

# Community Design and Policies for Free-Range Children: Creating Environments That Support Routine Physical Activity

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## Abstract

Growing concern over childhood obesity has prompted a focus on underlying epidemics of physical inactivity and poor nutrition. Regarding the former, there is increasing understanding that behavior change promotion alone has not increased population physical activity levels and that an ecological approach is necessary. Therefore, the public health profession has moved beyond traditional behavior change campaigns toward a growing focus on altering policies and the built environment to create settings that support increases in routine, not just exercise or leisure time, physical activity among children. A survey of the literature suggests four broad factors that define settings where routine physical activity, especially active transportation, is more likely to occur:

- a compact variety of land uses, with a mix of destinations in close proximity;
- a comprehensive network of bicycle, pedestrian, and transit facilities;
- inviting and functional site designs for pedestrians, cyclists, and transit users;
- safety and access for users of all ages, incomes, abilities and disabilities.

Although these principles are increasingly accepted as beneficial, not just to health but to a community's economic, environmental, and social well-being, many contemporary ordinances and development practices undermine these outcomes. Therefore, five specific policy and intervention approaches are recommended to guide communities to these outcomes:

1. zoning and development policies to protect open space, contain sprawl, and focus investment toward thriving, mixed downtowns and village centers;
2. Complete Streets policies, which require roadways that are safe and functional for pedestrians, bicyclists, and transit users, as well as motor vehicles;
3. a transportation- (not just recreation-) oriented trail network;
4. creation of bicycle- and transit-friendly infrastructure and incentive policies;
5. development of policy-based Safe Routes to School interventions.

This proposed intervention framework requires evaluation both of effectiveness in increasing childhood physical activity and of the most promising means of getting policies implemented.

## Background: The Case for Free-Range Children

Many health professionals believe that the tide is turning in the public health battle against tobacco use because a clear "playbook" of effective strategies has been defined, from warning labels and advertising bans to taxation and public-place smoking bans. It is argued the widespread embrace and implementation of the playbook among different governmental, nongovernmental, and advocacy groups has been critical to this success.<sup>1</sup> It is now possible to identify an evolving playbook for physical activity promotion that must be universally pursued if we are to see success in the struggle against childhood obesity.

Over a decade ago, Kelly Brownell decried America's toxic food environment as an important factor in the nation's blossoming adult and childhood obesity epidemics.<sup>2</sup> He fingered everything from soda machines in schools to ubiquitous fast-food emporiums and profligate advertising for both. He also proposed that physical activity was undermined by such norms as streets with speeding traffic but lacking sidewalks or bicycle lanes and sprawling suburbs where every trip has to be by car and parents are afraid to let children walk to a neighborhood park. In the intervening years, a body of literature has confirmed this view, so much so that public health advocates have coined the phrase "obesogenic environment" to reflect the social, built, and policy settings that

adversely influence population physical activity and nutrition behaviors.<sup>3</sup> Many believe that the built environment that has evolved over recent decades is particularly challenging to children's physical activity rates and that it must be a centerpiece of current efforts to battle obesity in adults and children.<sup>4</sup>

In 2008 the Department of Health and Human Services recommended that all American adults get at least 150 minutes of physical activity a week (roughly 30 minutes per day), and children and adolescents get a minimum of 300 minutes a week, or closer to an hour a day.<sup>5</sup> These levels are deemed the minimum necessary to reduce risk for chronic disease, obesity, and an early death, and it is clear that more physical activity confers even greater health benefits. Unfortunately, it is estimated that barely 20% of American adults actually meet those minimum recommendations through leisure-time physical activity (e.g., going to the gym, or out for a jog),<sup>6,7</sup> and it appears that less than 20% of high school age students meet the guidelines.<sup>8</sup> For example, one longitudinal study of adolescents objectively measuring physical activity with accelerometers found that while study subjects accumulated nearly 3 hours of activity at age 9, by age 15 they averaged roughly 49 minutes of activity on weekdays and a mere 35 minutes on weekend days.<sup>9</sup> Even worse, schools are feeling challenged to provide regular physical education and recess time to children, given budget cuts and the pressure to focus on academic achievement and standardized test performance.

