Putting the Pieces Together: How Using Cooperative Federalism Can Help Solve the Climate Change Puzzle

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PUTTING THE PIECES TOGETHER:
HOW USING COOPERATIVE FEDERALISM
CAN HELP SOLVE THE CLIMATE
CHANGE PUZZLE

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Abstract: Comprehensive land-use development and planning at the state or national level is necessary to curb greenhouse gas emissions. A comprehensive federal approach that employs a cooperative federalism structure would be the ideal solution to the current threat posed by global climate change. In order to best implement such a system, legislators should consider the smart-growth projects in California and Georgia to ultimately decrease the emissions of greenhouse gases that result from the over-reliance on automobile transport in the United States.

Introduction

Climate change threatens human health and the environment on which we depend.1 Greenhouse gas (GHG) emissions, which cause climate change, result in incremental environmental changes that affect our daily lives and may cause catastrophic weather events.2 All nations produce these emissions, but the United States contributes an exorbitant percentage of worldwide emissions in relation to its population,3 due in large part to the nation’s reliance on automobile travel.4 Although the international community needs to make a concerted ef-

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fort,\textsuperscript{5} the U.S. government, in particular, must act decisively and swiftly to abate future effects of climate change due to its emission contributions. Currently, the federal government is taking small steps to whittle away at the problem.\textsuperscript{6} Recently, the Environmental Protection Agency (EPA) set limits on new vehicle emissions to combat climate change.\textsuperscript{7}

Comprehensive land-use development planning at the state or national level is necessary to curb GHG emissions.\textsuperscript{8} Land-use plans can decrease pollution and GHG emissions from automobiles by decreasing the distances that people travel in their cars.\textsuperscript{9} A comprehensive federal approach to smarter development should be adopted to avoid the catastrophic consequences of climate change.\textsuperscript{10} The federal government should use a cooperative federalism framework to implement statewide or regional programs based on programs in California and Georgia.\textsuperscript{11}

Part I of this Note provides a background on climate change, land-use planning, zoning, sprawl, and the negative effects of sprawl on GHG


\textsuperscript{6} See \textit{Massachusetts v. EPA}, 549 U.S. at 523–25 (discussing standing, the Supreme Court noted that agencies take incremental steps towards abating climate change); see, e.g., 49 C.F.R. §§ 531.1–.5, 533.1–.6 (2010).

\textsuperscript{7} 49 C.F.R. §§ 531.1–.5.


\textsuperscript{9} See Buzbee, \textit{supra} note 8, at 66–67; Donnellan, \textit{supra} note 5, at 711; Rawlings & Paterson, \textit{supra} note 3, at 361.

\textsuperscript{10} See LaCroix, \textit{supra} note 4, at 127 (advocating for a comprehensive land-use policy to “save the planet”).

\textsuperscript{11} See Ga. Code Ann. § 50-32 (2009); S.B. 375, 2008 Cal. Stat. 728, § 1(b), (c) (relevant regulations can be found in part in Cal. Code Regs. tit. 2, § 14,522.11 (2010)) [hereinafter SB 375]; see also Cal. Pub. Res. Code §§ 21,061.3, 21,155, 21,159.28 (West Supp. 2012). This argument is an extension of Mary D. Nichols’ argument in \textit{California’s Climate Change Program: Lessons for the Nation}, 27 \textit{UCLA J. Envtl. L. & Pol’y} 185, 212 (2009) [hereinafter Nichols, Lessons]. In that article, Nichols discusses the many statutes, administrative actions, and executive orders that California uses to combat global warming, and suggests that the federal government should use a cooperative federalism framework and model a statute on California’s “blueprint.” \textit{Id.} In Darren A. Prum & Sarah L. Catz, \textit{Greenhouse Gas Emission Targets and Mass Transit: Can the Government Successfully Accomplish Both Without a Conflict?}, 51 \textit{Santa Clara L. Rev.} 935, 965 (2011), the authors also offer the option of the federal government implementing the California model on a national basis. It is worthwhile to also look to the Georgia Regional Transportation Act for additional considerations on designing regional or statewide land-use programs. There are advantages to combining aspects of both states’ approaches to build a more effective program.
emissions. Part II discusses the regulation of GHGs through the Clean Air Act (CAA), California’s Senate Bill 375 (SB 375), and Atlanta’s Regional Transportation Act. Part III discusses how cooperative federalism—as exemplified in the CAA and the Coastal Zone Management Act—and smart growth can reduce GHG emissions. Finally, Part IV argues the federal government should lower GHG emissions and slow climate change by implementing a cooperative federalism framework for smarter growth based on the California and Georgia models.

I. THE CLIMATE CHANGE PROBLEM

Climate change is one of the most pressing negative effects associated with increased GHG emissions. The greenhouse effect regulates the Earth’s temperature. The Sun sends energy to Earth, which is then radiated back to space as heat. Some of this heat gets trapped in the Earth’s atmosphere by gases such as carbon dioxide. The combustion of fossil fuels releases GHGs, which then accumulate in the atmosphere causing an enhanced greenhouse effect and increases global temperatures. Climate change threatens to increase sea levels, cause irreversible damage to ecosystems, significantly reduce winter snowpack, increase the ferocity of weather events such as hurricanes, and increase the spread of disease.

In 2007, the United States Public Interest Research Group Education Fund (U.S. PIRG) released a report concerning global tempera-

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12 See infra notes 16–86 and accompanying text.
13 See infra notes 87–160 and accompanying text.
14 See infra notes 161–194 and accompanying text.
15 See infra notes 195–267 and accompanying text.
16 See Wood, supra note 1, at 580–84.
17 Id. at 578.
20 See Wood, supra note 1, at 579; IPCC Fourth Assessment Report, supra note 18.
21 See Owen, supra note 1, at 64–65; Joshua K. Westmoreland, Note, Global Warming and Originalism: The Role of the EPA in the Obama Administration, 37 B.C. ENVTL. AFF. L. REV. 225, 228 (2010).
22 Massachusetts v. EPA, 549 U.S. at 521–22; Intergovernmental Panel on Climate Change, supra note 2, at 30; Westmoreland, supra note 21, at 228–30.
ture changes.\textsuperscript{23} According to U.S. PIRG, temperatures have hit a record high, with the previous nine years ranking among the twenty-five warmest for the contiguous United States.\textsuperscript{24} Changing temperatures have also increased the number and severity of extreme weather events and shifted the growing seasons for many crops.\textsuperscript{25} Furthermore, rising sea levels have begun to consume coastal lands in states such as Massachusetts and California, and could cause hundreds of millions of dollars in remediation costs for property damage.\textsuperscript{26}

Carbon dioxide levels are significantly higher than in the pre-industrial era, in part because of the widespread use of automobiles.\textsuperscript{27} GHG emissions will likely continue to rise due to increased travel and a growing population.\textsuperscript{28} The United States produces a disproportionate, and exorbitantly large, amount of GHG emissions—representing only five percent of the world population, but twenty-five percent of GHG emissions.\textsuperscript{29}

