

Rules of the Road: The Struggle for Safety & the Unmet Promise of Federalism

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ABSTRACT: American streets have become increasingly dangerous. 2020 saw the highest roadway death rates in 96 years, and the last year for which we have data on non-drivers, 2018, was the deadliest year for pedestrians and cyclists in three decades. Though this resurgence of road violence has many complex causes, what makes American roads uniquely deadly are laws that lock in two interrelated design problems: unfriendly streets and unsafe vehicles.

Design standards articulate how streets and vehicles look and function. As they have been enshrined in law, they favor drivers and their passengers over any other street users. Over time, they have become more centralized, and they are heavily influenced by industry groups that structurally favor, or at least overrepresent, car-manufacturing interests. Thus, street and vehicle design standards are classic cases of industry capture and consequently fail to represent non-industry parties.

But industry capture is just a symptom of an underlying problem: the assumption that uniform national standards are preferable to state-government involvement in vehicle design and state or local government involvement in street design. In and of itself, centralization is not necessarily problematic: There are compelling reasons to have national standards for certain design features, like the shape and color of stop signs or the general dimensions of vehicles. But other design characteristics, including width of street lanes and strong vehicle emissions system rules, may be better or more easily made by subnational governments. A potential benefit of subnational regulatory authority is that innovation may influence upward, improving

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national standards. Despite the possibilities, there are legal barriers to subnational participation. In addition to structural participatory barriers, courts over-broadly apply preemption and sovereign immunity doctrines.

To understand these barriers, one must look beyond the capture story and explore relevant contours of federalism. Federalism is supposed to advance three values: representation, innovation, and liberty. These advantages are not visible in the laws or institutional framework establishing American street and vehicle design standards because federalism is not allowed to do its work. In exploring these interrelated issues, this Essay first covers the well-trod scholarly debates about federalism, then focuses on the three values federalism should advance. It delves deeply into the current dysfunction of street and vehicle design standards, and argues that these standards are emblematic of failed federalism. Finally, this Essay offers a theory for these failures: that legal culture has calcified regulation, including overcentralized and anti-democratic decision-making that stifles innovation that could save lives.

The Essay concludes that legal culture must change to recalibrate the balance of regulatory authority in street and design standards. It is not enough to simply find new ways to reduce industry capture of national standards, though this should be done. We must also empower state and local governments to innovate toward better substantive outcomes. Ultimately, this Essay adds to federalism discourse by evaluating how it works in two important, interrelated regulatory spheres and promoting inclusive, innovative decision-making that protects vulnerable people and improves the public realm for all.

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I. INTRODUCTION

American streets have become increasingly dangerous. 2020 saw the highest roadway death rates in 96 years,¹ and the last year for which we have data on non-drivers, 2018, was the deadliest year for pedestrians and cyclists in three decades.² This resurgence of road violence has many complex causes. We might blame ever-rising speed limits, unevenly enforced traffic laws, low gas prices, and increased driver distraction.³ We might shrug our shoulders and call road violence a natural consequence of our collective desire for speed and convenience. But these explanations overlook something important: Other, similarly-developed countries are experiencing the same economic and behavioral trends. In other countries, people love cars, too. And yet comparable fatality rates for non-drivers⁴ over the last 30 years, even in car-crazy Germany, are a small fraction of American fatalities.⁵

What explains the gap? Are Europeans simply more careful walkers, better-equipped bikers, or safer drivers? Certainly not. What is different are the rules of the road. Simply put, American laws lock in two interrelated design problems: unfriendly streets⁶ and unsafe vehicles. Bad street design

1. *Motor Vehicle Deaths in 2020 Estimated to be Highest in 13 Years, Despite Dramatic Drops in Miles Driven*, NAT'L SAFETY COUNCIL (Mar. 4, 2021), <https://www.nsc.org/newsroom/motor-vehicle-deaths-2020-estimated-to-be-highest> [<https://perma.cc/C36A-8SFJ>]

2. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., 2018 FATAL MOTOR VEHICLE CRASHES: OVERVIEW 3 (2019), <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812826> [<https://perma.cc/UWW9-5YN8>]; see also RICHARD RETTING, GOVERNORS HIGHWAY SAFETY ASS'N, PEDESTRIAN TRAFFIC FATALITIES BY STATE: 2019 PRELIMINARY DATA 3–5 (Joe Feese, Russ Martin & Kara Macek eds., 2020), <https://www.ghsa.org/sites/default/files/2020-02/GHSA-Pedestrian-Spotlight-FINAL-rev2.pdf> [<https://perma.cc/EC6V-7WNJ>] (noting that pedestrian fatalities increased by 53 percent between 2009 and 2018 and SUV-related pedestrian fatalities increased by 81 percent; all other traffic deaths increased by just two percent).

3. Note that the lack of a critical mass of walkers and bikers contributes to poor safety conditions, perpetuating a vicious cycle. See P.L. Jacobsen, *Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Cycling*, 9 INJ. PREVENTION 205, 208 (2003) (concluding that accidents involving cyclists or pedestrians are less likely when more people are walking and cycling).

4. Throughout this Essay, I use the term “non-driver” to mean people who are not in vehicles. “Driver” encompasses both the person driving and the passenger being driven.

5. See Ralph Buehler & John Pucher, *The Growing Gap in Pedestrian and Cyclist Fatality Rates Between the United States and the United Kingdom, Germany, Denmark, and the Netherlands, 1990-2018*, 41 TRANSP. REVS. 48, 50–52 (2021).

6. This Essay identifies places where conflicts between cars and non-drivers are likely, so it focuses on “streets,” defined as roads with buildings on both sides.

would not be so deadly if vehicle design standards were better, and vice versa. Yet both sets of standards have evolved, in tandem, to favor drivers and their passengers over any other street users.⁷

Street design, centralized through national, nongovernmental standards developed in closed-to-the-public processes, tends to prioritize vehicle movement. These standards dictate generously wide lanes that facilitate fast driving. They allow inadequate widths or locations for sidewalks and bike lanes, where such amenities exist at all, making walking and biking unsafe. And they call for signals that smooth and speed car travel, threatening people in small cars and non-drivers. Judicial decisions on preemption and sovereign immunity have deterred sub-national innovation to these car-centric standards.

Vehicle design guidelines, also mostly centralized, also fail to protect non-drivers. As larger cars flood the market, regulators fail to reign in weight and height, despite studies showing heavier cars protect occupants but hurt non-occupants during a crash,⁸ and that taller cars make it more likely a non-driver will end up under the car, dead, instead of on the dashboard, injured.⁹ Similarly, regulators have not yet dealt with equipment such as “bull bars” attached to the vehicle’s front, which strike non-drivers in the more deadly chest area, rather than the legs. Beyond the direct impact of crashes are the indirect impacts of greenhouse gas emissions. Transportation generates the largest share of greenhouse gases—28.2 percent—of any sector tracked by the EPA.¹⁰ Because of weak emissions standards, drivers spew toxic fumes into the air, sickening and killing other people and themselves. The devastation is inequitably wrought. The same groups most vulnerable to death by vehicular

7. For the last century, the automobile industry has lobbied relentlessly for this outcome. See generally, e.g., PETER D. NORTON, *FIGHTING TRAFFIC: THE DAWN OF THE MOTOR AGE IN THE AMERICAN CITY* (explaining how the automobile industry legitimized its universal claim to the streets).

8. Wen Hu & Jessica B. Cicchino, *An Examination of the Increases in Pedestrian Motor-Vehicle Crash Fatalities During 2009-2016*, 67 J. SAFETY RSCH. 37, 41-43 (2018); Michael L. Anderson & Maximilian Auffhammer, *Pounds that Kill: The External Costs of Vehicle Weight*, 81 REV. ECON. STUD. 535, 536 (2014); Michelle J. White, *The “Arms Race” on American Roads: The Effect of Sport Utility Vehicles and Pickup Trucks on Traffic Safety*, 47 J.L. & ECON. 333, 333-34 (2004).

9. See JINGWEN HU & KATHLEEN D. KLINICH, UNIV. OF MICH. TRANSP. RSCH. INST., *TOWARD DESIGNING PEDESTRIAN-FRIENDLY VEHICLES* 13 (2012), <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/92202/102873.pdf?sequence=1&isAllowed=y> [<https://perma.cc/KW4Z-ZD4D>]; Laurie F. Beck, Ann M. Dellinger & Mary E. O’Neil, *Motor Vehicle Crash Injury Rates by Mode of Travel, United States: Using Exposure-Based Methods to Quantify Differences*, 166 AM. J. EPIDEMIOLOGY 212, 215 (2007) (explaining that pedestrians are 1.5 times more likely than passenger vehicle occupants to be killed).

10. *Sources of Greenhouse Gas Emissions*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> [<https://perma.cc/S4PK-L44A>] (last updated Dec. 4, 2020) (showing that the production of electricity produces 26.9 percent of greenhouse gas emissions, industry 22 percent, commercial and residential buildings 12.3 percent, agriculture 9.9 percent, and land use and forestry 11.6 percent).

impact—the elderly, people of color, the poor, and people living in urban areas¹¹—suffer most from the effects of vehicular pollution.¹²

Street and vehicle design standards have become more centralized, and they are heavily influenced by industry groups that structurally favor, or at least overrepresent, car-manufacturing interests. In that sense, these standards are a classic case of industry capture and fail to adequately represent non-industry parties.

Assuming, as I do, that law and legal culture play a definitive role in ensuring inequitable but avoidable outcomes, one potential remedy might be to direct reforms exclusively toward loosening the grip of industry on national standards-making processes. While this should surely happen, industry capture is just a symptom of an underlying problem: that laws and legal culture assume that uniform, national standards are preferable to state-government involvement in vehicle design and state or local government involvement in street design. In and of itself, centralization is not entirely problematic. For certain design features, like the shape and color of stop signs or the general dimensions of vehicles, national standards make sense. But other design characteristics, such as width of street lanes and strong vehicle emissions system rules, may be better or more easily made by subnational governments. A potential benefit of subnational regulatory authority is that innovation may influence upward, improving national standards.

Full devolution, however, is not the complete solution—not only because national standards work best in some cases, but also because devolution may not yield a radically different political economy than the one that exists today. Governments have many different reasons to adopt off-the-shelf design standards, rather than create their own: inertia inherent in any governmental bureaucracy; high start-up costs that make it expensive and time-consuming to create independent standards; network externalities that tilt decision-makers toward facilitating compatibility; maybe even lack of imagination.

Between full centralization and full decentralization is overlapping, complementary, or competing authority among multiple levels of government—something made possible by the very structure of our

11. See generally ANGIE SCHMITT, *RIGHT OF WAY: RACE, CLASS, AND THE SILENT EPIDEMIC OF PEDESTRIAN DEATHS IN AMERICA* (2020) (highlighting communities impacted by the pedestrian safety crisis); HEATHER ZACCARO, *SMART GROWTH AM., DANGEROUS BY DESIGN* 17 (2019), <https://smartgrowthamerica.org/wp-content/uploads/2019/01/Dangerous-by-Design-2019-FINAL.pdf> [<https://perma.cc/PGW7-CJWY>] (noting that people age 50 and over—and those identifying as Black/African American, American Indian, or Alaska Native—were overrepresented in 2008–2017 pedestrian fatalities).