Not surprisingly, many practitioners believe there must be more opportunities for children to get routine physical activity outside of school and in structured settings such as physical education, sports, and recreation programs. For example, Richard Louv, author of *Last Child in the Woods*, has decried the reduction in free outdoor play over recent generations, coining the term "nature deficit disorder" to capture the range of physiological and developmental challenges he associates with children spending less time active in the outdoors.<sup>10</sup> Indeed, many adults of a certain age remember having been "free-range" kids, able to wander neighborhoods with other children, riding bicycles and exploring the woods or fields, and making up games in backyards, neighborhood parks, alleys, and empty lots. Former Australian Olympic swimmer Shane Gould, now a children's health advocate, suggests that young children may actually be held back by only being offered organized or structured play.<sup>11</sup> She, Louv, and others ask whether children are losing the opportunities to begin developing life skills—creativity in inventing their own games, leadership in picking teams and assigning roles, and negotiating disagreements when no adult referee is present.

Evidence of the diminishing freedom of movement of children is the dramatic change in how they travel to school. As recently as 1969, over 40% of children regularly walked and biked to school, but by 2001 that had dropped to under 15%. What are they doing instead?

School bus ridership remained fairly stable over those 3 decades, but the portion of children being driven in private cars to school rose from 15% to nearly 50%.<sup>12</sup> Notably, this is precisely the period over which the United States saw a near tripling of childhood obesity rates.<sup>13</sup> Barriers to walking and bicycling cited by parents include distance (which is worsened by greater school consolidation), traffic and lack of sidewalks and pathways, parental concerns over children's safety, and the weather.<sup>14</sup> Interestingly, there is actually no evidence of increases in violent crime against children over the same period, despite parental fears.<sup>15</sup> It appears that some parents who keep their children indoors for fear of unknown assailants may be protecting their children from the wrong risk.

The need to create activity-friendly communities that support free-range kids is not just the view of a handful of forward-thinking researchers or advocates. The US Physical Activity Guidelines recommend increasing availability of places to be physically active, and urges partnership with professionals in transportation, urban planning, parks, and recreation,<sup>5</sup> while the CDC Guide to Community Preventive Services lists such initiatives as urban planning for mixed-use neighborhoods and street-level improvements for bicycle and pedestrian safety as priority interventions to lead to population increases in physical activity.<sup>16</sup> The National Physical Activity Plan devotes a chapter to transportation, land use, and community design, and this affirms recommendations that creating neighborhoods with a mix of land uses such as residential, retail, commercial, education, and civic institutions, along with good networks of facilities for walking, bicycling, and transit, are critical for routine physical activity.<sup>17</sup>

Why this growing focus on the built environment and related policies? Because research is confirming that there are myriad ways community design shapes routine physical activity levels.<sup>18</sup> After all, wide streets with speeding traffic are unlikely to encourage parents to let their children walk to school, whereas sidewalks in good repair and safe crosswalks might. Living in a cul-de-sac subdivision with only one entrance onto a busy arterial road can discourage parents from letting children ride bikes to friends' homes in nearby but disconnected neighborhoods; the child has to wait for a ride in the car. But the presence of a connected street grid or safe bike trail connecting to that neighborhood (and to parks, playgrounds, schools, and a corner store) could be enough for parents to allow that child to venture out by bicycle. Hence the growing focus on creating healthier communities by design, so that physical activity occurs by default. This requires the engagement of policy makers, transportation, planning, economic development, and health officials, business leaders, and other stakeholders to create ordinances and practices that lead to settings where meeting these healthier guidelines is an easy, even routine part of daily life.

## The Prescription: Four Elements of Active Community Design

Consider the typical modern suburb based on contemporary zoning. The results are often housing subdivisions that are separate from strip malls and big box stores, which are separate from office and industrial parks, which are separate from large consolidated school and recreation complexes. This design assures that virtually every trip residents take to shop or school or work requires a ride in the car; destinations are too far apart to walk or bicycle, and the density of development is too low to support a meaningful transit system. Sidewalks are often incomplete or missing entirely, and many destinations are designed for automobiles only; giant parking lots dominate the retail and business landscape, and crosswalks, bike lanes, and other safety features are a rare afterthought. The notion of a neighborhood or corner store is absent, often precluded by the “single-use” zoning code.

Compare that to a traditional community, particularly those developed before the dominance of the automobile, whether a small town or a larger city. Historically, there was agricultural, open, or forested land surrounding a village core or city center. Those centers often included a main business district with most shopping needs, from groceries to hardware, the library, post office, town hall, and businesses, often centered on a public green or square. Nearby were compact neighborhoods of homes and apartment buildings, churches, and schools laid out on a simple grid system. In even the smallest towns, the main streets usually exhibited what planners call “mixed use,” with retail stores on the first floor and offices or apartments above in two and three story (or taller, in urban centers) structures. Buildings were normally built right up to the sidewalk, not set behind giant parking lots. Street trees, benches, and on-street parking were common. These features assured that it was reasonable to walk or ride a bike between destinations; even those who had driven into town could walk from the bank to the post office to the grocery store. And although schools are being increasingly consolidated, traditionally, communities focused on neighborhood elementary schools serving up through eighth grade.

