

DESIGNING TRUST:  
BUILDING SOCIAL TRUST THROUGH URBAN DESIGN

by

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A THESIS


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Marc Schlossberg


Social trust has been weakening in the United States since the 1960s; inextricably tied to social capital, this decay has been linked to the parallel decline in well-being, health, safety, community participation, income equality, and governmental accountability. Causes are numerous, but one significant origin of the deleterious trend is our built environment. Reliance on automobiles, the sprawl that has spread us apart, and shrinking public space have pushed people into their homes to the detriment of the community. Ensuing low social trust causes more isolation, and the cycle spirals. Yet studies show that this isn't what we want; I believe that our urban communities can rebuild and adapt their physical forms to prompt lingering and interaction, and thereby mitigate the downward trend of trust. Here I suggest design solutions that can, at a large or small scale, begin this change.

## Acknowledgements

A million thanks to my primary thesis advisor, Marc Schlossberg, who inspired this thesis in the Introduction to City Planning class; the lecture on urban design connected so many dots for me. I went on to take other classes with Marc, and each taught me to view the urban sphere with added depth and deepened my passion for cycling.

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“Strangers are just friends you haven’t met yet.”

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## **List of Accompanying Materials**

1. “Designing Trust: Building Social Trust Through Urban Design” report
2. Designing Trust poster
3. Designing Trust website (found at <https://www.emfriedenberg.com/designingtrust>)

## Introduction

My interest in social trust began as a child, when I saw how my parents viewed the world differently than friends' parents. I was warned about the danger of men in white vans offering candy, but was otherwise sent off into the world with the oft-repeated maxim "strangers are just friends you haven't met yet." My friends, however, weren't allowed off the block, and shuddered at the thought of asking a stranger for directions. A good friend's dad still balks at the idea of me walking the eight blocks from her house to mine at night. These perceptions never clicked with the wholesome, affluent community I perceived around me: we had a popular weekly farmers' market, a neighbor-run newspaper, schools and parks, gardens and benches, children playing in the street. A low crime rate, though people still locked their doors during the day. I couldn't help but interpret their actions as paranoid, but had no clues as to why.

When I first read that an international organization had rated the Nordic countries as the happiest, partially due to their high levels of social trust, it all made sense. That year, Denmark was at the top, and I itched to see this trust in action. Parents leave their sleeping babies in strollers outside coffee shops, the article read. I mulled over this new term, *social trust*. Three years later, I moved to Copenhagen to study urban design and witness the culture myself, determined to return home with an idea of how to fix the U.S.'s miserable levels of trust.

In Denmark, I was most impressed with the sheer quantity of urban life. No street ever felt dangerous because there were always so many other people around. Equally astounding was the way the city just seemed to *work*. The bureaucracy didn't seem so bureaucratic there, and I kept finding examples of intuitive and logical systems.



Danes trusted that the government would do its best, and it did; they trusted that the extraordinarily high tax rates would be paid by others as well, and they were.

Copenhagen showed me how far the U.S. has to go, and I wanted to make a mark.

This thesis comes in three parts: a report on the intersection between social trust and urban design; the suggestion of twenty designs that can help build trust in a community; and a poster depicting these designs. I sought to first make the connection between these two separate fields, and clarify its importance, and then to identify changes—large and small, difficult and easy, established and surprising—that can begin to address the problem. The poster formats this information in a legible and intriguing way, hopefully drawing readers in and engaging audiences that might otherwise be left out of the discussion.

Social trust, at first glance, is only a measure of one aspect of community cohesion, but famed psychologist David Halpern has called it “one of the most interesting and important indicators of the strength and quality of societies and communities across the world.”<sup>1</sup> Correlated with well-being, happiness, life expectancy, low suicide rates, economic growth, economic equality, trust in government, social capital, altruism, tolerance, civic participation, and education, it is “a deep-seated indicator of the health of societies and our economies,” and “merits much more attention than it gets.”<sup>2</sup> That social trust correlates so highly with so many key measures of quality of life is testimony to the deep and complicated relationships between them.

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<sup>1</sup> David Halpern, “Social trust is one of the most important measures that most people have never heard of – and it’s moving,” The Behavioral Insights Team (November 12, 2015).

<sup>2</sup> Halpern, “Social trust.”

Yet at the end of the day, trust is a subjective, personal, and unquantifiable emotion. Measurements are imprecise and trust itself is a perception of reality—trustworthiness—that could be entirely inaccurate.

The tension here, between an emotion and global GDP,<sup>3</sup> is fascinating. Unlike happiness or life satisfaction, social trust is a measure of one's view of others, and so its impacts on relationships, civic engagement, and the movement of capital are unique. The individual quantities that add up to an impressive—or not so impressive—whole trace back to whether a Dane's baby is still there when they come back to it, or whether someone breaks into my unlocked house while I'm out on a walk. Trust, then, is incredibly reliant on the outside environment. Its dependency on others' actions, and our own willingness to be proven right or wrong, creates the link that I explore here; the urban context in which one lives has the power to dramatically shape one's idea of others' trustworthiness.

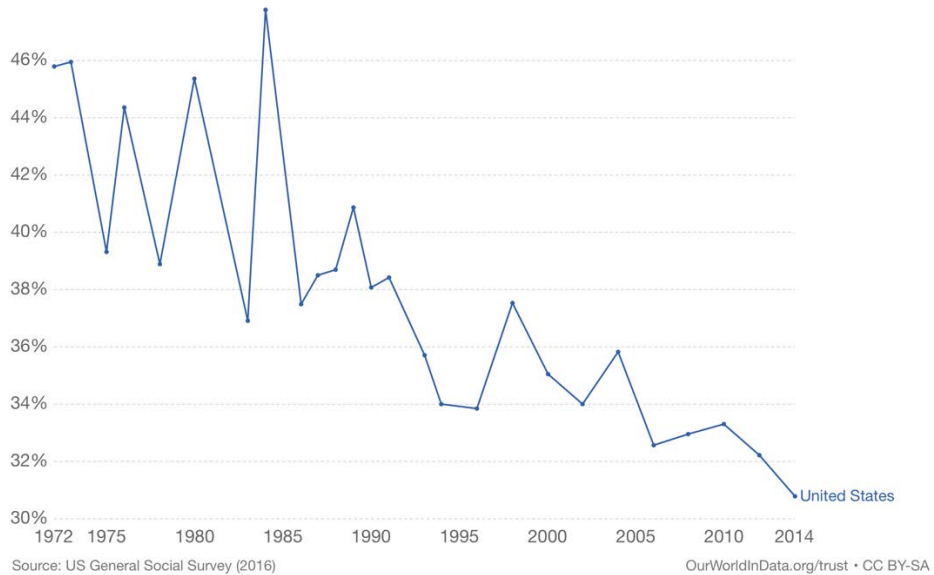
The starting claim, then, is this: Levels of social trust in the United States have been falling ever since the mid-1960s, when suburbanization began its sweeping rise. The built environment of the suburbs, and the subsequent inescapable reliance on cars, failed to provide the public space and density needed for daily social interactions, upon which trust is dependent. By changing our urban spaces to encourage more social modes of transportation and more time spent in public places, social trust can be built back up again.

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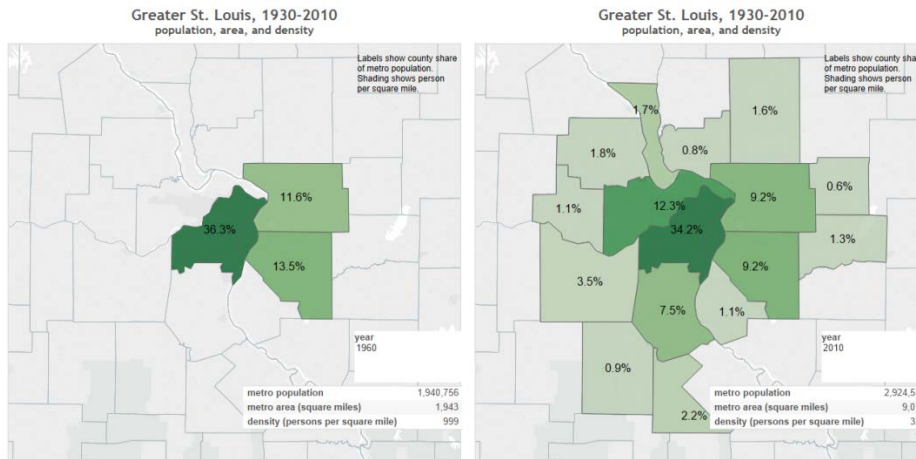
<sup>3</sup> Esteban Ortiz-Ospina and Max Roser, "Trust," *OurWorldInData.org* (2017).

## Interpersonal trust attitudes

Interpersonal trust (% who think that "most people can be trusted").



*Social trust in the United States over time has declined considerably (chart by Esteban Ortiz-Ospina and Max Roser, "Trust," OurWorldInData.org (2017), data sourced from the US General Social Survey, 2016.)*



*The growth of suburbs from 1960 (left) to 2010 (right) in St. Louis, MO. Note that in this time, the metro population grows 50 percent, the metro area grows almost 500 percent, and the average population density decreases 67 percent. (chart by Colin Gordon, "Declining Cities, Declining Unions: Urban Sprawl and U.S. Inequality," Dissent (December 10, 2014), data by OpenStreetMap contributors.)*

## Context

### Investigating Social Trust

Social trust is the base of all connections, from the scale of a family to a city, country, or a union of nations. It allows for front doors to remain unlocked when the family is out, for stores to sell goods on credit, and for children to eat their Halloween candy without fear of poisoning. In essence, social trust is the collective trust of individuals for each other; it's believing that the person next to you at a café has good intentions. Its definition often explicitly or implicitly relies on the definition of what is absent—fear, suspicion, the identification of an ‘other’, distrust—rather than on what is present. These descriptions imply that distrust is the default. While Wendy Rahn and John Transue, both political scientists, provide the definition “a ‘standing decision’ to give most people—even those whom one does not know from direct experience—the benefit of the doubt,”<sup>4</sup> the Pew Research Center takes a more positive approach: social trust is ““a belief in the honesty, integrity and reliability of others—a ‘faith in people.’”<sup>5</sup> My own definition will attempt to bridge the negative and positive approaches, and communicate a less conscious factor: social trust is the assumption that most people share one’s same moral values, and can be expected to uphold them.

The vagueness of the Pew Research Center’s ‘faith in people’ purposefully includes all groups, as social trust can be applicable at all scales, but Robert Putnam breaks down this term further. *Thick trust*, he characterizes, is the trust in those

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<sup>4</sup> Wendy M. Rahn and John E. Transue, “Social Trust and Value Change: The Decline of Social Capital in American Youth, 1976-1995” *International Society of Political Psychology* vol. 19, no.3 (September 1998): 545.

<sup>5</sup> “Americans and Social Trust: Who, Where and Why” *Pew Research Center* (February 2007): 1.

immediately around you with whom you interact with regularly and have a personal relationship. *Thin trust* is the more generalized trust in strangers; those who we see on the street but never talk to, those with whom we have no personal experience to inform our trust.<sup>6</sup> “Thin trust is even more useful than thick trust, because it extends the radius of trust beyond the roster of people whom we can know personally,”<sup>7</sup> “encompassing people at a greater social distance from the truster.”<sup>8</sup> It enables the exchange of goods, the leaving of a bike unlocked, the willingness to let one’s children play outside alone. This latter form, thin trust, is declining,<sup>9</sup> and it is this trust that is focused on in this thesis.

The most common method of measuring levels of social trust in a community is fairly simple and widely relied upon. Researchers, in interviews or as more general surveys, ask interviewees “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?”<sup>1011</sup> Variations of this question ask whether a lost item like a wallet would be returned if it were dropped (this method provides a convenient option of measuring parallel trustworthiness, by dropping wallets and recording how many are returned). The General Social Survey, conducted continuously since 1972, popularized the first question, and has recently received some criticism for vagueness, and inexactitude.<sup>12</sup> A 2000 study conducted by Harvard and MIT economists concluded that the question’s results correlate more directly with

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<sup>6</sup> Robert D. Putnam, *Bowling Alone* (New York: Simon & Schuster, 2000), 136.

<sup>7</sup> Putnam, *Bowling Alone*, 136.

<sup>8</sup> Putnam, 466.

<sup>9</sup> Putnam, 142.

<sup>10</sup> “Americans and Social Trust,” 1.

<sup>11</sup> “Can People Be Trusted,” GSS Data Explorer, accessed Sunday, April 22.

<sup>12</sup> Edward L. Glaeser, David I. Laibson, José A. Scheinkman, and Christine L. Soutter, “Measuring Trust” *The Quarterly Journal of Economics*, vol. 115, issue 3 (August 2000), 815.

trustworthiness than trust, and trust can be more accurately predicted by asking about specific past examples of trusting behavior.<sup>13</sup> While this finding has great implications, as many of the studies I reference rely on the GSS data, I will continue to use these sources because the GSS data is more widely accepted, and I am a novice in the field; because international attitudinal survey questions correlate very positively with other surveys;<sup>14</sup> and because trust in a society is related to trustworthiness, so in the context of larger societal trends, the data remains relevant.

Social trust varies incredibly from country to country, state to state, and city to city. Norway tops out the world at 75 percent trusting<sup>15</sup> and Brazil comes in with a mere 10 percent;<sup>16</sup> political scientist Robert Putnam analyzed the GSS data to find that social trust in the United States bottoms out at 17 percent in Mississippi and peaks at 67 percent in North Dakota;<sup>17</sup> John Helliwell found that Canada's biggest cities were far less trusting the small capital of Newfoundland, St. John's.<sup>18</sup> Among the American population, trust is highest among the privileged and lowest among the group Putnam terms the 'have-nots,' including black Americans, the divorced, the financially insecure, and those who have been victims of a crime.<sup>19</sup> From these statistics, we can piece together a rough map of social trust, most prominent in stable nations, smaller cities and rural areas, among the well-off and societally advantaged; least prominent in big cities, the American South, and among groups who have been discriminated against, who are

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<sup>13</sup> Glaeser, et al, "Measuring Trust," 840.

<sup>14</sup> Ortiz-Ospina and Roser, "Trust."

<sup>15</sup> Halpern, "Social Trust."

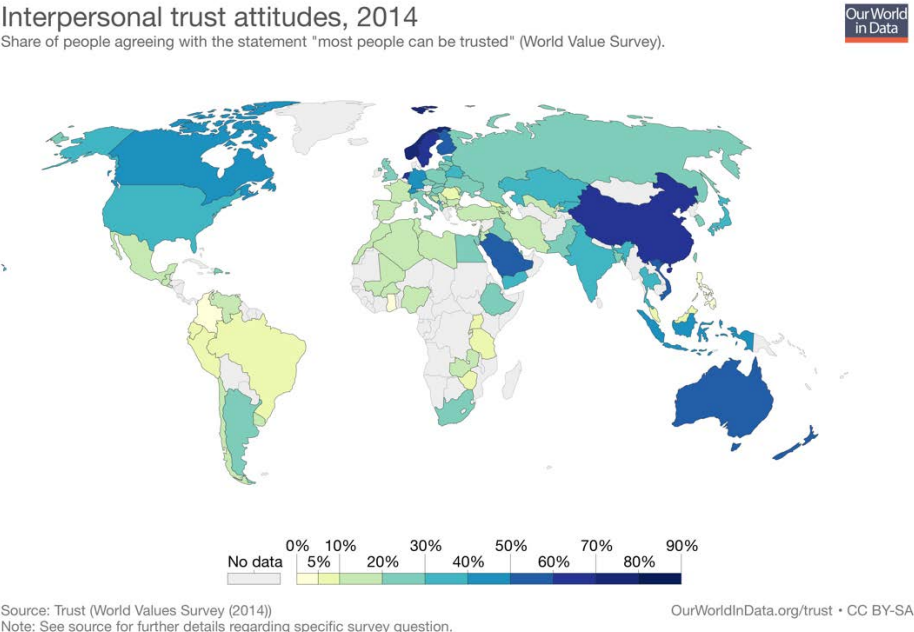
<sup>16</sup> Steven J. Dubner, produced by Greg Rosalsky, "Trust Me," *Freakonomics*. Podcast audio (November 10, 2016).

<sup>17</sup> Putnam, *Bowling Alone*, 291.

<sup>18</sup> Charles Montgomery, *Happy City: Transforming Our Lives Through Urban Design* (New York: Farrar, Straus and Giroux, 2013), 38.

<sup>19</sup> Putnam, 138.

struggling, and who have cause for suspicion. The range of social trust geographically hints to the lack of universality; trust can grow or shrink, there is no constant base level.



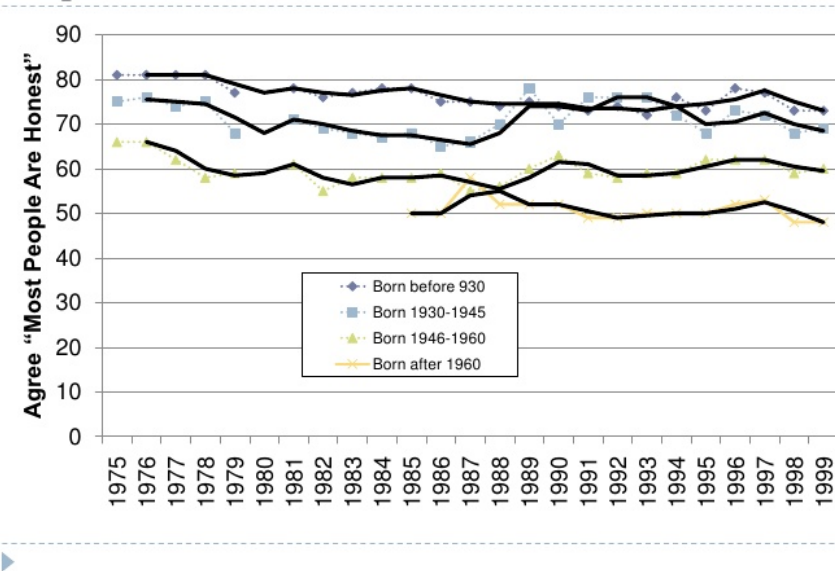
*Social trust around the world ranges from the single digits to nearing 75 percent (chart by Esteban Ortiz-Ospina and Max Roser, "Trust," OurWorldInData.org (2017), data sourced from the World Values Survey, 2014.)*

Numerous studies chart the decline of social trust in the U.S. since the 1960s, and changes from technology to religiosity have been blamed. This blame is generally shared by the previous generation, who agree with the causes but less scientifically characterize it as a modern failing, a moral decline from themselves to the following generation. Although the flaws in this argument are apparent, and the bias problematic, the viewpoint accurately identifies the element of generational, and not individual, change. Levels of trust remain relatively consistent across each individual's lifespan,<sup>20</sup> but each generational cohort has less trust than the last. Most of the decline in social

<sup>20</sup> Glaeser, et al, "Measuring Trust," 840.

trust is not seen in individual drops, but in each generation’s regressing base level of trust; as one cohort slowly outgrows the last, ‘generational succession,’ the overall rate changes.<sup>21</sup>

Figure 39: Generational Succession Explains most of the Decline in Social Trust



*Generational Succession (chart by Robert Putnam, Bowling Alone, 141; data sourced from the DDB Needham Life Style survey archive, 1975-99).*

Graphing social trust by year of birth results in a consistent decline, as the generations are born into a society that raises less and less trusting citizens, clarifying the phenomenon.<sup>22</sup> Distrust is being taught to children, learned from society, and the problem is only getting worse.

Social trust on its own is important. It greases the chain of economic growth, pumps up the tires of community togetherness. But it also correlates incredibly strongly

<sup>21</sup> Putnam, *Bowling Alone*, 140-41.