Much of America’s disproportionate contribution to global GHG emissions is due to increasing automobile use, which does not appear to be slowing.\textsuperscript{30} When the EPA started regulating air pollution with the CAA in 1970, there were approximately 200 million Americans, who owned 98 million vehicles that travelled an average of 5440 miles annually.\textsuperscript{31} In 1996, there were over 265 million Americans, who owned over 198 million vehicles that drove 9357 miles annually.\textsuperscript{32} On average, Americans drive their cars about one hour each day on over four million miles of public roadways.\textsuperscript{33} Each increase in vehicle miles traveled (VMT) increases GHG emissions, which ultimately contribute to climate change.\textsuperscript{34} VMTs vary depending on how far people have to travel

\begin{enumerate}
\item U.S. PIRG, \textit{supra} note 4. Average annual U.S. temperatures are over two degrees Fahrenheit higher than they were 100 years ago. Rawlings & Paterson, \textit{supra} note 3, at 338.
\item U.S. PIRG, \textit{supra} note 4; Rawlings & Paterson, \textit{supra} note 3, at 338.
\item Rawlings & Paterson, \textit{supra} note 3, at 338; \textit{see} Owen, \textit{supra} note 1, at 65.
\item \textit{Massachusetts v. EPA}, 549 U.S. at 523.
\item \textit{See} Rawlings & Paterson, \textit{supra} note 3, at 339, 361.
\item \textit{Id.} at 341–42.
\item \textit{Id.} at 341.
\item \textit{See id.} at 361; Arnold W. Reitze, Jr., \textit{The Legislative History of U.S. Air Pollution Control}, 36 \textit{Hous. L. Rev.} 679, 692 n.97 (1999).
\item Reitze, \textit{supra} note 30, at 692 n.97.
\item \textit{Id.}
\item \textit{See} Rawlings & Paterson, \textit{supra} note 3, at 361.
\end{enumerate}
for daily activities, and could be counteracted by land-use regulations that minimize the distance individuals must travel for daily activities.

A. Land-Use Regulation

Governments enact land-use regulations to divide the uses of land for various purposes. Local governments, rather than the federal government, primarily regulate land use in the United States. Within metropolitan areas, many small communities have land-use powers. Local governments have no legal obligation to coordinate land development with their neighbors. Therefore, lack of regional planning can cause disjointed and uncoordinated growth.

Local governments have land-use responsibilities as a result of their local police power, and the Tenth Amendment’s limits on federal authority. The police power is an inherent government authority to make regulations that interfere with private activity to protect the general welfare, health, and safety of the jurisdiction. Because of this tradition in local land-use regulation, any federal intervention into this realm could be attacked as an encroachment upon the local police power.

Federal funding that is contingent on specific state behavior is constitutionally permissible, if that behavior is voluntary. The federal government violates the Tenth Amendment, however, if it coerces the states. Therefore, the federal government may influence state decisions on land use through the spending power.

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36 See Rawlings & Paterson, supra note 3, at 362; Malaczynski & Duane, supra note 35, at 80–81.
38 LaCroix, supra note 4, at 125.
39 Id.
40 Id.
41 See id.
42 See U.S. Const. amend. X; William A. Fischel, Zoning and Land Use Regulation, in Encyclopedia of Law and Economics 403, 404–05 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000); Buzbee, supra note 8, at 98–100.
43 Rohan & Kelly, supra note 37, § 1.03[2][a].
44 Buzbee, supra note 8, at 99–100.
45 See id.
46 Id. at 99–101; see U.S. Const. amend. X.
47 Buzbee, supra note 8, at 99–101.
currently use a rational cohesive land-use plan. Moreover, states often do not venture into the realm of local land-use planning.

B. Zoning

The implementation of zoning plans is a central aspect of local land use. Zoning law developed in response to public awareness about city life during the Industrial Age and its detrimental effects on public health and the environment. Typically, a locality designates zones for different uses and identifies them on a zoning map. These constraints limit what a property owner can and cannot do with their property. Zoning laws separated uses between properties and therefore prevented certain uses on abutting properties. For instance, a locality would designate the potential uses for properties as residential, commercial, or industrial. Residential zones are generally grouped together and separated from commercial and industrial zones, although mixed uses are occasionally allowed. A central tenet of zoning law is that residences are generally protected from the harmful effects of industrial usage.

The Supreme Court decided zoning was within the state’s police powers in Village of Euclid v. Ambler Realty. The village’s zoning plan prohibited the plaintiff from developing the property for industrial purposes. The plaintiff argued that the zoning plan amounted to an unconstitutional taking. The Court held, however, that this was a valid

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48 See U.S. Const. amend. X; Buzbee, supra note 8, at 99–101 (explaining the lack of federal intervention in land-use planning); LaCroix, supra note 4, at 125 (explaining how local land-planning results in irrational land uses).
49 See LaCroix, supra note 4, at 125 (noting that very few states have attempted to implement land-use controls). The Coastal Zone Management Act is one of the few statutes that uses land-use measures to achieve an environmental end. 16 U.S.C. §§ 1451–1466 (2006); see LaCroix, supra note 4, at 125–26 & n.9.
50 Fischel, supra note 42, at 403.
51 Anthony Flint, This Land: The Battle over Sprawl and the Future of America 28–30 (2006); Rog, supra note 8, at 708–09.
52 See Fischel, supra note 42, at 403–04; Rohan & Kelly, supra note 37, § 1.03[2][c].
53 See Fischel, supra note 42, at 403.
54 See id. at 403–04, 409.
55 Rohan & Kelly, supra note 37, § 1.03[2][d].
56 See id. § 1.03[2][a]; see e.g., Somerville, Mass., Ordinances art 6, § 6.4 (2009), available at http://www.cp-dr.com/node/2140 (providing an example of mixed-use zoning).
57 Rohan & Kelly, supra note 37, § 1.03[2].
59 Id. at 384–85.
60 Id. at 384.
exercise of the village’s police power.\textsuperscript{61} After \textit{Euclid}, all fifty states enacted zoning laws that led to the disjointed land-use patterns prevalent in the United States today.\textsuperscript{62}

C. Urban Sprawl

1. What Is Urban Sprawl?

Anthony Flint defined urban sprawl as “low-density development that disperses the population over the widest possible area, with rigidly separated functions—homes, shops, and workplaces—connected by limited-access roadways.”\textsuperscript{63} Another scholar, Janice C. Griffith, described sprawl as uncoordinated single-use development requiring automobiles because of its low density and lack of integrated land use.\textsuperscript{64}

This development, however, was intentional. Influential Americans, such as Henry Ford and Frank Lloyd Wright, supported an exodus from cities to the suburbs, fueled by cars and suburban development.\textsuperscript{65} “[S]uburbia has become the quintessential physical achievement of the United States.”\textsuperscript{66} By 1990, the majority of Americans lived in low-density suburbs.\textsuperscript{67}

2. What Caused Sprawl?

A confluence of the desire to escape the dirty, morally corrupt inner city, the widespread use of Euclidian zoning, and federal housing and transportation policies popularized sprawl development in the United States.\textsuperscript{68} Post-World War II federal policies encouraged sprawl development by both increasing demand for single-family homes and

\begin{itemize}
  \item [\textsuperscript{61}] Id. at 396–97.
  \item [\textsuperscript{62}] See id. at 391; \textsc{Jesse Dukeminier et al.}, \textit{Property} 838 (6th ed. 2006); LaCroix, \textit{supra} note 4, at 125.
  \item [\textsuperscript{63}] Flint, \textit{supra} note 51, at 47; Rog, \textit{supra} note 8, at 711. Anthony Flint is an author and Director of Public Affairs at the Lincoln Institute of Land Policy, a Cambridge, Massachusetts-based think tank. \textit{Faculty, Fellows and Staff}, \textsc{Lincoln Inst. of Land Policy}, http://www.lincolninst.edu/aboutlincoln/faculty_staff.asp (last visited Feb. 27, 2012).
  \item [\textsuperscript{65}] \textsc{David Owen}, \textit{Green Metropolis: Why Living Smaller, Living Closer, and Driving Less Are the Keys to Sustainability} 36, 107–09 (2009); Rog, \textit{supra} note 8, at 709.
  \item [\textsuperscript{66}] \textsc{Kenneth T. Jackson}, \textit{Crabgrass Frontier: The Suburbanization of the United States} 4 (1985).
  \item [\textsuperscript{67}] Oren, \textit{supra} note 33, at 166–67.
  \item [\textsuperscript{68}] Flint, \textit{supra} note 51, at 28–30, 34; Rog, \textit{supra} note 8, at 709–12.
\end{itemize}
developing a federal interstate highway system. The federal government also made the use of automobiles, and thus the ability to develop away from urban cores, easier by allowing drivers to externalize the costs of using roadways. One of these externalized costs is air pollution due to GHG emissions.

