

# Local Policies for Children's Health and Success

Creating Communities Where All Children Can Thrive
11 March 2025
By Todd Litman



To be healthy and successful children should live in communities that are walkable, safe, affordable, integrated and provide economic opportunities. This requires reforming current policies that increase driving and sprawl.

### **Abstract**

U.S. children now have shorter lifespans and less economic mobility than in most peer countries. These poor outcomes result in part from community design factors that reduce physical activity, safety, environmental quality, affordability, access to opportunities and community cohesion. New research improves our understanding of these effects. This analysis indicates that children tend to be healthier and more successful growing up in compact urban neighborhoods where residents frequently walk and bicycle, drive less at lower speeds, have affordable housing and travel options, are integrated by income and background, and have sufficient parks and greenspace. This identifies local policies that create communities where improve children's health, opportunity and success. This analysis is more comprehensive than most previous studies of child-friendly community design, and contradicts common assumptions concerning where children thrive.

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#### Introduction

Every child deserves to live in a healthy and supportive community where they can thrive. New research identifies local policies that help achieve those goals.

Many people assume that cities are unhealthy and oppressive, and so encourage families with children to live in suburbs. This justifies public policies that favor automobile-oriented sprawl over compact development. "It's better for the kids," proponents claim. However, these assumptions are not necessarily true, and the policies they justify tend to increase many risks and costs.

Indeed, suburbs tend to have higher incomes, less crime, and better school performance than urban neighborhoods, but this reflects self-selection – the tendency of suburbs to exclude poorer households, which concentrates poverty and associated social problems in urban neighborhoods. This does not necessarily prove that suburbs are better for children overall. New data and analysis methods can help tease out causes and effects, providing a better understanding of community design factors that affect children's health risks and economic opportunities.

This analysis must consider stresses on families, not just children. For example, improving housing and transportation affordability can benefit children by leaving more money for goods that children need, and by reducing financial stresses on parents, allowing better work-life balance, such as the freedom to work less and devote more time to caregiving and play.

Understanding these impacts is important because local policies often involve trade-offs that affect children and families. For example, a street designed to maximize traffic speeds is less walkable and bikeable than one designed to maximize multimodal travel and safety, and a neighborhood designed for single-family housing is less affordable and accessible, and therefore less diverse and inclusive, than if more compact housing types are allowed.

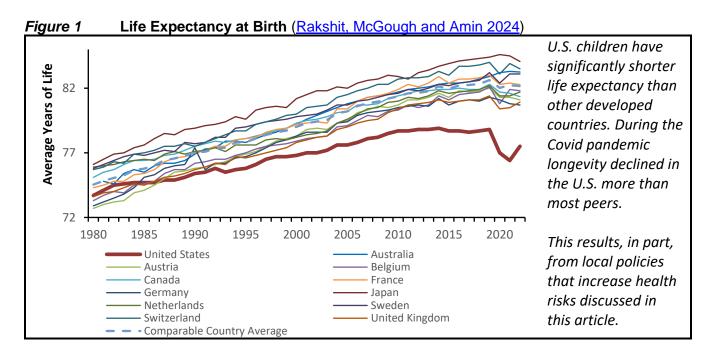
A growing body of research indicates that children tend to be healthier and more successful if their families live in compact, multimodal neighborhoods where residents frequently walk and bicycle, drive less at lower speeds, have affordable housing and travel options, are integrated by income and background, and have sufficient parks and greenspace. These findings contradict common assumptions that children are better off living in suburbs rather than cities. They support emerging policies such as multimodal planning and Smart Growth development.

This article explores these issues. It investigates how community design affects children's health and success, and identifies local policies that help achieve these goals. This research has broad implications; most policies that enhance children's welfare benefit people of all ages.

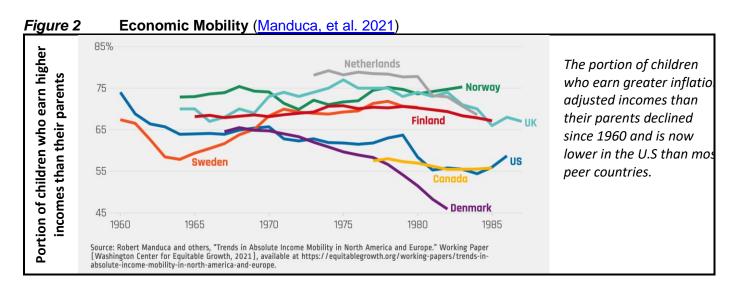
This is a timely issue. Most parents and policy makers want to support children's health and opportunity but lack practical guidance. This article attempts to fill that gap. This can help families choose homes and policy makers create communities where children can thrive.

## Why Changes are Justified

U.S. children have poor health and economic outcomes. In 1980 the U.S. has similar life expectancies as peer countries but after 2010 life expectancy stopped increasing, and during the Covid pandemic it declined more than other countries, as illustrated below.



The U.S. also has relatively poor economic mobility, indicated by the low portion of children who earn more than their parents, as illustrated below (OECD 2018).

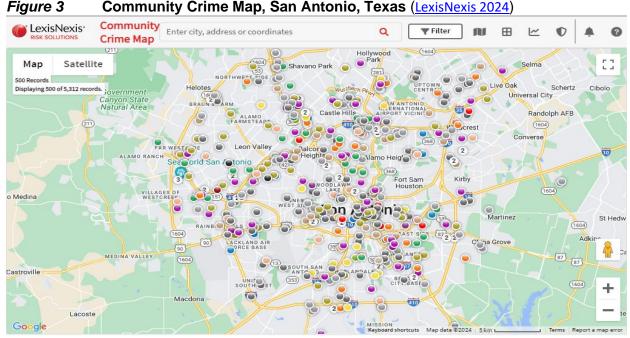


Research by the U.S. Surgeon General (2024) indicates that many parents experience severe financial, time and social stresses that threaten their mental health and caregiving abilities; 48% of U.S. parents report feeling overwhelming stress most days, compared to 26% among other adults.

Local policies that increase automobile dependency and sprawl contribute to these undesirable outcomes by increasing health risks and economic costs. This article investigates these effects and recommends solutions.

This type of research is challenging because there are many complex impacts to consider. However, new data sets and analysis methods are improving our understanding of these relationships, providing practical guidance for achieving health and economic goals.

Care is needed when evaluating such impacts. For example, crime maps, such as the one illustrated below, imply that crimes increase with density, so cities are more dangerous than suburbs. However, that conclusion is not necessarily justified. Many activities, good and bad, increase with density. Although dense urban neighborhoods may have more crimes per area (acre or hectare), that does not reflect the risks to individuals. Many crimes are more likely to occur in urban areas. For example, robberies are more common where there are stores and banks, bar fights occur where there are bars, and some criminals target tourists. As a result, urban areas' commercial and entertainment districts, and travel hubs, tend to have more crimes than residential suburbs, but this does not necessarily mean that individuals' crime risk decline if they move from urban to suburban neighborhoods; customers and employees face risks when they are at stores, banks and bars regardless of where they reside. More sophisticated analysis is needed to measure individuals' crime risks and identify community safety strategies.



Crime maps such as this imply that crime risk is much higher in cities, but such evidence does not actually prove that people are safer in suburbs than cities.

Similarly, cities may have higher rates of mental illnesses, addiction and homelessness, but that does not necessarily mean that urban environments cause those problems; this may reflect *social drift* (also called *self-selection* or *sorting*), the tendency of people with such problems to migrate to city centers that offer better services and opportunities. It is important to consider such factors when evaluating health and economic impacts.

In fact, overall death rates are lower and longevity higher in large cities than in smaller towns and rural areas, as illustrated below.

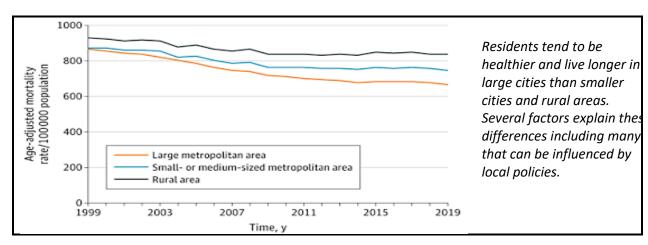
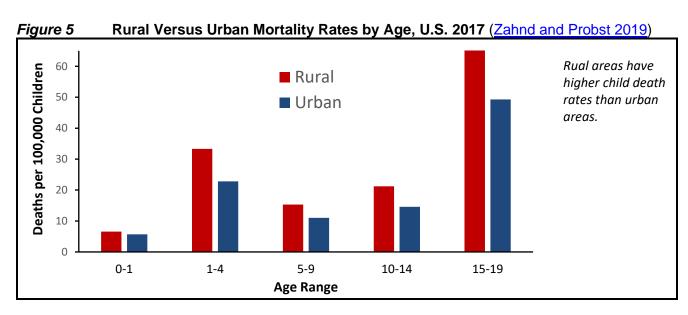


Figure 4 Death Rates by Geographic Area (Bloomburg 2021)

Rural areas also have higher infant and child mortality rates, as illustrated in the figure below. These disparities are particularly high for minority (Black, Latino and Native American) children. This suggests that urban environments can be healthier overall.



Several factors can contribute to these disparities. For example, high rural infant mortality rates reflect high rates of maternal obesity and smoking, and high traffic casualty rates, plus reduced healthcare access (Womack, Rossen and Hirai 2020).

New research improves our ability to understand these complex interactions. Some recent studies apply sophisticated analysis to tease out how such factors interact and vary by demographics and location (Litman 2022). These are sometimes framed in terms of two opposing types of development: automobile-dependent sprawl versus Smart Growth (also called New Urbanism, 15-minute communities and urban village planning), which refers to compact, mixed, multimodal community design (Bruno, et al. 2024). For example, Ewing and Hamidi's 2014 report, *Measuring Sprawl*, calculated a compactness index score for 994 U.S. counties reflecting four factors: *density* (people and jobs per square mile), *mix* (combination of homes, jobs and services), *roadway connectivity* (density of road network connections) and *centricity* (the portion of jobs in major centers). The table below summarizes their key findings.

