

# Value Framework Manual

## Evaluation of the Healthy Kids, Healthy Communities National Program

December 2008 to December 2013



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## INTRODUCTION

### About Healthy Kids, Healthy Communities

“*Healthy Kids, Healthy Communities*, a national program of the Robert Wood Johnson Foundation, is helping dozens of communities across the country to reshape their environments to support healthy living and prevent childhood obesity. *Healthy Kids, Healthy Communities* places special emphasis on reaching children who are at highest risk for obesity on the basis of race/ ethnicity, income, and/or geographic location.”

*Healthy Kids, Healthy Communities* grantees include community partnerships in 49 different geographic areas (e.g., municipalities, counties, regions). Details about some of the popular strategies being implemented can be found in the “issue areas” section of the program’s website:

[www.healthykidshealthycommunities.org](http://www.healthykidshealthycommunities.org).

Obesity rates have tripled over the last three decades among U.S. children and adolescents, rising to 17% by 2009-2010.<sup>1-3</sup> In response, the primary goal of *Healthy Kids, Healthy Communities* is to implement healthy eating and active living policy, system, and environmental change initiatives to support healthier communities for children and families across the country. A policy intervention is a new or altered course of action influencing or determining decisions, laws, ordinances, resolutions, mandates, rules, regulations, or practices. An environmental intervention refers to a new or altered physical, social, economic, or communication environment. A system intervention engages individuals across disciplines and sectors to create sustainable change – through coordinated, place-based policies and practices – at organizational, community, regional, state, national, or global levels.

There is growing evidence for environmental and policy strategies to prevent and reduce childhood obesity.<sup>4, 5</sup> Yet, decision-makers need more guidance to inform best practices for assessment, planning, and intervention at the local level, particularly given the current economic climate, limited resources available to communities, and inequities experienced by different subpopulations in communities. To increase evidence-based decision-making, complementary, inclusive evaluation approaches are needed to capture varied community partnership efforts to create sustainable change in context-sensitive conditions.

Funded by the Robert Wood Johnson Foundation, the *Evaluation of Healthy Kids, Healthy Communities* is intended to highlight successful plans, processes, and strategies for policy, system, and environmental changes to increase active living and healthy eating as well as challenges encountered or unsuccessful approaches as a result of the 49 community partnerships’ efforts. In addition, the methods and tools provide an opportunity to look at common intervention structures and processes across the communities. The community-based approach is intended to build capacity for conducting evaluation at the local level.

For more details about the community-centered evaluation of the *Healthy Kids, Healthy Communities* national program, please visit the website at [www.transtria.com/hkhc](http://www.transtria.com/hkhc).

### About the Value Frameworks

The value frameworks were created as part of the *Evaluation of Healthy Kids, Healthy Communities* to document and share the value of the childhood obesity prevention interventions implemented across 49 *Healthy Kids, Healthy Communities* sites. These tools are designed to help the community partnerships translate the value of their work to advocates, policy- and decision-makers, practitioners, and community residents to invigorate and sustain these initiatives into the future.

Value frameworks were developed for six strategies:

#### Strategies to Increase Active Living:

- **Active Transportation:** A policy/practice or environmental change focused on the public right-of-way (e.g., sidewalks, streets) to increase active transportation (e.g., walking, biking, using public transit).
- **Parks and Play Spaces:** A policy/practice or environmental change that takes place in public parks, playgrounds, recreational facilities, or other public places (e.g., temporary play equipment set up in streets blocked off from traffic) to increase recreational physical activity.
- **Child Care Physical Activity Standards:** A policy/practice or environmental change that takes place in public or private child care settings to increase moderate and vigorous levels of physical activity.

## Strategies to Increase Healthy Eating:

- **Corner Stores:** A policy/practice or environmental change in corner or convenience stores (i.e., a retail business typically having a building size less than 5,000 square feet, convenient pedestrian access, extended hours of operation, and/or a stock of at least 500 products) to increase the purchase and consumption of healthy foods and beverages or to limit the purchase and consumption of foods and beverages with minimal nutritional value.
- **Farmers' Markets:** A policy/practice or environmental change in local farmers' markets (i.e., designated public or private sites where farmers can sell their products, particularly fresh produce) to increase the purchase and consumption of fruits and vegetables.
- **Child Care Nutrition Standards:** A policy/practice or environmental change that takes place in public or private child care settings to increase consumption of nutritious meals, snacks, and beverages or to limit consumption of foods and beverages with minimal nutritional value.