<sup>22</sup> Putnam, 253; data sourced from the General Social Survey, 1972-98.



with life satisfaction and happiness,<sup>23</sup> two measures that are objectively important and worth pursuing. The gains in well-being that stem from trust in others far outstrip gains caused by raises in income.<sup>24</sup> One study found that “those who feel themselves to be living in a trustworthy environment have much higher levels of subjective well-being,”<sup>25</sup> and trusting their neighbors and the police has “about the same increase in well-being that would be associated with an increase in household income of about two-thirds.”<sup>26</sup> The connection between social trust and well-being will be addressed more further on, but it is important to keep in mind throughout this discussion.

Trust in others extends to trust in those who govern. Faith in the system of governance and democracy stems from a belief that others have our best interest at heart, leading to less dispute and higher participation. “Trust is a—probably the—main component of social capital, and social capital is a necessary condition of social integration, economic efficiency, and democratic stability.”<sup>27</sup> Trust correlates with election participation,<sup>28</sup> interest in politics,<sup>29</sup> and appreciation for local governments.<sup>30</sup> Areas with higher levels of trust have greater tax compliance,<sup>31</sup> when one believes that others are paying their taxes too, and the money will be directed to adding value back into the community, they will contribute fully. Trustworthiness correlates highly with

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<sup>23</sup> Montgomery, *Happy City*, 38.

<sup>24</sup> Montgomery, 38.

<sup>25</sup> John F. Helliwell and Shun Wang, “Trust and Well-Being,” *National Bureau of Economic Research* (April 2010), 21.

<sup>26</sup> Helliwell and Wang, “Trust and Well-Being,” 22.

<sup>27</sup> Kenneth Newton, “Trust, Social Capital, Civil Society, and Democracy,” *International Political Science Review*, vol. 22, no. 2 (April 2001), 202.

<sup>28</sup> Putnam, *Bowling Alone*, 292.

<sup>29</sup> Putnam, 253; data sourced from the General Social Survey, 1972-98 and the DDB Needham Life Style survey, 1975-98.

<sup>30</sup> “Assembly Civic Engagement Survey,” *Center for Active Design* (June 2017), 3-40.

<sup>31</sup> Putnam, 347.

trust.<sup>32</sup> The opposite is true as well; if the individual believes that others are dishonest or do not trust the government, they are more likely to cheat<sup>33</sup> and less likely to condone others' cheating.<sup>34</sup> "[H]onesty, civic engagement, and social trust are mutually reinforcing"<sup>35</sup>; beyond politics, those who trust others are more likely to volunteer, donate to charity, participate in community organizations and politics, serve on juries, donate blood, and tolerate minority viewpoints.<sup>36</sup> It follows that with the decline in social trust since the 1960's, each of these forms of civic participation has decreased as well. Even the surveys asking questions about participation rates and levels of trust have been affected: The Pew Research Center has documented a decline in response rate of about two-thirds between 2000 and 2012.<sup>37</sup> If apathy and lack of participation—even when it's as simple as staying on the line to answer a few questions—are tied to distrust, fostering trust seems constructive to the democracy.

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<sup>32</sup> Glaeser, et al, "Measuring Trust," 813.

<sup>33</sup> Putnam, 347.

<sup>34</sup> Putnam, 137.

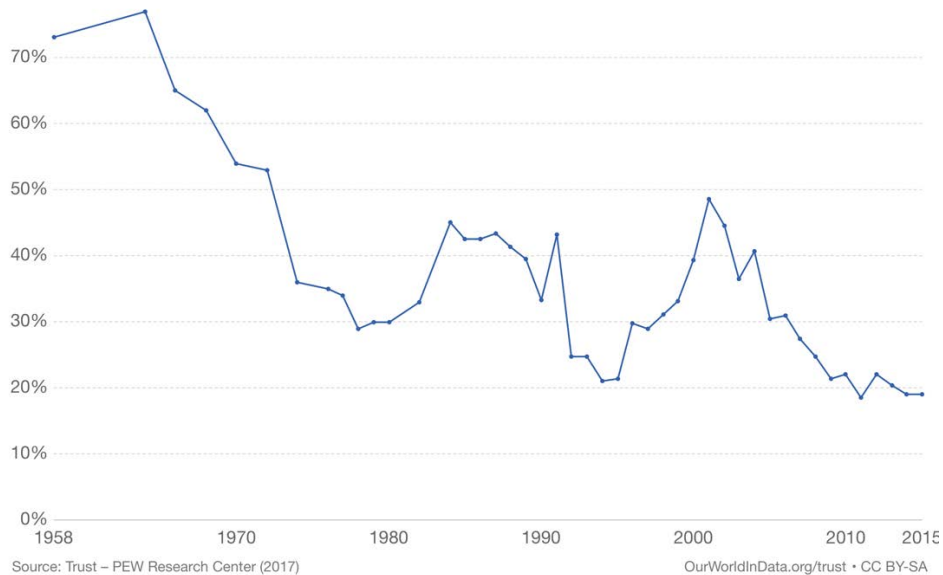
<sup>35</sup> Putnam, 137.

<sup>36</sup> Putnam, 136-137.

<sup>37</sup> "Assessing the Representativeness of Public Opinion Surveys," *Pew Research Center* (May 2012), 1.

## Public trust in government, United States

Public trust in government (% who trust government in Washington always or most of the time)



*Trust in the government in the United States (chart by Esteban Ortiz-Ospina and Max Roser, "Trust," OurWorldInData.org (2017), data sourced from the PEW Research Center, 2017.)*

An interesting component of social trust is our inability to accurately judge it. Were trustworthiness and honor also on the decline, the plummeting levels of social trust would suddenly seem normal. Our behavior—and not our perception of that behavior—would be the topic of inquiry. However, we are no less dishonest today; crime has only declined since the 1990s<sup>38</sup> and yet distrust remains rampant. A clear example of the disconnect between trust and our ability to judge it exists in the studies done by John Helliwell and Shun Wang, in which they asked residents of Toronto what the likelihood is of a stranger returning their lost wallet. The researchers then dropped wallets, containing money, cards, ID, and such, around the city and recorded the actual return rate. Torontonians, it turns out, are “unrealistically pessimistic” regarding others’ trustworthiness; while only 25 percent of survey respondents believed the wallets would

<sup>38</sup> Steven Pinker, *The Better Angels of Our Nature: Why Violence Has Declined* (USA: 2011), 110-121.

be returned, 80 percent were in actuality.<sup>39</sup> Given the impact of trust on well-being and civic participation, our pessimism about others' trustworthiness is only exacerbating the problem.

### **Social Trust and Social Capital**

Although consequential alone, social trust is a component of the much larger measure of social capital, which has even greater influence upon our lives and well-being. Social capital, as defined by its pioneer, Robert Putnam, is the “connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them.”<sup>40</sup> Social capital is the feeling of community, the network of people to ask favors of, invite to dinner, or chat with on the street. Economists view it within the context of generalized reciprocity, the greaser of economic exchange, in which people assist others without immediate compensation but in faith that it will eventually get repaid by that person or another.<sup>41</sup> Scorebooks don't need to be kept, and grains of barley don't need to be counted; not everything has to be made perfectly fair. The “touchstone of social capital”, this principle is most efficient in close-knit societies.<sup>42</sup> Enforcing such behavior is impractical through the legal system and ineffective through violence, but “dense networks of social exchange” guarantee that reputations are held on the line and slights are publicized, encouraging honesty.<sup>43</sup>

Related is the principle upon which our tax system is built, parading under a litany of names including ‘the prisoner’s dilemma’ and ‘the tragedy of the commons’. If

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<sup>39</sup> Helliwell and Wang, “Trust and Well-Being,” 19-20.

<sup>40</sup> Putnam, *Bowling Alone*, 19.

<sup>41</sup> Putnam, 20-21.

<sup>42</sup> Putnam, 134.

<sup>43</sup> Putnam, 136.

everyone chips in a little, things will be built to benefit all. If one person doesn't chip in, they will still benefit from the others' work, but if everyone uses this logic, nothing will be built. "Social norms and the networks that enforce them" ensure that the burden is shared evenly.<sup>44</sup> Social trust and social capital together eliminate the need to constantly monitor and penalize errant behavior, and keep people aware of the stake they share with their community ("of the many ways in which our fates are linked").<sup>45</sup> They serve as gentle reminders of what others are pitching in, and what happens if one does not pitch in oneself.

People who have active and trusting connections to others... develop or maintain character traits that are good for the rest of society. Joiners [of community and civic organizations] become more tolerant, less cynical, and more empathetic to the misfortunes of others.<sup>46</sup>

Exposure to others has a wealth of benefits, and leads to increased participation and understanding of those even outside one's direct network. While distrust requires constant awareness and paranoia, the trust that others will do their share extends to economic savings and longer life expectancies.<sup>47</sup>

Social capital has the potential to do harm, in the form of *bonding* social capital. Putnam identifies two sides of bringing people together; a club with a homogenous participant base is exclusive and may, "by creating strong in-group loyalty... also create strong out-group antagonism."<sup>48</sup> This *bonding* social capital is contrasted with *bridging* social capital, which is inclusive and "can generate broader identities and reciprocity."<sup>49</sup> Both are necessary, and inevitably present, but maintaining a generous quantity of the

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<sup>44</sup> Putnam, 288.

<sup>45</sup> Putnam, 288.

<sup>46</sup> Putnam, 288.

<sup>47</sup> Putnam, 135.

<sup>48</sup> Putnam, 23.

<sup>49</sup> Putnam, 23.

latter discourages the intolerance and NIMBYism that tends to grow with the former. Putnam notes that “[p]lace-based social capital is being supplanted by function-based social capital,”<sup>50</sup> where people meet with whom they share interests, rather than developing ties with their neighbors and community members. Place-based connections tend to be more demographically and ideologically diverse, as one’s neighbors and community members aren’t as homogenous as members of a church group or men’s club might be. Social trust and spending time in freely-accessible public space help people develop bridging social capital with a more diverse group and feel tied in with those outside their direct network.

Social trust and social capital are inextricably linked, and their declines run parallel. ‘Trustworthiness’ exists in social capital’s very definition.<sup>51</sup> Given their similarity, references to social capital throughout this paper can be understood to include social trust as a significant and notable component.

### **Trust and Well-Being**

Given social trust’s importance to social capital, it is not difficult to imagine the impact its absence could have on one’s mental health. John Helliwell, an economist, tied together these factors: “Life satisfaction appears to be related to various sorts of trust and also to the networks that may spawn or support trust.”<sup>52</sup> He quantified the effect of relationships on well-being and found that going from being friendless to having a single friend or family member to confide in affected one’s life satisfaction as

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<sup>50</sup> Putnam, 184.

<sup>51</sup> Putnam, 19.

<sup>52</sup> John F. Helliwell, “Well-Being, Social Capital, and Public Policy: What’s New?” *The Economic Journal*, 116 (March 2006), 38.

much as tripling their income.<sup>53</sup> Put another way, if one in ten people thought they had someone to count on in life, national life satisfaction would be more strongly affected than if everyone got a 50 percent pay raise.<sup>54</sup>

Physical health is similarly affected; psychotic disorders like schizophrenia are most prevalent in the areas with the least social capital.<sup>55</sup> Charles Montgomery writes:

The more connected we are with family and community, the less likely we are to experience colds, heart attacks, strokes, cancer, and depression.... Connected people sleep better at night. They are more able to tackle adversity. They live longer. They consistently report being happier.<sup>56</sup>

To further make his point, he tells the tale of Jan Semenza, an epidemiologist who, in investigating a lethal heat wave that struck the Midwest in 1995, realized that the hundreds of dead nearly all shared one characteristic: they were alone. Semenza was so struck by this effect that he changed his focus and began to study how increases in community engagement—namely through the ‘repair’ of Portland intersections<sup>57</sup>—impacted the neighbors’ physical and psychological well-being. Effects ranged from health to perceptions of friendliness to life satisfaction.<sup>58</sup>

Copious data exists linking social capital and well-being, but health and trust can be linked as well. A Swedish study found that among teenagers, feelings of low trust and safety were related to emotional and behavioral disorders, poor self-rated

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<sup>53</sup> Helliwell, “Well-Being, Social Capital, and Public Policy,” 39.

<sup>54</sup> Helliwell, 39.

<sup>55</sup> Montgomery, *Happy City*, 54.

<sup>56</sup> Montgomery, 54-55.

<sup>57</sup> Jan C. Semenza and Tanya L. March. “An Urban Community-Based Intervention to Advance Social Interactions,” *Environment and Behavior*, vol. 41, no. 1 (January 2009).

<sup>58</sup> Montgomery, 310-12.

health, and poor subjective well-being.<sup>59</sup> Low perceptions of health can be as detrimental as poor health itself,<sup>60</sup> so this study is bleak. Meanwhile, psychologist David Halpern found that “feeling that other people can be trusted... [has] roughly the same positive effect in a series of studies as giving up smoking.... social isolation, essentially, is incredibly bad for your health.”<sup>61</sup> Social trust, both independently and as a part of social capital, has an enormous effect on one’s psychological well-being and physical health.

### **Trust and the Built Environment**

Extensive research exists on social trust and social capital, but very little has tied them to the shape of the built environment. However, given the need to strengthen thin social trust and bridging social capital, the public sphere seems to be key to encouraging community engagement and getting people on the street, where they can interact with others. Design has the power to shape these behaviors.<sup>62</sup> Imagine a scenario: Lucy lives with her partner and their two children in the suburbs of Atlanta. She works in the city, driving twenty minutes in the morning, but her commute is lengthened by traffic to an hour in the evening. She wakes at 6:00 to help her youngest child get ready for school, drops him off on the way to work, works nine hours, and gets home around 6:00. Exhausted, she and her partner pick their daughter up from soccer, cook, clean, put their son to bed, and relax with an hour of TV before retiring themselves at 10:30. She works

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<sup>59</sup> Ulrika Eriksson, Jacek Hochwalder, and Eva Sellstrom, “Perceptions of Community Trust and Safety – Consequences for Children’s Well-Being in Rural and Urban Contexts,” *Acta Paediatrica*, vol. 100, no. 10 (October 2011).

<sup>60</sup> Montgomery, *Happy City*, 312.

<sup>61</sup> Dubner, “Trust Me,” (interviewing David Halpern).

<sup>62</sup> Jan Gehl, *Life Between Buildings: Using Public Space*, trans. Jo Koch (New York: Van Nostrand Reinhold Company, 1987), 15.



out on a stationary bike in the garage, limits her grocery runs to weekly visits to the Safeway in a strip mall, a fifteen-minute drive from her house, and is outside only for the time it takes her to move from the building to the car. The suburban neighborhood where they live has wide roads, 35 mile-per-hour speed limits, and narrow sidewalks; she doesn't feel safe walking there. She doesn't know or trust her neighbors and doesn't feel connected to her neighborhood. She reports that she would love to live in a walkable community, where her children could bike around, but property is expensive and she doesn't want to downsize. Lucy works hard, and rarely takes time for herself.

Lucy is hundreds of thousands of real people around the world, and particularly in the suburbanized United States. The urban spaces in which they live not only discourage interaction in the public sphere, but preclude it. Parks are few and far between, cars are fast, crosswalks nonexistent, stores distant, commutes lengthy, and reliance on vehicles persistent. No matter one's enthusiasm about driving going into Lucy's neighborhood, the dependence is inevitable; the cycle can't be broken without moving or changing the space itself.

Despite the little research done into the effects of urban design on social trust and capital, its need is recognized by those who study trust and community cohesion. Economists John Helliwell and Shun Wang's research into Canadian trust and the expected versus real return rate of lost wallets "suggests that more attention be paid to creating the time and spaces for social connections to flower.... [I]t is ever more important to design and manage urban areas in ways that foster levels of engagement that support mutual trust and hence well-being."<sup>63</sup> Helliwell further notes that the

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<sup>63</sup> Helliwell and Wang, "Trust and Well-Being," 23.

potential linkage between environments that support the building of social trust and effects on well-being “seem[s] to have important implications for all types of policies and behavior.”<sup>64</sup> The need for change is cemented by the prominent political scientist, Robert Putnam, whose exhaustive research into social capital first brought the issue into the public’s eye. Among seven mandates provided at the conclusion of his seminary tome *Bowling Alone*, Putnam issues a directive to ‘social capitalists’:

*Let us act to ensure that by 2010 Americans will spend less time traveling and more time connecting with our neighbors than we do today, that we will live in more integrated and pedestrian-friendly areas, and that the design of our communities and the availability of public space will encourage more casual socializing with friends and neighbors.*<sup>65</sup>

He identifies several root causes of unhappiness and distrust that our physical environment can shape, namely commutes, a disconnect from neighbors, reliance on vehicles, and lack of public space. However, like Helliwell and Wang, he can leverage his research to inform the design of public spaces, but not create them himself. Urban designers, planners, architects, and community members must take that mantle.

#### *Bringing in livability and walkability*

Key to all discussions of urban spaces are the terms *livability* and *walkability*. The first, *livability*, is the combined factors contributing to a community’s quality of life, including the natural and built environments.<sup>66</sup> The livability of a place is understood to be enhanced by improved public transportation, green spaces, community engagement, and perhaps most importantly, walkability. *Walkability*, in turn, is defined

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<sup>64</sup> Helliwell, “Well-Being, Social Capital, and Public Policy,” 11.

<sup>65</sup> Putnam, *Bowling Alone*, 407-08.

<sup>66</sup> “What is Livability?” Partners for Livable Communities (Washington, D.C.).

as access to amenities and transit, and living in a pedestrian-friendly neighborhood.<sup>67</sup>

Like social trust is an essential component of social capital, walkability is the foundation of livability. Living near to schools, stores, workplaces, parks, libraries, restaurants, and others allows for less usage of the car, less time spent in traffic, greater independence of children, increased mobility for people with disabilities, and more engagement with one's community.<sup>68</sup>

Transportation is an enormous component of walkability and livability, as a great portion of the time spent in public space is simply moving between destinations.<sup>69</sup> Cars are solitary bubbles, speeding through public space without allowing the driver to interact with other community members; walking and biking, on the other hand, are more social, allow people to move more slowly and linger, make unplanned stops, look others in the eye, and feel present in the space.

In order for people to commute, shop, and run errands by foot or bike, destinations have to be nearby; to sustain this quantity of places and maintain a lively level of activity, neighborhoods need to be dense.<sup>70</sup> Cars encourage speed and sprawl, and cannot support density. When traveling at 30 miles per hour, they take up 100 times the space of a human,<sup>71</sup> filling roads that could easily handle that number of people on buses, bikes, or feet.

People are drawn away from each other [by the space cars require]; densities and corresponding frequencies of interaction decrease substantially. Contacts become fragmented and specialized, since they

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<sup>67</sup> Tom Vanderbilt, "What's Your Walk Score?" *Slate* (April 12, 2012).

<sup>68</sup> "What is a Livable Community?" AARP Livable Communities, *AARP* (2017).

<sup>69</sup> Gehl, *Life Between Buildings*, 94.

<sup>70</sup> William H. Whyte, *The Social Life of Small Urban Spaces* (Washington, D.C.: The Conservation Foundation, 1980), 92.

<sup>71</sup> Christopher Alexander, *A Pattern Language* (New York: Oxford University Press, 1977), 65.

are localized by the nature of interaction into well-defined indoor places—the home, the workplace, and maybe the homes of a few isolated friends.... *It may be that cars cause the breakdown of society, simply because of their geometry.*<sup>72</sup>

When people don't spend time between places, they simply move between their established destinations: work, home, the grocery store. Life becomes limited, social connections few, places unchanging. Sprawl restricts the variety of life. Livability, walkability, and density allow for varied modes of transportation, casual contacts, interaction with community members, and time spent in places *in between* destinations.

