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

JOHN A.T. CANALE*

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-

* Articles Editor, BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW, 2011–12.

¹ See *Massachusetts v. EPA*, 549 U.S. 497, 521–22 (2007) (citing significant environmental harms of climate change); Dave Owen, *Climate Change and Environmental Assessment Law*, 33 COLUM. J. ENVTL. L. 57, 64–65 (2008); Mary Christina Wood, *Nature's Trust: A Legal, Political, and Moral Frame for Global Warming*, 34 B.C. ENVTL. AFF. L. REV. 577, 581–82 (2007).

² See *Massachusetts v. EPA*, 549 U.S. at 521–22; INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 37 (2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf; Wood, *supra* note 1, at 581–82.

³ Rachael Rawlings & Robert Paterson, *Sustainable Buildings and Communities: Climate Change and the Case for Federal Standards*, 19 CORNELL J.L. & PUB. POL'Y 335, 341 (2010).

⁴ See Catherine J. LaCroix, *Land Use and Climate Change: Is It Time for a National Land Use Policy?*, 35 ECOLOGY L. CURRENTS 124, 124 (2008); U.S. PUB. INTEREST RESEARCH GRP. EDUC. FUND (U.S. PIRG), THE CARBON BOOM: STATE AND NATIONAL TRENDS IN CARBON DIOXIDE EMISSIONS SINCE 1990, at 4 (2007), available at <https://pincdn.s3.amazonaws.com/assets/upWJlagKj7szel-OU5n11A/carbonboom07.pdf>.

fort,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.⁶ Recently, the Environmental Protection Agency (EPA) set limits on new vehicle emissions to combat climate change.⁷

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

⁵ See Wood, *supra* note 1, at 587; Michael T. Donnellan, Note, *Transportation Control Plans Under the 1990 Clean Air Act as a Means for Reducing Carbon Dioxide Emissions*, 16 VT. L. REV. 711, 711 (1992).

⁶ See *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).

⁷ 49 C.F.R. §§ 531.1–.5.

⁸ See generally William W. Buzbee, *Urban Sprawl, Federalism, and the Problem of Institutional Capacity*, 68 FORDHAM L. REV. 57 (1999) (discussing urban sprawl's detrimental effects on climate and the traditionally limited federal role in land-use decisions); LaCroix, *supra* note 4; Jeremy R. Meredith, Note, *Sprawl and the New Urbanist Solution*, 89 VA. L. REV. 447 (2003); Morgan E. Rog, Note, *Highway to the Danger Zone: Urban Sprawl, Land Use, and the Environment*, 22 GEO. INT'L ENVTL. L. REV. 707 (2010).

⁹ See Buzbee, *supra* note 8, at 66–67; Donnellan, *supra* note 5, at 711; Rawlings & Paterson, *supra* note 3, at 361.

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

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 *California's Climate Change Program: Lessons for the Nation*, 27 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.” *Id.* In Darren A. Prum & Sarah L. Catz, *Greenhouse Gas Emission Targets and Mass Transit: Can the Government Successfully Accomplish Both Without a Conflict?*, 51 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.¹² 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.¹³ Part III discusses how cooperative federalism—as exemplified in the CAA and the Coastal Zone Management Act—and smart growth can reduce GHG emissions.¹⁴ 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.¹⁵

I. THE CLIMATE CHANGE PROBLEM

Climate change is one of the most pressing negative effects associated with increased GHG emissions.¹⁶ The greenhouse effect regulates the Earth's temperature.¹⁷ The Sun sends energy to Earth, which is then radiated back to space as heat.¹⁸ Some of this heat gets trapped in the Earth's atmosphere by gases such as carbon dioxide.¹⁹ The combustion of fossil fuels releases GHGs, which then accumulate in the atmosphere causing an enhanced greenhouse effect²⁰ and increases global temperatures.²¹ 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.²²

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

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.

¹⁸ *Id.*; IPCC Fourth Assessment Report: *Climate Change 2007, FAQ 1.3 What Is the Greenhouse Effect?*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, http://www.ipcc.ch/publications_and_data/ar4/wg1/en/faq-1-3.html (last visited May 15, 2012).

¹⁹ See Wood, *supra* note 1, at 578; IPCC Fourth Assessment Report: *Climate Change 2007, FAQ 1.1 What Factors Determine the Earth's Climate?*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, http://www.ipcc.ch/publications_and_data/ar4/wg1/en/faq-1-1.html (last visited May 15, 2012).

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.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.²⁴ Changing temperatures have also increased the number and severity of extreme weather events and shifted the growing seasons for many crops.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.²⁶

Carbon dioxide levels are significantly higher than in the pre-industrial era, in part because of the widespread use of automobiles.²⁷ GHG emissions will likely continue to rise due to increased travel and a growing population.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.²⁹

Much of America's disproportionate contribution to global GHG emissions is due to increasing automobile use, which does not appear to be slowing.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.³¹ In 1996, there were over 265 million Americans, who owned over 198 million vehicles that drove 9357 miles annually.³² On average, Americans drive their cars about one hour each day on over four million miles of public roadways.³³ Each increase in vehicle miles traveled (VMT) increases GHG emissions, which ultimately contribute to climate change.³⁴ VMTs vary depending on how far people have to travel

²³ U.S. PIRG, *supra* note 4. Average annual U.S. temperatures are over two degrees Fahrenheit higher than they were 100 years ago. Rawlings & Paterson, *supra* note 3, at 338.