## Understanding Value

The concept of value may refer to monetary worth (economic value) or to relative importance (beliefs or ethical value). To understand the value of policy, system, and environmental changes to prevent childhood obesity, economists may use benefit-cost analysis<sup>6,7</sup> to assess the effects of an intervention and the value of those effects, or cost-effectiveness analysis<sup>8</sup> to assess the net costs of an intervention divided by the net addition to health (e.g., quality-adjusted life years).

Benefit-cost analysis requires monetary values for all of the inputs and impacts in the analysis. However, some inputs and impacts are not readily monetizable (e.g., perceptions of safety, impact on health equity) and sometimes monetization is controversial (e.g., the value of a year of a human life).<sup>9</sup> For cost-effectiveness analysis, the focus is on health outcomes as opposed to other social, economic, educational, or environmental outcomes that may be influenced by childhood obesity prevention efforts. Therefore, the cost effectiveness of a strategy or approach depends on a limited set of potential impacts, potentially minimizing its effectiveness, and it does not account for the variation in different community contexts.<sup>9</sup>

In general, economic analysis may not present a complete picture of the evidence for the value of the interventions, particularly with respect to multi-component and complex strategies with unclear population exposure (e.g., the reach of a new park or farmers' market) and multiple intended and unintended outcomes.<sup>10</sup> Additionally, costs averted through prevention efforts are difficult to pinpoint, measure, and report. Likewise, investments in prevention are typically designed for all people, including children that may have little to no risk for becoming overweight or obese, resulting in a negligible return on investment for these children.

To understand beliefs about the value of policy, system, and environmental changes to prevent childhood obesity, evaluators may design studies to assess perceptions of intervention inputs (i.e., through process evaluation) and impacts (i.e., through impact and outcome evaluation).<sup>11</sup> Value is the center of e-valuation, both literally and figuratively. Through evaluation, the numerous types of intervention inputs (e.g., planning, implementation, use, and maintenance) and health and non-health (e.g., community well-being, community process)<sup>9</sup> impacts may be assessed. In addition, by evaluating perceptions of these inputs and impacts, their relative value – often subject to different individual or group belief systems – can be summarized. Regrettably, community-based evaluation studies frequently do not comprehensively address all of the inputs and impacts, including economic evaluation measures, as part of the value of the interventions.<sup>9</sup>

The overall value—benefits minus harms and costs<sup>9</sup>—is difficult to sum up for many reasons. From an evidence standpoint, we may want to know what works, for whom, under what conditions, and whether adaptations are necessary for different populations or settings. As noted previously, the answers to these questions may reflect expenses and resources that are typically monetized, such as personnel time, tax revenue, or savings, as well as costs and resources not readily monetized, such as volunteer time, in-kind space or equipment, or air, land, and water resources preserved. In addition, there may be benefits or favorable consequences, such as health, economic development, or positive return on investment, as well as harms or adverse consequences, such as health disparities, fragmented systems, or disinvestment.

## Value Framework Development

Identifying the value of a childhood obesity prevention strategy requires a broad understanding of the investments, resources, and costs required to plan, implement, and maintain the interventions (inputs) as well as the benefits or harms associated with the interventions (outcomes). To assist in the identification of the elements of these attributes of value, the frameworks are organized into three broad categories:

- **Investments/Resources:**\* Resource or revenue *inputs* that support the planning, implementation, or maintenance of strategies as well as the use of the products of these strategies.
  - ⇒ **Economic/financial investments:** Quantifiable monetary resources (e.g., tax base, grant funding, sales revenue, financial donations).
  - ⇒ **Social/environmental resources:** Non-monetary assets (e.g., social networks, volunteers, in-kind space or equipment).
- **Costs/Savings:**\*\* Monetized *outputs* resulting from the planning, implementation, or maintenance of strategies as well as the use of the products of these strategies.
  - ⇒ **Costs:** Monetized expenditures (e.g., person time spent on assessment or policy development activities, capital improvement expenses, taxes paid).
  - ⇒ **Savings:** Monetized expenditures averted (e.g., increased volunteer time to reduce person time, donated supplies or equipment).
- **Benefits/Harms:** Actual or potential favorable or adverse consequences that may result from the strategies.
  - ⇒ **Benefits:** Favorable consequences (e.g., economic development, lower obesity rates, reduced crime rates).
  - ⇒ **Harms:** Adverse consequences (e.g., disinvestment or disenfranchisement, fewer resources available to other interventions, gentrification).