Jan Gehl's categories for human activity clarify these differences. *Necessary activities*, he writes, are obligatory errands like commuting and buying groceries that can be run in any environment, but are prolonged and enjoyed if the setting is pleasant. *Optional activities*, like sitting in the sun or going for a walk, will only happen if the environment is optimal. *Resultant*, or *Social activities* are less conscious moments in which people spend time where there are other people; these only occur when people are in public spaces, often themselves participating in the other types of activities.<sup>73</sup> Necessary activities can be transferred from the car to other modes of transportation by dense, livable, and walkable spaces; optional activities become much more common in these places; and the growth the first two results in growth in resultant activities. With a car culture, a neighborhood will lack the latter two entirely.

### **Making My Case**

The premise that the changes I will propose will lead to increased social trust, and so increased well-being, relies on a syllogism that well-being is tied to social trust;

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<sup>72</sup> Alexander, *Pattern Language*, 65-66.

<sup>73</sup> Gehl, *Life Between Buildings*, 11-14.

social trust can be built through interactions in the public sphere; and how, and how much, we socialize in this space can be impacted by the shape of the built environment. The first point has been addressed, and the last will be covered soon. Here let me elucidate and substantiate the middle component of this chain of logic: that the time we spend in the public sphere leads to increased social trust.

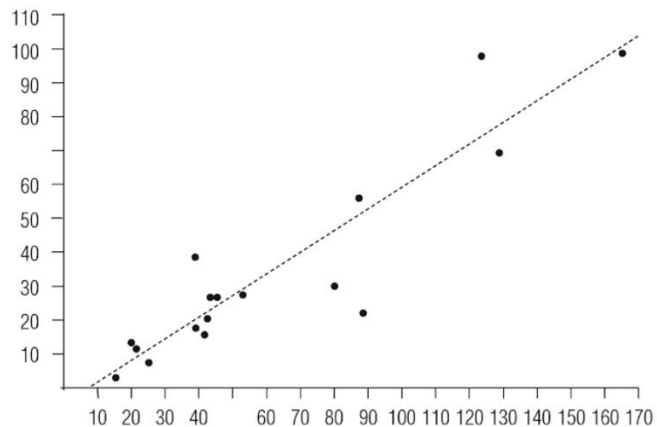
*More time spent in public spaces leads to more interactions*

To meet others, to make conversation, wave hello, or merely make eye contact briefly—all of which are valuable forms of social interaction—one must be in the same space. Outside, in the public space which is shared by all, open to all, and used by all, these interactions can occur. The more frequently they do occur, the greater the significance placed on each interaction and the pleasure derived from it. To develop from seeing a stranger to recognizing their face to saying hello is merely a matter of frequency of sharing the same space—which only comes with time spent there. This connection is quite explicitly expressed by architect and urban designer Jan Gehl: “The more residents are outdoors, the more often they meet – and the more greetings are exchanged and conversations develop.”<sup>74</sup> These conversations of course cannot be forced, but providing the space which not only allows but encourages interaction can lubricate the process. Gehl studied Melbourne streets and charted the connection between time spent outside (including semiprivate spaces such as front yards) and social contact:

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<sup>74</sup> Gehl, 55.

*The more time people spend outdoors, the more frequently they meet and the more they talk. Chart plotting the relationship between the number of outdoor activities and frequency of interactions. (Street life studies in Melbourne [20]. See also page 191.)*



*Number of activities outside and number of interactions (chart by Jan Gehl, *Life Between Buildings*, 15; data sourced from his own survey published in “The Residential Street Environment,” *Built Environment* 6 no. 1 (1980): 51-61.)*

The intensity of this social interaction is not particularly important; while social trust might develop more readily from real conversations than passing “hellos”, the former grows from the latter, and the same conditions that make the latter frequent will develop it in intensity. “From this simple level,” writes Gehl, “contacts can grow to other levels, as the participants wish. Meeting, being present in the same space, is in each of these circumstances the prime prerequisite.”<sup>75</sup>

The crucial first step to increased interaction is getting people to spend more time outside; this can be supplemented by efforts to put people at ease—making the area relaxing, safe, quiet, and comfortable—and creating opportunities for paths to intersect and conversations to start.

#### *More interactions lead to more social trust*

Developing trust in others stems from one’s perceptions of their trustworthiness, and interactions with them can provide a more generous viewpoint. People who are

<sup>75</sup> Gehl, 21.

completely isolated from those who are different from themselves are able to think what they want of the distant ‘other’; it is only with conversation, small interactions, and the ability to see those people shopping, playing, singing, living as we all do, that peoples’ assumptions are challenged. To share a small space peacefully is to share a large space peacefully; if a park can be used by all, why not a city? “The simple social intercourse created when people rub shoulders in public is one of the most essential kinds of social ‘glue’ in society,” writes architect Christopher Alexander.<sup>76</sup> To simply be in a space and see one another living normally is a powerful connector. More intense social interactions of course help: “the quality of social connections matters a lot to the maintenance of trust,”<sup>77</sup> but ‘quality’ here can also refer to the general degree of social trust, which is benefited by both quantity and quality.

*Interactions with community members are valuable*

An added consideration is the unexpected benefit derived from more trivial social connections. The nuclear family, insular and fixed, provides an intense form of socializing that can be tiring. Small interactions with neighbors and community members don’t have the weight, obligation, and importance of interactions with our immediate family,<sup>78</sup> and so offer a different type of fulfillment. Gehl notes this intermediate social contact as well:

If activity between buildings is missing, the lower end of the contact scale also disappears. The varied transitional forms between being alone and being together have disappeared. The boundaries between isolation

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<sup>76</sup> Alexander, *Pattern Language*, 489.

<sup>77</sup> Helliwell, “Well-Being, Social Capital, and Public Policy,” 22.

<sup>78</sup> Montgomery, *Happy City*, 127-28.

and contact become sharper – people are either alone or else with others on a relatively demanding and exacting level.<sup>79</sup>

He alludes to the comfort of being with others without needing to actively participate, or the lighthearted and trivial chatter exchanged with a cashier who doesn't know or care about one's personal problems. To be alone at home is solitude; to be alone in a bustling square is something entirely separate. Modest, passive participation and undemanding conversation provide a valuable form of social contact that is hard to find in the concrete utopia.

### **Designing Social Trust**

In his comprehensive investigation into declining social capital, Robert Putnam identified a number of factors that he believed caused the civic engagement crisis. The urban form—specifically, commuting, sprawl, and suburbanization—he estimates about 10 percent responsible; pressures of time and money 10 percent, the rise of television 25 percent; and the rest is generational succession and unknown other factors.<sup>80</sup><sup>81</sup>

Changing the built environment, designing for social trust, would mean working to right the wrongs of suburban sprawl, but the gains have the potential to extend beyond that 10 percent. A bustling neighborhood would draw TV watchers outside,<sup>82</sup> and fulfill their social needs<sup>83</sup> with real interactions.<sup>84</sup> Decreased reliance on the car would save

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<sup>79</sup> Gehl, *Life Between Buildings*, 19.

<sup>80</sup> Putnam, *Bowling Alone*, 283-84.

<sup>81</sup> Jane Jacobs, *Dark Age Ahead* (Canada: Random House, 2004), 37: Jane Jacobs would disagree with Putnam here: she writes, “Not TV or illegal drugs but the automobile has been the chief destroyer of American communities.”

<sup>82</sup> Putnam, *Bowling Alone*, 223. “The single most important consequence of the television revolution has been to bring us home.”

<sup>83</sup> Putnam, 242. “Another reason that television viewing is so negatively linked to social connectedness may be that it provides a kind of pseudopersonal connection to others.”

<sup>84</sup> Putnam, 234. Television watching is negatively correlated with social trust and community participation.



money on transportation and keep capital circulating within the local economy.<sup>85</sup>

Raising children in more trusting environments—with neighbors whose names they know and no fear of a looming kidnapper if they go off exploring alone—could slowly begin to tip generational succession to increase the social trust once more. All of this is speculative, of course, but it means to demonstrate that changing the urban environment could have a great effect on social trust, happiness, and health.

Other methods beyond urban design, of course, could similarly have an impact. Direct efforts to discourage or ban the viewing of television (and, to be effective, the use of computers, phones, and other such technology) would have an unprecedented effect on community participation and social trust. This concept, however, is so intrusive and unrealistic, Putnam's seven mandates, which plead for "*less leisure time sitting passively alone in front of glowing screens*" only ever suggest using the technology to try to draw people together.<sup>86</sup> War, on the other hand, brings diverse groups together in a patriotic fury,<sup>87</sup> but this avenue may not be worth pursuing for innumerable reasons. Religion ties people together at the expense of those with different beliefs; clubs and societies provide social opportunities, but often along class or gender lines; segregation by demographic would make for peaceful enclaves but fearful borders.<sup>88</sup> In finding an approach to build social trust, it is difficult to avoid the identification of an 'other' or pushy intrusions into people's personal lives. Shaping the urban environment to encourage interaction and trust-building is imperfect, but it

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<sup>85</sup> Montgomery, *Happy City*, 266. "About 73 percent of the retail price of gas and 86 percent of the retail price of a new car immediately leaves the economy, according to a report by CEOs for Cities."

<sup>86</sup> Putnam, *Bowling Alone*, 410-11.

<sup>87</sup> Putnam, 284.

<sup>88</sup> Alexander, *Pattern Language*, 42-50 and 75-79: This is precisely what Alexander suggests in his patterns 'MOSAIC OF SUBCULTURES' and 'SUBCULTURE BOUNDARY'.

bridges groups, takes place in the neutral and freely-accessible public space, and doesn't force but prompts inclusive community participation.

Little research exists on the impact of urban design on social trust, and many of those who call for change have no suggestions to offer. After Putnam's appeal for "*public space [that] will encourage more casual socializing with friends and neighbors,*" he devotes a page to discussing these changes, and only one sentence mentions designs worth pursuing.<sup>89</sup> William H. Whyte approached the concept from the other direction; after a thorough documentation of what makes public spaces work in his seminal manual *The Social Life of Small Urban Spaces*, he writes, "Most of our research has been fundamental—that is, I can't now think of any especial applicability for it."<sup>90</sup> The urban designers are not sure why they should make spaces work, and the sociologists aren't sure how to.

Charles Montgomery recently bridged this gap with his work on happiness in cities and found that "[t]he power of scale and design to open or close the doors of sociability is undeniable."<sup>91</sup> He investigated the effects of building facades on the emotions, actions, sense of safety, and altruism of passersby, and found that active street edges—those with interesting facades (transparent or textured with nooks and details) that encourage socializing and lingering—made people more likely to help one another and interact with strangers.<sup>92</sup> A section of street with sidewalk cafes, entrances, and trees was compared to a section with a flat, empty wall; four times as many people

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<sup>89</sup> Putnam, *Bowling Alone*, 408: "It is surely plausible that design innovations like mixed-use zoning, pedestrian-friendly street grids, and more space for public use should enhance social capital..."

<sup>90</sup> Whyte, *Social Life*, 8.

<sup>91</sup> Montgomery, *Happy City*, 135.

<sup>92</sup> "Editable Urbanism Report," *Happy City + Futurewise* (Seattle: April 2015).

paused for more than 20 seconds while passing the active facade than the inactive. When surveyed, people reported higher levels of trust there. Volunteers holding maps and looking confused allowed researchers to determine that the active facade supported almost five times as much altruistic behavior.<sup>93</sup> Though few such studies exist, their success has enormous implications; simply changing environments, even walking past a single building, affects how we perceive each other.

### **The Pressing Need for Social Trust**

It is perhaps human nature to romanticize the past and bemoan our moral fall, to unconditionally reject the changes that distinguish one generation's childhood from the next, despite history's reliance on these advances. Frustration in the decline of religiosity, the exclusionary nature of the nuclear family, and the time people spend engaging with technology all hint to the broader decay of the community. Putnam argues that this characterization of societal change is not entirely original:

Debates about the waxing and waning of 'community' have been endemic for at least two centuries. 'Declensionist narratives'—postmodernist jargon for tales of decline and fall—have a long pedigree in our letters. We seem perennially tempted to contrast our tawdry todays with past golden ages. We apparently share this nostalgic predilection with the rest of humanity.<sup>94</sup>

However, he agrees that despite the historic persistency of this view, it is finally entirely accurate. From political, civic, and religious participation to friendships among coworkers and neighbors to altruistic, philanthropic, honest, and community-minded behavior, Americans have pulled away into their private homes.<sup>95</sup> Putnam believes this

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<sup>93</sup> "Edible Urbanism," 2-4.

<sup>94</sup> Putnam, *Bowling Alone*, 24.

<sup>95</sup> Putnam, *Bowling Alone*.

trend can be reversed, but our new antisocial outlook has been cemented in the physical structure of our nation's communities. Built in concrete and asphalt, our cities and suburbs hold us fixed in this decline; to bring back social capital and revitalize trust, we must build the space to come together.

### *Mental health and solitude*

Rates of clinical depression have skyrocketed in the past decades, posited in 2005 at three to ten times the rate two decades ago.<sup>96</sup> In 2010, it was affecting one in ten Americans.<sup>97</sup> Even with the surging wealth throughout the late twentieth century, growth in happiness and subjective well-being flatlined;<sup>98</sup> a study by Italian economists found that this 'happiness-income paradox' in the United States can only be explained by the parallel decline in social capital.<sup>99</sup> Loneliness is increasingly pervasive. The average American in 1985 reported having just three people to confide in, family included, a bleak statistic which dropped in 2004 to just two people.<sup>100</sup> Almost half of Americans have no one, or a single person, in whom to confide.<sup>101</sup>

It is important to note that the absence of social capital does not only lead to a passive, lonely population. Social ties enforce collective betterment; when people aren't striving together to better the community, they instead strive individually for personal gain, what Putnam called "the shared pursuit of the public good," replaced by the "solitary quest for private goods".<sup>102</sup> Personal success and wealth, in this socially barren

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<sup>96</sup> Montgomery, *Happy City*, 11.

<sup>97</sup> Montgomery, 11.

<sup>98</sup> Montgomery 10.

<sup>99</sup> Montgomery, 53.

<sup>100</sup> Montgomery, 54.

<sup>101</sup> Montgomery, 54.

<sup>102</sup> Putnam, *Bowling Alone*, 403.

landscape, come at the expense of others. Stated life objectives since the 1960s have shifted away from community leadership, political awareness, or environmental protection, and towards the private accumulation of wealth.<sup>103</sup> When asked about what constitutes ‘the Good Life’, material luxuries and “a lot of money” have made gains and almost risen to the level of children and a happy marriage (a job that contributes to society is far below).<sup>104</sup> Perhaps most stark is the correlation between television-watching, lack of participation in the community, and aggression when driving:

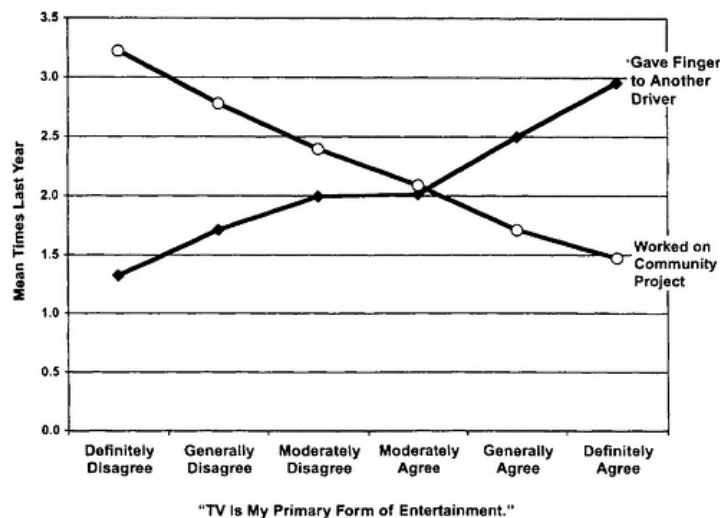


Figure 66: TV Watching and Comity Don't Go Together

*TV, community projects, and road rage: (chart by Robert Putnam, Bowling Alone, 233; data sourced from the DDB Needham Life Style survey archive, 1975-1998).*

The logic connecting pursuit of self-interest and willingness to sacrifice social cohesion isn't too obscure. And others' aggression and focus on the individual only encourages distrust and similar self-centered behavior in order to protect oneself, continuing the cycle.

<sup>103</sup> Putnam, 260. The chart, titled “Greed Trumps Community among College Freshmen, 1966-1998,” begins with each of the four objectives valued by between 30-60% of the students surveyed. The lines quickly diverge though, and for the entirety of the 1990s, “Be Very Well Off Financially” hovers at 75%, while the others drop to around 20%.

<sup>104</sup> Putnam, 274.

### *The dangers of driving*

Cities, as we know them today, are far different from even 100 years ago. For most of history, speed was limited to the human body's pace; even the car's predecessors, like the horse-drawn carriage and the streetcar, were not much faster than a pedestrian. Streets were shared and unsegmented, all modes of transportation intermixed. The introduction of the automobile was far less monumental than we might expect it to have been. Cars were originally limited to the speeds at which the rest of the traffic moved, and so didn't catch on until the automobile industry invented the sidewalk, the crosswalk, and the term 'jaywalking'.<sup>105</sup> The industry manufactured a divided street so that cars could sail down the center without blamed if a pedestrian ventured off of the sidewalk and into the car's path. Roads were widened to account for the increased space vehicles require; freeways were built, leading out to sprawling suburbs that necessitated car ownership; streetcars lines were ripped out<sup>106</sup>; narratives were dreamt up to sell the new lifestyle. The first step in "the twentieth century's dual urban legacy[,]. . . the city had been gradually reoriented around private automobiles. Second, public spaces and resources had [to be] largely privatized."<sup>107</sup> To sell these new tracts of cookie-cutter houses and the cars to get you there, the spaces people used to spend time in were turned into parking lots and private parks. Plazas, bustling streets, waterfronts, entire neighborhoods were paved to facilitate 60 miles-an-hour movement. The many independently-owned small stores were put out of business by giant strip

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<sup>105</sup> Montgomery, *Happy City*, 71.

<sup>106</sup> Jacobs, *Dark Age Ahead*, 38-39.

<sup>107</sup> Montgomery, 7.

malls and supermarkets. Increasingly, the ‘public sphere’ could only refer to the aisle of a Walmart, the parking lot outside, and the food court in the nearby mall.

This is the recent history of cities in the United States. But it was not a natural growth or millions of freely-made choices by Americans; the privatized, sprawling suburban form “was laid out, massively subsidized, and legally mandated long before anyone actually decided to buy a house there. It is as much the result of zoning, legislation, and lobbying as a crowded city block. It did not occur naturally. It was *designed*.”<sup>108</sup> Like we designed our way into this polluted and dampening blanket of asphalt, we can design our way out.

A good reason to do so is that the current urban pattern is incredibly dangerous. Worldwide, cars kill more people annually than war.<sup>109</sup> The United States’ traffic fatality rate is by far the highest among peer countries, over triple the European average,<sup>110</sup> and the rates double for youths compared to the general population.<sup>111</sup> Traffic fatality rates are strongly correlated with vehicle-miles traveled (VMT), supporting the conclusion that cars are unavoidably dangerous, despite the changes made in safety features, anti-impaired driving campaigns, and road design.<sup>112</sup> Rural areas, where residents drive farther and faster, have the highest rates of traffic deaths.

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<sup>108</sup> Montgomery, 29.