The literature identifies a number of traits that characterize settings where people are more likely to be physically active as a part of daily life. For example, studies have correlated obesity risk to community design—such as proximity of different land uses—and time spent in motor vehicles.<sup>19</sup> It is possible to identify four key themes in the research literature and position statements mentioned earlier that best reflect active community environments. In some cases, one or two examples of typical supportive research literature are provided, but there are several resources that provide comprehensive listings of the evidence in this area, notably the Active Living

Research center at University of California, San Diego ([www.activelivingresearch.org](http://www.activelivingresearch.org)) and van Loon’s review in the planning literature.<sup>20</sup>

**Compact and varied neighborhoods.** What planners call a mix of land uses, this means different types of destinations—where people live, work, shop, play, learn, and pray—are close together and intermingled. For example, Frank showed that by using an amalgamated score for land use mix that gave higher values for a greater variety of destination types (retail, industrial, residential, education, recreation, etc.) in close proximity, there was a 12% reduction in obesity risk for each quartile increase in land use mix.<sup>19</sup> The research validates what many would intuitively suspect: People are more likely to walk to pick up a quart of milk if there is a corner store in the neighborhood, and a child is more likely to ride a bicycle to a park that is nearby, rather than across town.

**A network of facilities for “active transportation.”** Quality sidewalks, pathways, bike lanes, and a connected network of streets (without lots of dead ends) connecting neighborhoods and destinations are critical to routine physical activity.<sup>21</sup> A good transit network that provides reliable, affordable, and frequent service to key destinations is also important, as (not surprisingly) regular transit riders have been shown to get more daily physical activity.<sup>22</sup> After all, one may be even more likely to walk to that corner store or neighborhood park if there’s a decent sidewalk connecting there, or good bus service that gets close.

**Inviting and functional site designs for active transportation.** The details of destination design and location impacts whether people will choose to walk or drive to that destination.<sup>23</sup> For example, buildings constructed near the sidewalk are inviting to bicyclists and pedestrians, whereas a giant parking lot between the sidewalk and front door is a deterrent; parking is generally better if it is on the street or behind the building. Details such as street trees, awnings, benches, bike racks, and quality covered transit stops with seating are not just aesthetically pleasing; they improve the setting functionally for pedestrians, cyclists, and transit users. Conceptually, think Main Street, not big boxes and strip malls.

**Safety and access for all.** Curb ramps, countdown timers on pedestrian signals, and safety enhancements, such as median islands and high-visibility crosswalk treatments, roundabouts, and traffic-calming features such as raised crossings (or speed tables) and chicanes or islands in the roadway, are examples of the many tools engineers can use to create conditions that encourage safe walking and bicycling by people of all ages and abilities.<sup>24,25</sup> These are especially valuable to those too young or old to drive a car, as well as poorer residents and those with disabilities who have limited or no automobile access. And they can be critically important to slowing neighborhood traffic near key destinations for children, such as schools, parks, and libraries.

## Recommendations for Action: A Playbook for Healthier Community Design

With a clear picture of the four elements of healthy community design, the question becomes what practical policy and intervention approaches are most likely to lead to these outcomes. What is the recommended playbook of interventions to create settings where people will be more likely to be routinely physically active? Simply “encouraging” healthier designs or the use of enlightened principles when it is convenient to do so is not enough. Community leaders have to make conscious policy-based decisions to attain the four elements above. Cities from Portland, Oregon, to Minneapolis, Minnesota, and Boulder, Colorado, to Burlington, Vermont, have already committed to this approach and are not only seeing more walking and bicycling, but the economic benefits of heartier downtowns, more stable housing markets, and environmentally sustainable development patterns.<sup>25,26</sup> Even the National Association of Realtors recognizes the growing appeal of more walkable, bicycle-friendly, and mixed-use neighborhoods, describing the next generation of home buyers as aspiring to lifestyles in which they can walk their children to school and bike to a nearby park or multiuse pathway.<sup>27</sup> Therefore, the following five recommendations are offered as a proposed policy framework for intervention to support greater physical activity among adults and children.