²⁴ U.S. PIRG, *supra* note 4; Rawlings & Paterson, *supra* note 3, at 338.

²⁵ Rawlings & Paterson, *supra* note 3, at 338; *see* Owen, *supra* note 1, at 65.

²⁶ *Massachusetts v. EPA*, 549 U.S. at 523.

²⁷ *See* Rawlings & Paterson, *supra* note 3, at 339, 361.

²⁸ *Id.* at 341–42.

²⁹ *Id.* at 341.

³⁰ *See id.* at 361; Arnold W. Reitze, Jr., *The Legislative History of U.S. Air Pollution Control*, 36 HOUS. L. REV. 679, 692 n.97 (1999).

³¹ Reitze, *supra* note 30, at 692 n.97.

³² *Id.*

³³ Craig N. Oren, *Getting Commuters Out of Their Cars: What Went Wrong?*, 17 STAN. ENVTL. L.J. 141, 151 (1998).

³⁴ *See* Rawlings & Paterson, *supra* note 3, at 361.

for daily activities,³⁵ and could be counteracted by land-use regulations that minimize the distance individuals must travel for daily activities.³⁶

A. Land-Use Regulation

Governments enact land-use regulations to divide the uses of land for various purposes.³⁷ Local governments, rather than the federal government, primarily regulate land use in the United States.³⁸ Within metropolitan areas, many small communities have land-use powers.³⁹ Local governments have no legal obligation to coordinate land development with their neighbors.⁴⁰ Therefore, lack of regional planning can cause disjointed and uncoordinated growth.⁴¹

Local governments have land-use responsibilities as a result of their local police power, and the Tenth Amendment's limits on federal authority.⁴² 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.⁴³ 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.⁴⁴

Federal funding that is contingent on specific state behavior is constitutionally permissible, if that behavior is voluntary.⁴⁵ The federal government violates the Tenth Amendment, however, if it coerces the states.⁴⁶ Therefore, the federal government may influence state decisions on land use through the spending power.⁴⁷ Partially due to these Tenth Amendment federalism concerns, the United States does not

³⁵ See *id.* at 362; Joanna D. Malaczynski & Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicles Miles Travelled: Integrating the California Environmental Quality Act with the California Global Warming Solutions Act*, 36 *ECOLOGY L.Q.* 71, 80–81 (2009).

³⁶ See Rawlings & Paterson, *supra* note 3, at 362; Malaczynski & Duane, *supra* note 35, at 80–81.

³⁷ See Patrick J. Rohan & Eric Damian Kelly, *Introduction and User's Guide*, in *ZONING AND LAND USE CONTROLS* § 1.02[1] (2011), available at LexisNexis ZLANDU.

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.⁴⁸ Moreover, states often do not venture into the realm of local land-use planning.⁴⁹

B. Zoning

The implementation of zoning plans is a central aspect of local land use.⁵⁰ 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.⁵¹ Typically, a locality designates zones for different uses and identifies them on a zoning map.⁵² These constraints limit what a property owner can and cannot do with their property.⁵³ Zoning laws separated uses between properties and therefore prevented certain uses on abutting properties.⁵⁴ For instance, a locality would designate the potential uses for properties as residential, commercial, or industrial.⁵⁵ Residential zones are generally grouped together and separated from commercial and industrial zones, although mixed uses are occasionally allowed.⁵⁶ A central tenet of zoning law is that residences are generally protected from the harmful effects of industrial usage.⁵⁷

The Supreme Court decided zoning was within the state's police powers in *Village of Euclid v. Ambler Realty*.⁵⁸ The village's zoning plan prohibited the plaintiff from developing the property for industrial purposes.⁵⁹ The plaintiff argued that the zoning plan amounted to an unconstitutional taking.⁶⁰ The Court held, however, that this was a valid

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-use 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].

⁵⁸ 272 U.S. 365, 396–97 (1926).

⁵⁹ *Id.* at 384–85.

⁶⁰ *Id.* at 384.

exercise of the village's police power.⁶¹ After *Euclid*, all fifty states enacted zoning laws that led to the disjointed land-use patterns prevalent in the United States today.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.”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.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.⁶⁵ “[S]uburbia has become the quintessential physical achievement of the United States.”⁶⁶ By 1990, the majority of Americans lived in low-density suburbs.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.⁶⁸ Post-World War II federal policies encouraged sprawl development by both increasing demand for single-family homes and

⁶¹ *Id.* at 396–97.

⁶² *See id.* at 391; JESSE DUKEMINIER ET AL., PROPERTY 838 (6th ed. 2006); LaCroix, *supra* note 4, at 125.

⁶³ FLINT, *supra* note 51, at 47; Rog, *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. *Faculty, Fellows and Staff*, LINCOLN INST. OF LAND POLICY, http://www.lincolninst.edu/aboutlincoln/faculty_staff.asp (last visited Feb. 27, 2012).

⁶⁴ *See* Janice C. Griffith, *Smart Governance for Smart Growth: The Need for Regional Governments*, 17 GA. ST. U. L. REV. 1019, 1021 (2001).