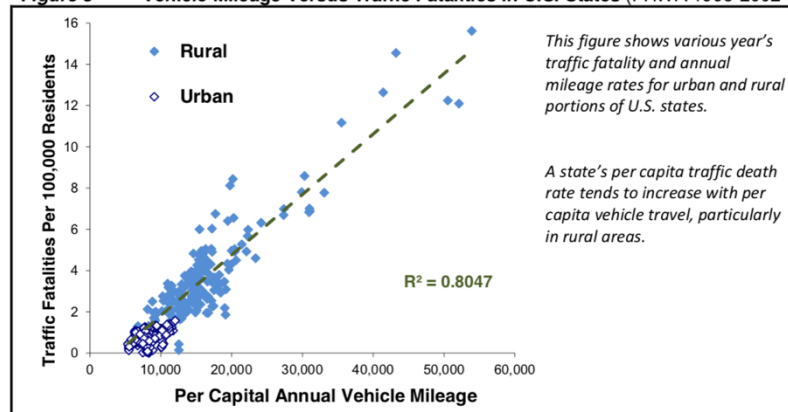
<sup>109</sup> Montgomery, 96.

<sup>110</sup> Todd Litman, “A New Traffic Safety Paradigm,” *Victoria Transport Policy Institute* (April, 2018), 5.

<sup>111</sup> Litman, “Traffic Safety Paradigm,” 12.

<sup>112</sup> Litman, 8.

**Figure 8** Vehicle Mileage Versus Traffic Fatalities in U.S. States (FHWA 1993-2002 data)



*Urban forms that require car use have more traffic fatalities (chart by Todd Litman, “A New Traffic Safety Paradigm,” Victoria Transport Policy Institute (April 24, 2018), 9; data sourced from the Federal Highway Association, 1993-2002)*

Driving negatively effects the lifespan, health,<sup>113</sup> and habits<sup>114</sup> of those who drive, in proportion to the distance and time spent in the car. To reduce traffic fatalities and these negative health effects, efforts should be made to decrease car use and move those trips to other modes of transportation like walking, biking, and transit,<sup>115</sup> which then require denser and more walkable communities.<sup>116</sup>

<sup>113</sup> Montgomery, *Happy City*, 95: “...living in low-density sprawl puts residents at greater risk of arthritis, chronic lung disease, digestive problems, headaches, and urinary tract infections. Some of these effects come from the toxic air we breathe while we are driving cars or living amid their fumes. But, most critically, they result from living in communities that force people to drive. Just living in a sprawling city has the same effect of four years of aging.”

<sup>114</sup> Carole Turley Voulgaris, Michael J. Smart, and Brian D. Taylor, “Tired of Commuting? Relationships among Journeys to School, Sleep, and Exercise among American Teenagers,” *Journal of Planning Education and Research* (August 2017), 7-11: Teenagers commuting by car to school get less sleep and exercise (in proportion to the length of their commutes), leading to health outcomes that the researchers of that study found “consequential,” “substantial, and troubling.”

<sup>115</sup> Litman, “Traffic Safety Paradigm,” 13: Increased use of public transportation and active transport (walking, biking) have been shown to increase traffic safety.

<sup>116</sup> I’d like to mention that the dangers of cycling are often cited; cyclists in the United States are indeed unsafe. However, this fact is, I think, framed wrong; biking is dangerous because there are cars who endanger bikers. We measure the likelihood of dying on a bike vs. a car, but perhaps we’d be better off measuring the likelihood of killing someone. Though many die on bikes (and in cars), cyclists are far less likely to kill another person than drivers.



*The social cost of driving*

Cars allow people to be in both private and public space simultaneously, to maintain climate-controlled comfort in every season, and to speed from one destination to the next. They are a physical incarnation of the American romance with individualism and privacy. Given that the primary goals of the car involve physically protecting the driver from the unpredictability of public space and moving them through it as fast as possible, it is intuitive that driving is correlated with social disengagement. For every extra ten minutes of daily commute by car, time spent involved in community affairs is cut by ten percent; this impact extends out to community members who may not commute themselves, or even work, but have lower levels of civic involvement by nature of their neighbors' isolation.<sup>117</sup> Dependence on cars is so impactful on the social capital of a neighborhood that it can predict it.<sup>118</sup>

A component of this disconnect is the sheer distance traveled from homes and communities. When destinations—work, school, shops, parks, etc.—are spread across great geographic tracts, the likelihood of running into someone you know, live near, or may see again decreases.<sup>119</sup> On the other hand, brief, daily walks to the grocer on the corner enable frequent opportunities to strike up conversations with employees, fellow shoppers (many of whom would live nearby), and neighbors on the way.

Another component is the disrupting effect traffic has on neighborhoods; the noise of speeding traffic severely restricts pedestrians' ability to hear each other, reducing their willingness to engage in conversation. People on loud streets end

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<sup>117</sup> Putnam, *Bowling Alone*, 213.

<sup>118</sup> Montgomery, *Happy City*, 57.

<sup>119</sup> Montgomery, 170.

conversations sooner, are more willing to disagree, argue, and ignore strangers needing help.<sup>120</sup> They're less social and less likely to exhibit positive qualities like generosity, patience, and altruism.<sup>121</sup> The speed, as well, of cars racing down the street has parents pulling their children to the safety of indoors; sidewalks are bare. Public space feels like a car's place, with humans unwelcome. "We have traded conviviality for the convenience of those who wish to experience streets as briefly as possible," writes Charles Montgomery. "Public life begins when we slow down."<sup>122</sup> As Jan Gehl writes, "People and events are, to be sure, present in cars, but seen from the sidewalk, the picture is both too fragmented and too brief for one to be able to see who is moving and what is going on. The movement of people has become automobile traffic"<sup>123</sup> and the perception of people has been replaced by the perception of cars.

Donald Appleyard's seminal 1972 survey mapped the social connections of three San Francisco streets, identified to be similar in all aspects except the traffic flow.<sup>124</sup> He found a direct relationship between social connections between neighbors and traffic. The bubbling and interconnected social life on the quiet street, where residents had an average of three friends on the block and more than six acquaintances, was completely lacking on the heavily trafficked street (with eight times as many vehicles a day), where friends dropped to less than one per person and acquaintances to

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<sup>120</sup> Montgomery, 168.

<sup>121</sup> Montgomery, 168.

<sup>122</sup> Montgomery, 170.

<sup>123</sup> Gehl, *Life Between Buildings*, 129.

<sup>124</sup> Donald Appleyard, with M. Sue Gerson, and Mark Lintell, *Livable Streets* (University of California Press, 1981).

around three.<sup>125</sup> The relationships that straddled the busy street particularly withered, with most people sticking to the side of the block they lived on.

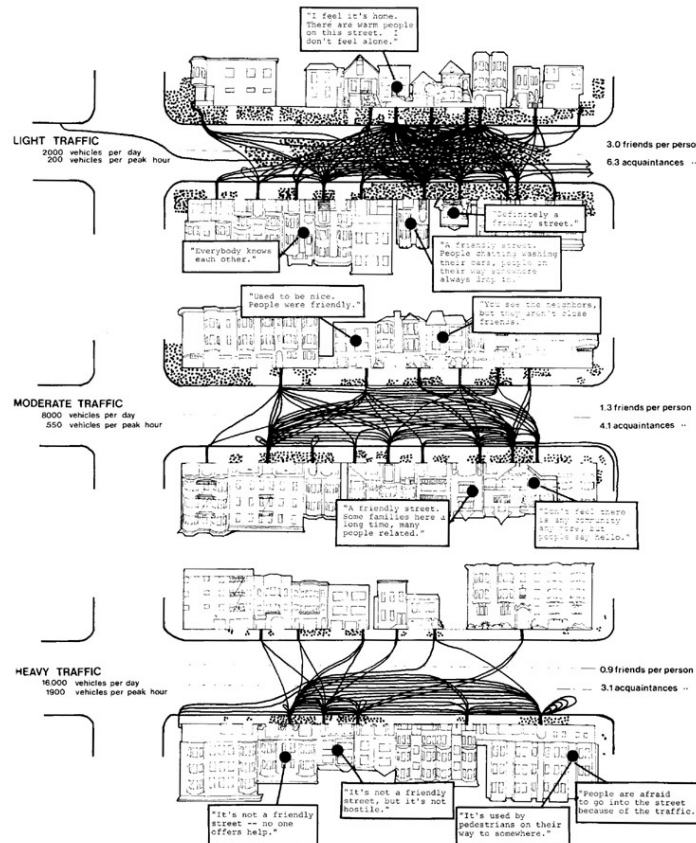


FIGURE 3. San Francisco. Neighboring and visiting on three streets: lines show where people said they had friends; dots show where people are said to gather; acquaintances.

*Social networks and traffic (chart by Donald Appleyard, with M. Sue Gerson, and Mark Lintell, Livable Streets (University of California Press, 1981), 21.)*

Appleyard concludes that heavy traffic’s “effects on neighboring and sense of possession of the street were apparently devastating,” while the nearby lightly-trafficked street was “idyllic,” with residents claiming the street, children playing outside, and much more socializing. “The contrast between the two streets was striking.

<sup>125</sup> Appleyard, *Livable Streets*, 21.

On one hand alienation, on the other friendliness and involvement.”<sup>126</sup> To sustain social networks, automobile traffic—both quantity and speed<sup>127</sup>—must be limited to the absolute minimum possible.

Cars are glass and metal insular bubbles, creating an artificial indoor space, a piece of private property in which one can travel through public space. They disconnect the driver and passengers from the outside world, and from the people in it. Drivers, as compared to pedestrians, have more negative perceptions of poor neighborhoods and potentially dangerous social situations on the sidewalks, and more positive impressions of affluent areas.<sup>128</sup> The implication is that

car users form more superficial perceptions of an urban environment, in particular compared to pedestrians, because they are exposed to less details information. These findings are in line with social psychological research that suggests that information that becomes available to people in ‘thin slices’ results into more superficial judgements in which bad becomes worse and good becomes better.”<sup>129</sup>

The clearest indication that cars perceive details differently is the size discrepancy of signs directed at vehicles and pedestrians. But we’re not only perceiving information through signs; police cars are deciding what situations look suspicious, drivers are deciding where to stop, and people are deciding what neighborhoods are safe to spend time in.

Drivers perceive the outside world superficially, and the disconnect allows them to become more aggressive. Without the interaction of sharing public space on foot,

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<sup>126</sup> Appleyard, 26.

<sup>127</sup> Appleyard, 27. The study notes that the light-traffic neighborhood was far more disturbed by the occasional speeding car, a “hot-rod,” which shook their sense of safety and endangered the children playing in the streets.

<sup>128</sup> Birgitta Gatersleben, Niamh Murtagh, and Emma White, “Hoody, goody or buddy? How travel mode affects social perceptions in urban neighbourhoods,” *Transportation Research Part F: Traffic Psychology and Behaviour*, vol. 21 (2013), 227.

<sup>129</sup> Gatersleben, Murtagh, and White, “Hoody, goody or buddy?” 228.

where trust is built up, fellow users of the streets become the ‘other’, and interactions become contentious. American drivers are becoming drastically more violent,<sup>130</sup> ignoring road rules like stop signs,<sup>131</sup> and increasingly think that they can get away with reckless driving.<sup>132</sup> Putnam notes the connection between driving as an “important domain of public intercourse,” the “changing patterns of reciprocity,” and the “undeniable decrease in thin trust.”<sup>133</sup> In a car, the driver and passengers are physically and psychologically separated from other users of public space.

“Windshield perspective” is a term given to the distorted perception of the community when the primary means of exposure is through a car’s window. Kids who spend most of their time transported by car have less awareness of the layouts of their neighborhoods, can remember fewer details about them, play in fewer locations, and have more negative emotions associated with the places.<sup>134</sup> Adults are equally affected; those who live in high-traffic regions show a similar lack of knowledge of their surrounding area and perceive a smaller unit of space as their ‘home’.<sup>135</sup>

The geographic boundaries of what residents consider their ‘home’ is particularly telling. A sense of ownership over not only one’s physical house but also the sidewalk, street, or neighborhood results in greater use of public space, more responsibility and respect for it, and more trust and security when using this space.<sup>136</sup> Empty sidewalks and trafficked streets harm this connection, but also deprive the

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<sup>130</sup> Putnam, *Bowling Alone*, 142.

<sup>131</sup> Putnam, 143.

<sup>132</sup> Putnam, 143.

<sup>133</sup> Putnam, 142-44.

<sup>134</sup> Sarah Goodyear, “Kids Who Get Driven Everywhere Don’t Know Where They’re Going,” *Citylab* (May 7, 2012).

<sup>135</sup> Donald Appleyard, *Livable Streets*, 23-25.

<sup>136</sup> Gehl, *Life Between Buildings*, 61.

residents of a crucial intermediary social unit. Various scales of social units—family, street, neighborhood, city, and so on—and spaces for them to gather allow “movement from small groups and spaces towards larger ones and from the more private to the gradually more public spaces, giving a greater feeling of security and a stronger sense of belonging” to the areas outside of one’s home.<sup>137</sup> In suburban America, the social unit of the private residence abruptly scales up to the shopping mall; in a healthy community, intermediary units exist in the street, the unit of several blocks, and the larger neighborhood.<sup>138</sup> Public gathering spaces should exist for each, as the living room hosts the residents of a house. A street collects neighbors together, an opening by a major pathway collects more extended neighbors, and a town square or plaza unites the neighborhood. These gathering places are important for social interaction and collective action.

Instead, these potential plazas, parks, and other social places are currently parking lots. Cars take up space both during use<sup>139</sup> and when sitting idle, the latter of which is 95 percent of their lifespan.<sup>140</sup> When driven, cars require roads and intersections, on-ramps and bridges. These spaces are dominated by cars, but usually are used by other modes of transportation as well. Turned, off, however, cars still take up space: about 150 square feet.<sup>141</sup> There are eight parking spots for every car in the

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<sup>137</sup> Gehl, 61.

<sup>138</sup> Gehl, 59-60.

<sup>139</sup> Alexander, *Pattern Language*, 65.

<sup>140</sup> Paul Barter, “‘Cars Are Parked 95% of the Time’. Let’s Check!” *Reinventing Parking* (February 22, 2013).

<sup>141</sup> Montgomery, *Happy City*, 220-21. A cyclist, meanwhile, takes up about 20 square feet when not moving, and a pedestrian only five. All of these numbers are multiplied exponentially when moving, expanding the gap; pedestrians take up 20 square feet, bicycles 15, and cars going 60 miles per hour 5,000 square feet.

United States;<sup>142</sup> at any given time, at least seven of these are empty. Each requires around 325 square feet; multiply this by seven, and there are 2,275 empty square feet for every car in the United States (around the size of the average American house in 2003<sup>143</sup>). The sheer space this requires has a very visible impact on cities; a map of Little Rock, Arkansas's downtown illustrates the dominance of parking in urban space.



*Little Rock, AR, with surface parking (red), garage parking (yellow) and parks (green) (chart by Charlie Gardner and photoLith, "We Are the 25%: Looking at Street Area Percentages and Surface Parking," Old Urbanist (December 12, 2011).)*

Surface parking, here marked in red, dominates, covering more than a quarter of the space; garage parking only adds to the coverage. Calculated together with street area, 61 percent of the space is designated for cars.<sup>144</sup> What remains is built upon; note that there is not a single park. In this space, pedestrians and bikes are anomalies. People don't linger or chat on corners; asphalt dominates. The parking lots themselves are enormous,

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<sup>142</sup> Montgomery, 280.

<sup>143</sup> Les Christie, "America's Homes Are Bigger Than Ever," *CNN Money* (June 5, 2014).

<sup>144</sup> Charlie Gardner, "We Are the 25%: Looking at Street Area Percentages and Surface Parking," *Old Urbanist* (December 12, 2011).

formidable stretches that make clear their priorities; pedestrians speed up as they cross these expanses.<sup>145</sup> It would be hard to build a less prosocial urban form.

### *The literal cost of driving*

The financial burden of a car-dominant society is often underestimated, due to the tangible immediate gains—convenience and speed—and the predominately indirect costs. The most cited of these is the \$180 billion spent annually in the US on injuries, medical care, and property damage due to automobile accidents;<sup>146</sup> more than the US's discretionary spending in 2015 on education, healthcare, energy, and the environment combined.<sup>147</sup> Obesity is almost as costly, at \$142 billion a year.<sup>148</sup> These financial burdens, and others, are imposed by the pollution, inactivity, danger, property damage, loss of productivity, isolation, and stress of car use. Separate is the tax burden shared by all Americans, regardless of the mode of transportation they choose,<sup>149</sup> that builds and maintains these swathes of concrete.

Yet the most obvious costs of car use are some of the most enduring; the average family of four in the US, in 2011, paid more for transportation than the combined costs of health care and taxes.<sup>150</sup> This price is split between the initial purchase, gas, maintenance, insurance, and parking. Car owners underestimate the costs

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<sup>145</sup> Alexander, *Pattern Language*, 505.

<sup>146</sup> Montgomery, *Happy City*, 258.

<sup>147</sup> “Federal Spending: Where Does the Money Go,” *National Priorities Project*, Institute for Policy Studies.

<sup>148</sup> Montgomery, *Happy City*, 258.

<sup>149</sup> Montgomery, 243: Taxes to maintain roads are shared by all travelers regardless of their chosen mode of transportation; meanwhile, each mile traveled on American roads in a car costs 29.3 cents in public infrastructure; on bike, the number drops to less than a percent, and on foot only one-fifth of one percent.

<sup>150</sup> Montgomery, 49.



associated with ownership by as much as 100 percent.<sup>151</sup> Many other expenses are embedded in the location and housing, through private parking (parking adds an average of \$225 a month extra to rent<sup>152</sup>), and parking permits. The cost of suburban and exurban neighborhoods is far greater than dense, walkable neighborhoods; higher initial construction, maintenance, and service costs are worked into the cost of housing and taxes.<sup>153</sup> Commute lengths are another commonly underestimated expense; though housing near people's workplaces is often more expensive, the increased cost is often offset by the savings in gas. The affordability of housing away from the downtown is most of the reason the poorest twenty percent of Americans spend more than 40 percent of their income on car ownership and maintenance, savings that can be eaten up by increased commutes of only twelve to fifteen miles.<sup>154</sup>

The bulk of these expenses benefit relatively few multinational corporations, rather than the small, independently-owned local businesses that provide jobs and destinations. Most of the extraordinary expenditures on new cars and gas (86 percent and 73 percent, respectively) immediately leaves the local economy.<sup>155</sup> With the addition of shopping malls and mega stores, local businesses struggle and downtowns lie dead. Budget-strapped small towns face declining populations as young people move to cities, where they can find jobs and more dynamic neighborhoods. Part of the problem is the diversion of local money into few ever-growing companies, and part is the lack of attachment felt for characterless, dead, suburban towns. The lack of

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<sup>151</sup> Montgomery, 207.

<sup>152</sup> Seth Goodman, "How much does one parking spot add to rent?" *Reinventing Parking*, (June 2, 2015).

<sup>153</sup> Montgomery, *Happy City*, 260.

<sup>154</sup> Montgomery, 243.

<sup>155</sup> Montgomery, 266.

community disconnects residents, who are then less willing to devote their time and energy into bettering—or even sustaining—the community, and so the decline spirals.

Urban designer Nidhi Gulati identifies children as a potential solution to the deleterious abandonment of towns and cities. She notes the connection between a sense of responsibility for a place and the attachment people feel towards it, writing:

This feeling of responsibility and stewardship manifests in many forms... [including] investing in your community.... The best time to cultivate this sense of home is a person's growing years – childhood and teenage years. Children with a strong sense of attachment to their hometowns stay in these towns, invest resources in it, apply for civic jobs, and run for office.<sup>156</sup>

To connect children with their homes, she cites the importance of public places in creating lasting memories, and recommends we “design for interaction,” getting children out of cars and onto sidewalks or bikes.<sup>157</sup> By building places that can facilitate memory-making and a sense of ‘home’, children’s attachment to their home towns can provide resiliency, future investment, and more consistent populations.

