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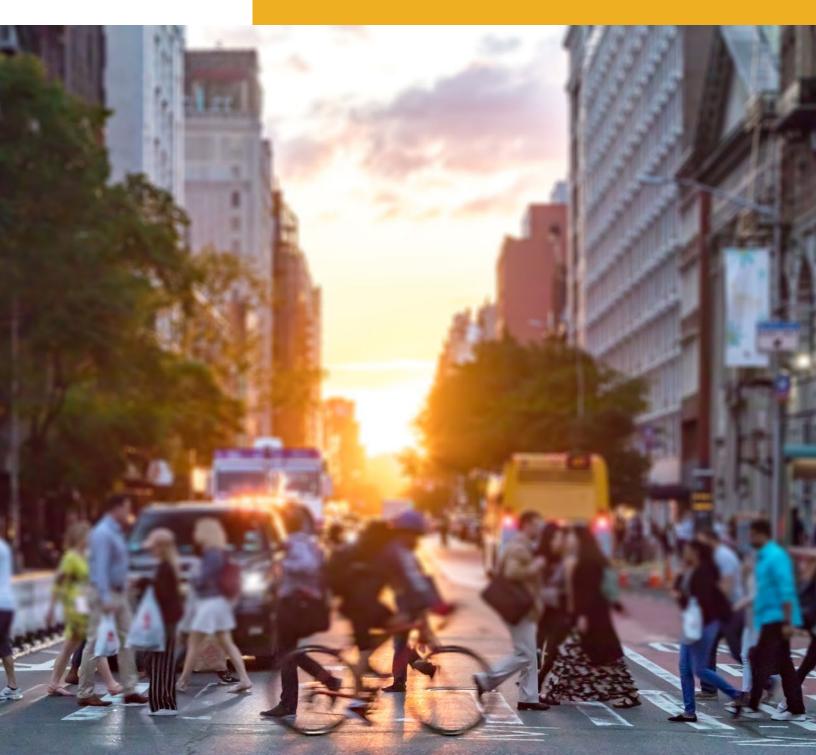
the de Beaumont Foundation + Kaiser Permanente





# Safe Streets in American Cities

How Complete Streets Laws are Creating Stronger Communities



CityHealth, an initiative of the de Beaumont Foundation and Kaiser Permanente, works to advance a package of proven policy solutions that will help millions of people live longer, better lives in vibrant, prosperous communities. CityHealth regularly evaluates cities on the number and strength of their policies. www.cityhealth.org

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### Why We Need Safer Streets

Every day, people in the United States are struck and killed, maimed, and seriously injured by vehicles on unsafe streets at alarming and fully preventable rates. In the United States, between 2008 and 2017, drivers struck and killed 49,340 pedestrians. According to Smart Growth America's 2019 *Dangerous by Design* report, "It's the equivalent of a jumbo jet full of people crashing—with no survivors—every single month."

Urban areas are affected more than other places. Data from the National Highway Traffic Safety Administration estimates that in 2017, almost 6,000 pedestrians died in traffic crashes. A clear majority of these deaths occurred in urban settings (78 percent), on the open road (versus at intersections), and at night. Evidence shows that strong Complete Streets laws can help turn the tide on this disturbing trend and help keep residents safer.

### How COVID-19 Makes Safe Streets Even More Essential

Street safety has taken on new relevance during the COVID-19 pandemic, as millions of Americans are no longer commuting to work on a regular basis, and many have restricted access to public transportation. Across the country, transit systems are operating on reduced schedules and offering fewer routes. During the pandemic, ridership in the biggest public transit systems in the country has plummeted between 70 and 90 percent, and experts expect ridership to remain low for years.

Many residents also cannot safely visit sites where they often exercised, including gyms, swimming pools, ball courts, and playgrounds. Public officials have continued to encourage residents to obtain physical activity however, leaving walking, running, and biking on public streets near home some of the few safe, viable options available. The U.S. Department of Health and Human Services advises Americans: "Going for a walk, run, or bike ride in your neighborhood can be a good way to get active." This means that access to safe streets is even more important, and a lack of access can exacerbate existing disparities in physical activity levels that existed pre-pandemic.

Some cities have already responded to this new land-scape, making nimble changes like closing streets to car traffic, creating more space for people to safely bike and walk. For example, cities like Oakland and Minneapolis have created more temporary bike lanes and closed streets to accommodate people looking for safe places to be outside. <sup>9,10</sup> Oakland has also restricted vehicle traffic on 74 miles of streets, creating space for pedestrians to be outside while keeping their distance from others. <sup>11</sup> That initiative, one of the most ambitious in the nation, built on Oakland's recent success in implementing Complete Streets policies such as expanding bike lane access.