**Table 1** Summary of Smart Growth Outcomes (Ewing and Hamidi 2014)

Outcome	Effects of 10% Compactness Score Change		
Average household vehicle ownership	0.6% decline		
Vehicle miles traveled	7.8% to 9.5% decline		
Walking commute mode share	3.9% increase		
Public transit commute mode share	11.5% increase		
Average journey-to-work drive time	0.5% decline		
Fatal crash rate per 100,000 population	13.8% decline		
Body mass index	0.4% decline		
Obesity	3.6% decline		
Any physical activity	0.2% increase		
Diagnosed high blood pressure	1.7% decline		
Diagnosed heart disease	3.2% decline		
Diagnosed diabetes	1.7% decline		
Average life expectancy	0.4% increase		
Upward mobility*	4.1% increase		
Transportation affordability	3.5% lower transport costs relative to income		
Housing affordability	1.1% higher housing costs relative to income.		

This table summarizes how compactness affects various economic, health and environmental outcomes. \* Probability a child born in the lowest income quintile reaches the top quintile by age 30.

Other studies track outcomes over time (SfQL 2024). For example, the *Equality of Opportunity Project* investigates how geographic factors affect *economic mobility*, the chance that a child born in poverty becomes more economically successful as an adult (Smith and Blizard 2021; OIT 2024). Some studies use natural experiments that compare outcomes between households that were randomly assigned homes in different types of neighborhoods (Chetty, et al. 2022).

## **Key Research Findings**

This section examines individual factors that affect children's health and success.

## Physical Activity and Fitness

Physical activity is essential for children's health and happiness. The U.S. Center for Disease Control recommends at least 60 daily minutes of physical activity for children, and 22 daily minutes for adults (CDC 2018). Children are influenced by their parents' examples, so family-oriented activities are important for achieving their fitness and health goals.

Although there are many ways to be active, including exercise programs and competitive sports, the most common is *active travel* (walking, bicycling and variations such as wheelchairs and scooters). Active travel tends to increase in areas with better walking and bicycling facilities, narrower streets with slower motorized traffic, compact and mixed development so more services and activities are easy to reach by active modes, better public transit, and TDM incentives to reduce driving and increase non-auto travel (Gilbert and Woodcock 2024). These are sometimes described as "15-minute communities," where commonly-used services are within a 15-minute walk or bike ride (Bruno, et al. 2024). Residents of such communities tend to be more physically active, have healthier weights and better health outcomes including lower cardiovascular disease and diabetes rates than in sprawled areas (Ewing, et al. 2014; Malambo, et al. 2016; Sallis, et al. 2016). Sprawled communities require youths to be chauffeured to most destinations, reducing their independence and exercise, and increasing parents' time and financial burdens.

To increase children's independence and exercise communities can prioritize active modes over automobile travel, implement safe routes to school programs that improve and encourage non-auto travel, provide neighborhood play areas, called *playful learning landscapes* (Hadani, et al. 2021), and sometimes create "play streets" where games are allowed and safe (Murray 2024). Neighborhood parks and play streets are particularly important for children whose homes lack private yards. Children tend to be healthier and happier in neighborhoods with more greenspace (Berto 2014). Reducing residential and childcare center parking requirements can free up land for housing and outdoor playground (McCabe 2024). The study, "Where Matters: Health & Economic Impacts of Where We Live," found the following impacts of local walkability and park proximity.

Table 2 Health Impacts of Walkability and Park Access (Frank, et al. 2019)

	Walkable Compared with Auto-Dependent Areas	Areas with Many Parks Compared with No Parks		
Physical 45% more likely to walk for transportation and 17% more likely to meet physical activity targets.		20% more likely to walk for leisure or recreation and 33% more likely to meet the physical activity targets.		
Obesity	42% less likely to be obese. 43% less likely to be obese.			
Diabetes	39% less likely to have diabetes.	37% less likely to have diabetes.		
Heart Disease	14% less likely to have heart disease.	39% less likely to have heart disease.		
Stress 23% less likely, to have stressful days. 19% less likely to have stressful days.		19% less likely to have stressful days.		
, ,		23% more likely to have a strong sense of community and belonging.		

This study found significant positive relationships between walkability, park accessibility and health.

Complete streets policies ensure that all roads accommodate all types of users, including active and public modes, plus activities such as sitting and playing on sidewalks and boulevards (FHWA 2024). Transportation demand management (TDM) refers to various policies and programs that encourage travellers to choose the most efficient option for each trip, which usually reduces driving and increases active travel. Safe routes to schools (SRS) programs provide targetted improvements to help children use non-auto modes when travelling to schools (Pedroso 2017).

As climate change increases ambient temperatures, care is needed to ensure that children can be active even in extreme heat. Greenspace, particularly tree cover, reduces urban heat island effects. Parks and playgrounds should be designed to protect children's comfort with large shade trees and awnings, using materials that do not become dangerously hot in sunlight, choosing reflective colors for structures and roofs, incorporating water play and misting, and in extreme climates developing climate-controlled play areas (Rouner 2024).

*Universal design* refers to transportation systems that accommodate all users including people with disabilities (PwD), caregivers with children in strollers, and young children walking. This requires sufficiently wide and smooth sidewalks with features such as ramps and lifts, plus policies to protect pedestrians' personal security.

Conventional planning tends to undervalue and underinvest in active modes and TDM programs (Litman 2024). This occurs because it evaluates transportation system performance based primarily on vehicle travel speed, using indicators such as roadway level-of-service and hours of congestion delay. Such planning favors faster modes over slower but more affordable, inclusive and healthy modes, and sprawl over compact development. More comprehensive analysis that considers additional community goals justifies more active mode investments.

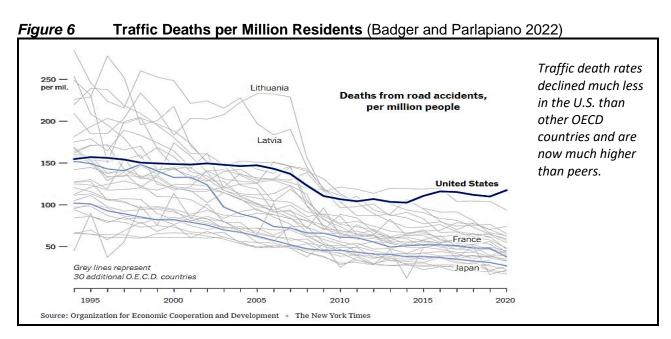
The following local policies can help increase children's physical activity.

- Improve active mode planning, so walking and bicycling receive a fair share of investments.
- Complete sidewalk and bikeway networks, with high design and maintenance standards.
- Apply complete streets policies so roads accommodate active modes.
- Apply universal design practices to accommodate all users, including families with children.
- Achieve safe traffic speeds, which are generally less than 20 mph (32 Km/hr) on local streets and less than 30 mph (48 km/hr) on urban arterials.
- Address pedestrian and bicyclists' safety and security concerns.
- Address conflicts between sidewalk and trail users.
- Design active mode facilities and parks to be comfortable in all weather, including extreme heat.
- Reduce parking requirements and manage parking efficiently at homes and childcare facilities.
- Apply Smart Growth policies that create compact communities, indicated by 70+ Walk Scores.
- Provide local parks within 400 meters of most homes with children.
- Support local recreation and sports programs for children and families.
- Implement school transport management programs that improve and encourage active travel.
- Implement TDM incentives that discourage driving and encourage non-auto travel.
- Support active travel encouragement programs.

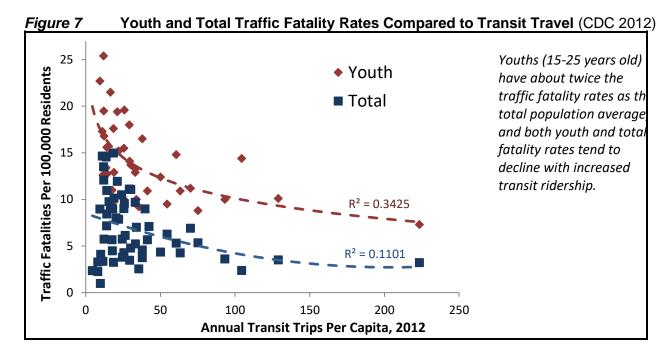
## Traffic Safety

Motor vehicle crashes are a leading cause of death and injury to children and their loved ones, and traffic risk discourages active travel and therefore children's mobility and exercise, so increasing traffic safety can improve children's opportunity, health and independence (Tavakoli, et al. 2024).

How traffic risks and safety strategies are evaluated is changing (Litman 2023). The old paradigm assumed that automobile travel is overall safe since most crashes are associated with specific risk factors such as youth, senior or impaired driving. This favored targetted safety strategies such as graduated driver's licenses, senior driver testing and anti-impaired-driving campaigns. However, those strategies are declining in effectiveness; U.S. traffic fatality rates have increased in recent years and are now much higher than in peer countries, as illustrated below. This reflects the effects of automobile dependency and sprawl, which increase vehicle travel and traffic speeds. A new paradigm recognizes that *exposure*, total vehicle travel is a key risk factor, so vehicle travel reduction policies are effective safety strategies.



Traffic casualty rates vary significantly. Residents of auto-dependent, sprawled areas have order of magnitude higher traffic death rates per capita than in central, walkable neighborhoods (Ewing, Hamidi and Grace 2016). This reflects local conditions that affect how, how much, and how fast people travel. The figure below shows the relationship between transit ridership and traffic deaths in U.S. urban regions. It indicates that youths (15-25 years old) have about twice the death rate as the overall population, and both youth and total fatality rates tend to decline with increased transit ridership. The statistical relationship is particularly strong for youths, which suggests that given good non-auto travel options many young people will reduce their driving and risk exposure. This and other research indicate that more multimodal planning that reduces driving can significantly increase safety (Litman 2023).



Care is needed when evaluating traffic risks (Marshall 2024). Considering just risks to occupants, larger vehicles and motorized modes seem safer than smaller vehicles and active modes. However, larger vehicles and more motorized travel increase risk to other travellers, and therefore total crashes. As a result, total per capita crash casualty rates tend to decline as active mode shares increase in a community, an effect called "safety in numbers."

Lower traffic speeds increase safety by giving drivers more time to react to threats and reducing crash severity. Active mode risks are particularly sensitive to traffic speeds. The risk to pedestrians of severe injury averages about 10% when hit at 16 mph, 50% at 31 mph, and 90% at 46 mph (Sanders, Judelman and Schooley 2019). A recent review found that imposing 30 km/h urban speed limits reduced crashes 23%, injuries 38% and fatalities 37% (Yannis and Michelaraki 2024). As a result, many communities are reducing traffic speeds (NACTO 2020).

The following local policies can help increase traffic safety for children and their families.