### *Planning and Zoning Policies To Protect Farmland, Forests, and Open Space; Contain Sprawl, and Focus Investment Toward Mixed-Use Downtowns and Village Centers*

The most enlightened communities are engaged in proactive land use planning to encourage the development of vibrant, mixed community centers with many opportunities to walk, bicycle, and take transit between destinations.<sup>20</sup> They are also pursuing policies that allow landowners to receive the value of their land without having to sell out to suburban style development.<sup>28</sup> The first step is a comprehensive or master plan that, for example, designates areas for more compact, mixed-use development as well as those that will be retained as open space or available for agriculture. The goal is defining the character of the community before it happens by default. Specific approaches include the following:

- Encourage new development, even national retailers, to build in, as close as possible to, or well-connected with, existing downtowns and village centers. This can include zoning requirements, incentives such as density bonuses and tax abatement, and specific requirements in the ordinance.
- Reduce automobile-oriented outward sprawl with use of an urban growth boundary, agricultural and open space trusts, and community-supported agricultural

cooperatives, tax abatement, and the sale or transfer of development rights to equitably compensate land owners.<sup>28</sup> Too many communities have experienced construction of a giant mall or regional big box store on the community’s edge, only to see it generate strangling traffic and suck the economic life out of the area’s downtown.

- Keep the downtown housing density high. Support apartments or condominiums above retail storefronts in existing buildings and in new construction, matching traditional downtown architectural styles and uses. The more people who live downtown, the healthier that downtown businesses will be in the long run.
- Maintain neighborhood parks and schools. Many communities decide to consolidate playing fields and schools in pursuit of economies of scale (*e.g.*, less facilities staff), but this overlooks the long-term transportation costs of more children being driven or bussed to school and activities.

Although many people react that such planning tactics are reserved for larger cities and towns, America’s biggest health battleground may be in smaller communities where every year valuable swaths of farmland and open space are paved over and developed for housing subdivisions and big box retail development, which is designed such that every trip that is taken will be by car.

### *Build and Maintain Complete Streets*

The national Complete Streets campaign has a very simple message: Every time a road is touched, whether building something new or redesigning or maintaining an existing facility, all user groups must be considered—pedestrians, bicyclists, and transit, as well motor vehicles.<sup>29</sup> This does not mean that a bicycle lane must be painted on every road. But it does mean that the question must always be asked, “Where will a bicyclist safely ride here?” On a very rural road that will see relatively little bicycle and pedestrian travel, a wide paved shoulder may suffice. In towns, bike lanes and sidewalks are more appropriate, whereas on primary routes between towns, a multiuse path paralleling a high-speed roadway may be best. Three key steps to success in this area are as follows:

- Elected officials must adopt a Complete Streets approach as a guiding principle.
- Engineering, public works, and planning professionals must create roadway design standards that provide details for different settings and conditions that account for all user groups, such as including sidewalks, bike lanes, and side paths whenever possible.
- Once design standards are in place, planners and elected officials must then require that any new development include pedestrian, bicycle, and transit facilities that match the potential volume of users. And they must pursue needed funding from local, state, and federal agencies and opportunistically improve existing incomplete streets.

### *Create a Transportation—Not Just Recreation—Oriented Trail Network*

Many communities are devoting energy to creating multiuse trails, such as on abandoned rail corridors and along river and lakefronts. However, the details of how these trails are located, designed, and connected to the community will influence whether they are seen as occasional recreational destinations, or are routinely used for physically active transportation. The following elements characterize trails that see the greatest amount of routine and varied use.<sup>30</sup>

- The trail is well connected with other elements of the transportation system, including sidewalks, bicycle lanes, small neighborhood links, and transit stops.
- The trail brings users to desirable destinations such as the library and post office, schools, shopping, and parks.
- The trail is not designed as an escape from, but rather is integrated into, the fabric of the community. The most successful trails are seen as social venues by residents.

Trails are being placed in a great variety of corridors, from waterfronts and canal towpaths to utility corridors, and even along active rail lines (at a safe distance parallel to the tracks).<sup>31</sup> And certainly work on long-distance trail networks has great merit. But in the short term, formalizing the informal paths and goat trails that connect a neighborhood to the school grounds or some senior housing to a shopping area may be of greatest value. It is possible those will be the trails that will have people on them before the asphalt is even dry.