Areas that were previously inaccessible became available for residential and economic development. For middle class Americans, the automobile provided a means of escape from the grime of the city to the open spaces and clean air of the suburbs. It offered the ability for Americans to travel to work without the constraints of public transportation schedules. Sprawl development, however, is part of a reinforcing cycle. As people move out of the city and into the suburbs, an impoverished urban center is left behind, which in turn spawns more flight from urban areas.

Southern, southwestern, and western cities developed in the 1950s were designed around the assumption that people would commute via automobile. In the Northeast, by contrast, older cities, developed prior to the automobile, were designed to accommodate travel by foot or public transit. Vehicle trips and VMTs increased almost 3% annually from 1969 to 1990. Car ownership also increased since the signing of the CAA in 1970, with only 0.88 vehicles per licensed driver in 1969 compared to 1.21 vehicles per licensed driver in 2007. Both VMTs and au-

69 Andres Duany et al., Suburban Nation; The Rise of Sprawl and the Decline of the American Dream 7–8 (2000); Flint, supra note 51, at 34; Rog, supra note 8, at 711–12.
70 See Buzbee, supra note 8, at 84–85.
71 See id. at 84–86; Donnellan, supra note 5, at 711.
72 See Buzbee, supra note 8, at 64.
74 Id.
75 See Flint, supra note 51, at 35; Buzbee, supra note 8, at 65.
76 See Buzbee note 8, at 65.
77 See id.
78 See id. at 60; McGarity, supra note 73, at 1535.
79 Oren, supra note 33, at 160.
tomobile ownership contribute to climate change through the emission of GHGs.\textsuperscript{81}

3. Sprawl’s Detrimental Effects

Sprawl development and suburban living creates a lifestyle where citizens must use automobiles to accomplish daily tasks that they previously accomplished on foot.\textsuperscript{82} Spreading development and dependency on automobiles contributes to GHG emissions.\textsuperscript{83} The American transportation sector comprises 33\% of all carbon dioxide emissions, and this number is expected to rise to 36\% in the next 10 years.\textsuperscript{84} Transportation accounts for approximately 50\% of the net increase in total U.S. GHG emissions since 1990, making the transportation industry the fastest growing source of GHG emissions.\textsuperscript{85} Approximately 80\% of total current transportation emissions result from vehicle travel on roadways.\textsuperscript{86}

II. EXISTING LAWS REGULATING CLIMATE CHANGE AND LAND USE

A. Federal Law

1. The Clean Air Act

The federal government currently regulates greenhouse gas (GHG) emissions from automotive vehicles through the CAA.\textsuperscript{87} Prior to the CAA, there was no serious federal involvement in the field of air quality.\textsuperscript{88} Congress enacted federal legislation in response to a 1963 episode of smog-like air pollution that killed 200 people in New York City.\textsuperscript{89} At the same time, Southern California developed a chronic air pollution problem.\textsuperscript{90} Ultimately, the CAA arose from Congressional findings “that the growth in the amount and complexity of air pollution

\textsuperscript{81} See Donnellan, supra note 5, at 711; supra notes 30–36 and accompanying text.
\textsuperscript{82} See LaCroix, supra note 4, at 125.
\textsuperscript{83} Buzbee, supra note 8, at 59, 73.
\textsuperscript{84} Rawlings & Paterson, supra note 3, at 361.
\textsuperscript{85} Id.
\textsuperscript{86} Id. Additionally, researchers analyzed surveys on travel data from California households and found that households located in denser residential areas drove approximately 1200 miles less each year than households in less dense areas. Id. at 363. This research shows how vehicle miles traveled in denser areas are lower and might contribute fewer GHGs to the atmosphere. See id.
\textsuperscript{88} Reitze, supra note 30, at 696.
\textsuperscript{89} See id. at 698.
\textsuperscript{90} See id. at 696.
brought about by . . . the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare.”

By targeting different sources and types of air pollution, the CAA grants the EPA broad discretion in implementing a variety of air pollution programs. Implementation is based on a cooperative federalism framework, giving some regulatory power to the states and retaining some for the federal government. The CAA primarily regulates the emission of air pollution through two titles: Title I predominantly governs stationary sources, and Title II governs mobile sources. Stationary sources are pollution-emitting entities that stay in one place, such as factories. Mobile sources include motor vehicles, which are pollution-emitting entities that travel.

Title I strives for better air quality by setting nationwide pollution limits that states can achieve through their own regulatory measures. It also regulates ambient air quality by having the EPA set the National Ambient Air Quality Standards (NAAQS) to ensure safe levels of criteria pollutants for public health. The states must then develop State Implementation Plans (SIPs) to achieve or maintain the NAAQS. EPA-approved SIPs have the force of federal law. The cooperative federalism framework allows states to address local problems in individualized ways while meeting a federal minimum safety standard.

Title II regulates mobile sources, including cars, light-duty trucks, and diesel trucks. The Title allows the EPA to set federal emission standards for new vehicles. Title II requires the EPA to regulate any

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94 See generally id. §§ 7401–7415 (providing the provisions for Title I of the CAA).
95 See generally id. §§ 7521–7590 (providing the provisions for Title II of the CAA).
96 See id. § 7411(a)(3).
97 See id. § 7550(2).
98 Id. §§ 7408–7410.
99 42 U.S.C. § 7409. Though Title I is predominantly geared toward stationary sources, it allows states to reduce criteria pollutants in the ambient air by limiting mobile source emissions. Id. § 7408(a)(1)(B); see Donnellan, supra note 5, at 727.
100 42 U.S.C. § 7410.
101 Safe Air for Everyone v. EPA, 488 F.3d 1088, 1097 (9th Cir. 2007) (quoting Trs. for Alaska v. Fink, 17 F.3d 1209, 1210 n.3 (9th Cir. 1994)); Natural Res. Def. Council v. S. Coast Air Quality Mgmt. Dist., 694 F. Supp. 2d 1092, 1096 (C.D. Cal. 2010); see 42 U.S.C. § 7416.
103 Id. §§ 7521–7554.
104 Id. § 7521. Title II’s “technology forcing” requirements motivated automobile manufacturers to develop cleaner technologies that were not invented at the time Congress
air pollutants, not just criteria pollutants, that pose a danger to public health.\textsuperscript{105} The EPA determines if an emission is a pollutant and is dangerous to public health by making an endangerment finding.\textsuperscript{106}