#### *Dissatisfaction with the current urban form*

The autopoietic suburbanization of the United States happened quickly, with little reflection on whether the pattern was achieving what it promised. And, due to a number of factors beyond mere popularity, people moved into their new homes. The tracts sprawled and expanded unchecked until even the suburbs had suburbs, and a new term had to be coined: exurbs. Towns accepted the new form not out of desire, but because it was the cheapest and easiest solution; the standardized zoning codes that mandated the wide streets, extensive parking lots, and separation of uses could be

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<sup>156</sup> “Promoting Children’s ‘Sense of Home’ With City Design,” *Child in the City*, (April 10, 2018).

<sup>157</sup> “Promoting Children’s ‘Sense of Home’.”

downloaded as “codification services” off Municode.com.<sup>158</sup> Though there certainly are occasional experimental developments, their significance pales in comparison to the quantity of identical, location-unspecific culs-de-sac.

But the recent resurgence of downtowns is evidence of peoples’ dissatisfaction. In 2010 and 2011, for the first time in nine decades, census data showed more growth in American cities than their suburbs.<sup>159</sup> Young people drive less and less,<sup>160</sup> and are less eager to get their licenses or buy cars. Traffic is reaching a tipping point: while most people report desiring a commute time of 16 minutes<sup>161</sup>, enough time for a moment of privacy and a feeling of transition, most Americans drive for an hour a day. Livable communities can provide shorter commutes, lowering stress levels; and the benefits may extend to even those who don’t live there; in William H. Whyte’s surveys of American plazas, he found that

the places people like best of all, find least crowded, and most restful are small spaces marked by a high density of people and a very efficient use of space.... It is not just the number of people using them, but the larger number who pass by and enjoy them vicariously, or the even larger number who feel better about the city center for knowledge of them.<sup>162</sup>

The benefits of livable communities, rich in social capital, can extend out from the residents to those who pass through them or visit friends there, or who simply can be inspired by what they see to shape their own neighborhood. Americans want change.

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<sup>158</sup> Montgomery, *Happy City*, 75.

<sup>159</sup> Montgomery, 12.

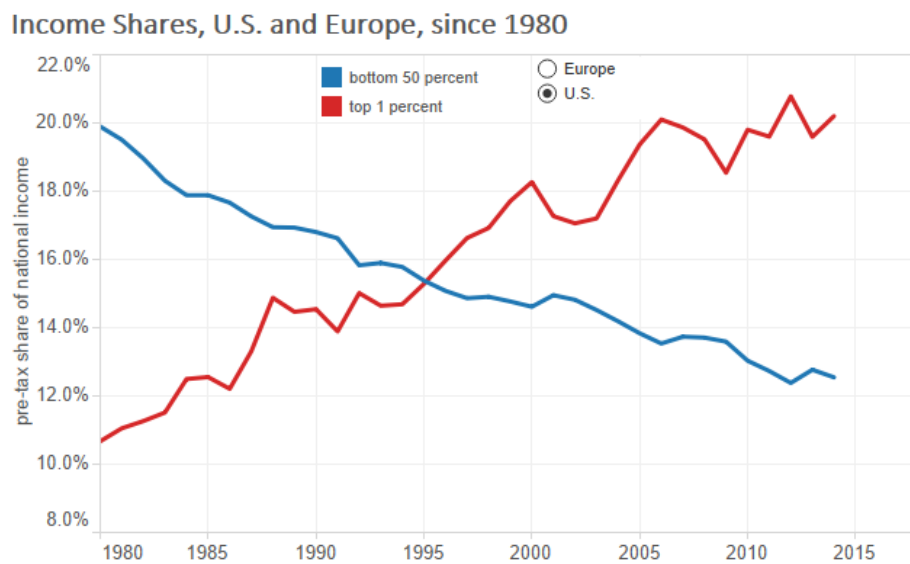
<sup>160</sup> Bernie DeGroat, “Fewer young, but more elderly, have driver’s license,” *University of Michigan* (December 1, 2011).

<sup>161</sup> Montgomery, *Happy City*, 178.

<sup>162</sup> Whyte, *Social Life*, 101.

## *Trust and inequality*

In the United States, low social capital is starkly correlated with high income inequality.<sup>163</sup> Charting the decline of social capital since the late 1960s, Putnam finds a parallel erosion of social connectedness and civic engagement; the conclusion that “fraternity and equality are complementary, not warring values... both across space and across time” is cemented by his state-by-state analysis of social capital and civic and economic equality, demonstrating a clear positive correlation.<sup>164</sup> So it should be no surprise that income inequality in the US is at its highest since the early 1900s.<sup>165</sup>



Adapted from World Inequality Report 2018 (<http://wir2018.wid.world/>), Table 2.3.2a. Data from World Inequality Database (<http://wid.world/data/>), downloaded April 2018.

*Rising income inequality in the United States, 1980-2014 (chart by the World Inequality Report 2018, data from the World Inequality Database).*

<sup>163</sup> Putnam, *Bowling Alone*, 358.

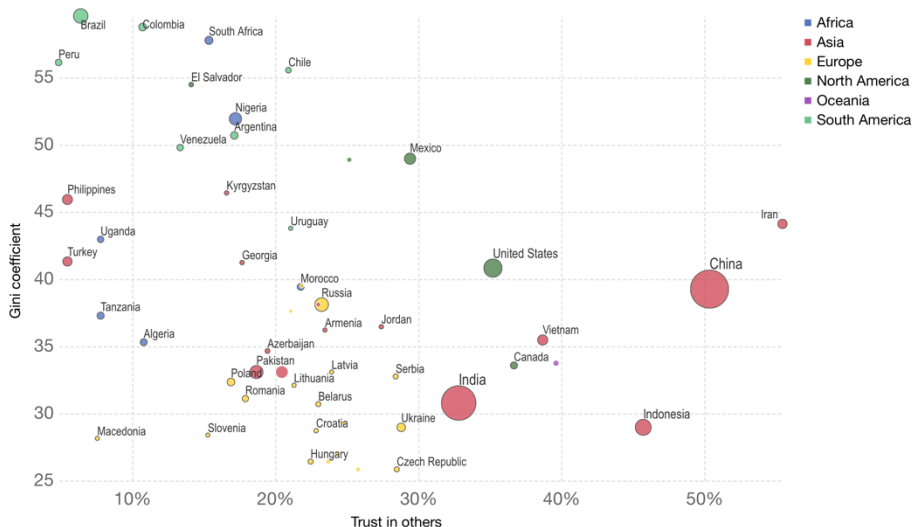
<sup>164</sup> Putnam, 359.

<sup>165</sup> Josh Zumbrun, “What We Know About Inequality (in 14 Charts),” *The Wall Street Journal* (January 1, 2015).

## Interpersonal trust vs. income inequality, 1998

Interpersonal trust (share of people reporting that "most people can be trusted" in the World Value Survey) against income inequality by Gini index (higher values reflect more inequality). Data from 2000 (or closest year available).

OurWorld  
in Data



Source: Trust (World Values Survey (2014)), World Bank

OurWorldInData.org/trust • CC BY-SA

*Social trust is negatively correlated with income inequality (chart by Esteban Ortiz-Ospina and Max Roser, "Trust," OurWorldInData.org (2017), data sourced from the World Values Survey, 2014, and the World Bank.)*

The expulsion of some local revenue from the economic circle of the community is inevitable, but cars and their requisite gas<sup>166</sup> hasten the process. Business owners in town struggle and close as their stores are abandoned for the distant Walmart; main streets become 45 mile-per-hour thoroughfares. The economic consolidation and physical sprawl of suburbia depends on the car, yet one in three Americans does not drive.<sup>167</sup> Old people, young people, the extremely poor, and the disabled are all forced to depend on their family and friends as chauffeurs, or, more often, rely on a crumbling and underfunded public transportation system. These buses are slow, often late, and stigmatized. Biking, as well, is common among those with no other option; the poorest

<sup>166</sup> Montgomery, *Happy City*, 266.

<sup>167</sup> Montgomery, 241.

quarter of Americans make one-third of all bike trips.<sup>168</sup> Without the infrastructure, though, walking, biking, and public transportation are miserable and often dangerous. When grocery stores, schools, workplaces, friends' housing, and amenities such as parks are all out of reach for those who can't drive there, the system has failed them; no wonder the poor report far lower rates of trust.<sup>169</sup>

### *Trust and government*

Trust in the government and the opposing party has reached a record low, with trust in the president at 20 percent and in Congress at 9 percent in 2016.<sup>170</sup> Given the recent scandals shaking the White House, the deadlock in Congress, and the increasing insecurity of Republicans as the 2018 midterm elections approach, this cynicism is unlikely to have abated. The distrust stands starkest against the contrast of history; in 1960s, three in four Americans trusted the government “to do what is right all or most of the time”; in the 1990s, the number stood at one in four.<sup>171</sup> Social trust and trust in government are very different measures,<sup>172</sup> but their connections are worth exploring. Political trust is, at its base, the faith that those in the government are trying their best. When people feel disconnected or unrepresented, electoral participation drops (as it has),<sup>173</sup> and the government becomes controlled by those who continue to vote—the ‘haves’, not the ‘have-nots’.

The community participation that stems from social interconnectedness and trust leads to volunteer work and leadership over a project, then perhaps running for city

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<sup>168</sup> Montgomery, 240.

<sup>169</sup> Putnam, *Bowling Alone*, 138.

<sup>170</sup> C.K. “Why America Has a Trust Problem,” *Democracy in America*, *The Economist* (April 2017).

<sup>171</sup> Putnam, 47.

<sup>172</sup> Putnam, 137.

<sup>173</sup> Putnam, 32.

council, mayor, governor, or state representative; political participation grows out of community participation because the scales in community naturally span from a neighborhood to a nation. Robert Putnam has demonstrated the link between civic engagement at the small scale and at the large.<sup>174</sup> He finds that when the bottom of this spectrum is missing, the grassroots community organization that traditionally hosted and supported larger political bids is replaced with marketing and financial capital: “Since their ‘consumers’ are tuning out from politics, parties have to work harder and spend much more, competing furiously to woo votes, workers, and donations, and to do that they need a (paid) organizational infrastructure.”<sup>175</sup> Lobbies, business interests, big data, and marketing campaigns have filled in the gap where political engagement, civic networks, and grassroots campaigns once thrived.

Social and political trust build governments worth trusting. Community members run for office, representatives are ‘in touch’ with the people, and interest and engagement by the public hold officials accountable. Yet the connection seems to be more deeply rooted. Robert Putnam found that in Italy, the quality of governance in twenty regions was directly correlated with their social capital: “If there was a dense, civic network, so that people in those places behaved with respect to one another, in a trustworthy way, their governments worked better.”<sup>176</sup> Putnam’s ‘trickle-up’ theory suggests that increased positive social interactions leads to increased community trust and engagement. With this knowledge, even small improvements in social capital can be influential; simply lingering in a park because a bench has been placed in a sunny

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<sup>174</sup> Putnam, 44.

<sup>175</sup> Putnam, 40.

<sup>176</sup> Putnam, 344-45.

spot can lead to increased trust in one another, involvement with the community, and trust in the government, which may be increasingly deserved as more people get involved.

The United States as a nation, of course, is far from this happy trusting citizen base and trustworthy gathering of representatives. Donald Trump's victorious campaign for the 2016 presidential election was built on distrust and fear of each other, our own government, and other nations. The 'America first' mantra relies on identification of an 'in' and 'out' group and a romantic portrayal of the rugged, paranoid, and self-reliant individual, disconnected from society. The pattern is not new; in 2004, the famed urbanist Jane Jacobs wrote of fallen empires,

Cultural xenophobia is a frequent sequel to a society's decline from cultural vigor. Someone has aptly called self-imposed isolation a fortress mentality... a shift from faith in *logos*, reason, with its future-oriented spirit... to *mythos*, meaning conservatism that looks backward to fundamentalist beliefs for guidance.<sup>177</sup>

The right-wing movements sweeping both America and Europe rely on this xenophobia and the mythical better past ('Make America Great Again') to pull in votes, rendering Jacobs' "cultural vigor" increasingly important. Citizens' dissatisfaction with the status quo is manifesting in political isolationism and policies not reliant on social cohesion; there's a reason 'socialism' contains the word 'social'.

### *Trust and diversity*

As with socialism, universal health care, and most systems successful in the liberal Scandinavian nations, many decry that trusting communities are too much to ask of such a large and diverse nation; it 'just wouldn't work here'. It's true that the

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<sup>177</sup> Jane Jacobs, *Dark Age Ahead*, 17.



traditional small, homogenous, trusting community is becoming rarer as urban populations expand and diversity increases. It is easier to trust those who are part of your own community, who share your values and who be disciplined for any social violations by the same network as yourself. Putnam notes these connections in mapping the parallel growth of tolerance and diversity beginning in the 1960s, just as social capital declined.<sup>178</sup> Montgomery mourns the connection between low social trust and ethnic diversity, writing:

This is a sad and dangerous state of affairs. Trust is the bedrock on which cities grow and thrive. Modern metropolitan cities depend on our ability to think beyond the family and tribe and to trust the people who look, dress, and act nothing like us to treat us fairly, to honor commitments and contracts, to consider our well-being along with their own, and, most of all, to make sacrifices for the general good.<sup>179</sup>

But there is an important difference between distrust being correlated with diversity versus tolerance. In fact, Putnam has found a positive correlation between social participation and tolerance<sup>180</sup>—though both large urban populations and racial diversity spur lower levels of social trust, these declines are easily compensated for by increased social capital. Trust can be built.

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<sup>178</sup> Putnam, *Bowling Alone*, 352.

<sup>179</sup> Montgomery, *Happy City*, 56.

<sup>180</sup> Putnam, 355.



*Social capital and tolerance in the American states (chart by Robert Putnam, Bowling Alone, 356; data sourced from the General Social Survey archive, 1974-1996)*

Social trust is accumulated through the small, daily interactions that are inevitable when public space is shared and used by inhabitants. Less dense, diverse, and livable neighborhoods facilitate less interaction among diverse groups, and continue the downward spiral of social capital. A study of American suburbs found that the more socially homogenous the community, the less politically involved. “By creating communities of homogenous political interests, suburbanization reduces the local conflicts that engage and draw the citizenry into the public realm,”<sup>181</sup> and deprive people the public space in which to engage.

The relationship functions in the opposite direction as well; when citizens have the chance to come into contact with each other, agree and disagree, share space and see

<sup>181</sup> Putnam, 210, citing Eric Oliver.

what they may not expect to, social trust and tolerance rise. Public spaces are where people can meet, interact, and watch each other living their separate lives; visibility breeds tolerance and enhanced understanding.<sup>182</sup> Those who are otherwise less visible--from minorities, to elderly, to the disabled--become a part of the city and their presence “forces all co-users of public places to come to terms with their own reactions to the fate of some of their fellow beings, and to face their own fears and uncertainties on how to act or relate to such persons.”<sup>183</sup> Community members become more accepting of others and aware of the social justice issues they face; considerable in the discriminatory suburbs.<sup>184</sup>

Diversity in neighborhoods has proven stable. A study by Kwan Ok Lee of census data shows that desegregation of predominately white or black areas has accelerated since the 1970s, though it remains a significant problem.<sup>185</sup> Key are the findings that once the diversity of a neighborhood increases, it is statistically unlikely to regress again, and once a family moved into a racially-mixed neighborhood, they generally stay there or relocate to another, equally diverse neighborhood.<sup>186</sup> Lee’s study provides evidence that one’s level of tolerance can shift over time, and sharing public space with others increases one’s acceptance. Our growing cities create the space for tolerance and diversity to be formalized, put into brick and stone by building the opportunities for interaction.

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<sup>182</sup> Suzanne H. Crowhurst Lennard and Henry L. Lennard, *Public Life in Urban Places* (Gondolier Press, 1984), 15-16.

<sup>183</sup> Lennard and Lennard, *Public Life in Urban Places*, 16.

<sup>184</sup> Montgomery, *Happy City*, 241-42. Minorities are most hurt by our system; black and LatinX Americans are more likely to die on the road than whites, are less likely to have access to food or a car, and their elderly are more than twice as likely to depend on transit or be stuck at home than Caucasians.

<sup>185</sup> Kwan Ok Lee, “Temporal Dynamics of Racial Segregation in the United States: An Analysis of Household Residential Mobility,” *Journal of Urban Affairs* (April 2016), 59.

<sup>186</sup> Lee, “Temporal Dynamics,” 59.

Social trust is essential to the health of people, communities, and democracy. This social capital is accumulated through the small, daily interactions that are inevitable when the public sphere is shared and used by inhabitants. Car-oriented, sprawling, and privatized public space is detrimental to community engagement, yet it is exactly this urban form that has been cast in concrete across the United States. To address the decline of social trust, we must address these forms.

## Objectives

The primary goal of this thesis is to create change at any scale. If a single bench is installed, if a single reader reevaluates a belief, if a single decision is impacted, then this goal is met, because those moments of change have expanding effects. I think most people have noticed the decline of social trust but may, as I did, not have the vocabulary to call out this change or the know-how to combat it. So here, I seek to raise attention on behalf of our injured communities and the impact of small-scale design. This point is important; small change is better than none. Growth is slow, but worth working towards.

All people have the potential to create change, and the scale of these changes can slowly grow with comfort, success, and confidence. Look around at the public spaces near you; are there opportunities to interact with your neighbors? Do people look each other in the eye, passing by on the street? There is inevitably room for improvement, but how badly does your community need it?

Although there may be no voices clamoring for it, good urban space changes people's habits. Supply creates demand, and when people begin to come, others will follow.<sup>187</sup> The introduction of urban life will beget more activity; as it is said, "one plus one is three – at least."<sup>188</sup> So work to encourage use of public spaces, knowing that the effects will expand upon themselves.

Change is not easy or simple, but it is worth the effort. Communities are scared of change, and many large entities profit off of our car culture. There are many ways to build public support, including the traditional methods of appealing to economic gains,

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<sup>187</sup> Whyte, *Social Life*, 16 and 19.

<sup>188</sup> Gehl, *Life Between Buildings*, 75, quoting F. van Klingeren.

efficiencies, and safety, and more modern methods, such as suggesting trial periods, appealing to the sense of place, and involving the community.

An important consideration is the inclusion of the community in the design process. Designs should be specific to the places they sit and the people who use them. Consulting the eventual users in a space will increase their use down the line. Extensive efforts should be made to bring in people from underrepresented communities—marginalized, non-English-speaking, low-income—to have their voices heard and their input included. If a space is welcoming to all people, its users will be diverse, and interaction will lead to trust and tolerance.

## Findings

Informed by the scholarship written on social trust and urban design, I here present twenty urban design suggestions that aim to use our built environment to develop social trust. Accompanying this document is a more legibly-formatted copy of this paper, and a poster that visualizes the following designs. The designs themselves begin large (and difficult) and work down in scale; hopefully by the end of reading through them, the small pieces will seem easy in comparison, and a context will have been created, connecting them to the larger whole. The larger suggestions have a larger effect, but the smaller can be more useful when the former are unachievable or inefficient in terms of political battles. My twenty design suggestions present a range of easy to difficult, large to small, and obvious to surprising.

Many of the solutions are related to the moving of people from inside their cars and houses out onto the sidewalks and into the public space. These arguments rely on the chain of logic—established in the “Making My Case” section—that simply extending the amount of time spent in the public sphere leads to increased social trust and community engagement. Others refer to related needs to inconvenience driving, encourage density and livability, and give public spaces distinct identities. Still others pertain to the need for texture, details, and dynamism in public spaces; the city is not the place for minimalism. Not all the solutions are my idea; in fact, few are. These are solutions that have been suggested before, and here, I connect them to each other and ground them in the pressing need to develop social trust.