⁶⁵ DAVID OWEN, GREEN METROPOLIS: WHY LIVING SMALLER, LIVING CLOSER, AND DRIVING LESS ARE THE KEYS TO SUSTAINABILITY 36, 107–09 (2009); Rog, *supra* note 8, at 709.

⁶⁶ KENNETH T. JACKSON, CRABGRASS FRONTIER: THE SUBURBANIZATION OF THE UNITED STATES 4 (1985).

⁶⁷ Oren, *supra* note 33, at 166–67.

⁶⁸ FLINT, *supra* note 51, at 28–30, 34; Rog, *supra* note 8, at 709–12.

developing a federal interstate highway system.⁶⁹ 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.⁷⁰ One of these externalized costs is air pollution due to GHG emissions.⁷¹

Areas that were previously inaccessible became available for residential and economic development.⁷² 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.⁷³ It offered the ability for Americans to travel to work without the constraints of public transportation schedules.⁷⁴ Sprawl development, however, is part of a reinforcing cycle.⁷⁵ 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.⁷⁶

Southern, southwestern, and western cities developed in the 1950s were designed around the assumption that people would commute via automobile.⁷⁷ In the Northeast, by contrast, older cities, developed prior to the automobile, were designed to accommodate travel by foot or public transit.⁷⁸ Vehicle trips and VMTs increased almost 3% annually from 1969 to 1990.⁷⁹ 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 2007.⁸⁰ 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.

⁷³ Thomas O. McGarity, *Regulating Commuters to Clear the Air: Some Difficulties in Implementing a National Program at the Local Level*, 27 PAC. L.J. 1521, 1535 (1996).

⁷⁴ *Id.*

⁷⁵ See FLINT, *supra* note 51, at 35; Buzbee, *supra* note 8, at 65.

⁷⁶ See Buzbee, *supra* 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.

⁸⁰ *Vehicle Technologies Program Fact #574: Vehicles per Licensed Driver Rising*, U.S. DEP'T OF ENERGY VEHICLE TECHNOLOGIES PROGRAM, (June 8, 2009), http://www1.eere.energy.gov/vehiclesandfuels/facts/2009_fotw574.html. There was a total of approximately 256 million passenger vehicles registered in the U.S. in 2008. *Table 1-11: Number of U.S. Aircraft, Vehicles, Vessels, and Other Conveyances*, RESEARCH AND INNOVATIVE TECH. ADMIN., BUREAU OF TRANSP. STATS., http://www.bts.gov/publications/national_transportation_statistics/html/table_01_11.html (last visited May 16, 2012).

tomobile ownership contribute to climate change through the emission of GHGs.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.⁸² Spreading development and dependency on automobiles contributes to GHG emissions.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.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.⁸⁵ Approximately 80% of total current transportation emissions result from vehicle travel on roadways.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.⁸⁷ Prior to the CAA, there was no serious federal involvement in the field of air quality.⁸⁸ Congress enacted federal legislation in response to a 1963 episode of smog-like air pollution that killed 200 people in New York City.⁸⁹ At the same time, Southern California developed a chronic air pollution problem.⁹⁰ Ultimately, the CAA arose from Congressional findings “that the growth in the amount and complexity of air pollution

⁸¹ See Donnellan, *supra* note 5, at 711; *supra* notes 30–36 and accompanying text.

⁸² See LaCroix, *supra* note 4, at 125.

⁸³ Buzbee, *supra* note 8, at 59, 73.

⁸⁴ Rawlings & Paterson, *supra* note 3, at 361.

⁸⁵ *Id.*

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.*

⁸⁷ 42 U.S.C. §§ 7521–7554 (2006).

⁸⁸ Reitze, *supra* note 30, at 696.

⁸⁹ *See id.* at 698.

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.”⁹¹

By targeting different sources and types of air pollution, the CAA grants the EPA broad discretion in implementing a variety of air pollution programs.⁹² Implementation is based on a cooperative federalism framework, giving some regulatory power to the states and retaining some for the federal government.⁹³ The CAA primarily regulates the emission of air pollution through two titles: Title I predominantly governs stationary sources,⁹⁴ and Title II governs mobile sources.⁹⁵ Stationary sources are pollution-emitting entities that stay in one place, such as factories.⁹⁶ Mobile sources include motor vehicles, which are pollution-emitting entities that travel.⁹⁷

Title I strives for better air quality by setting nationwide pollution limits that states can achieve through their own regulatory measures.⁹⁸ 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.⁹⁹ The states must then develop State Implementation Plans (SIPs) to achieve or maintain the NAAQS.¹⁰⁰ EPA-approved SIPs have the force of federal law.¹⁰¹ The cooperative federalism framework allows states to address local problems in individualized ways while meeting a federal minimum safety standard.¹⁰²

Title II regulates mobile sources, including cars, light-duty trucks, and diesel trucks.¹⁰³ The Title allows the EPA to set federal emission standards for new vehicles.¹⁰⁴ Title II requires the EPA to regulate any

⁹¹ 42 U.S.C. § 7401(a)(2).

⁹² Nathan Richardson, *Greenhouse Gas Regulation Under the Clean Air Act: Does Chevron Set the EPA Free?*, 29 STAN. ENVTL. L.J. 283, 287 (2010).

⁹³ 42 U.S.C. §§ 7408–7410.

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.

¹⁰² See 42 U.S.C. §§ 7408–7410.

