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COMPLETING STREETS: IMPROVING AMERICA'S “COMPLETE STREETS”

WILLIAM J. ZURBORG*

INTRODUCTION

Every year, millions of Americans travel to Europe and Asia to walk through the streets of old cities and marvel at the architecture, but a common complaint is that no such cities exist in the United States.¹ One of the reasons behind this complaint is that American and European cities differ because many American cities, particularly suburbs, were designed around the automobile.² While this is not an absolute characterization, it is true that the mass-market availability of the automobile following the Second World War, coupled with a booming economy, radically reshaped American cities.³

Naturally, as cities began to be designed around the car, they became less friendly to pedestrians, cyclists, and public transportation users.⁴ Many cities, particularly suburbs, are littered with seven-lane highways with little to no crosswalks; massive parking lots that dwarf the building they were built to serve; large residential neighborhoods out of walking distance from schools, commercial districts, and parks; and a lack of public transportation infrastructure. Cities like this are all across America, and they come at large social, environmental, and commercial costs.⁵

In order to tackle this problem, municipalities, cities, and the federal government have enacted policies known as Complete Streets policies

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¹ *Top European Countries Visited by Americans*, ETIAS, <https://www.etias.us/top-european-countries-visited-by-americans/> [<https://perma.cc/53QN-TMDA>] (last visited Jan. 16, 2023).

² See Katherine A. Woodward, *Form Over Use: Form-Based Codes and the Challenge of Existing Development*, 88 NOTRE DAME L. REV. 2627, 2627 (2013).

³ See Jeremy R. Meredith, *Sprawl and the New Urbanist Solution*, 89 VA. L. REV. 447, 448 (2003).

⁴ See *Complete Streets*, DOT, <https://www.transportation.gov/mission/health/complete-streets> [<https://perma.cc/6MHP-KE4N>] (last visited Jan. 16, 2023).

⁵ See Charles Marohn, *The Cost of Auto Orientation*, STRONG TOWNS (Jan. 30, 2017), <https://www.strongtowns.org/journal/2017/1/29/the-cost-of-auto-orientation-rerun> [<https://perma.cc/7ZXP-A6EV>]; Meredith, *supra* note 3, at 452–66; David Dodman, *Urban Density and Climate Change 2–3* (U.N. Population Fund, Paper No. 1, 2009), <https://www.unclearn.org/wp-content/uploads/library/unfpa14.pdf> [<https://perma.cc/MFN3-VSFM>].

that encourage cities to create streets that are designed and operated to enable safe use and to support the mobility of all users.⁶ While Complete Streets policies can further these goals, they ultimately fall short of their primary goal because they fail to address the design of the city itself and the function of streets.⁷ To tackle this problem, cities ought to adopt form-based codes and New Urbanist design principles. As opposed to conventional zoning, which regulates land based on use, form-based codes zone land by regulating the form and design of development.⁸ Furthermore, implementing a strict road classification system that clearly defines the function of roads, as well as generates a sense of shared responsibility among all road users, will also help create safer and more accessible streets, furthering the goals of Complete Streets policies.⁹

Part I of this Note discusses the history of city planning in the United States, starting in the early twentieth century, as well as the rise of auto-centric cities.¹⁰ Part II examines how states and local governments across the United States are adopting policies called Complete Streets initiatives in order to create safer streets that accommodate pedestrians, cyclists, and public transportation users, as well as cars.¹¹ Finally, Part III discusses the shortcomings of Complete Streets policies and argues that unless broader measures are taken to address failures in city and road design from a systems perspective, Complete Streets initiatives cannot fully achieve their stated goals.¹²

I. THE DECLINE OF GREAT AMERICAN CITIES

The economic boom following the Second World War created a housing boom that resulted in the formation of expansive suburbs across the United States.¹³ The high demand for suburban housing, coupled

⁶ See *What Are Complete Streets?*, SMART GROWTH AM., <https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/what-are-complete-streets/> [https://perma.cc/3MNB-QA38] (last visited Jan. 16, 2023).

⁷ See *infra* Part III.

⁸ John M. Barry, Note, *Form-Based Codes: Measured Success Through Both Mandatory and Optional Implementation*, 41 CONN. L. REV. 305, 311–13 (2008).

⁹ See Ge Shi, Vannesa Methoxha, Carol Atkinson-Palombo & Norman Garrick, *Sustainable Safety in the Netherlands Creating a Road Environment Where People on Foot and on Bikes Are as Safe as People in Cars*, 2675 TRANSP. RSCH. REC. 792, 799 (2021).

¹⁰ See *infra* Part I.

¹¹ See *infra* Part II.

¹² See *infra* Part III.

¹³ See Meredith, *supra* note 3, at 467–68.

with the availability of cheap model homes, resulted in large suburban communities popping up seemingly overnight.¹⁴ At the same time, cars were cheaper than ever, and the new interstate system significantly reduced travel times for suburban dwellers.¹⁵ People could live in the suburbs and commute to work by car, which only increased the demand for suburban housing.¹⁶

As a result, developers and municipalities began designing cities around the automobile, kicking pedestrians, cyclists, and public transportation users—quite literally—to the curb.¹⁷ Vibrant and attractive main streets were quickly abandoned in favor of large, consolidated shopping centers with ample parking.¹⁸ The result of this was the fragmentation of many cities.¹⁹ In many cities, it is now impractical and unsafe to walk or bike around town because residences are too separated from commercial areas and because cities often do not have accommodating infrastructure for alternative means of transportation (including public transit).²⁰

The rise of zoning laws in the United States also played a major role in the formation of cities. Following the rapid industrialization of the United States, many members of the public became concerned about the negative health effects stemming from a lack of zoning laws.²¹ As a result, zoning ordinances were popularized in the early twentieth century to segregate residential areas from nuisances, such as slaughterhouses, tanneries, and industries that required heavy machinery.²²

In the 1926 landmark case *Village of Euclid v. Ambler Realty*, the Supreme Court upheld the constitutionality of zoning ordinances.²³ The rise in zoning ordinances across the nation contributed to the stratification of U.S. cities, because cities began to zone large portions of land for solely residential or solely commercial use.²⁴ As a result, the places where people lived, worked, and shopped quickly grew farther apart.²⁵ Other zoning requirements, such as minimum parking lot requirements, minimum

¹⁴ See ROBERT BRUEGMANN, *SPRAWL: A COMPACT HISTORY* 15, 43 (2005).

¹⁵ See Nathaniel Baum-Snow, *Did Highways Cause Suburbanization?*, 122 Q.J. ECON. 775, 785 (2007).

¹⁶ See BRUEGMANN, *supra* note 14, at 43.

¹⁷ See Woodward, *supra* note 2, at 2637.

¹⁸ See, e.g., *id.* at 2627–28.

¹⁹ See Meredith, *supra* note 3, at 455–57.

²⁰ See *What Are Complete Streets?*, *supra* note 6.

²¹ See Woodward, *supra* note 2, at 2630–32.

²² *Id.*

²³ 272 U.S. 365, 397 (1926).

²⁴ See Barry, *supra* note 8, at 310–11.