New York City has already opened almost 100 miles of streets to pedestrians and bikes, and Washington, D.C. has expanded sidewalk capacity around essential businesses. <sup>12,13</sup> City leaders like New York City's commissioner of transportation, Polly Trottenberg, anticipate that this increased interest in biking will continue even after cities reopen. <sup>14</sup>

Social distancing will likely continue until a vaccine is widely available and, in the meantime, trains and buses will not be able to accommodate high volumes of passengers. Many people will need to look for alternative modes of transportation that allow for social distancing as they recreate and travel to work and other essential activities. The choices city leaders make now will reverberate well into the future, just as the policy choices leaders made before COVID-19 positioned their cities for greater resilience or prolonged hardship.





# **City Spotlight: Oakland**

In April 2020, the City of Oakland launched its Slow Streets program. In the first phase of the program, the city created 21 miles of slow streets, which are streets that are closed to motor vehicle through traffic so that more people can practice social distancing outside of their homes. The city implemented this program quickly using low-cost, temporary equipment, such as traffic cones, traffic barricades, and sandwich boards.

Following the launch of phase one, the city heard from residents in its East Oakland neighborhood that they didn't just need Slow Streets to recreate, they need them to access jobs and other essential services. In May, Oakland launched the first of its kind. Slow Streets: Essential Places program. This program created Slow Streets that are primarily intended to help residents safely walk, bike, or roll to grocery stores, food distribution sites, and COVID-19 test sites. Going forward, the city will focus on its Slow Streets: Essential Places program. As part of this effort, in July, Smart Growth America awarded the City of Oakland a highly competitive Arts & Transportation Rapid Response grant, which will assign the city an artist in residence and a small grant to help them make their Slow Streets: Essential Places program culturally relevant, beautiful, and easy-to-use.

### **Cities Taking Action**

Long before COVID-19 entered the country, city leaders were enacting policies to make streets safer. CityHealth awards the nation's largest 40 cities with gold, silver, or bronze medals annually in nine policy areas, based on the quantity and quality of those policies. One of these policy solutions is creating Complete Streets, which require that cities create transportation networks that ensure that all residents have safe, convenient ways of getting around and staying active. Smart Growth America partners with CityHealth to advance these policies across the nation.

CityHealth's assessment of Complete Streets policies first looks at whether a city has a Complete Streets policy in place. If so, the assessment then includes whether the policy requires compliance; accommodates people of all ages and abilities including pedestrians, cyclists, motorists, and those taking public transit; assigns a department to oversee implementation; and requires development of performance measures.

In CityHealth's most recent assessment, 29 cities received gold medals for their Complete Streets

policies and seven cities advanced their medal status from the previous year to win gold. Louisville, Milwaukee, Tucson, Portland, Charlotte, San Antonio and Seattle all improved to earn new gold medals. To see the full list of cities and the Complete Streets medals they received, please see the table on page 11.

# What are Complete Streets policies?

Complete Streets policies require cities to include the needs and safety of residents who use all forms of transportation into street design. This includes walking, biking, public transit, and cars. Streets are designed to serve people of all ages and abilities. Cities with strong Complete Streets policies consider street lighting, landscaping, sidewalk coverage, traffic calming measures, and connectivity of pedestrian walkways, bike lanes, and crosswalks when planning, building, and maintaining their transportation networks. Complete Streets policies ensure that all people, regardless of age, ability, or where they live, have safe and convenient ways of getting around as well as opportunities for active living.

#### COMPLETE STREETS IMPROVEMENTS



### **Streets Have Become Increasingly Dangerous**

In the past decade, the number of pedestrians killed by cars increased by 35 percent. While the total number of all other traffic deaths declined by 6 percent, be pedestrian deaths represent a larger share of these casualties, rising from 12 to 16 percent over the last decade. It is clear that recent vehicle design innovations are not adequately benefiting those on foot, and that street design must also change to save more lives. While traffic volumes have decreased dramatically during COVID-19 related stay-at-home orders, cities continue to see multiple pedestrian fatalities, often related to speeding cars. This demonstrates streets in the United States are designed to prioritize high-speed vehicle traffic and we rely on congestion, not street design, to slow vehicles.

