This initially improved the coherence of existing law by allowing legislators to more easily reference existing provisions.¹⁷⁰

Nevertheless, these indicators are often insufficient to account for the increasingly complex and layered federal, state, and local legal obligations. For instance, indicators in congressional acts typically specify only a narrow amendment to a specific provision, without addressing the cascade of impacts that follow from references to the amended section throughout the code. Illustratively, the 2017 Tax Cuts and Jobs Act contained a drafting error, the so-called "retail glitch," which omitted a key technical cross-reference that allowed a fifteen-year write-off period for qualified improvement property.¹⁷¹ In 2020, Congress corrected the error as part of the Coronavirus Aid, Relief, and Economic Security (CARES) Act,¹⁷² retroactively restoring the fifteen-year write-off period and eligibility for bonus deductions.¹⁷³ States encounter the same problem when importing uniform provisions.¹⁷⁴ An adopted definition or remedy can interact with pre-existing state-specific rules (for example, service-of-process timelines or agency review paths), forcing follow-on 'technical corrections' sessions.

¹⁶⁷ Uniform Law Commission, Uniform Commercial Code (UCC), UNIF. L. COMM'N, <https://www.uniformlaws.org/acts/ucc> [<https://perma.cc/3EVM-8RLN>] (stating the UCC has been "universally adopted").

¹⁶⁸ See Paul H. Robinson & Markus D. Dubber, *The American Model Penal Code: A Brief Overview*, 10 NEW CRIM. L. REV. 319, 319–20, 326–29 (2007) (reporting that over two-thirds of states adopted the MPC in whole or in part); Federal Judicial Center, Rules: Federal Rules of Evidence, FJC, <https://www.fjc.gov/history/work-courts/rules-federal-rules-evidence> (noting 16 states adopted part or all of the Federal Rules of Evidence by the late 1970s and 29 within ten years); Robert N. Boyce & Edward L. Kimball, *Utah Rules of Evidence 1983*, 1985 UTAH L. REV. 1, 3 (1985) (stating that within ten years "more than half of the states" had adopted rules closely patterned after the Federal Rules of Evidence).

¹⁶⁹ See Stevenson, *supra* note 76, at 1142.

¹⁷⁰ See Stevenson, *supra* note 76, at 1129.

¹⁷¹ JANE G. GRAVELLE, CONG. RSCH. SERV., R46754, "TECHNICAL CORRECTIONS" AND OTHER REVISIONS TO THE 2017 TAX REVISION (P.L. 115-97) 4 (2021).

¹⁷² P.L. 116-136; Mollie M. Wagoner, *Technically Important: The Essential Role of Technical Corrections and How Congress Can Revive Them*, 106 MINN. L. REV. 2543, 2543-44 (2022) (discussing the CARES Act).

¹⁷³ See GRAVELLE, *supra* note 171, at 4.

¹⁷⁴ See, e.g., Andrew F. Van Der Maaten, *The Farm Creditor: Preserving Security Interests in Farm Products*, 33 DRAKE L. REV. 391, 401-404 (1984) (discussing implications for secured transactions in farm products following the Iowa legislature's adoption of the 1972 Amendments to the Uniform Commercial Code).

By requiring legislators to disentangle complex interdependencies in the law, code rot increases the risk of lawmakers acting without understanding a change's potentially far-reaching ramifications. Housing reform in California shows how interdependencies complicate even well-designed legislation. Over the last decade, California has enacted sweeping pro-housing laws, especially around accessory dwelling units (ADUs), lot splits, duplexes, and streamlining processes.¹⁷⁵ Yet translating these laws into practice requires years of code revision as hundreds of municipal zoning ordinances, fee schedules, permit procedures, and definitions must conform to new state standards, and conflicts with other state laws must be reconciled. The Department of Housing and Community Development now runs a formal accountability and enforcement program that reviews local ordinances, issues notices of violations, and compels corrective action precisely because aligning codes at scale is both arduous and error-prone.¹⁷⁶

Courts have also come to assume and rely on the fact that legislators pass laws with awareness of existing statutory provisions, using adjacent sections of legal codes and other references to understand the meaning of individual words and phrases in a statute.¹⁷⁷ However, as we discuss below, rotten code interferes with this process, posing difficulties for courts¹⁷⁸ tasked with interpreting legislative mandates. This is particularly true in less-studied state and municipal government bodies with fewer legislative staff and research resources at their disposal. The lack of clarity surrounding existing law may undermine fidelity to legislative intent.

Bridging the gap between policy formulation and implementation remains a persistent challenge in government. While policy designs reflect the aspirational goals and political commitments of politicians, implementation translates those intentions into outcomes. Pressman and Wildavsky's study vividly illustrates how even well-intentioned policies can fail due to conflicting mandates, fragmented authority, and organizational bottlenecks, highlighting that the "technical details" of implementation matter for the success of government programs.¹⁷⁹

B. Consequences for Administration

¹⁷⁵ See, e.g., Cal. Gov't Code §§ 65852.2, 65852.22 (on ADUs/JADUs); id. § 65913.4 (on SB 35 streamlining); id. §§ 65852.21, 66411.7 (on SB 9 lot splits/duplexes); id. § 65589.5 (Housing Accountability Act).

¹⁷⁶ See Cal. Dep't of Hous. & Cmty. Dev., Accountability & Enforcement, HCD, <https://www.hcd.ca.gov/planning-and-community-development/accountability-and-enforcement> [https://perma.cc/CNC9-X2UQ]; Cal. Gov't Code § 65585 (discussing HCD review and enforcement of housing elements).

¹⁷⁷ *United Sav. Ass'n of Tex. v. Timbers of Inwood Forest Assocs., Ltd.*, 484 U.S. 365, 371 (1988).

¹⁷⁸ ANTONIN SCALIA & BRYAN A. GARNER, *READING LAW: THE INTERPRETATION OF LEGAL TEXTS* 30, 167 (2012) (describing the concept of a "whole text canon").

¹⁷⁹ JEFFREY L. PRESSMAN & AARON WILDAVSKY, *IMPLEMENTATION* (1973).

There has been a great deal of literature on the ways that complexity,¹⁸⁰ procedure,¹⁸¹ and statutory accretion¹⁸² hamper the work of administrative agencies attempting to fulfill their legislative mandates. Agencies are beset by rot from two sides—the regulatory codes they maintain and modify through their own rulemaking activity, and the legislative codes written to direct them.

One cause of the mismatch between policy and implementation is a failure to understand the real constraints the bureaucracy faces. Legislative mandates may assume that agencies have the necessary infrastructure to carry out complex reforms, without accounting for the cost, time, and institutional change necessary. Moynihan and Herd describe how the transition to performance-based systems created substantial administrative burdens on workers without a commensurate increase in support.¹⁸³ Conversely, the burdens on agencies create real costs in the form of delays, reduction of morale, and selective compliance, as agencies prioritize mandates that are relatively easier to implement,¹⁸⁴ underscoring the need to understand the breadth of administrative mandates.¹⁸⁵

Without this understanding, the cumulative effect is to undermine efficient and effective administration. As Jennifer Pahlka observed, government has operated according to a “waterfall” system. Mandates cascade down the bureaucratic hierarchy without allowing information to flow back up, “amount[ing] to a pledge by all parties not to learn anything while doing the actual work.”¹⁸⁶ The result of these cascading mandates is rigid, impractical, or burdensome policies.¹⁸⁷ Salzman and Ruhl show that the quantity, complexity, and rapid change of requirements drive noncompliance¹⁸⁸ and cause uncertainty about compliance status, even among expert lawyers.¹⁸⁹ Some of this complexity might be necessary to solve complex problems. But in many circumstances, the complexity of regulation is a result of the thousands of accreted statutes, judicial opinions, and rules that modify the law one piece at a time.¹⁹⁰ The codification of

¹⁸⁰ See generally J.B. Ruhl & Daniel Martin Katz, *Measuring, Monitoring, and Managing Legal Complexity*, 101 IOWA L. REV. 191 (2023); Zahid Amadixarif, James Brookes, Nicola Garbarino, Rajan Patel & Eryk Walczak, *The Language of Rules: Textual Complexity in Banking Reforms*, Bank of Eng. Staff Working Paper No. 834 (Oct. 24, 2019) (updated Nov. 2021); Robert Charles Clark, *The Morphogenesis of Subchapter C: An Essay in Statutory Evolution and Reform*, 87 YALE L. J. 90 (1977).

¹⁸¹ See Bagley, *supra* note 53.

¹⁸² See Ruhl & Salzman, *supra* note 100.

¹⁸³ See generally Moynihan & Herd, *supra* note 150.

¹⁸⁴ See Moynihan & Herd, *supra* note 150, at 167.

¹⁸⁵ See Moynihan & Herd, *supra* note 150, at 250 (“Currently, we do not have an equivalent awareness of burdens, meaning that they are not given systematic attention in governing.”)

¹⁸⁶ JENNIFER PAHLKA, RECODING AMERICA: WHY GOVERNMENT IS FAILING IN THE DIGITAL AGE AND HOW WE CAN DO IT BETTER 60 (2023).

¹⁸⁷ *Id.*

¹⁸⁸ Ruhl & Salzman, *supra* note 100, at 795.

¹⁸⁹ *Id.* at 794.

¹⁹⁰ See generally Ruhl & Salzman, *supra* note 100.

statutes and rules lowers costs for legislators to line-edit or append rules onto the code rather than engaging in broader revisions.¹⁹¹

The unemployment insurance claims process is difficult to navigate¹⁹² and to administer.¹⁹³ It is difficult to build technology platforms and to hire and train employees to administer UI. Administrators and lawmakers attribute these problems to the accretion of rules and requirements over the years. The New Jersey Department of Labor and Workforce Development had to navigate more than 7,000 pages of regulations, orders of magnitude greater than other assistance programs.¹⁹⁴ Reflecting on delays and improper denials during the pandemic, the California Legislative Analyst's Office found that the state labor agency and the federal Department of Labor had placed great emphasis on fraud prevention, layering on additional information requirements, checks, and audits. They concluded that: "while each of these elements may appear reasonable individually, when taken together they make it unduly difficult for eligible workers to get benefits."¹⁹⁵

The accretion of legal requirements from state and federal sources create an unwieldy system for administrators and claimants. To be sure, the challenge of culling regulation "lies in determining which rules to remove"¹⁹⁶ in a complicated system of legislative and rulemaking compromises. But this more challenging task can only be undertaken after identifying the set of rules that are creating the problem to begin with.

C. Consequences for the Judicial System

Rotten code burdens courts as much as agencies. When statutory text has been amended piecemeal—or effectively superseded by later enactments or decisions—judges must trace how changes ripple across titles, definitions, and cross-references to determine what actually governs, creating a minefield of live and dead rules. The code as written may be undermined by judicial opinions or modified by laws in different parts of the same code or from different sources.¹⁹⁷

¹⁹¹ See Stevenson, *supra* note 76, at 1132.

¹⁹² Gabriel Petek, California Legislative Analyst's Office, *Improving California's Unemployment Insurance Program* 3 (2022).

¹⁹³ *Id.*; Pahlka, *supra* note 186, at 38-54 (discussing challenges faced by the California Employment Development Department).

¹⁹⁴ *Id.*; Michael Bernick & Douglas J. Holmes, *Improving the Safety Net: Reforming an Unemployment Insurance Program to Serve the Jobless and Preserve Job Creation*, CA. FOUND. FOR COMMERCE & EDUCATION 2 (Aug. 2023), <https://cfce.calchamber.com/wp-content/uploads/2023/08/Improving-the-Safety-Net-UI-Report.pdf> [<https://perma.cc/B3CV-VR3L>] ("The complexity of California law also creates difficulty complying with federal requirements on rapid distribution of benefits, and likely generates excessive inaccurate eligibility determinations.").

¹⁹⁵ See Petek, *supra* note 154, at 13.

¹⁹⁶ Ruhl & Salzman, *supra* note 100, at 777.

¹⁹⁷ See e.g. Joseph K. Leahy, *Zombies Attack Inadvertent Partnerships! — How Undead Precedents Killed By Uniform Statutes Still Roam the Reporters*, 57 U. RICHMOND L. REV. 381, 391-340 (2023) (on judicial opinions undermined by statutes, which are then undermined by judicial opinions).

This poses several challenges for the judicial system. It increases the risk of legal error,¹⁹⁸ creates the possibility of selective enforcement,¹⁹⁹ and increases the volume of litigation.²⁰⁰

Before a court, with full legal briefing and review of the issues, the possibility of legal error is low, but still present.²⁰¹ In other circumstances, when people must act without the benefit of research and legal briefing, even good-faith efforts to comply with the law may be stymied by rotten, misleading provisions.²⁰²

Outdated sections of code create the risk of selective enforcement of unused laws, undermining the aims of the judicial system. Numerous examples of unscrupulous (or resourceful, depending on your view) prosecutors applying long-dormant statutes to serve idiosyncratic purposes exist,²⁰³ as well as high-profile instances of these statutes used to serve highly political purposes.²⁰⁴ These prosecutions, though enforcing laws on the books, undermine the principle that “the processes of government, rather than the predilections of the individual decision maker, govern.”²⁰⁵ Former Attorney General of the United States, Dick Thornburgh, emphasized the importance of “intelligent codification” in ensuring even application of the law:

Laws in themselves do not assure the rule of law, or even that justice will be done. But complex, confused, or incomplete laws create a sense of misrule, and can lead to complex, confused, or incomplete justice. Laws that require too much interpretation become the subordinates of their interpreters. And we soon find ourselves governed not by the laws but by the men and women charged with applying them ...²⁰⁶

When complex, overlapping provisions create ambiguity, litigation follows to clarify legal obligations. In the 1960s, California engaged in large-scale reform of torts filed against the state. When proposing the reforms, California’s law revision commission noted that the existing system was an accretion of 174 “numerous and conflicting”²⁰⁷ claims provisions enacted over

¹⁹⁸ Howard M. Wasserman, *Zombie Laws*, 25 LEWIS & CLARK L. REV. 1047 (2022).

¹⁹⁹ See Johnson, *supra* note 133.

²⁰⁰ See e.g. Cal. L. Revision Comm’n, Recommendation Relating to Sovereign Immunity Number 1-Tort Liability of Public Entities and Public Employees, 4 Cal. L. Revision Comm’n Reports 803, 809 (1960), <https://clrc.ca.gov/pub/Printed-Reports/Pub043.pdf>.

²⁰¹ See Wasserman, *supra* note 198.

²⁰² Ruhl & Salzman, *supra* note 100, at 793.

²⁰³ Sara Sun Beale, *The Many Faces of Overcriminalization from Morals and Mattress Tags to Overfederalization*, 54 AM. UNIV. L. REV. 747, 750 (2005); Johnson, *supra* note 133, at 118.

²⁰⁴ Beale, *supra* note 177, at 765.

²⁰⁵ See Johnson, *supra* note 133.

²⁰⁶ See Thornburgh, *supra* note 63, at 2.

²⁰⁷ See Cal. L. Revision Comm’n, *Recommendation and Study Relating to The Presentation of Claims Against Public Entities* A-7 (Jan. 1959), <https://clrc.ca.gov/pub/Printed-Reports/Pub019.pdf> [<https://perma.cc/8J9U-AFSQ>] (“It has become increasingly clear in recent years that the implementation of the claims statute principle in this State by the enactment of numerous and conflicting claims provisions has created grave problems both for governmental

many years. They found the result “unduly complex, inconsistent, ambiguous and difficult to find,” and that it was “productive of much litigation” to resolve rules passed at different times and codified in different places.²⁰⁸ Not all complex or confusing code is necessarily rot; in many situations, legislatures may carefully craft ambiguous statutes with a view towards legislative compromise or intentional deferral of specific issues to the courts.²⁰⁹ But sometimes, legislatures “may intend to be precise, yet fail for want of a grammarian,” or at least full awareness of existing provisions in the code.²¹⁰ This creates litigation to resolve contradictions or ambiguities unforeseen by legislators.

Moreover, cases often involve trying to understand not just what law binds, but the *consequences* of a decision. When the Court considered the constitutionality of dual for-cause removal protections in *Free Enterprise Fund v. Public Company Accounting Oversight Board*, Justice Stephen Breyer appended a lengthy catalog of federal provisions potentially implicated by the majority’s ruling, illustrating his understanding that a decision’s consequences flow the downstream throughout the full code.²¹¹ This time- and labor-intensive research is more feasible for well-resourced jurisdictions, like the Supreme Court, but difficult—if not impossible—for trial and appellate judges with heavy dockets and few clerks.²¹² Yet understanding the implications of a decision as it ripples through the code and the administrative state is central.

As textualism has become the Supreme Court’s “dominant interpretive theory,”²¹³ questions of statutory interpretation rely on statutory context. The rise of textualism further underscores the importance of statutory text itself. To ascertain Congress’s legislative objectives, courts must develop a thorough understanding of the relevant statutory context. Understanding the structure and language of statutes is essential for accurate application.²¹⁴ Courts examine statutory language in question in the context of related provisions, considering where the provision is located within an Act and how it interacts with other related provisions. As the Court has long

entities and those who have just claims against them.”); see also Cal. L. Revision Comm’n, *Recommendation Relating to Sovereign Immunity: Number 1—Tort Liability of Public Entities and Public Employees* 807 (Jan. 1963), https://clrc.ca.gov/pub/Printed-Reports/*Non%20Searchable/Pub043.pdf [https://perma.cc/DJ7X-YUS7] (“This legislation expresses a variety of conflicting policies.”).

²⁰⁸ See Cal. L. Revision Comm’n, *Recommendation*, *supra* note 207, at A-8.

²⁰⁹ See generally Ruth Bader Ginsburg & Peter W. Huber, *The Intercircuit Committee*, 100 HARV. L. REV. 1417 (1987).

²¹⁰ *Id.* at 1421 (“Congress may intend to be precise, yet fail for want of a grammarian.”).

²¹¹ 561 U.S. 477, 509 (2010) (Breyer, J., dissenting), *app.*

²¹² See generally RICHARD A. POSNER, *THE FEDERAL COURTS: CHALLENGE AND REFORM* 104–15 (1996) (describing workload and resource constraints in the lower federal courts); TODD C. PEPPERS, *COURTIERS OF THE MARBLE PALACE: THE RISE AND INFLUENCE OF THE SUPREME COURT LAW CLERK* (2006). Recent work highlights the value of AI tools for these types of tasks. See Daniel E. Ho & Olivia Martin, *Courts Need a “Playground” for Frontier AI*, LAWFARE (forthcoming 2026) (arguing that the appendix surveying federal offices with similar for-cause removal provisions can be substantially automated using tools like STARA).

²¹³ See Eskridge Jr., Slocum & Tobia, *supra* note 46, at 1611.