²⁵ See *id.*

residential lot sizes, minimum setbacks, and signage requirements further cemented that cities were built for the car.²⁶

Due to strict zoning ordinances, high-density, mixed-use neighborhoods are often illegal because they frequently violate common single-use and single-family zoning laws.²⁷ In place of these neighborhoods, developers began building large, single-family developments.²⁸ Furthermore, vibrant main streets full of foot traffic gave way to shopping malls and business parks.²⁹

Auto-centric cities disproportionately affect minority communities, individuals with disabilities, and the elderly.³⁰ One of the major issues in cities today is the phenomena of “heat islands,” which are areas that experience higher temperatures than surrounding areas because of the lack of natural landscapes, such as trees and water.³¹ Buildings, roads, and other infrastructure absorb and re-emit the sun’s heat, while natural landscapes, such as trees and water, do a better job at containing the heat.³² In large urban areas with a heavy concentration of infrastructure and few natural landscapes, daytime temperatures can range from one to seven degrees Fahrenheit higher than surrounding areas.³³ There is a direct correlation between redlined areas in cities and heat islands today.³⁴ As climate change threatens to raise temperatures globally, these heat islands will only get hotter, which may be detrimental to the health of the residents of such areas.³⁵

Furthermore, the necessity of traveling by car drastically increases the amount of carbon emitted into the atmosphere.³⁶ Auto emissions tend to dominate the greenhouse gas figures, particularly in cities.³⁷

²⁶ See Woodward, *supra* note 2, at 2634–35.

²⁷ See H. William Freeman, *A New Legal Landscape for Planning and Zoning*, 36 MICH. REAL PROP. REV. 117, 121 (2009).

²⁸ See Barry, *supra* note 8, at 310–11.

²⁹ See *id.*

³⁰ See *What Are Complete Streets?*, *supra* note 6.

³¹ See *Learn About Heat Islands*, EPA, <https://www.epa.gov/heatislands/learn-about-heat-islands#heat-islands> [<https://perma.cc/T6KH-2SY5>] (last visited Jan. 16, 2023).

³² *Id.*

³³ *Id.*

³⁴ See Brad Plumer & Nadja Popovich, *How Decades of Racist Housing Policy Left Neighborhoods Sweltering*, N.Y. TIMES (Aug. 24, 2020), <https://www.nytimes.com/interactive/2020/08/24/climate/racism-redlining-cities-global-warming.html> [<https://perma.cc/473U-SKZW>].

³⁵ See *id.*

³⁶ See Dodman, *supra* note 5, at 6–7.

³⁷ See *id.*

Without drastic intervention, many of the problems facing American cities will not resolve themselves. Instead, they will only continue to get worse through a self-perpetuating cycle. Fortunately, towards the end of the twentieth century, a movement began to restore America's main streets, and one of the ways this movement is being implemented is through the adoption of Complete Streets policies across the nation.³⁸

II. COMPLETE STREETS POLICIES

A. *Complete Streets as a Solution to Tackling Car-Dependent Cities*

While there is no one definition for Complete Streets, the Department of Transportation's definition is a useful guide: "Complete Streets are streets designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or public transportation riders."³⁹ Complete Streets policies have been implemented by state and local governments across the nation.⁴⁰ It is important to note that Complete Streets vary widely across the nation, and they are intended to conform to the needs of the community.⁴¹

Some of the most popular Complete Streets policies are expanding and implementing dedicated bike lanes on city streets, widening sidewalks to provide a safer walking environment, and implementing safer and more frequent pedestrian crosswalks.⁴² Beyond just ensuring safe mobility for pedestrians, cyclists, and public transportation users, Complete Streets policies also support healthy and active lifestyles by encouraging walking and biking; enable the elderly, disabled, and poor to engage in their community; and help reduce carbon emissions by discouraging car use.⁴³

³⁸ See Corey Zehngebot & Richard Peiser, *Complete Streets Come of Age*, AM. PLAN. ASS'N (May 2014), <https://www.planning.org/planning/2014/may/completestreets.htm> [<https://perma.cc/2G6M-SDGN>].

³⁹ See *Complete Streets*, *supra* note 4; see also *What Are Complete Streets?*, *supra* note 6.

⁴⁰ See Ebony Venson, *Complete Streets Policy Adoption Continues to Grow Across the Country*, SMART GROWTH AM. (Sept. 29, 2022), <https://smartgrowthamerica.org/complete-streets-policy-adoption-continues-to-grow-across-the-country/> [<https://perma.cc/M5K7-AXZV>].

⁴¹ *What Are Complete Streets?*, *supra* note 6.

⁴² See SMART GROWTH AM., *THE BEST COMPLETE STREETS POLICIES OF 2018*, at 4, 6, 9 (2019), <https://smartgrowthamerica.org/wp-content/uploads/2019/05/Best-Complete-Streets-Policies-of-2018.pdf> [<https://perma.cc/8UZA-WAG8>].

⁴³ See SMART GROWTH AM. & NAT'L COMPLETE STS. COAL., *COMPLETE STREETS HELP CREATE LIVABLE COMMUNITIES 2*, https://livewellsiouxfalls.org/images/uploads/main/cs-livable_community.pdf [<https://perma.cc/U4F7-MV7P>] (last visited Jan. 16, 2023).

B. Survey of Complete Streets Policies Across the United States

According to Smart Growth America, a non-profit organization that advocates for safe, equitable, and sustainable community growth,⁴⁴ over 1,600 Complete Streets policies have been adopted by state, local, and territorial governments in the United States, as well as by the federal government.⁴⁵

Common policies include reducing speed limits, creating more frequent and larger crosswalks, implementing dedicated bike lanes, creating larger sidewalks, and expanding public transit capacity.⁴⁶ Although not policies, Smart Growth America also encourages safety demonstration projects to raise awareness for dangerous streets.⁴⁷

The redesign of a dangerous street in Durham, North Carolina, is an example of a Complete Streets policy at work.⁴⁸ The city identified a busy boulevard with several public transit stops on either side.⁴⁹ Pedestrians riding public transportation often had to cross the busy road to get to their destination, but crosswalks were few and far between.⁵⁰ After surveying neighborhood residents, the city implemented the following measures: installed a mid-block crossing with a protected pedestrian refuge on the concrete median, closed the outside lanes of traffic to provide additional space for buses to pull over, and partnered with local artists to design artwork for the median and sidewalks.⁵¹ Following the project, there was a significant increase in the amount of drivers yielding to pedestrians on crosswalks, and residents felt safer using the crosswalk.⁵²

According to Smart Growth America, over 46% of Complete Streets policies in 2018 were adopted by small, suburban communities.⁵³ Towns

⁴⁴ *Steering Committee*, SMART GROWTH AM., <https://smartgrowthamerica.org/program/national-complete-streets-coalition/who-we-are/> [<https://perma.cc/M92H-LWCE>] (last visited Jan. 16, 2023).

⁴⁵ See SMART GROWTH AM., *supra* note 42, at 3.