Pedestrians are not the only people at increased risk on our nation's streets. The popularity of micromobility, such as scooters, has exploded in cities, as corporations have invested heavily in the technology and consumers have enthusiastically responded to this less expensive alternative to owning and maintaining a car. However, a recent study shows that street design has not kept up with this rapidly developing trend, and

injuries have spiked. Researchers report a 222 percent jump in scooter injuries in just four years, from just six injuries per 100,000 in 2014 to 19 injuries per 100,000 people in 2018. $^{18}$ 

Bicyclists are also at risk. More bikers are on the road in cities, and although the number of bike accidents has decreased overall in the last decade, the number of fatal accidents has risen. The National Highway Traffic Safety Administration reports that in 2015, there were 45,000 reported bicycle accidents in the United States, a decrease of 5,000 accidents from only one year before. However, the number of fatal crashes in the same time period increased by more than 12 percent. Three-quarters of these crashes occurred in urban areas, while only one quarter occurred in rural America. He number of part of the second in rural America.

#### **Those Most at Risk**

While all communities in the United States have seen a rise in pedestrian fatalities, rates of death are highest in the South and among older adults, people of color, and people walking in low-income communities. <sup>22</sup>
Age is also a factor, with 10- to 14-year-olds and 50- to 69-year-olds among the most vulnerable, each now representing 20 percent or more of all pedestrian traffic fatalities. <sup>23</sup> The risk shift to adolescents is a notable

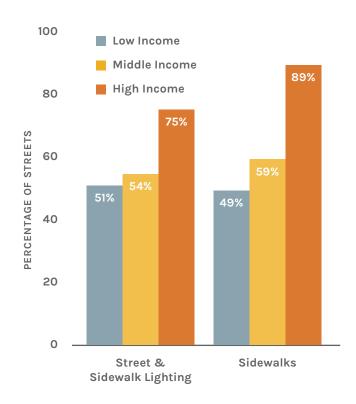
change. In 1995, children ages 5 to 9 were more at risk than any other age group under 19 for being struck by a vehicle while walking. $^{24}$ 

Income level is also a risk factor that experts have shown influences the likelihood of being hit by a car. A study by the Brookings Institution found that millions of urban Americans do not have access to a car because the purchase, maintenance, and fuel is too expensive. <sup>25</sup> And for many older adults, people with disabilities, and children, driving a car is simply not possible.

This demographic trend held true when researchers looked at neighborhoods, finding that safer streets are typically built in high-income areas, whereas middleand low-income areas have fewer design features that increase safety, like sidewalks and crosswalks. In one comprehensive national study, researchers found that in wealthier areas, 89 percent of streets had sidewalks, while only 49 percent did in low-income areas.<sup>26</sup> While 13 percent of high-income areas included marked crosswalks, just 7 percent of streets in low-income communities did.<sup>27</sup> This pattern persisted when experts studied street lighting and traffic calming devices.<sup>28</sup> As housing costs climb in many cities, and many residents are forced to relocate, the lack of safe streets in suburban and rural areas can create stark disparities.

#### FIGURE 1

Availability of Sidewalks and Street and Sidewalk Lighting in Communities



Note: The following differences were significant at p<=0.001: Low-income vs. High-income; Middle-income vs. High-income.

Source: "Income Disparities in Street Features that Encourage Walking," Bridging the Gap: Research Informing Policies and Practices for Healthy Youth, 2012.



# **City Spotlight: Seattle**

A strong Complete Streets policy helped set the framework for the City of Seattle to announce its Stay Healthy Streets initiative this spring, which created over 20 miles of residential streets closed to motor vehicles. The city created the Stay Healthy Streets program to help residents bike, walk, and roll while practicing social distancing. This was one of the first programs in the country where a city permanently opened its streets to people.

The City of Seattle identified the streets to include in the Stay Healthy Streets program using feedback from past public engagement. Seattle will also seek feedback from residents on this program to make sure it is centering racial equity. For example, the city is working with communities of color on how to enforce the program and ensure it's safe for all people, regardless of race, to be physically active. Moving forward, the city will continue to look for opportunities to use Complete Streets to transform its streets into places for people.