2. \textit{Massachusetts v. EPA} and Endangerment Finding

Until recently, the EPA did not use the CAA to regulate GHGs emitted from new vehicles as air pollutants.\textsuperscript{107} In 2007, the Supreme Court held GHGs from new motor vehicles could be regulated under the CAA.\textsuperscript{108} In that case, Massachusetts and a number of environmental organizations sued the EPA to compel the EPA Administrator to regulate GHGs as an air pollutant under Title II of the CAA.\textsuperscript{109} The Court, contrary to arguments by the EPA, identified GHGs as air pollutants, not just in Title II, but throughout the CAA.\textsuperscript{110} The Court, however, did not require that the EPA automatically and immediately regulate GHGs under the CAA.\textsuperscript{111} The decision required the EPA to make an endangerment finding, which meant that the EPA must either find that GHGs endanger the public, that GHGs do not endanger the public, or that the Agency must explain why they could not make an endangerment finding.\textsuperscript{112} According to the Court, if GHGs endanger the public health and welfare, the CAA requires the EPA to regulate them.\textsuperscript{113}

In December 2009, the EPA issued a final endangerment finding stating that the Administrator found “six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations” and “the combined emissions of these greenhouse gases from new motor vehicles and new motor vehicle en-

\textsuperscript{105} 42 U.S.C. § 7521(a)(1).
\textsuperscript{106} \textit{Id.}; see \textit{Massachusetts v. EPA}, 549 U.S. 497, 533 (2007).
\textsuperscript{107} \textit{See} Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (highlighting that 2010 was the first year for regulation of GHG emissions).
\textsuperscript{108} \textit{Massachusetts v. EPA}, 549 U.S. at 528. The Court held that the CAA could regulate GHG emissions from new motor vehicles despite the EPA’s contentions that this piecemeal approach to climate change would conflict with the President’s attempts to address the problem. \textit{Id.} at 513, 533. This included the President’s ability to persuade nations like China and India to reduce their GHG emissions. \textit{Id.} at 513.
\textsuperscript{109} \textit{Id.} at 505. The EPA argued that GHGs were not air pollutants under the CAA. \textit{Id.} at 513.
\textsuperscript{110} \textit{Id.} at 532; Richardson, \textit{supra} note 92, at 292.
\textsuperscript{111} \textit{Massachusetts v. EPA}, 549 U.S. at 532–33; Richardson, \textit{supra} note 92, at 292.
\textsuperscript{112} \textit{Massachusetts v. EPA}, 549 U.S. at 533–35; Richardson, \textit{supra} note 92, at 292.
\textsuperscript{113} \textit{See} \textit{Massachusetts v. EPA}, 549 U.S. at 533.
gines contribute” to that potential harm. The endangerment finding requires the EPA to regulate mobile source emissions.

3. EPA Regulations in Response to the Endangerment Finding

On May 7, 2010, the EPA and the National Highway Traffic Safety Administration issued a final rule that established standards for cars and trucks in the 2012 to 2016 model years.

The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO₂) per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg) if the automotive industry were to meet this CO₂ level all through fuel economy improvements.

The EPA projects that by 2030 this rulemaking will reduce U.S. light-duty GHG emissions by twenty-one percent over what would have occurred in the absence of regulation.

B. State Law Examples

1. California Sustainable Communities Strategy and Climate Protection Act—Senate Bill 375

Recently, California enacted legislation to combat climate change by curbing GHG emissions, in part by attempting to promote smarter growth. California is the most populous U.S. state, with a population


115 See Massachusetts v. EPA, 549 U.S. at 530; Richardson, supra note 92, at 293.


118 Id. at 2. The estimated benefits of the ruling are that “over the lifetime of the vehicles sold during 2012-2016, this national program is projected to reduce U.S. greenhouse gas emissions by 960 million metric tons and save 1.8 billion barrels of oil.” Id.

119 See SB 375, supra note 11. As this section is an overview of SB 375, it does not discuss other legal or regulatory mechanisms in California that work to combat climate change. See generally Nichols, Lessons, supra note 11 (discussing SB 375 and California’s other climate change laws and regulations); Mary D. Nichols, Sustainable Communities for a Sustainable State: California’s Efforts to Curb Sprawl and Cut Global Warming Emissions, 12 Vt. J. Envtl. L. 185 (2010) [hereinafter Nichols, Sustainable Communities] (discussing SB 375’s context and background). Mary D. Nichols is the current chairman of the California Air Resources Board, the air pollution agency for California, and was instrumental in the passing of AB 32. See Mary D.
of approximately thirty-seven million. The battle for cleaner air in California, and especially in Southern California, began in the 1940s when Los Angeles had its first major smog episodes. Southern California notoriously has some of the worst air quality in the nation.

The Global Warming Solutions Act of 2006 (AB 32), set out greenhouse gas reduction goals for California that the California Sustainable Communities Strategy and Climate Protection Act (SB 375) intends to achieve. AB 32 set the goal of reducing carbon emissions in California to 1990 levels by 2020. The emissions reduction represents an approximately decrease in GHG levels by thirty percent compared to levels if AB 32 never passed. The bill also put the California Air Resource Board (CARB) in charge of developing plans to reduce GHG emissions from automobile transport.

Governor Schwarzenegger approved SB 375, a transportation planning and anti-sprawl statute, on September 30, 2008. Senator Steinberg, the Senate leader at the time of passage, stated that the bill “will be used as the national framework for fighting sprawl and transforming inevitable growth to smart growth.”


122 Id.


127 SB 375, supra note 11.

128 Press Release, Senate President pro Tem Darrell Steinberg, Governor Signs Steinberg’s Landmark Climate Change/Land Use Bill (Sept. 30, 2008), http://sd06.senate.ca.gov/news/2008-09-30-governor-signs-steinberg-s-landmark-climate-changeland-use-bill; Bill
SB 375 governs the eighteen California Metropolitan Planning Organizations (MPOs), which include thirty-seven of fifty-eight California counties and a majority of the state’s population.\textsuperscript{129} MPOs are transportation policy-making organizations tasked with coordinating land use, housing, and transportation.\textsuperscript{130} Once CARB sets emissions reduction targets for the period of 2020 to 2035, MPOs then design plans to meet those goals.\textsuperscript{131} In this way, SB 375 does not take power away from the local level for land-use planning, over which the cities and counties continue to retain authority.\textsuperscript{132}

On September 23, 2010, CARB adopted greenhouse gas emissions targets for each metropolitan region in California covered by the law.\textsuperscript{133} After CARB designates regional greenhouse gas emissions targets, MPOs must create a “Sustainable Communities Strategy” that describes how these goals will be achieved.\textsuperscript{134} If the Sustainable Communities Strategy will not meet the reduction targets, an MPO must put forth an “Alternative Planning Strategy” to achieve the goals.\textsuperscript{135} These strategies become part of the Regional Transportation Plan, which relates this strategy to federal transportation law by reducing GHG emissions from automobile travel.\textsuperscript{136}

SB 375 contains potentially powerful exemptions from the California Environmental Quality Act (CEQA) and also allows for streamlined projects.\textsuperscript{137} SB 375 exempts certain projects from CEQA if they conform to the Sustainable Communities Strategy.\textsuperscript{138}“Transit-priority

\begin{footnotesize}
\begin{enumerate}
\item[129] See Nichols, Sustainable Communities, supra note 119, at 186; Sherman, supra note 125.
\item[130] See Cal. Gov’t Code § 14,522.1 (West Supp. 2012); see Nichols, Sustainable Communities, supra note 119, at 186; Sherman, supra note 125.
\item[131] SB 375, supra note 11; Cal. Gov’t Code § 65,080(a), (b)(2)(A); see Fulton, supra note 128.
\item[132] Cal. Gov’t Code § 65,080(b)(2)(K); Nichols, Sustainable Communities, supra note 119, at 188.
\item[134] See Cal. Gov’t Code § 65,080(b)(2)(B); Prum & Catz, supra note 11, at 955–56.
\item[135] Cal. Gov’t Code § 65,080 (b) (2) (I); Prum & Catz, supra note 11, at 955–56.
\item[136] Cal. Gov’t Code § 65,080 (b)(2)(B). The Regional Transportation Plan must be consistent with these strategies. See Fulton, supra note 128.
\end{enumerate}
\end{footnotesize}
projects” are also eligible for CEQA streamlining and exemptions. Transi
t-priority projects” must contain at least fifty percent residential
use, have a minimum density of twenty units per acre, and be located
within a half-mile of a major transit stop. These types of projects
would produce less sprawl and GHG emissions.