12. Maria Cecilia Pinto de Moura & David Reichmuth, *Inequitable Exposure to Air Pollution from Vehicles in the Northeast and Mid-Atlantic*, UNION CONCERNED SCIENTISTS, June 2019, at 1, 1–2; *Disparities in the Impact of Air Pollution*, AM. LUNG ASS'N (Apr. 20, 2020), <https://www.lung.org/clean-air/outdoors/who-is-at-risk/disparities> [<https://perma.cc/7D37-LRPN>] (citing numerous studies and explaining that racism, class bias, and housing market dynamics make these communities more susceptible).

government. Scholarship about federalism's virtues abounds. Theories suggest there is something to be gained by the tension between multi-party governmental actors. Federalism should bring government closer to the people, expanding opportunities for representation. It should foster innovation, with races to the top among state and local policymakers. And it should protect individual liberty, including freedom from harm. These advantages are absent from the laws or institutional framework establishing street and vehicle design standards, because federalism is not allowed to do its work. Instead, Congress, federal agencies, and the courts inhibit state and local governments participation in regulating aspects of street and vehicle design well-suited to their involvement.

In exploring these interrelated issues, this Essay first covers the well-trod scholarly debates about federalism, then focuses on three values federalism could advance: representation, innovation, and liberty. Part II suggests evaluating the success of any given regulatory framework by assessing whether and to what extent the framework promotes these values. Part III delves deeply into the current dysfunction of street and vehicle design standards, detailing how they are adopted, modified, and interpreted. With that context, Part IV argues street and vehicle standards are emblematic of failed federalism. It offers a theory for these failures, namely that legal culture has calcified regulation, overcentralizing and anti-democratic decision-making that stifles innovation that could save lives. With this theory, I revive the legal culture definition of Jerry Mashaw and David Harfst: the "inertial force" that constrains people who manage and implement regulatory regimes.¹³ Their critique of federal passenger safety standards has only become more true, and more broadly applicable, since they wrote in 1990. Encompassing formal laws, judicial decisions, politics, psychology, and popular thinking, legal culture helps to explain how today's street and vehicle standards defy reason and erode road safety.

Part V concludes that the balance of regulatory authority in street and design standards must be recalibrated. At a minimum, drafting authority cannot belong to unaccountable trade associations alone; non-drivers must have a larger role. However, reducing industry capture of national standards is not enough. State and local governments should be empowered to innovate toward better substantive outcomes. Laws should disfavor preemption and protect experimentation. Finally, the regulatory process should maximize the ability of all people to be free from harm.

This Essay adds to federalism discourse by evaluating how it works in two important, interrelated regulatory spheres. In addition, it seeks to promote

13. JERRY L. MASHAW & DAVID L. HARFST, *THE STRUGGLE FOR AUTO SAFETY* 9 (1990). In their view, "legal convention[s] exert[] continuous and surprisingly sharp pressures on regulatory structures and regulatory behavior[s]," hindering adaptation. *Id.*

inclusive, innovative decision-making that protects vulnerable people and improves the public realm for all.

II. FEDERALISM IN THEORY

To understand what is missing from the federalism discourse, we must understand what it includes. This Part first briefly considers how legal scholars explain the relationship between local, state, and federal governments. Then it identifies three values potentially advanced by federalism as a measure for a regulatory framework's success. In touching upon legal scholarship, political representation theory, judicial decisions, and institutional design questions, this Part prefaces Part IV's more expansive discussion of legal culture.

A. BRIEF OVERVIEW

American government has a federalist structure: simultaneous separation of powers among and mutual dependence upon different levels of government. The Constitution establishes this structure, delegating to Congress, among other things, the power to regulate interstate commerce and declare war.¹⁴ The Tenth Amendment reserves remaining powers to the states,¹⁵ while the Supremacy Clause clarifies that in cases where Congress has lawfully acted to preempt state law, states must recognize federal law as supreme.¹⁶ State and local governments, meanwhile, have their own relationships with each other, variously established by state constitutions, state charters, and judicial decisions.¹⁷ Some situations, including “home rule” jurisdictions, empower local governments; other situations see the state dominating local governments. There are also distinct relationships between local governments and the federal government.¹⁸

Considering this framework, scholars disagree about the nature of the relationships between federal, state, and local governments, and mostly discuss the federal-state relationship. Most modern scholars reject as archaic a strict concept of dual federalism in which the state and federal governments have clear, mutually exclusive powers or serve as equal sovereigns.¹⁹ Today,

14. U.S. CONST. art. I, § 8.

15. U.S. CONST. amend. X.

16. U.S. CONST. art. VI, cl. 2.

17. See Joshua S. Sellers & Erin A. Scharff, *Preempting Politics: State Power and Local Democracy*, 72 STAN. L. REV. 1361, 1363–64 (2020); Richard C. Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163, 1165 (2018); Richard Briffault, *The Challenge of the New Preemption*, 70 STAN. L. REV. 1995, 2002–04 (2018); Erin Adele Scharff, *Hyper Preemption: A Reordering of the State-Local Relationship?*, 106 GEO. L.J. 1469, 1474–77 (2018).

18. See Nestor M. Davidson, *Cooperative Localism: Federal-Local Collaboration in an Era of State Sovereignty*, 93 VA. L. REV. 959, 964–66 (2007); RICHARD SCHRAGGER, CITY POWER: URBAN GOVERNANCE IN A GLOBAL AGE 82–89 (2016).

19. See, e.g., Roderick M. Hills, Jr., *The Political Economy of Cooperative Federalism: Why State Autonomy Makes Sense and “Dual Sovereignty” Doesn’t*, 96 MICH. L. REV. 813, 815 (1998) (asserting “[i]t is commonplace to observe that ‘dual federalism’ is dead” but criticizing courts’ sovereignty

the prevailing view draws from sovereignty to hold that states have autonomy, which entitles them to choose at least some of their regulatory scope. To protect this autonomy, some scholars believe that states must challenge certain manifestations of federal power through the courts, others that states must decline to administer federal programs.²⁰ Others believe American government exemplifies cooperative federalism, in which states' primary role is to support and carry out federal programs or act within federally-granted authority.²¹ In their view, different levels of government have integrated functions, and there is a normative position against dissent or friction. Scholars like Jessica Bulman-Pozen and Heather Gerken, who write about "uncooperative" federalism, are somewhere in the middle. They recognize that while states generally cooperate, sometimes they can and should use powers granted by the Constitution or "the federal government to tweak, challenge, and even dissent from federal law."²² Parallel conversations exist among scholars studying the relationships between state and local governments.²³

B. EVALUATING FEDERALISM

Even across these views, scholars who see value in federalism²⁴ essentially agree on its promise: to balance state and local interests with federal government power, and to ensure the federal government remains accountable to the needs of the various states, municipalities, and individuals residing therein. To evaluate whether a particular regulatory framework has achieved

rationales in key cases); Barry Friedman, *Valuing Federalism*, 82 MINN. L. REV. 317, 331 (1997) ("The dam of dual sovereignty collapsed in the famous case of *Cooley v. Board of Wardens . . .*"). See generally Edward S. Corwin, *The Passing of Dual Federalism*, 36 VA. L. REV. 1 (1950) (discussing the end of dual federalism). At the same time, the historical underpinnings of a nineteenth-century dual-sovereignty justification for our federalist system itself are undeniable. See generally Gregory Ablavsky, *Empire States: The Coming of Dual Federalism*, 128 YALE L.J. 1792 (2019) (discussing the historical underpinnings of dual federalism).

20. See, e.g., Hills, *supra* note 19, at 816–17 (offering a functional theory of cooperative federalism to define the limits of federal power, including states' ability to reject federal confiscation or conscription); Deborah Jones Merritt, *Three Faces of Federalism: Finding a Formula for the Future*, 47 VAND. L. REV. 1563, 1570–71 (1994).

21. See, e.g., Susan Rose-Ackerman, *Cooperative Federalism and Co-optation*, 92 YALE L.J. 1344, 1344 (1983); Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U. L. REV. 1692, 1726–33 (2001); Philip J. Weiser, *Towards a Constitutional Architecture for Cooperative Federalism*, 79 N.C. L. REV. 663, 671 (2001).

22. Jessica Bulman-Pozen & Heather K. Gerken, *Uncooperative Federalism*, 118 YALE L.J. 1256, 1259 (2009). They consider "licensed dissent, dissent made possible by a regulatory gap, and civil disobedience." *Id.* at 1272.

23. See, e.g., Richard C. Schragger, *Can Strong Mayors Empower Weak Cities? On the Power of Local Executives in a Federal System*, 115 YALE L.J. 2542, 2556–64 (2006); Roderick M. Hills, Jr., *Dissecting the State: The Use of Federal Law to Free State and Local Officials from State Legislatures' Control*, 97 MICH. L. REV. 1201, 1216–25 (1999).

24. A few scholars have argued against federalism's value. See, e.g., Edward L. Rubin & Malcolm Feeley, *Federalism: Some Notes on a National Neurosis*, 41 UCLA L. REV. 903, 909 (1994).

this promise, I propose focusing on three specific values federalism may advance:²⁵ representation, innovation, and liberty. All three are consistent with each strand of federalism theory described above, though some are more clearly aligned with particular perspectives.²⁶ Scholars have also identified other advantages of federalism,²⁷ most of which can be considered a part of, or related to, the three I feature.²⁸ A few words about each value will preview how Part IV will evaluate street and vehicle design standards.

1. Representation

In enabling state and local decision-making, federalism in theory enables decision-makers to be more responsive to and accessible by their constituents than, say, members of Congress.²⁹ While political representation theory, with all of its nuance, is too hefty to tackle here, let us loosely reference Hanna Pitkin's influential approach, which argues that political representation

25. Cf. Richard Briffault, "What About the 'Ism'?" *Normative and Formal Concerns in Contemporary Federalism*, 47 VAND. L. REV. 1303, 1348 n.161 (1994) (criticizing Akhil Reed Amar's "best argument for federalism" by saying federalism "just is" and "does not need an argument" (emphasis added) (citing Akhil Reed Amar, *Some New World Lessons for the Old World*, 58 U. CHI. L. REV. 483, 498 (1991))).

26. For example, innovation aligns with arguments for uncooperative federalism, which seeks to fortify state challenges to federal law in part on the basis of states' regulatory creativity; liberty aligns well with arguments for dual federalism, which centralizes state sovereignty derived from the will of people.

27. See, e.g., DAVID L. SHAPIRO, *FEDERALISM: A DIALOGUE* 76–106 (1995) (chronicling the virtues of federalism); Friedman, *supra* note 19, at 389–405 (listing public participation; accountability; experimentation by states; citizens' health, safety, and welfare; cultural and local diversity; and liberty); Vincent Ostrom, *Can Federalism Make a Difference?*, 3 PUBLIUS 197, 229–30 (1973) (listing ten advantages of federalism, among them citizen voice, accessibility, administrative efficiency, and greater enforcement of constitutional law).