- Improve walking and bicycling facilities including sidewalks, crosswalks and bikeways.
- Achieve safe traffic speeds.
- Implement pedestrian and bicycle safety training for children.
- Address conflicts between sidewalk and path users.
- Improve and encourage public transit travel, and create transit-oriented communities.
- Implement TDM incentives that reduce driving and encourage shifts to non-auto modes.
- Implement Smart Growth policies that create compact and multimodal communities.
- Support school transport management programs that improve and encourage non-auto travel.
- Implement targetted traffic safety programs.

## Pollution Exposure

Air pollution includes harmful gases such as carbon monoxide, nitrous oxides, volatile organic compounds [VOCs], ozone, air toxins, particulate matter [PM] and dust. They can cause physical illnesses and some harm mental development (Payne-Sturges, et al. 2019). Children are particularly vulnerable, including exposure during pregnancy (Brumberg, et al. 2021). Excessive noise can increase stress and disrupt sleep (Newbury, et al. 2024).

Major emission sources include power plants, industrial and agricultural activities, and vehicle traffic. Traffic-related air pollution (TRAP) is the largest source in most residential communities (Khreis, et al. 2020). Heavy diesel vehicles produce particularly harmful emissions, and even electric vehicles produce pollution from tires and fossil fuel power plants. Emissions increase with traffic volumes and speeds, heavy duty vehicles and accelerations. Living within 500 feet (200 meters) of major roadways (more than 25,000 average daily vehicles) tends to cause significant pollutant-related health problems (USEPA 2017).

Pollution exposure can be reduced by locating homes and child-oriented facilities, such as schools and playgrounds, away from busy highways, developing barriers and landscaping between highways and people, reducing total vehicle travel, and shifting to lower emission vehicles (Curran-Groome and Freemark 2024; USEPA 2021). Many communities prohibit multifamily housing within residential neighborhoods, forcing lower-income families to live near polluted highways and industrial areas; allowing affordable housing within neighborhoods can reduce their pollution exposure.

Figure 8 Multifamily Housing Near Major Highways (Google Earth)



Many jurisdictions restrict multifamily housing in residential neighborhoods, causing lower-priced housing to locate along busy roads. Allowing more compact housing in residential neighborhoods can reduce low-income children's exposure to harmful pollutants.

The following local policies can reduce children's exposure to harmful pollutants.

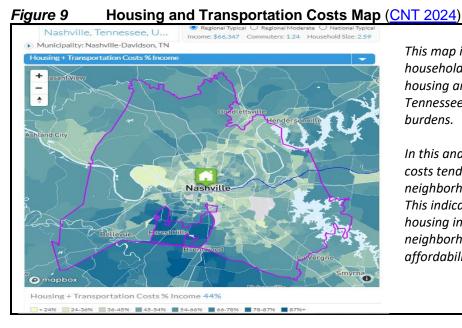
- Locate child-oriented facilities (family homes, schools, childcare, parks, etc.) away from major emission sources such as industrial areas and high-volume roadways.
- Allow multifamily housing in residential neighborhoods, not just along busy roadways.
- Reduce total vehicle travel with multimodal planning, Smart Growth and TDM incentives.
- Encourage use of low emitting vehicles, particularly instead of large diesel vehicles.

## Affordability and Economic Resilience

Affordability refers to prices relative to incomes, and therefore households' ability to purchase essential goods and services. Economic resilience refers to households' ability to respond to economic shocks such as reduced incomes, increased costs or illness. Since housing and transportation are most household's two largest spending categories, their affordability significantly affects economic resilience. When families cannot afford healthy food, healthcare or other essential goods, the root cause is often excessive housing and vehicle costs.

Experiencing homelessness harms children; it tends to increase developmental delays, poor health outcomes, and social problems (Gultekin, et al. 2020; Pierce, et al. 2024). Since motor vehicles sometimes impose large unpredictable costs due to mechanical failures, crashes or fuel price spikes, automobile dependency tends to reduce household economic resilience, indicated by higher mortgage foreclosure rates for households located in sprawled, auto-dependent areas (NRDC 2010; Pivo 2013). Unaffordable transportation can also reduce children's ability to access healthcare services (NCMM 2020). One study found that 4% of children were unable to visit health care services due to transportation problems (Redlener, et al. 2006).

In the past, affordability was often defined as households being able to spend less than 30% of their budgets on housing (rents or mortgages plus basic utilities, taxes, insurance and maintenance), but experts now recognize that households often make trade-offs between housing and travel costs; a cheap house is not truly affordable if located in an auto-dependent area where transportation is expensive, and households can rationally spend more than 30% of their budget for homes in accessible locations where travel costs are lower. As a result, many experts now define affordability as households spending less than 45% of their budgets on housing and transportation combined (CNT 2008). The H+T Affordability Index measures total average expenditures on housing and transportation by neighborhood, as illustrated below.

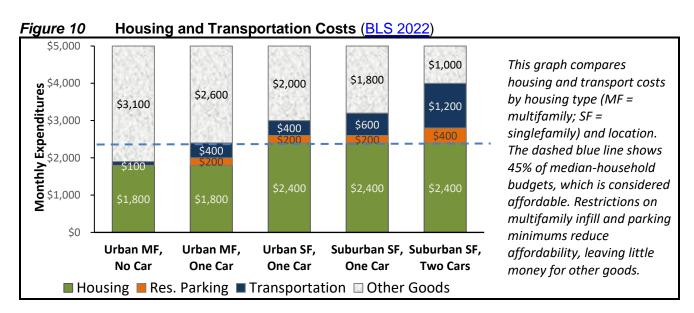


This map indicates the portion of household income devoted to total housing and transportation in Nashville, Tennessee. Darker indicates higher cost

burdens.

In this and most other communities, these costs tend to be lower in central neighborhoods and increase with sprawl. This indicates that providing lower cost housing in compact, multimodal neighborhoods tends to maximize affordability.

The figure below compares the typical cost of various housing and transport options. Single-family (SF) housing is more expensive than comparable quality multi-family (MF) housing, and automobiles are more costly than other modes. For an average household with \$5,000 monthly income, living car-free in an urban multifamily home with unbundled parking only requires an affordable 38% of their budget, leaving \$3,100 for other goods, but car ownership and single-family homes often increase cost to unaffordable levels, leaving households financially stressed and vulnerable. As a result, children can benefit from lower-cost housing and transport options, and therefore from affordable housing in accessible urban neighborhoods. Not every household will take advantage of all potential savings, but the availability of cheaper options can allow financially stressed families to spend more on children's food, healthcare, education and fun.



Many current policies favor expensive housing and travel over lower cost options. For example, many municipalities restrict multifamily housing in most neighborhoods and impose off-street parking mandates that force car-free households to pay for costly parking facilities they don't need. Current transportation planning tends to underinvest in slower but more affordable modes.

These local policies can increase affordability and resilience.

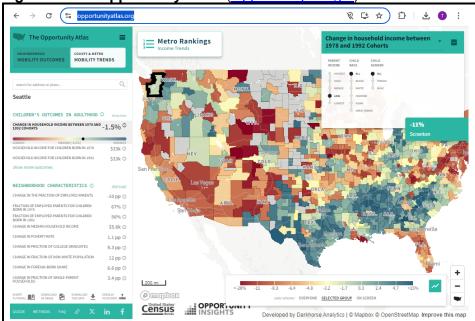
- Allow lower-cost housing, such as multifamily, in compact, multimodal neighborhoods.
- Reduce or eliminate parking minimums.
- Support development of affordable housing, including social housing and basic market housing, in multimodal urban neighborhoods.
- Encourage mixed development and improve neighborhood services such as schools and parks.
- Develop eviction and homelessness prevention programs, particularly for families with children.
- Improve affordable transportation options including walking, bicycling, public transit and telework (telecommunications that substitute for physical travel).
- Apply universal design standards so all transportation facilities accommodate diverse users.

## Economic Opportunity and Mobility

Economic opportunity refers to people's ability to access education, employment and essential goods such as affordable healthy food. Economic mobility refers to whether children grow up to be more economically successful than their parents (Smith and Blizard 2021).

New research is improving our understanding of these effects (Connor, et al. 2025; Le, et al. 2022; SfQL 2024; OIT 2024). Harvard University's <a href="Opportunity Insights">Opportunity Insights</a> program and the Urban Institute's <a href="Upward Mobility Initiative">Upward Mobility Initiative</a> investigate factors that affect children's economic opportunity and mobility. The <a href="Opportunity Atlas">Opportunity Atlas</a>, illustrated below, shows economic mobility rates for specific communities. The <a href="Social Capital Atlas">Social Capital Atlas</a> shows connectedness, cohesiveness and civil engagement.

Figure 11 Opportunity Atlas (Opportunity Insight)



The Opportunity Atlas shows rates of economic mobility, the degree that children are more economically successful than their parents. This information can be used to identify where families can move to improve their children's opportunities, and what policies can improve opportunities in disadvangated areas.

This research identifies factors that affect economic opportunity and mobility. Ewing, et al. (2016) found that intergenerational economic mobility tends to increase with neighborhood density, mix and accessibility. Similarly, Wei, Xiong and Carlston (2023) found that economic mobility increases with Smart Growth conditions such as walkability, development mix and jobs-housing balance, and declines with sprawl, but these are offset if urban neighborhoods have concentrated poverty and racial segregation. Oishi, Koo and Buttrick (2018) found that walkable cities have smaller employment and income disparities between drivers and non-drivers. Talen and Koschinsky (2013) found that economic mobility increases with Walk Score, an indicator of density and mix.

Connor, et al. (2025) found that lower-income children in large cities previously had better economic mobility than currently occurs, and smaller cities with fewer than 100,000 residents now offer better outcomes. This could reflect the effects of racial and income segregation, concentrated poverty and automobile dependency that reduces access to economic opportunities.

Chyn (2018) found that children who moved from impoverished to middle-income neighborhoods are 9% more likely to be employed and have 16% higher average annual earnings as adults compared with peers who remained. These benefits tend to be greatest for girls; lower-income minority boys often had difficulty integrating into more affluent communities. Chetty, et al. (2022) found that *economic connectedness*, the share of high socioeconomic status (SES) friends among low SES individuals, is among the strongest predictors of upward mobility. This suggests that economically disadvantaged children can benefit by growing up in class and racially integrated communities, attending integrated schools, and participating in integrated social activities (OIT 2024). Ding and Hwang (2016) found that economically disadvantaged residents who remain in gentrifying neighborhoods gain economically, indicated by their credit score improvements, while credit scores declined for those who moved away.