²¹⁴ Reed Dickerson, *Statutory Interpretation: The Uses and Anatomy of Context*, 23 CASE W. RES. L. REV. 353, 363 (1972).

emphasized under whole-act and whole-text canons,²¹⁵ words take their meaning not just from adjacent text, but from the larger scheme in which they operate. Apparent clarity at the sentence-level can dissipate once relationships with text elsewhere in the code are made explicit.²¹⁶ The practical upshot is straightforward: Where code rot abounds, judges are often required to interpret individual provisions while forecasting how those interpretations will reverberate across a dense web of interdependent statutory provisions. In practice, many judges have openly acknowledged that they lack the time, institutional support, or informational tools necessary to reconstruct a statute's full set of interdependencies, increasing the risk of interpretive error and unintended effects.²¹⁷

D. Consequences for the Public

Finally, code rot undermines democratic accountability. The core commitment of the U.S. political system is that government must answer to its citizens.²¹⁸ But political accountability only functions if citizens have the requisite knowledge to hold government accountable.²¹⁹ If the law is so complex and opaque as to evade public understanding, how can citizens act as an effective check on the excesses of government? If even Congress itself lacks a complete understanding of statutory provisions in effect in many domains, how can citizens be expected to be an effective counterweight to the power of the state?

Standard theories of congressional control of the bureaucracy hinge on the idea that citizens can provide oversight of agencies on behalf of Congress.²²⁰ Specifically, in creating statutory requirements for agencies, Congress creates a legal basis to challenge violations of law that can be enforced by the Courts. Whereas previous literature portrayed congressional oversight as

²¹⁵ See *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000) (“In determining whether Congress has specifically addressed the question at issue, a reviewing court should not confine itself to examining a particular statutory provision in isolation. The meaning-or ambiguity-of certain words or phrases may only become evident when placed in context.”).

²¹⁶ See, e.g., *King v. Burwell*, 576 U.S. 473 (2015) (remarking that an interpretation of a particular phrase in isolation is at odds with the interpretation in light of the statute as a whole).

²¹⁷ *United States v. Rentz*, 777 F.3d 1105, 1106 (10th Cir. 2015) (en banc) (describing 18 U.S.C. § 924(c)(1)(A) as a “bramble of prepositions,” which “may excite a grammar teacher” but would keep “the federal courts busy”).

²¹⁸ *Branzburg v. Hayes*, 408 U.S. 665, 721 (Douglas, J., dissenting) (“The right to know is crucial to the governing powers of the people...”).

²¹⁹ See, e.g., RUSSELL J. DALTON, *CITIZEN POLITICS: PUBLIC OPINION AND POLITICAL PARTIES IN ADVANCED INDUSTRIAL DEMOCRACIES* 25 (2008) (“Without public involvement in the process, democracy loses both its legitimacy and its guiding force.”); BERNARD ROSEN, *HOLDING GOVERNMENT BUREAUCRACIES ACCOUNTABLE* (1998).

²²⁰ Matthew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243 (1987) [hereinafter McNollgast, *Administrative Procedures*]; Matthew D. McCubbins, Roger G. Noll & Barry R. Weingast, *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 VA. L. REV. 431 (1989) [hereinafter McNollgast, *Structure and Process*]; Matthew D. McCubbins & Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols Versus Fire Alarms*, 28 AM. J. POL. SCI. 165 (1984).

“weak” and often “ineffective,”²²¹ subsequent scholarship argued that many statutory provisions enabled ordinary citizens to perform oversight on behalf of Congress through so-called “fire-alarms.”²²² However, these theories do not envision that statutory obligations may be so opaque or accreted as to essentially preclude use by ordinary citizens.

This not only manifests as a lack of awareness of what the government is required to do, but also as unawareness of the state’s constraints on individuals. Notably, efforts to reform America’s criminal code have failed precisely due to struggles in identifying a complete enumeration of federal criminal offenses.²²³ Motivated by concerns about overcriminalization, there have been several attempts to count the number of federal crimes aimed at reform.²²⁴ Early efforts to summarize existing criminal law “concluded that a synthesis of the subject matter was not possible.”²²⁵ Meanwhile, “Congress continued annually to add to the accumulation of disparate, ad hoc enactments, without pausing to reflect whether the accretion of penal provisions constituted, collectively, a reasonable body of criminal law.”²²⁶

Supreme Court Justice Neil Gorsuch voiced similar concerns about how ignorance of laws in effect harms people: “I’ve just seen so many cases come through my courtroom where ordinary Americans—decent, hardworking people who are trying to do their best—are just getting . . . thwacked by laws unexpectedly.”²²⁷ This issue is not confined to federal offenses. States and municipalities criminalize all sorts of behavior.

The irony is that early codification movements in the United States were an outgrowth of a democratic desire to make the law legible and accessible to ordinary citizens.²²⁸ Rooted in the democratic ideals espoused by Jeremy Bentham,²²⁹ an early and vocal proponent of codification

²²¹ James B. Pearson, *Oversight: A Vital Yet Neglected Congressional Function*, 23 KAN. L. REV. 277, 281 (1975) (“...despite its importance, congressional oversight remains basically weak and ineffective”).

²²² See McCubbins & Schwartz, *supra* note 220, at 166.

²²³ See Thornburgh, *supra* note 206, at 3 (“Our federal criminal laws are presently scattered among 50 titles of the United States Code containing over 23,000 pages of text. They cannot be understood without review of case decisions encompassed in 2,300 volumes containing over 3,000,000 pages. They are contaminated by the inclusion of over 1,700 essentially regulatory violations ranging from selling a mixture of two kinds of turpentine to walking a dog in a government building.”)

²²⁴ See Gainer, *infra* note 225, at 90; Canaparo, McLaughlin, Nelson & Palagashvili, *supra* note 131, at 2 (“Accordingly, on several occasions during the past 30 years (discussed in more detail in the following section of this paper), various organizations and scholars both inside and outside the U.S. government have tried to count or estimate the number of crimes contained within the U.S. Code.”).

²²⁵ Ronald L. Gainer, *Federal Criminal Code Reform: Past and Future*, 2 BUFF. CRIM. L. REV. 45, 90 (1998).

²²⁶ *Id.* at 92.

²²⁷ Justin Jouvenal, *Justice Neil Gorsuch says Americans getting ‘thwacked’ by too many laws*, WASH. POST (Aug. 8, 2024) <https://www.washingtonpost.com/politics/2024/08/09/supreme-court-gorsuch-reagan-library/> [<https://perma.cc/SG5Q-SY99>].

²²⁸ Norman W. Spaulding, *The Luxury of the Law: The Codification Movement and the Right to Counsel*, 73 FORDHAM L. REV. 983, 985 (2004)

²²⁹ George M. Hezel, *The Influence of Bentham’s Philosophy of Law on the Early Nineteenth Century Codification Movement in the United States*, 22 BUFF. L. REV. 253, 254-255 (1972) (noting that later proponents of codification emphasized parts of Bentham’s argument for codification).

who rallied public support for legal reform, and later David Dudley Field,²³⁰ codification as the systematic and synthetic reorganization of the country's laws was designed to ensure the country's laws were accessible to its citizens.²³¹ However, contemporary legal codes appear at odds with this goal.

As legal codes have grown in size and complexity, they fail to provide insight into what the government does and what constraints it imposes. And ignorance of the law virtually guarantees ordinary Americans will continue to get “thwacked.”

III. Existing Reform Efforts

Despite the challenges code rot presents for statutory understanding, concerted efforts to address it have a long history at federal, state, and local levels, and even go beyond the United States.²³² Recognition of rot and efforts to quantify and combat it transcend political affiliation²³³ and

²³⁰ CHARLES M. COOK, THE AMERICAN CODIFICATION MOVEMENT: A STUDY OF ANTEBELLUM LEGAL REFORM 186–89 (1981).

²³¹ *Id.* at 5 (“First, the law [prior to codification] was said to be inaccessible and uncertain, a lament most often made by the law guild. Second, the law, it was claimed, was unnecessarily mysterious, complex, and overly technical, a charge usually leveled by laymen.”)

²³² Other jurisdictions have pursued similar efforts. Argentina's *Ley Hojarasca* (leaf-litter law), designed by its Ministry of Deregulation, was first sent to Congress in October 2024 to strike some seventy norms deemed obsolete, superfluous, or contrary to constitutional principles; after lapsing without a vote it was reintroduced in March 2026, passing the Chamber of Deputies in a reduced form on May 20, 2026, remaining pending in the Senate as of July 29, 2026. The reduction dropped, among others, two provisions benefiting legislators themselves. *See El Gobierno envió al Congreso la "Ley de Hojarasca", el proyecto para eliminar más de 70 normas obsoletas*, [The Government Sent Congress the "Leaf-Litter Law," the Bill to Eliminate More Than 70 Obsolete Norms], Infobae (Arg.) (Mar. 26, 2026), <https://www.infobae.com/politica/2026/03/26/el-gobierno-envio-al-congreso-la-ley-de-hojarasca-el-proyecto-para-eliminar-mas-de-70-normas-obsoletas/> [<https://perma.cc/Y8X8-N55V>]; *El Senado consiguió dictaminar la ley Hojarasca, que elimina más de 60 leyes consideradas en desuso*, [The Senate Reported the Leaf-Litter Law, Which Eliminates More Than 60 Laws Considered Obsolete], *Ámbito* (Arg.) (June 17, 2026), <https://www.ambito.com/politica/el-senado-consiguio-dictaminar-la-ley-hojarasca-que-elimina-mas-60-leyes-consideradas-desuso-n6289954> [<https://perma.cc/5269-RXVZ>]. Some targets were uncontroversially obsolete, such as Law No. 23.888, Oct. 31, 1990 (Arg.), directing a Permanent Technical Census of Infrastructure that was never conducted. Others show how contestable the obsolescence label becomes once it carries substantive stakes, as with Law No. 26.688, Aug. 2, 2011, No. 32.204 (Arg.), declaring public research into and production of medicines social goods of national interest, which the Executive proposed to repeal as merely declamatory. *See Registro de palomas, carnet de mochilero y otras normas que el Gobierno considera obsoletas: las claves del proyecto de Ley Hojarasca*, [Pigeon Registries, Backpacker Permits, and Other Norms the Government Considers Obsolete: Key Points of the Leaf-Litter Bill], Infobae (Arg.) (May 20, 2026), <https://www.infobae.com/economia/2026/05/20/registro-de-palomas-carnet-de-mochilero-y-otras-normas-que-el-gobierno-considera-obsoletas-las-claves-del-proyecto-de-ley-hojarasca/> [<https://perma.cc/3K2T-MQ5D>]; *see also infra* Part III.A.2. India has pursued administrative abolition, recently eliminating a Tariff Commission created in 1951 that never set tariffs. *See Even in India, Bureaucracy Is Being Curtailed*, *Economist* (Jan. 30, 2025), <https://www.economist.com/briefing/2025/01/30/even-in-india-bureaucracy-is-being-curtailed> [<https://perma.cc/>]. *See also infra* note 301 (discussing a standing law revision body abroad confronting the same constraints as its American counterparts).

²³³ GianCarlo Canaparo, Patrick A. McLaughlin, Jonathan Nelson & Liya Palagashvili, *Count the Code: Quantifying Federalization of Criminal Statutes*, The Heritage Foundation, Special Report No. 251 (Jan. 7, 2022), <https://www.heritage.org/crime-and-justice/report/count-the-code-quantifying-federalization-criminal-statutes>

jurisdiction.²³⁴ But efforts to revise and reform the code are challenged by the volume and complexity of public laws. Few efforts have the resources to address code rot at a large scale. We survey what governments have actually tried to do to root out code rot, and what obstacles these efforts have confronted.

A. Federal Efforts

1. Code Revision

Federal efforts to address code rot in the United States have focused on the primary sources of codified federal law: the United States Codes (U.S.C.) and the Code of Federal Regulations (C.F.R.). Reviewing the U.S.C. is a monumental task. The Office of the Law Revision Counsel (OLRC) is an independent, nonpartisan office in the U.S. House of Representatives under the authority of the Speaker of the House with mandates to review and ensure the integrity of the U.S.C.²³⁵ As a part of its work, the OLRC continues a tedious practice started in 1939 to revise the U.S.C., title by title, correcting errors and inconsistencies in preparation for “enactment into positive law.” While addressing code rot is not the central goal of OLRC’s labors, it’s possible that such activities could surface and correct some forms of rot. But because revision of each title requires several years of effort, this project may not be completed until well into the 21st century.²³⁶

At the federal level, there have also been legislative attempts to revise, wholesale, portions of the Code, thereby removing accretional rot. For instance, the Bankruptcy Reform Act of 1978 was the first complete revision of federal bankruptcy statutes since 1932.²³⁷ The revision, in part, was “intended to make bankruptcy more efficient by consolidating procedures.”²³⁸ The revision changed substantive bankruptcy law and overhauled the bankruptcy judiciary system, vesting bankruptcy jurisdiction in the district courts, with those courts automatically referring bankruptcy cases to bankruptcy judges.²³⁹

[<https://perma.cc/5CFL-DSVV>]; *see generally* JENNIFER PAHLKA, RECODING AMERICA: WHY GOVERNMENT IS FAILING IN THE DIGITAL AGE AND HOW WE CAN DO BETTER (2023).

²³⁴ For example, there have been efforts to reform both federal and state regulatory codes. *See, e.g.*, Coutts, *supra* note 10 (discussing DOGE’s recent efforts to streamline federal regulations); Jenkins, *infra* note 328 (describing state-level efforts to streamline regulations).

²³⁵ *See* 2 U.S.C. § 285b.

²³⁶ Queen’s Univ. Library, *United States: History of United States Statutes at Large and United States Code*, <https://guides.library.queensu.ca/gov/foreign-international/united-states-history-statutes-code> [<https://perma.cc/PRB8-63UD>].

²³⁷ U.S. GAO, Bankruptcy Reform Act of 1978: A Look Before and After, at i (1983) <https://www.gao.gov/assets/ggd-83-54.pdf> [<https://perma.cc/AQ57-TRC4>].

²³⁸ *Id.* at i.

²³⁹ Pub. L. No. 95-598, 92 Stat. 2549 (1978) (codified as amended at 11 U.S.C.).

Despite the success of revisions of the federal bankruptcy statutes in promoting swift resolution of bankruptcy proceedings,²⁴⁰ this type of wholesale revision is the exception, not the norm. And while bankruptcy reform is sometimes presented as a triumph of technical codification, a political economy perspective offers a more nuanced account. As Eric Posner and David Skeel have each observed, the 1978 Act was the product of years of interest-group negotiation and compromise among creditors, debtors, attorneys, and legal specialists, which ultimately produced a statute workable enough to achieve broad support precisely because the major stakeholders had been accommodated.²⁴¹ The lesson for code reform may be less ‘get the text right’ than ‘align the relevant interests.’ Systematic code revision may require not just better tools but better institutional design that gives stakeholders a vested interest in the outcome.

In general, complete legislative overhauls of significant portions of the U.S. Code to promote cohesion and streamline procedures have been rare. Similar efforts to reform the federal criminal code, for example, have repeatedly failed to even count the number of federal crimes.²⁴² As noted, the DOJ attempted to enumerate criminal provisions “for the express purpose of exposing the idiocy” of the federal criminal justice system in 1982, but could only arrive at a rough estimate. Ronald Gainer, the former Justice Department official who headed the failed two-year effort, remarked that the U.S. Code’s criminal statutes were so numerous and complex that it was impossible to know the true number.²⁴³ No similar effort has been attempted since. If finding and enumerating statutes to answer basic legal questions has proved so difficult—with serious implications for fair notice of the law, prosecutorial discretion, and overcriminalization—it is not hard to imagine that identifying more subtle rot would be so onerous as to be nearly impossible.

2. Retrospective Regulatory Review

Recent administrations have increasingly turned to centralized regulatory review through OIRA as a mechanism for managing regulatory accretion. These efforts are often described in deregulatory terms,²⁴⁴ but they may be understood as attempts to confront the accumulation of rotten regulations over time. While deregulation seeks to reduce the scope or stringency of legal

²⁴⁰ Mark J. Roe & Michael Simkovic, Bankruptcy’s Turn to Market Value, 92 U. CHI. L. REV. 285, 287 (2025) (“U.S. bankruptcies are much more rapid today than in 1978.”).

²⁴¹ Eric A. Posner, *The Political Economy of the Bankruptcy Reform Act of 1978*, 96 MICH. L. REV. 47, 48 (1997); see generally DAVID A. SKEEL, *DEBT’S DOMINION: A HISTORY OF BANKRUPTCY LAW IN AMERICA* (2001).

²⁴² Shameema Rahman, *Frequent Reference Question: How Many Laws Are There?*, Library of Congress, (March 12, 2013), <https://blogs.loc.gov/law/2013/03/frequent-reference-question-how-many-federal-laws-are-there/> [<https://perma.cc/8TRE-8GEX>].

²⁴³ See Fields & Emshwiller, *supra* note 24.

²⁴⁴ See, e.g., Mark MacCarthy, *The Biden administration should relax, not expand, centralized regulatory reviews*, BROOKINGS INST., <https://www.brookings.edu/articles/the-biden-administration-should-relax-not-expand-centralized-regulatory-reviews/> (outlining the historical pattern of Republican and Democratic administrations utilizing centralized White House review to achieve distinct deregulatory outcomes).

obligations as a matter of policy, addressing code rot, aims to restore coherence and functionality to legal codes by identifying provisions that no longer perform their intended function.

Established by the Paperwork Reduction Act of 1980, OIRA was initially tasked with overseeing federal information collection and reducing paperwork burdens on the public.²⁴⁵ However, its role expanded substantially in 1981, when President Ronald Reagan issued Executive Order 12291, transforming the office into a powerful arbiter of agency rulemaking.²⁴⁶ The order required all executive branch agencies to conduct cost-benefit analyses of proposed “major” regulations and submit them to OIRA before publication.²⁴⁷ While this expansion is often framed as a deregulatory innovation, it also reflects a growing recognition that regulatory systems require coordination and oversight to prevent accretion and inconsistency.

In 1993, President Clinton’s Executive Order 12866 further institutionalized this regulatory review process, refining OIRA’s mandate and embedding review within a more explicitly technocratic framework.²⁴⁸ The order established OIRA review of “significant regulatory action,” defined in terms of the estimated economic impact or anticipated policy consequences, including interference with another agency’s actions or presidential priorities.²⁴⁹ The Clinton administration’s approach marked a shift from Reagan-era deregulation toward a model of “presidential administration”²⁵⁰ that emphasized regulatory consistency, coordination, and institutional learning rather than wholesale rollback, balancing bureaucratic expertise and public engagement.

Importantly, Executive Order 12866 gestured toward retrospective review, requiring agencies to periodically reassess existing rules.²⁵¹ These early efforts, however, were largely ad hoc²⁵² and nonbinding, lacking enforcement mechanisms and clear procedural guidance. As a result, retrospective review had a limited impact.²⁵³

²⁴⁵ CONG. RSCH. SERV., R40636, PAPERWORK REDUCTION ACT (PRA): OMB AND AGENCY RESPONSIBILITIES AND BURDEN ESTIMATES, Summary (2009) (“The Paperwork Reduction Act (PRA) (44 U.S.C. §§ 3501-3520) established the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) to provide central agency leadership and oversight of government-wide efforts to reduce unnecessary paperwork burden and improve the management of information resources”).