28. Perhaps the key exception is efficiency, and the theory that smaller jurisdictions offer more choices to people, who are mobile, and optimize the provision of public goods as these jurisdictions compete. See Alan P. Hamlin, *Decentralization, Competition and the Efficiency of Federalism*, 67 ECON. REC. 193, 194 (1991); Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416, 418–24 (1956). Elevating efficiency as a *primary* evaluative principle may be morally and methodologically problematic, not least because of its assumptions about mobility. See, e.g., Anita Bernstein, *Whatever Happened to Law and Economics?*, 64 MD. L. REV. 303, 307 (2005) (critiquing law and economics as "a 'cult' . . . done in by the twin stabbings of excessive inaccuracy and trivial accuracy"); Jane B. Baron & Jeffrey L. Dunoff, *Against Market Rationality: Moral Critiques of Economic Analysis in Legal Theory*, 17 CARDOZO L. REV. 431, 431–32 (1996) (observing critiques on moral grounds in "environmental ethics, civic republicanism, and commodification"); Gregory Scott Crespi, *The Mid-Life Crisis of the Law and Economics Movement: Confronting the Problems of Nonfalsifiability and Normative Bias*, 67 NOTRE DAME L. REV. 231, 234–37 (1991). Moreover, an efficiency frame directly opposes the goal the Framers had in mind when they set up what is inherently an inefficient system. All this said, I discuss the tie between efficiency and liberty *infra* Section II.B.3.

29. See, e.g., Larry D. Kramer, *Putting the Politics Back into the Political Safeguards of Federalism*, 100 COLUM. L. REV. 215, 222 (2000) (showing how Congress is ill-equipped to represent diverse individual or state-government preferences).

requires substantive action wherein the views of the represented are understood, respected, and acted upon by the representatives.³⁰

True representation thus requires a regulatory scheme that provides a formal mechanism for, and substantively incorporate, citizen voices and perspectives. This mechanism can come in many forms, including comment, hearings, intervenor status, or even lobbying. Whatever the channel of communication, the views of a diverse array of stakeholders must be heard, without threat of capture by a limited number of interest groups.³¹ Decisionmakers must have the power or tools needed to react to stakeholders' views. And there must be some accountability by decision-makers, even if they are unelected. Thus, representation, as we evaluate it, must mean more than simply listening.

2. Innovation

Again, in theory, federalism can result in innovation as all levels of government experiment with different approaches, teaching and learning from each other.³² Justice Brandeis's oft-cited notion that a state may be a "laboratory" of democracy is particularly relevant to the view that intergovernmental exchange produces better substantive outcomes (say, a cleaner environment).³³ Discussions about "dynamic" (or "iterative" or "adaptive") federalism, as this back-and-forth has been called, have been particularly active among environmental law scholars.³⁴

To achieve innovation, however, institutions must be designed to enable it. In particular, Congress must be clear about whether it intends to preempt a particular field of regulation and, in the instances where it gives states express authority to innovate, must ensure that agencies and courts cannot thwart innovation. Simultaneously, state legislative and judicial branches must ensure that governments are protected from unreasonable constraints on innovation, such as those stemming from preemption and sovereign immunity decisions. Beyond institutional design, innovation is a product of

30. HANNA FENICHEL PITKIN, *THE CONCEPT OF REPRESENTATION* 209-40 (1967). She maintains that "we need to retain the ideal of the substance of representation in addition to our institutionalization of it." *Id.* at 239.

31. See Hari M. Osofsky & Hannah J. Wiseman, *Dynamic Energy Federalism*, 72 MD. L. REV. 773, 778 (2013) (suggesting high levels of involvement by stakeholders, without threat of capture by utilities or private companies).

32. In arguing against citing innovation as a potential advantage of federalism, Akhil Amar has warned against confusing federalism with decentralization. Amar, *supra* note 25, at 498.

33. See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) ("It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory . . .").

34. See Erin Ryan, *Response to Heather Gerken's Federalism and Nationalism: Time for a Détente?*, 59 ST. LOUIS U. L.J. 1147, 1150 n.8 (2015) (listing numerous works by environmental scholars dealing with dynamic federalism issues).

many aspects of legal culture, not just the laws as written and interpreted, but also the people implementing it and the general public supporting it.

3. Liberty

Evaluating whether a particular regulatory scheme advances individual liberty may be tricky. One could argue that federalism's very structure protects liberty by institutionalizing intergovernmental tension that may on the whole lead to less regulation, and thus fewer infringements on individual action. If that is true, then perhaps the Framers' intent is fulfilled, even if it produces sub-optimal results. But the *amount* of regulation cannot end the analysis. Less regulation does not necessarily mean more freedom. In fact, the right regulation, done at the right level, might protect liberty better than no regulation at all.

Accordingly, when evaluating whether a given regulatory scheme promotes liberty, substantive outcomes are what matters. One measure is whether federalism protects individuals from abusive governments, oppression, and known or knowable harms.³⁵ As Akhil Amar has pointed out, in many spheres, regulatory schemes have infringed upon individual rights to things like desegregated schools, freedom from police brutality, and other unconstitutional conduct.³⁶ The role of federalism is then to give each government, state and federal, the power and incentive to check any such improper conduct by the other.³⁷ In many cases, minority groups bear much of the harm resulting from government conduct or inaction. When federalism allows discriminatory outcomes, it fails to live up to its promise.

A second measure, equally important, is whether federalism as manifest in the regulatory scheme in question constrains or liberates choice. In theory, when subnational governments regulate differently from each other, they offer people choices, including the right to exit a jurisdiction that no longer suits their preferences.³⁸ People may "vote with their feet," which creates public-good efficiencies often lauded by political economists. The freedom to exit is potentially ensured by federalism. If it is not present, there may be something wrong.

35. See Lynn A. Baker & Ernest A. Young, *Federalism and the Double Standard of Judicial Review*, 51 DUKE L.J. 75, 136–39 (2001) (describing how federalism can, among other things, offer a protective buffer against a tyrannical central government).

36. See Akhil Reed Amar, *Of Sovereignty and Federalism*, 96 YALE L.J. 1425, 1428 (1987) (arguing that competition "can protect popular sovereignty and spur a race to the high ground of constitutional remedies").

37. *Id.* at 1427, 1492–93 (describing federalism as "a dual-agency governance structure in which each set of government agents would have incentives to monitor and enforce the other's compliance with the corporate charter established by the People of America").

38. Baker & Young, *supra* note 35, at 139.

III. THE DESIGN STANDARDS

A foundational understanding of how street and vehicle design evolved is necessary to critique design standards. As this Part shows, their evolution is consistent with Mashaw and Harfst's "inertial" characterization 30 years ago; the standards have mostly endured. But there is a caveat, because another force is at work: a centripetal force toward centralization, affecting regulatory schemes in the United States and elsewhere.³⁹

Indeed, where street and vehicle design standards have modestly evolved, this centripetal force draws them closer toward homogeneity. In the case of streets, uniform standards first emerged over a century ago from an industry group established to lobby for more highway funding. Street design standards promulgated by this national group and others have been adopted at the federal, state, and local levels, creating an astonishing amount of uniformity. In the case of vehicles, uniform federal regulation is well-established, and may even be appropriate for a product that regularly travels state lines. But new issues include federal agency resistance to complementary state regulation and an increasingly technocratic approach that undermines the safety consumers demanded when vehicle standards were created in the first place.

A. STREET STANDARDS

The federal government, state governments, and nearly every general-purpose local government in the United States all own or are responsible for roads. There are 4,165,348 linear miles of roads in the United States: 163,935 linear miles of federal roads and 781,613 of state roads, with the remaining 77 percent of roads belonging to county, municipal, and other non-state, non-federal jurisdictions.⁴⁰ Of these, this Essay's focus is streets, where tensions between a range of users, including drivers, walkers, and bikers, are likely to exist.⁴¹

Street design is dictated by three primary sets of standards: geometric, fire code, and speed and traffic standards. Geometric standards govern the spatial relationship between curbs, driving surfaces, and walking surfaces. Fire codes govern building construction, but they can also be used to guide the design of roads, particularly in new subdivisions. And speed and traffic standards govern the operation of vehicles and establish uniform signals to

39. Friedman, *supra* note 19, at 365–75.

40. *Highway Statistics 2017*, U.S. DEP'T OF TRANSP.: FED. HIGHWAY ADMIN. (Nov. 27, 2018), <https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm10.cfm> [<https://perma.cc/QVY3-QCNM>] (including roads in D.C. but excluding roads in Puerto Rico and other territories).

41. Excluded from this Essay's discussion are unpaved rural roads, which account for 31.3 percent of roads (more than federal and state roads combined). *Highway Statistics 2017*, *supra* note 40 (showing 1,304,067 miles of unpaved rural roads). Also outside this Essay's scope is the design of interstates, freeways, and expressways, because these are primarily used by drivers, not by pedestrians and bicyclists who are most impacted by bad road design. See RETTING, *supra* note 2, at 16 fig.7 (noting 16 percent of pedestrian fatalities occurred on freeways).

guide drivers. Each of these standards is written or influenced by a national, nongovernmental membership association, with little public input.

When it comes to geometric standards, almost every jurisdiction with authority over street design—including the federal government and every state department of transportation⁴²—have adopted the “Green Book”: the American Association of State Highway and Transportation Officials’ (“AASHTO”) *A Policy on Geometric Design of Highways and Streets*. AASHTO was founded in 1914, primarily to lobby for more highway funding. Thus, it comes as no surprise that the Green Book’s chief focus is to move cars quickly and efficiently. The key indicator of a successful street is its vehicular “level of service”—that is, the rate at which cars travel without being forced to queue at lights or to slow their speeds. With this goal in mind, the Green Book offers guidance on lane width, road width, stopping sight distance, driveway design, medians, and intersections, among other things.⁴³

In general, the applicable standards vary depending on a street’s “functional classification.” Functional classifications range from fastest and highest-volume to slowest and lowest-volume as follows: interstates, other freeways and expressways, principal arterials, minor arterials, major and minor collectors, and local roads.⁴⁴ As use or configuration of a road changes, its functional classification, and thus the geometric standards governing it, may change.

Fire codes, another important type of law shaping street design, are as uniformly adopted as the geometric standards. Forty-two states have adopted the fire code written by International Code Council (“ICC”), and called the International Fire Code.⁴⁵ Like AASHTO, the ICC is a membership body of experts, including state, county, and municipal code enforcement and fire officials, engineers, architects, and others in the construction industry.⁴⁶ The International Fire Code, like AASHTO standards, is usually incorporated

42. The federal government requires that the states develop their own guidance by combining the Green Book, “community values,” an analysis on “impacts on important natural and human resources,” and other factors. FED. HIGHWAY ADMIN., U.S. DEP’T OF TRANSP., FLEXIBILITY IN HIGHWAY DESIGN, at v–vi, <https://www.fhwa.dot.gov/environment/publications/flexibility/flexibility.pdf> [<https://perma.cc/4Y24-74PY>].

43. See generally AM. ASS’N OF STATE HIGHWAY & TRANSP. OFFS., A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS 7TH EDITION: SUMMARY OF KEY REVISIONS AND UPDATES (2018), https://downloads.transportation.org/publications/GDHS-7_SummaryOfChanges.pdf [<https://perma.cc/6ZQJ-YB4R>] (identifying key changes in the guidance offered regarding the design elements listed above).