SB 375 does not alter the current structure of California transpor-
tation policy because it keeps the decision-making authority with local
officials on MPO boards. Instead, it uses transportation funding as an
incentive for cities that comply with the Sustainable Communities Strate-
gy.

2. Atlanta, Georgia’s Regional Transportation Authority

The Greater Atlanta region in Georgia instituted a regional growth
plan to curb air pollution emitted from automobiles. Metropolitan
Atlanta has approximately 5.5 million people, and in the recent past,
has added new residents at a rate faster than almost every other U.S.
metropolitan area. Atlanta has no geographical boundaries to limit
urban growth, and the resulting sprawl from the population explosion
has led some to refer to it as the “New Los Angeles.” The metropoli-
tan region, which in 1999 was 110 miles across, is one of the largest ar-
eas in the country and has been referred to as “the fastest-spreading
human settlement in history.” The primary mode of transportation
in metropolitan Atlanta is the automobile.

139 Id. § 21,155–21,155.1.
140 Id. § 21,155(b).
141 SB 375, supra note 11, § 1(c) (development near public transit sources allows peo-
ple to use automobiles less frequently, which discourages sprawling development); see
Nichols, Sustainable Communities, supra note 119, at 186.
143 See Leerssen, supra note 137, at 307–08.
145 See Arthur C. Nelson, New Kid in Town: The Georgia Regional Transportation Authority
and Its Role in Managing Growth in Metropolitan Georgia, 35 Wake Forest L. Rev. 625, 626
(2000); Orlyn O. Lockard, III, Note, Solving the “Tragedy:” Transportation, Pollution and Re-
146 Lockard, supra note 145, at 172; see Keith Aoki, All the King’s Horses and All the King’s
Men: Hurdles to Putting the Fragmented Metropolis Back Together Again? Statewide Land Use Plan-
147 Lockard, supra note 145, at 173–74 (internal quotations omitted) (quoting Richard
Lacayo, The Brawl over Sprawl, Time, Mar. 22, 1999, at 44, 45); see also Nelson, supra note
145, at 626 (describing Atlanta’s rapid growth).
148 Lockard, supra note 145, at 174. In 2000, Atlanta residents drove more miles per
capita than residents in any other U.S. city. Nelson, supra note 145, at 626.
In addition to the many benefits associated with decreasing VMTs, Georgia stood to lose 900 million dollars in federal funding if the state did not come into attainment with CAA standards. The Georgia legislature enacted Senate Bill 57 to avoid losing this funding, to decrease pollution, and to relieve traffic congestion. Senate Bill 57 established the Georgia Regional Transportation Authority (GRTA) to manage transportation and air quality within certain areas of the state. The legislature gave GRTA wide authority to combat Georgia’s transportation-related pollution problems. These powers include the ability to plan and construct public transportation systems, to coordinate planning for land transportation and air quality purposes among state, regional, and local authorities, and to receive federal money for transit, air quality, and other purposes for the alleviation of air congestion and air pollution. The Governor can give GRTA the power to review, improve, modify, and implement plans for improving Atlanta’s transportation and air quality. Furthermore, GRTA wields the power to withhold “any state grant of any kind whatsoever except such grants as may be related directly to the physical and mental health, education, and police protection of its residents” if a local government “fails or refuses to plan, coordinate, and implement” regional transportation projects and plans.

GRTA has jurisdiction over non-attainment areas, which are areas that do not meet the NAAQS for a specific criteria pollutant. GRTA also has jurisdiction over attainment areas that become non-attainment for a particular pollutant. Furthermore, after an area achieves attainment, GRTA retains jurisdiction for twenty years ensuring long term compliance. Because jurisdiction only arises after non-attainment in

152 Id. §§ 50-32-10(c) to -11.
153 Id.
154 Id. § 50-32-13.
155 Id. § 50-32-53(a).
158 Id. § 50-32-10(c).
specific areas, GRTA is neither a comprehensive land-use approach nor a preventative measure.\textsuperscript{159} Though not aimed at GHGs specifically, GRTA addresses air pollution with its regional transportation planning measures.\textsuperscript{160}

III. Land-Use Planning’s Potential to Slow Global Climate Change

A. Smart Growth

Reacting to the detrimental effects of sprawl development, the smart growth movement progressed rapidly since the mid-1990s.\textsuperscript{161} Jane Jacobs, in *The Death and Life of Great American Cities*, laid a foundation for what she thought were the essential elements of vibrant and healthy cities\textsuperscript{162}—high density, mixed uses, pedestrian friendly streets, and the preservation of historic buildings.\textsuperscript{163} The smart growth movement encompasses many of Jacobs’s ideas and provides models for anti-sprawl development.\textsuperscript{164}

Though not a cohesive movement, central principles of smart growth development include: (1) creating a range of housing choices and opportunities; (2) creating walkable neighborhoods (3) encouraging community collaboration; (4) fostering locations with a strong sense of place; (5) making development decisions predictable, fair, and cost-effective; (6) mixing land uses; (7) preserving open space, farmland, natural beauty, and critical environmental areas; (8) providing a variety of transportation choices; (9) strengthening and directing development into existing communities and; (10) taking advantage of compact building design.\textsuperscript{165} Proponents argue that following these principles will create mixed-use walkable communities that limit the need for automobile use.\textsuperscript{166}

\textsuperscript{159} See id. § 50-32-10(b)(3).
\textsuperscript{160} See id. §§ 50-32-10 to -11.
\textsuperscript{163} Jacobs, supra note 162; Wickersham, supra note 162, 549–51.
\textsuperscript{164} See Farr, supra note 161, at 30 (listing elements of smart growth).
\textsuperscript{165} Farr, supra note 161, at 29–30.
\textsuperscript{166} See id.
Studies show smart growth development addresses the problem of climate change due to greenhouse gas (GHG) emissions.\textsuperscript{167} Exchanging one car and opting to use public transit would reduce a family’s carbon footprint by 25\% to 30\%.\textsuperscript{168} Other research has shown that smart growth has the potential to reduce per capita Vehicle Miles Travelled (VMT) nationwide by up to 40\%.\textsuperscript{169}

States such as Oregon, Maryland, Florida, and New Jersey also implemented smart growth initiatives.\textsuperscript{170} In 2001, Portland, Oregon was the first city in the United States to adopt a GHG reduction plan using smart growth principles.\textsuperscript{171} Portland’s plan attempted to reduce VMTs by coordinating land-use and transportation planning.\textsuperscript{172} Furthermore, Oregon set city boundaries that limited the sprawling growth of urban areas.\textsuperscript{173} Under this plan, per capita VMTs decreased by approximately 10\% and GHG levels were reduced to just above 1990 levels by 2008, despite a 14\% growth in population.\textsuperscript{174}