⁴⁶ See Robin Smith, Sharlene Reed & Shana Baker, *Street Design: Part 1—Complete Streets*, 74 PUB. RDS., No. 1, 2010, <https://highways.dot.gov/public-roads/julyaugust-2010/street-design-part-1-complete-streets> [<https://perma.cc/UHA9-LF9K>].

⁴⁷ See SMART GROWTH AM. & NAT'L COMPLETE STS. COAL., *SAFETY DEMONSTRATION PROJECTS: CASE STUDIES FROM DURHAM, NC, HUNTSVILLE, AL, AND PITTSBURGH, PA* 4 (2019).

⁴⁸ See *id.*

⁴⁹ *Id.* at 6–7.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² See *id.*

⁵³ Smart Growth defined “suburbs” as communities within an urban area that are not themselves the principal city and “small” as containing fewer than 100,000 residents. SMART GROWTH AM., *supra* note 42, at 5.

made up approximately 22% of Complete Streets policies, and the rest of the policies were adopted by cities, suburbs, and rural communities of differing sizes.⁵⁴

The aforementioned Durham, North Carolina, Complete Streets project is an example of a bottom-up initiative, but there are also top-down pressures to enact such initiatives as well.⁵⁵ In 2021, the Complete Streets Act was introduced in the U.S. House of Representatives.⁵⁶ The bill would require states to enact their own Complete Streets programs, as well as mandate the creation of federal benchmarks that states must comply with.⁵⁷ Specifically, it would require states to set aside 5% of their federal highway money for Complete Streets initiatives.⁵⁸

Furthermore, the Federal Highway Administration (“FHWA”) recently released a report stating that it will now approach the funding and planning of the majority of federally funded roadways from a Complete Streets perspective.⁵⁹ The change was prompted by a recent increase in pedestrian and cyclist road fatalities.⁶⁰ This is significant because the FHWA covers more than just interstate highways; it covers urban arterial roads and small-town main streets, which are often the most dangerous for pedestrians.⁶¹ Several sections of the U.S. Code require states and local governments receiving federal roadway funds to “consider” modes of transportation other than automobiles, but there is no standard as to what constitutes sufficient consideration.⁶² The FHWA wants to clarify how much consideration is necessary, and it also wants to develop more technical materials and resources that state and local governments can use when designing Complete Streets.⁶³

The Environmental Protection Agency (“EPA”) distributes grants to state and local governments for smart growth-related work as well,

⁵⁴ *Id.*

⁵⁵ See Complete Streets Act, H.R. 1289, 117th Cong. (2021); *Federal Highway Administration Details Efforts to Advance Complete Streets Design Model, Improve Safety for All Road Users in Report to Congress*, DOT FED. HIGHWAY ADMIN. (Mar. 2, 2022) [hereinafter DOT FHWA], <https://highways.dot.gov/newsroom/federal-highway-administration-details-efforts-advance-complete-streets-design-model> [<https://perma.cc/UVW2-D88N>].

⁵⁶ See H.R. 1289.

⁵⁷ See *id.* § 2(b)(3)(D).

⁵⁸ See *id.* § 2(i).

⁵⁹ See DOT FHWA, *supra* note 55.

⁶⁰ See DOT FED. HIGHWAY ADMIN., *MOVING TO A COMPLETE STREETS DESIGN MODEL: A REPORT TO CONGRESS ON OPPORTUNITIES AND CHALLENGES 4* (2022).

⁶¹ See *id.* at 45.

⁶² See *id.*

⁶³ See *id.* at 45–48.

which includes Complete Streets initiatives.⁶⁴ It also has several technical assistance programs to aid governments in implementing Complete Streets policies.⁶⁵ The EPA grants demonstrate that Complete Streets policies serve other purposes beyond just safe transportation. An example of this intersection of goals can be seen in the Complete Streets initiatives enacted in Hot Springs, Arkansas.⁶⁶ The city enacted Complete Streets initiatives to: increase access to healthy nutrition and physical activity; improve safety for walkers, cyclists, and wheelchair users; and stimulate economic development.⁶⁷ Hot Springs received a smart-growth technical assistance grant from the EPA, hosted a Complete Streets workshop from Smart Growth America, and partnered with the Arkansas Coalition for Obesity Prevention.⁶⁸ Hot Springs' implementation of Complete Streets policies shows the interplay between different levels of government, businesses, and non-profits when it comes to Complete Streets, as well as the varying interests involved.⁶⁹

III. ADDITIONAL POLICIES THAT ADDRESS THE SHORTCOMINGS OF COMPLETE STREETS POLICIES

One of the primary issues with Complete Streets policies is that they fail to address the larger issue of correcting the way cities are structured around the car. Many Complete Streets initiatives focus on implementing dedicated bike lanes and safer crosswalks for pedestrians, which do help decrease injuries and fatalities.⁷⁰ While cities have been successful in adopting initiatives to further these goals, initiatives that

⁶⁴ See *Hot Springs Complete Streets Initiative*, CITY OF HOT SPRINGS, <https://www.cityhs.net/537/Complete-Streets> [<https://perma.cc/U2E7-N657>] (last visited Jan. 16, 2023); *EPA Smart Growth Grants and Other Funding*, EPA, <https://www.epa.gov/smartgrowth/epa-smart-growth-grants-and-other-funding> [<https://perma.cc/FAP8-EH23>] (Apr. 22, 2022).

⁶⁵ See *Smart Growth Technical Assistance Programs*, EPA, <https://www.epa.gov/smartgrowth/smart-growth-technical-assistance-programs> [<https://perma.cc/ABX9-8Z4T>] (Mar. 14, 2022).

⁶⁶ See *Hot Springs Complete Streets Initiative*, *supra* note 64; Claire Healy, *Complete Streets Workshop Helps Hot Springs, AR Improve Public Health*, SMART GROWTH AM. (Dec. 3, 2014), <https://smartgrowthamerica.org/complete-streets-workshop-helps-hot-springs-ar-improve-public-health/> [<https://perma.cc/EW5Z-TBT3>].

⁶⁷ See *Hot Springs Complete Streets Initiative*, *supra* note 64.

⁶⁸ See *id.*; Healy, *supra* note 66.

⁶⁹ See *Hot Springs Complete Streets Initiative*, *supra* note 64.

⁷⁰ See DOT FED. HIGHWAY ADMIN., CASE STUDIES FOR FHWA PEDESTRIAN AND BICYCLE FOCUS STATES AND CITIES 15, 19–20, 33 (2021), https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/FHWA_FocusApproach_CaseStudies_508.pdf [<https://perma.cc/24JK-HK7T>]; SMART GROWTH AM. & NAT'L COMPLETE STS. COAL., *supra* note 43, at 2.

only address the city street itself fail to get at the source of the problem: poor urban planning.⁷¹

A. *Form-Based Codes and New Urbanist Design Principles*

Although it makes sense for Complete Streets policies to focus primarily on streets themselves, poor street design is a symptom and not the cause of many urban planning woes.⁷² Streets themselves are unfriendly to pedestrians, cyclists, and public transportation users because the design of suburbs left no other option.⁷³ Therefore, in order for Complete Streets policies to be effective, they need to broaden their scope and address the city at large.