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.¹⁰⁵ The EPA determines if an emission is a pollutant and is dangerous to public health by making an endangerment finding.¹⁰⁶

2. *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.¹⁰⁷ In 2007, the Supreme Court held GHGs from new motor vehicles could be regulated under the CAA.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.¹⁰⁹ The Court, contrary to arguments by the EPA, identified GHGs as air pollutants, not just in Title II, but throughout the CAA.¹¹⁰ The Court, however, did not require that the EPA automatically and immediately regulate GHGs under the CAA.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.¹¹² According to the Court, if GHGs endanger the public health and welfare, the CAA requires the EPA to regulate them.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-

enacted the CAA. Christopher T. Giovinazzo, *Defending Overstatement: The Symbolic Clean Air Act and Carbon Dioxide*, 30 HARV. ENVTL. L. REV. 99, 114 (2006).

¹⁰⁵ 42 U.S.C. § 7521(a)(1).

¹⁰⁶ *Id.*; see *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007).

¹⁰⁷ 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).

¹⁰⁸ *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. *Id.* at 513, 533. This included the President's ability to persuade nations like China and India to reduce their GHG emissions. *Id.* at 513.

¹⁰⁹ *Id.* at 505. The EPA argued that GHGs were not air pollutants under the CAA. *Id.* at 513.

¹¹⁰ *Id.* at 532; Richardson, *supra* note 92, at 292.

¹¹¹ *Massachusetts v. EPA*, 549 U.S. at 532–33; Richardson, *supra* note 92, at 292.

¹¹² *Massachusetts v. EPA*, 549 U.S. at 533–35; Richardson, *supra* note 92, at 292.

¹¹³ See *Massachusetts v. EPA*, 549 U.S. at 533.

gines contribute” to that potential harm.¹¹⁴ The endangerment finding requires the EPA to regulate mobile source emissions.¹¹⁵

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.¹¹⁶

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.¹¹⁷

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.¹¹⁸

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.¹¹⁹ California is the most populous U.S. state, with a population

¹¹⁴ Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

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

¹¹⁶ Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010).

¹¹⁷ EPA, EPA-420-F-10-014, REGULATORY ANNOUNCEMENT: EPA AND NHTSA FINALIZE HISTORIC NATIONAL PROGRAM TO REDUCE GREENHOUSE GASES AND IMPROVE FUEL ECONOMY FOR CARS AND TRUCKS 1 (2010), available at <http://www.epa.gov/oms/climate/regulations/420f10014.pdf>.

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.¹²⁰ 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.¹²¹ Southern California notoriously has some of the worst air quality in the nation.¹²²

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.¹²³ AB 32 set the goal of reducing carbon emissions in California to 1990 levels by 2020.¹²⁴ The emissions reduction represents an approximately decrease in GHG levels by thirty percent compared to levels if AB 32 never passed.¹²⁵ The bill also put the California Air Resource Board (CARB) in charge of developing plans to reduce GHG emissions from automobile transport.¹²⁶

Governor Schwarzenegger approved SB 375, a transportation planning and anti-sprawl statute, on September 30, 2008.¹²⁷ 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.”¹²⁸

Nichols, Chairman, CAL. ENVTL. PROT. AGENCY: AIR RES. BD., <http://www.arb.ca.gov/board/bio/marynichols.htm> (last visited Feb. 27, 2012).

¹²⁰ See U.S. CENSUS BUREAU, NATIONAL AND STATE POPULATION ESTIMATES, <http://www.census.gov/popest/data/state/totals/2011/index.html> (follow “XLS” under “Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2011”) (last visited May 18, 2012); U.S. CENSUS BUREAU, STATE & COUNTY QUICKFACTS: CALIFORNIA, <http://quickfacts.census.gov/qfd/states/06000.html> (last revised Jan. 17, 2012).

¹²¹ Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1110 (2009).

¹²² *Id.*

¹²³ California Global Warming Solutions Act of 2006, § 38,550, 2005–2006 Legis. Sess. pt. 4 (West Supp. 2012) (codified at CAL. HEALTH & SAFETY CODE §§ 38,500, 38,501, 38,505, 38,510, 38,530, 38,550, 38,560, 38,560.5, 38,561, 38,563–38,565, 38,570, 38,571, 38,574, 38,580, 38,590–38,599 (West Supp. 2012)) [hereinafter AB 32], available at <http://www.arb.ca.gov/cc/docs/ab32text.pdf>; AIR RES. BD., CAL. ENVTL. PROT. AGENCY, FACTS ABOUT ASSEMBLY BILL 32, at 1 (2009), available at <http://www.arb.ca.gov/cc/factsheets/ab32factsheet.pdf>.

¹²⁴ CAL. HEALTH & SAFETY CODE § 38,550.

¹²⁵ Nichols, *Lessons*, *supra* note 11, at 199–200; see Alyssa Sherman, *Linking Transportation to Air Quality in California*, TECH TRANSFER, Summer 2010, at 10, 10, available at <http://www.techtransfer.berkeley.edu/newsletter/10-3/10-3.pdf>.

¹²⁶ See CAL. HEALTH & SAFETY CODE § 38,501(f); Nichols, *Lessons*, *supra* note 11, at 199; CAL. ENVTL. PROT. AGENCY, *supra* note 123.