Scholars have observed that “the only way significant VMT reduction will be accomplished is with much stronger coordination of land-use development and transportation infrastructure investments in urbanizing parts of the [United States].”\textsuperscript{175} Smart growth is one method scholars suggest for coordinating land-use development and transportation infrastructure.\textsuperscript{176}

\textbf{B. Successful Cooperative Federalism at Work}

Despite being unable to pass a comprehensive land-use statute,\textsuperscript{177} the federal government has some control over land use under various

\textsuperscript{167}Rawlings & Paterson, supra note 3, at 364.
\textsuperscript{169}Rawlings & Paterson, supra note 3, at 364.
\textsuperscript{170}Id. at 368. These are some of the few states that have implemented statewide land-use plans. See LaCroix, supra note 4, at 125.
\textsuperscript{171}Rawlings & Paterson, supra note 3, at 369.
\textsuperscript{172}Id. at 368–69.
\textsuperscript{173}See id. at 369.
\textsuperscript{174}Id.
\textsuperscript{175}Id. at 362.
\textsuperscript{176}See id. at 361–62.
\textsuperscript{177}Patricia E. Salkin, American Law of Zoning § 3:2 (5th ed. 2010). In 1970 the National Land Use Policy Act (NLUPA) was introduced as a way to federalize land-use planning by incentivizing the production of state land-use plans. Id. NLUPA would have also established a national data system in sound land-use planning for the benefit and use
federal statutes.\textsuperscript{178} The federal government controls land use through legislation like the Coastal Zone Management Act (CZMA).\textsuperscript{179}

The CZMA is an example of a federal statute regulating land use.\textsuperscript{180} The Act identifies a national interest in protection of the coastal zone,\textsuperscript{181} and encourages states to develop and implement coastal zone management plans, in part to mitigate the additional pollution of coastal waters from land-use activities.\textsuperscript{182} Participation under the CZMA is voluntary for states.\textsuperscript{183} The federal government funds states that submit plans that meet CZMA requirements.\textsuperscript{184}

Once approved, the federal government must comply with a state’s plan.\textsuperscript{185} When a federal agency plans a project within a coastal zone, the agency must determine if the project would be consistent with the state’s plan.\textsuperscript{186} After the federal agency sends the state its consistency determination, the state responds by either agreeing or disagreeing.\textsuperscript{187} The CZMA provides several approaches to resolve conflicts between the states and the federal agency, including mediation.\textsuperscript{188} The federal administrator must “conduct a continuing review of the performance of coastal states with respect to coastal management.”\textsuperscript{189} This structure influences land-use decisions for an environmental purpose by dividing power between state and federal governments.\textsuperscript{190} Under the CZMA, the federal government incentivizes state action through grants and has the ability to deny applications, while states can address local problems using individualized methods.\textsuperscript{191}

Some scholars argue that a cooperative federalism framework similar to Title I of the CAA may be used to coerce the states to form com-
prehensive land-use plans. The State Implementation Plan framework, with each state tailoring individualized solutions, provides an example of a successful cooperative federalism structure for air pollution. This framework enables states to address their problems in a local manner while taking national environmental concerns into consideration.

IV. THE LAND-USE ADVANTAGE TO SOLVING GHG EMISSIONS

To curb greenhouse gas (GHG) emissions and reduce them to safe levels, the underlying causes of the problem need to be addressed. To combat the emissions of GHGs by the transportation industry, the number of Vehicle Miles Travelled (VMT) must be reduced. Reduction can be achieved through smart growth strategies that coordinate land-use development and transportation infrastructure investments in urbanizing areas—thus reducing VMTs by enabling and encouraging non-automobile trips and decreasing automobile trip distances. The EPA’s regulations on new vehicle emissions represent progress toward this end, but they are not comprehensive or substantial enough to abate climate change. The Georgia Regional Transportation Authority (GRTA) and California Sustainable Communities Strategy and Climate Protection Act (SB 375) use the correct approach by addressing land-use patterns as contributing to GHG emissions and air pollution, but they are not comprehensive. The federal government should use a framework that implements cooperative federalism by borrowing the strengths of both GRTA and SB 375. A cooperative federalism framework would allow states and regional governments to consider local is-

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192 See, e.g., LaCroix, supra note 4, at 127; Rog, supra note 8, at 726–27.
194 See id.
195 See LaCroix, supra note 4, at 124–27; Rawlings & Paterson, supra note 3, at 361–63.
196 See Rawlings & Paterson, supra note 3, at 361.
197 See Buzbee, supra note 8, at 75–77 (noting that use of smart growth principles would reduce sprawl, which is a major contributor of GHGs); LaCroix, supra note 4, at 124–27; Rawlings & Paterson, supra note 3, at 361–63.
199 See LaCroix, supra note 4, at 125 (indicating that very few states have implemented statewide land-use controls); supra notes 132, 158–159 and accompanying text.
200 See Ga. Code Ann. § 50-32 (2009); SB 375, supra note 11; LaCroix, supra note 4, at 127; Nichols, Lessons, supra note 11, at 212; Rog, supra note 8, at 726–27 (discussing the potential for using a cooperative federalism framework like the CAA for land use).
sues and devise individualized approaches to meet the federal government’s standards.\textsuperscript{201}

\textbf{A. EPA Emissions Requirements Represent Progress, but Additional Action Is Necessary}

The EPA’s recognition that GHGs are pollutants under the CAA and that they endanger the public will enable the EPA to slow climate change through GHG regulation.\textsuperscript{202} These regulations, however, do not address the underlying source of GHG emissions.\textsuperscript{203}

The EPA regulations contain no provision for capping VMTs.\textsuperscript{204} Capping emissions of GHGs on new vehicles will limit the amount of GHGs each vehicle can emit,\textsuperscript{205} but there is no authority in the CAA to limit the number of vehicles on the road or the amount of miles that they travel.\textsuperscript{206} The lack of regulation for VMTs sets no ceiling on pollutants.\textsuperscript{207} Therefore, the EPA’s GHG limits might slow GHG emissions, but will not reverse the trend of increasing emissions overall.\textsuperscript{208} Despite buying new cars that emit less GHGs per mile travelled, people may be travelling further distances to get to their destinations due to the continuing expansion of cities.\textsuperscript{209} Furthermore, in addition to sprawling development, more people are becoming car owners.\textsuperscript{210} Therefore, GHG emissions will ultimately rise and the CAA will not abate climate change.\textsuperscript{211}

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\textsuperscript{201} See Clean Air Act, 42 U.S.C. §§ 7408–7410 (2006) (giving states the ability to create their own plans); LaCroix, supra note 4, at 127; Nichols, Lessons, supra note 11, at 112; Rog, supra note 8, at 726–27 (suggesting that the CAA model would be useful for land use).
\textsuperscript{202} See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. at 25,324 (the first GHG regulations that are national in scope).
\textsuperscript{203} See 49 C.F.R. §§ 531.1–.5, 533.1–.6 (2010) (not restricting VMTs); Rawlings & Paterson, supra note 3, at 361 (describing the need for smarter growth to reduce GHG emissions).
\textsuperscript{204} See 49 C.F.R. §§ 531.1–.5, 533.1–.6.
\textsuperscript{205} See id.
\textsuperscript{207} See id. §§ 7521–7554. There is only an indirect ceiling on GHG emissions through SIPs, which regulate criteria pollutants that might reach mobile source GHG emissions. See id. §§ 7401–7415.
\textsuperscript{208} See 49 C.F.R. §§ 531.1–.5, 533.1–.6; Rawlings & Paterson, supra note 3, at 361 (as the fastest growing GHG emitting sector, transportation accounts for forty-seven percent of the net increase in U.S. GHG emissions since 1990).
\textsuperscript{209} See 49 C.F.R. §§ 531.1–.5, 533.1–.6; Buzbee, supra note 8, at 67.
\textsuperscript{210} Research and Innovative Tech. Admin.: Bureau of Transp. Stats., supra note 80.
\textsuperscript{211} See supra notes 195–210 and accompanying text.
\end{flushleft}
Thus, the EPA’s GHG limits on new model year cars neglect the important issue with emissions—sprawling urban development patterns.\textsuperscript{212} Even though these new limits do not fully address the underlying issue of GHG emissions, they add to the CAA’s arsenal of regulatory schemes.\textsuperscript{213} These limitations can be a first step for the federal government in regulating GHGs, by pressuring states to regulate in other ways, and starting a public discussion on how to address global climate change.\textsuperscript{214}