This research suggests that economic opportunity and mobility tends to increase with density, multimodal accessibility, local public school quality, affordability, income and racial integration, local employment, healthcare, and social capital (quality of relationships among residents), and decline with concentrated poverty and associated social problems (UI 2021). This emphasis on integrated *neighborhoods* may conflict with efforts to integrate schools through busing or specialized magnet programs that result in students attending non-local schools; those strategies overlook the value of encouraging community cohesion.

These local policies can increase economic opportunity and mobility.

- Encourage income and racial integration.
- Avoid poverty concentration (more than 20% of households in a neighborhood or students in a school being impoverished).
- Support affordable housing development, including social housing and moderate-priced market housing, in multimodal urban neighborhoods.
- Eliminate or significantly reduce parking minimums in multimodal urban neighborhoods.
- Improve public services, such as schools, parks, sidewalks and public transit, in disadvantaged communities.
- Encourage integration of local schools and family-oriented recreation activities, and other community programs.
- Support local business and employment opportunities.

#### Health Behaviors

Health behaviors, called social determinants of health (SDOH), such as tobacco consumption, alcohol and drug abuse, unhealthy diets, criminal activity and violence, can affect children directly and indirectly through their families and neighbors. These risks vary by geography and neighborhood demographics and often act like contagions: people are more likely to engage in harmful behaviors if they seem common and socially acceptable (Christakis and Fowler 2013; Dean, Williams and Fenton 2013).

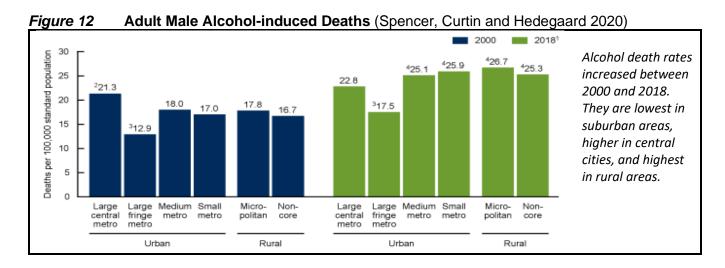
The following section examines various health behavior risks.

#### **Tobacco Use**

Tobacco use tends to decline with income and education (Doogan, et al. 2017). Rural areas have higher smoking rates; the portion of children who live with a smoker is about 35% in rural areas compared with 24% in urban areas (ALA 2012).

#### **Alcohol Abuse**

Although alcohol abuse and death rates were previously higher in central cities, between 2000 and 2018 they increased in rural areas; they are now lowest in suburbs, higher in central cities and highest in rural areas, as illustrated below. Rural youths are significantly more likely to abuse alcohol (drinking more than four drinks at one time) than suburban and urban youths (Monnat and Rigg 2015; McInnis, et al. 2015).



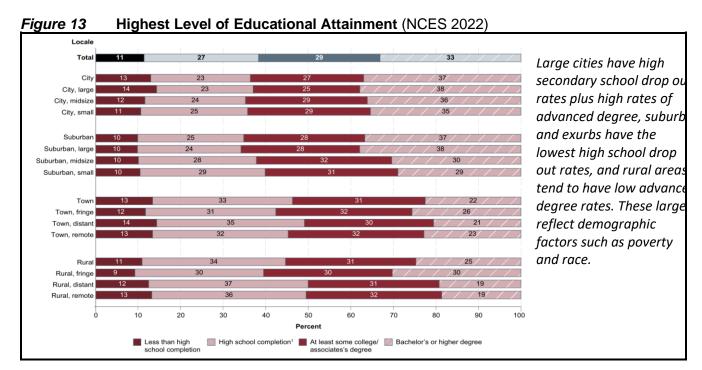
#### **Drug Abuse**

Drug abuse and casualty rates vary by demographics, location and type. Urban areas tend to have more cocaine and heroin abuse, while rural areas tend to have more prescription drug and synthetic opioid abuse (Spencer, Garnett and Miniño 2022). Drug overdose death rates increased significantly in recent years due to synthetic opioids and tend to be particularly high for Black, Hispanic and First Nations urban residents and rural males.

#### **Low Education Attainment**

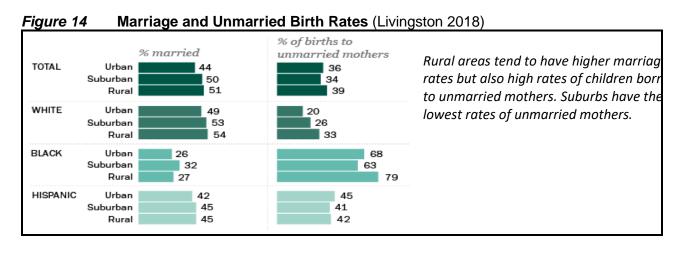
Education attainment significantly affects children's health and economic success. High school graduates are less likely to be poor, unemployed, imprisoned, require public assistance, live longer and earn more than students who drop out (Jordan, Kostandini and Mykerezi 2012). Many factors

affect education attainment. Suburbs and exurbs tend to have low secondary school drop-out rates and high rates of advanced degrees, large cities have both high secondary school dropouts and high rates of advanced degrees, while remote rural areas also have secondary school drop-out rates plus low advanced degree rates, as illustrated below.



### **Family Stability**

Children can thrive in many types of families but are more likely to succeed with two cohabiting parents. In the past, rural residents had the highest marriage rates and lowest rates of unmarried mothers, but now suburbs tend to have the most stable families and rural areas have high rates of single parents, as illustrated below.



### **Healthy Diet**

Children's diet quality tends to improve with family income and access to affordable grocery stores (Crouch 2023). Food insecurity (inadequate or poor quality food) tends to be lowest in suburbs (8.8%), higher in rural areas (11%) and highest in impoverished central cities (12%).

#### **Healthy Weight**

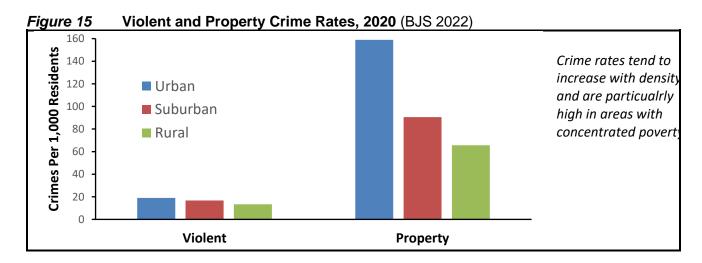
Excessive childhood weight tends to increase lifelong health problems including diabetes, sleep apnea and cardiovascular disease (Crouch 2023). Obesity rates tend to be higher in rural areas, and decline with neighborhood walkability and parks, as previously described.

#### **Domestic Violence**

Domestic violence harms children. Geographic differences in domestic violence rates largely reflect variations in income, employment and substance abuse, but rural areas have special risks including high intimate partner homicide rates, plus poor psychosocial and physical health outcomes for domestic violence victims due to less access to social services and less public support for domestic violence prevention policies (Edwards 2015).

#### Crime

Urban areas have higher crime rates than suburban and rural areas, as illustrated below. As previously described, this partly reflects special risks, such as banks and stores that attract robberies, and entertainment districts that attract bar fights, plus the effects of concentrated poverty and weak social connections in some disadvantaged neighborhoods.

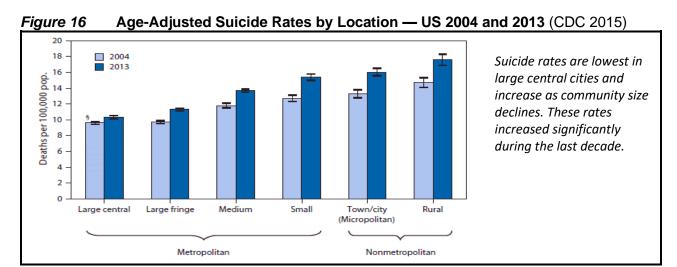


### **Homicide**

Homicides, primarily caused by firearms, have increased significantly in recent decades and are now the primary cause of children's death in the U.S. (Wilson, et al. 2023). This risk is somewhat higher in urban areas (2.9 deaths per 100,000 urban children compared with 2.4 per 100,000 rural children), higher in impoverished neighborhoods, and higher in jurisdictions with less restrictive gun policies (Kutsch 2021).

#### Suicide

Suicide rates are typically about twice as high in rural than urban areas (Nolan 2012). The U.S. averages about 20 suicides per 100,000 rural male youths compared to 10 in urban areas, and 4.4 suicides per 100,000 rural female youths versus 2.4 in urban areas (Fontanella, et al. 2015).



#### **Summary**

The table below summarizes how social determinants of health vary by geographic location.

Table 3 Geographic Variations in Social Determinants of Health

Impact	Urban/Suburban/Rural Variations
Tobacco use	Declines with income and education, and is significantly higher in rural areas.
Alcohol abuse	Lowest in affluent suburbs, higher in central cities, and highest in rural areas.
Drug abuse	Varies by demographics, location and type. Highest in disadvantaged areas.
Education attainment	Increases with family income. High school dropout rates increase with poverty.
Family stability	Single-parents are more common in lower-income, minority and rural areas.
Healthy diet	Tends to improve with family income and access to affordable grocery stores.
Healthy weight	Obesity rates are higher in rural areas and decline with walkability and local parks.
Domestic violence	Tends to increase with poverty, with special risks in rural areas.
Crime	Increases with poverty and is higher in urban than suburban and rural areas.
Homicide	Increases with poverty and is somewhat higher in urban than rural areas.
Suicide	About twice as high in rural than urban areas.

Social determinants of health vary geographically. Many risks are highest in areas with concentrated poverty.

This indicates that healthy behaviors tend to increase with household incomes, community cohesion, neighborhood accessibility, and children's connections to positive role models (Leonhardt, Cox and Miller 2015). The best outcomes tend to occur in affluent areas, and the worst in impoverished neighborhoods and isolated rural areas (Graif, Gladfelter and Matthews 2014). Some urban neighborhoods have severe social problems due to *social drift*, the tendency of

disadvantaged people to locate in urban areas with more social services, multifamily housing and non-auto accessibility, and because suburbs tend to exclude poorer households. Some of these factors are changing; suburban poverty is increasing, and many cities are gaining middle-class households, so current conditions may not reflect future outcomes (Allard 2018).