²⁴⁶ Exec. Order No. 12291, 3 C.F.R. 127 (1981).

²⁴⁷ Dale Whittington & W. Norton Grubb, *Economic Analysis in Regulatory Decisions: The Implications of Executive Order 12291*, 9 SCI. TECH. & HUMAN VALUES 63, 64 (1984).

²⁴⁸ Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245, 2284-2303 (2001).

²⁴⁹ Curtis W. Copeland, *The Role of the Office of Information and Regulatory Affairs in Federal Rulemaking*, 33 FORDHAM URB. L.J. 1257, 1371 (2006).

²⁵⁰ See Kagan, *supra* note 248, at 2246-47.

²⁵¹ See Kagan, *supra* note 248, at 2246-47.

²⁵² Carey Coglianese, *Moving Forward with Regulatory Lookback*, 30 YALE J. ON REG. 57, 57 (2013) (referring to past administrations’ efforts).

²⁵³ See Kagan, *supra* note 250.

A renewed effort to institutionalize retrospective review emerged when President Obama issued Executive Order 13563 in 2011.²⁵⁴ This order reaffirmed Clinton’s order 12866 but operationalized a previously disregarded section requiring agencies to develop plans to review significant regulations, adding an explicit mandate for agencies to “promote retrospective analysis of rules that may be outmoded, ineffective, insufficient or excessively burdensome.”²⁵⁵ Agencies were directed to produce retrospective review plans and make them publicly available with the stated goal to “measure, and seek to improve, the actual results of regulatory requirements”²⁵⁶ and develop a “culture of retrospective review.”²⁵⁷ Notably, the order also recognized the “cumulative burdens of regulatory programs in retrospective reviews”²⁵⁸—an acknowledgment that accretion can undermine regulatory performance. This marked a turning point designed to usher in an era of “smarter regulation.”²⁵⁹

While commentators largely welcomed the Obama-era efforts,²⁶⁰ several noted implementation challenges.²⁶¹ Retrospective review is increasingly time-consuming²⁶² and resource-intensive,²⁶³ raising questions as to whether it ultimately “operate[s] as a guardian of a well-functioning administrative process”²⁶⁴ or simply contributes to procedural overload. Agencies often lack the resources or political will to revisit old rules, particularly if doing so would risk reopening settled policy debates. In this way, regulatory review requirements may only serve to further encumber

²⁵⁴ Exec. Order No. 13563, *Improving Regulation and Regulatory Review*, 76 Fed. Reg. 3821 (Jan. 21, 2011).

²⁵⁵ *Id.*

²⁵⁶ Exec. Order No. 13610, *Identifying and Reducing Regulatory Burdens*, 77 Fed. Reg. 28,467 (May 14, 2012).

²⁵⁷ Joseph E. Aldy, *Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy* 5 (Nov. 17, 2014), <https://www.acus.gov/sites/default/files/documents/Aldy%2520Retro%2520Review%2520Draft%252011-17-2014.pdf> [https://perma.cc/W2FW-67ZK]

²⁵⁸ Joseph E. Aldy, *Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy*, ACUS Report, <https://www.acus.gov/sites/default/files/documents/Aldy%2520Retro%2520Review%2520Draft%252011-17-2014.pdf>

²⁵⁹ See Cass Sunstein, *Smarter Regulation: Remarks from Cass Sunstein, Administrator, Office of Information and Regulatory Affairs*, 63 ADMIN. L. REV. 7, 7 (2011).

²⁶⁰ See, e.g., Cass Sunstein, *Regulation: Looking Backward, Looking Forward*, Address Before the 2012 A.B.A. Admin. L. & Reg. Pract. Sec., Washington, D.C., May 10, 2012, <https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/speeches/regulation-looking-backward-looking-forward-05102012.pdf> [https://perma.cc/C2NL-BTNU].

²⁶¹ Andrew M. Grossman, *An Administration Takes Sides*, YALE J. ON REG.: Notice & Comment (May 25, 2017), <https://www.yalejreg.com/nc/an-administration-takes-sides-by-andrew-m-grossman/> [https://perma.cc/WF3Q-RU9G].

²⁶² Admin. Conf. of the U.S., *Statement 18: Improving Timeliness in OIRA Regulatory Review* (ACUS, Dec. 6, 2013), <https://www.acus.gov/sites/default/files/documents/OIRA%20Statement%20FINAL%20POSTED%2012-9-13.pdf>; Curtis W. Copeland, *Improving the Timeliness of OIRA Regulatory Review*, 2013), ADMIN. CONF. OF THE U.S. (Dec. 2, 2013), <https://www.acus.gov/sites/default/files/documents/Revised%20OIRA%20Report%20Re-posted%202-21-14.pdf> [https://perma.cc/L3UE-H898].

²⁶³ See, e.g., Coglianese, *supra* note 252, at 65 (noting that previous efforts to institutionalize retrospective review failed to take root without more commitments by the executive).

²⁶⁴ Exec. Order No. 13610, *Identifying and Reducing Regulatory Burdens*, 77 Fed. Reg. 28,467 (May 14, 2012).

agencies already overwhelmed by rot.²⁶⁵ Moreover, OIRA itself faced declining staffing levels,²⁶⁶ constraining its ability to absorb expanding oversight responsibilities, notwithstanding subsequent efforts to grant it greater discretion over its workload.²⁶⁷ In practice, many retrospective reviews under the Obama administration were limited in scope or focused on low-impact rules,²⁶⁸ amounting to a tangible but modest impact.²⁶⁹

The limits of retrospective review as a tool for addressing code rot became apparent when the Trump administration repurposed it to pursue an aggressive and wide-ranging deregulatory agenda. In 2017, Executive Order 13771 created a “one in, two out” regulatory directive,²⁷⁰ requiring executive branch agencies to repeal two existing regulations for every new regulation issued. This was followed by Executive Order 13777, which created regulatory reform task forces within agencies and reinforced OIRA’s gatekeeping authority.²⁷¹ These task forces identified existing regulations for repeal or modification, thereby embedding retrospective review into the machinery of regulatory oversight. This shift illustrates a key distinction between deregulation and code rot remediation: Focusing on reducing the volume of regulations ignores the substantive value of rules being eliminated.

Indeed, independent analysis contradicted the Trump administration’s claims about its success, finding both far fewer actual regulatory reductions than touted and no discernible impact on economic trends,²⁷² despite projections of hundreds of millions of dollars in annual cost savings.²⁷³ Scholars described the administration’s approach as “deregulation deception”: A

²⁶⁵ Jerry Ellig & Rosemarie Fike, *Regulatory Process, Regulatory Reform, and the Quality of Regulatory Impact Analysis*, 7 J. BENEFIT COST ANAL. 523, 530 (2013) (arguing that additional requirements may degrade analytical quality).

²⁶⁶ Connor Raso, *The Biden administration’s recent regulatory review analysis changes*, BROOKINGS INST. (MAY 18, 2013), <https://www.brookings.edu/articles/overview-and-analysis-of-the-biden-administrations-recent-regulatory-review-and-analysis-changes/> [https://perma.cc/DBD9-LFZB].

²⁶⁷ *Id.*

²⁶⁸ See Connor Raso, *Assessing regulatory retrospective review under the Obama administration*, BROOKINGS INST. (June 15, 2017), <https://www.brookings.edu/articles/assessing-regulatory-retrospective-review-under-the-obama-administration/> (“Such limited interest suggests that review plans generally did not take up rules that attracted the attention of commenters. To take one example, the EPA’s 2011 review plan included a rule to eliminate the requirement that gasoline pumps capture ozone-producing vapors created during refueling on the grounds that the technology in newer cars served the same function. The EPA estimated that the rule would save \$87 million per year, yet this specific rule proposal generated only 30 comments.”)

²⁶⁹ For example, the HHS \$5 billion over five years via removal of unwieldy hospital and healthcare reporting requirements. See CASS R. SUNSTEIN, *SIMPLER: THE FUTURE OF GOVERNMENT* (2014) (highlighting successful retrospective review efforts, including a Department of Health and Human Services reform to reporting requirements saving \$5 billion over five years and a Department of Labor rule to harmonize hazard warnings with the prevailing international practice saving \$2.5 billion over five years).

²⁷⁰ Exec. Order No. 13771, *Reducing Regulation and Controlling Regulatory Costs*, 82 Fed. Reg. 9339 (Jan. 30, 2017).

²⁷¹ Exec. Order No. 13777, *Enforcing the Regulatory Reform Agenda*, 82 Fed. Reg. 12285 (Feb. 24, 2017).

²⁷² Cary Coglianese, Natasha Sarin & Stuart Shapiro, *The Deregulation Deception* (Univ. of Pa. Carey L. Sch. Legal Scholarship Repository, Paper No. 2229, June 21, 2021), https://scholarship.law.upenn.edu/faculty_scholarship/2229/.

²⁷³ *Id.* at 27.

political strategy designed to create “a perception of dramatic deregulatory change” that could be used to claim credit for positive economic developments,²⁷⁴ even significantly broadening the definition of “deregulatory actions.”²⁷⁵ More fundamentally, the emphasis on pure cost savings violated the norms and logic of cost-benefit analysis,²⁷⁶ while the emphasis on arbitrary numerical targets led agencies to prioritize rescission of minor or outdated rules, rather than prioritizing rules most likely to contribute to systemic incoherence.²⁷⁷

Some evidence suggests that retrospective review as a deregulatory tool may have exacerbated, rather than alleviated, code rot. Between 1995 and 2020, agencies issued fewer new regulations, but the regulations that were issued tend to be larger.²⁷⁸ A growing body of academic literature argues that these efforts produced several unintended consequences, notably incentives to “bundle”²⁷⁹ rulemaking activities. This increased, rather than reduced, regulatory complexity. Moreover, *ex post* evaluations comparing actual outcomes with their *ex ante* benefit and cost projections are rare,²⁸⁰ preventing feedback loops between implementation and policy that may better inform reform efforts. Despite encouragement for interagency coordination,²⁸¹ there is little evidence of or incentive for this in practice.

Given statutorily prescribed rule-making responsibilities²⁸² and procedural requirements for rescission of legislative rules,²⁸³ a scaled-up version of this broad deregulatory agenda, such as the proposed 10-to-1 Deregulation Initiative,²⁸⁴ would likely confront numerous legal challenges.²⁸⁵ Moreover, to the extent that successful deregulation depends on aligning policy objectives with

²⁷⁴ *Id.*

²⁷⁵ Bridget C.E. Dooling, Mark Febrizio & Daniel R. Perez, *Accounting for regulatory reform under Executive Order 13771: Explainer and recommendations to improve accuracy and accountability*, BROOKINGS INST. (Nov. 2019), https://www.brookings.edu/wp-content/uploads/2019/11/ES_11072019_DoolingFebrizioPerez.pdf [https://perma.cc/W2J3-YAT5].

²⁷⁶ *Id.*

²⁷⁷ Jodi L. Short, *Cutting Through the Rhetoric of Cutting Red Tape*, REGUL. REV. (July 31, 2018), <https://www.theregreview.org/2018/07/31/short-cutting-rhetoric-cutting-red-tape/#:~:text=They%20double%2Dcount%E2%80%94and%20triple.problems%20and%20appropriate%20regulatory%20responses.> [https://perma.cc/879C-JT4X] (“As a result regulation counts do not provide a rational basis for regulatory policymaking.”).

²⁷⁸ See Mark Febrizio, *Federal Agencies are Publishing Fewer but Larger Regulations*, Regulatory Studies Center George Washington University, <https://regulatorystudies.columbian.gwu.edu/sites/g/files/zaxdzs4751/files/2022-06/gw-reg-studies-fewer-yet-larger-regulations-mfebrizio.pdf> [https://perma.cc/9FG7-FS3R].

²⁷⁹ See Jennifer Nou & Edward H. Stiglitz, *Regulatory Bundling*, 128 YALE L.J. 1174 (2019).

²⁸⁰ Susan E. Dudley & Brian F. Mannix, *Improving Regulatory Cost-Benefit Analysis*, 34 J. L. & POL. 1 (2018).

²⁸¹ Administrative Conference of the United States: Adoption of Recommendations, 77 Fed. Reg. 47800, 47800 (adopting Recommendation 2012-5, titled “Improving Coordination of Related Agency Responsibilities”).

²⁸² 5 U.S.C. §§ 551-559, 701-706; KATE R. BOWERS & DANIEL J. SHEFFNER, CONG. RSCH. SERV., R46673, AGENCY RECISSIONS OF LEGISLATIVE RULES, 10 (2021).

²⁸³ BOWERS & SHEFFNER, *supra* note 282.

²⁸⁴ White House, *Fact Sheet: President Donald J. Trump Launches Massive 10-to-1 Deregulation Initiative* (Jan. 31, 2025), <https://www.whitehouse.gov/fact-sheets/2025/01/fact-sheet-president-donald-j-trump-launches-massive-10-to-1-deregulation-initiative/> [https://perma.cc/BU9D-SBDX].

²⁸⁵ Robert E. Litan & Peter M. Shane, *Trump’s Regulatory Housecleaning Won’t Be Easy*, BROOKINGS (2025), <https://www.brookings.edu/articles/trumps-regulatory-housecleaning-wont-be-easy/> [https://perma.cc/97CU-3DF6].

managerial capacity,²⁸⁶ inexperienced political appointees²⁸⁷ and abrupt federal workforce reductions²⁸⁸ could compound these challenges.

Attending to code rot is different from deregulation. Efforts to eliminate rules without a theory of legal obsolescence risk compounding legal complexity. In contrast, meaningful responses to code rot require sustained institutional capacity and transparent mechanisms for identifying when law has ceased to function as intended. Retrospective review in its current incarnation has only partially—and imperfectly—served that role.

B. State Efforts

At the state level, previous and ongoing efforts to identify code rot include manual review by attorneys and legal experts. State commissions in California, Connecticut, Louisiana, Michigan, New Jersey, New York, Oregon, Rhode Island, and Washington have identified obsolete and possibly unconstitutional laws²⁸⁹ on their respective books. In New Jersey, recommendations include adaptations to the Administrative Procedures Act²⁹⁰ and the identification of anachronistic statutes.²⁹¹ An October 2024 California Law Review Commission meeting²⁹² recommended changes to tenant and landlord terminology²⁹³; the commission is also

²⁸⁶ See Geo. Wash. Univ. Regulatory Stud. Ctr., *supra* note 278; Sean Michael Newhouse, *Trump wants 10 regulations eliminated for each new one issued. Will it actually work?*, GOVEXEC (Dec. 20, 2024), <https://www.govexec.com/management/2024/12/trump-wants-10-regulations-eliminated-each-new-one-issued-will-it-actually-work/401819/> [https://perma.cc/A6ZW-P4E3].

²⁸⁷ Matt Grossman, *What the Trump nominations and transition foretell*, NISKANEN CTR. (Dec. 11, 2024), <https://www.niskanencenter.org/what-the-trump-nominations-and-transition-foretell/> [https://perma.cc/TE54-UYBK].

²⁸⁸ Elaine Kamarck, *Trump's dramatic plan to cut the federal workforce*, BROOKINGS INST. (Jan. 30, 2025), <https://www.brookings.edu/articles/trumps-dramatic-plan-to-cut-the-federal-workforce/> [https://perma.cc/H5C9-Y5UQ].

²⁸⁹ Michael Waters, *Hundreds of wacky, obsolete laws still exist. Why don't more states remove them?*, VOX (Dec. 6, 2019), <https://www.vox.com/the-highlight/2019/11/18/20963411/weird-old-laws-historical-obsolete-laws> [https://perma.cc/66N5-K2C2].

²⁹⁰ New Jersey L. Revision Comm'n, *Final Report and Recommendations Concerning the Administrative Procedure Act* (1989), <https://static1.squarespace.com/static/596f60f4ebbd1a322db09e45/t/6412348e28daa917f41ae217/1678914702886/aPaFR89+-+rev053013.pdf> [https://perma.cc/GLW6-QS8N].

²⁹¹ New Jersey L. Revision Comm'n, *Final Report Relating to Repeal of Anachronistic and Invalid Statutes* (Mar. 2012), <https://static1.squarespace.com/static/596f60f4ebbd1a322db09e45/t/624e0e42e6f4d767040fd504/1751559993767/generalrepealerdFR030512c.pdf> [https://perma.cc/BAC3-KLWC].

²⁹² Cal. L. Revision Comm'n, *Approved Minutes of the California Law Revision Commission Meeting* (Oct. 10, 2024), <https://clrc.ca.gov/pub/Minutes/Minutes2024-10.pdf> [https://perma.cc/A5RQ-L6C4].

²⁹³ Cal. L. Revision Comm'n, *Landlord and Tenant Terminology* (Oct. 2024), <https://clrc.ca.gov/pub/Printed-Reports/Pub245-H109.pdf> [https://perma.cc/2SK6-X9MC].

investigating statutes pertinent to penal code procedures,²⁹⁴ toxic substances, antitrust law²⁹⁵, and AI, among other topics.

Many state law review commissions collaborate with the National Conference of Commissioners on Uniform State Laws (NCCUSL), which “provides states with non-partisan, well-conceived and well-drafted legislation that brings clarity and stability to critical areas of state statutory law.”²⁹⁶ However, commissions are underfunded, understaffed, and underequipped to deal with the sheer scale of the problem of rot in a timely manner. For example, the New York Law Commission’s work has been “hindered by the lack of any funding since 2016, as a result of a discontinuance of its inclusion in the state budget,” although some members continue their diligent, careful review on a voluntary basis.²⁹⁷ Funding for the efforts of other law review commissions is limited and dwindling, and the recommendations of the commissions are often severely delayed or not taken up as they are deprioritized by legislators.²⁹⁸ For example, the “Uniform Child Abduction Prevention Act,” recommended by the NCCUSL in 2006, was first seen by the Washington state legislature 17 years later in 2023.²⁹⁹ Strikingly, only half of the Law Review Commissions are empowered to recommend the removal of law at all.³⁰⁰ These constraints of capacity, authority, and legislative attention are not unique to American law revision bodies.³⁰¹

²⁹⁴ Cal. L. Revision Comm’n, *Recommendation: Repeal of Penal Code Section 1463.5* (Feb. 2024), <https://clrc.ca.gov/pub/Printed-Reports/Pub245-J1408.pdf> [https://perma.cc/5BUW-F2B3].

²⁹⁵ Cal. L. Revision Comm’n, *Anti-Trust Law: Initial Recommendations for ACR 95 Questions* (Jan. 13, 2025), <https://clrc.ca.gov/pub/2025/MM25-11.pdf> [https://perma.cc/8GU5-DAYN]

²⁹⁶ Unif. L. Comm’n, About Us, <https://www.uniformlaws.org/aboutulc/overview> [https://perma.cc/DZ5S-Z2TK].