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.¹²⁹ MPOs are transportation policy-making organizations tasked with coordinating land use, housing, and transportation.¹³⁰ Once CARB sets emissions reduction targets for the period of 2020 to 2035, MPOs then design plans to meet those goals.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.¹³²

On September 23, 2010, CARB adopted greenhouse gas emissions targets for each metropolitan region in California covered by the law.¹³³ After CARB designates regional greenhouse gas emissions targets, MPOs must create a "Sustainable Communities Strategy" that describes how these goals will be achieved.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.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.¹³⁶

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

Fulton, *SB 375 Is Now Law—But What Will It Do?*, CAL. PLAN. & DEV. REP. (OCT. 1, 2008, 8:32 AM), <http://www.cp-dr.com/node/2140>.

¹²⁹ See Nichols, *Sustainable Communities*, *supra* note 119, at 186; Sherman, *supra* note 125.

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.

¹³¹ SB 375, *supra* note 11; CAL. GOV'T CODE § 65,080(a), (b)(2)(A); see Fulton, *supra* note 128.

¹³² CAL. GOV'T CODE § 65,080(b)(2)(K); Nichols, *Sustainable Communities*, *supra* note 119, at 188.

¹³³ AIR RES. BD., RESOLUTION 10-31, REGIONAL GREENHOUSE GAS EMISSION TARGETS PURSUANT TO SB 375, at 1, 13–14 (2010), *available at* <http://www.arb.ca.gov/cc/sb375/final.resolution.10.31.pdf>.

¹³⁴ See CAL. GOV'T CODE § 65,080(b)(2)(B); Prum & Catz, *supra* note 11, at 955–56.

¹³⁵ CAL. GOV'T CODE § 65,080 (b)(2)(I); Prum & Catz, *supra* note 11, at 955–56.

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.

¹³⁷ CAL. PUB. RES. CODE § 21,151.1 (West Supp. 2012); Anika E. Leerssen, *Smart Growth and Green Building: An Effective Partnership to Significantly Reduce Greenhouse Gas Emissions*, 26 J. ENVTL. L. & LITIG. 287, 309–10 (2011); Fulton, *supra* note 128.

¹³⁸ CAL. PUB. RES. CODE § 21,151.1.

projects” are also eligible for CEQA streamlining and exemptions.¹³⁹ “Transit-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.¹⁴⁰ These types of projects would produce less sprawl and GHG emissions.¹⁴¹

SB 375 does not alter the current structure of California transportation policy because it keeps the decision-making authority with local officials on MPO boards.¹⁴² Instead, it uses transportation funding as an incentive for cities that comply with the Sustainable Communities Strategy.¹⁴³

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.¹⁴⁴ 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.¹⁴⁵ 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.”¹⁴⁶ The metropolitan region, which in 1999 was 110 miles across, is one of the largest areas in the country and has been referred to as “the fastest-spreading human settlement in history.”¹⁴⁷ The primary mode of transportation in metropolitan Atlanta is the automobile.¹⁴⁸

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 people to use automobiles less frequently, which discourages sprawling development); see Nichols, *Sustainable Communities*, *supra* note 119, at 186.

¹⁴² CAL. GOV’T CODE § 65,080(b)(2)(K) (West Supp. 2012).

¹⁴³ See Leerssen, *supra* note 137, at 307–08.

¹⁴⁴ GA. CODE ANN. § 50-32 (2009).

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 Regionalism in Atlanta*, 19 VA. ENVTL. L.J. 161, 172 (2000).

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 Planning, Portland Metro and Oregon’s Measure 37*, 21 J. L. & POL. 397, 422–23 (2005).

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.¹⁴⁹ The Georgia legislature enacted Senate Bill 57 to avoid losing this funding, to decrease pollution, and to relieve traffic congestion.¹⁵⁰ Senate Bill 57 established the Georgia Regional Transportation Authority (GRTA) to manage transportation and air quality within certain areas of the state.¹⁵¹ The legislature gave GRTA wide authority to combat Georgia's transportation-related pollution problems.¹⁵² 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.¹⁵³ The Governor can give GRTA the power to review, improve, modify, and implement plans for improving Atlanta's transportation and air quality.¹⁵⁴ 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.¹⁵⁵

GRTA has jurisdiction over non-attainment areas, which are areas that do not meet the NAAQS for a specific criteria pollutant.¹⁵⁶ GRTA also has jurisdiction over attainment areas that become non-attainment for a particular pollutant.¹⁵⁷ Furthermore, after an area achieves attainment, GRTA retains jurisdiction for twenty years ensuring long term compliance.¹⁵⁸ Because jurisdiction only arises after non-attainment in

¹⁴⁹ Lockard, *supra* note 145, at 182–83, 192; see Frank S. Alexander, *Inherent Tensions Between Home Rule and Regional Planning*, 35 WAKE FOREST L. REV. 539, 555 (2000); Donald Lee Biola, *State Government Georgia Regional Transportation Authority Act: Provide for a Regional Transportation Authority*, 16 GA. ST. U. L. REV. 233, 234 (1999).

¹⁵⁰ Lockard, *supra* note 145, at 182–83, 192; see Alexander, *supra* note 149, at 555; Robert D. Bullard et al., *The Costs and Consequences of Suburban Sprawl: The Case of Metro Atlanta*, 17 GA. ST. U. L. REV. 935, 998 (2001); Nelson, *supra* note 145, at 633–34.

¹⁵¹ GA. CODE ANN. § 50-32-3(a) (2009).