The following local policies can help improve healthy behaviors.

- Prevent poverty concentration. Reduce segregation by income class and race.
- Develop diverse housing types for diverse families in urban neighborhoods.
- Limit the size of social housing facilities and integrate them into neighborhoods.
- Support local schools, parks, recreation programs and other family oriented public services.
- Develop targetted policies to encourage income and racial integration.
- Develop targetted programs to support healthy behaviors.

### Mental Health and Happiness

Many people assume that city living reduces mental health and happiness, but the evidence is actually mixed (Kwon 2016; Litman 2022). Cities tend to report higher rates of anxiety, mood disorders and schizophrenia than rural areas (Peen, et al. 2010; Vassos, et al. 2012), but that may reflect confounding factors such as social drift and better reporting (Bell 2016; Gong, et al. 2016; Sariaslan, et al. 2016).

The study, "Higher Depression Risks in Medium- Than on High-Density Urban Form Across Denmark" (Chen, et al. 2023), which mapped 75,650 cases of depression, found that, adjusting for socioeconomic factors, depression rates are highest in sprawling suburbs, and lowest in rural areas and multistory urban buildings located near greenspaces such as public parks. A recent U.S. study found that, accounting for socioeconomic factors such as income and education, urban mothers demonstrated significantly more responsiveness and reciprocity than their rural counterparts, and rural mothers rated their infants significantly higher in negative affectivity and distress, which suggests that urban environments support mother and child mental health (Neumann, et al. 2020). A study of 1,287 Southern California adolescent twins found that, controlled for demographic factors and neighborhood conditions, more local greenspace (parks and fields) is associated with significant reductions on aggressive behaviors, equivalent of 2 to 2.5 years of behavioral maturation (Younan, et al. 2016). As described previously, suicide rates tend to be much higher in rural compared with urban areas, indicating that some rural residents experience severe mental stress and unhappiness.

Mental health and happiness tend to decline with loneliness and isolation, and increase with community cohesion, which refers to the quality of interactions people have with their neighbors (Murthy 2023). This suggests that placemaking, which creates attractive public spaces where residents frequently interact, can increase mental health and happiness (PPS 2022). Some studies indicate that greenspace improves residents' mental health and happiness (Berto 2014). Pets, particularly friendly dogs, can improve mental health, directly, and indirectly by encouraging walking and neighborhood interactions.

The following local policies can help improve children's mental health and happiness.

- Support placemaking (planning and activities that increase positive interactions among residents).
- Improve and encourage neighborhood walking.
- Support neighborhood activities and events (parks, shops, festivals, etc.).
- Provide neighborhood park and family-oriented recreation programs.
- Increase public greenspace.
- Develop pet-friendly housing, sidewalks and parks.
- Support community mental health programs, including those that target children and families.

## Summary of Children's Health and Opportunity Impacts

The table below summarizes community design objectives that support children's health and economic success, and identifies local policies that support them.

Table 4 Objectives and Policies for Children's Health and Success

Goal	Objectives	Local Policies
Physical activity	Achieve physical activity targets (at least 60 daily minutes for children and 22 daily minutes for adults)	Improve and encourage active travel. Provide parks and recreational programs, particularly in disadvantaged neighborhoods.
Traffic safety	Reduce traffic risks, particularly for active travel.	Reduce traffic speeds and total vehicle traffic. Improve walking and bicycling conditions.
Healthy environment	Reduce children's exposure to pollution. Reduce total pollution emissions.	Locate homes and child-oriented facilities away from major pollution sources. Reduce vehicle travel and encourage low-emission vehicles.
Financial security	Reduce excessive housing and transportation cost burdens. Prevent homelessness, particularly for families with children.	Improve affordable housing and travel options. Allow lower-cost housing, such as multifamily, in compact, multimodal neighborhoods.
Economic mobility	Help children from disadvantaged families become more successful as adults.	Improve affordable access to economic opportunities (education, jobs, shopping, etc.).
Healthy behaviors	Discourage unhealthy behaviors such as smoking, alcohol/drug abuse and violence.	Prevent income segregation and poverty concentration.
Mental health and happiness	Create communities that support mental health and happiness.	Achieve public parks and greenspace targets. Support placemaking. Support mental health programs.

This study identifies objectives and local policies that help achieve children's health and success goals.

These can be described as Smart Growth policies that create more compact and multimodal communities. These tend to have synergistic effects: they become more effective and beneficial if implemented together. For example, improving active travel supports and is supported by safer traffic speeds, upzoning that allows compact housing types, and more efficient parking management that reduces off-street parking needs. These, in turn, free up land for greenspace,

making compact neighborhoods more comfortable. Together these make urban communities more attractive to middle-class families, increasing integration and community cohesion.

## **Policy Analysis**

This section evaluates the policies recommended in this report.

Children have various attributes to consider in community planning. They tend to be small, inexperienced and impulsive. They need physical activity, play and learning. They cannot drive. Their families may be disadvantaged. They are vulnerable to social, economic and environmental risks. As a result, they tend to benefit from urban design that enhances physical activity, traffic safety, household affordability, economic opportunity, local environmental quality and community cohesion. The following matrix shows local policies that support these objectives.

Table 5 Policy Impacts

	Child Health and Safety Objectives					
Local Policies	Physical Activity	Traffic Safety	Family Affordability	Economic Opportunity	Local Env. Quality	Community Cohesion
Prioritize active and public transport	Х	Х	Х	Х	Х	Х
Reduce traffic speeds	Х	Х			Х	Х
Apply TDM to reduce driving	Х	Х	Х	Х	Х	Х
Encourage compact development	Х	Х	Х	Х		Х
Reduce and manage parking		Х	Х		Х	Х
Increase affordable housing			Х	Х		Х
Support local public schools	Х	Х	Х	Х	Х	Х
Increase urban greenspace	Х		Х	Х	Х	Х
Improve parks & recreation	Х		Х		Х	Х

Many local policies recommended in this article help achieve multiple community design objectives.

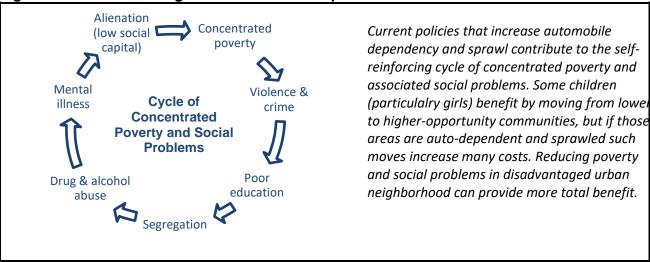
Many current policies contradict these objectives. Conventional planning favors automobile travel over slower but more affordable, inclusive and resource-efficient modes, and sprawl over more compact and affordable development. Multimodal planning and Smart Growth policies can reverse these forces, as illustrated below.

Figure 17 Cycles of Sprawl and Smart Growth Sprawled Increased Improved **Smart Growth** developmen social status vehicle and multimodal of non-auto t patterns ownership planning travel Improved non-Abundan Reduced **Cycle of Multimodal** auto travel **Cycle of Automobile** t parking oriented automobile **Dependency and Sprawl** planning **Planning and Smart** conditions supply travel Growth Reduced Reduced Non-auto More non-auto modes compact parking travel stigmatized development supply options

Conventional planning favored automobile dependency and sprawl. More multimodal planning and Smart Growth development policies help achieve objectives for children's health and success.

Policies that encourage successful households to move from cities to suburbs tend to concentrate poverty and associated social problems in urban neighborhoods, as illustrated below.

Figure 18 Disadvantage Communities' Multiple Problems



By improving non-auto travel and creating compact, mixed neighborhoods, Smart Growth policies increase non-drivers' accessibility, and increase traffic safety and community cohesion, which allows children to explore their world and build social skills. Many shoppers pay extra for eggs laid by "free-range" chickens, because they tend to be healthier and happier than caged chickens. Similarly, many families want to live in neighborhoods where "free range" children can travel safely to local destinations (Skenazy 2024). This can be measured by the *popsicle test*: whether children can walk to a store for a frozen treat and return home before it melts (Gill 2023).

Studies that emphasize the effects of neighborhood income imply that the best way to help children is for families to earn more money so they can afford more expensive homes in more affluent, but this research indicates that other factors are equally important. Neighborhoods can be both affordable and high-opportunity due to their accessibility, demographic diversity and social cohesion (Chetty, et al. 2022). This allows children with diverse backgrounds to study, play and work together, which helps disadvantaged children, for example, if their friends' parents can help inspire an ambitious career, prepare a college application, or obtain a first job.

There are debates concerning how best to respond to concentrated urban poverty. Some programs, such as *Moving to Opportunity*, help ambitious families move from impoverished urban neighborhoods to more affluent suburbs, but this has mixed impacts. It tends to improve girl's health and success but isolates lower-income minority boys, and their parents often have less access to services and jobs, and higher transportation costs, leaving them financially worse (Chyn 2018). In addition, such moves further concentrate poverty and social problems in the neighborhoods those families leave, and increase sprawl-related costs.

An alternative approach that can provide greater total benefits is to attract more middle-class families to disadvantaged neighborhoods with targetted public service improvements, particularly schools, and building more family-oriented infill housing. This approach is sometimes criticized as causing harmful gentrification, but that is not necessarily true; low-income residents can benefit from more neighborhood investment and integration. To evaluate these effects it is important to distinguish between *gentrification* (affluent households moving into lower-income neighborhoods) and *displacement* (lower-income households forced out of their existing neighborhoods). Gentrification without displacement tends to benefit disadvantaged communities by reducing poverty concentration and increasing local services, stores and jobs. Lower-income residents who remain in such neighborhoods tend to be more economically successful than those who move out (Ding and Hwang 2016).

The greatest benefits are likely to result from attracting middle-class families with children who attend public schools and use local services, as opposed to affluent families that use private schools and specialized services. To be successful integration must ensure that families with diverse backgrounds feel welcome and connected in childcare, public schools, parks, recreation programs and other local services. This requires placemaking that creates attractive public spaces where neighbors interact (Surgeon General 2023).