One popular solution to the issue of poor city planning is New Urbanism.⁷⁴ New Urbanism is a school of city planning and development that seeks to counter auto-dependent urban sprawl by designing cities that are human-scaled.⁷⁵ New Urbanism began in the late twentieth century, and it rose to prominence in the 1990s.⁷⁶ Popular examples of New Urbanist communities include: Seaside, Florida; Celebration Village, Florida; and Kentlands, Maryland.⁷⁷ Although the architecture in these towns may differ, they are all similar in that they are relatively dense compared to other suburbs, they incorporate mixed-use development, and most services are accessible by foot within five minutes.⁷⁸

The primary goal of New Urbanism is to create higher-density, mixed-use development that encourages people to work, shop, and engage with their community without needing a car.⁷⁹ To achieve that goal, New

⁷¹ See generally DOT FHWA, *supra* note 55; *Steering Committee*, *supra* note 44.

⁷² See Meredith, *supra* note 3, at 480–81.

⁷³ See *supra* Part I.

⁷⁴ See Meredith, *supra* note 3, at 478.

⁷⁵ *What is New Urbanism?*, CNU: CONG. FOR THE NEW URBANISM, <https://www.cnu.org/resources/what-new-urbanism> [<https://perma.cc/4D47-PKBY>] (last visited Jan. 16, 2023).

⁷⁶ *CNU History*, CNU: CONG. FOR THE NEW URBANISM, <https://www.cnu.org/movement/cnu-history> [<https://perma.cc/7NSS-QWVG>] (last visited Jan. 16, 2023).

⁷⁷ See Jay Walljasper, *How a Florida Beach Town Changed How We Live*, CNU: PUB. SQUARE (May 14, 2019), <https://www.cnu.org/publicsquare/2019/05/14/how-florida-beach-town-changed-how-we-live> [<https://perma.cc/3F55-CRYF>]; *Celebration*, CNU: CONG. FOR THE NEW URBANISM, <https://www.cnu.org/what-we-do/build-great-places/celebration> [<https://perma.cc/55Z2-FUGW>] (last visited Jan. 16, 2023); *Kentlands*, CNU: CONG. FOR THE NEW URBANISM, <https://www.cnu.org/what-we-do/build-great-places/kentlands#:~:text=Built%20over%2030%20years%20ago,to%20those%20found%20in%20DC> [<https://perma.cc/3MMC-YM4B>] (last visited Jan. 16, 2023).

⁷⁸ See *CNU History*, *supra* note 76.

⁷⁹ Meredith, *supra* note 3, at 479.

Urbanists advocate for the use of form-based codes, as opposed to the traditional Euclidian codes.⁸⁰ Whereas Euclidian zoning segregates land based on use,⁸¹ form-based codes focus more on regulating a property's form over its use.⁸² Form-based codes set standards for off-set requirements, building façades and height, and street and block standards.⁸³ The benefit of this type of code is that it encourages mixed-use development and discourages urban sprawl.⁸⁴ The Congress for the New Urbanism advocates for neighborhoods designed around a five-minute walk from center to edge, and under this type of development, offices, grocery stores, and shops can be built within walking distance of residences.⁸⁵ Form-based codes further the goals of Complete Streets policies because they make it practical to get around cities without a car.

New Urbanist design principles also further the goals of Complete Streets policies by creating attractive communities that encourage people to travel by foot or bicycle.⁸⁶ Form-based codes are great at this because they enable cities to organize and design their cities in a manner that is attractive and reflects the character and values of the local community.⁸⁷ Well-designed cities strengthen the personal and civic bonds of their citizens.⁸⁸

Underlying the Complete Streets goal of creating streets that are pedestrian-, cyclist-, and transit-oriented is the desire to create vibrant communities that instill a sense of belonging to its residents.⁸⁹ In cities with form-based codes, businesses and residents may cycle in and out of buildings, but the building itself will stay mostly the same.⁹⁰ This ensures that the overall design and character of neighborhoods can stay the same, while still encouraging residential and commercial growth.⁹¹

Furthermore, using form-based codes to create cities that are not auto-centric is also more economically efficient.⁹² A case study examined

⁸⁰ See Barry, *supra* note 8, at 307–08.

⁸¹ See Freeman, *supra* note 27, at 121.

⁸² Barry, *supra* note 8, at 308.

⁸³ *Id.*

⁸⁴ *Id.*; see also Meredith, *supra* note 3, at 480.

⁸⁵ See *What is New Urbanism?*, *supra* note 75.

⁸⁶ See Brian W. Ohm & Robert J. Sitkowski, *The Influence of New Urbanism on Local Ordinances: The Twilight of Zoning?*, 35 URB. L. 783, 792–93 (2003).

⁸⁷ See *What is New Urbanism?*, *supra* note 75.

⁸⁸ See Meredith, *supra* note 3, at 479–80.

⁸⁹ *What Are Complete Streets?*, *supra* note 6.

⁹⁰ Freeman, *supra* note 27, at 121.

⁹¹ See *id.*

⁹² Marohn, *supra* note 5.

two identical commercial plots of land on the same street in Brainerd, Minnesota.⁹³ One plot (hereinafter the “old and blighted plot”) contained a run-down collection of small establishments: pawn shop, two liquor stores, barber shop, law office, campaign headquarters, retail establishment, café, and a vacant building.⁹⁴ The other plot contained a brand new Taco John’s fast food restaurant with ample parking.⁹⁵ The parking lot of Taco John’s was nearly three times the size of the restaurant itself.⁹⁶

The study found that although the Taco John’s was brand new and brought in considerably more business than any of the old and blighted establishments, its tax base was significantly lower than that of the old and blighted plot.⁹⁷ The Taco John’s tax base was \$803,200, while the old and blighted plot had a tax base of \$1,136,500.⁹⁸ After several years, the Taco John’s tax base dropped by nearly \$200,000, and the old and blighted plot outperformed it by 78%.⁹⁹ Furthermore, given the design of Taco John’s, it is more difficult for another business to occupy the building if the restaurant goes under, but the nature of the old and blighted plot makes it easy for businesses to operate in the building.¹⁰⁰ This makes the old and blighted plot more sustainable.¹⁰¹

This case study demonstrates that new development is not always economically efficient development.¹⁰² Form-based codes can achieve this efficiency by regulating the design of buildings to accommodate humans and not cars, thus increasing the taxable revenue of land.¹⁰³ Increasing the density of urban and suburban development through form-based codes is paramount in achieving the goals of Complete Streets initiatives, but this cannot be achieved in a vacuum, and changes must be made on the citywide level.¹⁰⁴

One of the secondary effects of form-based codes and New Urbanist design principles is that they can help cities reduce their carbon dioxide output per capita by limiting the amount of cars on the road.¹⁰⁵ Dense

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ Marohn, *supra* note 5.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Barry, *supra* note 8, at 313.

¹⁰⁴ *What Are Complete Streets?*, *supra* note 6; Barry, *supra* note 8, at 313.