¹⁵² *Id.* §§ 50-32-10(c) to -11.

¹⁵³ *Id.*

¹⁵⁴ *Id.* § 50-32-13.

¹⁵⁵ *Id.* § 50-32-53(a).

¹⁵⁶ 42 U.S.C. § 7408 (2006); GA. CODE ANN. § 50-32-10(b)(3) (including non-attainment for ozone, carbon monoxide, or particulate matter).

¹⁵⁷ See GA. CODE ANN. § 50-32-10(b)(3).

¹⁵⁸ *Id.* § 50-32-10(c).

specific areas, GRTA is neither a comprehensive land-use approach nor a preventative measure.¹⁵⁹ Though not aimed at GHGs specifically, GRTA addresses air pollution with its regional transportation planning measures.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.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 cities¹⁶²—high density, mixed uses, pedestrian friendly streets, and the preservation of historic buildings.¹⁶³ The smart growth movement encompasses many of Jacobs's ideas and provides models for anti-sprawl development.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.¹⁶⁵ Proponents argue that following these principles will create mixed-use walkable communities that limit the need for automobile use.¹⁶⁶

¹⁵⁹ See *id.* § 50-32-10(b) (3).

¹⁶⁰ See *id.* §§ 50-32-10 to -11.

¹⁶¹ See DOUGLAS FARR, SUSTAINABLE URBANISM: URBAN DESIGN WITH NATURE 29–30 (2008).

¹⁶² See JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* chs. 7–12 (Modern Library ed. 1993) (1961); Jay Wickersham, *Jane Jacobs's Critique of Zoning from Euclid to Portland and Beyond*, 28 B.C. ENVTL. AFF. L. REV. 547, 549–51 (2001).

¹⁶³ JACOBS, *supra* note 162; Wickersham, *supra* note 162, 549–51.

¹⁶⁴ See FARR, *supra* note 161, at 30 (listing elements of smart growth).

¹⁶⁵ FARR, *supra* note 161, at 29–30.

¹⁶⁶ See *id.*

Studies show smart growth development addresses the problem of climate change due to greenhouse gas (GHG) emissions.¹⁶⁷ Exchanging one car and opting to use public transit would reduce a family's carbon footprint by 25% to 30%.¹⁶⁸ Other research has shown that smart growth has the potential to reduce per capita Vehicle Miles Travelled (VMT) nationwide by up to 40%.¹⁶⁹

States such as Oregon, Maryland, Florida, and New Jersey also implemented smart growth initiatives.¹⁷⁰ In 2001, Portland, Oregon was the first city in the United States to adopt a GHG reduction plan using smart growth principles.¹⁷¹ Portland's plan attempted to reduce VMTs by coordinating land-use and transportation planning.¹⁷² Furthermore, Oregon set city boundaries that limited the sprawling growth of urban areas.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.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]."¹⁷⁵ Smart growth is one method scholars suggest for coordinating land-use development and transportation infrastructure.¹⁷⁶

B. *Successful Cooperative Federalism at Work*

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

¹⁶⁷ Rawlings & Paterson, *supra* note 3, at 364.

¹⁶⁸ TODD DAVIS & MONICA HALE, SCIENCE APPLICATIONS INT'L CORP., PUBLIC TRANSPORTATION'S CONTRIBUTION TO U.S. GREENHOUSE GAS REDUCTION 2 (2007), *available at* http://postcarboncities.net/files/climate_change.pdf; Rawlings & Paterson, *supra* note 3, at 364.

¹⁶⁹ Rawlings & Paterson, *supra* note 3, at 364.

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.

¹⁷¹ Rawlings & Paterson, *supra* note 3, at 369.

¹⁷² *Id.* at 368–69.

¹⁷³ See *id.* at 369.

¹⁷⁴ *Id.*

¹⁷⁵ *Id.* at 362.

¹⁷⁶ See *id.* at 361–62.

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.¹⁷⁸ The federal government controls land use through legislation like the Coastal Zone Management Act (CZMA).¹⁷⁹

The CZMA is an example of a federal statute regulating land use.¹⁸⁰ The Act identifies a national interest in protection of the coastal zone,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.¹⁸² Participation under the CZMA is voluntary for states.¹⁸³ The federal government funds states that submit plans that meet CZMA requirements.¹⁸⁴

Once approved, the federal government must comply with a state's plan.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.¹⁸⁶ After the federal agency sends the state its consistency determination, the state responds by either agreeing or disagreeing.¹⁸⁷ The CZMA provides several approaches to resolve conflicts between the states and the federal agency, including mediation.¹⁸⁸ The federal administrator must "conduct a continuing review of the performance of coastal states with respect to coastal management."¹⁸⁹ This structure influences land-use decisions for an environmental purpose by dividing power between state and federal governments.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.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-

of state and local agencies. *Id.* Despite twice passing in the Senate, it never passed the House of Representatives, partially because of federalism issues. *Id.*

¹⁷⁸ See Coastal Zone Management Act, 16 U.S.C. §§ 1451–1466 (2006).

¹⁷⁹ See *id.*

¹⁸⁰ *Id.*; see generally Linda A. Malone, *The Coastal Zone Management Act and the Takings Clause in the 1990's: Making the Case for Federal Land Use to Preserve Coastal Areas*, 62 U. COLO. L. REV. 711 (1991) (providing a background on the CZMA).