²⁹⁷ N.Y. Law Revision Comm’n, *The New York Law Revision Commission: Past and Present*, Albany L. Sch. Gov’t L. Ctr., <https://www.albanylaw.edu/government-law-center/the-new-york-law-revision-commission-past-and-present> [https://perma.cc/M9AZ-VD3X].

²⁹⁸ Michael Waters, *Hundreds of wacky, obsolete laws still exist. Why don’t more states remove them?*, Vox (Dec. 6, 2019) <https://www.vox.com/the-highlight/2019/11/18/20963411/weird-old-laws-historical-obsolete-laws> [https://perma.cc/2CWC-QMXF].

²⁹⁹ <http://ulc.wa.gov/>, <https://lawfilesexst.leg.wa.gov/biennium/2023-24/Pdf/Bills/House%20Bills/1121.pdf>

³⁰⁰ See Waters, *supra* note 298.

³⁰¹ In the United Kingdom, the Law Commission and the Scottish Law Commission have jointly produced periodic statute law repeals reports since 1965. Their Twentieth Report in 2015 recommended repealing more than two hundred obsolete enactments, the earliest reaching a provision of the Statute of Marlborough 1267, one of the “oldest surviving pieces of legislation,” and included a complete draft bill to effect them. Law Comm’n (U.K.), *Statute Law Repeals: Twentieth Report, Draft Statute Law (Repeals) Bill* (June 2015), https://assets.publishing.service.gov.uk/media/5a81913a40f0b6230269801b/49556_Cm_9059_Law_Commission_Accessible_WEB.pdf [https://perma.cc/B4WJ-87VN]. Nineteen such bills have been enacted since 1965, but that draft bill “awaits implementation by the Government,” and the Commission attributes non-implementation of accepted recommendations to “a lack of Parliamentary time to debate our proposals or a change in Ministerial priorities.” Funding constraints can be more absolute still: the Northern Ireland Law Commission, though still on a statutory footing and with a Chair appointed in 2021, has not been operational since 2015 and operates “on a very restricted basis.” Law Comm’n, *Annual Report 2022–23*, Law Com No 414, HC 301, at 8, 51, 67, 74 (2023), https://cdn.websitebuilder.service.justice.gov.uk/uploads/sites/54/2024/11/AnnualReport-22-23_Law_Commission.pdf [https://perma.cc/].

Beyond Law Revision Commissions, other state efforts mirror the federal approaches described above. In 2015, echoing federal crime enumeration efforts, Michigan Governor Rick Snyder’s call for criminal justice reform urged the state legislature to continue to review the state’s lengthy criminal code.³⁰² The resulting collection of repeals targeted outdated, burdensome, or unconstitutional laws, including prohibitions of promoting walkathons lasting more than 12 hours, singing the Star-Spangled Banner with “embellishments,” and several crimes related to dueling.³⁰³

In the vein of broader deregulatory approaches, in 2019, Idaho dramatically simplified its code. After the state legislature failed to reauthorize the administrative code in April 2019, Idaho officials cut or simplified forty percent of state regulations over just six months, engaging with the public extensively in an open process, including over forty public meetings and a public comment period.³⁰⁴ These changes extended previous executive mandates, including the Licensing Freedom Act of 2019 and the Red Tape Reduction Act. The former suggested broader sunset and sunrise clauses for professional license regulations, partly based on a 2017 report that found “at least 442 different occupational license types, with at least 204,000 licensees in Idaho, administered by thirteen executive branch agencies and forty-seven boards and commissions.”³⁰⁵ The latter order mandated each agency designate an existing employee to comprehensively review the agency’s administrative rules to identify costly, ineffective, or outdated regulations, and that for each new rule proposed, two existing rules be put forth to be repealed or simplified, unless no such rules can be found. That provision is similar to federal E.O.s under Trump.³⁰⁶

C. Local Efforts

Local government initiatives also deal with code rot and code reorganization. In 2013, San Francisco recognized that the accumulated complexity of the Planning Code created barriers to public understanding and participation while placing those without access to time and expertise at a significant disadvantage in navigating even basic land use controls. This motivated the Code

³⁰² Rick Snyder, *Special Message on Criminal Justice* (Mich. Governor May 2015), <https://michigancommitteeonjuvenilejustice.com/wp-content/uploads/Governor-2015-criminal-justice-special-message.pdf> [https://perma.cc/2QZJ-V6VH].

³⁰³ Former Governors of Michigan, *Gov. Snyder signs bills eliminating outdated laws on dueling, cursing and trampling blackberry bushes* (Dec. 2015), <https://www.michigan.gov/formergovernors/recent/snyder/press-releases/2015/12/15/gov-snyder-signs-bills-eliminating-outdated-laws-on-dueling-cursing-and-trampling-blackberry-bushes> [https://perma.cc/NP2L-RYFN]; James R. Copeland, Isaac Gorodetski & Michael J. Reitz, *Overcriminalizing the Wolverine State: A Primer and Possible Reforms for Michigan*, MACKINAC CTR. FOR PUB. POL. (Oct. 2014), <https://www.mackinac.org/archives/2014/S2014-06.pdf> [https://perma.cc/NT93-99X3].

³⁰⁴ Brad Little, *Opinion: How Idaho Ushered in the Largest Regulatory Cuts in State History*, Office of the Governor (Idaho) (June 19, 2019), <https://gov.idaho.gov/pressrelease/opinion-how-idaho-ushered-in-the-largest-regulatory-cuts-in-state-history/> [https://perma.cc/4XET-QK7N].

³⁰⁵ Id. Exec. Order No. 2019-01, <https://gov.idaho.gov/wp-content/uploads/2019/01/eo-2019-01.pdf> [https://perma.cc/C27W-8YSJ].

³⁰⁶ Id. Exec. Order No. 2019-02, <https://gov.idaho.gov/wp-content/uploads/2019/01/eo-2019-02.pdf> [https://perma.cc/3W76-94EM].

Reorganization Project to “benefit future planning efforts in both organization and transparency” and “establish[] equal access for all to the Code.”³⁰⁷ The Planning Commission approved Phase 1 in 2014, Phase 2 in 2017, and Phase 3.1 in 2021. It continues to make improvements to the organization of its code as part of this project,³⁰⁸ highlighting how code reorganization efforts can unfold over almost a decade, and raising questions about the benefits and costs of such a drawn out reorganization process.

D. Previous Algorithmic Legal Reform Efforts

We separately discuss algorithmic reform efforts as algorithmic approaches raise a distinct set of methodological questions about both the technical design and the appropriate role of automated systems in value-laden legal judgments that cut across jurisdictions. The comparison across these efforts also illustrates a consistent pattern: Tools that rely on keyword search or static text analysis capture only a fraction of rotten provisions, while more recent LLM-based systems have been deployed without sufficient transparency or validation. For several efforts, it is also worth questioning whether AI was really critical to identifying the proposed reforms.

1. QuantGov and RegData

Both QuantGov and RegData were developed by the Mercatus Center at George Mason University.³⁰⁹ QuantGov is an “open-source policy analytics platform designed to help create greater understanding and analysis of the breadth of government actions through quantifying policy text.”³¹⁰ RegData is a “QuantGov product” that quantifies regulations and statutory text by “counting words that indicate an obligation to comply.”³¹¹ RegData also uses machine learning classification algorithms to sort regulations with the aim of measuring regulatory burden by industry.³¹²

Public citations of RegData generally focus on its estimates of the total volume of regulation. It does not appear to be used as a tool for identifying *which* regulations should be reformed. It is most widely cited by Mercatus Center staff who testify before various government bodies, using

³⁰⁷ S.F. Planning Dep’t, *The Code Reorganization Project*, https://default.sfplanning.org/legislative_changes/CodeReog_Phase2_Handout.pdf [https://perma.cc/BK3F-5RVE]

³⁰⁸ S.F. Planning Dep’t, *Executive Summary: Planning Code Text Amendment* (Nov. 17, 2022), <https://www.sf.gov/sites/default/files/2022-12/Executive%20Summary%20-%2020220340.pdf> [https://perma.cc/M4DD-AGQY].

³⁰⁹ Patrick A. McLaughlin, Oliver Sherouse & Stephen Strosko, *QuantGov: An Overview* (Mercatus Ctr. at George Mason Univ., Mar. 2019), <https://www.mercatus.org/research/policy-briefs/quantgov-overview> [https://perma.cc/HA8G-XH4Q].

³¹⁰ QuantGov, About, QUANTGOV, <https://www.quantgov.org/about> [https://perma.cc/QZ5A-YMG4].

³¹¹ *Id.*

³¹² *Id.*

insights from QuantGov to decry the growing volume of regulations.³¹³ The Department of Health & Human Services (HHS) used evidence from QuantGov to estimate the complexity of its promulgated regulations.³¹⁴ Other references to QuantGov (in amicus briefs,³¹⁵ state press releases,³¹⁶ and advocacy pieces³¹⁷) use only its regulation volume estimation features.

There is one documented private use case of QuantGov technology. The Department of Transportation experimented with the use of the RegData dashboard to understand the complexity of its regulations, but its “RegData Dashboard has not been tested by potential users, and no regulatory action has come of it.”³¹⁸

2. RegExplorer

Multiple government bodies have used a Deloitte-developed tool named RegExplorer to conduct statutory review.³¹⁹ RegExplorer uses “keyword technology,” a “clustering algorithm,” “citation extraction and mapping,” and “similar section analysis.”³²⁰

In 2019, in response to broad deregulatory mandates,³²¹ HHS used RegExplorer to analyze regulations in the C.F.R., finding “[three hundred] broken citations”³²² and several other technical issues in the Department’s sections of code. A year later, HHS made a series of edits to the C.F.R., touting their use of NLP and AI in identifying edits to make. However, their edits were largely updated citations and references in the C.F.R.³²³ These were worthwhile changes,

³¹³ Oliver Sherouse, *Reducing Administrative Incomprehensibility with Data Tools and Standardization* (Testimony before the H. Comm. on Oversight and Govt. Reform, Subcomm. On Intergovernmental Affs., July 20, 2018), <https://www.mercatus.org/research/federal-testimonies/reducing-administrative-incomprehensibility-data-tools-and> [https://perma.cc/B6XX-4TEK].

³¹⁴ Securing Updated and Necessary Statutory Evaluations Timely, 86 Fed. Reg. 5694, 5741 n.233 (Jan. 19, 2021) (citing QuantGov data).

³¹⁵ Brief of Amicus Curiae Institute for Justice in Support of Reversal 13, *Gundy v. U.S.*, 588 U.S. ____ (2019) (No. 17-6086), https://www.supremecourt.gov/DocketPDF/17/17-6086/48977/20180601154525996_17-6086%20-%20BRIEF%20OF%20AMICUS%20CURIAE%20INSTITUTE%20FOR%20JUSTICE.pdf [https://perma.cc/A9XX-F4UC].

³¹⁶ Access Idaho, *Idaho Increases Its Lead as Least Regulated State*, OFFICE OF THE GOVERNOR (Nov. 10, 2021), <https://gov.idaho.gov/pressrelease/idaho-increases-its-lead-as-least-regulated-state/> [https://perma.cc/EU6G-L7K7].

³¹⁷ The Problem, BREAK THE TAPE, <https://oklahoma.gov/break-the-tape/theproblem.html>.

³¹⁸ CATHERINE M. SHARKEY, *Algorithmic Tools in Retrospective Review of Agency Rules*, ADMIN. CONF. OF THE U.S. 31 (May 3, 2023), <https://www.acus.gov/sites/default/files/documents/Algorithmic%20Retrospective%20Review%20Final%20Report%202023.05.03.pdf> [https://perma.cc/NH3T-XJ94].

³¹⁹ *Id.*; 86 Fed. Reg. 5694, 5701 (Jan. 19, 2021) (discussing the artificial intelligence review of Department of Health and Human Services regulations).

³²⁰ See SHARKEY, *supra* note 318.

³²¹ See Exec. Order No. 13771, *supra* note 270.

³²² Catherine M. Sharkey, *AI for Retrospective Review*, 8 BELMONT L. REV. 374, 389 (2021) (“HHS had nearly 300 broken citation references in the CFR”).

³²³ *Id.*

but far from general-purpose code cleanup.³²⁴ It is likely that these changes also relied more heavily on the citation extraction functionality of RegExplorer rather than recent advances in AI or NLP techniques. While HHS described their work as the first step towards broader, AI-enabled statutory reform, there are no additional references in the Federal Register to the Regulatory Clean Up effort or 85 C.F.R 72899.³²⁵

In response to deregulatory pushes from Gov. Mike DeWine,³²⁶ Ohio's Innovate the Code initiative used RegExplorer and partnerships with agency officials to identify hundreds of rules to cut.³²⁷ Lt. Governor Husted stated that RegExplorer “enabled the state to remove 2.2 million words and rescind nearly nine hundred rules from the administrative code.”³²⁸ However, by word count, nearly all of these cuts to the administrative code come from just two kinds of duplicative rules: higher education policies (which are already published by academic institutions) and building and fire code policies (which are published by the state).³²⁹ At the level of rules, as of the most recent report, the majority of the nine hundred and thirty rules rescinded involved obsolete gaming provisions: five hundred and seventeen instant lottery game rules for games no longer played in Ohio and one hundred and seventy nine duplicative horse racing rules consolidated with overlapping regulations.³³⁰ Notably, the initiative collaborated with the Lottery Commission to identify these provisions,³³¹ an agency that would presumably already know which games were defunct. This raises questions about the extent to which AI was necessary to surface rules that were already known to be duplicative or that governed lottery games not

³²⁴ Regulatory Clean Up Initiative, 85 Fed. Reg. 72,899 (Nov. 16, 2020).

³²⁵ This is based on our search of the CFR for references to the Regulatory Clean Up Initiative or 85 Fed. Reg. 72,899.

³²⁶ Press Release, Off. of the Governor of Ohio, Lt. Gov. Husted Launches AI Tool to Analyze Ohio Regulations (Feb. 13, 2020), <https://governor.ohio.gov/administration/lt-governor/launches-ai-tool-to-analyze-ohio-regulations> [https://perma.cc/VKQ9-2TGH] (announcing AI tool to analyze Ohio's 240,000+ regulations for reform).

³²⁷ Ned Oliver, *Ohio Uses AI to Eliminate Unnecessary Words in State Administrative Code*, AXIOS COLUMBUS (Apr. 29, 2024), <https://www.axios.com/local/columbus/2024/04/29/artificial-intelligence-ai-ohio-state-administrative-code-husted> (reporting that Ohio used Deloitte's RegExplorer AI tool to eliminate 2.2 million words of unnecessary regulations from the state administrative code).

³²⁸ Austin Jenkins, *How AI Is Helping States Declutter Regulations*, PLURIBUS NEWS (Nov. 22, 2024), <https://pluribusnews.com/news-and-events/how-ai-is-helping-states-declutter-regulations/> [https://perma.cc/4CYU-APBP] (reporting on Ohio's and South Carolina's use of AI tools to identify and eliminate redundant or outdated regulations).

³²⁹ Ohio Common Sense Initiative, 2024 Annual Report 4 (2024), https://dam.assets.ohio.gov/image/upload/v1738358505/governor.ohio.gov/csi/Common_Sense_Initiative_2024_Annual_Report.pdf [https://perma.cc/X53H-VNPA] (reporting that over 930 Ohio regulations and approximately 2.3 million words have been eliminated through the Cut the Code initiative since 2023).

³³⁰ *Id.*

³³¹ Ohio Common Sense Initiative, 2022 Annual Report 5 (2022), <https://governor.ohio.gov/wps/wcm/connect/gov/e7156c42-f5e6-4697-b1d3-c1bc0e672745/Common+Sense+Initiative+2022+Annual+Report.pdf?MOD=AJPERES&CVID=oV29GQs> [https://perma.cc/88ED-FYKU] (“CSI collaborated with the Lottery Commission to help identify 243 outdated instant lottery game rules for rescission”)

played, in some cases, for over a decade.³³² Other efforts to eliminate certified mail requirements and similar outdated communication methods were touted by the Governor, but the most meaningful appear to have been identified by the agencies themselves, rather than AI.³³³ This includes a change allowing the Department of Taxation to communicate with taxpayers electronically instead of through 600,000 pieces of certified mail every year, estimated to save \$3.4 million annually.³³⁴

Though many features of RegExplorer³³⁵ are proprietary and unknown,³³⁶ some of its publicly acknowledged functionality (like citation-linking) shows that it also draws on the structure of regulatory codes and the references inside. However, RegExplorer was created before the advent of modern large language models,³³⁷ and the most recent public statements do not mention that it uses this powerful technology.³³⁸ Moreover, RegExplorer is a proprietary tool that is not widely available for general use by policymakers or review by the public.³³⁹ Its use by government agencies has come under attack, as critics demand more information about its black-box system and demonstrate skepticism about a private company's product shaping U.S. policy.³⁴⁰

3. Virginia Regulatory Reform

Virginia's regulatory modernization initiative has received widespread attention as a model of AI-assisted code reform.³⁴¹ But a closer examination reveals important limitations that should temper enthusiasm for the 'Virginia model.'

³³² Press Release, Off. of the Governor of Ohio, Husted, Sen. Wilson and Rep. Hall Announce "Innovate the Code" (Dec. 14, 2021), <https://governor.ohio.gov/administration/lt-governor/121421> [<https://perma.cc/8R84-2X3E>] (announcing legislation using AI-identified reforms projected to save \$44 million and 58,000 labor hours over ten years).

³³³ *Id.*

³³⁴ Ohio Common Sense Initiative, 2021 Annual Report 6 (2021), <https://governor.ohio.gov/wps/wcm/connect/gov/7c803dbc-abf3-422b-b12e-7b8c4b00e97e/Common+Sense+Initiative+2021+Annual+Report.pdf?MOD=AJPERES&CVID=oV2aB1d> [<https://perma.cc/B7D2-T3TF>].

³³⁵ Deloitte, RegExplorer: Regulatory Intelligence, <https://www.regulatoryexplorer.com/landing> [<https://perma.cc/8MQ6-WW3S>] (AI-powered platform used by Ohio to analyze and streamline state regulatory code).

³³⁶ See Sharkey, *supra* note 318, at 11.

³³⁷ See Sharkey, *supra* note 318, at 11.

³³⁸ Press Release, Be Informed, Deloitte and Be Informed Launch RegExplorer™ Reengineer: Simplify, Structure & Modernize Regulation (Jan. 14, 2026), <https://www.beinformed.com/deloitte-and-be-informed-launch-regexplorer-reengineer/> [<https://perma.cc/SH8G-65C4>].

³³⁹ See Deloitte, *supra* note 335.

³⁴⁰ See generally David Freeman Engstrom et al., *supra* note 16.