¹⁰⁵ Dodman, *supra* note 5, at 6–7.

urban development substantially reduces carbon dioxide output because: smaller homes require less electricity to heat and cool; density concentrates goods and services, which reduces the need to travel long distances; and cities generally have better public transportation networks, partially because cities generate a higher demand for public transportation.¹⁰⁶

For example, in 2016, New York City's greenhouse gas emission per capita was 6.1 metric tons of carbon dioxide, while the nationwide average was around three times larger at nineteen tons.¹⁰⁷ Similarly, the greenhouse gas emissions per capita in the City of Chicago were significantly lower than the emissions of Chicago's more rural neighboring counties.¹⁰⁸ Furthermore, a study of Toronto revealed that auto emissions began to dominate total greenhouse gas emissions as the distance from the central core of the city increased.¹⁰⁹ Although cities themselves tend to emit a relatively greater amount of greenhouse gases, this is partly due to the fact that there are more people concentrated in cities.¹¹⁰

However, one of the critiques of looking at just the greenhouse gas emission per capita in cities is that cities often displace high-greenhouse-gas-emitting activities to areas outside of the city, such as to industrial parks.¹¹¹ While dense urban design can help reduce the average person's greenhouse gas emissions, cities are not a complete solution to climate change and broader action ought to be taken.¹¹²

Form-based codes and New Urbanist design principles can help reduce the greenhouse gas emissions of cities by increasing the density, walkability, and sustainability of cities.¹¹³ These principles can help make suburbs more sustainable because suburbs, particularly in large metropolitan areas, tend to have large populations and low density, which is the opposite of what is necessary to drive down greenhouse gas emissions

¹⁰⁶ *Id.* at 7–8.

¹⁰⁷ N.Y.C. MAYOR BILL DE BLASIO, INVENTORY OF NEW YORK CITY GREENHOUSE GAS EMISSIONS IN 2016, at 2 (2017), <https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/GHG%20Inventory%20Report%20Emission%20Year%202016.pdf> [<https://perma.cc/7LDL-QR47>].

¹⁰⁸ CHI. METRO. AGENCY FOR PLAN., 2015 CHICAGO REGIONAL GREENHOUSE GAS EMISSIONS INVENTORY, at iii–iv (2018), https://www.cmap.illinois.gov/documents/10180/885293/2015+Chicago+Regional+Inventory_Final+Report_June+2018.pdf/03087e10-fc65-f276-3342-7059f212b9d2 [<https://perma.cc/4S6R-R54U>].

¹⁰⁹ *See* Dodman, *supra* note 5, at 7.

¹¹⁰ *See id.*

¹¹¹ *Id.* at 8.

¹¹² *See id.*

¹¹³ *See* Barry, *supra* note 8, at 311–12.

per capita.¹¹⁴ Form-based codes and New Urbanist design principles can help make suburbs denser and less auto-dependent, thereby driving down greenhouse gas emissions per capita, while still allowing suburbs to remain attractive places to live.¹¹⁵

Another way that form-based codes promote sustainable cities is through an emphasis on incorporating nature in cities.¹¹⁶ As previously mentioned, cities are at risk of becoming heat islands because of their lack of trees and water to absorb heat and because of concrete surfaces that emit instead of reflect heat.¹¹⁷ This is not a problem that only form-based codes and New Urbanists are trying to solve, and many cities across the nation have ordinances relating to required tree cover in developments.¹¹⁸

One of the problems with urban canopy initiatives is that many cities cannot support such canopies because of a lack of potential planting sites.¹¹⁹ Similar to walkability problems of cities, merely planting trees will not be effective, unless structural changes themselves are made to cities.¹²⁰ This is where form-based codes come into play. Proponents of form-based codes advocate for frontages and thoroughfares that incorporate space for trees.¹²¹ As opposed to the massive multi-lane streets that are a staple of modern suburbia, small setback requirements, single- or double-lane thoroughfares with medians, and wide sidewalks all help create streets that can support canopies.¹²²

Despite the numerous benefits in enacting form-based codes, many have criticized form-based codes and argued that they do not eradicate

¹¹⁴ See *id.* at 310–11.

¹¹⁵ See Michael Mehaffy, *The Urban Dimensions of Climate Change: Lessons for a New Urbanism*, CNU: PUB. SQUARE (Mar. 19, 2019), <https://www.cnu.org/publicsquare/2019/03/19/urban-dimensions-climate-change> [<https://perma.cc/2MNQ-MNYX>].

¹¹⁶ See CHI. METRO. AGENCY FOR PLAN., FORM-BASED CODES: A STEP-BY-STEP GUIDE FOR COMMUNITIES 17 (2013), <https://formbasedcodes.org/wp-content/uploads/2013/11/CMAP-GuideforCommunities.pdf> [<https://perma.cc/44B8-CHK2>].

¹¹⁷ See *supra* Part I.

¹¹⁸ See Jad Daley & Marc Benioff, *Yes, We Can Grow 1 Million Trees to Help Fight Climate Change*, TIME (Aug. 27, 2021, 10:08 AM), <https://time.com/6093342/1-trillion-trees-climate-change/> [<https://perma.cc/43TQ-UW3K>] (noting how over seventy U.S. cities, states, companies, and non-governmental organizations have pledged to grow over fifty billion trees in the United States and abroad by 2030).

¹¹⁹ See Rachel S. Danford, Chingwen Chen, Michael W. Strohbach, Robert Ryan & Craig Nicolson, *What Does It Take to Achieve Equitable Urban Tree Canopy Distribution? A Boston Case Study*, 7 CITIES & ENV'T 1, 15 (2014).

¹²⁰ See *id.*

¹²¹ See CHI. METRO. AGENCY FOR PLAN., *supra* note 116, at 27, 30–31.

¹²² See *id.*

many of the problems created by Euclidian zoning.¹²³ One of the chief concerns is that strict form-based codes make development significantly more expensive.¹²⁴ Because form-based codes typically function in a bottom-up matter, they invite a lot of community involvement over the look and feel of neighborhoods.¹²⁵ This starkly contrasts Euclidian zoning, which gives developers significantly more freedom in the design of their developments, as long as it fits within the specifications of the existing code.¹²⁶ Unlike the objective criteria within Euclidian codes, form-based codes emphasize more subjective criteria regarding the look and feel of neighborhoods, and this process can be lengthy and hinder development.¹²⁷

The lengthy review process and requirement to tailor developments to community standards significantly increases the cost of developments, and these costs will ultimately be pushed on the consumer.¹²⁸ While high-quality, mixed-use development is beneficial for cities, it can result in skyrocketing property values.¹²⁹ High property values are good for cities and property owners, but they tend to drive out low- and middle-income families.¹³⁰ Given that one of the primary goals of Complete Streets policies and New Urbanist design is diversity and equity, the potential exclusion of low- and middle-income residents from communities that have implemented form-based codes is concerning.¹³¹

A study conducted by Emily Talen on the affordability of New Urbanist development found that on average, housing in New Urbanist communities was significantly less affordable to median-income families.¹³² According to her results, 53% of new housing was affordable to local residents with an area median income, while only 14% of New Urbanist housing was affordable to those same residents.¹³³ Although not all

¹²³ See Lolita Buckner Inniss, *Back to the Future: Is Form-Based Code an Efficacious Tool for Shaping Modern Civic Life?*, 11 U. PA. J.L. & SOC. CHANGE 75, 99 (2007); Woodward, *supra* note 2, at 2630–32.