These designs are not meant to apply universally to every place, nor should they be taken straight off the page and implemented into a community without critical

thought, community engagement, and considerations of how to adapt the general idea to the specific location and environment. In general, these ideas should make a positive impact, but it is more important to suit the community's needs. They are not silver bullets, and will not build social capital overnight, but are nevertheless worth pursuing.

So, here we go:



## Smaller units

*Create smaller units with their own public spaces within the greater development*



*A side street in the residential development Bo01, in Malmö, Sweden.<sup>189</sup>*

The boundary between the private and the public is stark in most neighborhoods, and Americans in highly-trafficked areas perceive their home as smaller and more contained in the physical structure of their house.<sup>190</sup> Creating smaller units of houses that are clustered to provide a sense of micro-neighborhood can expand one's idea of 'home' into the public sphere, and the area in between residences can serve as a gathering space. Turn entrances towards each other<sup>191</sup> and keep all cars (including parked)<sup>192</sup> as far away from the houses as possible, so neighbors on foot have a chance to interact between their doors and destinations.

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<sup>189</sup> All photos, unless otherwise stated, are taken by Emily Friedenber.

<sup>190</sup> Donald Appleyard, *Livable Streets*, 23.

<sup>191</sup> Gehl, *Life Between Buildings*, 87-89.

<sup>192</sup> Gehl, 79, 113, 128.

Keep the streets and buildings at the human scale to make them comfortable; interesting facades and details keep the area warm, intimate, and personal.<sup>193</sup> When dividing private, semiprivate, semipublic, and public space, create permeable boundaries over which neighbors can look and talk, and to create sightlines in and out of the space.<sup>194</sup>

### **Mixed-use zoning**

*Intermix residences, workplaces, and amenities*



*An intersection in Copenhagen, Denmark; shops on the first two floors are followed by four floors of housing.*

Combining residential and commercial spaces allows workplaces and services such as stores and restaurants to sit closer to residences, shortening the distances necessary to travel to conduct one's daily commute and errands and reducing reliance on vehicles. Mixed-use zoning can be effective in a variety of neighborhoods; while

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<sup>193</sup> Gehl, 71-73. Details should be sized for perception at three miles per hour, not 60.

<sup>194</sup> Gehl, 63.

multi-story apartment buildings provide density, areas of small houses and occasional streets lined with dining and commercial options can provide a more spacious arrangement. Density is, however, a major factor; for restaurants and stores to be supported, a certain number of people have to patronize them frequently.

In small towns, particularly, it can be key to provide places for people to come to.<sup>195</sup> Stores, offices, and restaurants draw people to the area, while residents of the area set a base level of hubbub. A central gathering location allows people to visit without specific intentions; those who work at home spend three times the time shopping as those who work elsewhere.<sup>196</sup> Errands are often used as excuses to go where the people are, and so it is necessary to provide not only a place to visit, but a place with potential for errands and excuses.<sup>197</sup>

Mixed-use neighborhoods (also called ‘18-hour neighborhoods’) are lively throughout the day and evening, providing more reliably vibrant communities. By maximizing ‘eyes on the street’, a phenomenon in which those inside buildings can look out onto the street and make sure the goings-on are safe, crime is reduced and pedestrians feel safe; the increased number of people using the space expands this effect. People go where people are: there is a simple logic to Jane Jacobs’s claim that “You can’t rely on bringing people downtown, you have to put them there.”<sup>198</sup> To create a vibrant community where people gather, give them housing there.

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<sup>195</sup> Whyte, *Social Life*, 91.

<sup>196</sup> Gehl, *Life Between Buildings*, 117-19.

<sup>197</sup> Gehl, 117: “adults seldom go to town with the expressed intention of satisfying the need for stimulation or the need for contact. Regardless of what the true purpose may be, one goes out for a plausible, rational reason – to shop, to take a walk, to get some fresh air, to buy a paper, to wash the car, and so forth.”

<sup>198</sup> Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

## **Expansive public transportation**

*To reduce reliance on vehicles, supplement walkability with public transportation*



*The iconic streetcars in Budapest, Hungary.*

Walking allows people to travel a certain distance, and biking further. Public transportation, however provides many of the conveniences of automobile travel (usable by those with limited mobility, ability to travel long distances, protection from climate, ability to transport larger goods) for those looking to go carless. A connected, reliable, and efficient public transportation network can both support and supplement bike and pedestrian infrastructure. It is key to not simply focus on one mode of transportation, as the United States has done, but supply a range in order to suit the largest number and widest variety of people. Cities are forests; a diverse ecosystem of transportation will allow one solution to be favored now and another next year, allows variety in commute and solutions specific to locations.<sup>199</sup>

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<sup>199</sup> Montgomery, *Happy City*, 198.

Transit riders in the U.S. report the most miserable commutes of all modes.<sup>200</sup> Buses are slow and unreliable, and coverage is minimal. Use is stigmatized. A healthy public transportation system is expansive, to increase convenience and use; runs frequently and reliably; prioritized on the roads, to increase efficiency and make clear the city's priorities; and elevated. This last quality is the most esoteric, but an example lies in Bogotá, Colombia's sexy TransMilenio bus rapid transit system.<sup>201</sup> The bright red bus and glossy stations are physically above the roads, and raise the status of riding the bus in a city known for its economic inequality. Taking inspiration from the Colombian approach, bus stops and shelters should be made comfortable and safe. Provide seating and shelter from rain and wind, and locate stops near activity; Alexander suggests they "form tiny centers of public life... work[ing] together with several other activities" like the entrances into neighborhoods, food vendors, corner grocery stores, trees, and cafés.<sup>202</sup> Waiting for, and riding, the bus should feel as pleasant as possible.

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<sup>200</sup> Montgomery, 193.

<sup>201</sup> Montgomery, 228-29.

<sup>202</sup> Alexander, *Pattern Language*, 453.

## **Small residences**

*To sustain density, houses and apartments should be small and affordable*



*Though perhaps an extreme example, this shotgun house in Venice Beach, CA, has a narrow profile, supporting density and featuring plenty of natural light, and is famous for its affordability.*

The density that lends itself to mixed-use zoning is assisted by small residences that compact together well while still provide variation, human scale, and light. The limited private space necessitates use of public space for variety and some larger gatherings, while the quantity of people in the neighborhood keep the streets active and bustling.

Small residences can come in the form of small houses, apartments, or buildings similarly broken up, like the East Vancouver neighborhood where Charles Montgomery lives. There, full-size houses owned by wealthier Vancouverites are intermixed with

similar houses shared by multiple families and accessory dwelling units (ADUs) built along the back lanes. Mixing sizes this way integrates those across the socioeconomic scale, increasing awareness of each other's issues and reducing inequality. The affordability permits families, the elderly, and single renters to share—and bring life to<sup>203</sup>—the neighborhood.

### **Small front yards**

*Semiprivate buffers between the house and the street provide places to linger*



*A house in Eugene, Oregon, with a shallow yard and a garden to tend to.*

The transition between private and public should be softened as much as possible, with permeable boundaries and places to linger to participate in public life with the comfort of an easy retreat into the house. Front yards, in particular, provide the space to spend time with family while half-participating in the public life. Walking past a chatting group is a pleasurable experience even if conversations don't expand over the picket fence, and the din contributes to the sense of a healthy and bustling community.

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<sup>203</sup> Montgomery, *Happy City*, 141-42.

Yards should be around 10 feet deep (3.25 meters)<sup>204</sup>; deep enough to grant a sense of privacy, spacious enough to allow use, and shallow enough for neighbors to comfortably chat over the fence with those sitting in the space.

This intermediary between private and public provides a location for family activities to merge into community life. A study of two comparable Danish housing developments, both with private backyards, found that the neighborhood with additional small, semiprivate front yards had 35% more use of outdoor space.<sup>205</sup> Twice as much time was spent in the semiprivate space than the fully private space.<sup>206</sup>

Front yards provide a space for people to linger, waiting for neighbors or friends to walk by; gardens in particular provide an excuse to spend time outside,<sup>207</sup> waiting for social activity to strike up, at which time the work can be abandoned. Gardens additionally provide something to chat about in these low-intensity interactions,<sup>208</sup> and make the neighborhood more pleasant to spend time in.

In new developments, these transition zones should be included in front of front doors; existing spaces, even apartment buildings, can be adapted to have a similar space. On the smallest scale, a simple bench can be placed aside the front door,<sup>209</sup> providing a purposeful place to linger.

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<sup>204</sup> Gehl, *Life Between Buildings*, 69.

<sup>205</sup> Gehl, 38.

<sup>206</sup> Gehl, 195.

<sup>207</sup> Gehl, 121.

<sup>208</sup> Gehl, 193.

<sup>209</sup> Alexander, *Pattern Language*, 1121-23.



## Town hall

*Provide a location for community engagement*



*Norway is the nation with the highest level of social trust; here, artist Svein Møxvold's message in Bergen that "There are a lot of good people around".*

Social trust and community participation are inextricably linked, and when people feel they have influence in their community, the sense of ownership leads to increased social capital and further participation. In cities with less and less public space, a town hall, regardless how small, would provide a place for public debate, notices, meetings, and public services.<sup>210</sup> The decline of community organizations necessitates support for those that remain; these groups generally have little money to spend on a meeting space and amenities such as computer software, printers, and

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<sup>210</sup> Alexander, *Pattern Language*, 238-41.

copiers.<sup>211</sup> Space could be made available to them in this town hall, and the overlapping use by public officials, citizens, and community organizations would increase awareness and interaction within these groups. Key to the development of a town hall is the location; the space must be central (Alexander found that when community centers are located near major intersections, twenty times as many people stop in<sup>212</sup>), with lots of foot traffic outside, and highly visible.

One study's finding that almost twice as many people report interest in a community meeting when it is held outside<sup>213</sup> suggests the importance of outdoor space as well, but a town square, closed-off street, or even a parking lot could fill this function.

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<sup>211</sup> Alexander, 243-44 (technology updated).

<sup>212</sup> Alexander, 239-40.

<sup>213</sup> "Assembly Civic Engagement Survey," 8-9.

## **Minimal parking**

*Reduce the number of spaces and convenience of parking*



*A small apartment building in Portland, Oregon, and the nearby church's little-used parking lot.*

Surface parking is one of the largest land uses in many American cities, as visually dominant as streets and buildings. Yet, due to the large parking spot-per-car ratio,<sup>214</sup> the great majority remain empty for most of the day. The seemingly-inevitable introduction of autonomous vehicles to the road would only reduce the need for parking, as these cars can function as independent taxis in the time they would otherwise be parked, and generate revenue for their owners. The first solution is to stop building more parking; abolish the extensive parking requirements that mandate ever more space and ever higher rents in most cities. Secondly, adapt the parking that is

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<sup>214</sup> Montgomery, *Happy City*, 280. There are eight parking spaces for every car in the United States.

being used; require greenery to beautify surface-level lots, and mandate that multi-level lots have retail uses on the first floor.<sup>215</sup> When parking can't be hidden away, Alexander suggests breaking up the lots into smaller units of seven or fewer spaces; he cites our tendency to speed up as we walk across large parking lots,<sup>216</sup> and the human perception of seven or fewer things as individual units, while more than seven become 'many', and begin to feel dominating.<sup>217</sup>

In residential areas, cars parked along streets and in driveways dominate visually, but this is surprisingly not the most antisocial pattern. When cars are in the public space, people walk out of their houses and to the cars; this limited time, though insufficient, is at least time that they could run into neighbors and chat. Cars parked in garages are the primary enemy, as they don't even require their owners to step into the public sphere between their private home and private 'second home' (their car). Secondary are cars parked in driveways directly at the entrance to the house; third-worst are cars parked along the street (this at least requires people to step foot on the sidewalk).<sup>218</sup> The best solution, most famously executed in Vauban, Germany, is to leave cars on the edge of neighborhoods in shared lots, requiring that movement within the neighborhood is on foot, slowing speeds<sup>219</sup> and increasing the quantity of people on

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<sup>215</sup> Alexander, *Pattern Language*, 477-79.

<sup>216</sup> Montgomery, 189: "Researchers observed that a third of the shoppers at one Canadian power center actually parked their cars three or more times during one visit. They just hated trudging across the asphalt desert. It felt ugly, uncomfortable, and unsafe."

<sup>217</sup> Alexander, 503-07.

<sup>218</sup> Gehl, *Life Between Buildings*, 128-29.

<sup>219</sup> Gehl, 79: An interesting point Gehl makes is that when people are slowed to a walking speed, the activity appears to be greater simply due to the longer time it takes for them to move through the space: "If the speed of movement is reduced from 60 to 6 kilometers per hour (35 to 3.5 mph), the number of people on the streets will appear to be ten times greater, because each person will be within visual range ten times longer."

the streets.<sup>220</sup> Gehl simplifies this connection: “The farther away from the doors the cars are parked, the more will happen in the area in question, because *slow traffic means lively cities*”;<sup>221</sup> Montgomery as well: “The farther away the parking, the livelier the street”.<sup>222</sup>

### **Infill where possible**

*Increase density gradually by building into empty places*



*Abutting buildings are the ultimate example of infill, here in New York City.*

The walkable, affordable, bustling neighborhood that supports high levels of social trust requires some density. More people in an area supports the local businesses, helps fill transit so more frequent service can be provided,<sup>223</sup> and helps lower rent to minimize gentrification and maximize economic diversity. Not every small town needs to have Manhattan ambitions; density can be increased within the existing urban form

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<sup>220</sup> Gehl, 79, 113, and 129; Montgomery, *Happy City*, 171-172.

<sup>221</sup> Gehl, 79.

<sup>222</sup> Montgomery, 172.

<sup>223</sup> Montgomery, 137: Twelve people per acre are needed to support transit frequencies of ten minutes or less.

and without severely altering the area's character by building in its empty spaces. In Vancouver, policies allowing alley garages to be replaced by small accessory dwelling units (ADUs), increasing the density of neighborhoods, as well as their economic diversity;<sup>224</sup> young families can afford to live in small cottages next to three-story houses owned by millionaires. When these diverse people meet on the sidewalk and in the street, tolerance and trust rise.

Along commercial streets can stand apartments with restaurants and shops on the ground floor. Parking lots can become housing or amenities like parks, libraries, town square, and stores. The type, and scale, of infill depends on the size of the city or town; there should be a rough gradient of density from farms to downtown,<sup>225</sup> with slowly rising floor limits. Form-based codes can decide what scale development in these areas will be without stipulating their exact use,<sup>226</sup> contributing to the mixed-use livability.

Many cities have plenty of empty space, in the form of underused parking lots, vacant lots, or neglected and empty houses. These spaces negatively impact the experience of the neighborhood; the presence of a vacant lot on one's block is correlated with 5 percent less reported civic trust.<sup>227</sup> This study found hope as well, though; along with displaying decreased trust, these residents were more active in local politics,<sup>228</sup> suggesting that they began to participate in order to reshape their neighborhood.

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<sup>224</sup> Montgomery, 139-41.

<sup>225</sup> Montgomery, 283.

<sup>226</sup> Montgomery, 283.

<sup>227</sup> "Assembly Civic Engagement Survey," 22-25.

<sup>228</sup> "Assembly Civic Engagement Survey," 22.

A final note on infill: use the old buildings. The goal isn't urban renewal; adapt the beautiful, old buildings that may still be standing to tie the neighborhood into its history.<sup>229</sup> It is entirely likely that these structures are built for the lifestyle we're trying to return to, pre-car.

### **Bicycle infrastructure**

*Give space to bikes and prioritize their travel*



*An ice cream shop in Copenhagen, Denmark and a bike rack that hints at the change that has occurred in the city since the 1970s.*

The advantages of bicycles as a mode of transportation are so numerous, it's hard to contain them all. Bikes allow riders to travel distances comparable to short car trips in similar times.<sup>230</sup> They can be ridden by the young, the old, and many disabled, granting these groups independence, and the infrastructure they require is adaptable to

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<sup>229</sup> Whyte, *Social Life*, 93.

<sup>230</sup> Montgomery, *Happy City*, 209 and 191: Seventy percent of car trips in the U.S. are under two miles, which is an easy ten-minute bike ride.

most other excluded groups.<sup>231</sup> They require far less space when ridden and stored than cars, and so are more efficient.<sup>232</sup> They are relatively cheap and equitable.<sup>233</sup> They lead to less aggression between commuters, and are less stressful than cars; in the Netherlands, “cyclists report feeling more joy, less fear, less anger, less sadness than both drivers and transit users.”<sup>234</sup> Bike commuters feel that their commutes are easier than other groups.<sup>235</sup> It’s is safer than driving, particularly when there are fewer cars<sup>236</sup> and more bikes on the road.<sup>237</sup> Cyclists are healthier and live longer than car commuters.<sup>238</sup> Bikes can be walked or taken on public transportation, giving riders increased flexibility. Bike share programs provide further flexibility and affordable single rides. The infrastructure costs in initial production and maintenance are far lower than for cars.<sup>239</sup> The only environmental impact is the production of the bike and replacement of parts. Riding is quiet.

Perhaps most relevant to this thesis, however, is that biking is open-air. Riders have no glass or metal protecting them from the exterior world, and so they are present in the space they are moving through, much like pedestrians. Montgomery writes “cyclists report feeling connected to the world around them in a way that is simply not possible in the sealed environment of an automobile or a bus or a subway car. Their

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<sup>231</sup> Montgomery, 184: Biking is three to four times faster than walking and takes less than a quarter of the energy.

<sup>232</sup> Montgomery, 220-21.

<sup>233</sup> John Pucher and Ralph Buehler, “Making Cycling Irresistible: Lessons from The Netherlands, Denmark, and Germany”, *Transport Reviews*, vol. 28, no 4 (July 2008), 496. “Thus, cycling appears to be the most equitable of all transport modes, at least in terms of usage across income classes.”

<sup>234</sup> Montgomery, 181.

<sup>235</sup> Montgomery, 181.

<sup>236</sup> Most of the danger in bicycling is that imposed by cars; without cars, biking becomes unbelievably safe.

<sup>237</sup> Montgomery, 210.

<sup>238</sup> Pucher and Buehler, “Making Cycling Irresistible,” 521.

<sup>239</sup> Pucher and Buehler, 496.



journeys are both sensual and kinesthetic.”<sup>240</sup> This connection results in increased feelings of participation, as well as real participation. Cyclists can look each other and pedestrians in the eye and carry on conversations. They are aware of their environment and move slowly enough to soak in the detail. They are more likely to make unplanned stops than drivers,<sup>241</sup> extending their time in public space. In short, cyclists are far more engaged in spaces and able to interact with others and build social trust than car users.

Biking is distinctly improved for riders by the provision of infrastructure: smooth roads, lanes, racks, color-coded signage, stop lights where cars have them. Separated bike lanes are the gold standard of bike infrastructure, but shared streets and painted lanes are better than none. Provide bike parking plentifully, particularly at destinations such as schools, public pools, and parks. Rather than robbing pedestrians of space by installing racks on sidewalks, take a car’s parking space and build out into it. Prioritize bikes over cars: allow them to start crossing the street before cars where right-hooks often occur; time lights to the speed of the average cyclist; permit bikes to pass through blockades stopping cars; clean bike lanes often. The provision of bicycle infrastructure is a long process, but there is no step too small.

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<sup>240</sup> Montgomery, *Happy City*, 184.

<sup>241</sup> Tanya Snyder, “Why Bicyclists Are Better Customers Than Drivers for Local Business,” *Streetsblog USA* (March 23, 2012).