44. *Highway Functional Classification Concepts, Criteria and Procedures*, U.S. DEP’T OF TRANSP.: FED. HIGHWAY ADMIN., https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm [<https://perma.cc/YSW4-5NT5>] (last updated June 28, 2017).

45. *International Fire Code Adoption Map*, INT’L CODE COUNCIL, <https://www.iccsafe.org/content/code-adoption-maps/#ca-ifc> [<https://perma.cc/95Z2-J265>].

46. *Who We Are*, INT’L CODE COUNCIL, <https://www.iccsafe.org/about/who-we-are> [<https://perma.cc/BP77-5PSX>].

wholesale in a state or local jurisdiction by reference into law. It generally requires roads likely to be traveled by fire trucks to have 20 feet of unobstructed path, excluding parking.⁴⁷ While there is some discretion for code officials to evaluate and approve alternative approaches to these requirements, alternatives are not very common. The International Fire Code does not create standards that indicate how to build narrow residential streets.⁴⁸ The result is roads wider than necessary for ordinary vehicular travel, resulting in higher travel speeds, more pavement (and thus more stormwater runoff), and lengthier times for pedestrian crossings.

Speed and traffic standards in many jurisdictions incorporate the Manual of Uniform Traffic Control Devices (“MUTCD”), which specifies speed limits, traffic signalization, road surface markings, and traffic signage standards.⁴⁹ The MUTCD is published by the Federal Highway Administration but heavily influenced by an independent organization, the National Committee on Uniform Traffic Control Devices (“NCUTCD”). NCUTCD not only advises the Administration on MUTCD revisions, but also interprets the MUTCD for state and local governments. Of particular interest is the way that the MUTCD allows for speed limits to be established. The MUTCD allows for a jurisdiction to increase the speed limit to “the eighty-fifth percentile speed of free-flowing traffic.”⁵⁰ In other words, driver speeding can and does justify raising the speed limit, even if it is not the safest level. The Federal Highway Administration has admitted that this method may be outdated and that it may have the consequence of increasing speed limits over time but has not changed the standard.⁵¹ High speed limits raise the risk of car crashes, affecting both safety and the cost of driving. And the problem is worse for pedestrians, whose lives are at risk due to high speed limits without any potential benefit.

47. 2015 INT’L FIRE CODE § 503.2.1 (INT’L CODE COUNCIL, FOURTH PRINTING, JAN. 2016).

48. Jeffrey D. Johnson, *Defining an Oregon Standard Definition for Skinny Streets* 15–16 (Jan. 2001) (unpublished manuscript), https://nacto.org/wp-content/uploads/2015/04/oregon_skinny_streets_johnson.pdf [<https://perma.cc/XHM7-Q8GX>].

49. See 23 U.S.C. § 109(d) (2018); 23 C.F.R. § 655.603(a) (2020).

50. Gregory H. Shill, *Should Law Subsidize Driving?*, 95 N.Y.U. L. REV. 498, 514–15 (2020) (quoting NAT’L TRANSP. SAFETY BD., NTSB/SS-17/01 PB 2017-102341, SAFETY STUDY: REDUCING SPEEDING-RELATED CRASHES INVOLVING PASSENGER VEHICLES, at x (2017)).

51. *Id.* at 516.

Though this Section has not delved into all laws affecting street design⁵² or what's missing from current street design rules,⁵³ this general overview points to several clear takeaways. First, most aspects of street design are established by or heavily influenced by nongovernmental bodies that are not directly accountable to the public. Second, design standards prioritize driver convenience over non-driver safety. And finally, standards are written by national bodies, and the vast majority of state and local governments adopt them wholesale. What we have not yet answered is why, if state and local governments may adopt another standard, they do not.

B. VEHICLE STANDARDS

Vehicle standards first emerged at the federal level after the creation of the interstate highway system resulted in rising driving-related deaths. Consumers, led by Ralph Nader, demanded regulation that would make vehicles safer for passengers. They succeeded, but only initially. As politics shifted and industry became better organized, legal culture changed, and federal rules weakened.⁵⁴

The federal government still provides baseline rules for most of the design of vehicles, including their body and their emissions systems. State governments regulate post-purchase accessories and have produced more robust and more protective emissions systems standards. Regulations at both levels have evolved as decisionmakers selectively address vehicle performance, consumer cost, and environmental impact. In many respects, this looks like cooperative federalism. But there is more to federalism than formal structure. Currently, the federal government and nearly two dozen state governments are litigating whether states may require stricter emissions systems than the federal government mandates. This fight embodies uncooperative federalism.⁵⁵ What's more, it aims to write states out of the regulatory framework entirely, which is unfortunate given how states improve federal standards.

52. Other laws affecting street design include state laws imposing additional barriers to safe streets. See CAL. STS. & HIGH. CODE § 1805 (West 2019) (requiring streets to have a full 40 feet of right of way absent a four-fifths vote of its governing body). There are also local movements proposing alternatives to federal and state standards. See *Member Cities*, NAT'L ASS'N OF CITY TRANSP. OFFS., <https://nacto.org/member-cities> [<https://perma.cc/2726-HWWK>] (describing 71-city movement to promote designs encompassing a mix of transportation types); *Complete Streets Policies Nationwide*, SMART GROWTH AM., <https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/policy-development/policy-atlas> [<https://perma.cc/49PF-EXHB>] (chronicling "Complete Streets policies" in about 1,600 local governments and 35 states).

53. See generally Michael Mattioli, *Autonomy in the Age of Autonomous Vehicles*, 24 B.U. J. SCI. & TECH. L. 277 (2018) (advocating for autonomous-vehicle-focused standards).

54. MASHAW & HARFST, *supra* note 13, at 11–12 (noting an evolution to focus almost exclusively on recalls).

55. Bulman-Pozen & Gerken, *supra* note 22, at 1263.

1. Body Design

The federal government dominates regulation of vehicular body design. The National Highway Traffic Safety Administration (“NHTSA”) of the Department of Transportation has established several sets of standards. The Federal Motor Vehicle Safety Standards (“FMVSS”) applies to most key parts of new vehicles, including brake systems, tires, seat belts, and child safety seats.⁵⁶ In addition to the FMVSS, the NHTSA has separate regulations on bumper standards for passenger cars, excluding sport utility vehicles (“SUVs”) and pickup trucks.⁵⁷ These standards limit the damage done to front and back bumpers in low speed collisions, and decrease the associated costs.⁵⁸ Unlike the FMVSS, which focus on passenger safety, the bumper regulations prioritize economic concerns.⁵⁹ Significant scholarly works question the effectiveness of these federal agencies, and points to industry capture of the rule-making process.⁶⁰ This debate aside, the impact of these federal mandates is undeniable. Federal safety measures are estimated to have saved over 600,000 passenger lives between 1960 and 2012, reducing the risk of fatality by 56 percent.⁶¹

NHTSA rules are refined periodically through its own testing and its national networks. NHTSA tests and rates vehicle safety performance during frontal, side, and rollover crashes as part of the Department of Transportation’s statutory duty to develop information on crash safety and provide it to consumers.⁶² It also participates in the multidisciplinary Crash Injury Research and Engineering Network (“CIREN”) to identify areas for improvement in the prevention and treatment of crash injuries.⁶³

56. See Jerry L. Mashaw & David L. Harfst, *Regulation and Legal Culture: The Case of Motor Vehicle Safety*, 4 YALE J. ON REGUL. 257, 264 (1987) (“[FMVSS] covers a wide number of specific topics, such as requirements for instrument panels, seat backs, protrusions, sun visors, and arm rests.”); 49 C.F.R. pt. 571 (2019).

57. See 49 C.F.R. §§ 581.1–8.

58. See *id.* § 581.2; 49 U.S.C. § 32501 (2018).

59. See generally *Bumper Q&A’s*, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., <https://icsw.nhtsa.gov/cars/Problems/studies/Bumper> [<https://perma.cc/K495-9L9R>] (providing an overview and history of the history of bumper standards in federal regulations).

60. See MASHAW & HARFST, *supra* note 13, at 10–14 (arguing that NHTSA shifted from a rule-making approach tackling auto safety directly to a recall-focused approach that does little to improve safety).

61. CHARLES J. KAHANE, LIVES SAVED BY VEHICLE SAFETY TECHNOLOGIES AND ASSOCIATED FEDERAL MOTOR VEHICLE SAFETY STANDARDS, 1960 TO 2012 – PASSENGER CARS AND LTVS 4–6 (2015), <https://www-esv.nhtsa.dot.gov/proceedings/24/files/24ESV-000291.PDF> [<https://perma.cc/C4TX-Q5H8>].

62. See 49 U.S.C. § 32302; *Ratings*, U.S. DEP’T OF TRANSP.: NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/ratings> [<https://perma.cc/NJ47-6WAL>] (describing the New Car Assessment Program).

63. *Crash Injury Research*, U.S. DEP’T OF TRANSP.: NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/research-data/crash-injury-research> [<https://perma.cc/EJK2-QVJH>]; *Crash Injury Research and Engineering Network (CIREN)*, EMORY UNIV. SCH. OF MED., <https://>

Virtually all of CIREN's research focuses on vehicles and the impact of crashes on passengers. A pilot project is currently reviewing nine pedestrian injury cases and is expected to recommend improvements to the way industry and government categorizes pedestrian crashes, new documentation techniques, and data collection tools.⁶⁴ The findings are expected to modestly update NHTSA's last pedestrian-specific study, conducted from 1994 to 1998 and reviewing more than 500 pedestrian-involved crashes.⁶⁵ That study analyzed pedestrian characteristics (height, age, activity at the time of the crash), driver characteristics (age, driving record, whether they attempted to avoid the crash), and vehicle characteristics.⁶⁶ The tiny amount of pedestrian-related analysis confirms NHTSA and CIREN near-neglect of non-driver safety.

Research has already shown that taller cars cause more injuries.⁶⁷ Yet the federal government addresses height only in two indirect ways. First, it regulates the height of headlights, which may have an incidental effect on the overall vehicle height.⁶⁸ Second, it requires passenger cars—but importantly, not SUVs or trucks—to satisfy NHTSA bumper collision standards for impacts between 16 and 20 inches in height.⁶⁹ Because the federal government does not regulate overall width and height, states are not preempted from doing so, and many do.⁷⁰ States can also ban vehicles of a certain size from operating on particular roads, even if the vehicles are otherwise legal. In addition, states can and do prohibit post-purchase modifications of the suspension of the

med.emory.edu/departments/emergency-medicine/ciren.html [https://perma.cc/322Z-CYKZ]; NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T OF TRANSP., CIREN PROGRAM REPORT, 2002, at 1–9 (2003), <https://www.careforcrashvictims.com/assets/CIREN2.pdf> [https://perma.cc/QAR7-GB9F]; *Crash Viewer*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., <https://crashviewer.nhtsa.dot.gov> [https://perma.cc/RA4W-PUTP].

64. RODNEY RUDD, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., CIREN PEDESTRIAN PILOT STUDY PRELIMINARY CASES 2–3 (2020), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ciren_pedestrian_pilot_study_preliminary_cases_tag.pdf [https://perma.cc/78AZ-B2KF].