# **Changing Streets Create Greater Risks**

Other forces play a role in the rise in traffic-related fatalities. In its 2018 *Pedestrian Traffic Fatalities* by State report, the Governors Highway Safety Association cites "economic conditions, population growth, demographic changes, weather conditions, and fuel prices" as significant contributing factors to the increase in pedestrian deaths. <sup>29</sup> Alcohol impairment was a factor in 43 percent of all pedestrian fatalities in 2017, accounting for 2,509 deaths. <sup>30</sup>

The steady rise in danger to pedestrians, bikers, and scooter riders in recent years might also be attributable to a shift in U.S. vehicle sales away from passenger cars to sport utility vehicles (SUVs) and light trucks. <sup>31</sup> Although passenger cars are the largest category of vehicles involved in fatal pedestrian crashes, the number of pedestrian fatalities involving SUVs increased at a faster rate—50 percent—from 2013 to 2017, compared with passenger cars, which increased by 30 percent. <sup>32</sup> According to a 2015 National Highway Traffic Safety Administration report, SUVs and pickup trucks are two to three times more likely than smaller personal vehicles, like sedans, to kill a pedestrian in the event of a crash.

FIGURE 2
Light Trucks as a Percent of Total U.S. Light Vehicle Sales, 2008–2017

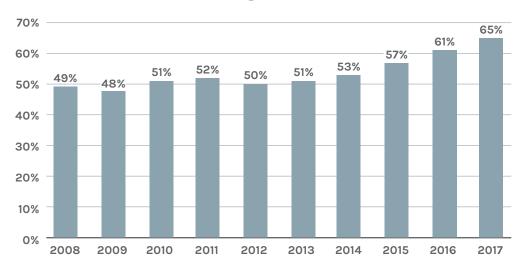
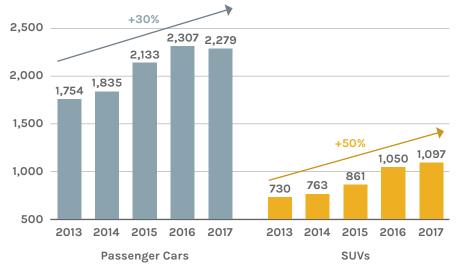


FIGURE 3
Number of Pedestrians killed in Single-Vehicle Crashes Involving
Passenger Cars and SUVs, 2013–2017





# How Complete Streets Improve the Lives of City Residents

Complete Streets policies allow cities to create transportation networks where residents can safely walk, bike, drive, roll, or take public transit around their community. These laws help cities design and build infrastructure that keeps buses and trains running on time, reduces traffic congestion, and makes sure kids have safe routes to school. Done right, these policies have a range of benefits for cities, from community safety and improved health, to reduced stress and economic well-being.

According to the Centers for Disease Control and Prevention (CDC), it would be possible to save lives by expanding the availability of, and access to, a variety of transportation options, and integrating healthenhancing choices into transportation policy. These policies can prevent chronic diseases, reduce and prevent motor-vehicle-related injury and deaths, and improve environmental health, all while stimulating economic development, prioritizing equity, and ensuring access for all people.

### **Boosting Physical Activity, Reducing Obesity**

The mode by which we commute to school and work matters when it comes to public health. There is growing evidence that Complete Streets policies encourage an active lifestyle by creating opportunities, such as by building sidewalks or safe crossings, to integrate exercise into daily activities, thereby helping to reduce the risk of obesity.

Obesity rates have grown steadily in the last three decades. The CDC reports that 1 in 3 adults (34 percent) and 1 in 6 children and adolescents (16 percent) are obese, putting large portions of the American public at risk for conditions like heart disease, stroke, and type 2 diabetes, all leading causes of death. <sup>34</sup> At the same time, most adults (82 percent) and adolescents (82 percent) do not get the recommended amount of physical activity, contributing to the obesity epidemic, and putting Americans at greater risk for preventable diseases. <sup>35</sup>

Public health experts recommend that adults get at least 150 minutes of physical activity each week in order to stay healthy and avoid chronic disease.<sup>36</sup>

Children and adolescents are urged to obtain 60 minutes or more of physical activity every day. Walking is a popular way to integrate this goal into daily life because it is low-cost, relatively low-risk for injury, and generally accessible for most people. Because it is low-cost, relatively low-risk for injury, and generally accessible for most people.