## **Discourage driving**

*Slow vehicular traffic and inconvenience cars to benefit other modes*



*A traffic-calmed intersection in Mar del Plata, Argentina.*

To allow people to feel safe and comfortable walking and bicycling, cars must be slowed; ideally this inconvenience discourages future car use and increases reliance on other modes of transportation. Slowing cars encourages the use of streets for other purposes, like children playing outside. It's safer; those hit at 35 miles per hour are ten times as likely to die than if they were hit at 25 miles per hour.<sup>242</sup> It makes neighborhoods quieter, allowing conversations to take place on the sidewalks.<sup>243</sup>

Drivers, at slower speeds, are more in tune with the world outside the car and more able

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<sup>242</sup> Montgomery, *Happy City*, 97 and 192. Half of those hit at 30 miles per hour die; the fraction rises as speeds rise.

<sup>243</sup> Gehl, *Livable Streets*, 169. Most car-dominated streets have noise levels at or above 60 decibels; at this level, people have to be between 5-15 cm (2-6") to hear one another; adults have to bend down to talk to children. Conversations are limited to short, necessary sentences between companions. For conversation to occur between strangers or acquaintances, the noise level has to be far below this level.

to perceive detail. Traffic calmed streets are safer for pedestrians and cyclists, and have higher rates of use by both.<sup>244</sup>

While the ultimate goal of traffic control is the *woonerf*, the Dutch shared-space area in which cars must go the speed of a pedestrian and cede right-of-way,<sup>245</sup> smaller changes can still contribute. Lowering the speed limit is the most traditional approach; from the new 20 mile per hour limits in Portland, Oregon to Vauban, Germany's 5 mile per hour limit.<sup>246</sup> The diamond-shaped signs, however, are only one of the messages a road sends, and this message is secondary to the physical shape of the street.<sup>247</sup>

Traffic calming, the slowing of traffic, requires physical design changes. Much of drivers' inclination to speed can be traced to the wide, open streets which were thought to be safer when they were built. In small and enclosed alleyways, drivers automatically reduce their speed; the design language of these spaces can be adapted to subtly slow cars on other streets as well. Narrow the lane, reduce the width of shoulders, push objects like trees closer to the street edge, raise intersections, make these crossings frequent and visible. Curve or zigzag the streets when possible, so the drivers must stay engaged. Create artificial dead-ends and speed bumps. Plant trees along the street that will grow and enclose the street. On multi-lane streets, push sidewalks out to the edge of the lane, so the crosswalk is as short as possible. Alexander suggests retrofitting a grid pattern of streets by closing off corners, creating a series of looped culs-de-sac around central blocks.<sup>248</sup> In all cases, prioritize pedestrian and cycling movement.

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<sup>244</sup> Pucher and Buehler, "Making Cycling Irresistible," 515.

<sup>245</sup> Gehl, 72-73.

<sup>246</sup> Montgomery, *Happy City*, 172.

<sup>247</sup> Montgomery, 97.

<sup>248</sup> Alexander, *Pattern Language*, 260-63.

## Town square

*Carve out a flexible space for events and gathering*



*On this cold fall day in Stockholm, Sweden, the historic central plaza still has life around its edges.*

The life of a town is distilled in its central space, the town square. A “vital node[] of urban life,”<sup>249</sup> it is the venue for concerts, festivals, weekly farmers’ markets, and simply gathering; it is where residents go to see what’s happening. In many European cities, these squares were plentiful but now are parking lots. In the United States, they were never built; as a result, “in most neighborhoods, the streets themselves become the only shared public space. As they came to be dominated by cars, the public living room—and the village that might have been born within it—disappeared.”<sup>250</sup> Without squares, places don’t draw people together for any reason other to buy things.<sup>251</sup> Commercial areas target themselves to one income demographic and profit

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<sup>249</sup> Semenza and March, “Urban Community-Based Intervention,” 23.

<sup>250</sup> Montgomery, *Happy City*, 305.

<sup>251</sup> Montgomery, 306.

from focused shopping, but plazas and public squares draw together diverse groups and provide space and activity equally.

A town square should be central, first and foremost, with paths running tangent to the sides in order to maximize pedestrian flow into the space.<sup>252</sup> Secondary is the climate; in all but the hottest climates, provide southern exposure, because “[p]eople use open space if it is sunny, and do not use it if it isn’t.... This is perhaps the most important single fact about a building [or space].”<sup>253</sup> Seek to maximize sun exposure and block chilling drafts.

Third in importance is the edges. The sides of the square are where the activity begins, where people cluster until more come and the activity spreads around the edges; it is only once the edges are fully populated that people begin to move into the middle.<sup>254</sup> The edges must support lingering for the population to ever reach capacity.

Alexander writes:

people gravitate naturally toward the edge of public spaces. They do not linger out in the open. If the edge does not provide them with places where it is natural to linger, the space becomes a place to walk through, not a place to stop. It is therefore clear that a public square should be surrounded by pockets of activity: shops, stands, benches, displays, rails, courts, gardens, news racks. In effect, the edge must be scalloped.<sup>255</sup>

This scalloped edge should be studded with attractions like the shops and stands mentioned, as well as objects and niches that give it dimension and provide places to stand, lean, and sit. Pockets of activity should alternate with entrances and paths so that

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<sup>252</sup> Alexander, 620, referring to the design of common rooms.

<sup>253</sup> Alexander, *Pattern Language*, 514, writing about the design of private outdoor spaces.

<sup>254</sup> Gehl, *Life Between Buildings*, 151-53.

<sup>255</sup> Alexander, 600.

people passing through walk past these attractions and are drawn into the activity.<sup>256</sup> These edges will get some sun and some shade,<sup>257</sup> and can therefore provide varied microclimates to suit all seasons.

The center of the square, meanwhile, should be empty enough to host events, but should feature one or several fountains, street lights, sculptures, trees, and such to provide places for people to linger, “islands in the stream of pedestrian traffic.”<sup>258</sup> The inclusion of an object in the middle provides a ‘back’ to stand against, drawing people into the center.<sup>259</sup> It is far more comfortable to stand next to something, and not in the middle; “these props create territories, boundaries and focal points for individuals and groups,”<sup>260</sup> and “make it possible for people to select specific locations that will support their personal agenda and the level of social involvement they desire.”<sup>261</sup> Variety of place is inclusive.

The square mustn’t be too large; smaller spaces are more easily filled with activity, and so feel complete, while large spaces can feel perpetually empty.<sup>262</sup> Alexander reasons that 60 feet across is the maximum length of a successful square’s shortest side in order to not look deserted.<sup>263</sup> This number is also just under the 75 feet at which faces can still be recognized and voices heard.<sup>264</sup> A space this large can still host events and activities, but might feel packed with a large gathering—not necessarily a bad thing.

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<sup>256</sup> Alexander, 600.

<sup>257</sup> Gehl, *Live Between Buildings*, 153.

<sup>258</sup> Lennard and Lennard, *Public Life*, 26.

<sup>259</sup> Alexander, 606-08.

<sup>260</sup> Lennard and Lennard, 27.

<sup>261</sup> Lennard and Lennard, 28.

<sup>262</sup> Gehl, 165.

<sup>263</sup> Alexander, 311.

<sup>264</sup> Alexander, 312-13.

One note to include is that community members may find issue with the people who spend time in public space. The homeless, the drunk, the addicted, the mentally unstable; people who have nowhere else to go use public space far more than those with houses and families. They ‘loiter’. But throw out the idea of loitering, and exclusionary design. People loitering is exactly the goal, and if we make spaces unpleasant and cold to deter some, we deter them all. When spaces are pleasant and welcoming, they will be used by all, drunks and homeless people included. The public places will then feel lived-in and safe; as Alexander put it, “Public places are meant to invite free loitering.”<sup>265</sup>

### **More parks**

*Provide parks of all sizes, as many as possible*



*Adapt parks to their location when possible; this system of boardwalks laces among grasses in a harbor south of Stockholm, Sweden.*

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<sup>265</sup> Alexander, 494.

Parks provide a space for people to linger and meet, picnic and celebrate, play pick-up soccer and Little League. They are the gathering space of people with small apartments or no backyard, the retreat for city-livers, the playground of children and dogs. Green space has been linked to low crime rates, increased relations between neighbors, generosity, and greater feelings of belonging.<sup>266</sup> One study in Los Angeles found that people were more trusting and helpful, regardless of their income or race, if they lived in an area with parks.<sup>267</sup> Another found that living near a park with diverse users results in further increased civic trust, even for residents who don't visit the park themselves.<sup>268</sup> Those living near the most successful parks are more satisfied with their local government institutions.<sup>269</sup>

Parks can help resolve the eternal dilemma of city planning: the balance of privacy and density. Montgomery summarizes the problem:

We need the nourishing, helping warmth of other people, but we also need the healing touch of nature. We need to connect, but we also need to retreat. We benefit from the conveniences of proximity, but these conveniences can come with the price of overstimulation and crowding.<sup>270</sup>

Density relies on parallel public places that allow people a moment of isolation and quiet; parks are the most intuitive space to fulfill such a purpose. The larger the park, the greater the sense of escape, but infrequent, giant parks limit accessibility. Small, frequent parks are more widely accessible, but provide less escape (Alexander finds that people will only use parks frequently if they're within a three-minute walk. He suggests

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<sup>266</sup> Montgomery, *Happy City*, 110-11.

<sup>267</sup> Montgomery, 111.

<sup>268</sup> "Assembly Civic Engagement Survey," 13.

<sup>269</sup> "Assembly Civic Engagement Survey," 13.

<sup>270</sup> Montgomery, 166.



green areas at least 150 feet across, at least 60,000 square feet in area, and about 1500 feet apart).<sup>271</sup> The most beneficial model, then, might be frequent small parks and infrequent large parks.

Small parks are easier to place and more flexible in form. The bigger the better, and the more green the better, but a tiny, paved park with a single bench is still providing benefits to the community. Fit the spaces where they will fit.

Traditional large parks are large and lush with grass, providing a sense of escape from the city. They simulate the savanna-like settings of our hunter-gatherer ancestors, but fail to provide the biologically-diverse, messy ecologies that people have been shown to prefer.<sup>272</sup> The wildness and scale calms us. Alexander preaches the importance of using trees to create places, and his notes that a single umbrella tree or a grove can be beautiful<sup>273</sup> are supplemented with Montgomery's embrace of the wild.

An orchard is one form of park that is rarely used in the United States. Fruit trees become something to monitor through the seasons and await;<sup>274</sup> the care and attention they require can bring together the neighborhood. A community garden can serve a similar purpose; both require on-site work by the community and involve an activity which can spark conversation and provide a reason to linger. Green spaces have been shown to provide boosts in happiness and health for those who volunteer there,<sup>275</sup> and increased civic trust, political engagement, and community participation.<sup>276</sup>

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<sup>271</sup> Alexander, *Pattern Language*, 304-09.

<sup>272</sup> Montgomery, 114.

<sup>273</sup> Alexander 797-800.

<sup>274</sup> Alexander 794-796.

<sup>275</sup> Montgomery, 122-23. "One study in Alameda, California, found that retirees who do 'environmental' work were half as likely as non-volunteers to show depressive symptoms after twenty years, while people who did other forms of volunteering only had their risk lowered by 10 percent."

<sup>276</sup> "Assembly Civic Engagement Survey," 26.

Parks, to be successful, must be visible and easy to enter. Residents living near parks with few entrances—or streets that are difficult to cross—actually had decreased levels of social trust.<sup>277</sup> Transitions must be gradual and natural; Whyte describes the movements of those entering New York’s Paley Park:

The park stimulates impulse use. Many people will do a double take as they pass by, pause, move a few steps, then, with a slight acceleration, go on up the steps.... The steps at Paley are so low and easy that one is almost pulled to them. They add a nice ambiguity to your movement. You can stand and watch, move up a foot, another, and, then, without having made a conscious decision, find yourself in the park.<sup>278</sup>

The clear sightlines into the space capture people’s attention, while the low and gradual stairs provide a transition zone. Trees enclose the space from above and extend out above the sidewalk to inform approaching pedestrians that there’s something there.

Easy and intuitive access helps to ensure the use of parks.

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<sup>277</sup> “Assembly Civic Engagement Survey,” 13.

<sup>278</sup> Whyte, *Social Life*, 57.

## Triangulate attractions

*Identify destinations of all scales and cluster them*



*The Los Angeles County Museum of Art's inner courtyard groups food vendors, seating, and trash cans around the sunny central columns; an open space runs the length of the square to move people through.*

*Triangulation* is the “process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not,”<sup>279</sup> and primarily refers to the social events or activities which might initiate conversation.<sup>280</sup> But triangulation can refer to drawing of people together at all scales and at all degrees; as a university might bring life and vitality to a city,<sup>281</sup> a transit stop, café, and library might bring people to the same plaza, and a trash can, bench, and tree might bring them to a distance appropriate for conversation. Activity should be pushed

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<sup>279</sup> Whyte, *Social Life*, 94.

<sup>280</sup> Gehl, *Life Between Buildings*, 171.

<sup>281</sup> Gehl, 105.

together to make the area lively; amenities such as food carts and sculptures should be encouraged to spur the informal interactions that build trust. Montgomery writes, “with the right triangulation, even the ugliest of places can be infused with the warmth that turns strangers into familiars by giving us enough reason to slow down.”<sup>282</sup>

Such places should be located where many people will pass by: on corners, at intersections, beside public transit stations, outside venues, and along pedestrian paths. If attractions like food carts are provided, people will be more likely to consciously stop and linger, but smaller objects that are slightly in the way can have a less conscious effect. The Edible Urbanism Report found that objects on or around the sidewalk slowed down pedestrians and encouraged them to stop:

Active facades and street edges have a strongly positive effect on pro-social behavior: Several decades of streetscape study have shown that active facades and street edges alter pedestrian movements, speed and lingering. Elements such as benches, street trees, lighting features, bike racks, trashcans, and periodical kiosks slow pedestrians down and encourage them to linger. So do active building facades that feature many doors, windows and opportunities to shop, dine, or browse. Our study found that such environments may also have a pro social effect on pedestrians. The active street edge correlated strongly with unsolicited acts of helpfulness by passers-by.<sup>283</sup>

Physical objects, as well as places to linger, slow down pedestrian movement and make people more likely to interact with others in the space. The sidewalks are then another example of the importance of irregular, messy, naturally-grown design; the city is not the place for minimalism.

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<sup>282</sup> Montgomery, *Happy City*, 167.

<sup>283</sup> “Edible Urbanism Report,” 6.

## **Street performances**

*Buskers and entertainers provide means of interacting*



*A plaza in Copenhagen, Denmark, with a Romani dance performance. Shopping pedestrians have stopped to watch.*

An often-mentioned component of triangulation is the impact street performances can have on creating urban life. What is out of the ordinary, the things that change from visit to visit, spark conversations. Street entertainers, in particular, bring life to the streets by stalling passers-through, providing noise and activity even with few others present, and reshaping peoples' perceptions of a space by making it a stage. Whyte notes that "It is not the excellence of the act that is important. It is the fact that it is there that bonds people, and sometimes a really bad act will work even better

than a good one.”<sup>284</sup> Poor performances cause the audience to exchange glances, and laughs can be shared out of solidarity; the viewers are united as the audience. The unexpectedness of a performance, good or bad, can create in watchers a childlike joy; “there is something of great value here, and it should be fostered.”<sup>285</sup>

The ability to bring people together, loosen them up, allow them to surprise each other and interact, is particularly valuable because such performances appeal to diverse audiences and bring people of various backgrounds into interactions.<sup>286</sup> A shared experience with a stranger can be impactful on one’s level of trust if experiences with that group are rarely shared. The playful environment may people to display sides of themselves that are less frequently seen in public, spontaneous dancing, singing, or engaging.

The impressions that persons receive of each other during such festive public occasions remain, and cannot fail but color the character of subsequent relationships among all who took part. For example, status differences that are submerged in sociable interaction... may subsequently become less salient for those involved. In this and other regards does the public experience tend to offset the fragmentation and depersonalization of most role relationships characteristic of city dwellers.<sup>287</sup>

Sharing experiences, particularly those in which participants are relaxed and joyful, can give people positive impressions of each other, and increase trust and community.

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<sup>284</sup> Whyte, *Social Life*, 96.

<sup>285</sup> Whyte, 97.

<sup>286</sup> Lennard and Lennard, *Public Life in Urban Places*, 54.

<sup>287</sup> Lennard and Lennard, 54-55.

## Soft street lighting

*Warm lighting, not too bright, makes people feel safe*



*A gently-lit street in Amsterdam, the Netherlands.*

The tendency in street lighting has been to make night into day, under the reasoning that since there is less crime and people feel safer during the day, so night can be. But 20-foot-tall white floodlights illuminating everything in a flat plane cast harsh vertical shadows, making faces harder to discern. Light pollution blocks out the starry night sky, shines into houses, and makes it difficult to then look into the shadows. The Project for Public Spaces acknowledges the importance of not overlighting a region, commenting “Careful evening lighting around building entrances... contributes to the safety of a district even more than indiscriminate use of bright lighting that is not focused on areas of use.”<sup>288</sup> They also advocate the use of more, less bright, less tall streetlights in order to keep them at the scale of the pedestrian and maximize coverage without blinding pedestrians. Lighting like retail signs can encourage window shopping,

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<sup>288</sup> “Lighting Use and Design,” *Project for Public Spaces* (December 31, 2008).

increasing the number of people out at night and so increasing safety; light coming from homes' windows can provide a sense of security for those outside.<sup>289</sup> Gehl agrees with these findings, recommending “warm and friendly” light that illuminates people and events, not streets.<sup>290</sup>

### **Seating everywhere**

*Benches and sittable spaces are the prerequisite for lingering*



*A bench along the boardwalk in Mar del Plata, Argentina. This couple is drinking mate, an Argentine tea, poured out of a thermos.*

The provision of benches and other places to sit is one of the most important harbingers of public life. The people who use public spaces the most are often those who need places to rest, including the elderly. Benches support activities such as

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<sup>289</sup> “Lighting Use and Design.”

<sup>290</sup> Gehl, *Life Between Buildings*, 167.



reading, basking in the sun, and eating lunch that would be difficult to do standing up. Beyond their functionality, benches legitimize lingering and give people a means to prolong their time in public space. Gehl rhapsodizes on their important social function:

Only when opportunities for sitting exist can there be stays of any duration. If these opportunities are few or bad, people just walk on by. This means not only that stays in public are brief, but also that many attractive and worthwhile outdoor activities are precluded.

The existence of good opportunities for sitting paves the way for the numerous activities that are the prime attractions in public spaces: eating, reading, sleeping, knitting, playing chess, sunbathing, watching people, talking, and so on.

These activities are so vital to the quality of public spaces in a city or residential area that the availability or lack of good sitting opportunities must be considered an all-important factor in evaluating the quality of the public environment in a given area.

To improve the quality of the outdoor environment in an area by simple means, it is almost always a good idea to create more and better opportunities for sitting.<sup>291</sup>

The Assembly Civic Engagement Survey corroborates Gehl's conclusions, finding that adequate seating is linked to higher levels of civic trust and increased public participation.<sup>292</sup> And so, one of the simplest, easiest, and cheapest solutions I propose is among the most important.

To encourage activity in the public sphere is a matter of both getting more people outside and extending the time they're there.<sup>293</sup> Though more people pass through any given space, those who are stationary account for 90 percent of the total time on the street;<sup>294</sup> increasing the length of time people stay can have huge effects on the vitality of the street.

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<sup>291</sup> Gehl, *Life Between Buildings*, 157.

<sup>292</sup> "Assembly Civic Engagement Survey," 31.

<sup>293</sup> Gehl, 79.

<sup>294</sup> Gehl, 184-185.