³⁴¹ See, e.g., Reeve Bull & Patrick McLaughlin, *The Virginia Model: How the Commonwealth Built a Best-in-Class Regulatory System*, Regulatory Transparency Project of the Federalist Society (July 9, 2025), <https://rtp.fedsoc.org/paper/the-virginia-model-how-the-commonwealth-built-a-best-in-class-regulatory-system/> [<https://perma.cc/XQ86-UMZG>] ("As other states consider ways in which they can streamline their regulatory

In 2022, Governor Glenn Youngkin issued an executive order creating the Office of Regulatory Management (ORM) and directing it to reduce statewide regulatory requirements by twenty-five percent.³⁴² The first three years of the initiative proceeded primarily through manual review. Regulatory coordinators at each of the state’s sixty-six executive branch agencies combed through the code provision by provision. According to ORM, this process enabled agencies to streamline around thirty-five percent of regulations, cut over forty-nine percent of text in guidance documents, and, ultimately, save an estimated \$1.4 billion per year.³⁴³

The AI component—a pilot program in collaboration with a startup called Vulcan Technologies—launched late in the process, after manual review had essentially achieved the targeted reduction. Vulcan Technologies was incorporated in April 2025 and awarded the Virginia contract only a month later, despite never previously deploying AI tools at scale.³⁴⁴ One of the company’s co-founders described its mission as enabling elected officials to “actualize the public will, use it to circumvent delays and consultants and lawyers and red and unelected bureaucrats.”³⁴⁵ Critically, Vulcan’s methodology for classifying provisions is not public or independently audited. Substituting an unaudited private algorithm for the domain expertise of agency staff does not improve transparency or accountability. It merely reallocates value judgments to a black box.

Vulcan’s framing also deserves close examination. “Circumventing” agency expertise frames domain knowledge as an obstacle rather than a resource. But the Virginia initiative itself demonstrates the opposite: Its success depended critically on coordinating with agencies and unlocking the domain expertise of agency personnel who reviewed AI outputs, identified their limitations, and supplemented them with institutional knowledge. Others have noted that the extent of deregulation may be exaggerated by counting reductions in pages or words—the pages or words being cut may simply be material that “nobody reads anymore or even cares about anymore.”³⁴⁶

burdens, and as federal DOGE potentially turns its sights to regulation (having already achieved tens of billions of dollars in savings in the personnel and contracting spaces), Virginia’s successes provide a model that would-be reformers can emulate.”).

³⁴² Va. Exec. Order No. 19, Development and Review of State Agency Regulations.

³⁴³ Reeve T. Bull, *AI-Empowered Regulatory Reform: Spreading the Virginia Model*, YALE J. ON REG.: NOTICE & COMMENT (Feb. 12, 2026), <https://www.yalejreg.com/nc/ai-empowered-regulatory-reform-spreading-the-virginia-model-by-reeve-t-bull/> [https://perma.cc/9B5A-8NUS].

³⁴⁴ Chris Teale, *Inside Virginia’s AI-driven streamlining of regulations*, NEXTGOV (Aug. 22, 2025) <https://www.nextgov.com/artificial-intelligence/2025/08/inside-virginias-ai-driven-streamlining-regulations/407641/> [https://perma.cc/T79W-4NET] (reporting Vulcan Technologies’ incorporation date of April 2025 and contract award approximately one month later).

³⁴⁵ *Id.*

³⁴⁶ Jahd Khalil, *Youngkin turns to AI firm in quest to cut 35% of state regulations*, WHRO PUBLIC MEDIA (Sept. 26, 2025), <https://www.whro.org/virginia-government/2025-09-26/youngkin-turns-to-ai-firm-in-quest-to-cut-35-of-state-regulations> [https://perma.cc/Y2ZF-X534] (“There may be 25 or 35% of those pages or words that nobody reads anymore or even cares about anymore...It’s not clear that, if no one really cares about them anymore, they really result in any meaningful economic benefits.”)

The deeper lesson of the Virginia initiative is that the technology worked because institutional groundwork preceded it. Three years of manual review, metric development, and agency consultation were conditions that enabled the pilot to achieve buy-in. Jurisdictions that attempt to replicate the so-called ‘Virginia model’ by starting with AI are likely to be disappointed. Scoping the problem accurately requires exactly the domain expertise, stakeholder relationships, and deliberative capacity that technology is sometimes invoked to circumvent.

4. Racially Restrictive Covenants

Localities have also experimented with the use of AI tools to streamline compliance with state and federal law. In 2021, California passed Assembly Bill 1466,³⁴⁷ which required each county to create a program to oversee the redaction of racial covenants from property deeds. The implementation of the law, however, presented nontrivial technical and administrative challenges for counties. Beyond the sheer volume of property records, many historical deeds had not been digitized.

Researchers from the Stanford Regulation, Evaluation, and Governance Lab (RegLab) and Princeton University partnered with the Santa Clara County Clerk Recorder’s Office to develop, evaluate, and implement an integrated system to enable automated redaction of racially restrictive covenants from property records.³⁴⁸ The model is highly accurate, with a precision of 1.0 and a recall of 0.99 on evaluation tasks, significantly outperforming traditional non-AI methods for identifying relevant provisions. Perhaps most importantly, the model enabled Santa Clara County to comply with legislative requirements despite limited human resources, with multiple other counties (Yolo County, San Francisco County) following suit to adopt the approach.

IV. A Collaborative Framework to Use AI for Code Reform

The limited success of many legal reform efforts across federal, state, and local governments highlights several persistent barriers to systematic code revision. These barriers are both political and technical, and help explain why conventional reform strategies—especially procurement-driven approaches³⁴⁹—repeatedly fall short.

³⁴⁷ AB 1466 is codified at Cal. Gov. Code § 12956.3.

³⁴⁸ See Faiz Surani, Mirac Suzgun, Vyoma Raman, Christopher D. Manning, Peter Henderson & Daniel E. Ho, *AI for scaling legal reform: mapping and redacting racial covenants in Santa Clara County*, 18 J. LEG. ANAL. 151 (2026).

³⁴⁹ Abigail Z. Jacobs & Dierdre K. Mulligan, *The Hidden Governance in AI*, REGUL. REV. (July 7, 2022), [https://www.theregreview.org/2022/07/07/jacobs-mulligan-the-hidden-governance-in-ai/#:~:text=System%20design%20decisions%20about%20training,decision%20support%20into%20decision%20displacement.\[https://perma.cc/H5J2-6F3X\]](https://www.theregreview.org/2022/07/07/jacobs-mulligan-the-hidden-governance-in-ai/#:~:text=System%20design%20decisions%20about%20training,decision%20support%20into%20decision%20displacement.[https://perma.cc/H5J2-6F3X]).

The systematic discovery of code rot presents a deceptively complex technical challenge. Despite the obvious obsolescence of certain provisions, efficiently identifying problematic statutes across entire legal codes remains difficult. Traditional approaches to discovering problematic provisions have proven inadequate, deterring comprehensive legal reform efforts.

One of the key challenges to effective statutory reform is the high cost of performing legal research on rotten codes. Legal codes span millions of words³⁵⁰ and require expert lawyers to read and analyze them. A good-faith reformer attempting to identify all criminal statutes,³⁵¹ statutes affected by trial court reform,³⁵² or obsolete laws³⁵³ might find the effort to be incredibly time-intensive and even Sisyphean—on average, the U.S. Code grows by one *million* words per year.³⁵⁴

The simplest search strategies rely on temporal indicators, identifying statutes enacted long ago or those that have remained unamended for decades. Other basic approaches target archaic language as a proxy for outdated provisions. However, both strategies have significant limitations. In the first case, many laws enacted centuries or decades ago are still well-formed and valid, despite disagreements over interpretation. Age does not always imply rot. For example, core provisions of the Administrative Procedure Act³⁵⁵—most notably its notice-and-comment framework and standards of judicial review—remain largely unchanged since 1946, yet they continue to structure vast areas of contemporary regulatory governance.³⁵⁶ Longevity in such cases reflects institutional durability, not obsolescence.

Tools that leverage cutting-edge AI, including LLMs, promise to overcome the above challenges and enable more effective searches for code rot. Although some of these efforts have produced incremental gains, none has achieved widespread adoption or general-purpose utility for code reform. Importantly, few of the available tools supposedly designed for general-purpose statutory research and reform leverage recent developments in AI language-processing capabilities, and

³⁵⁰ As of 2015, federal tax laws and regulations alone had grown by over 8 million since 1955, to a combined 10 million words. See Scott Greenberg, *Federal Tax Laws and Regulations are Now Over 10 Millions Words Long*, TAX FOUND. (Oct. 8, 2015), <https://taxfoundation.org/blog/federal-tax-laws-and-regulations-are-now-over-10-million-words-long/> [https://perma.cc/ZK6Q-QBR7].

³⁵¹ See, e.g., Canaparo et al., *supra* note 131.

³⁵² See generally California L. Revision Comm’n, *Statutes Made Obsolete by Trial Court Restructuring (Part 9): Jurisdictional Classification of a Drug Asset Forfeiture Proceeding* (Aug. 2022), <https://clrc.ca.gov/pub/Printed-Reports/Pub244-J1408.pdf> [https://perma.cc/LJ2K-2SKC].

³⁵³ See Waters, *supra* note 289.

³⁵⁴ See Surani et al., *supra* note 73.

³⁵⁵ Administrative Procedure Act, Pub. L. No. 79-404, 60 Stat. 237 (1946) (codified as amended at 5 U.S.C. §§ 551-559, 701-706).

³⁵⁶ See, e.g., Bruce Ackerman, *The Emergency Constitution*, 113 YALE L. J. 1029, 1077 (2004) (describing the APA as the most notable framework statute); Nicholas R. Parrillo, *Federal Agency Guidance and the Power to Bind: An Empirical Study of Agencies and Industries*, YALE J. ON REG. 165, 168-170 (2019) (noting that core APA procedures remain constant even as regulatory practice evolves).

those that do fail to live up to their marketed promises.³⁵⁷ These failures, combined with rulemakers' limited technical familiarity and legitimate process concerns, have fueled warranted skepticism toward AI-assisted reform, even among those eager for solutions. As a result, large-scale statutory reform continues to rely on labor-intensive, bespoke research efforts that are difficult to replicate or sustain.

Beyond the modern technical challenges, politics has always been in the shadows of codification efforts. Even during the first attempt at revision, the political viability of statutory reform weighed on Congress.³⁵⁸ Members of Congress were concerned that changes to the underlying statutory text would create the possibility of “endless debate,”³⁵⁹ given the magnitude of the *Revised Statutes*. The current political environment presents heightened challenges for legislative action. At the federal level, Congress passed fewer laws in 2023 than in any previous year, continuing a downward trend in bills signed into law.³⁶⁰ In this era of increasing political fragmentation,³⁶¹ polarization,³⁶² and public mistrust,³⁶³ securing policy agreement has become more challenging. This polarization creates gridlock in Congress,³⁶⁴ reducing the set of policies that generate legislative consensus.

Legislators may recognize that code rot is a serious issue that creates real problems for administrations and citizens. Yet they underinvest in code reform, given how resource-intensive parsing existing statutory text is for legislative staff. Given scarce institutional resources, systematic review of outdated or problematic statutes often falls to the bottom of legislative agendas. Yet code rot contributes to the erosion of governance capacity. Moreover, the informational challenges legislators face may breed political challenges. Without full knowledge of existing legal requirements in effect, it may be impossible to determine whether revisions are

³⁵⁷ See Emaan Hariri & Daniel E. Ho, *AI for Statutory Simplification: A Comprehensive State Legal Corpus and Labor Benchmark*, in *Proceedings of the Twentieth International Conference on Artificial Intelligence and Law* 177 (2025), <https://dl.acm.org/doi/10.1145/3769126.3769256> (observing that “while vendors have touted tools for regulatory simplification (e.g., Deloitte’s RegExplorer, Aptus.AI),” systematic evaluation is lacking and current LLM accuracy remains “far below the touted promises for LLMs as end-to-end pipelines for regulator simplification”).

³⁵⁸ See Brief, *supra* note 80, at 13.

³⁵⁹ *Id.*

³⁶⁰ Moira Warburton, *Why Congress is becoming less productive*, REUTERS (Mar. 12, 2024), <https://www.reuters.com/graphics/USA-CONGRESS/PRODUCTIVITY/egpbabmkwvq/> [<https://perma.cc/U52Q-LSDH>].

³⁶¹ Richard H. Pildes, *Political Polarization and the Constitutional Order*, 99 U. CHI. L. REV. 567, 569-73, 585-90 (2022) (arguing that contemporary U.S. politics is characterized by partisan polarization that fragments governing coalitions).

³⁶² Drew DeSilver, *The Polarization in Today’s Congress Has Roots That Go Back Decades*, PEW RSCH. CTR. (Mar. 10, 2022), <https://www.pewresearch.org/short-reads/2022/03/10/the-polarization-in-todays-congress-has-roots-that-go-back-decades/> [<https://perma.cc/L6BC-PY7T>] (documenting historically high levels of ideological polarization in Congress that correspond to declines in bipartisan lawmaking capacity).

³⁶³ Claudia Deane, *Americans’ Deepening Distrust of Institutions*, PEW RSCH. CTR. (Oct. 17, 2024) (showing low public trust in government generally and unfavorable views of the Supreme Court, Congress, and political parties).

³⁶⁴ See David R. Jones, *Party Polarization and Legislative Gridlock*, 54 POL. RESEARCH Q. 125, 133 (2001).

truly “policy neutral,”³⁶⁵ preserving the original meaning and intent of the legislation. The lack of clarity may prevent even motivated legislators from rooting out rotten provisions in the code.

Rulemakers face a bind. Given time pressures and the limitations of rudimentary search tools, they cannot feasibly comb through vast bodies of statutory text to enable comprehensive reform—not while balancing their existing workloads. But neither can they (nor should they) blindly rely on AI tools marketed by vendors who lack the domain expertise to handle statutory language responsibly.

A. Our Approach

We propose a different approach: not the automation of reform, but a *collaborative framework* in which AI lowers the cost of identifying candidate provisions, while lawyers, agencies, and legislators retain responsibility for evaluation and judgment. Within this framework, AI serves as an input into an iterative human process, rather than as a substitute for it. This approach relies on exhaustive statutory searches using an AI tool named STARA (short for STAtutory Research Assistant).³⁶⁶ By dramatically reducing the informational barriers to identifying relevant legal provisions, STARA changes what kinds of reform efforts are feasible, but it does not determine which reforms should be undertaken.

Our prior work demonstrates that STARA can outperform even well-resourced human research efforts to compile lists of statutes for reform, returning results that are far more comprehensive than congressional efforts to enumerate statutory reporting requirements and efforts by the Heritage Foundation to enumerate federal crimes.³⁶⁷ In this work, our focus is not on benchmarking performance alone. Instead, we show how STARA’s capabilities translate into real-world reform when embedded within a collaborative process to enable human oversight, supervision, and feedback.

We illustrate this framework through a partnership with the San Francisco City Attorney’s Office to propose reform that expands government capacity by streamlining obsolete, antiquated or redundant city code. After deep collaboration with City departments³⁶⁸ and supervisors³⁶⁹ during

³⁶⁵ See Sensenbrenner, *infra* note 421, at 60.

³⁶⁶ See Surani et al., *supra* note 73.

³⁶⁷ See Surani et al., *supra* note 73.

³⁶⁸ City & Cnty. of San Francisco, *Planning Commission Resolution No. 21763 4* (Legistar Docket No. 14504518), <https://sfgov.legistar.com/View.ashx?M=F&ID=14504518&GUID=D49FDA94-2B16-4755-8DDF-03D52C3F689E> [https://perma.cc/HVR2-FBWR].

³⁶⁹ City Att’y of S.F., *City Attorney Introduces Legislation to Modernize Municipal Code with Technology* (June 5, 2025) (quoting San Francisco Supervisor Bilal Mahood), <https://sfcityattorney.org/city-attorney-introduces-legislation-to-modernize-municipal-code-with-technology/> [https://perma.cc/6NY3-HYYK] (“For too long, City Hall has been weighed down by outdated and unnecessary code slowing its ability to serve residents effectively.”).

a lengthy public process,³⁷⁰ the partnership culminated in a 362-page ordinance that deleted or consolidated 36 percent of amendable reporting requirements.³⁷¹

This section describes our process to propose this ordinance. First, it describes the methodology behind STARA. It then explains our collaboration with the San Francisco City Attorney's office, the process of scoping the reform effort and crafting the ordinance. It concludes by discussing the response to and anticipated impact of the ordinance.

B. How STARA Works

To address the perennial retrieval challenges that have beset previous efforts to exhaustively search legal codes, we developed STARA, a domain-informed AI system designed to perform comprehensive statutory surveys: systematic compilations of legal provisions relevant to a given question or policy area.³⁷² Past efforts at legal reform were slowed by the sheer volume of statutory text that must be read to understand which provisions are affected by a proposed change.³⁷³

In practice, STARA sifts through an entire legal code and surfaces provisions that match a researcher's specified criteria, such as all reporting requirements, crimes, or commissions. While these lists of provisions are still long, STARA cuts down the human time required by orders of magnitude and focuses human attention on the most relevant and important pieces of code to review. Importantly, STARA does not determine whether a provision should be appealed or amended; it only enables reformers to identify potentially relevant law.

Technically, STARA combines the general-purpose classification ability of large language models with specific structural knowledge about statutes to accurately surface relevant statutes.³⁷⁴ STARA incorporates key elements such as hierarchical organization, cross-references, and definitions—unique features of legal codes that have made manual and automated approaches to statutory research challenging. STARA represents legal codes in the way the basics of statutory interpretation are taught to law students. Then, it uses LLMs to reason about statutory language in these annotated codes. The LLMs, along with a careful description provided by the user, are used to classify provisions and extract structured information.

³⁷⁰ Kelly Waldron, *San Francisco Supervisors Pass Sweeping Changes to City Code*, MISSION LOCAL (July 14, 2026), <https://missionlocal.org/2026/07/sf-city-code-streamlining-mandelman/> [https://perma.cc/YZ6W-LSPT].

³⁷¹ S.F. Bd. of Supervisors, *File No. 250630* (June 5, 2025), <https://sfgov.legistar.com/View.ashx?M=F&ID=14262072&GUID=1D49CAB8-B29C-449E-935D-C947DE825351> [https://perma.cc/Z8VL-9CW8]; Surani et al., *supra* note 20.

³⁷² See Surani et al., *supra* note 73.

³⁷³ See, e.g., Cal. L. Revision Comm'n, *Statutes Made Obsolete by Trial Court Restructuring* (Part 1), 32 Cal. L. Revision Comm'n Reports 1 (2002) (first in a series of nine reports, the most recent issued in 2022, reflecting a legislatively mandated code cleanup project spanning over two decades).

³⁷⁴ Surani et al., *supra* note 73 (describing technical details of STARA).

This design distinguishes STARA from commercially available legal research AI tools like Lexis+ AI and Westlaw AI-Assisted Research, which perform general-purpose legal research.³⁷⁵ In response to a query, they find the handful of results that are most relevant to the user and then analyze them using LLMs;³⁷⁶ STARA was created to find an exhaustive list of relevant provisions for statutory research at scale.