\textbf{B. Land-Use Regulation Is the Central Issue with Climate Change}

The state and regional approaches seen in California and Atlanta are preferable to the CAA approach because they address land use’s impact on GHG emissions and air pollution.\textsuperscript{215}

1. California Curbs GHGs by Incentivizing Smarter Growth

Despite having unknown long-term effects on GHG emissions, SB 375 provides a cohesive approach to limiting sprawl development and slowing climate change.\textsuperscript{216} SB 375’s smart growth plan attempts to reduce VMTs,\textsuperscript{217} and incentivizes smarter development plans by streamlining and providing exemptions for projects that conform to the Sustainable Communities Strategy (SCS).\textsuperscript{218} It does not halt inevitable development in the state.\textsuperscript{219} Instead, it allows for speedy building of smart-growth developments that meet the SCS or are located within a close distance to preexisting mass transit service, and satisfy minimum densities and mixed uses.\textsuperscript{220} Thus, SB 375 prioritizes smarter develop-


\textsuperscript{213} See Richardson, supra note 92, at 287.

\textsuperscript{214} See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. at 25,324; Lockard, supra note 145, at 185 (discussing public consensus and political action in Georgia contributing to the creation of the GRTA).

\textsuperscript{215} See Ga. Code Ann. § 50-32 (2009); SB 375, supra note 11; Rawlings & Paterson, supra note 3, at 361 (describing the need for smarter growth to reduce GHG emissions).

\textsuperscript{216} See Nichols, Lessons, supra note 11, at 206–07; Fulton, supra note 128 (tying land use, transportation, and housing decisions together).

\textsuperscript{217} See supra notes 119–143 and accompanying text.


\textsuperscript{219} See Fulton, supra note 128 (discussing how SB 375 was designed to create regional growth plans that are sustainable and not to halt development).

ment, designed to reduce GHGs, over the status quo.\textsuperscript{221} \textsuperscript{221}SB 375 provides a model for region-wide smarter development that will lower GHG emissions and alleviate local air pollution and other social ills caused by sprawl.\textsuperscript{222}

Despite SB 375’s laudable goals, it has some shortfalls. SB 375’s approach is not comprehensive as it applies to only thirty-seven of the fifty-eight counties in California.\textsuperscript{223} The California Air Resources Board (CARB) does not make policy decisions regarding the methods for achieving GHG reduction goals.\textsuperscript{224} Furthermore, SB 375 does not remove land-use powers from local governments, but instead local government officials make decisions through the MPOs, and therefore “the state has no authority over local land-use policy.”\textsuperscript{225} SB 375 does mandate localities to adopt land-use plans.\textsuperscript{226} California will not penalize regions for missing targets but it will deprive them of incentives.\textsuperscript{227} The federal government could incentivize state action to implement plans like SB 375 by attaching funding to region or state-wide plans that use smart growth to combat GHG emissions.\textsuperscript{228}

2. Atlanta’s GRTA Approach Could Potentially Be Tailored to Address GHG Emissions

Atlanta’s GRTA provides another region-wide approach to connecting land use, transportation, and air pollution.\textsuperscript{229} Although GRTA was designed to combat criteria pollutants in non-attainment areas, the approach of regulating land uses to limit car emissions also has the an-

\textsuperscript{221} See id. (streamlining allows SB 375 to fast-track sustainable development projects).

\textsuperscript{222} See Buzbee, supra note 8, at 73; Sherman, supra note 125. California’s plan has an advantage over Atlanta’s GRTA in that it does not only attach to non-attainment areas and thus does not address the problem after non-compliance with the CAA arises. See Ga. Code Ann. § 50-32-10(b)(3) (2009). Unfortunately, SB 375 does not cover the entire state and only governs eighteen of California’s MPOs—which include thirty-seven of fifty-eight California counties and a majority of the state’s population. Sherman, supra note 125.

\textsuperscript{223} See supra note 129 and accompanying text. SB 375 is not the only climate change tool in California. Nichols discusses other tools in Lessons, supra note 11, at 198, 205–06.

\textsuperscript{224} See Prum & Catz, supra note 11, at 956.

\textsuperscript{225} Nichols, Sustainable Communities, supra note 119, at 188; see Cal. Gov’t Code § 65,080(b)(2)(K) (West Supp. 2012).

\textsuperscript{226} Nichols, Lessons, supra note 11, at 207.

\textsuperscript{227} Nichols, Sustainable Communities, supra note 119, at 188–89.

\textsuperscript{228} See Rawlings & Paterson, supra note 3, at 361; supra notes 45–49 and accompanying text (discussing incentivizing state decisions).

\textsuperscript{229} See Lockard, supra note 145, at 181–87; Nelson, supra note 145, at 633 (providing an overview and analysis of GRTA).
cillary effect of limiting GHG emissions.\textsuperscript{230} Like SB 375, GRTA’s approach could be applied in other regions as a way to combat GHG emissions.\textsuperscript{231}

The GRTA program represents significant progress in furthering the traditional role of state and local powers over land-use planning and transportation.\textsuperscript{232} The issue with local planning is that contiguous regions are not accountable to each other and planning does not consider larger environmental effects.\textsuperscript{233} Although local governments may be attuned to local problems more readily than the federal government, they do not address concerns outside of their locality.\textsuperscript{234} For land-use regulation, this is a major problem because localities sometimes externalize environmental costs.\textsuperscript{235}

One of GRTA’s major successes was transferring some decision-making authority away from local governments to a regional entity that can consider the connections and relevant variables between localities.\textsuperscript{236} Some of the stronger aspects of GRTA’s power include its ability to “plan, design, acquire, construct, add to, extend, improve, equip, operate . . . land public transportation systems,” veto transportation plans of MPOs, refuse roadway access to projects that do not align with the program’s goals, and essentially force compliance by sanctioning localities with the loss of federal and state funding for not aligning with GRTA’s programs.\textsuperscript{237} These powers could also serve as a model for other jurisdictions or agencies planning on a regional or state-wide level.