65. U.S. GOV'T ACCOUNTABILITY OFF., GAO-20-419, PEDESTRIAN SAFETY: NHTSA NEEDS TO DECIDE WHETHER TO INCLUDE PEDESTRIAN SAFETY TESTS IN ITS NEW CAR ASSESSMENT PROGRAM 18–20 (2020), <https://www.gao.gov/assets/710/706348.pdf> [https://perma.cc/P8BM-YSHU].

66. AUGUSTUS “CHIP” B. CHIDESTER & RUTH A. ISENBERG, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., FINAL REPORT - THE PEDESTRIAN CRASH DATA STUDY 1–9 (2001).

67. See New Car Assessment Program, 80 Fed. Reg. 78,522, 78,547 (proposed Dec. 16, 2015); see also Eric D. Lawrence, Nathan Bomey & Kristi Tanner, *Death on Foot: America's Love of SUVs is Killing Pedestrians*, DETROIT FREE PRESS (Dec. 15, 2019, 11:24 PM), <https://www.freep.com/story/money/cars/2018/06/28/suvs-killing-americas-pedestrians/646139002> [https://perma.cc/XJH3-73Y2] (describing how the increase in SUVs has led to more fatalities); Devon E. Lefler & Hampton C. Gabler, *The Emerging Threat of Light Truck Impacts With Pedestrians* 1 (Rowan Univ., Working Paper No. 212, 2001) (describing how the increase in LTVs could lead to a higher risk of injury in accidents).

68. 49 C.F.R. § 571.108 (2019).

69. *Id.* § 581.7.

70. See, e.g., CONN. GEN. STAT. §§ 14-262 to -270 (2019).

vehicle. Several states regulate bumper height: Bumpers that are too high hurt pedestrians because of the car's higher center of gravity, while bumpers that are too low endanger passenger safety in a collision with another vehicle. Connecticut, for example, prohibits people from adding more than four inches to the manufacturer height or lowering it so less than four inches exist between the vehicle and the road surface.⁷¹ Meanwhile, Maryland has specific height standards for bumpers, depending on the type of vehicle.⁷²

After the car is sold, regulation of after-market parts or modifications is generally left to states and municipalities. Changes include those made after the car is purchased, such as additional window tinting, and modifications of suspension or exhaust.⁷³ For example, Connecticut regulates noise levels for motor vehicle noise emissions,⁷⁴ after-market tinted windows,⁷⁵ suspensions,⁷⁶ and headlights.⁷⁷ One type of after-market part that could be, but is not, regulated by states is the grille guard, commonly known as the "bull bar": a stiff cage mounted on the front of the car and intended to protect the vehicle. Bull bars have been banned in several countries because of the threats they pose to cars without bull bars and to pedestrians.⁷⁸ But in the United States, they are a popular and legal aesthetic accessory. Even the police use them, allegedly to protect patrol vehicles and allow for better positioning of sirens and lights.⁷⁹ One modest limitation on state regulation of bull bars exists: NHTSA indicated in 1998 that states may not permit the installation of grill guards that would interfere with FMVSS standards, such as those regarding the use of headlights.⁸⁰

71. CONN. AGENCIES REGS. § 14-137-25(b)(1)-(2) (2015).

72. MD. CODE REGS. 11.14.02.07 (2021).

73. See Ki Akhbari, *Dangerous Automobile Accessories*, LEGALMATCH (May 7, 2018, 12:42 AM), <https://www.legalmatch.com/law-library/article/dangerous-automobile-accessories.html> [<https://perma.cc/HXC3-MPK9>]; Rosemary Avance, *Auto Accessories and the Law*, CONSUMER AFFAIRS (Sept. 28, 2020), <https://www.consumeraffairs.com/automotive/auto-accessory-laws.html> [<https://perma.cc/42EW-RCAX>].

74. CONN. AGENCIES REGS. §§ 14-80-1a to -80a-10a (2021).

75. *Id.* §§ 14-99g-1 to -8.

76. *Id.* §§ 14-137-24 to -26.

77. *Id.* §§ 14-137-99 to -106.

78. Ediriweera Desapriya et al., *Bull Bars and Vulnerable Road Users*, 13 TRAFFIC INJ. PREVENTION 86, 88-89 (2012); LOUISE BUTCHER, MOTOR VEHICLES: BULL BARS 2 (2009).

79. Angie Schmitt, *Outlawed Abroad, Killer "Bull Bars" Are the Hot Fashion Accessory for Police Departments*, STREETS BLOG: USA (Aug. 2, 2018), <https://usa.streetsblog.org/2018/08/02/outlawed-abroad-killer-bull-bars-are-the-hot-fashion-accessory-for-police-departments> [<https://perma.cc/6F5E-4BUH>]; David Zipper, *How Cities Can Reclaim Their Streets from SUVs*, BLOOMBERG: CITYLAB (Sept. 17, 2020, 6:00 AM), <https://www.bloomberg.com/news/articles/2020-09-17/how-cities-could-push-back-on-pickups-and-suvs> [<https://perma.cc/2S3Z-NPSD>].

80. See Letter from NHTSA Chief Counsel Frank Seales, Jr., U.S. DEP'T OF TRANSP.: NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/interpretations/18747ztv> [<https://perma.cc/YQG9-7TCS>]; see also Letter from NHTSA Acting Chief Counsel John Womack, U.S. DEP'T OF TRANSP.: NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/>

As the NHTSA regulation on bull bars exemplifies, there is a persistent trend in regulators at all levels to prioritize passenger safety and consumer expense. Unfortunately, this priority comes at the expense of pedestrians and other nondrivers.

2. Emissions System Design

Regulators have weighed trade-offs between costs to consumers, public health, and the environment in the area of emissions. The federal government plays as dominant a role here as it does with body design. Yet there is a robust debate (and several ongoing lawsuits involving nearly half the states) about the role of states in emissions regulation.

The federal government has enacted various performance standards that aim to cap vehicle emissions. Chief among these are fuel economy standards established by the Environmental Protection Agency and NHTSA and applicable to new cars.⁸¹ Fuel economy standards specify how many miles a vehicle must travel per gallon; the higher the number of miles, the less gas is used, and the fewer emissions created. In 2020, the Trump administration adopted the Safer Affordable Fuel-Efficient (“SAFE”) standard, which significantly slowed adoption of more stringent fuel economy standards.⁸² Federal regulators claimed that less stringent standards would ensure lower prices for new cars, thus enticing more consumers to abandon less safe and less efficient cars. However, it seems likely that federal regulators overestimated the consumer benefits of SAFE.⁸³

The federal government also regulates emissions of existing vehicles. Under the Clean Air Act, the Environmental Protection Agency sets standards

interpretations/brookvilrbm [<https://perma.cc/BCX6-LGNX>] (“States have the authority to regulate modifications that individual vehicle owners may make to their own vehicles.”).

81. See 49 U.S.C. § 32902 (2018); *Regulations for Onroad Vehicles and Engines*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-onroad-vehicles-and-engines> [<https://perma.cc/GT6Z-PGEV>] (last updated Dec. 18, 2020); *Corporate Average Fuel Economy (CAFE) Standards*, U.S. DEP’T OF TRANSP. (Aug. 11, 2014), <https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards> [<https://perma.cc/Z8TR-XTBX>].

82. SAFE, U.S. DEP’T OF TRANSP.: NAT’L HIGHWAY TRAFFIC SAFETY ADMIN. (Mar. 31, 2020), <https://www.nhtsa.gov/corporate-average-fuel-economy/safe> [<https://perma.cc/WA6R-R6VQ>]; see *Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-passenger-cars-and> [<https://perma.cc/6LKT-BT5T>] (last updated Aug. 12, 2020). The prior standard increased fuel economy standards by five percent each model year, while the SAFE standard increases standards by just one and one-half percent. See 49 U.S.C. § 32902; *Regulations for Onroad Vehicles and Engines*, *supra* note 81; *Corporate Average Fuel Economy (CAFE) Standards*, *supra* note 81.

83. See Romany Webb, *Five Important Points About the EPA’s “SAFE Vehicle Rule”*, EARTH INST.: STATE OF THE PLANET (Aug. 7, 2018), <https://blogs.ei.columbia.edu/2018/08/07/five-points-epa-safe-vehicle-rule> [<https://perma.cc/CR7D-MD5X>].

for the allowable levels of air pollutants, including greenhouse gases.⁸⁴ States are responsible for implementing the federal program, but Congress has expressly allowed NHTSA to grant California a waiver to adopt and enforce more stringent emissions standards.⁸⁵ Waivers must be granted unless: (1) the state “was arbitrary and capricious in its finding that its standards are, in the aggregate, at least as protective of public health and welfare as applicable federal standards;” (2) the state “does not need such standards to meet compelling and extraordinary conditions; or” (3) “such standards and accompanying enforcement procedures are not consistent with . . . the Clean Air Act.”⁸⁶

Pursuant to these rules, California obtained its first waiver in 1968.⁸⁷ The waiver enabled the state to adopt an advanced clean car regulation, including a zero-emission vehicles program, and establish greenhouse gas emissions caps.⁸⁸ More than 20 states incorporated California’s standards into their own laws. In 2019, however, the Trump Administration revoked California’s waiver with the intent to obliterate the regulatory scheme in every state using it, on two primary grounds.⁸⁹ The Administration stated that the California standards are not required “to meet compelling and extraordinary conditions” specific to California.⁹⁰ The NHTSA also claimed California’s greenhouse gas emissions mandate functioned as fuel economy regulation and thus was preempted by the SAFE vehicles rule.⁹¹ Several lawsuits by 23

84. 42 U.S.C. § 7521(a)(1); Clean Air Amendments of 1970, Pub. L. No. 91-604, §§ 6(a), 15(c)(2), 84 Stat. 1676, 1690, 1713; *Massachusetts v. EPA*, 549 U.S. 497, 528 (2007) (holding that greenhouse gas emissions are in the Clean Air Act’s regulatory scope).

85. 42 U.S.C. § 7543; Air Quality Act of 1967, Pub. L. No. 90-148, § 208, 81 Stat. 485, 501.

86. 42 U.S.C. § 7543; *Vehicle Emissions California Waivers and Authorizations*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/state-and-local-transportation/vehicle-emissions-california-waivers-and-authorizations> [<https://perma.cc/8EC9-X353>] (last updated Feb. 20, 2020).

87. California State Standards; Waiver of Application of Section 208, Clean Air Act, 33 Fed. Reg. 10,160, 10,160 (July 16, 1968).

88. See CAL. CODE REGS. tit. 13, §§ 1961.3, 1962.2 (2021); Emily Wimberger & Hannah Pitt, *Come and Take It: Revoking the California Waiver*, RHODIUM GRP. (Oct. 28, 2019), <https://rhg.com/research/come-and-take-it-revoking-the-california-waiver> [<https://perma.cc/YL66-ZBNY>]; Thomas M. Donnelly & Nicholas M. Faas, *Challenges to Safer Affordable Fuel-Efficient Vehicles Rule Keep Coming*, JONES DAY: INSIGHTS (July 2020), <https://www.jonesday.com/en/insights/2020/07/challenges-to-safer-affordable-fuefficient-vehicles-rule-keep-coming> [<https://perma.cc/7WFN-VNVF>].