C. Collaboration with the San Francisco City Attorney's Office

The San Francisco municipal codes provide a useful setting to outline this collaborative framework. Since San Francisco's incorporation in 1850, its codes have been continuously modified without broad efforts at cleanup. As a result, they contain numerous provisions from earlier eras of city governance, many of which have long outlived their purpose. A major barrier in updating the codes to reflect the modern governance of the city is the codes' size and scale. The codes and city resolutions clock in at an impressive sixteen million words, and many obsolete provisions find anonymity in a crowd.³⁷⁷

Unlike federal statutes, San Francisco's municipal codes are not stored or indexed by common legal service providers like Lexis and Westlaw after being compiled by the San Francisco City Attorney's Office. Rather, the City and County of San Francisco contracts a publishing company to host an online version of the codes.³⁷⁸ This interface lacks many advanced search features, a reason many city attorneys still prefer the hard copies of the code, updated annually. When city attorneys need to find an exhaustive list of relevant provisions, time and work pressures often force the use of the limited search functionality available to them rather than engage in the futile task of reading millions of words of code directly as prose.³⁷⁹ While this works well in many circumstances, the keyword-search approach raises the risk of missing relevant provisions that are worded differently, and makes some searches (like those for outdated provisions) entirely impossible because they are not tied to specific keywords.³⁸⁰

³⁷⁵ See, e.g., LexisNexis, *Lexis+ AI*, <https://www.lexisnexis.com/en-us/products/lexis-plus-ai.page>; Thomson Reuters, *Westlaw Advantage*, <https://legal.thomsonreuters.com/en/products/westlaw-advantage>.

³⁷⁶ Varun Magesh, Faiz Surani, Matthew Dahl, Mirac Suzgun, Christopher D. Manning & Daniel E. Ho, *Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools*, 22 J. Empirical Legal Stud. 216, 219 (2025).

³⁷⁷ See Surani et al., *supra* note 20, at 2, 3. The figure reflects our tabulation of the San Francisco Municipal Code, *infra* note 378, together with resolutions of the Board of Supervisors, available at <https://sfbos.org/resolutions>, as retrieved in September 2024 and processed programmatically to count words; calculations on file with the authors.

³⁷⁸ SAN FRANCISCO, CAL., MUNICIPAL CODE (Am. Legal Publ'g, online through June 26, 2026).

³⁷⁹ See Surani et al., *supra* note 73.

³⁸⁰ David C. Blair & M.E. Maron, *An Evaluation of Retrieval Effectiveness for a Full-Text Document-Retrieval System*, 28 COMM'NS ACM 289, 295 (1985) (finding that keyword searches retrieved only 20% of relevant documents because searchers could not anticipate all the different ways authors might express the same concepts); see also The Sedona Conference, *Best Practices Commentary on the Use of Search and Information Retrieval Methods in E-Discovery*, 15 Sedona Conf. J. 223, 233 (2014) (observing that keyword searches are "both over- and under-inclusive in light of the inherent malleability and ambiguity of spoken and written English").

We partnered with the San Francisco City Attorney’s Office (SFCA) to understand how STARA’s capabilities could be used to enable real-world reform in the context of SF’s municipal codes. Our collaboration unfolded in three phases: (1) building trust through an initial validation exercise, (2) exploring candidate areas for reform, and (3) the SFCA working extensively with city departments to translate STARA’s outputs into a concrete legislative proposal.

1. Building Trust: The Commission Search

The collaboration began not with a predetermined reform agenda, but with a practical problem. San Francisco City Hall had a sprawling number of departments, commissions, and advisory boards, which became the subject of dueling measures on the November 2024 ballot.

Proposition D was a ballot initiative aimed at streamlining the city’s commissions, proposing to mandate cutting the number of city commissions to no more than sixty-five.³⁸¹ In response, Proposition E was introduced to create a new commission that would propose streamlining existing commissions.³⁸²

The only problem? No one had any idea how many commissions there were.³⁸³ The structure of government itself was illegible due to the opacity of the code. The structure of government itself was illegible due to the opacity and size of the code. The SFCA had an extensive list, curated from extensive manual searches, but the office surmised the list might be incomplete.

This presented an opportunity to validate STARA’s accuracy on a task with a partial ground truth, and more importantly, to generate the comprehensive list that would be foundational to any streamlining efforts. We worked closely with SFCA to refine the legal definition of covered commissions—an iterative process that required both technical and legal judgment (for example, the specific definition of a commission and entities exempted from the ballot initiative). We then used STARA to search the Municipal Codes and post-2000 resolutions. The tool identified all 113 previously documented commissions and surfaced over thirty additional bodies that met the definition, none of which had been previously cataloged.

³⁸¹ See Mel Baker, *Proposition D — Eliminate City Commissions, Empower Mayor*, S.F. PUB. PRESS, <https://www.sfpublishpress.org/proposition-d-eliminate-city-commissions-empower-mayor/> [https://perma.cc/99HY-3MYQ].

³⁸² Mel Baker, *Proposition E — Create Task Force to Consider Culling Commissions*, S.F. PUBLIC PRESS (Oct. 7, 2024), <https://www.sfpublishpress.org/proposition-e-create-task-force-to-consider-culling-commissions/> [https://perma.cc/K6GF-C42B].

³⁸³ See Stein, *supra* note 59; Josh Koehn, *Only 1 Person at SF City Hall Knows the Answer to This Simple Question*, S.F. STANDARD (July 6, 2023), <https://sfstandard.com/2023/07/06/only-1-person-at-sf-city-hall-knows-the-answer-to-this-simple-question/> [https://perma.cc/AC66-TCZT].

SFCA attorneys reviewed each result for accuracy. The search produced what became the most comprehensive inventory available. After Proposition D failed³⁸⁴ and Proposition E passed,³⁸⁵ the collaboration between RegLab and SFCA created the necessary starting point for the work of the Proposition E commission that eventually proposed commission streamlining in 2026.³⁸⁶

This small-scale pilot validated STARA’s performance, established trust and immediately focused on problem-solving. In the words of senior staff, STARA turned out to be “outrageously helpful.”³⁸⁷

2. Exploration: Scoping the Reform Agenda

With trust established, we turned to a broader question: Where in the municipal codes might accumulated rot be most tractably addressed? Early in the process, we found that STARA enabled a pace and type of brainstorming that would not have otherwise been possible. Rather than committing substantial resources to research a single hypothesis, we could run searches against the entire code and quickly assess the landscape.

We identified a number of fruitful areas with accumulated rot that would be worth reforming. These included municipal fees, statutorily required provisions in City contracts, and minimum staffing requirements. For each of these categories of provisions, we developed STARA searches against the entire municipal code, returning a comprehensive list of potentially relevant provisions, and iterating on results. Such results quickly surfaced (1) the scale of the opportunity (whether there were 50 provisions to review or 5,000), (2) the feasibility of revision (whether provisions could be modified in isolation or would require cascading changes), and (3) the complexity of implementation (whether the majority of modifications would implicate contested policy or be relatively straightforward revisions).

Rather than theorizing extensively *a priori* and then choosing to invest many resources into an exhaustive search, we were able to decide on the feasibility and impact of a solution iteratively. This exploratory phase convinced everyone that a focused effort on reporting requirements was both impactful and feasible.

³⁸⁴ S.F., Cal., Proposition D: City Commissions and Mayoral Authority Amendment (defeated Nov. 5, 2024) (56.67% to 43.33%) (election results available at <https://sfelections.org/results/20241105w/index.html> [<https://perma.cc/Q4TV-X7UL>]).

³⁸⁵ S.F., Cal., Charter § 4.100.1 (added by Proposition E, approved Nov. 5, 2024) (establishing the Commission Streamlining Task Force); <https://www.sfchronicle.com/election/article/sf-voters-reject-expansion-mayor-powers-19857789.php>],

³⁸⁶ The commission itself has struggled to shut down commissions consistent with its streamlining mandate. See Sal Rodriguez, *San Francisco New Commission Struggles to Shut Down Commissions*, PACIFIC RSCH. INST. (Apr. 10, 2026), <https://www.pacificresearch.org/san-francisco-new-commission-struggles-to-shut-down-commissions/> [<https://perma.cc/RT82-ZBDE>].

³⁸⁷ Comment from Jon Givner to Dan Ho, Emily Robitschek, and Varun Magesh, ZOOM (Nov. 13, 2024, at 3:12 PM PT).

At the federal level, legislative reporting requirements have been described as a prime example of how “government is made inefficient by the layers of rules bureaucrats themselves are forced to labor under.”³⁸⁸ Departments are required to produce onerous reports, though many of them produce little or no benefit. This is because reporting requirements are often created in response to specific incidents or as the result of political compromises,³⁸⁹ but linger in the code long past their date of relevance, creating burdens on City departments.

Though no single report is, by itself, debilitating, the accumulation of hundreds of these reports over decades creates a real burden on the City government. Between 2005 and 2025, the number of reporting requirements in the San Francisco Code nearly tripled³⁹⁰ while public sector employment in San Francisco increased by around 30%.³⁹¹ Reporting requirements are a significant source of code rot in SF’s municipal codes and have real-world consequences for City departments and the citizens they serve. The SFCA reported that department heads and city staff had mentioned over many years that the exhaustive work required to produce a myriad of reports on obsolete topics no one cared about should be refocused on actually serving the public.

Reporting requirements are also usually severable from the surrounding context. Other kinds of provisions, like permitting requirements, are more difficult to revise because each provision is part of a comprehensive (if not always cohesive) scheme of law. Removing or revising one provision might require careful changes in dozens of others to ‘fill the gap’ properly. However, reporting requirements tend to be less intricately interconnected, making them good candidates for early reform efforts.

3. Consultation: From Candidate Provisions to Ordinance

Having identified reporting requirements as our focus, we used STARA to enumerate a comprehensive set of provisions that impose legislative reporting requirements on City departments. The search returned 528 required reports, scattered across the full corpus of code and resolutions. Approximately forty of these were not amendable, mostly because they were in the City Charter or associated with a ballot initiative. That left 488 provisions as candidates for reform.³⁹²

³⁸⁸ See Fukuyama, *supra* note 30.

³⁸⁹ See, e.g., Freedom of Information Act Amendments of 1974, Pub. L. No. 93-502, 88 Stat. 1561 (imposing stricter disclosure requirements and timeframes on federal agencies in direct response to the Watergate scandal); EGAR *supra* note 29, at 6 (noting that reporting requirements can “serve as a compromise position for legislators” when granting authority to the Executive.)

³⁹⁰ See Surani et al., *supra* note 20, Figure 1.

³⁹¹ Gabriel Lorenzo Greschler, Noah Buastin, and Joe Fitzgerald Rodriguez, *How SF Government Became a Hulking, 34,800-Person Behemoth*, S.F. Standard (Jun. 26, 2026), <https://sfstandard.com/2025/06/26/san-francisco-budget-government-population-daniel-lurie/>.

³⁹² News Release, City Attorney David Chiu, City Attorney introduces legislation to modernize municipal code with technology (June 5, 2025), <https://mailchi.mp/5e1cf8ddab3c/1242024-6424331?e=7541aa83f3> [https://perma.cc/GV6P-Q9WD].

STARA’s role enabled a collaborative reform process between SFCA staff and city departments.. SFCA attorneys reached out to every city department responsible for a particular report to manually review each of the 488 candidate provisions—not as a mechanical exercise, but as a substantive assessment of whether each report’s underlying policy rationale remained valid, whether it was still being produced, and whether elimination or modification would create unintended consequences.

The goal of this collaborative process was to identify those reporting requirements that San Francisco’s legislative body, the Board of Supervisors, could considered for deletion or modification. The focus was on those reporting requirements that “are no longer done in practice, can be consolidated with another City Department reporting function, such as submission of their budget or annual report, or are no longer serving a useful policy function or purpose.”³⁹³ Our team also developed heuristic that aided in this review process, such as the date of enactment or amendment and proxies for outdated language.

SFCA staff undertook extensive outreach to affected city departments to ensure that civil servants’ operational knowledge would drive the process. Attorneys contacted department heads and staff responsible for producing the reports, often tracking down institutional knowledge that existed nowhere in the written code. These conversations surfaced critical information: which reports had not been filed in years, which duplicated data already submitted through other processes, and which served ongoing functions not apparent from the statutory text. In numerous cases, departments discovered reporting obligations they did not know existed. In others, they flagged requirements that, despite appearing obsolete, still served important oversight functions.

This consultation was deliberative and consensus-oriented. The SFCA manually reviewed items for legal consideration, such as whether a particular report could be deleted or otherwise changed by ordinance. City departments made the policy decision on whether a particular report should be included in the initial ordinance, proposing deletions and changes, ensuring that reforms reflected operational realities rather than assumptions drawn from statutory language alone. For some departments, this consultation dovetailed with existing mechanisms for public input. Proposed changes to planning-related reporting requirements, for instance, were presented to the Planning Commission, which held a public hearing and adopted findings of consistency with the City’s General Plan before those provisions were incorporated into the omnibus ordinance,³⁹⁴ as well as the Building Inspection Commission. This gave affected communities a venue to weigh

³⁹³ *Id.*

³⁹⁴ Ordinance Amending the Administrative, Environment, Health, Labor and Employment, Park, Planning, Police, Public Works, Subdivision, Transportation and Building Inspection Commission Codes, S.F. Bd. Of Supervisors File No. 250630, §1(b)-(c) (amended in comm. June 18, 2026) (incorporating findings of Planning Comm’n Resolution No. 21763, June 26, 2025).

in on department-specific changes at a level of detail that the citywide legislative process alone could not provide.³⁹⁵

Seeing the forest for the trees enabled parties to understand tradeoffs in reporting obligations. Instead of five separate housing reports conducted by distinct teams on different annual timelines, it became feasible to consider a single consolidated housing report. This process culminated in a 362-page ordinance proposing the deletion of 29 percent of the 488 amendable provisions and modification of a further 6 percent. Figure 1 illustrates the growth in San Francisco reporting requirements between 1945 and 2025, showing that the number has more than doubled between 2000 and 2025. Table 1 offers examples of the requirements the ordinance proposed to remove or amend, spanning both one-time and recurring obligations.

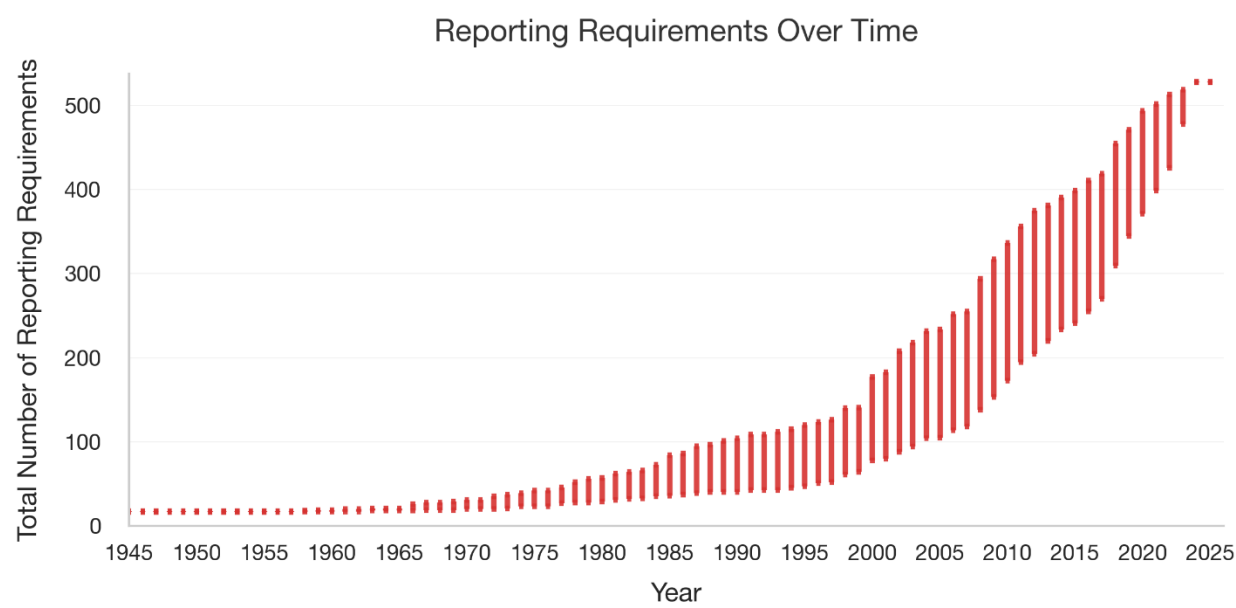


Figure 1: Growth of Reporting Requirements, San Francisco (1945-2025)

Report Description	Code Provision	Frequency	Proposal
Report on implementation and effectiveness of Fixed Pedestal Newsrack zones, with recommendations for change	S.F. Pub. Works Code § 184.12	Recurring (biennial)	Delete. (Recurring program-effectiveness report)

³⁹⁵ See Dane Gambrell, *The Reports Nobody Reads: How San Francisco Used AI to Declutter Its Municipal Code*, REBOOT DEMOCRACY (May 19, 2026), <https://rebootdemocracy.ai/blog/sf-ai-regulatory-decluttering> [https://perma.cc/8KSG-PBHW] (“In San Francisco, community engagement around the reporting streamlining initiative happened through existing public participation processes. The ordinance was heard by the Planning Commission, where community members could provide feedback on proposed changes to planning-related reporting requirements.”)

Report on steps taken to implement the naming of Airport Terminal 1 for Harvey Milk, including signage and artwork plans	S.F. Admin. Code § 2A.174	One-time	Delete. (Implementation/publicity report; deadline lapsed Dec. 2018)
Annual report on Police and MTA costs associated with street fairs	S.F. Transp. Code § 6.6	Recurring (annual)	Modify. (Eliminate annual cost report; revise fee-schedule reporting)
Annual report on the Library Publication Fund (receipts, disbursements, items published)	S.F. Admin. Code § 8.21-1	Recurring (annual)	Delete. (Report repealed together with the fund which carries no balance)
Annual report on compliance with the Better Streets Policy and NACTO Guidelines	S.F. Admin. Code § 98.1	Recurring (annual)	Delete. (Recurring multi-agency compliance report)
Periodic report comparing the contracted records-center service against a municipal records center	S.F. Admin. Code § 8.5	Recurring (triennial)	Delete. (Recurring merits-and-demerits comparison report)
Evaluation of the Healthy Nail Salon Recognition Program after two years	S.F. Admin. Code § 27.3	One-time	Delete. (One-time two-year program evaluation)

Table 1. Reporting Requirements Proposed for Deletion or Modification

This ordinance reflects a division of labor essential to responsible AI-assisted reform. STARA made it possible to find every reporting requirement in the code. But the work of evaluating, consulting, and building consensus—the work that transformed a list into proposed legislation—remained with the lawyers and civil servants who understood the provisions’ context, history, and practical effect. The process was also lean, consuming roughly two months from conception to proposed legislation.