At the same time, many Americans do not have access to safe places to walk where they live, serving as a barrier to getting more exercise. In a study by the Environmental Protection Agency that examined the walkability of American neighborhoods, the nation received poor marks. The agency gave the nation a D grade because only 32 percent of states met the standard of having at least 30 percent of their population reside in a highly walkable neighborhood. <sup>39</sup> Experts at an organization called Safe Routes Partnership also

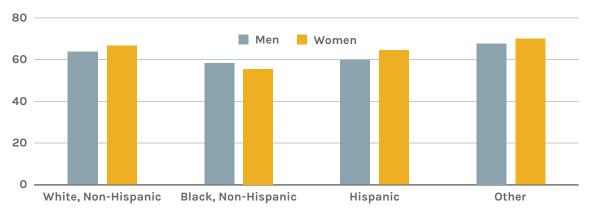
gave the nation a D when evaluating whether states had Complete Streets policies in place.<sup>40</sup>

The lack of safety and accessibility translates to few children walking on a regular basis. According to one study, only 12 percent of students usually walk to school and only 15 percent usually walk home. $^{41}$ 

Obtaining enough physical activity and improving options for city residents to move safely and conveniently around their communities are also critical to advancing equity. A national survey found that rates of regular walking were lower among older Americans, as well as for Hispanics and non-Hispanic blacks when compared to whites, and higher among women than men. 42

FIGURE 4

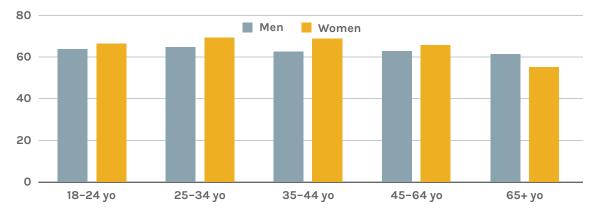
Prevalence of walking for transportation or leisure for at least one bout of 10 minutes in the past 7 days, by gender and race-ethnicity, 2015 National Health Interview Survey



Source: 2017 United States Report Card on Walking and Walkable Communities

#### FIGURE 5

Prevalence of walking for transportation or leisure for at least one bout of 10 minutes in the past 7 days, by gender and age, 2015 National Health Interview Survey



Experts have repeatedly shown that street design matters to health, and that removing barriers to physical activity makes city residents more likely to adhere to physical activity targets. A comprehensive study of walkability found that people in walkable neighborhoods completed about 35 to 45 more minutes of moderate intensity physical activity per week, and were substantially less likely to be overweight or obese than similar people living in low-walkability neighborhoods. When street design incorporates traffic-calming measures, it is associated with more walking and bicycling by residents. Likewise, living in neighborhoods with features like more streetlights and bike paths gives rise to increased physical activity and lower rates of overweight and obesity.

One study found that each additional hour driving in a car increased the likelihood of obesity by 6 percent, whereas each kilometer walked decreased the risk by 5 percent. For Some studies show walkability improvements are associated with lower body mass indexes among children. It is clear that designing streets that encourage physical activity is an effective way to get city residents moving.

### **Creating Safer Streets**

Along with the evidence showing that Complete Streets policies fight obesity and inactivity, experts have shown that these laws also keep residents safer. Researchers have found that that well-designed streets reduce traffic speed, which in turn cuts the risk of injury for pedestrians and cyclists.<sup>48</sup>

In one study of 37 cities with Complete Streets policies, the safer conditions created by these projects reduced collision and injury costs by \$18.1 million in one year. 49

Because of their ability to boost physical activity and prevent injury, the CDC includes Complete Streets among its recommended transportation policies.<sup>50</sup>

# Safer Streets are Good for Business

Research has repeatedly shown that walking and biking are also good for the local economy. Experts found a net increase of new businesses, property values, and employment levels in communities implementing projects associated with Complete Streets projects. <sup>51</sup> Studies show that people who visit shopping districts by bike spend more money on a weekly basis than those who visit by car. <sup>52</sup> Construction projects that build biking and walking infrastructure also create more jobs than traditional road projects. <sup>53</sup>

One study found that employment levels rose in areas touched by Complete Streets projects. <sup>54</sup> Communities reported increased net new businesses after Complete Streets improvements, suggesting that these projects made streets more desirable for commerce. Property values also increased after the Complete Streets improvements took place, and leaders report that their communities received increased investment from the private sector. <sup>55</sup>



# City Spotlight: Minneapolis

The City of Minneapolis was one of the first major cities in the United States to open its streets to its residents for socially distant physical activity through its Stay Healthy Streets program.

Through the program, the city purposefully selected specific routes and street loops that would connect the 21 miles of parkways that had already been opened up for people to recreate during stay-athome orders.

When creating the Stay Healthy Streets program, the city was looking not just to make short-term improvements, but build off its existing policies and plans to create long-term change. Specifically, the city looked at its Complete Streets policy and Transportation Action Plan to make sure the Stay Healthy Streets program enhanced and progressed its existing goals of creating streets for people, setting up those programs for lasting change.