¹⁸¹ 16 U.S.C. § 1452.

¹⁸² *Id.* § 1451; see Malone, *supra* note 180, at 712–14.

¹⁸³ See 16 U.S.C. § 1452.

¹⁸⁴ *Id.* §§ 1455, 1455a, 1461(e).

¹⁸⁵ *Id.* § 1456.

¹⁸⁶ *Id.*

¹⁸⁷ *Id.* § 1456(c).

¹⁸⁸ *Id.* § 1456(h).

¹⁸⁹ 16 U.S.C. § 1458(a).

¹⁹⁰ See *id.* §§ 1451, 1456. States create the coastal management plans yet the federal government maintains the power to approve them. *Id.*

¹⁹¹ See *id.* §§ 1451–1455.

prehensive land-use plans.¹⁹² The State Implementation Plan framework, with each state tailoring individualized solutions, provides an example of a successful cooperative federalism structure for air pollution.¹⁹³ This framework enables states to address their problems in a local manner while taking national environmental concerns into consideration.¹⁹⁴

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.¹⁹⁵ To combat the emissions of GHGs by the transportation industry, the number of Vehicle Miles Travelled (VMT) must be reduced.¹⁹⁶ 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.¹⁹⁷ 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.¹⁹⁸ 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.¹⁹⁹ The federal government should use a framework that implements cooperative federalism by borrowing the strengths of both GRTA and SB 375.²⁰⁰ A cooperative federalism framework would allow states and regional governments to consider local is-

¹⁹² See, e.g., LaCroix, *supra* note 4, at 127; Rog, *supra* note 8, at 726–27.

¹⁹³ See Clean Air Act, 42 U.S.C. §§ 7408–7410 (2006).

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.

¹⁹⁸ See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (noting an absence of VMT regulations); Rawlings & Paterson, *supra* note 3, at 361–63 (noting that reducing VMTs through smarter land use helps reduce GHGs).

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.²⁰¹

*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.²⁰² These regulations, however, do not address the underlying source of GHG emissions.²⁰³

The EPA regulations contain no provision for capping VMTs.²⁰⁴ Capping emissions of GHGs on new vehicles will limit the amount of GHGs each vehicle can emit,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.²⁰⁶ The lack of regulation for VMTs sets no ceiling on pollutants.²⁰⁷ Therefore, the EPA's GHG limits might slow GHG emissions, but will not reverse the trend of increasing emissions overall.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.²⁰⁹ Furthermore, in addition to sprawling development, more people are becoming car owners.²¹⁰ Therefore, GHG emissions will ultimately rise and the CAA will not abate climate change.²¹¹

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).

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).

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).

²⁰⁴ See 49 C.F.R. §§ 531.1–.5, 533.1–.6.

²⁰⁵ See *id.*

²⁰⁶ See 42 U.S.C. §§ 7401–7471q (2006).

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.

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).

²⁰⁹ See 49 C.F.R. §§ 531.1–.5, 533.1–.6; Buzbee, *supra* note 8, at 67.

²¹⁰ RESEARCH AND INNOVATIVE TECH. ADMIN.: BUREAU OF TRANSP. STATS., *supra* note 80.

²¹¹ See *supra* notes 195–210 and accompanying text.

Thus, the EPA's GHG limits on new model year cars neglect the important issue with emissions—sprawling urban development patterns.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.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.²¹⁴

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.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.²¹⁶ SB 375's smart growth plan attempts to reduce VMTs,²¹⁷ and incentivizes smarter development plans by streamlining and providing exemptions for projects that conform to the Sustainable Communities Strategy (SCS).²¹⁸ It does not halt inevitable development in the state.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.²²⁰ Thus, SB 375 prioritizes smarter develop-

²¹² See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. 25,324 (May 7, 2010) (noting an absence of land use regulations); Rawlings & Paterson, *supra* note 3, at 361.

²¹³ See Richardson, *supra* note 92, at 287.

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).

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).

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

²¹⁷ See *supra* notes 119–143 and accompanying text.

²¹⁸ CAL. PUB. RES. CODE § 21,151.1 (West Supp. 2011).

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).

²²⁰ CAL. PUB. RES. CODE § 21,151.1.

ment, designed to reduce GHGs, over the status quo.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.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.²²³ The California Air Resources Board (CARB) does not make policy decisions regarding the methods for achieving GHG reduction goals.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."²²⁵ SB 375 does mandate localities to adopt land-use plans.²²⁶ California will not penalize regions for missing targets but it will deprive them of incentives.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.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.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-

²²¹ See *id.* (streamlining allows SB 375 to fast-track sustainable development projects).

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.

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, 203–06.

²²⁴ See Prum & Catz, *supra* note 11, at 956.

²²⁵ Nichols, *Sustainable Communities*, *supra* note 119, at 188; see CAL. GOV'T CODE § 65,080(b)(2)(K) (West Supp. 2012).

²²⁶ Nichols, *Lessons*, *supra* note 11, at 207.

²²⁷ Nichols, *Sustainable Communities*, *supra* note 119, at 188–89.