D. Response and Estimated Impact

This ordinance is the first recorded large-scale reform of reporting requirements. According to City Attorney David Chiu, without STARA, this was a “project [SFCA] would never have undertaken” due to the sheer scale of the code.³⁹⁶

³⁹⁶ See Chase Difelicianantonio, *San Francisco Wants to Use AI to Save Itself from Bureaucracy*, POLITICO (June 5, 2025), <https://www.politico.com/news/2025/06/05/san-francisco-ai-bureaucracy-00388853>

Once the ordinance was proposed, SFCA and department staff worked closely with the San Francisco Board of Supervisors, who had the ultimate legislative authority to determine whether reports should be deleted or modified. Over subsequent months, through the deliberative process of the Board, multiple public hearings, and additional community input, Supervisors requested that a number of reports be reinstated before the final passage of the ordinance.

Attorneys at SFCA reported that their discussions with City departments were met with universal enthusiasm for the project.³⁹⁷ For a change, City departments were being told that their staffing burdens would be decreased rather than increased; since reporting requirements are almost always imposed without additional funding, this was particularly welcome, particularly during an era of budget challenges. Going to the Board with a large bill was advantageous for departments as well because they could show there was a systematic problem, not just that they did not want to comply.

Many members of the Board of Supervisors also reacted positively to the reform effort. President of the Board of Supervisors Rafael Mandelman became the lead sponsor of the ordinance: “This effort reflects our ongoing work to keep San Francisco’s many Municipal Codes current, and to ensure that the reporting obligations placed on City departments serve an active, useful purpose.”³⁹⁸ “For too long, City Hall has been weighed down by outdated and unnecessary code, slowing its ability to serve residents effectively,” said San Francisco Supervisor Bilal Mahmood.³⁹⁹

The review by the Planning Department, responsible for many reports, illustrates the concrete benefits of the proposed reform. During the initial stages of the legislative process, the ordinance was referred to Planning, which reviewed it positively and shared additional information about the Planning-related reports that would be affected.⁴⁰⁰ The Planning Department found that around half of the recurring reports they are required to produce go unsatisfied, but they are “aware of no complaints, comments, or questions”⁴⁰¹ related to this shortfall. “Extremely limited readership is suspected” for many of the reports they do prepare; grave reporting errors have gone unnoticed.⁴⁰² In the April 2023 Housing Balance Report, the Commission over-reported the number of citywide evictions by 1,600 units—roughly 40 percent—an error that went undetected, presumably because no one noticed.⁴⁰³

The Board of Supervisors ultimately passed the ordinance by a 7-4 vote on July 14, 2026. As enacted, the ordinance deletes or consolidates 174 reporting requirements out of the 528

³⁹⁷ This was reported to the authors during our ongoing partnership with the San Francisco City Attorney’s Office.

³⁹⁸ See Press Release, *supra* note 404.

³⁹⁹ See Difelicianantonio, *supra* note 396.

⁴⁰⁰ City & Cnty. of San Francisco, *Planning Commission Resolution No. 21763* (Legistar Docket No. 14504518), <https://sfgov.legistar.com/View.ashx?M=F&ID=14504518&GUID=D49FDA94-2B16-4755-8DDF-03D52C3F689E>

⁴⁰¹ *Id.* at 3.

⁴⁰² *Id.* at 3.

⁴⁰³ *Id.* at 3.

reporting mandates the City Attorney’s review identified across San Francisco’s municipal codes.⁴⁰⁴ As an aside, it should be noted that 354 reporting requirements were left untouched, a result of policymakers deciding for a variety of reasons that these reports were worth keeping.

The ordinance eliminates many reports that were not being done and onerous reports that departments expend resources on. The Planning Department concludes that “[t]he proposed Ordinance would allow the Department to redeploy scarce staff resources away from single-purpose, point-in-time analog reports and toward maintaining and enhancing our digital infrastructure, developing new high-impact online tools, and continuing to increase government transparency and democratize public information.”⁴⁰⁵ In short, STARA enabled a collaborative, exploratory, consultative process to tackle code rot that one *New York Times* op-ed highlighted as the first exemplar of what cities and states are getting right.⁴⁰⁶

E. Potential Objections

The legislative package was a win for good government and a concrete demonstration of how to address code rot in a systematic, reflective, and human-centered way. At the same time, the proposal engendered substantial discussion, so it is worth considering potential objections. One is that this project is deregulation by another name—that “code rot” simply repackages the decades-old complaint that American has too much law,⁴⁰⁷ but in more technical language. But as we’ve articulated above, our account of code rot is distinct from critiques of the mere volume of law. Far from reducing government, it is meant to effectuate good government.

The second is that AI systems can err.⁴⁰⁸ Our own prior research documented hallucination rates in general-purpose legal AI tools, and the failures of DOGE’s AI pilots provide real-world illustrations of these failures.⁴⁰⁹ But here AI was used to search, not to generate, posing far fewer risks of error. Our approach was validated through multiple human review approaches to ensure that it retrieved the relevant provisions, and preserved high precision in the results to make

⁴⁰⁴ S.F., Cal., Ordinance 250630, Various Codes — Streamlining Reporting Requirements and Procedures, Removing Obsolete Programs and Requirements, and Other Code Cleanup (enacted July 23, 2026), <https://sfgov.legistar.com/LegislationDetail.aspx?ID=7423230&GUID=9C3D32F7-1A6A-43E7-913C-B1ACFC59E312> [https://perma.cc/8356-29QE]; see also Press Release, Rafael Mandelman, President, S.F. Bd. of Supervisors, San Francisco Moves to Consolidate and Eliminate Duplicative, Outdated City Reporting Requirements (July 21, 2026), https://media.api.sf.gov/documents/D8_072226_Press_Release.pdf [https://perma.cc/WX5W-SDNW].

⁴⁰⁵ Planning Comm’n Resolution No. 21763, *supra* note 400, at 4.

⁴⁰⁶ See Gordon & Pahlka, *supra* note 74.

⁴⁰⁷ See generally Sohoni, *supra* note 101 (describing “hyperlexis” critiques).

⁴⁰⁸ See, e.g., Faiz Surani & Daniel E. Ho, *AI on Trial: Legal Models Hallucinate in 1 out of 6 (or More) Benchmarking Queries*, STANFORD HUMAN-CENTERED ARTIFICIAL INTELLIGENCE (May 23, 2024), <https://hai.stanford.edu/news/ai-trial-legal-models-hallucinate-1-out-6-or-more-benchmarking-queries> [https://perma.cc/K5NR-WHBQ].

⁴⁰⁹ See Varun Magesh, Faiz Surani, Matthew Dahl, Mirac Suzgun, Christopher D. Manning & Daniel E. Ho, *Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools*, 22 J. Empirical Legal Stud. 216, 217 (2025); Emily Badger et al., *How Did DOGE Disrupt So Much While Saving So Little?*, N.Y. Times (Dec. 23, 2025), <https://www.nytimes.com/2025/12/23/us/politics/doge-musk-trump-analysis.html>.

human review feasible. AI enabled a process that otherwise could not have been undertaken, but human decision makers remain fully in charge to make decisions based on domain knowledge and value judgments,⁴¹⁰ preserving important mechanisms for accountability.

The third objection might be that regardless of error, AI should never be used for legal reform. AI critics argue that the opacity of algorithmic systems is fundamentally incompatible with rule-of-law values of transparency and accountability.⁴¹¹ This, however, again conflates AI as a decision-maker and AI as a research tool. What matters for rule-of-law purposes is not whether a search was conducted using an algorithm, but whether the reform process is transparent, deliberative, and accountable. The reform process spelled out above was all three. Every candidate provision was reviewed by attorneys, every affected city department was consulted, and the resulting ordinance was submitted through the normal, deliberative legislative process.

A fourth potential objection concerns the relationship between transparency and democratic accountability.⁴¹² Eliminating reporting requirements, the argument goes, reduces transparency and accountability. This argument rests on a simplified account of how reporting obligations, and transparency reforms more generally, function in practice. Both empirical and theoretical accounts document the pitfalls of excessive transparency. Bruce Cain shows how too much transparency can overwhelm rather than inform citizens, displace expert deliberation, and produce chilling effects on candid policy deliberation.⁴¹³ The increase in lobbying activity following the introduction of transparency measures in the 1970s captures this paradox: releasing congressional committee votes enabled lobbyists to more effectively contract with members of Congress.⁴¹⁴ In the context of reporting requirements, many mandatory reports are never actually read by the oversight bodies that require them. Eliminating reports that produce no oversight does not reduce accountability. It liberates agencies from compliance burdens that do not serve the public. In other words, preserving every reporting requirement as a matter of principle does not promote transparency. The key is to distinguish between disclosure that enables genuine accountability and disclosure that just imposes costs.

A last potential objection is that bundling hundreds of code changes asks legislators to approve more than they can meaningfully review. Several supervisors argued that the package was just

⁴¹⁰ See Emaan Hariri & Daniel E. Ho, *AI for Statutory Simplification: A Comprehensive State Legal Corpus and Labor Benchmark*, in Proceedings of the Twentieth International Conference on Artificial Intelligence and Law 177 (2025) (demonstrating that current LLM performance falls far short of end-to-end automation for regulatory simplification tasks).

⁴¹¹ Cynthia Dwork & Martha Minow, *Distrust of Artificial Intelligence: Sources & Responses from Computer Science & Law*, 151 *DePaulus* (2022).

⁴¹² See Waldron, *supra* note 370 (describing concern over removing mandated reporting about “certain aspects of city government”).

⁴¹³ BRUCE E. CAIN, *DEMOCRACY MORE OR LESS: AMERICA’S POLITICAL REFORM QUANDARY* 41 (2014).

⁴¹⁴ Brent Ranalli, James D’Angelo & David King, *The 1970s Sunshine Reforms and the Transformation of Congressional Lobbying* (documenting a relationship between the 1970s sunshine reforms and the dramatic increase in lobbying activity in the 1970s); LAWRENCE LESSIG, *AMERICA, COMPROMISED* 176 (2018) (describing the limits of transparency).

too large, with one supervisor admitting to relying on AI to parse the changes before voting.⁴¹⁵ The consultative review described above vetted each provision individually before it was bundled into the ordinance, and the legislative process itself supplied a further check. Furthermore, this critique does not consider the cost of rot remaining in the code or the viability of alternative mechanisms for statutory cleanup. A 2023 San Francisco ordinance aimed specifically at “reducing reporting burdens” illustrates the challenges of issue-by-issue cleanup approaches: it eliminated two reporting requirements and created a new one.⁴¹⁶ Similarly, the San Francisco Board of Supervisors’ own Rules of Order already provide that most commissions and advisory bodies should carry a sunset clause forcing periodic, individualized reconsideration, but a 2024 civil grand jury investigation found that mechanism had gone unenforced for roughly three-quarters of the bodies it covered.⁴¹⁷ A retail process is not a hypothetical alternative to the omnibus approach; it’s the status quo that San Francisco has adopted for decades, and on related problems, it does not keep pace.

Our collaborative process was designed with these critiques in mind. STARA identified candidate provisions, but decisions about which provisions to include in the ordinance were made through a consultative process that preserved space necessary for candid assessment. The lesson is not that reform should be conducted in secret, but that transparency mechanisms should be designed to enable deliberation, not foreclose it.

V. Implications

The codification movement in the United States was animated by a fundamental democratic ambition to make the law legible. Jeremy Bentham’s vision of a comprehensive code,⁴¹⁸ Dudley Field’s systematization efforts, and early congressional codification efforts all rested on the premise that law could be organized and made accessible to ordinary citizens. Code rot can undermine this project in a fundamental way by making the law illegible.⁴¹⁹

⁴¹⁵ See Waldron, *supra* note 370.

⁴¹⁶ S.F. Cal., Ordinance No. 164-23 (July 28, 2023) (File No. 230647), <https://sfgov.legistar.com/View.ashx?M=F&ID=12195300&GUID=614A1256-8823-4113-ADCB-8C0AD2EE9303> (amending the Administrative and Environment Codes to eliminate two reporting requirements—on select employment practices and on contractors’ use of tropical hardwood—while adding a new requirement that the City Administrator annually send the Board of Supervisors a list of available reports).

⁴¹⁷ See S.F. Civil Grand Jury, *Commission Impossible? Getting the Most from San Francisco’s Commissions* 32, https://media.api.sf.gov/documents/Commissions_Impossible_Report.pdf [https://perma.cc/F3BM-NB4E] (finding more than 75% of San Francisco’s advisory bodies do not have a sunset date).

⁴¹⁸ Terry DiFilippo, *Jeremy Bentham’s Codification Proposals and Some Remarks on Their Place in History*, 22 BUFF. L. REV. 239, 242 (1972) (discussing the importance of making law clear, simple, and accessible to Bentham’s notion of making laws “cognoscible”).

⁴¹⁹ *Id.* at 239 (“...it must be noted that some of Bentham’s most fundamental aims have not been achieved in the nearly two centuries that have passed since their proposal. It was Bentham’s foremost wish, and most avidly pursued objective, to institute a completely codified system in both England and the United States. It was his intent to make law so understandably clear that every many would know it...”)

If the codification movement generated modern statutory compilations, our account above points to the acute need for institutions and tools to *maintain* the law. In spite of an appetite for legal reform, prior efforts show that the inability to ensure fidelity to the underlying statutory text can create potentially insurmountable obstacles.⁴²⁰ Failed attempts to revise federal criminal statutes despite widespread and longstanding acknowledgment of defunct and deficient provisions demonstrate the difficulty of reforming the law without full knowledge of it. Lawmakers have voiced a desire for “policy neutral” reform⁴²¹ that preserves the law’s original meaning and intent, lest renewed efforts “go down in flames.”⁴²²

There is, however, a more difficult question that any institutionalized remedy must confront. Our political economy account offers a structural explanation for the persistence of code rot: Legislators are rewarded for enactment and responsiveness to issues of the day, not maintenance.⁴²³ Reporting requirements persist not only because legislators may not know about them, but because some constituencies benefit from each one, or at least, no constituency bears the concentrated cost of eliminating it. Even a legislature equipped with a perfect inventory of obsolete provisions might fail to act because the political economy of repeal differs from that of enactment.

The analysis in this Article suggests that code rot is not merely a technical problem or failure of legislative will. It is a failure of institutional design—specifically, of how legal systems coordinate discovery, maintain authoritative law, and structure participation in legal reform over time. If code rot is a predictable feature of modern lawmaking, then effective responses must focus less on ad hoc cleanup efforts and more on durable institutional arrangements to make law legible, clear, and coherent. In what follows, we outline a proposal for statutory maintenance commissions capable of ushering reform and highlight enabling conditions for the proposal. We develop these recommendations grounded in an understanding of the obstacles we had to clear and the elements that enabled the San Francisco collaboration.

A. Sludge Units: A Statutory Maintenance Commission

The Defense Base Realignment and Closure Commission (BRAC)⁴²⁴ offers a structural solution to a similar problem. Military infrastructure, like statutory provisions, accumulates for reasons

⁴²⁰ See Brief, *supra* note 80, at 13 (discussing congressional concern regarding passage of the *Revised Statutes*).

⁴²¹ James F. Sensenbrenner, 60 (2014), <https://www.congress.gov/113/chrg/CHRG-113hhr86844/CHRG-113hhr86844.pdf> (“One of my goals in this effort is to try to avoid the traps of having an omnibus revision of the criminal code becoming a debate on numerous criminal justice policies, from the death penalty to mandatory minimums to disparate sentences and the like. So in order not to repeat the record of failure of past attempts to revise the criminal code over almost 50 years, I am trying to have at least the first attempt at this be policy neutral.”)

⁴²² *Id.* at 60 (“I would like each of the four witnesses to give us some advice on how to try to keep it policy neutral, because if it is not, I think this effort will go down in flames, just like the previous ones.”).

⁴²³ See Lapinski, Levendusky, Winneg & Jamieson, *supra* note 144, at 538.

⁴²⁴ *Defense Authorization Amendments and Base Closure and Realignment Act of 1988*, 10 U.S.C. § 2687.

that made sense at the time, but outlive their usefulness.⁴²⁵ Every base has a champion in Congress, yet the burdens of maintaining aging or outdated infrastructure are significant.⁴²⁶ Congress addressed this by creating an independent commission empowered to produce a comprehensive list of recommended closures, which Congress then votes on as a single package—up-or-down with no amendments.⁴²⁷ The omnibus structure is a key innovation. It forces legislators to weigh the aggregate benefits of the rationalized base structure against the costs of any individual closure, rather than evaluating each closure on its own. It also provides some political cover. A legislator who votes for the package can point to the independent commission’s judgment rather than facing personal responsibility for any individual closure.⁴²⁸

We propose Sludge Units—or statutory maintenance commissions—modeled on the BRAC process. Congress would establish an independent, expert commission, staffed with legal and technical expertise and operating on a defined review cycle, empowered to identify code rot across defined titles of the U.S. Code. The Sludge Unit would submit omnibus revision packages to Congress for an expedited, amendment-free up-or-down vote. The BRAC structure directly addresses the political economy problem. Bundling repeal and consolidation decisions into a single proposal prevents organized interests from undermining individual provisions and force members of Congress to weigh the overall effect of the proposal against changes to any pet provision. Delegating discovery to an independent unit also provides political cover for legislators who would support reform but find it costly to own each individual decision. And by requiring that the package be voted on without amendment, it preserves the integrity of the expert judgment that produced it.

These Sludge Units would differ from BRAC in one critical respect. The BRAC process involves genuine tradeoffs between local economic benefits and national security, whereas the mandate we propose for statutory maintenance commissions is narrower, identifying provisions that are obsolete, outdated, or that have ceased to perform their intended legal function, independent of any judgment about the policy merits of the underlying requirement. This distinction make Sludge Units’ work even more tractable. A provision that requires an annual report on a program

⁴²⁵ DAVID E. LOCKWOOD & GEORGE SIEHL, CONG. RSCH. SERV., 97-305, *MILITARY BASE CLOSURES: A HISTORICAL REVIEW FROM 1988 TO 1995* 1 (2004) (describing the broad consensus that many bases could be closed without jeopardizing national security).

⁴²⁶ *Id.* at 1 (“In combination, these two factors — (1) the narrowly felt pain from an individual base closing and (2) the widely diffused benefits from closing many bases to save taxpayer funds — produced strong incentives for coalitions of Members of Congress to bargain in the legislative process to protect many bases from closure”).

⁴²⁷ See ANDREW TILGHMAN, CONG. RSCH. SERV., R48547, *EXCESS MILITARY INFRASTRUCTURE AND THE BASE REALIGNMENT AND CLOSURE (BRAC) PROCESS* 1-2 (2025).

⁴²⁸ Kenneth R. Mayer, *Closing Military Bases (Finally): Solving Collective Dilemmas Through Delegation*, 20 LEGIS. STUD. Q. 393, 395 (1995) (“The Independent Commission was clearly intended to accomplish this objective, as the timing and procedural mechanisms of the entire process were structured to provide political cover for members whose districts would suffer economic harm.”); see also Scott A. Beaulier, Joshua C. Hall & Allen K. Lynch, *The Impact of Political Factors on Military Base Closures*, 14 J. ECON. POL. REFORM 333 (2011); Colin Emrich, *The Electoral Effects of Closing Military Bases*, 27 J. LEGIS. STUD. 436 (2020).

that no longer exists is hard to contest, unlike military bases, which provide ongoing economic benefits to the local community.