# CityHealth Medals for Complete Streets

To further its goals of advancing sound health policy, CityHealth assessed Complete Streets policies in the 40 largest cities in the United States, by population, and cities were awarded medals according to the strength of each city's Complete Streets policy. This assessment of Complete Streets included information about city-specific laws, along with relevant county-and state-level laws passed by May 1, 2019. CityHealth scores only the existence of laws and not the implementation, funding, and enforcement of policy.



# CITYHEALTH'S 2019 COMPLETE STREETS MEDALS

= medal increase from 2018

Albuquerque		Los Angeles	
Atlanta		Louisville	
Austin		Memphis	
Baltimore		Mesa	
Boston		Milwaukee	
Charlotte		Nashville	
Chicago		New York	
Columbus	$\bigcirc$	Oklahoma City	$\oslash$
Dallas		Philadelphia	
Denver		Phoenix	
Detroit		Portland	
El Paso	$\bigcirc$	Sacramento	
Fresno		San Antonio	
Ft. Worth		San Diego	
Houston		San Francisco	
Indianapolis		San Jose	
Jacksonville		Seattle	
Kansas City		Tucson	
Las Vegas	$\oslash$	Virginia Beach	
Long Beach		Washington, D.C.	

#### **Methods**

The CityHealth methods are derived from the Complete Streets ideal policy standard, which was created by the National Complete Streets Coalition to "ensure that communities of all income levels and ethnicities benefit from complete streets equitably."56 These guidelines are currently being updated in collaboration with Smart Growth America to reflect the latest evidence about the most effective ways to save lives and improve health outcomes. CityHealth will release new criteria in 2021.

#### **METHODS**

METHODO			
How did we award Complete Streets policy medals?	Bronze	Silver	Gold
City has a Complete Streets policy	<b>O</b>	<b>⊘</b>	
Policy requires compliance	0	<b>⊘</b>	O C
Policy accommodates pedestrians, bicyclists, motorists, and public transit vehicles	<b>O</b>	<b>O</b>	<b>O</b>
Policy explicity accommodates all ages	$\otimes$	<b>Ø</b>	<b>O</b>
Policy explicity accommodates all abilities	$\otimes$	<b>⊘</b>	<b>O</b>
Policy assigns a department to oversee implementation	$\otimes$	×	<b>O</b>
Policy requires development of performance measures	$\otimes$	×	<b>O</b>

# Issues for Future Policy Improvement

Creating safer streets requires a real commitment of community and city leaders to invest in infrastructure, so creating the political will to pass these policies means that residents need to be made aware of the benefits of Complete Streets policies. Uniting a diverse array of stakeholders around the goal of increasing safety and increasing physical activity is crucial to these efforts. Health officials, seniors, youth advocates, public safety officers, commuters, business owners, parents, and educators all have a lot to gain from creating safer streets.

Because Complete Streets policies involve so many systems and departments, their comprehensive nature makes implementation another challenge. Planning and executing sound design and construction often requires government agencies to change internal processes to allow for the interagency cooperation required for success. In planning for Complete Streets implementation, cities will need to pay special attention to low- and moderate-income neighborhoods and

communities of color, which are typically the least safe for pedestrians and bicyclists, especially for children walking and biking to school. These communities face long-standing infrastructure disparities and a higher concentration of streets with faster moving and/or higher-volume traffic.

#### Conclusion

Every American deserves to live in a place where they feel safe as they commute to work and school, or travel to the local grocery store, community center, or playground. Complete Streets policies are proven tools to help policymakers create stronger, more vibrant communities, where residents feel free to move about their neighborhoods and send their children to play without fear of death or injury. These policies also assist in fighting the obesity epidemic and inactivity, helping to alleviate or eliminate the largest sources of chronic disease. Creating healthy streets is an essential building block that local policymakers must leverage to realize their goal of building stronger, more vibrant communities that work for every resident, no matter where they live.