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

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.²³⁰ Like SB 375, GRTA's approach could be applied in other regions as a way to combat GHG emissions.²³¹

The GRTA program represents significant progress in furthering the traditional role of state and local powers over land-use planning and transportation.²³² The issue with local planning is that contiguous regions are not accountable to each other and planning does not consider larger environmental effects.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.²³⁴ For land-use regulation, this is a major problem because localities sometimes externalize environmental costs.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.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.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

²³⁰ See GA. CODE ANN. § 50-32-10(b) (3) (2009); LaCroix, *supra* note 4, at 124 (establishing that significant amounts of GHGs come from automobile usage).

²³¹ See GA. CODE ANN. § 50-32 (similarly requiring regional land use and transportation planning to combat air pollution); *supra* notes 216–228 and accompanying text.

²³² See Michael R. Yarne, *Conformity as a Catalyst: Environmental Defense Fund v. Environmental Protection Agency*, 27 ECOLOGY L.Q. 841, 873, 876 (2000).

²³³ See LaCroix, *supra* note 4, at 125.

²³⁴ See Griffith, *supra* note 64, at 1026 (discussing the need for regional land-use governance); cf. Buzbee, *supra* note 8, at 84–85 (discussing the idea that sprawl allows localities to externalize the costs of their development patterns).

²³⁵ See Buzbee, *supra* note 8, at 84–85.

²³⁶ See, e.g., Lockard, *supra* note 145, at 191; Nelson, *supra* note 145, at 634–35.

²³⁷ GA. CODE ANN. §§ 50-32-10(b) (1), 50-32-11(a) (3), (33), 50-32-14, 50-32-53(a) (2009); see Alexander, *supra* note 149, at 557; Nelson, *supra* note 145, at 633–37; Yarne, *supra* note 232, at 873.

decision making.²³⁸ GRTA only applies to non-attainment areas and therefore is not comprehensive, as it does not have jurisdiction over the entire state or region.²³⁹ 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.²⁴⁰ GRTA does not act in a preventative capacity, and ultimately allows areas in Georgia to fall out of attainment.²⁴¹ 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.²⁴²

C. Smart Growth and Cooperative Federalism Offer a Partial Solution

The federal government needs to enact more comprehensive federal land-use legislation.²⁴³ The need is clear, considering that few regional programs address GHG emissions, and they are not comprehensive.²⁴⁴ To do this, federal policymakers must understand how local and state land-use decisions are connected.²⁴⁵ Policymakers must see suburban areas as burdening urban areas with increased traffic congestion and air pollution, which are byproducts of increased automobile use.²⁴⁶ 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.²⁴⁷ 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.²⁴⁸

²³⁸ Janice C. Griffith, *The Preservation of Community Green Space: Is Georgia Ready to Combat Sprawl with Smart Growth?*, 35 WAKE FOREST L. REV. 563, 572–73 (2000); see Nelson, *supra* note 145, at 633 (listing GRTA's direct and indirect powers).

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.”).

²⁴³ See Nichols, *Lessons*, *supra* note 11, at 192; Patricia E. Salkin, *Smart Growth and Sustainable Development: Threads of a National Land Use Policy*, 36 VAL. U. L. REV. 381, 389 (2002).

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.²⁴⁹ 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.²⁵⁰ 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.²⁵¹ Because land use is historically a state power, interference from the federal government may initially cause resistance.²⁵² The CAA and the CZMA, however, provide a framework to think about land use from a federal perspective.²⁵³ 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.²⁵⁴ 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.²⁵⁵

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.²⁵⁶ The federal government should start regulate the effects of land-use on GHGs and air pol-

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.

²⁵³ See Clean Air Act § 101–115, 42 U.S.C. §§ 7401–7415 (2006); Coastal Zone Management Act, 16 U.S.C. §§ 1451–1466 (2006). See also *supra* notes 179–194 and accompanying text (discussing cooperative federalism implementation); Holly Doremus, *Through Another's Eyes: The Benefit of Outside Perspectives in Environmental Review*, 38 B.C. ENVTL. AFF. L. REV. 247, 258–59 (2011) (discussing the CZMA's power to encourage states to implement conservation programs).

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.²⁵⁷ 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.²⁵⁸

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.²⁵⁹ There should be meaningful mandates, which are missing from SB 375, to achieve the reductions necessary to abate climate change.²⁶⁰ 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.²⁶¹ Therefore, some general land-use powers may stay with localities, but the regional or state power could have the ability to veto projects.²⁶²

Legislation should be comprehensive and apply to the United States as a whole. SB 375 covers thirty-seven of California's fifty-eight counties,²⁶³ and GRTA only covers areas that are non-attainment.²⁶⁴ 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.²⁶⁵ 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-

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).

²⁵⁹ See GA. CODE ANN. § 50-32 (2009); SB 375, *supra* note 11.

²⁶⁰ See *supra* notes 144–150, 243–246 and accompanying text.

²⁶¹ See *supra* notes 151–160, 238–241 and accompanying text.

²⁶² See GA. CODE ANN. § 50-32-14.

²⁶³ See Nichols, *Sustainable Communities*, *supra* note 119, at 186; Sherman, *supra* note 125.

²⁶⁴ See GA. CODE ANN. § 50-32-10(b)(3).

²⁶⁵ See Rawlings & Paterson, *supra* note 3, at 361–63 (describing the need for smarter growth to reduce GHG emissions).

ism issues.²⁶⁶ The United States needs this type of regulation to avoid the catastrophic consequences of climate change.²⁶⁷

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.

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.