¹²⁴ See Woodward, *supra* note 2, at 2651; Adrian Moore, *The Promise and Pitfalls of Form-Based Codes*, YOUR OBSERVER (Feb. 1, 2018), <https://www.yourobserver.com/article/the-promise-and-pitfalls-of-form-based-codes> [<https://perma.cc/T3FQ-Y3HJ>].

¹²⁵ Moore, *supra* note 124.

¹²⁶ *See id.*

¹²⁷ *Id.*

¹²⁸ Woodward, *supra* note 2, at 2651; *see also* Moore, *supra* note 124.

¹²⁹ Woodward, *supra* note 2, at 2651.

¹³⁰ *Id.*

¹³¹ *See What Are Complete Streets?*, *supra* note 6; Emily Talen, *Affordability in New Urbanist Development: Principle, Practice, and Strategy*, 32 J. URB. AFFS. 489, 491 (2010).

¹³² Talen, *supra* note 131, at 495–96.

¹³³ *Id.* at 496 (Talen's data was taken in 2005, before the Great Recession and COVID-19 pandemic, so current figures may differ).

communities that adopt form-based codes are New Urbanist communities, there is a strong correlation between the two, and many of the ends of New Urbanism can be achieved through form-based codes.¹³⁴ Therefore, Talen's findings on the affordability of New Urbanist communities are concerning.¹³⁵

Talen offers several solutions for combating unaffordability in New Urbanist communities, including using cost-effective building materials, reduced lot sizes, and "location-efficient" financing of mortgages (e.g., a mortgage that allows residents to leverage transportation savings to access cheaper and larger loans).¹³⁶ But Talen does caution that these measures' efficacy may be limited by basic land economics.¹³⁷ Because value in New Urbanist communities is generated from the place and context of the community itself (i.e., walkability, design, amenities, etc.), the size and cost efficiency of individual units within a community may not have a significant effect on affordability.¹³⁸ While New Urbanist communities may succeed in creating more attractive, walkable, and community-oriented towns, their unaffordability does not promote income and racial diversity.¹³⁹

Further critiques of form-based codes and New Urbanist design principles include a concern that they hamper architectural creativity and innovation by proscribing design standards within neighborhoods.¹⁴⁰ While it is up to each municipality to determine its own design specifications, cities that adopt form-based codes are welcome to make their codes as flexible or restrictive as they see fit.¹⁴¹ While this might be a problem in theory, in actuality, the large amount of un-innovative and uncreative development that is possible under Euclidian zoning ought to be a much greater concern to cities than the fear of missing out on new architecture.

Finally, one concern with the implementation of form-based codes is that they primarily apply to downtowns, town centers, and central business districts.¹⁴² By alienating suburbs from form-based codes, cities

¹³⁴ See Woodward, *supra* note 2, at 2638.

¹³⁵ See Talen, *supra* note 131, at 496.

¹³⁶ *Id.* at 491–92.

¹³⁷ *Id.* at 493.

¹³⁸ *Id.*

¹³⁹ See *id.* at 496; *What is New Urbanism?*, *supra* note 75.

¹⁴⁰ See Moore, *supra* note 124.

¹⁴¹ See Kaizer Rangwala, *Assessing Criticism of Form-Based Codes*, SAN DIEGO PLAN. J. (May 22, 2013), <http://sdapa.org/assessing-criticisms-of-form-based-codes/> [<https://perma.cc/JCU9-N5X3>].

¹⁴² Susan Henderson, Marina Khoury, Matthew Lambert, Mary Madden, Bill Spikowski

are only exacerbating the urban-suburban disparity.¹⁴³ Because auto-centric suburbs are one of the main causes of the decline of great American cities, form-based codes must also apply to suburbs in order to remedy the harm that suburbs have already caused.¹⁴⁴ While it is not practical to bulldoze existing developments to make them conform to a form-based code, it is practical to apply the code to any new suburban developments.¹⁴⁵

Despite many of the disadvantages of form-based codes and New Urbanist communities, they are still effective tools for regulating and designing cities centered around all residents, and not just car owners.¹⁴⁶ They give city planners the tools to cure the woes of auto-centric cities at their source, rather than trying to remedy the problem post hoc, as many Complete Streets initiatives try to do.¹⁴⁷

B. *Strict Road Classification Systems*

Even if cities implement measures such as dedicated bike lanes and larger sidewalks and crosswalks, high-speed traffic and busy intersections still discourage alternate forms of transportation.¹⁴⁸ Adopting a strict road classification system will help differentiate roads based on purpose, which will create safer streets within neighborhoods while also creating faster and more efficient roads to transport people throughout the city. Municipalities should model their road classification systems after the Dutch Sustainable Safety Initiative, which promotes significantly safer, more efficient streets, and significantly fewer traffic-related fatalities.¹⁴⁹ This will help reduce “stroads,” which are combinations of streets and roads that are ugly, unsafe, and unhealthy.¹⁵⁰ Although many

& Hazel Borys, *Code Hackathon: What Can Go Wrong with Form-Based Codes?*, PLACE MAKERS (May 14, 2019, 4:03 PM), <http://www.placemakers.com/2019/05/14/code-hackathon/> [<https://perma.cc/VB7C-9FSX>].

¹⁴³ *See id.*

¹⁴⁴ *See id.*

¹⁴⁵ *See id.*

¹⁴⁶ *See* Barry, *supra* note 8, at 314; Meredith, *supra* note 3, at 478–81.

¹⁴⁷ *See* SMART GROWTH AM. & NAT'L COMPLETE STS. COAL., *supra* note 43, at 2.

¹⁴⁸ *See* *What's a STROAD and Why Does It Matter?*, STRONG TOWNS (Mar. 2, 2018), <https://www.strongtowns.org/journal/2018/3/1/whats-a-stroad-and-why-does-it-matter> [<https://perma.cc/R9ZQ-DY84>].

¹⁴⁹ *See* *Fatality Facts 2019: State by State*, IIHS HLDI (May 2022), <https://www.iihs.org/topics/fatality-statistics/detail/state-by-state> [<https://perma.cc/RJR6-6XH4>]; European Commission Press Release IP/20/1003, *Road Safety: Europe's Roads Are Getting Safer but Progress Remains Too Slow* (June 11, 2020). *See generally* Shi et al., *supra* note 9.

¹⁵⁰ *See* *What's a STROAD and Why Does It Matter?*, *supra* note 148.

Complete Streets policies attempt to do this in other ways, the Dutch framework can make it easier for new municipalities to adopt this policy.