Though all benches are good benches, there are a number of considerations that can take good to great. Both quantity and quality are important consideration for the physically impaired, including the elderly; backs and armrests provide support and easy standing up,<sup>295</sup> while benches every 100 meters ensure that opportunities to sit are available when needed.<sup>296</sup>

The location is, as in realty, crucial. The famous ‘prospect-refuge theory’ correctly stipulates that people want to sit with their back to a wall or otherwise solid object, along the edge, or in an individually-defined niche,<sup>297</sup> and look out at the action.<sup>298</sup> Where walls are nonexistent and seats are placed between a view and pedestrian traffic, some benches are eschewing backs to allow people to sit facing whichever they find more interesting. Seats in the sun and out of the wind will be far more popular than shaded or windy options and will be used even on cold days.<sup>299</sup> Whyte takes great joy in summarizing this relationship: “Where there was sun, they sat; where there was none, they didn’t.”<sup>300</sup>

Variety, however, allows individuals to choose the seat that suits them on that particular day.<sup>301</sup> Seating under or near trees provides a sense of human scale and enclosure, and shelters those sitting from weather.<sup>302</sup> Clumping some benches together suits larger groups, while providing isolated single benches can give solo sitters or

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<sup>295</sup> Whyte, *Social Life*, 34.

<sup>296</sup> Gehl, 164.

<sup>297</sup> Gehl, 159; Alexander, *Pattern Language*, 557-60.

<sup>298</sup> Gehl, 29 and 161.

<sup>299</sup> Gehl 177; Whyte, *Social Life*, 40-44.

<sup>300</sup> Whyte, 40.

<sup>301</sup> Whyte, 28: “Ideally, sitting should be physically comfortable—benches with backrests, well-contoured chairs. It’s more important, however that it be *socially* comfortable. This means choice: sitting up front, in the back, to the side, in the sun, in the shade, in groups, off alone.”

<sup>302</sup> Whyte, 46.

couples the chance to be alone. Strangers can feel more comfortable sitting close to each other if armrests or contoured seats visually indicate that seats are separate, while wood slats feel less cold on winter days than concrete slabs.

Movable chairs are an increasingly popular alternative to benches, allowing people to customize the seating to suit their own needs. People will drag chairs together, or apart, to fit their group size, and move in and out of the sun; the potential change “enlarge[s] choice.”<sup>303</sup> Studies of people’s movements have shown that while people appreciate the opportunity, few actually change the existing arrangement drastically; instead, they scoot the chair a few inches in a seemingly-arbitrary direction and sit, satisfied with their customization of the space. Theorizing over this motion is a favorite pastime of urbanists; Whyte posits that “If you know you can move if you want to, you feel more comfortable staying put.... [The small movements] are a declaration of autonomy, to oneself, and rather satisfying,”<sup>304</sup> and Lennard and Lennard suggest “exercising their jurisdiction over the chair allows people to feel that the space belongs to them.”<sup>305</sup> Regardless of the reasoning, movable chairs are incredibly popular in public spaces. Attempts to fix them to the ground, to avoid the threat of theft, invariably fail; specific, fixed arrangements of a shape as unforgiving as a chair are rarely loved or used,<sup>306</sup> and the occasional new chair, when one is stolen, is worth the improvements to the infrastructure.<sup>307</sup>

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<sup>303</sup> Whyte, 34.

<sup>304</sup> Whyte, 34-35.

<sup>305</sup> Lennard and Lennard, *Public Life*, 29.

<sup>306</sup> Whyte, 36.

<sup>307</sup> Whyte, 37.

Another aspect is *secondary seating*; the components of the urban architecture that can be comfortably appropriated for seating.<sup>308</sup> These include low walls, stairs, fountain edges, pedestals, and so on. Whyte characterizes this adaption as ‘maximizing sittability’ and points out that on most sites, “It’s no more trouble to make [flat space] sittable than not to.”<sup>309</sup> Including secondary seating in an urban design plan allows for extended choice and quantity of seating without the dejected look of too many empty benches when demand is low.<sup>310</sup> Such variety is not particularly useful for old people, who may struggle with the height or lack of a backrest, but suits adults and children well.<sup>311</sup>

In order to guarantee sittable public space, Whyte recommends required minimal seating on all new public space (quantified at one linear sittable foot per 30 square feet of plaza).<sup>312</sup> The importance of spaces to sit is clear from these recommendations. It’s worth mentioning that, like town squares, one does not get to decide who gets to use these amenities and how; if people want to skateboard on the benches, or sleep across them, those are citizens using the space provided for them. Displaying trust in the users of a space results in higher levels of trust and pride in the community; an experiment with signs listing rules or sending positive messages found that the latter resulted in 11% more civic trust.<sup>313</sup>

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<sup>308</sup> Gehl, *Life Between Buildings*, 163.

<sup>309</sup> Whyte, 28.

<sup>310</sup> Gehl, 163.

<sup>311</sup> Gehl, 161.

<sup>312</sup> Whyte, *Social Life*, 39.

<sup>313</sup> “Assembly Civic Engagement Survey,” 16-17.

## Active facades

*Bring life to streets by creating textured building facades and soft entrances*



*A standard street in New York City, where signage, plants, benches, lighting, trash cans, and narrow storefronts bring variety to the sidewalk.*

Permeable facades and storefronts activate the ground floor by creating places for people to stop and linger, and by giving pedestrians a lively border to look at as they pass. The openness and detailing spurs more conversation among users, but benefits extend to the more subconscious as well; a report by Editable Urbanism found that active facades saw much higher levels of altruism and trust in passersby.<sup>314</sup> Inactive facades, on the other hand, feature blank walls, little detail, and flat surfaces; these “bleached” street edges prompt people to speed up, stop less, and feel less happy,<sup>315</sup> and elderly users living among the empty walls age faster, are less active, and are less

<sup>314</sup> “Editable Urbanism Report,” 2-4.

<sup>315</sup> Montgomery, *Happy City*, 161.

social.<sup>316</sup> One experiment found that photoshopping a small amount of greenery, benches, and a street light into a photo of a library entrance resulted in the perception of a more welcoming space for those surveyed.<sup>317</sup>

When creating successful active facades, as with many urban designs, cleanliness and minimalism as antithetical to the goal of building community. Irregularities are natural and comfortable; the smoked glass stretch of wall siding Whole Foods may be modern and simple, but it has deleterious effects on people's happiness as compared to a gritty, messy, street edge.<sup>318</sup> Gehl cites the importance of providing irregular facades and 'supports': niches and objects that define small spaces, where people can comfortably stand.<sup>319</sup> Alexander stipulates that as many exterior entrances as possible should be built to maximize the people in the public space, rather than having people go through one door to an interior lobby or hall.<sup>320</sup> Montgomery and Gehl agree that opacity and width of storefronts must be restricted to keep pedestrians' view varied;<sup>321</sup> Gehl goes on to suggest restricting the entrance width of certain businesses.<sup>322</sup> Windows should be clear, not tinted or reflective, and buildings should be minimally set back away from the main flow of the sidewalk.

Facades' impact on the urban space is perhaps most impacted by the smoothness of the barrier. A flat wall, even glass looking in on an engaging scene, will not compare

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<sup>316</sup> Montgomery, 162-63.

<sup>317</sup> "Assembly Civic Engagement Survey," 34-35.

<sup>318</sup> Montgomery, 161-62.

<sup>319</sup> Gehl, *Life Between Buildings*, 155.

<sup>320</sup> Alexander, *Pattern Language*, 489-90.

<sup>321</sup> Montgomery, *Happy City*, 163 and Gehl, *Life Between Buildings*, 96-98.

<sup>322</sup> Gehl, 97. "If activities are to be assembled rather than dispersed in city streets, only the entrances to large buildings, businesses, banks, and offices naturally belong on the façade fronting the public area.

"Street life is drastically reduced when small, active units are superseded by large units. In many places it is possible to see how life in the streets has dwindled drastically as gas stations, car dealerships, and parking lots have created holes and voids in the city fabric, or when passive units such as offices and banks move in."

with a textured and varied surface. As with public plazas, people prefer to linger where there are niches, closed backs, and objects to cluster around. Alexander mandates:

Make sure that you treat the edge of a building as a ‘thing,’ a ‘place,’ a zone with volume to it, not a line or interface which has no thickness. Crenelate the edge of buildings with places that invite people to stop. Make places that have depth and a covering, places to sit, lean, and walk, especially at those points along the perimeter which look onto interesting outdoor life.<sup>323</sup>

The texture of a wall keeps pedestrians engaged as they walk its span and provides comfortable places to stay.

The walk from one destination to the next is perceived as longer or shorter depending on what the walker is focusing on. Long distances feel short when paths wind, are broken up into smaller segments, and the final destination is out of sight for most of the length.<sup>324</sup> Given the straight lines of sight built into the American grid pattern, most urbanists instead enclose the space with textured facades, variety, and detail. The textured edge makes people more likely to walk slowly, stop, and linger.<sup>325</sup> On existing, texture-less buildings, providing things to look at like murals and plants give pedestrians the sense that they’re passing by and through places, and not simply traveling from one place to the destination. Access to public art is related to higher levels of civic trust, participation and stewardship, and political engagement.<sup>326</sup>

Facades are important for the people entering and exiting the building as well. Softening the entrance with a front yard, a bench, or a similar semiprivate space allow those who live, work, or patronize that building to step outside for a moment, and for

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<sup>323</sup> Alexander, *Pattern Language*, 755.

<sup>324</sup> Gehl, *Life Between Buildings*, 143.

<sup>325</sup> “Editable Urbanism Report,” 2.

<sup>326</sup> “Assembly Civic Engagement Survey,” 26.

events to naturally flow in and out of the house.<sup>327</sup> Blurring the boundary between public and private space this way makes it intuitive to move between the two;<sup>328</sup> these “soft edges” are more welcoming to those who enter, and allow those inside to simply “pop out” to survey the activity outdoors.<sup>329</sup> Smooth transition zones encourage use of public space and engagement with activity on the street.

### **Painted streets**

*Encourage community engagement through intersection repair and tactical urbanism*



*A painted intersection in Portland, Oregon.*

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<sup>327</sup> Gehl, *Life Between Buildings*, 193-95.

<sup>328</sup> Gehl, 115.

<sup>329</sup> Gehl, 185-87.



Community space should be shaped by residents of that community. In the time of slow and unplanned city growth, this influence was subtle and gradual, but modern street grids are unyielding, and change must be more forceful. In Portland, Oregon, communities around the city have created their own town squares by painting colorful designs on intersections. The ‘intersection repair’ efforts slow down cars and improve safety by visually cluttering the space (drivers have to pay more attention when driving through and are aware that they are guests in pedestrians’ space), encouraging neighbors to spend time outside.

Benefits, however, stem only partially from the physical change; the process of building and maintaining these spaces brings together community members in discussion and construction. Given that these relationships are defined by their proximity, they are likely to lead to longer-lasting friendships.<sup>330</sup> Quality of life, sense of community, social capital, and even personal health<sup>331</sup> have been shown to increase in neighborhoods with intersection repair projects.<sup>332</sup> The change creates a sense of place in residents, and a sense of ownership over that place; people spend more time there, see it as an extension of their home, and take care of it. The change gives people an idea of their own ability to adapt the city to be the space they want to live. “Intersection Repair can successfully augment collective efficacy and can encourage direct action for the common good,”<sup>333</sup> bringing together residents to build social capital in the process.

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<sup>330</sup> Semenza and March, “Urban Community-Based Intervention,” 40.

<sup>331</sup> Montgomery, *Happy City*, 312.

<sup>332</sup> Semenza and March, 40.

<sup>333</sup> Semenza and March, 40.

Options for community shaping of public space are not limited to paint on the ground. Neighbors have built benches, planters, saunas, fountains, information kiosks, labyrinths, tea houses, miniature libraries, produce-sharing stands, and message boards.<sup>334</sup> Beyond intersections, the same community spirit can be harnessed to build parklets, ciclovias, design crosswalks, paint murals, et cetera. The customization is essential; the debate involved brings people together in discussion, and the location-specific design creates a pride in place and sense of ownership that leads to increased use.<sup>335</sup>

Though the ultimate community effort is entirely driven by the members themselves, this level of organization is rare. Prompting by the city government, outside researchers such as in the case of several painted intersections in Portland,<sup>336</sup> or simply the allotment of funds can spur action and initiate the first conversations. The government's first duty is to permit the changes, but oversight, the collection of data, funding, and simplification of the process can be valuable services. How-to guides can help communities work their way through the process, and the taking on of liability can reduce the legal loops organizations must jump through. The municipality should monitor community actions and study their effects, providing the know-how and funding to ensure that effective projects have proof of their success.

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<sup>334</sup> Semenza and March, 29; Montgomery, *Happy City*, 308.

<sup>335</sup> Semenza and March, 40.

<sup>336</sup> Semenza and March, 27.

## **Parklets**

*Reclaim space from cars, and convert into small public places*



*A park reclaimed from the street in Copenhagen, Denmark. The urban design studio arki\_lab worked with a local school to design and build the structure for Park(ing) Day.*

The international Park(ing) Day invites people worldwide to take up a parking space for a day, building it up to be a place that can be enjoyed. Past designs number in the thousands. This movement has inspired more permanent construction worldwide, public parks, seating, activities, bike parking, and miniature escapes from the city's predictability. Small impositions of people on the space reserved for cars can draw attention to the imbalance of space without huge controversies or construction costs. Spaces can be temporary to gain support, made permanent, or changed out to provide variety. Local activists, designers, and artists can use these spaces to give the area a

sense of place or human-scale proportions, or provide the greenery, seating, shelter for a bus stop, play equipment, et cetera, that the area is lacking.

### **Outdoor café space**

*Encourage outdoor seating to dissolve public-private borders*



*This square in Copenhagen, Denmark, is often bare, with the exception of the corner where this little café sits.*

For Americans unused to public space worth lingering in, the idea of sitting outside with no express purpose is somewhat unfamiliar. Cafés provide an intermediate semi-public space; the act of purchasing a coffee can allow people to feel comfortable spending time outside. Chatting latte-sippers contribute life regardless of what is happening in the rest of the space and extend public life “into the evenings and

weekends, a fact that serves to make the area safer for local residents.”<sup>337</sup> Even those who don’t spend money at the venue benefit from the liveliness of the street, increasing their willingness to linger and strengthening trust and altruism among passers-by.<sup>338</sup> All food vendors, including food carts and restaurants,<sup>339</sup> should be encouraged to expand into the public space, leeching onto sidewalks and into squares, and providing destinations for those looking to spend time outside. After all, “[i]f you want to seed a place with activity, put out food.... Food attracts people who attract more people.”<sup>340</sup> It takes only the slightest bit of sun for the outdoor seats to fill up at most cafes.

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<sup>337</sup> Lennard and Lennard, *Public Life*, 38.

<sup>338</sup> “Editable Urbanism Report,” 2-4.

<sup>339</sup> Whyte, *Social Life*, 50.





















<sup>340</sup> Whyte, 50 and 52.

# DESIGNING TRUST BUILDING SOCIAL TRUST THROUGH URBAN DESIGN

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|---|---|---|--|---|--|---|---|
|  | <b>SMALLER UNITS:</b><br>Create clusters of homes with shared public space to blur the boundaries between public and private.       |  | <b>TOWN HALL:</b><br>Facilitate community engagement with a communal space and amenities.  |  | <b>TOWN SQUARE:</b><br>Carve out a flexible space for community events and informal gatherings.  |  | <b>SEATING EVERYWHERE:</b><br>Benches, movable chairs, and other sittable places are necessary for lingering and inclusive use.         |
|  | <b>MIXED-USE ZONING:</b><br>Intermix residences, workplaces, and amenities to bring liveliness and encourage active transportation. |  | <b>MINIMAL PARKING:</b><br>Reduce the number of parking spaces and convenience of access, increasing time spent on foot.               |  | <b>MORE PARKS:</b><br>Provide as many parks as possible, of all sizes and equally distributed, with clear views in.                              |  | <b>ACTIVE FACADES:</b><br>Bring life to streets by creating textured facades and softened entrances, providing places to stop and stay. |
|  | <b>EXPANSIVE PUBLIC TRANSPORTATION:</b><br>To reduce reliance on cars, supplement walkability with public transportation.           |  | <b>INFILL WHERE POSSIBLE:</b><br>Build into unused, abandoned, and reclaimed land to gradually increase density.                       |  | <b>TRIANGULATE ATTRACTIONS:</b><br>Identify destinations of all scales and cluster them, so that their activity becomes a destination in itself. |  | <b>PAINTED STREETS:</b><br>Encourage community engagement through intersection repair and tactical urbanism.                            |
|  | <b>SMALL RESIDENCES:</b><br>To sustain density and maximize affordability, houses and apartments should be small.                   |  | <b>BICYCLE INFRASTRUCTURE:</b><br>Give space to bikes for movement and storage and prioritize their travel.                            |  | <b>STREET PERFORMANCES:</b><br>Buskers and entertainers provide reasons to linger in public places and interact.                                 |  | <b>PARKLETS:</b><br>Reclaim parking spaces from cars and convert them to seating, parks, or what is needed in the area.                 |
|  | <b>SMALL FRONT YARDS:</b><br>Soften entrances with semiprivate places to linger and bridge the private and public spheres.          |  | <b>DISCOURAGE DRIVING:</b><br>Slow vehicular traffic with speed limits and visual cues, and inconvenience cars to benefit other modes. |  | <b>SOFT STREET LIGHTING:</b><br>Warm light at the human scale makes people feel safe and comfortable.  |  | <b>OUTDOOR CAFE SPACE:</b><br>Encourage outdoor seating to dissolve public-private borders and bring life to street edges.              |

## Reflection upon designs

To accompany my written thesis, I have created a poster that condenses the twenty designs into one legible, graphic page. In deciding to go this route, I believe that using graphic design to communicate opens up the material to a broader audience, may garner additional attention, and appears more professional. I'd like the ideas detailed here to be talked about in circles beyond urban design and sociology—or, more realistically, my thesis committee—and so I chose to present the information in a friendlier and less daunting way. (For the same reason, I decided to not ground my analysis in any one place; I didn't want the small scale to appear less impressive to potential readers.) A visually engaging poster can catch the eye and draw in a reader who otherwise doesn't care about urban design or social trust; small fun vignettes such as the person eating a taco, and the bread in the bakery's window keep people engaged.

A primary principle of graphic design is that less is more; cutting out the unimportant material gives room for attention to be focused on what is important. I wanted to include all twenty of the designs, so I simplified everything else; text is unobtrusive, colors are eye-catching but not competing, only the basic information is presented. I chose to break the linearity of the grid for the natural elements—the people and plants—to indicate their importance and their separation from the built environment.

To include each solution without crowding them too much, a certain amount of urban space had to be depicted. I designed the poster in isometric view (without perspective) to simplify the design. Because not every design fits in the same context, I knew the poster would have to show a range of places, with the solutions scattered

evenly. The poster depicts a less dense neighborhood at the bottom left, and buildings get taller towards the top right.



## **Conclusion**

The built environment has a significant impact on our social connections and the social trust that develops from these relationships; we can encourage the growth of social trust by changing our cities' forms. These ideas are not entirely new but deserved to be explored further. The benefits of livable, walkable, and social communities are not limited to strong social trust; residents are happier and healthier there, diverse populations are more integrated, and the environmental impact on the planet is lessened. In many ways, the urbanist movement is a return to past ways of living, when communities were interlinked, television nonexistent, and 'speed' barely a concept. Cities were shaped gradually by their residents, adapting and evolving in ways that the concrete street grid cannot.

Adapting the current urban form to build up this trust that has been lost is not easy or uncontroversial, but the potential impacts on health, happiness, and community cohesion are extraordinary. Whether the change implemented is building a bench, turning a parking lot into a park, or infilling to densify a neighborhood, any scale of change has the potential to get people outside and interacting. Social trust is our community ties; without it, we're individual family units abutting each other. Social trust builds a city.

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