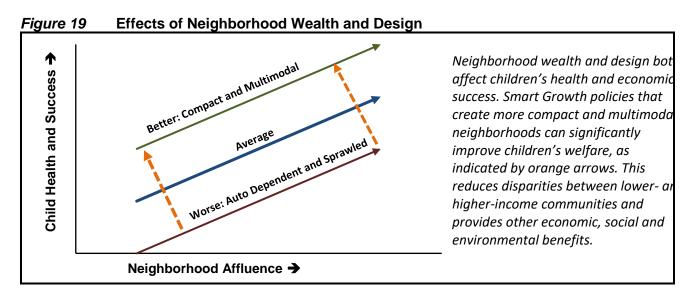
The following table compares these two approaches. Attracting middle-class families to disadvantaged urban neighborhoods tends to provide the greatest total benefits, provided it is implemented with anti-displacement policies, such as housing subsidies and social housing development, so lower-income families can live in accessible areas.

Table 6 Poverty Suburbanization Compared with Middle-Class Urban Infill

	Families Move from Disadvantaged Urban Neighborhoods to Affluent Suburbs	Attract Middle-Class Families to Disadvantaged Urban Neighborhoods		
Benefits	Cirls who mays are harnier and mare	Less concentrated poverty and social problems.  Households that move enjoy benefits of compact, multimodal neighborhoods.		
	Girls who move are happier and more successful.	Reduced sprawl-related costs (public infrastructure costs, traffic risk, emissions, habitat loss, etc.)		
Costs	Low-income, minority boys often feel alienated and have poorer outcomes.  Reduced access to jobs and services.	Gentrification can displace existing lower-income households.		
	Concentrates poverty in urban neighborhoods.	Some middle-class children may feel alienated.		

Moving from disadvantaged urban neighborhoods to affluent suburbs benefits children in some ways but harms them in others, and increases sprawl-related costs. If middle-class families move to disadvantaged urban areas, poverty concentration and sprawl costs decline, providing greater total benefits.

This indicates that both neighborhood wealth and design significantly affect children's health and economic success. Children are better off living in wealthier- rather than impoverished neighborhoods, and in compact, multimodal neighborhoods rather than auto-dependent and sprawled areas (Agnello 2020; Lawry 2022). The following figure illustrates these effects.



## **Discussion: The Big Picture**

Modern consumerist societies assume that most problems are solved by purchasing a good or service. For example, popular culture assumes that to be healthy and successful children must live in a "good" neighborhood, generally envisioned as affluent and therefore expensive suburb isolated from urban problems. There is some truth but significant falsehood in these assumptions.

Although suburbs reduce some health risks they increase others, and the migration of ambitious families to affluent suburbs tends to increase urban segregation and poverty concentration, reducing other children's economic opportunity and increasing sprawl-related costs. Suburbs have more expensive housing and transportation, which increases parents' financial and time stresses, and reduces children's independence and local opportunities. These additional costs are bearable for higher-income households but unrealistic, harmful and therefore unfair to many families, particularly those with lower incomes, parents who cannot drive, or time constraints.

This study finds that despite their apparent advantages, automobile-dependent suburbs tend to reduce children's health and opportunity compared with what can be achieved in walkable urban neighborhoods. Policies that support affordable urbanism tend to increase children's health and wellbeing. These policies require upzoning to allow more affordable infill housing, significantly more investment in walking, bicycling and public transit, but these are offset by much larger reductions in roads and parking facility costs, providing net savings.

#### Conclusions

U.S. children currently face undesirable outcomes including declining lifespans and economic mobility. New research can help explain the causes of, and solutions to, these problems.

Where children grow up significantly affects their well-being. One important factor is income, children's health and success tend to improve if they live in affluent rather than impoverished areas, but community design has comparable effects. This research indicates that children, particularly those from lower-income families, benefit significantly from living in compact and integrated neighborhoods where they can safely walk and bicycle, attend local schools, visit local parks and shop at local stores, and tend to develop positive relationships with diverse neighbors.

Some children benefit by moving from disadvantaged urban neighborhoods to suburbs, but others are alienated, and such moves further concentrate urban poverty, increase lower-income families' cost burdens, and increase sprawl-related costs including health risks and isolation. A better solution is to attract more middle-class households to disadvantaged neighborhoods by increasing family-oriented housing supply, improving public schools and local services, and implementing programs that encourage social integration. This suggests that disadvantaged communities can benefit overall from gentrification provided that lower-income households are not displaced.

This research contradicts common assumptions concerning where families should live. Consumerist culture assumes that children's welfare depends mainly on living in a "good" neighborhood, which generally means affluent suburbs. Compared with cities, suburbs tend to be greener, have lower crime rates and less visible social problems, and wealthier households, which makes them seem better for children. However, living in sprawled areas increases many health risks and economic costs. The additional costs of suburban living reduce the money, time and energy that families can devote to children, and makes many low- and middle-class parents feel like failures. Rather than asking, "how can families afford to live in better neighborhoods?" we can instead ask, "what community design allows all children, including those in disadvantaged families, to be healthy and successful?" Local policies that improve affordable housing and travel options in neighborhoods with child-friendly amenities such as local parks, childcare, schools and shops, increase families' economic freedom and resilience, for example, allowing parents to work less and experience less stress, and devote more time to children.

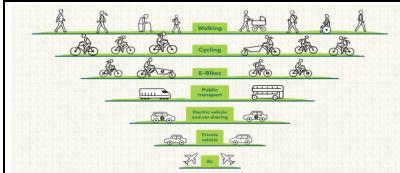
This indicates that Smart Growth policies that create affordable housing in walkable and mixed neighborhoods help children thrive. Neighborhoods built before 1940 tend to have these features but a century of auto-oriented planning degraded cities and created sprawled and segregated suburbs. Smart Growth policies can involve upzoning existing urban neighborhoods, and creating compact and walkable villages in suburban areas, a process called *sprawl repair*.

Many of these factors can be quantified for planning purposes. For example, communities can set targets for Walk Score, job accessibility, walk- and bikeability, transit service quality, housing affordability, park supply, greenspace and tree cover, non-auto school travel, neighborhood traffic speeds, vehicle ownership and trip generation, impervious surface area.

This indicates that the following local policies support children's health and success:

Multimodal planning and TDM. Apply a sustainable transportation hierarchy that prioritizes
affordable, inclusive and resource-efficient modes in planning and funding. Establish complete
streets policies so all roads accommodate all modes. Implement TDM incentives that encourage
travellers to use the best option for each trip: active modes for local errands, public transit for
travel on busy corridors, and driving when it is most cost effective, considering all impacts.

Figure 20 Sustainable Transportation Hierarchy (Action Net Zero)



A sustainable transportation hierarchy favors affordable, inclusive healthy and resource-efficient mode in planning and funding. This inverts conventional priorities, resulting in famore investment in walking, bicyclin and public transit.

- Reduce traffic speeds. Achieve safe traffic speeds, which are generally less than 20 mph (32 Km/hr) on local streets and less than 30 mph (48 km/hr) on urban arterials. Reduce and enforce speed limits. Implement traffic calming and complete streets policies.
- Apply Smart Growth development policies. Allow compact and mixed development, including
  missing middle and multifamily housing, in most neighborhoods. Strive for a Walk Score of at least
  70. Develop affordable family-oriented housing, including social housing and lower-priced market
  housing, in multimodal areas where it is easy to get around without driving.
- Reform parking policies. Reduce or eliminate off-street parking minimums, encourage unbundling (parking rented separately from building space), and apply efficient parking management. Manage public parking for efficiency.
- Support local parks and greenspace. Establish and achieve targets for parks, recreational programs, public greenspace and tree cover. Ensure that most households are located within a 5-minute walk of parks and recreation facilities suitable for children and families.
- **Support local services, particularly schools.** Develop neighborhood shops, childcare, recreation programs and public schools.
- **Support placemaking**. Ensure that the public realm, including sidewalks, public parks and local commercial districts are accessible, attractive and safe. Reduce urban traffic speeds. Improve walkability. Support programs and activities that attract and engage neighbors.

The table below illustrates how these policies help achieve objectives and goals that support children's health and success. Most policies provide multiple benefits.

Table 7 Policies, Objectives and Goals for Children's Health and Success

Local Policies		Community Objectives	Goals
Multimodal planning and TDM		Encourage non-auto travel	Physical Activity
Reduce traffic speeds		Compact and mixed development	Traffic safety
Smart Growth policies		Affordable housing	Healthy environ.
Reform parking policies	1	Affordable transportation	Financial security
Build local parks and greenspace		Recreation and greenspace	Economic mobility
Support local services, esp. schools		Income and racial integration	Healthy behaviors
Placemaking		Community cohesion	Mental health

This table show how local policies can achieve objectives and goals that enhance children's welfare.

Few of these policies are specific to children, they increase active travel, affordability, environmental quality and community cohesion for everybody. Local policies are just part of the set of actions needed to achieve these goals; to be successful they must be integrated with federal, state/provincial, non-profit and private efforts to support children's health and success.

#### References

Kristin N. Agnello (2020), *Child in the City: Planning Communities for Children & Their Families*, Plassurban (www.plassurban.com); at https://tinyurl.com/46a3wa2b.

ALA (2012), *Cutting Tobacco's Rural Roots: Tobacco Use in Rural Communities*, American Lung Association (<a href="https://tinyurl.com/u9r4rhs5"><u>www.lung.org</u></a>); at <a href="https://tinyurl.com/u9r4rhs5"><u>https://tinyurl.com/u9r4rhs5</u></a>.

Scott W. Allard (2018), *Why Poverty is Rising Faster in Suburbs than in Cities*, The Conversation (https://theconversation.com); at https://tinyurl.com/53r87k6h.

Ellen Badger and Alicia Parlapiano (2022), "The Exceptionally American Problem of Rising Roadway Deaths," *New York Times* (www.nytimes.com); at https://nyti.ms/3rnFO1Y.

Rita Berto (2014), "The Role of Nature in Coping with Psycho-Physiological Stress: A Literature Review on Restorativeness," *Behavior Science*, Vol. 4, pp. 394-409; at <a href="https://www.mdpi.com/2076-328X/4/4/394/htm">www.mdpi.com/2076-328X/4/4/394/htm</a>.

BJS (2022), *National Crime Victimization Survey*, Bureau of Justice Statistics (<a href="https://bjs.ojp.gov/data-collection/ncvs">https://bjs.ojp.gov/data-collection/ncvs</a>.

Heather L. Brumberg, et al. (2021), "Ambient Air Pollution: Health Hazards to Children," *Pediatrics*, 147/6 (https://doi.org/10.1542/peds.2021-051484).

Matteo Bruno, et al. (2024), "A Universal Framework for Inclusive 15-minute Cities," *Nature Cities* (www.nature.com); at www.nature.com/articles/s44284-024-00119-4.epdf.