While road classification is primarily done on the municipal and state level, the FHWA currently classifies the nation's urban and rural roadways according to their functions.¹⁵¹ According to the FHWA, the interstate system is the highest classification of roadways in the United States, functioning as arterial roads with high levels of mobility.¹⁵² Many other arterial roads, including freeways, multi-lane highways, and other roadways, have a similar function.¹⁵³ Local roads typically have low speed limits (typically between twenty-five and forty-five miles per hour) and provide access to residential areas, businesses, farms, and other areas.¹⁵⁴ Finally, collector roads help connect local roads with arterials, and their mobility level falls between the two.¹⁵⁵ Many states follow a substantially similar system of classification as the FHWA.¹⁵⁶

In the 1990s, the Netherlands overhauled its traffic system to create safer streets which take into account “the interplay with the two other components, man and vehicle.”¹⁵⁷ According to the Dutch road classification report, a road may serve other needs than simply mobility.¹⁵⁸ This overhaul was part of the Netherlands's “Sustainable Safety Vision” intended to diminish the possibility of and mitigate the severity of car crashes.¹⁵⁹ The Sustainable Safety Vision operated under three design principles: (1) “[f]unctionality of roads: a traffic flow function or an exchange function”; (2) “([b]io)mechanics: limiting differences in speed, direction, mass and size, and protection of the road user”; and (3) “[p]sychology: aligning the traffic environment with road-user competencies.”¹⁶⁰

¹⁵¹ *Highway Functional Classification Concepts, Criteria and Procedures*, DOT FED. HIGHWAY ADMIN., https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm [<https://perma.cc/AK6A-UM9C>] (last visited Jan. 16, 2023).

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *See, e.g.*, VA. DEP'T. OF TRANSP., *FUNCTIONAL CLASSIFICATION COMPREHENSIVE GUIDE 2* (2014), https://www.virginiadot.org/Functional_Classification_Comprehensive_Guide.pdf [<https://perma.cc/N3GJ-M7LF>].

¹⁵⁷ *See* SWOV INST. RD. SAFETY RSCH., *ROAD CLASSIFICATION AND CATEGORIZATION 12* (1994) [hereinafter SWOV], <https://www.swov.nl/sites/default/files/publicaties/rapport/r-94-07i.pdf> [<https://perma.cc/C7E8-3V4A>].

¹⁵⁸ *Id.* at 13.

¹⁵⁹ Shi et al., *supra* note 9, at 799.

¹⁶⁰ *Id.*

To improve safety, the Dutch report categorized roads according to their function so that the roads could be more safely outfitted.¹⁶¹ Roads were stated to have three functions: flow, distribution, and access.¹⁶² Flow roads are designed to carry a high volume of people at a high speed, similar to interstates in the United States.¹⁶³ Because of the emphasis placed on efficiency, flow roads ought to be closed networks so large parts of a journey on the road can be covered without interruption.¹⁶⁴ Distributor roads are designed to form connections between flow roads and access roads.¹⁶⁵ Importantly, distributor roads are not meant to give access to private property.¹⁶⁶

Access roads, the last category of roads, provide access to homes, offices, industry, farms, shopping centers, and other similar destinations.¹⁶⁷ These roads only connect to distributor roads, and access roads should be positioned to ensure that they are unattractive to through traffic.¹⁶⁸ Access roads are meant to be characterized by their surroundings, and the road itself is meant to harbor people, not deter them.¹⁶⁹

The Dutch Sustainable Safety Vision helped slow traffic in areas where it ought to be slowed, such as access roads, by increasing the interactions between vehicular and non-vehicular road users.¹⁷⁰ By increasing motorists' awareness of pedestrians, cyclists, and public transport users, motorists themselves take on a greater responsibility to slow down.¹⁷¹ Furthermore, in high-speed areas, such as flow or distributor roads, the initiative urged planners to separate infrastructure created for cyclists and pedestrians.¹⁷²

The Dutch Sustainable Safety Vision was extremely effective in reducing the amount of traffic fatalities.¹⁷³ Since its implementation, expected road deaths decreased by 30% between 1998 and 2007.¹⁷⁴

¹⁶¹ Wendy Weijermars & Fred Wegman, *Ten Years of Sustainable Safety in the Netherlands*, TRANS. RSCH. REC. J. TRANS. RSCH. BD., Dec. 2011, at 1, 7.

¹⁶² SWOV, *supra* note 157, at 15–17.

¹⁶³ *See id.* at 19.

¹⁶⁴ *See id.* at 19–20.

¹⁶⁵ *Id.* at 20.

¹⁶⁶ *Id.* at 21.

¹⁶⁷ *Id.*

¹⁶⁸ SWOV, *supra* note 157, at 21.

¹⁶⁹ *Id.* at 17.

¹⁷⁰ *See Shi et al.*, *supra* note 9, at 799.

¹⁷¹ *See id.*

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.*

Furthermore, Australia, a country with a similar level of car dependency and land-use patterns as the United States, adopted a Safe System approach in the 2000s, and now its fatality rate is less than half of that of the United States.¹⁷⁵

The problem with many American streets is that municipalities try to create roads that serve all three functions: flow, distribution, and access.¹⁷⁶ The result of the practice is the “stroad.”¹⁷⁷ A stroad is a street-road hybrid that “moves cars at speeds too slow to get around efficiently but too fast to support productive private sector investment.”¹⁷⁸ Large setbacks, busy intersections, and high speeds are all common elements of stroads, and they create an environment that is unwelcoming and unsafe to pedestrians, cyclists, and public transit users.¹⁷⁹ The term “stroad” was coined by Charles Marohn, “a self-described ‘recovering traffic engineer’ and founder of the nonprofit Strong Towns,” back in 2011.¹⁸⁰ Marohn compared a stroad to a futon: a piece of furniture that is neither a comfortable couch nor a comfortable bed.¹⁸¹ According to Marohn, “[t]he result [of a stroad] is an expensive highway and a declining tax base.”¹⁸²

Understanding the difference between a street and a road is key to understanding why stroads are so problematic. Beyond just transportation, streets are meant to build wealth and create value within a place, with an emphasis placed on financial return per square foot.¹⁸³ A traditional main street is a good example of a prototypical street: It includes narrow streets, wide sidewalks, and on-street parking.¹⁸⁴ Main streets are, or at least were, typically, where the most important stores and businesses in a town are located.¹⁸⁵ The dense collection of businesses on a

¹⁷⁵ See *id.* at 800.

¹⁷⁶ See *What’s a STROAD and Why Does It Matter?*, *supra* note 148.

¹⁷⁷ See *id.*

¹⁷⁸ Charles Marohn, *Shared Space*, STRONG TOWNS (Jan. 30, 2012), <https://www.strongtowns.org/journal/2012/1/30/shared-space.html#.Usw7-2RDs0t> [<https://perma.cc/E9KB-YLWQ>].

¹⁷⁹ See *What’s a STROAD and Why Does It Matter?*, *supra* note 148.

¹⁸⁰ Sarah Goodyear, *Defining the Worst Type of Street Design*, BLOOMBERG (Jan. 7, 2014, 2:03 PM), <https://www.bloomberg.com/news/articles/2014-01-07/defining-the-worst-type-of-street-design> [<https://perma.cc/PN9L-V2AP>].

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ *What’s a STROAD and Why Does It Matter?*, *supra* note 148.