### *Creation of Bicycle- and Transit-Friendly Infrastructure and Incentive Policies*

There is a well-developed discipline that explores the combinations of incentives and disincentives that encourage active transportation and discourage driving, called transportation demand management (TDM).<sup>32</sup> Often employed in population centers desiring to reduce traffic congestion and improve air quality, the techniques are increasingly being used on university campuses and in smaller cities and towns to shift travel behavior for both

## Funding: How Do Communities Pay for Healthier Designs?

Budgets may be tight, but that should not keep communities from creating healthier settings. Yes, it costs money to build or repair sidewalks. But many very valuable improvements, such as painting crosswalks and bicycle lanes, do not require much funding at all. What they do require is political will, which public health professionals can help build. For costlier projects, here are seven approaches communities are using nationwide. The most successful communities do not depend on any one resource, but draw on all of these for a comprehensive approach.

**1. Routine accommodation.** Make Complete Streets the rule in your local roadway design guidelines, so that every road project accommodates pedestrians, bicyclists, and transit riders (as well as motor vehicles) on absolutely all new construction and redevelopment. Build such requirements into subdivision regulations and even during routine paving and painting programs.

**2. Opportunistic improvement.** Build or enhance pedestrian, bicycle, and transit facilities at reduced cost during other construction activities, such as sewers, work on underground or overhead utility corridors, and routine road resurfacing. For example, look for opportunities to narrow motor vehicle lanes and add bicycle lanes, often at little additional cost.

**3. Mitigation and impact fees for development.** Require all developments to study the full transportation impacts of a project. This means not just estimated motor-vehicle traffic counts, but also opportunities for pedestrian, bicycle, and transit travel. Then require the developer to construct nonmotorized facilities (e.g., sidewalks, bike lanes, trails, transit stops) within the project and to nearby, off-site destinations (schools, shopping, etc.) to mitigate those impacts; and/or charge development impact fees to mitigate the impacts,

with the fees legally dedicated to only be used on enhanced pedestrian, bike, and transit capacity.

**4. Grant programs and transportation funds.** Utilize state and federal resources, such as: Transportation Enhancements (TE) Program; Congestion Mitigation and Air Quality funds; Transit-Oriented Development grants (e.g., around regional bus service); Safe Routes to School program funds; highway safety funds and the Surface Transportation program; and Recreational Trail funds and Greenways and Trails Grants.

**5. Betterments, Special Improvement Districts, Tax Increment Financing.** Charge adjacent property owners or a general neighborhood or business district for construction or improvement of sidewalks, trail, bicycle parking, or other facilities based on the need and increased access and value for those property owners.

**6. Special funding and resources.** Foundations, corporate sponsorships, service groups, and adopt-a-trail and “friends” organizations can all provide funding or in-kind support for creation or maintenance of facilities such as trails, paths, and open space.

**7. Capital improvements.** Many cities and towns have a small but regular portion of the budget annually dedicated to sidewalk, pathway, and bike lane construction and maintenance simply because they recognize it improves community economic and environmental health.

And what about long-term maintenance? The above sources can all help in the construction of new facilities. But funding the long-term maintenance costs of, say, a new trail or sidewalk network can benefit from work with private partners (for example, foundations and “Friends of the Trail” organizations), which can even create endowment funds to support the long term maintenance of facilities.

environmental and quality-of-life benefits. Although a full litany of approaches is well beyond this discussion, core principles include the following:

- Provide quality, frequent, and affordable transit so that driving the car is not the only travel option. This ranges from commuter rail and subway systems in larger urban centers, to bus systems in medium-sized cities and towns, to dial-a-bus, senior shuttles, and yellow school buses (a form of mass transit) in even smaller communities.
- Promote bicycling and make it safe and easy. The League of American Bicyclists has developed a Bicycle Friendly Community Program that rates communities from honorable mention to platinum, and it provides recommendations to communities that apply on how to improve their score.<sup>33</sup> Tools range from providing bicycle parking and painting bike lanes to offering bicycle safety education in school curricula and launching a bicycle-sharing system, such as seen in Boston, Washington, DC, Denver, Minneapolis, and a growing number of cities across the country.
- Charge the true cost of parking. Inexpensive or free parking is a strong incentive to drive, whereas market pricing of parking creates an incentive to explore the more physically active alternatives (walk, bike, and transit).<sup>34</sup> When going to the Children's Museum in Boston, for example, the cost of parking is a substantial disincentive to driving, whereas frequently running and reasonably priced transit and an easy-to-use bike sharing program can encourage a family to come without a car instead.