89. *California & the Waiver: The Facts*, CAL. AIR RES. BD. (Sept. 17, 2019), <https://ww2.arb.ca.gov/resources/fact-sheets/california-waiver-facts> [<https://perma.cc/ZAZ5-VSEV>].

90. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program, 84 Fed. Reg. 51,310, 51,339 (Sept. 27, 2019) (codified at 40 C.F.R. pts. 85 & 86 and 49 C.F.R. pts. 531 & 533).

91. See The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 85 Fed. Reg. 24,174, 24,182 (Apr. 30, 2020) (codified at 40 C.F.R. pts. 86 & 600 and 49 C.F.R. pts. 523, 531, 533, 536 & 537).

states and other parties seeking to restore the waiver are pending in federal court.⁹²

States' adoption of more stringent emissions requirements has significant benefits. Because vehicles can freely travel across state lines and frequently move around the country, car manufacturers have generally decided to comply with California's rules, even when selling cars in states not subject to them. State laws have therefore influenced vehicle production in a positive way—one of the supposed benefits of federalism.

* * *

This overview of both body and emissions system design standards reinforces concerns about the street design standards. National vehicle standards prioritizing the car industry and drivers and their pocketbooks take precedence over the safety of non-drivers and the costs of inadequate vehicle design to society as a whole. Inertia prevails even in the face of effective vehicle design improvements in Europe and elsewhere.⁹³ And, as in the case with street design standards, vehicle design standards are almost exclusively adopted at the national level—and efforts are underway to stop states from innovating to adopt standards to improve air quality and public health.

IV. EVALUATING FEDERALISM IN THE DESIGN STANDARDS

Talking about federalism in the abstract often yields broad overgeneralizations about its characteristics and its merits.⁹⁴ Despite the diverse ways federalism can be described, particular regulatory schemes must be evaluated on their own terms. That is why this Essay takes up Heather Gerken's call to examine "which flavor of federalism best fits a given context."⁹⁵ As Part III revealed, federalism is hanging on by a thread in the

92. See generally Complaint for Declaratory and Injunctive Relief, *California v. Chao*, No. 1:19-cv-02826 (D.D.C. Sept. 20, 2019) (providing some examples of pending cases and court filings seeking to restore the waiver); Petition for Review, *Union of Concerned Scientists v. Nat'l Highway Traffic Safety Admin.*, No. 19-1230 (D.C. Cir. Oct. 28, 2019) (same); Petition for Review, *California v. Wheeler*, No. 20-1357 (D.C. Cir. Sept. 14, 2020) (same). For additional information, see also *California v. Chao*, CLIMATE CASE CHART, <http://climatecasechart.com/case/california-v-chao> [<https://perma.cc/Y3FQ-H65W>] (providing additional information on the above-cited cases); *Union of Concerned Scientists v. National Highway Traffic Safety Administration*, CLIMATE CASE CHART, <http://climatecasechart.com/case/union-of-concerned-scientists-v-national-highway-traffic-safety-administration> [<https://perma.cc/ATF3-HTDW>] (same).

93. See *supra* Section III.B.2.

94. See, e.g., Larry Kramer, *Understanding Federalism*, 47 VAND. L. REV. 1485, 1485 (1994) (explaining that scholars disagree on whether federalism generally "improves government or impedes progress, enhances freedom or permits racism, fosters participatory democracy or entrenches local elites, facilitates regulatory diversity or creates races to the bottom, protects individual liberty or encourages tyranny, promotes responsible fiscal policy or generates inexorable pressures to expand government").

95. Heather K. Gerken, *Our Federalism(s)*, 53 WM. & MARY L. REV. 1549, 1552 (2012).

street-design context, and it is increasingly discordant in the vehicle-design context. In both instances, an unhealthy legal culture has led to dysfunction that undermines three key values that federalism promises: representation, innovation, and liberty. This Part takes a deeper look at how these values are threatened by the particular legal cultures surrounding both regulatory schemes.

A. REPRESENTATION

One of the potential advantages of federalism is that it enables participatory democracy.⁹⁶ People can influence the policymaking process at multiple levels, the theory goes, and this access not only has intrinsic value, but may result in better outcomes.

For all of this to be true, however, participatory mechanisms must be sound, in the Pitkin tradition. At a minimum, there must be a mechanism by which a diverse group of constituents can provide actionable comment to decision-makers in the rule-making process. Unfortunately, there is no such mechanism for the adoption of either street or vehicle design standards. On paper, the public is invited to participate: Federal, State, and local governments generally hold hearings or accept written testimony during the process of adopting laws and regulations. Administrative law requires decision-makers to at least consider such comments. In reality, however, public comment in the street and vehicle design context feels like a sham—primarily because of the role of nongovernmental, professional membership associations.⁹⁷

The influence of such associations is particularly pronounced in the adoption of street standards. As noted above, three associations—AASHTO, the ICC, and the NCUTCD—dictate, in different ways, the layout and operation of most paved streets in the country.⁹⁸ At the federal level, the AASHTO Green Book and the NCUTCD's MUTCD are formally adopted by statute and by regulation for most federal roads. In addition, state and local laws enshrine both standards, as well as fire codes, which regulate width, one of the most important geometric factors of street design. These manuals and codes originate not in public processes but in years-long, closed discussions among members. When an update is complete, it is identified by year or version number, and it stands as a unified whole.

Governments will periodically adopt newer versions of these third-party street standards. But because of the structure of the adoption process by the organizations that create them, the content of any newer versions is a fait accompli. An ordinary person expressing concerns about, say, the impact of specific intersection design requirements in the Green Book on disabled

96. See *supra* Section II.B.1.

97. See *supra* Part III.

98. See *supra* Section III.A.

pedestrians, has no practical mechanism requiring AASHTO to revise the Green Book to improve the specific design requirement, nor is it likely that a governmental agency will accept a proposal as a stand-alone amendment.

In failing to incorporate public comment, the adoption process also fails to facilitate a range of views that can improve outcomes. The associations from which the street standards derive generally lack racial-ethnic, socioeconomic, and professional diversity.⁹⁹ Their leadership and membership reflect the demographics of professions that are predominantly white and male. Moreover, members tend to share a worldview: They are mostly technical experts who prioritize, and are trained to achieve, the smooth operation of vehicular traffic.¹⁰⁰ Presumably most lack training in urban planning or spatial psychology, or a grounding in transportation inequality.

In addition, two of the three street design guidelines are only accessible to the general public for a fee.¹⁰¹ Thus, people cannot understand the laws unless they can afford to pay. This may change, with current litigation about whether private-association codes that are adopted as law may be copyrighted.¹⁰² The Supreme Court recently said “copyright does not vest in works that are (1) created by judges and legislators (2) in the course of their judicial and legislative duties.”¹⁰³ Applying this government edicts doctrine to street standards would help safeguard the public’s interest in being able to read the laws that bind them.

Thankfully, private association influence is not nearly as problematic in the vehicle standards. Most vehicle standards are developed by federal government professionals and their consultants through a fairly technical rule-making process. Still, most ordinary people cannot influence specific vehicle standards, because they will not have access to crash test data or

99. See *Civil Engineers*, DATA USA, <https://datausa.io/profile/soc/civil-engineers> [<https://perma.cc/AC6Y-VSWA>] (listing an 83.4 percent male and 71.3 percent white workforce for civil engineers); *Industrial Engineers, Including Health & Safety*, DATA USA, <https://datausa.io/profile/soc/industrial-engineers-including-health-safety#demographics> [<https://perma.cc/4W5F-PE2X>] (listing a 79.8 percent male and 70 percent white workforce for industrial engineers).

100. See generally TOM VANDERBILT, *TRAFFIC: WHY WE DRIVE THE WAY WE DO (AND WHAT IT SAYS ABOUT US)* (2009) (discussing how traffic is created by, among other things, experts’ misunderstanding of human behavior and preferences).

101. *Publication Detail: A Policy on Geometric Design of Highways and Streets, 7th Edition*, AM. ASS’N OF STATE HIGHWAY & TRANSP. OFFS.: STORE, <https://store.transportation.org/item/collectiondetail/180> [<https://perma.cc/SM5C-BESB>] (selling the book to the general public for \$388 for hard copy and \$310 for digital download); *2021 International Fire Code*, INT’L CODE COUNCIL, <https://shop.iccsafe.org/codes/2021-international-fire-coder.html> [<https://perma.cc/BQA2-926P>] (selling the code to the general public for \$8.60 per month for a digital rental and \$127 for a softcover). The MUTCD, published by a government agency, is available without charge.

102. See generally *Int’l Code Council, Inc. v. UpCodes, Inc.*, No. 17 Civ. 6261 (VM), 2020 WL 2750636 (S.D.N.Y. May 27, 2020) (discussing the ICC’s copyright infringement claim against a company that has posted the ICC’s codes on their website).

103. *Georgia v. Public.Resource.Org, Inc.*, 140 S. Ct. 1498, 1508 (2020).

scientific studies needed to rebut government findings, and they will not have the technical knowledge needed to speak the language of regulators. Of course, this is a significant problem with the administrative state in general.

B. INNOVATION

A second potential advantage of federalism is that it enables innovation by different levels of government. Smaller units of governments, it is said, can experiment with different methods of regulation and craft unique and interesting solutions to regulatory problems.

Unfortunately, positive experimentation regulating street and vehicle design is not a practical reality. Mashaw and Harfst observe that “continuous and surprisingly sharp pressures on regulatory structures and regulatory behavior[s]” hinder adaptation.¹⁰⁴ Even if most subnational governments will be too burdened by inertia, high start-up costs, and network externalities, among other things, to aspire to create their own design standards, those that do are wary of deviating too far from national standards. In vehicle design, federal actors have invoked preemption to hinder the ability of other governments to advance their own regulatory frameworks improving on federal standards. Similarly, the application of sovereign immunity doctrine constrains innovation in street design because it leads decision-makers to believe that innovation will be punished. This Section addresses the question of why, if states and local governments technically may and actively do wish to deviate from national standards, they do not.

1. Preemption

Preemption generally occurs when a higher governmental authority legislates in a particular subject area, and either expressly confirms its intent to preempt lower government authorities, or impliedly preempts by requiring conduct in conflict with what a lower authority requires, or by occupying the field in a pervasive way. Federal preemption often occurs where national rules help avoid interstate conflicts or harms or can promote values, such as national security and defense policy, essential to shared national interests. Courts vary on how Congress might demonstrate its intent to occupy the field. Express statutory language is certainly clearest, but other indications of intent include the regulatory system’s pervasiveness and complexity, and the dominance of the federal interests involved.

Even with this highly simplified context, clearly Congress should, as it does, occupy the regulatory field when it comes to interstate highways and federal roads. This infrastructure serves national interests and federal funds build it. Allowing states to establish their own guidelines for federal infrastructure would create chaos in procurement, construction, and maintenance. While clearly asserting their authority in highways and federal

104. MASHAW & HARFST, *supra* note 13, at 9.

roads, federal actors have not attempted to *directly* regulate the design of state and local roads. Such roads are more likely to serve subnational interests and be funded primarily with nonfederal funds.