Though there are some strong aspects to the GRTA program, there were important weaknesses that would make exporting a similarly styled structure to other regions potentially ineffective. Primarily, GRTA’s powers over transportation only allow for indirect effects on land-use

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\item \textsuperscript{230} See Ga. Code Ann. § 50-32-10(b)(3) (2009); LaCroix, \textit{supra} note 4, at 124 (establishing that significant amounts of GHGs come from automobile usage).
\item \textsuperscript{231} See Ga. Code Ann. § 50-32 (similarly requiring regional land use and transportation planning to combat air pollution); \textit{supra} notes 216–228 and accompanying text.
\item \textsuperscript{233} See LaCroix, \textit{supra} note 4, at 125.
\item \textsuperscript{234} See Griffith, \textit{supra} note 64, at 1026 (discussing the need for regional land-use governance); \textit{cf.} Buzbee, \textit{supra} note 8, at 84–85 (discussing the idea that sprawl allows localities to externalize the costs of their development patterns).
\item \textsuperscript{235} See Buzbee, \textit{supra} note 8, at 84–85.
\item \textsuperscript{236} See, e.g., Lockard, \textit{supra} note 145, at 191; Nelson, \textit{supra} note 145, at 634–35.
\end{itemize}
decision making. GRTA only applies to non-attainment areas and therefore is not comprehensive, as it does not have jurisdiction over the entire state or region. GRTA’s jurisdiction would only arise after there is non-attainment under the CAA and therefore would only address air pollutants after serious issues arise. GRTA does not act in a preventative capacity, and ultimately allows areas in Georgia to fall out of attainment. Environmentalists may have had high hopes for GRTA, but some see it as ineffective because the program did not exercise its powers to the fullest extent possible due to political considerations.

C. Smart Growth and Cooperative Federalism Offer a Partial Solution

The federal government needs to enact more comprehensive federal land-use legislation. The need is clear, considering that few regional programs address GHG emissions, and they are not comprehensive. To do this, federal policymakers must understand how local and state land-use decisions are connected. Policymakers must see suburban areas as burdening urban areas with increased traffic congestion and air pollution, which are byproducts of increased automobile use. The land-use policies of one local authority might adversely affect the surrounding localities because air pollution and externalized costs do not stop at locality lines. Furthermore, the ability to have interconnected mass transit systems relies on either cooperation between local governments or a higher governing authority that can bridge the gap between them.

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239 See supra notes 156–160 and accompanying text.
240 See supra notes 156–160 and accompanying text.
241 See supra notes 156–160 and accompanying text.
242 See Janice C. Griffith, Regional Governance Reconsidered, 21 J. L. & Pol. 505, 545 (2005) (“[H]eralded upon its creation as the solution to the Atlanta region’s growth related problems, declined to exercise the broad regional powers granted to it. Sensing the lack of political consensus on such issues as a regional mass transit system, GRTA has avoided using its power to overrule decisions made by elected local officials.”).
244 See supra notes 119–160 and accompanying text.
245 See Griffith, supra note 64, at 1026.
246 See id. at 1026–27.
247 Id. at 1026.
248 Id.
Georgia and California have similar air pollution and GHG problems. Both of these locations provide examples of how to structure air pollutant legislation. These laws do not exist in isolation, but instead are surrounded by other climate and transportation laws. They can, however, provide a starting point for designing federal land use and climate change legislation. They provide examples and potential tools on regulating the underlying cause of land-use decisions on climate change.

One of the most important concerns with federal land-use policy is intrusion on state power. Because land use is historically a state power, interference from the federal government may initially cause resistance. The CAA and the CZMA, however, provide a framework to think about land use from a federal perspective. In accordance with Title I of the CAA, the EPA sets National Ambient Air Quality Standards (NAAQS) and delegates to the states or regions the authority to determine how to meet these standards. Though the current structure of the CAA does not control land use to a large extent, or provide for effective GHG emission limitations, it does at least exemplify meaningful cooperative federalism.

Mary Nichols, a prominent scholar in the arena, recommends that the federal government use California’s programs as a model for a cooperative federalism framework for the nation. The federal government should start regulate the effects of land-use on GHGs and air pol-

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249 See supra notes 120–122, 145–148 and accompanying text.
250 See Nichols, Lessons, supra note 11, at 203–08.
251 See Buzbee, supra note 8, at 99–101.
252 See id. at 99.
254 Clean Air Act § 108–110, 42 U.S.C. §§ 7408–7410. The CZMA sets out a floor for federal land-use requirements in coastal zones and then the states develop plans to achieve this. 16 U.S.C. §§ 1451–1466. The state then holds power because any land uses, even federal ones, need to comply with the state management plan. Id. § 1456(c).
255 See supra notes 87–106, 216–228 and accompanying text. Furthermore, because of the interrelationship of climate change and land use, the CAA might provide a mechanism to institute some form of federal land-use policy.
256 Nichols, Lessons, supra note 11, at 192, 212; see Prum & Catz, supra note 11, at 965–66 (mentioning the possibility of the federal government adopting the AB 32 and SB 375 model). Indeed this is what the legislators envisioned. See supra note 128 and accompanying text.
lutants, and thus follow the lead of Georgia and California. The government could set floors for regulation for GHG emission similar to the NAAQS in the CAA. Then the government should delegate to the states the methods of compliance with the federally mandated floor. This structure would be similar to the CAA, or could possibly become a part of the CAA. A cooperative federalism approach is best because there will be some resistance to any federal land-use planning—even to control GHG emissions—but this resistance can be softened by letting state and local governments design and implement individualized plans to meet local needs.

The federal government should mix incentives with mandates by providing funding incentives like SB 375 and working with an empowered state partner, much like the GRTA program. There should be meaningful mandates, which are missing from SB 375, to achieve the reductions necessary to abate climate change. In addition to meaningful mandates, there should be in place in each state or region an entity with the power to enforce the state or regional mandates. Some of these powers could be modeled after the powers given to GRTA. Therefore, some general land-use powers may stay with localities, but the regional or state power could have the ability to veto projects.

Legislation should be comprehensive and apply to the United States as a whole. SB 375 covers thirty-seven of California’s fifty-eight counties, and GRTA only covers areas that are non-attainment. A federal land-use law must cover all areas to prevent GHG emitting sources from moving to different locales to avoid regulation. Smart growth is a promising approach to significantly curbing GHG emissions. Incentivizing developers to align with smart growth objectives through a federally imposed land-use plan, or some form of a regional plan, would reduce VMTs, lessen the effect of GHGs, and avoid federal-

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257 See supra notes 98–106 and accompanying text; Nichols, Lessons, supra note 11, at 192, 212.
258 See supra notes 37–49, 177–194 and accompanying text (discussing the likely resistance to federal land-use regulation, but also the ability to create individualized plans under cooperative federalism).
260 See supra notes 144–150, 243–246 and accompanying text.
261 See supra notes 151–160, 238–241 and accompanying text.
263 See Nichols, Sustainable Communities, supra note 119, at 186; Sherman, supra note 125.
265 See Rawlings & Paterson, supra note 3, at 361–63 (describing the need for smarter growth to reduce GHG emissions).
ism issues. The United States needs this type of regulation to avoid the catastrophic consequences of climate change.

Conclusion

Because of the United States’s tremendous amount of GHG emissions relative to its population, it must take a leadership role in reducing GHGs. Although the CAA represents progress toward that goal, it is insufficient to solve the problem in its entirety because it puts no limit on GHG emissions. Local governments may also limit GHG emissions, but this might only happen when pushed by funding or threat of regulation. The United States and the international community cannot rely on states to take action like California or Georgia. Instead, the best approach would be to institute a cooperative federalism framework, set a national floor for GHG emissions, and use a combination of mandates and incentives based upon the California and Georgia examples. Only through nationally comprehensive land-use policy can the United States alleviate the pressures of climate change and reverse the planning mistakes of the past seventy years.

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266 See Buzbee, supra note 8, at 99–101; LaCroix, supra note 4, at 127; Rawlings & Paterson, supra note 3, at 361–62; supra notes 45–49 and accompanying text.
267 See Donnellan, supra note 5, at 712; LaCroix, supra note 4, at 12.