#### *Develop Policy-Based Safe Routes to School Efforts*

The premise of Safe Routes to School (SRTS) is not simply to help those children who live close to school begin walking and bicycling more regularly. It is to create an environment where all children get more safe opportunities for more routine physical activity. The prescription is to use engineering improvements, education and encouragement programs, enhanced enforcement, and on-going evaluation (the five Es) to make physical improvements, as well as to change policies and practices to support more physically active travel. The federal Safe Routes to School program has provided technical assistance as well as funding for infrastructure improvements to communities across the country through state departments of transportation, with projects ranging from sidewalk construction and installing bicycle parking, to building trail connections and improving crosswalk visibility. A sampling of lessons from the National Center for Safe Routes to School<sup>35</sup> and the Safe Routes to School National Partnership<sup>36</sup> give a sense of the potential of these programs:

- Evaluation. The first step is to use show-of-hands tallies and existing surveys for parents, students, and administrators to learn what travel mode children are

using to get to school, from where, and why. Such survey tools, available at the National Center for SRTS ([www.saferoutesinfo.org](http://www.saferoutesinfo.org)), can both build awareness and inform the strategies to be applied.

- Encouragement. Work to change social norms, such as through walking school buses and bicycle trains to allay parents' safety concerns. These are designated, scheduled routes that an adult walks or cycles to school, picking children up along the way. Such groups can be led by neighborhood parents, volunteers such as university students earning community service credits, or local retirees or service group members.
- Education. Training children in safe pedestrian and bicycling techniques is typical, and certainly important, but not enough. A key goal is changing parent perceptions and behavior. This could include, for example, working with parents to accept modified school bus routes to offer area or neighborhood stops, rather than stopping at each house or building. This provides a short walk at the beginning of the trip for students who are too far to walk to school, and can shorten bus travel times markedly, making the bus more time-competitive with being driven by car.
- Engineering. Obvious solutions include constructing missing sidewalks, creating trail links from neighborhoods to schools, and improving visibility and safety at street crossings. But more innovative approaches include creating a pick-up and drop-off location for cars, and even the school buses, that is slightly removed from the school so that even those children get a short walk each way. This can be, for example, a church parking lot or park area that is typically empty at arrival/dismissal times and is a reasonable and safe walking distance from the school.
- Enforcement. Keeping traffic at reasonable speeds in school zones is certainly important, but often it is parents themselves that create the greatest traffic congestion and hazards near schools. Thus, discouraging parents from driving and making clear safety procedures is critical. A promising approach that some schools are using is a safety delay on motor vehicle release at dismissal time; pedestrians, bicyclists, and buses are released first, and the automobile pick-up line is started only after all pedestrians are safely clear of any conflict areas (e.g., street crossings). This provides a strong incentive to walk, bicycle, or use a remote pick-up/drop-off area if available, because students appear more interested in walking with their friends than waiting around for the car line to start moving.

The most important lesson is that behavior change methods must be combined with environmental and policy level changes to have a sustained impact on student physical activity levels; simply encouraging more walking and bicycling is not enough.

## Conclusion: Use the Playbook and Evaluate Its Effectiveness

There are certainly many cities and towns across the country, from colonial ports and farm villages, to mill towns of the industrial revolution, to early urban centers, that by their nature were laid out or evolved before the automobile was the dominant form of transportation, so their intrinsic design met the recommended criteria above and supported routine physical activity and free-range kids. Neighborhood schools and corner pocket parks, traditional downtowns centered on businesses and jobs for many residents, compact walkable neighborhoods, and ample farmland and forests nearby all defined communities where being an active child was a way of life, not a conscious decision. But in the automobile-oriented 20<sup>th</sup> century, urban design drifted dramatically away from this configuration. Now the challenge is three-fold.

First, there must be conscious efforts to use the recommended policy approaches above to recreate the elements of these historically healthy designs, if not for adults, then for the benefit of the next generation. Second, the actual processes of policy change must be evaluated throughout this effort, to determine how best to bring this to scale. Which arguments are most compelling to elected officials? What policy language and ordinances precipitate the most rapid changes in street and neighborhood designs? And finally, the impact on the physical activity levels and eventually the obesity rates of children must be evaluated rigorously to obtain a clear understanding of which policy approaches appear most effective. The nation cannot afford small pockets of success in just the more forward-thinking communities. If the rising tide of childhood obesity is to be halted, these types of healthy community designs must become the new norm.

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