CDC (2012), *Motor Vehicle Crash Deaths in Metropolitan Areas* — *United States*, 61(28);523-528, Center for Disease Control (<a href="www.cdc.gov/mmwr/preview/mmwr/html/mm6128a2.htm">www.cdc.gov/mmwr/preview/mmwr/html/mm6128a2.htm</a>.

CDC (2018), *Physical Activity Guidelines*, Center for Disease Control and Prevention (www.convergencepartnership.org); at www.cdc.gov/physical-activity-basics/guidelines.

Child in the City (www.childinthecity.org) works to support child-friendly cities.

Dylan S. Connor, et al. (2025), "Big Cities Fuel Inequality Within and Across Generations," *PNAS Nexus*, Vo. 4/2 (<a href="https://doi.org/10.1093/pnasnexus/pgae587">https://doi.org/10.1093/pnasnexus/pgae587</a>).

Elizabeth Crouch, et al. (2023), Rural—Urban Differences in Overweight and Obesity, Physical Activity, and Food Security Among Children and Adolescents, Center for Disease Control (<a href="www.cdc.gov">www.cdc.gov</a>); at <a href="www.cdc.gov">www.cdc.gov</a>/pcd/issues/2023/23 0136.htm.

Will Curran-Groome and Yonah Freemark (2024), "Highway Pollution Near Multifamily Homes Hurts Residents, but Zoning and Transportation Reform Could Help," *Urban Wire* (www.urban.org); at tinyurl.com/mwub3tvw.

Sally C. Curtin, M.A., and Matthew F. Garnett (2023), *Suicide and Homicide Death Rates Among Youth and Young Adults*, CDC Center for Health Statistics ( <a href="https://tinyurl.com/4tmkcts2">www.cdc.gov</a>); at <a href="https://tinyurl.com/4tmkcts2">https://tinyurl.com/4tmkcts2</a>.

Raj Chetty, et al. (2022), "Social Capital I: Measurement and Associations with Economic Mobility," *Nature* (https://doi.org/10.1038/s41586-022-04996-4).

Eric Chyn (2018), "Moved to Opportunity: The Long-Run Effect of Public Housing Demolition on Labor Market Outcomes of Children," *American Economic Review*, Vo. 108/10, pp. 3028–56 (DOI: 10.1257/aer.20161352); at www.aeaweb.org/articles?id=10.1257/aer.20161352.

Nicholas A. Christakis and James H. Fowler (2013), "Social Contagion Theory: Examining Dynamic Social Networks and Human Behavior," *Statistics in Medicine* (https://doi.org/10.1002/sim.5408).

CNT (2008), *Housing + Transportation Affordability Index*, Center for Neighborhood Technology (<a href="http://htaindex.cnt.org">http://htaindex.cnt.org</a>).

Hazel D. Dean, Kim M. Williams and Kevin A. Fenton (2013), "From Theory to Action: Applying Social Determinants of Health to Public Health Practice," *Public Health Reports* (doi: 10.1177/00333549131286S301).

Lei Ding and Jackelyn Hwang (2016), "The Consequences of Gentrification: A Focus on Residents' Financial Health in Philadelphia," *Cityscape*, Vol. 1, No. 3; at <a href="https://www.jstor.org/stable/26328272">www.jstor.org/stable/26328272</a>.

N.J. Doogan, et al. (2017), "A Growing Geographic Disparity: Rural and Urban Cigarette Smoking Trends in the United States," *Preventive Medicine*, Vo. 104:79-85 (doi: 10.1016/j.ypmed.2017.03.011).

Katie M. Edwards (2015), "Intimate Partner Violence and the Rural-Urban-Suburban Divide: Myth or Reality?," *Trauma, Violence, & Abuse*, Vo. 16(3), 359-373 (<a href="https://doi.org/10.1177/1524838014557289">https://doi.org/10.1177/1524838014557289</a>).

Reid Ewing, et al. (2014), "Relationship Between Urban Sprawl and Physical Activity, Obesity, and Morbidity – Update and Refinement," *Health & Place*, Vol. 26, pp. 118-126; at <a href="https://bit.ly/2UByEUh">https://bit.ly/2UByEUh</a>.

Reid Ewing, et al. (2016), "Does Urban Sprawl Hold Down Upward Mobility?" *Landscape and Urban Planning*, Vol. 148, April, pp. 80-88; at <a href="https://www.sciencedirect.com/science/article/pii/S016920461500242X">www.sciencedirect.com/science/article/pii/S016920461500242X</a>.

Reid Ewing, Shima Hamidi and James Grace (2016), "Urban Sprawl as a Risk Factor in Motor Vehicle Crashes," *Urban Studies*, Vo. 53/2 (doi.org/10.1177/0042098014562331); at https://bit.ly/2L9zGQT.

FHWA (2024), *Complete Streets in FHWA*, Federal Highway Administration (<a href="https://highways.dot.gov">https://highways.dot.gov</a>/complete-streets.

Lawrence Frank, et al. (2019), Where Matters Health & Economic Impacts of Where We Live, Metro Vancouver (https://metrovancouver.org); at http://tinyurl.com/5c4u59c6.

Tim Gill (2023), *Urban Playground*, Rethinking Childhood (<a href="https://rethinkingchildhood.com">https://rethinkingchildhood.com</a>). Also see, "Building Cities Fit for Children" at <a href="https://tinyurl.com/5n8tyn4d">https://tinyurl.com/5n8tyn4d</a>.

Corina Graif, Andrew S. Gladfelter and Stephen A. Matthews (2014), "Urban Poverty and Neighborhood Effects on Crime" *Social Compass*, Vo. 8(9):1140-1155 (doi: 10.1111/soc4.12199).

Laura E. Gultekin, et al. (2020), "Health Risks and Outcomes of Homelessness in School-Age Children and Youth," *The Journal of School Nursing*, 36(1):10-18 (doi:10.1177/1059840519875182).

Hulya Gilbert and Ian Woodcock (2024), "Is School Travel too Complex to Handle Without a Car?," *Urban Policy and Research*, pp. 1–18 (https://doi.org/10.1080/08111146.2024.2363398).

Helen Shwe Hadani, et al. (2021), *Understanding Child-Friendly Urban Design: A Framework to Measure Playful Learning Landscapes Outcomes*, Brookings (www.brookings.edu); at https://tinyurl.com/a58r35bn.

L. Jordan, Genti Kostandini and Elton Mykerezi (2012), "Rural and Urban High School Dropout Rates: Are They Different?" *Journal of Research in Rural Education*, Vol. 27/12; at <a href="https://bit.ly/4ge0rSE">https://bit.ly/4ge0rSE</a>.

Haneen Khreis, et al. (2020), *Traffic-related Air Pollution*, Elsevier (<a href="https://doi.org/10.1016/B978-0-12-818122-5.00001-6">https://doi.org/10.1016/B978-0-12-818122-5.00001-6</a>).

Tom Kutsch (2021), "High Poverty Rates Linked to More Gun Deaths in Young People," *The Trace* (www.thetrace.org); at https://tinyurl.com/2x9dsahe.

Tom Lawry (2022), "Genetic Code Vs. Zip Code: The Social Determinants of Health," Forbes (<a href="www.forbes.com">www.forbes.com</a>); at <a href="https://tinyurl.com/57actu65">https://tinyurl.com/57actu65</a>.

Thai Le, et al. (2022), *The Shrinking Geography of Opportunity in Metro America*, Policy Link (<a href="https://www.policylink.org/shrinking-geography-of-opportunity">www.policylink.org/shrinking-geography-of-opportunity</a>.

David Leonhardt, Amanda Cox and Claire Cain Miller (2015), "An Atlas of Upward Mobility Shows Paths Out of Poverty," *New York Times* (<a href="https://tinyurl.com/5axrt79e">www.nytimes.com</a>); at <a href="https://tinyurl.com/5axrt79e">https://tinyurl.com/5axrt79e</a>.

Todd Litman (2022), *Understanding Smart Growth Savings*, Victoria Transport Policy Institute (<a href="www.vtpi.org">www.vtpi.org</a>/sg save.pdf.

Todd Litman (2023), *A New Traffic Safety Paradigm*, Victoria Transport Policy Institute (<a href="www.vtpi.org">www.vtpi.org</a>/ntsp.pdf.

Todd Litman (2024), Fair Share Transportation Planning, Victoria Transport Policy Institute (<a href="www.vtpi.org/fstp.pdf">www.vtpi.org/fstp.pdf</a>.

Gretchen Livingston (2018), Family Life is Changing in Different Ways Across Urban, Suburban and Rural Communities in the U.S., Pew Research Center (<a href="https://tinyurl.com/4jhsnrpj">www.pewresearch.org</a>); at <a href="https://tinyurl.com/4jhsnrpj">https://tinyurl.com/4jhsnrpj</a>.

P. Malambo, et al. (2016), "Built Environment, Selected Risk Factors and Major Cardiovascular Disease Outcomes: A Systematic Review," *PLoS One*, Vo. 11/11 (doi: 10.1371/journal.pone.0166846).

Robert Manduca, et al. (2021), *Trends in Absolute Income Mobility in North America and Europe*, Washington Center for Equitable Growth (equitablegrowth.org); at <a href="https://tinyurl.com/yc45kmwp">https://tinyurl.com/yc45kmwp</a>.

Wes Marshall (2024), *Killed by a Traffic Engineer*, Island Press (<a href="https://islandpress.org">https://islandpress.org</a>); at <a href="https://islandpress.org/books/killed-traffic-engineer#desc">https://islandpress.org/books/killed-traffic-engineer#desc</a>.

Graham McCabe (2024), *Prioritising Play over Parking in Childcare*, STEP Advisory (www.linkedin.com/company/step-advisory-transport); at https://tinyurl.com/2bt5uzm6.

Matt McGough, et al. (2023), "Child and Teen Firearm Mortality in the U.S. and Peer Countries," *Global Health News*, KFF (<a href="https://tinyurl.com/4j9uw34z">www.kff.org</a>); at <a href="https://tinyurl.com/4j9uw34z">https://tinyurl.com/4j9uw34z</a>.

Stephanie H. Murray (2024), "What Adults Lost When Kids Stopped Playing in the Street," *The Atlantic* (www.theatlantic.com); at <a href="https://bit.ly/46Nbtd6">https://bit.ly/46Nbtd6</a>.