When it comes to vehicle design standards, the balance of power has not been so clearly established. Strong arguments exist for Congressional occupation of most of that regulatory field. Vehicles can easily travel across state lines, and having 50 different rules for their design would present car manufacturers with an impossible burden, not to mention posing safety hazards to drivers. For these reasons, federal agencies establish standards constraining vehicle design and setting baseline thresholds for emissions systems.

Yet Congress has chosen not to regulate all aspects of vehicle design. As noted in Part III, Congress does not regulate most after-market additions to a vehicle's body, and it has expressly indicated an intent to allow California to obtain a waiver to adopt and enforce emissions standards that are stricter than federal standards.¹⁰⁵ The Trump Administration's 2019 revocation of California's longstanding waiver is currently being litigated. The revocation illustrates the perils for states of acting even when Congress has expressed an intent to allow them to do so.

The frequently shifting political and doctrinal mess of preemption law is well-known.¹⁰⁶ Legal scholars increasingly support the establishment of an anti-preemption presumption: that is, a presumption that the states can act. Calling for greater scrutiny of agency actions, Tom Merrill suggests that courts should not defer to agencies' interpretations about the preemptive effect of statutes or their own regulations.¹⁰⁷ Roderick Hills, meanwhile, has argued for an anti-preemption rule for statutory construction, on the theory that states are better situated to enact laws affecting business interests, and business groups are better positioned than non-business groups to mobilize congressional preemption of state rules.¹⁰⁸ In this view, states can help set the agendas for national government by lawmaking. And in a paper focusing

105. See *supra* Part III; *supra* note 85 and accompanying text.

106. See, e.g., Linda S. Mullenix, *Strange Bedfellows: The Politics of Preemption*, 59 CASE W. RESRV. L. REV. 837, 839 (2009) (focusing "on the politics of preemption, [and] exploring the political and policy bases undergirding the doctrine"); Jesse Merriam, *Preemption as a Consistency Doctrine*, 25 WM. & MARY BILL RTS. J. 981, 983 (2017) (discussing "the mass and welter that we know as preemption law" and "the 'chaos' pervading the doctrine"); Viet D. Dinh, *Reassessing the Law of Preemption*, 88 GEO. L.J. 2085, 2085 (2000) (stating that "the Supreme Court's numerous preemption cases follow no predictable jurisprudential or analytical pattern"); Mary J. Davis, *Unmasking the Presumption in Favor of Preemption*, 53 S.C. L. REV. 967, 968 (2002) (calling preemption doctrine "exceedingly puzzling"); Susan Raeker-Jordan, *The Pre-Emption Presumption that Never Was: Pre-Emption Doctrine Swallows the Rule*, 40 ARIZ. L. REV. 1379, 1381 (1998) (discussing "the Supreme Court's lenient [preemption] doctrine and its lack of clarity").

107. See Thomas W. Merrill, *Preemption and Institutional Choice*, 102 NW. U. L. REV. 727, 729–30 (2008).

108. Roderick M. Hills, Jr., *Against Preemption: How Federalism Can Improve the National Legislative Process*, 82 N.Y.U. L. REV. 1, 17 (2007).

primarily on environmental law, Erin Ryan goes one step further by arguing for a “judicial presumption against preemption” to safeguard state and local autonomy.¹⁰⁹ If the court adopts any of these views in the California waiver litigation, it will be more likely to favor the states’ interests, even before reaching the merits of the underlying statutory construction claims, including what constitutes compelling and extraordinary conditions requiring a waiver.

Judicial decisions and agency interpretations matter because they can discourage states from innovating in the direction of beneficial outcomes. The California standards, for example, significantly reduce greenhouse gas emissions in cars subject to them. But, more importantly, even though not all states have opted in to the California requirements, manufacturers have an incentive to voluntarily ensure that all their new vehicles meet a more stringent standard instead of producing two separate fleets.¹¹⁰ The fact that California has been allowed to regulate at all has forced significant, likely life-saving changes across the car manufacturing industry. This impact should be encouraged. Instead, current agency and judicial interpretations of preemption deter state innovation and undermine the promise of federalism.

2. Immunity

Meanwhile, a significant legal barrier to innovation in street design is the lack of clarity regarding local government immunity. The federal and state governments typically enjoy absolute immunity from suit, except where they have expressly legislated to subject themselves to suit. A handful of states have expressly established local immunity for street design.¹¹¹ Outside of those states, the status of local government immunity remains unclear. Local governments’ immunity often depends on balancing a variety of factors, including whether a state law renders them immune in conducting certain activities; whether their activities are governmental (relating to their origins as a subdivision of the state) or proprietary functions, for which they will not be immune; and whether their activities are based in policy or merely responsive to a particular condition.

Local immunity matters because local governments (including counties, municipal, and other non-state, non-federal jurisdictions) are responsible for 77 percent of roads in this country.¹¹² With very few exceptions, these roads are designed to satisfy the standards of the AASHTO Green Book, fire codes,

109. Erin Ryan, *The Twin Environmental Law Problems of Preemption and Political Scale*, in ENVIRONMENTAL LAW, DISRUPTED (Keith Hirokawa & Jessica Owley, eds., forthcoming 2021) (manuscript at 3).

110. See *Corporate Average Fuel Economy Standards / Greenhouse Gas Standards*, ENV’T & ENERGY L. PROGRAM (Sept. 27, 2017), <https://eelp.law.harvard.edu/2017/09/corporate-average-fuel-economy-standards-greenhouse-gas-standards> [<https://perma.cc/3S9M-CDHZ>].

111. See, e.g., N.M. STAT. ANN. § 41-4-11(B)(1) (West 2020); S.C. CODE ANN. § 15-78-60(15) (2005); WYO. STAT. ANN. § 1-39-120(a)(i) (2019).

112. *Highway Statistics 2017*, *supra* note 40.

and the MUTCD. But these standards, unfortunately, prioritize cars at the expense of non-driver safety, and erode quality of place. Simultaneously, local leaders are increasingly recognizing that wide streets that encourage driving have serious collateral consequences, including increasing pedestrian and bicyclist fatalities and causing climate-change. Given these issues, local leaders are eager to implement safer “slow streets,” multi-modal configurations, and narrow lanes.¹¹³ But before they depart from the more common, national standards, they must understand whether and how these decisions are protected.

Local governments are responsible for the maintenance and construction of streets.¹¹⁴ However, in a majority of states, they may not be liable for negligence related to street *design*, if a design decision is made subject to a broad policy or if the design was selected or created by professionals reasonably exercising their responsibilities as government employees.¹¹⁵ Regarding broad policy, one scholar has convincingly argued that local governments prioritizing pedestrian safety over vehicle speed cannot be held liable for consequences of the corresponding street design, such as narrowed travel lanes.¹¹⁶

Regarding government professionals, courts have typically granted immunity to local governments whose employees used AASHTO and the other traditional national standards, such as the MUTCD and the fire code, to design streets.¹¹⁷ In practice, these traditional standards provide a safe harbor; because following them allows a locality to establish a regulatory compliance defense in tort claims.¹¹⁸ For that reason, few jurisdictions have

113. From Boston to San Francisco, cities across the United States have been implementing “slow streets,” particularly in 2020, amid the COVID-19 pandemic. See Joseph Glandorf, *Slow Streets Movement Looks to Reimagine Urban Spaces Amid Coronavirus Pandemic*, ENV’T & ENERGY STUDY INST. (Sept. 15, 2020), <https://www.eesi.org/articles/view/slow-streets-movement-looks-to-reimagine-urban-spaces-amid-coronavirus-pandemic> [<https://perma.cc/27H9-CZ6M>]; *Streets for Pandemic Response and Recovery: Slow Streets*, NAT’L ASS’N OF CITY TRANSP. OFFS., <https://nacto.org/publication/streets-for-pandemic-response-recovery/emerging-street-strategies/slowstreets> [<https://perma.cc/EgMS-XZLL>].

114. See *Weightman v. Corp. of Wash.*, 66 U.S. (1 Black) 39, 52 (1861) (“[Municipalities must] keep their highways safe and convenient for travelers by day and by night.”).

115. See Don F. Vaccaro, Annotation, *Liability of Governmental Entity or Public Officer for Personal Injury or Damages Arising out of Vehicular Accident Due to Negligent or Defective Design of a Highway*, 45 A.L.R.3d 875, § 7 (1972).

116. Michael Lewyn, *Why Pedestrian-Friendly Street Design Is Not Negligent*, 47 U. LOUISVILLE L. REV. 339, 360–62 (2008).

117. *Id.* at 339–40; see also Debra L. Stephens & Bryan P. Harnetiaux, *The Value of Government Tort Liability: Washington State’s Journey from Immunity to Accountability*, 30 SEATTLE U. L. REV. 35, 51 n.95 (2006) (noting that “negligence [can] be established by reference to the [MUTCD] standards”); *North Dakota Supreme Court Review*, 61 N.D. L. REV. 55, 78 (1985) (discussing a negligence action which relied on the MUTCD to identify duty to erect proper construction site signage).

118. See, e.g., Richard C. Ausness, H. Lee Barfield II, David A. King, Joshua R. Denton & Stephen J. Jasper, *Providing a Safe Harbor for Those Who Play by the Rules: The Case for a Strong*

tested alternatives to AASHTO; just a few dozen municipalities, for example, have adopted the National Association of City Transportation Officials' design guidelines, which incorporate the needs of non-drivers to a greater extent than the AASTHO standards.¹¹⁹ It is unclear whether local governments adopting alternatives to AASHTO standards will be granted immunity, because cases challenging alternative designs have not been through the courts.

But blind adherence to AASHTO standards will not necessarily absolve a municipality from liability. For instance, the New York Court of Appeals imposed liability on New York City for its failure to provide traffic calming measures.¹²⁰ At issue in that case was the death of a Brooklyn boy killed by a driver operating a vehicle at 54 miles-per-hour in a 30-mile-per-hour zone. The outcome is unique in protecting non-drivers: No other state supreme court has ruled the same under analogous facts. Even New York continues to recognize that where there is "a deliberate and reasonable planning decision made to ensure the safety of pedestrians," government will be immune.¹²¹

C. LIBERTY

Finally, federalism can protect individual liberty¹²²—a concept that receives less scholarly attention than representation and innovation. The representation frame focuses on the adoption process, and the innovation frame focuses on the nature of the laws, while the liberty frame focuses exclusively on substantive outcomes. The primary evaluative questions here are whether federalist systems enhance freedom by protecting people from known or knowable harms, or by institutionalizing an appropriate amount of choice and agency.

Reviewing the liberty impact of the street and vehicle design standards requires a rights-based, outcomes-focused lens. It also requires weighing the rights of some people against the rights of others. Statistics show that the rights of drivers and car owners are maximally protected in the current scheme of vehicle design regulation. This protection, however, comes at the expense of all other roadway users. In the current system, drivers do not pay for, nor are they necessarily aware of, the costs they impose on others. In a Coasian world, the cheapest cost avoider is the driver, but design standards

Regulatory Compliance Defense, 2008 UTAH L. REV. 115, 123–24; Paul Dueffert, Note, *The Role of Regulatory Compliance in Tort Actions*, 26 HARV. J. ON LEGIS. 175, 191–92 (1989).