#### **Endnotes**

- 1 "Dangerous by Design," Smart Growth America, Accessed September 4, 2019 https://smartgrowthamerica.org/app/uploads/2019/01/ Dangerous-by-Design-2019-FINAL.pdf.
- 2 Ibid.
- 3 "Pedestrian Injury Facts," National Safety Council, Accessed September 4, 2019, https://injuryfacts.nsc.org/ motor-vehicle/road-users/pedestrians/.
- 4 "A Post-Pandemic Reality Check for Transit Boosters" CityLab, May 6, 2020. https://www.citylab.com/transportation/2020/05/public-transit-riders-coronavirus-bus-subway-public-funding/611203/.
- 5 Ibid
- 6 "Where States Reopened and Cases Spiked After the U.S. Shutdown," The Washington Post, July 2, 2020. https://www.washingtonpost.com/graphics/2020/national/states-reopening-coronavirus-map/.
- 7 US Department of Health and Human Services, "Staying Active While Social Distancing: Questions and Answers" Accessed July 2, 2020. https://health.gov/news/202004/staying-active-while-social-distancing-questions-and-answers.
- 8 Ibid
- 9 "Minneapolis creates new routes for walking, biking on city streets," Minneapolis Star Tribune, April 27, 2020.
- 10 "Drivers Not Wanted on Oakland's 'Slow Streets'" CityLab, April 17, 2020. https://www.citylab.com/ transportation/2020/04/slow-streets-oaklandcar-free-roads-pedestrians-covid-19/609961/.
- 11 Ibid.
- 12 "Cities, including D.C, are closing streets to make way for restaurants and pedestrians," The Washington Post, May 29, 2020. https://www.washingtonpost.com/local/trafficandcommuting/cities-are-closing-streets-to-make-way-for-restaurants-and-pedestrians/2020/05/25/1flaf634-9b73-1lea-ad09-8da7ec214672\_story.html.
- 13 "NYC has opened 23 more miles of streets to pedestrians," Time Out, June 23, 2020. https://www.timeout.com/newyork/news/nyc-has-opened-23-more-miles-of-streets-to-pedestrians-062420.
- 14 "Thinking of Buying a Bike? Get Ready for a Long Wait," The New York Times, May 18, 2020. https://www.nytimes.com/2020/05/18/nyregion/bike-shortage-coronavirus.html.
- 15 "NSC Statement on IIHS Report on Increased Pedestrian Deaths," National Safety Council, May 8,2018. https://www.nsc.org/in-the-newsroom/nsc-statement-on-iihs-report-on-increased-pedestrian-deaths.
- 16 Ibid.
- 17 "Spotlight on Highway Safety: Pedestrian Traffic Fatalities by State, 2018 Preliminary Data," Governors Highway Safety Association, Accessed September 4, 2019, https://www.ghsa.org/sites/default/files/2019-02/FINAL\_Pedestrians19.pdf.
- 18 Nikan K. Namiri, BS1; Hansen Lui, MS1; Thomas Tangney, BS1; et al. Electric Scooter Injuries and Hospital Admissions in the United States, 2014-2018, JAMA

- Surgery, January 2020. https://jamanetwork.com/journals/jamasurgery/article-abstract/2758159?utm\_campaign=articlePDF%26utm\_medium%3darticlePDFlink%26utm\_source%3darticlePDF%26utm\_content%3djamasurg.2019.5423.
- 19 "Traffic Safety Facts, 2015 Data," U.S. Department of Transportation, National Highway Traffic Safety Administration, accessed February 11, 2020. file:///Users/ty/Downloads/2015%20Traffic%20Safety%20Fact%20Sheet%20Bicyclists%20&%20Other%20Cyclists.pdf.
- 20 "Traffic Safety Facts, 2015 Data," U.S. Department of Transportation, National Highway Traffic Safety Administration, accessed February 11, 2020. file:///Users/ty/Downloads/2015%20Traffic%20Safety%20Fact%20Sheet%20Bicyclists%20&%20Other%20Cyclists.pdf.
- 21 "Bicycle Safety," National Highway Traffic Safety Administration, accessed February 11, 2020. https:// www.nhtsa.gov/road-safety/bicycle-safety.
- 22 "Dangerous by Design," Smart Growth America, Accessed September 4, 2019 https://smartgrowthamerica.org/app/uploads/2019/01/Dangerous-by-Design-2019-FINAL.pdf.
- 23 "Pedestrian Injury Facts," National Safety Council, Accessed September 4, 2019, https://injuryfacts.nsc.org/ motor-vehicle/road-users/pedestrians/.
- 24 "Head Up, Phone Down When Headed Back to School," National Safety Council, Accessed September 4, 2019, https://www.nsc.org/home-safety/safety-topics/distracted-walking/teens.
- 25 Tomer, A, Transit Access and Zero-Vehicle Households. New York: Brookings Institute, August, 2011.
- 26 "Income Disparities in Street Features that Encourage Walking," Bridging the Gap: Research Informing Policies and Practices for Healthy Youth, 2012. http://www.bridgingthegapresearch.org/\_asset/02fpi3/btg\_street\_walkability\_FINAL\_03-09-12.pdf.
- 27 Ibid.
- 28 Ibid.
- 29 "Spotlight on Highway Safety: Pedestrian Traffic Fatalities by State, 2018 Preliminary Data," Governors Highway Safety Association, Accessed September 4, 2019, https://www.ghsa.org/sites/default/files/2019-02/FINAL\_Pedestrians19.pdf.
- 30 Pedestrian Injury Facts," National Safety Council, Accessed September 4, 2019, https://injuryfacts.nsc.org/ motor-vehicle/road-users/pedestrians/.
- 31 Ibid.
- 32 Ibid
- 33 U.S. Centers for Disease Control and Prevention, CDC Transportation Recommendations, accessed February 11, 2020. https://www.cdc.gov/transportation/recommendation.htm.
- 34 Office of Disease Prevention and Health Promotion, Healthy People 2020, Nutrition, Physical Activity, and Obesity, accessed February 11, 2020. https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Nutrition-Physical-Activity-and-Obesity.
- 35 Ibid.