O.A. McInnis, et al. (2015), *Urban and Rural Student Substance Use*, Canadian Centre on Substance Abuse (<a href="https://bit.ly/2SgCyOG"><u>www.ccsa.ca</u></a>); at <a href="https://bit.ly/2SgCyOG"><u>https://bit.ly/2SgCyOG</u></a>.

Vivek H. Murthy (2023), *Our Epidemic of Loneliness and Isolation*, U.S. Public Health Service (<a href="www.hhs.gov">www.hhs.gov</a>); at www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf.

NACTO (2020), *Designing Streets for Kids*, National Association of City Transportation Officials; at https://globaldesigningcities.org/publication/designing-streets-for-kids.

NCES (2022), *Report on Condition of Education*, National Center for Education Statistics (<a href="https://nces.ed.gov/programs/coe/pdf/2022/lbc">https://nces.ed.gov/programs/coe/pdf/2022/lbc</a> 508.pdf.

NCMM (2020), *Health Transportation Shortage Index*, (<a href="https://nationalcenterformobilitymanagement.org">https://nationalcenterformobilitymanagement.org</a>); at <a href="https://tinyurl.com/mscjbm65">https://tinyurl.com/mscjbm65</a>.

Joanne B. Newbury, et al. (2024), "Air and Noise Pollution Exposure in Early Life and Mental Health from Adolescence to Young Adulthood," *JAMA*, 7(5) (doi:10.1001/jamanetworkopen.2024.12169).

NRDC (2010), Reducing Foreclosures and Environmental Impacts through Location-Efficient Neighborhood Design, Natural Resources Defense Council (www.nrdc.org); at https://on.nrdc.org/24uiFEv.

OASH (2024), *Social Cohesion*, Office of Disease Prevention and Health Promotion (<a href="https://health.gov">https://health.gov</a>); at <a href="https://tinyurl.com/2mhhyesu">https://tinyurl.com/2mhhyesu</a>.

OECD (2018), A Broken Social Elevator? How to Promote Social Mobility, Organization for Economic Cooperation and Development (<a href="https://doi.org/10.1787/9789264301085-en">www.oecd.org</a>); (<a href="https://doi.org/10.1787/9789264301085-en">https://doi.org/10.1787/9789264301085-en</a>).

Shigehiro Oishi, Minkyung Koo and Nicholas R. Buttrick (2018), "The Socioecological Psychology of Upward Social Mobility," *American Psychologist*, Vo. 74(7), 751-763 (http://dx.doi.org/10.1037/amp0000422).

OIT (2024), Changing Opportunity: How Changes in Children's Social Environments Have Increased Class Gaps and Reduced Racial Gaps in Economic Mobility, Opportunity Insights (<a href="https://tinyurl.com/yt3eacy9">opportunityinsights.org</a>); at <a href="https://tinyurl.com/yt3eacy9">https://tinyurl.com/yt3eacy9</a>.

Devon C. Payne-Sturges, et al. (2019), "Healthy Air, Healthy Brains: Advancing Air Pollution Policy to Protect Children's Health," *American Journal of Public Health*, Vo. 109 (doi.org/10.2105/AJPH.2018.304902).

Margo Pedroso (2017), *Investing in Walking, Biking, and Safe Routes to School: A Win for the Bottom Line*, Safe Routes to School Partnership (<a href="https://tinyurl.com/28dn4yju">www.saferoutespartnership.org</a>); at <a href="https://tinyurl.com/28dn4yju">https://tinyurl.com/28dn4yju</a>.

Kristyn A. Pierce, et al. (2024), "Trajectories of Housing Insecurity from Infancy to Adolescence and Adolescent Health Outcomes," *Pediatrics* (https://doi.org/10.1542/peds.2023-064551).

PPS (2022), *Placemaking: What If We Built Our Cities Around Places?*, Project for Public Spaces (<u>www.pps.org</u>); at www.pps.org/article/what-is-placemaking.

Shameek Rakshit, Matthew McGough and Krutika Amin (2024), How Does U.S. Life Expectancy Compare to Other Countries? KFF (<a href="https://tinyurl.com/3sxbbrvf">www.healthsystemtracker.org</a>); at <a href="https://tinyurl.com/3sxbbrvf">https://tinyurl.com/3sxbbrvf</a>.

Irwin Redlener, et al. (2006), *The Growing Health Care Access Crisis for American Children: One in Four at Risk*, The Children's Health Fund (<a href="https://bit.ly/38XHWy9">www.childrenshealthfund.org</a>); at <a href="https://bit.ly/38XHWy9">https://bit.ly/38XHWy9</a>.

Jef Rouner (2024), "How Architects Are Designing Playgrounds for Houston's Heat," *Houstonia* (www.houstoniamag.com); at <a href="https://tinyurl.com/3rdcttca">https://tinyurl.com/3rdcttca</a>.

James F. Sallis, et al. (2016), "Physical Activity in Relation to Urban Environments in 14 Cities Worldwide: A Cross-Sectional Study," *The Lancet*, Vol. 387, No. 10034, pp. 2207–2217; at <a href="https://bit.ly/1RSchnU">https://bit.ly/1RSchnU</a>.

Rebecca L. Sanders, Belinda Judelman and Sara Schooley (2019), *Pedestrian Safety Relative to Traffic-Speed Management* (<a href="www.trb.org/Main/Blurbs/179827.aspx">www.trb.org/Main/Blurbs/179827.aspx</a>).

SfQL (2024), *The Public Pound*, Transport for Quality of Life (<a href="www.transportforqualityoflife.com">www.transportforqualityoflife.com</a>) for Living Streets (<a href="www.livingstreets.org.uk">www.livingstreets.org.uk</a>); at <a href="www.livingstreets.org.uk">www.livingstreets.org.uk</a>)PedestrianPound.

Lenore Skenazy (2024), Free Range Kids (www.freerangekids.com).

Russell M. Smith and Zachary D. Blizard (2021), "A Census Tract Level Analysis of Urban Sprawl's Effects on Economic Mobility in the United States," *Cities*, Vo. 115 (doi.org/10.1016/j.cities.2021.103232).

Merianne Rose Spencer, Sally C. Curtin and Holly Hedegaard (2020), *Rates of Alcohol-induced Deaths Among Adults Aged 25 and Over in Urban and Rural Areas*, NCHS Data Brief 383, CDC (<a href="www.cdc.gov/nchs/products/databriefs/db383.htm">www.cdc.gov/nchs/products/databriefs/db383.htm</a>.

Merianne Rose Spencer, Matthew F. Garnett and Arialdi M. Miniño (2022), *Urban–Rural Differences in Drug Overdose Death Rates*, NCHS Data Brief 440, CDC (<a href="https://tinyurl.com/yaxs9ynz">www.cdc.gov</a>); at <a href="https://tinyurl.com/yaxs9ynz">https://tinyurl.com/yaxs9ynz</a>.

Surgeon General (2023), *Our Epidemic of Loneliness and Isolation; Advisory on the Healing Effects of Social Connection and Community*, U.S. Surgeon General (<a href="www.hhs.gov">www.hhs.gov</a>); at <a href="https://tinyurl.com/3jhd9pae">https://tinyurl.com/3jhd9pae</a>.

Surgeon General (2024), Parents Under Pressure: The U.S. Surgeon General Advisory on the Mental Health and Well-Being of Parents, U.S. Surgeon General (<a href="https://tinyurl.com/yc3y8nrw">www.hhs.gov</a>); at <a href="https://tinyurl.com/yc3y8nrw">https://tinyurl.com/yc3y8nrw</a>.

Emily Talen and Julia Koschinsky (2014), "Compact, Walkable, Diverse Neighborhoods: Assessing Effects on Residents," *Housing Policy Debate* (https://doi.org/10.1080/10511482.2014.900102).

Zahra Tavakoli, et al. (2024), "Traffic Danger's Potential Impact on Children's Accessibility," *Transportation Research Part D*, Vo. 135 (<a href="https://doi.org/10.1016/j.trd.2024.104370">https://doi.org/10.1016/j.trd.2024.104370</a>).

UI (2021), *Upward Mobility Initiative*, Urban Institute (<u>www.urban.org</u>); at <u>https://upward-mobility.urban.org</u>. Also see The *Upward Mobility Data Dashboard* (https://upward-mobility.urban.org/dashboard).

USEPA (2017), *Living Close to Roadways: Health Concerns and Mitigation Strategies*, U.S. Environmental Protection Agency (<a href="https://tinyurl.com/46b5d53u">www.epa.gov</a>); at <a href="https://tinyurl.com/46b5d53u">https://tinyurl.com/46b5d53u</a>.

USEPA (2021), *Best Practices for Reducing Near-Road Pollution Exposure at Schools*, U.S. Environmental Protection Agency (www.epa.gov); at https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013CBT.pdf.

Yehua Dennis Wei, Ning Xiong and Kelsey Carlston (2023), "Urban Space, Sprawl, and Intergenerational Mobility," *Applied Geography*, Vo. 156 (https://doi.org/10.1016/j.apgeog.2023.102991).

Lindsay S. Womack, Lauren M. Rossen and Ashley H. Hirai (2020), "Urban-Rural Infant Mortality Disparities," *Am. Journal of Preventive Medicine*, Vo. 58(2):254-260 (doi: 10.1016/j.amepre.2019.09.010).

Rebecca F. Wilson, et al. (2023), "Trends in Homicide Rates for US Children Aged 0 to 17 Years, 1999 to 2020," *JAMA Pediatrics*, Vo. 177/2 (doi:10.1001/jamapediatrics.2022.4940).

George Yannis and Eva Michelaraki (2024), "Review of City-Wide 30 km/h Speed Limit Benefits in Europe," *Sustainability*, Vo. 16/11 (https://doi.org/10.3390/su16114382).

Diana Younan, et al. (2016), "Environmental Determinants of Aggression in Adolescents: Role of Urban Neighborhood Greenspace," *Journal of the American Academy of Child and Adolescent Psychiatry*, Vo. 55, No. 7, pp. 591-601; at www.jaacap.com/article/S0890-8567(16)30172-1/pdf.

Whitney Zahnd and Janice Probst (2019), "Disparities in Rural Child Mortality Rates Persist Despite Improvements," *Daily Yonder* (<a href="https://dailyyonder.com">https://dailyyonder.com</a>); at <a href="https://tinyurl.com/jkz3mwpk">https://tinyurl.com/jkz3mwpk</a>.

www.vtpi.org/chs.pdf