119. See *About NACTO*, NAT'L ASS'N OF CITY TRANSP. OFFS., [www.nacto.org/about](https://perma.cc/7W8Z-SXLG) [https://perma.cc/7W8Z-SXLG].

120. *Turturro v. City of New York*, 68 N.E.3d 693, 707–08 (N.Y. 2016) (upholding jury verdict). New York considers the duty to keep streets safe to be a proprietary function, thus allowing liability to be imposed on municipalities for failure to do so. See *id.* at 701.

121. *Enker v. County of Sullivan*, 162 A.D.3d 1366, 1368 (N.Y. App. Div. 2018).

122. See *supra* Section II.B.3.

fail to impose costs on drivers that account for the negative externalities they create.¹²³

For example, regulations that require manufacturers to add pedestrian safety features or reduce emissions could increase the cost of cars. Such features include advanced driver assistance systems, blind spot warnings, automatic emergency braking systems, and ignition technology. These costs would be borne by the car's purchaser, the person most likely to be the driver. Similarly, changes in street design that are intended to protect non-drivers—say, bulb-outs and narrower lanes—may also slow traffic. Again, the burden of lost time, however modest, would fall on the driver. To explain why these design features are not generally required, we may look to the role of the consumer. The rational, car-buying consumer may want a car that protects them, and roads that enable efficient trips. These goals align with industry goals of making driving appealing, safe (for drivers), and fast. There is therefore a built-in conflict between car-driving consumers, who may want less regulation, and non-car-driving people, who may want more.

Assessing vehicle design through this lens highlights another failure. Regulations focused on externalities created by drivers—and imposed on non-drivers—would advance liberty, but they have not been championed by either federal or state governments. Not only has the federal government implemented laws that favor drivers, but states are nearly nonexistent in that regulatory sphere—to the point where some might argue that federalism, if it exists at all here, has a “roll-over-and-play-dead” quality. Without state activity, people cannot escape by “voting with their feet.”

It is important to understand why the right kinds of rules matter: they might mean life (the ultimate liberty) or death. In the United States, pedestrian fatalities “increased from about 4,400 in 2008 to . . . 6,300 in 2018.”¹²⁴ There are many variables involved, but vehicle type plays a role: The number of pedestrian crashes increased among vehicles 11 years old or older, and among SUVs.¹²⁵ Pedestrian fatalities may increase further, as in just a few years SUVs may account for four in every five car sales.¹²⁶

By contrast, in the European Union (“EU”), pedestrian fatalities decreased over a similar period. In 2016, 5,320 pedestrians were killed in the EU, which represents a 36 percent decrease compared with the 8,342 killed

123. See generally Ian W. H. Parry, Margaret Walls & Winston Harrington, *Automobile Externalities and Policies*, 45 J. ECON. LITERATURE 373 (2007) (cataloguing vehicle externalities not accounted for by imposing costs on the driver).

124. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 65, at 1.

125. *Id.* at 13.

126. Jack Walsworth, *Car Sales on Pace to Hit 60-Year Low*, AUTO. NEWS (July 2, 2018, 1:00 AM), <https://www.autonews.com/article/20180702/RETAIL01/180709977/car-sales-on-pace-to-hit-60-year-low> [<https://perma.cc/N8LT-6LFL>] (mentioning trucks, SUVs, and crossovers “could account for 75 to 80 percent of . . . sales by 2025”).

in 2007.¹²⁷ This decrease could be due to a variety of factors, including stronger regulation of vehicles and a deliberate approach to inclusive street design. The European Commission has created a framework for regulating vehicles to protect non-drivers' well-being. It has also studied active crash prevention systems, such as sensors.¹²⁸ Pedestrian and cyclist concerns are mentioned far more frequently in European Commission guidance than in U.S. guidance.¹²⁹ And while both the EU and the United States signed a treaty concerning global technical regulations, the United States has not worked to realize its obligations.¹³⁰ In particular, Global Technical Regulation No. 9, which was created as part of the treaty, aims to improve pedestrian and bicyclist safety by requiring vehicle hoods and bumpers that "absorb energy more efficiently" during a collision.¹³¹ As noted above, American bumper standards focus on mitigating damage to the vehicle itself. Some automakers claim that the American bumper standards actually make it difficult to create softer bumpers, as compared with Europe where there is no analogous bumper standard.¹³² Global Technical Regulation No. 9 also includes a standard for pedestrian crash mitigation tests, though none have been implemented in the United States.¹³³ The EU, meanwhile, has already begun incorporating pedestrian crash avoidance system tests.¹³⁴

The brief comparison illustrates the deficiencies of the United States' regulatory approach and demonstrates that a balance between the liberties of

127. EUR. ROAD SAFETY OBSERVATORY, EUR. COMM'N, TRAFFIC SAFETY BASIC FACTS 2018: PEDESTRIANS 2-3 (2018), https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/statistics/dacota/bfs20xx_pedestrians.pdf [<https://perma.cc/X5F6-X92S>]. The EU figures here exclude Lithuania and Slovakia. *Id.* at 2.

128. See *Prevent: Preventive and Active Safety Application*, EUR. COMM'N: TRANSP. RSCH. & INNOVATION MONITORING & INFO. SYS., <https://trimis.ec.europa.eu/project/preventive-and-active-safety-application#tab-results> [<https://perma.cc/QP6X-74EZ>]; *APROSYS: Advanced Protection Systems*, EUR. COMM'N: TRANSP. RSCH. & INNOVATION MONITORING & INFO. SYS., <https://trimis.ec.europa.eu/project/advanced-protection-systems> [<https://perma.cc/E788-UFSB>].

129. See EUR. ROAD SAFETY OBSERVATORY, EUR. COMM'N, VEHICLE SAFETY 5-6 (2018), https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/ersosynthesis2018-vehiclesafety.pdf [<https://perma.cc/5RKV-5B7R>]; *Pedestrians*, EUR. COMM'N: MOBILITY & TRANSP., https://ec.europa.eu/transport/road_safety/users/pedestrians_en [[https://perma.cc/GN\]4-VPJX](https://perma.cc/GN]4-VPJX)].

130. Agreement Concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts Which Can Be Fitted and/or Be used on Wheeled Vehicles addendum 9, Nov. 12, 2008, U.N. Doc. ECE/TRANS/180/Add.9; see *Pedestrian Safety: NHTSA Needs to Decide Whether to Include Pedestrian Safety Tests in Its New Car Assessment Program*, U.S. GOV'T ACCOUNTABILITY OFF. (Apr. 23, 2020), <https://www.gao.gov/products/GAO-20-419> [<https://perma.cc/UY9A-A33N>].

131. *Id.*

132. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 65, at 3, 8-9, 27 (describing how eight of the 13 auto makers interviewed felt that U.S. bumper standards presented a challenge to making more pedestrian friendly bumpers, and these 13 auto makers accounted for 70 percent of new vehicle sales in the U.S. in 2018).

¹³³ See *id.* at 9-10.

¹³⁴ *Id.* at 10.

drivers and non-drivers is possible. Standards that promote better-designed streets and cars can protect marginalized and low-income populations that do not have access to cars. For federalism to be successful in terms of outcome, it must promote freedom for everyone, not just drivers.

V. CONCLUSIONS

Design standards of any kind have received scant attention from the legal academy. Street and vehicle design standards deserve more scrutiny, however, because they affect everyday life in ways that most other laws do not. As this Essay has shown, the current standards imperil our safety in avoidable ways. Before we can understand how to improve them, we must understand the role of federalism, and how to better harness its promise of balancing state and local interests with federal government power and of requiring accountability from government to the broad spectrum of road users.¹³⁵

In light of the problems this Essay has identified, the overriding principle in any response must be that non-drivers' interests should be better represented throughout the process of creating, implementing, and adapting street and vehicle design standards. These interests can be advanced in a variety of ways.

New standards must address the problems of industry capture and non-driver participation. Public input does not necessarily yield perfect, or necessarily better, outcomes.¹³⁶ However, the extent to which the public has been blocked from meaningful participation in the design standards, particularly those governing streets, is troubling. The current system centralizes the power to draft standards in the hands of several unaccountable trade organizations, with significant barriers to participation by the general public. If government continues to rely on such organizations for rule-making expertise, it must either require them to include non-drivers' perspectives at the drafting level or create a more robust public vetting process on association proposals. These proposals should not be presumed to be unchangeable or adopted unmodified, as is the case now.

While the current system stifles adequate representation, it also stifles innovation. Indeed, creativity is constrained by outdated legal principles that lock in national design standards with detrimental effects. Current agency and judicial interpretations of preemption deter innovation and undermine the

135. There are plenty of other problematic aspects not covered here—among them a lack of resources and coordination. *See, e.g.*, JOHN URGO, MEREDITH WILENSKY & STEVEN WEISSMAN, MOVING BEYOND PREVAILING STREET DESIGN STANDARDS: ASSESSING LEGAL AND LIABILITY BARRIERS TO MORE EFFICIENT STREET DESIGN AND FUNCTION 4 (2010), https://www.law.berkeley.edu/files/4.1_CREC_codes_and_standards.pdf [<https://perma.cc/SQE2-L5SX>].

136. *See generally* Mashaw & Harfst, *supra* note 56 (arguing that American legal culture—including strict public participation and judicial review requirements—hinders efforts to improve vehicular safety).

promise of federalism. Policymakers and judges must rethink the preemption and sovereign immunity doctrines to avoid these negative consequences.

When it comes to street design, two approaches would be beneficial. First, more states could adopt immunity statutes protecting local governments acting in good faith to advance policies focused on the whole street, which would help improve local-government confidence in healthy experimentation. Local governments must be able to design better streets, but also to close them or otherwise activate them for people. Second, more courts could allow a regulatory compliance defense for adhering to a broader set of evidence-based standards, beyond merely the Green Book and similar standards. Reforming these doctrines will result in more creative solutions that de-emphasize automobile speed and convenience. When it comes to vehicle design, overhauling outdated federal agency culture and reversing the Trump administration waiver recall are imperative. There are hopeful signs in a new Transportation Secretary as this Essay goes to press.

Protecting liberty—including first and foremost freedom from bodily harm by government—includes viewing design standards through a rights-based lens that requires policymakers to enable, instead of thwart, beneficial outcomes. It seems unlikely that a national Ralph Nader-esque figure will emerge to fight for non-drivers who may not even participate in the industry being regulated. But the persistent “it will never happen to me” perception that drivers are immune from road violence must evolve. After all, each of us is a non-driver, even if we also drive.

We have chosen the wrong balance of power among federal, state, and local authorities, and we are paying the price. Our streets have become increasingly dangerous places, occupied by increasingly dangerous vehicles. The consequences of bad design can be measured in injury and even death. This Essay argues that this outcome results from a largely ignored failure in federalism. Reforming legal culture that has ossified street and vehicle design will help achieve three key value propositions offered by federalism: representation, innovation, and liberty. Preserving these three federalism values will both vindicate the dead and protect the living.