B. Conditions for Sludge Units

The statutory maintenance commission proposal relies on five enabling conditions, each of which requires institutional investment. Together, they constitute the infrastructure that would enable Sludge Units to achieve real reform.

1. Institutionalizing Discovery

A core barrier to addressing code rot is that the discovery of rot is costly, slow, and rarely institutionalized. As a result, a comprehensive review tends to occur in response to crises or litigation,⁴²⁹ rather than as a routine and predictable part of the maintenance process. When discovery is episodic, reform is reactive. When discovery is institutionalized, reform becomes proactive.

Other domains facing complex, technical discovery challenges have created dedicated research centers. Federally Funded Research and Development Centers (FFRDCs), for example, provide sustained technical expertise to government agencies in areas ranging from defense to energy⁴³⁰ and, in doing so, enable a longer-term project of analysis and study that would be difficult to replicate internally.⁴³¹ Similarly, the FDA's Centers of Excellence in Regulatory Science and Innovation (CERSI)⁴³² create standing partnerships between regulators and experts to support continuous learning in highly technical regulatory environments. Scholars have also advocated for collaborative research resources for AI.⁴³³

Statutory reform faces similar challenges. Our public institutions lack the infrastructure to generate, assemble, and integrate evidence at scale. Effective governance now depends on institutional investments in data systems, analytical capacity, and sustained collaboration

⁴²⁹ See, e.g., Dara Kay Cohen, Mariano-Florentino Cuéllar & Barry R. Weingast, *Crisis Bureaucracy: Homeland Security and the Political Design of Legal Mandates*, 59 STAN. L. REV. 673, 681 (highlighting how crisis coordinates political responses).

⁴³⁰ Nat'l Ctr. for Sci. & Eng'g Stats., Master Government List of Federally Funded Research and Development Centers (FFRDCs), Nat'l Sci. Found., <https://nces.nsf.gov/resource/master-gov-lists-ffrdc> [<https://perma.cc/2YJ6-HGEY>].

⁴³¹ MARCY E. GALLO, CONG. RSCH. SERV., R44629, FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS (FFRDCs): BACKGROUND AND ISSUES FOR CONGRESS 1 (2021) (discussing the origins of FFRDCs).

⁴³² Food & Drug Admin., CERSI Collaborative Research Projects, U.S. Dep't of Health & Hum. Servs., <https://www.fda.gov/science-research/advancing-regulatory-science/cersi-collaborative-research-projects> [<https://perma.cc/W5E3-VT62>].

⁴³³ Daniel E. Ho, Jennifer King, Russell C. Wald & Christopher Wan, *Building a National AI Research Resource: A Blueprint for the National Research Cloud*, STANFORD INST. FOR HUMAN-CENTERED ARTIFICIAL INTELLIGENCE (Oct. 2021), https://hai-production.s3.amazonaws.com/files/2021-10/HAI_NRCR_2021_0.pdf [<https://perma.cc/V7ZX-BKBW>].

between domain experts and technical specialists.⁴³⁴ Legislatures and executive agencies rarely have spare capacity to undertake open-ended discovery of obsolete, unlawful, or duplicative laws. One approach inspired by our analysis would be for governments to experiment with statutory discovery sprints: time-bound, resourced efforts focused specifically on identifying code rot in defined domains. The sprints need not dictate substantive outcomes. The goal would be to surface relevant law so that political and legal actors can make more informed decisions.

Notably, we argue that a model other than pure procurement is urgently needed. When an AI tool is used for regulatory reform, how could a jurisdiction such as San Francisco or California, which regulates AI companies, trust that a vendor has no ulterior motives? New institutional structures are urgently needed to enable these kinds of statutory discovery sprints.

2. Avoiding the Procurement Trap

To enable reform, the government must avoid the procurement trap. When confronted with a problem that appears technical—like identifying rotten code—governments typically rely on a procurement model: issue an RFP, select a vendor, deploy a tool. This impulse is problematic for code reform.

As our collaboration with San Francisco illustrates, code reform is not a technical exercise that can be severed from value choices. Every decision about which provisions to flag, how to define search criteria, what counts as a reporting requirement, and which departments to consult embeds normative and political judgments. When these choices are made by a private vendor through a proprietary black-box system, they escape necessary scrutiny. The question of how a jurisdiction like San Francisco should prioritize among competing governance values cannot be answered by an algorithm, and contracting does not solve the problem. It just obscures who is making the choice.⁴³⁵

The procurement model also creates structural risks. Proprietary tools generate vendor lock-in that constrains future reform options⁴³⁶ and places essential public infrastructure in private hands. Collaborating with a vendor with a financial interest in maximizing the complexity and opacity of proprietary systems makes it difficult to verify whether reform recommendations reflect sound legal analysis or are an artifact of algorithmic design decisions.

⁴³⁴ Sara H. Cody & Daniel E. Ho, *Stanford RegLab-Santa Clara County: Academic-Public Health Collaboration for Rapid Evidence Building* 413, 418-419 in NEXT GENERATION EVIDENCE: STRATEGIES FOR MORE EQUITABLE SOCIAL IMPACT (ed. Kelly Fitzsimmons & Tamar Bauer, 2024).

⁴³⁵ Abigail Z. Jacobs & Dierdre K. Mulligan, *The Hidden Governance in AI*, REGUL. REV. (July 7, 2022) (arguing that AI procurement decisions embed value choices that are opaque).

⁴³⁶ See Nihal Krishan, *Major government tech contractors use monopolistic vendor-lock to drive revenue*, study says, FEDSCOOP (Jan. 30, 2023), <https://fedscoop.com/major-government-tech-contractors-use-monopolistic-vendor-lock-to-drive-revenue-study/> [https://perma.cc/8WNM-LVLA] (documenting how procurement approaches to government technology create path dependence).

Recent reform efforts, like the much-lauded Virginia initiative, exemplify the procurement model of AI-assisted code reform. The startup Vulcan Technologies was incorporated in April 2025, and only a month later, was awarded the Virginia contract, having never previously deployed AI tools at scale.⁴³⁷ Its methodology for classifying provisions—including the determination of which provisions were “unauthorized” by current law—has not been made public or independently audited.⁴³⁸ Substituting AI for agencies’ domain expertise does not improve transparency or credibility.

Critically, we argue that a model other than pure procurement is urgently needed to improve transparency and to avoid potential conflicts of interest between AI companies providing models and regulators. Our collaboration with San Francisco outlines one such model: A transparent research partnership in which technology provides assistance subject to legislative oversight. That model requires sustained institutional investment like the sort that FFRDCs and CERSI partnerships provide in other domains. It demands more than procurement.

3. Law as Infrastructure: Machine-Readable Codes

A third condition concerns the infrastructure of law itself. Code rot is exacerbated by the fact that much enacted law, particularly at the state and local level, is not stored in formats that support systematic analysis.⁴³⁹ While portions of the United States Code are available in structured, machine-readable formats maintained through official government channels,⁴⁴⁰ many state statutes and municipal codes are not digitized, inconsistently updated, or maintained by proprietary systems that limit the ability to perform large-scale analysis.⁴⁴¹ It is no surprise, then, that municipal codes contain substantially more discriminatory provisions—from poll taxes to constitutionally dubious citizen restrictions in employment and licensing—than state codes.⁴⁴²

This is not merely inconvenient. When legal text lacks a consistent structure, like stable identifiers, cross-references, and standardized markup, it becomes less legible and significantly

⁴³⁷ See Teale, *supra* note 344.

⁴³⁸ See generally Goodwin & Salem, *supra* note 16.

⁴³⁹ Sarah Glassmeyer, *State Legal Information Census: An Analysis of Primary State Legal Information*, <https://www.sarahglassmeyer.com/StateLegalInformation/wp-content/uploads/2014/04/GlassmeyerStateLegalInformationCensusReport.pdf> [https://perma.cc/ML52-3A52] (“analysis of the legal information provided by states shows that it is impossible to do any but the most basic of legal research for free using state provided legal information sources”); see also Alex Koma, *Study: State legal information ‘impossible’ to access online*, STATESCOOP (Jan. 25, 2016), <https://statescoop.com/study-state-legal-information-impossible-to-access-online/#:~:text=A%20new%20report%20by%20a,cases%20that%20cite%20the%20original>. [https://perma.cc/6VTN-A7ZZ].

⁴⁴⁰ Office of Law Revision Counsel, U.S. Code XML, <https://uscode.house.gov/download/download.shtml>

⁴⁴¹ See Soubhik Barari & Tyler Simko, *LocalView, a database of public meetings for the study of local politics and policy-making in the United States*, 10 SCIENTIFIC DATA 1 (“...local policy-making remains difficult and expensive to study at scale due to a lack of centralized data”).

⁴⁴² Dan Bateyko, Yasmine Mabene, Derek Ouyang & Daniel E. Ho, *Hidden in Plain Text: LLM-Assisted Direction of Discriminatory Municipal Laws*, unpublished manuscript (Feb. 4, 2026).

harder to reform. The publication form shapes who can access it, how it can be analyzed, and what government functions it can support.

The implication is straightforward. Governments should treat statutory and regulatory codes as public data infrastructure. At a minimum, binding legal text should be published in standardized, open, machine-readable formats like XML. Better yet, such formats should support dynamic tracking of revisions over time and cross-referencing to the legislative record. Without such infrastructure, the law will remain inaccessible, and even sophisticated tools will fail to bring about much change or face uneven application across jurisdictions.⁴⁴³

The case for machine-readable codes extends beyond enabling better search and analysis tools. A more ambitious version treats statutory and regulatory text not merely as data to be parsed after the fact, but as structured information that could be authored in computable form from the outset. Scholars and practitioners working on “computable contracts” and “computational law” demonstrate that legal obligations can be expressed in formal languages that are both human-readable and machine-executable, enabling automated compliance audits, conflict detection, and impact analysis at scale impossible with natural language text alone.⁴⁴⁴

This vision reframes the problem of code rot itself. Much of the difficulty STARA and similar tools face arises from the mismatch between the free-form natural language of enacted law and the structured queries needed to analyze it systematically. If reporting requirements, sunset clauses, cross-references, and defined terms were tagged in structured form at enactment, the informational barriers to discovering rot would evaporate. A legislature that enacts a reporting requirement in tagged, machine-readable form simultaneously creates an auditable record of the requirement’s existence and scope. A computable statutes pilot could experiment with transforming statutory text into structured fields.

4. Enabling Public Participation in Code Reform

A fourth condition follows from the collaborative framework we detail. Code rot persists in part because responsibility for identifying it is shared, while authority to address it is centralized. Individual lawyers, judges, agencies, and members of the public may recognize that particular provisions are obsolete, incoherent, or contradictory, but lack a shared forum or infrastructure to aggregate those insights.

We have shown above the limitations of law revision commissions.⁴⁴⁵ Private vendors advertising AI capacities are springing up, but, as our collaborative process above highlights,

⁴⁴³ Myungjung Kwon, Eunmi Lee, Sounman Hong & Soon Ae Chun, *Understanding the Determinants of Digital innovation in California Local Governments: Digital Inequality and Agency Assignment Perspectives*, 5 DIGITAL GOVT.: RSCH. & PRACTICE 1, 12 (2024) (discussing the uneven relationship between digital innovation in California cities and community wealth).

⁴⁴⁴ Harry Surden, *Computable Contracts*, 46 U.C. DAVIS L. REV. 629, 637, 658 (2012).

⁴⁴⁵ See discussion *supra* Part III.B.

contracting should not be the exclusive pathway for public innovation. Instead of a future where AI integration further concentrates legal research in a few vendors,⁴⁴⁶ STARA points to the possibility of public infrastructure for legal legibility that enables broader participation reform. Consider the failed DOJ initiative to count federal crimes. It is black-letter criminal law that ignorance of the law is no excuse.⁴⁴⁷ Yet if *DOJ* cannot ascertain what crimes exist, how can reasonable people be expected to comprehend the scope of criminal liability?

Rather than concentrating legal research in the hands of a few vendors, open tools for statutory research should enhance legibility of the law. Part of the transformative potential of these tools lies in enabling new forms of participation, allowing agencies, civil society organizations, journalists, and researchers to collectively surface and scrutinize problematic provisions. Citizens may be willing to pull the alarm,⁴⁴⁸ but only if they know where it is.

5. The Problem of Proprietary Law

Finally, we underscore a more fundamental problem: In many jurisdictions, access to the law itself is restricted. Private publishers may assert copyright or contractual restrictions over annotated codes and the only practically usable versions of the law. This practice continues despite longstanding constitutional and common-law principles that *public* law should be *public*.

Recent litigation has brought renewed attention to this issue. In *ICC v. UpCodes*,⁴⁴⁹ a federal court rejected claims that a private standards organization could use copyright law to control access to portions of enacted law, emphasizing that once standards become legally binding, they fall under the public domain.⁴⁵⁰ This case highlights what many scholars and advocates have described as a failure: the privatization of access to law that governs public conduct.⁴⁵¹

Proprietary control over codes is the product of a longstanding legal publishing market in which private companies have acted as de facto custodians of statutory and regulatory law. Companies such as American Legal Publishing, which provide municipal code hosting and updating services for thousands of jurisdictions, often control the most accessible and authoritative versions of local law through their proprietary platforms, providing access to versions of the code only for fee-based subscribers.⁴⁵²

⁴⁴⁶ See Krishan, *supra* note 436.

⁴⁴⁷ *Cheek v. United States*, 498 U.S. 192, 199 (1991) (“The general rule that ignorance of the law or a mistake of the law is no defense to criminal prosecution is deeply rooted in the American legal system”).

⁴⁴⁸ See generally McCubbins & Schwartz, *supra* note 220.

⁴⁴⁹ Int’l Code Council, Inc. v. UpCodes, Inc. No. 17 CIV. 6261, 2020 WL 2750636 at *4 (S.D.N.Y. May 27, 2020).

⁴⁵⁰ *Id.*

⁴⁵¹ See, e.g., Emily S. Bremer, *Incorporation by Reference in an Open-Government Age*, 36 HARV. J.L. & PUB. POL’Y 131, 153-55 (2013) (arguing that incorporation by reference creates considerable burdens to accessing legally binding rules); Nina A. Mendelson, *We Need Full Public Access to the Law*, REGUL. REV. (July 1, 2013), <https://www.theregreview.org/2013/07/01/01-mendelson-access-to-law/> [https://perma.cc/9YZP-NZLN].

⁴⁵² American Legal Publ’g, About Us, <https://amlegal.com/about-us> (describing its role in publishing and codifying municipal codes in the United States).

Proprietary ownership of code impedes addressing code rot. When a California cabinet member sought to secure an open copy of California’s code from earlier years, the answer was that it was not possible.⁴⁵³ When Virginia sought to reduce requirements in its Administrative Code, it found that roughly seventy percent of requirements were contained in “incorporated documents,” rather than the code itself.⁴⁵⁴ When authoritative legal texts are kept behind paywalls and restrictive licenses, it becomes nearly impossible to perform the kind of comprehensive, cross-jurisdictional analysis that enables real reform. The result is a fragmented legal landscape in which no one—not legislators, agencies, or the public—can easily understand the structure of the law. If law is to serve its rule-of-law function, it must be public—not only in theory but in reality.⁴⁵⁵ That means free, open access to authoritative legal texts in usable formats.

VI. Conclusion

Legal systems are typically evaluated by the quality of the laws they produce and the doctrines used to interpret them. Far less attention is paid to whether the law remains intelligible over time. Yet as this Article shows, statutory codes are not static repositories of legal requirements or meaning. They are dynamic systems that degrade as obsolete, unlawful, and accreted provisions accumulate faster than institutions can identify or reconcile them. Code rot is a structural feature of modern lawmaking, not a collection of isolated errors.

Much is at stake. Legislatures may retain formal authority over statutory text, but their practical control erodes as the law is less legible.⁴⁵⁶ As rot accumulates, agencies are left to navigate conflicting or obsolete dictates, courts must reconstruct operative law case by case, and regulated parties are uncertain of which constraints bind. By making code rot visible, AI-assisted review does not shift power from lawmakers. Instead, it restores lawmakers’ capacity to govern effectively through law by making statutory authority clear and unmistakable.

Addressing code rot requires rethinking how legal systems can understand their own complexity. Wholesale repeal or indiscriminate deregulation is not a solution. Nor is reliance on naïve forms of AI untethered from relevant legal and institutional context. Instead, effective reform requires

⁴⁵³ California does not maintain a comprehensive, open digital archive of past codes. Instead, researchers and officials must rely on paid platforms or physical collections. See UCLA Law Library, *California Legislative History and Advocacy: Codes*, LibGuides <https://libguides.law.ucla.edu/callegislativehistory/codes> [https://perma.cc/ET9W-5Q5B].

⁴⁵⁴ Dane Gambrell, *Rethinking Regulation: How Virginia Used AI to Streamline Its Regulatory Code*, Reboot (April 28, 2026), <https://rebootdemocracy.ai/blog/ai-regulation-case-study-virginia> [https://perma.cc/ZMX6-V2NM] (“But they also ran into a new barrier. Roughly 70% of the 335,000 requirements contained in Virginia’s Administrative Code were buried in ‘incorporated documents’—external technical standards and third-party publications referenced within regulations rather than published in the code itself.”)

⁴⁵⁵ See Leslie A. Street & David R. Hansen, *Who Owns the Law? Why We Must Restore Public Ownership of Legal Publishing*, 26 J. INTELL. PROP. L. 205, 207 (2020).

⁴⁵⁶ See JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW 15-19 (1997) (discussing how administrative legitimacy depends on intelligible statutory frameworks); Gillian E. Metzger, *Administrative Constitutionalism*, 91 TEX. L. REV. 1897, 1903-06 (2013) (discussing how administrative practices have shaped constitutional meaning).

tools to make visible the full set of operative and inoperative provisions that shape legal institutions and processes to ensure oversight and responsible reform.

The use of purpose-built AI systems has the potential to solve the technical problem. When coupled with human expertise, stakeholder engagement, and appropriate institutional safeguards, such tools can support systematic identification of obsolete provisions in ways that can facilitate responsible reform and reduce administrative burdens imposed by accreted law. But the problem is not just a technical one: to reform existing law requires a reimagination of public innovation. To stem rot before it takes root, legislators must reckon explicitly with the downstream administrative costs of statutory mandates within the context of existing law.

More fundamentally, code rot calls for a shift in how public law judges its own success and understands its impact. A legal system that continually produces new rules without preserving the legibility of existing ones does not just introduce inefficiency, it loses legitimacy. Law is not made once; it must be sustained. And the future of the rule of law may depend as much on maintaining the legal code as on adding to it.