¹⁸⁴ *Id.*

¹⁸⁵ *Main Street*, CAMBRIDGE ENG. DICTIONARY, <https://dictionary.cambridge.org/us/dictionary/english/main-street> [<https://perma.cc/Y9FG-KTHZ>] (last visited Jan. 16, 2023) (“[T]he street in a town with the most important stores and businesses[.]”).

prototypical main street helps generate a lot of wealth per square foot for both the city and for businesses themselves.¹⁸⁶ A road, on the other hand, is similar to the flow function in the Dutch system: it moves people from one point to another at a fast rate and with few interruptions.¹⁸⁷ A stroad combines the two and does neither well.¹⁸⁸

Looking from the perspective of the Dutch system, stroads try to perform both an access and distribution traffic function.¹⁸⁹ They serve an access function by providing access to individual businesses and shopping centers, and they include a lot of intersections and traffic stops to provide access from other roads.¹⁹⁰ But stroads also try and move traffic at high speeds, which explains why they often include high speed limits and several traffic lanes.¹⁹¹ But the inclusion of high speeds and busy intersections deters foot and cyclist traffic, which is a central element in the access function.¹⁹²

Implementing a road classification system similar to the Dutch system will encourage more pedestrian and cyclist traffic, because the streets will be designed around them.¹⁹³ Slower speed limits in residential and commercial areas will discourage drivers, which will in turn encourage pedestrians and cyclists.¹⁹⁴ In this way, residents will then be able to utilize the fruits of other Complete Streets policies, such as wide sidewalks, dedicated bike lanes, and more frequent crosswalks.¹⁹⁵

One of the important aspects of the Dutch system is that it stresses the importance of educating the general public about the function of road systems in order to shape use:

[R]oad users should also have an understanding, conscious or otherwise, of the functional relationship between parts of the road network. In other words: the function of the road and its environment, respectively, will have to be

¹⁸⁶ See Taco John's case study *supra* Section III.A.

¹⁸⁷ *What's a STROAD and Why Does It Matter?*, *supra* note 148; see SWOV, *supra* note 157, at 19.

¹⁸⁸ Charles Marohn, *The Stroad*, STRONG TOWNS (Oct. 30, 2017) [hereinafter Marohn, *The Stroad*], <https://www.strongtowns.org/journal/2017/10/30/the-stroad> [<https://perma.cc/HFW6-4GWV>].

¹⁸⁹ See SWOV, *supra* note 157, at 15.

¹⁹⁰ See *id.* at 17; Marohn, *The Stroad*, *supra* note 188.

¹⁹¹ See SWOV, *supra* note 157, at 17; Marohn, *The Stroad*, *supra* note 188.

¹⁹² See SWOV, *supra* note 157, at 17; Marohn, *The Stroad*, *supra* note 188.

¹⁹³ See SWOV, *supra* note 157, at 13.

¹⁹⁴ See Shi et al., *supra* note 9, at 799.

¹⁹⁵ See *What Are Complete Streets?*, *supra* note 6.

communicated in one way or another to road users and persons residing along that road, since behaviour after all is the manifestation of actual function.¹⁹⁶

By educating the public on the different function of the roads within a network, city planners can help steer traffic into its intended functional category.¹⁹⁷ This will further the goal of Complete Streets by creating streets with slower traffic and greater accessibility for pedestrians, cyclists, and public transport users.¹⁹⁸

Boston has recently been partially successful in eliminating stroads and creating safer, more efficient roadways by decreasing its overall speed limits.¹⁹⁹ The number of vehicular fatalities has declined from twenty-one in 2016 to ten in 2018, and the total pedestrian fatalities also decreased from fourteen to seven over the same time period.²⁰⁰ But locals want to go further than just lowering speed limits, and they are intent on eliminating stroads and implementing better road design.²⁰¹ According to one activist, the straight thoroughfares and multiple lanes of stroads make people think they can go faster than is safe.²⁰²

One of the key takeaways from the Dutch system that can help create more complete streets is to instill a sense of shared responsibility among all road users, as opposed to the mindset that roads are meant for cars.²⁰³ Complete Streets initiatives do a good job at creating awareness for pedestrians, cyclists, and public transportation, but a larger overhaul of the road network is necessary to truly create streets that are safe for all users.²⁰⁴ City and state officials can eliminate dangerous roads, such as stroads, by taking a proactive approach to road safety, like the Dutch did.²⁰⁵ By placing a greater emphasis on examining the intended functions and actual uses of roads within a network, planners can design safer and more efficient road systems for all users.²⁰⁶

¹⁹⁶ See SWOV, *supra* note 157, at 15.

¹⁹⁷ See *id.*

¹⁹⁸ See *id.*

¹⁹⁹ See Bruce Mohl, *Slowing Down the 'Stroads' of Boston*, COMMONWEALTH MAG. (May 13, 2019), <https://commonwealthmagazine.org/transportation/slowng-down-the-stroads-of-boston-2/> [<https://perma.cc/5RPW-NL4Z>].

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.*

²⁰³ See Shi et al., *supra* note 9, at 800.

²⁰⁴ See Durham, North Carolina, case study *supra* Section II.B.

²⁰⁵ See Shi et al., *supra* note 9, at 799.

²⁰⁶ See Weijermars & Wegman, *supra* note 161, at 7.

CONCLUSION

American cities are in dire need of an overhaul in order to remedy the ill effects of over half a century of urban sprawl and city planning catering to motorists.²⁰⁷ Complete Streets initiatives try to solve this issue by creating streets that prioritize safety, comfort, and access to all users, especially pedestrians, cyclists, and public transport users, who typically receive underinvestment through the traditional transportation approach.²⁰⁸ Although Complete Streets policies are important and effective for making streets that are accessible for all modes of transportation, policies that enact change to the city as a whole are necessary for completing the goals of Complete Streets.²⁰⁹

Form-based codes give city planners a wider toolkit to prevent urban sprawl and promote high-density environments.²¹⁰ Regulating the form of buildings, streets, and other public places results in more densely populated human environments that are more accessible for pedestrians, cyclists, and public transport users.²¹¹ Similarly, New Urbanist design principles give planners a framework within which they can more easily achieve this goal.²¹² Finally, adopting a road classification scheme similar to the one adopted in the Netherlands in the 1990s allows state and local officials to eliminate dangerous and inefficient roads by maintaining a strict classification system and creating a shared sense of responsibility between road users.²¹³ These policies help rewire the way in which we interact with our cities, which makes cities safer, more sustainable, attractive, and community-oriented, thus truly creating complete streets.

²⁰⁷ See Meredith, *supra* note 3, at 455–57.

²⁰⁸ *Steering Committee*, *supra* note 44.

²⁰⁹ See Barry, *supra* note 8, at 311, 313–14; Meredith, *supra* note 3, at 478–80.

²¹⁰ See Barry, *supra* note 8, at 313.

²¹¹ *Id.* at 307, 312–14.

²¹² See Meredith, *supra* note 3, at 478–80.

²¹³ See Shi et al., *supra* note 9, at 799.