- 36 US Department of Health and Human Services. "2008 Physical activity guidelines for Americans," Washington, DC: US Department of Health and Human Services; 2008.
- 37 Ibid
- 38 Ibid.
- 39 The National Physical Activity Plan Alliance, "The 2017 United States Report Card on Walking and Walkable Communities," accessed February 12, 2020 https://physicalactivityplan.org/projects/walking/Walking-report-card-FINAL.pdf.
- 40 Ibid.
- 41 Ibid.
- 42 Ussery EN, Carlson SA, Whitfield GP, Watson KB, Berrigan D, Fulton JE. Trends in walking for transportation or leisure among U.S. adults: National Health Interview Survey, 2005-2015. Med Sci Sports Exerc. 2017;49(5S):918.
- 43 The National Complete Streets Coalition, Complete Streets: Guide to Answering the Costs Question, accessed February 11, 2020. https://www.smartgrowthamerica.org/app/legacy/documents/cs/resources/cs-answering-the-costs-question.pdf.
- 44 Winters, Meghan, Brauer, Michael, Setton, Eleanor M., and Teschke, Kay, "Built Environment Influences on Healthy Transportation Choices: Bicycling versus Driving," Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 87, No. 6, 2010.
- 45 Wilson LA1, Giles-Corti B, Burton NW, Giskes K, Haynes M, Turrell G."The association between objectively measured neighborhood features and walking in middle-aged adults." The American Journal of Health Promotion, 2011.
- 46 Frank, L.D., Andresen, M.A., and Schmid, T.L. (2004). "Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars." American Journal of Preventative Medicine 27:2.

- 47 Duncan, Dustin T., Sharifi, Mona, Melly, Steven J., Marshall, Richard, Sequist, Thomas D., Rifas-Shiman, Sheryl L., and Taveras, Elsie M. Characteristics of Walkable Built Environments and BMI z-Scores in Children: Evidence from a Large Electronic Health Record Database, Environmental Health Perspectives, Children's Health, Vol. 122, No. 12.
- 48 Bunn, Francs; Collier, Timothy; Frost, Chris; "Area-wide traffic calming for preventing traffic related injuries," January 2003.
- 49 Smart Growth America, "Safer Streets, Stronger Economies Complete Streets project outcomes from across the country," March 2015. https://www.smartgrowthamerica.org/app/legacy/documents/safer-streets-stronger-economies.pdf.
- 50 U.S. Centers for Disease Control and Prevention, CDC Transportation Recommendations, accessed February 11, 2020. https://www.cdc.gov/transportation/recommendation.htm.
- 51 Ibid.
- 52 Clifton KJ, Muhs C, Morrissey S, Morrissey T, Currans K, Ritter C. Examining Consumer Behavior and Travel Choices. 2013;(February):70.
- 53 Garrett-Peltier H. Pedestrian and Bicycle Infrastructure: A National Study Of Employment Impacts. Amherst; 2011. www.peri.umass.edu/fileadmin/pdf/published\_ study/PERI\_ABikes\_June2011.pdf.
- 54 "Safer Streets, Stronger Economies Complete Streets project outcomes from across the country," Smart Growth America, March 2015, https://smartgrowthamerica.org/app/uploads/2016/08/safer-streets-stronger-economies.pdf.
- 55 Ibid.
- 56 Smart Growth America, "The Ten Elements of a Complete Streets Policy," accessed February 26, 2020. https://smartgrowthamerica.org/resources/the-ten-elements-of-a-complete-streets-policy/.





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