\*Note: Investments and Resources are shown separately on the diagram for the value framework.

\*\*Within the Costs/Savings category, the costs and savings are summarized according to planning and implementation costs and savings as well as use and maintenance costs and savings.

For each strategy, value is summarized at multiple ecologic levels, including:

- **Individual level:**\* Person-level inputs or outcomes (e.g., volunteer time, perceptions of safety, purchasing behaviors, physical activity levels, overweight and obesity).
- **Organization/agency level:** Inputs or outcomes for coalitions, government agencies, non-profit organizations, businesses, or other formal groups (e.g., costs for capital improvements or equipment purchases, agency staff time, in-kind space or resources to support intervention activities, increased collaboration, productivity, and efficiency).
- **Community level:** Inputs or outcomes associated with neighborhoods, cities, municipalities, metropolitan areas, counties, or regions (e.g., city taxes, property values, civic participation, economic development, local food production and distribution).
- **Societal level:** State or national level inputs or outcomes (e.g., state or federal taxes, state and federal funding programs, environmental preservation, health and social equity).

While investments, resources, costs, savings, benefits, and harms are present in all of the ecological levels (individual, agency/organizational, community, and societal), the inputs at one level may be outputs at another level, and vice versa. For instance, the taxes paid by an individual (as an output or cost) may, in turn, provide the tax revenue (input or investment) allocated to support healthy eating and active living policy initiatives, environmental changes, or programs and services through communities (local tax base) or at the societal level (state or federal tax base).

\*Note: Individual level inputs and outcomes can be aggregated at the organization/agency, community, or societal levels.

### Using the Value Frameworks

To increase understanding of the economic and ethical value of policy, system, and environmental strategies to prevent childhood obesity, the value frameworks were designed to visually illustrate the range of inputs and impacts documented in the evaluation of *Healthy Kids, Healthy Communities*. For the six common strategies, active transportation, parks and play spaces, child care physical activity standards, child care nutrition standards, corner stores, and farmers' markets, each value framework identifies the following information:

- 1) the range of implementation efforts;
- 2) the range of potential impacts (harms and benefits);
- 3) the resources used for implementation; and
- 4) the costs associated with implementation.

These value frameworks represent the evaluation team's initial effort to respond to the demand for resources that can be used by communities to express the value of their childhood obesity prevention efforts. The frameworks are designed to be customized to different community contexts in order to identify the range of inputs and impacts associated with local childhood obesity prevention strategies. The intention was to create a tool that would balance the accessibility of the document with the inclusion of sufficient detail and examples relevant to diverse sectors and disciplines in communities. Inevitably, there are limitations to the generalizability of these frameworks, and the authors anticipate continuous refinement and improvement as the frameworks are shared across communities.

## ACTIVE TRANSPORTATION

### Implementation

Efforts to improve active transportation may include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 1A for examples specific to active transportation).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives involved in active transportation or surrounding community;
- identify needs and priorities among these representatives;
- develop leadership in the community to direct a vision and plan for change;
- create decision-making bodies composed of representatives that promote health in all policies; and
- leverage financial and other resources to initiate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, standards, guidelines, curricula, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability in the surrounding community;
- draft new standards/practices or modify existing standards/practices, including designated sources of funding and necessary specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) staff/consultants/contractors with sufficient knowledge, skills, and capabilities to carry out protocols and operations;
- ensure sufficient coordination and communication across agencies, departments, and partners responsible for implementation and enforcement;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure active participation among youth;
- assure the relevance to, and the safety and satisfaction of, the entire community; and
- secure funding and resources for maintenance.

### Impact

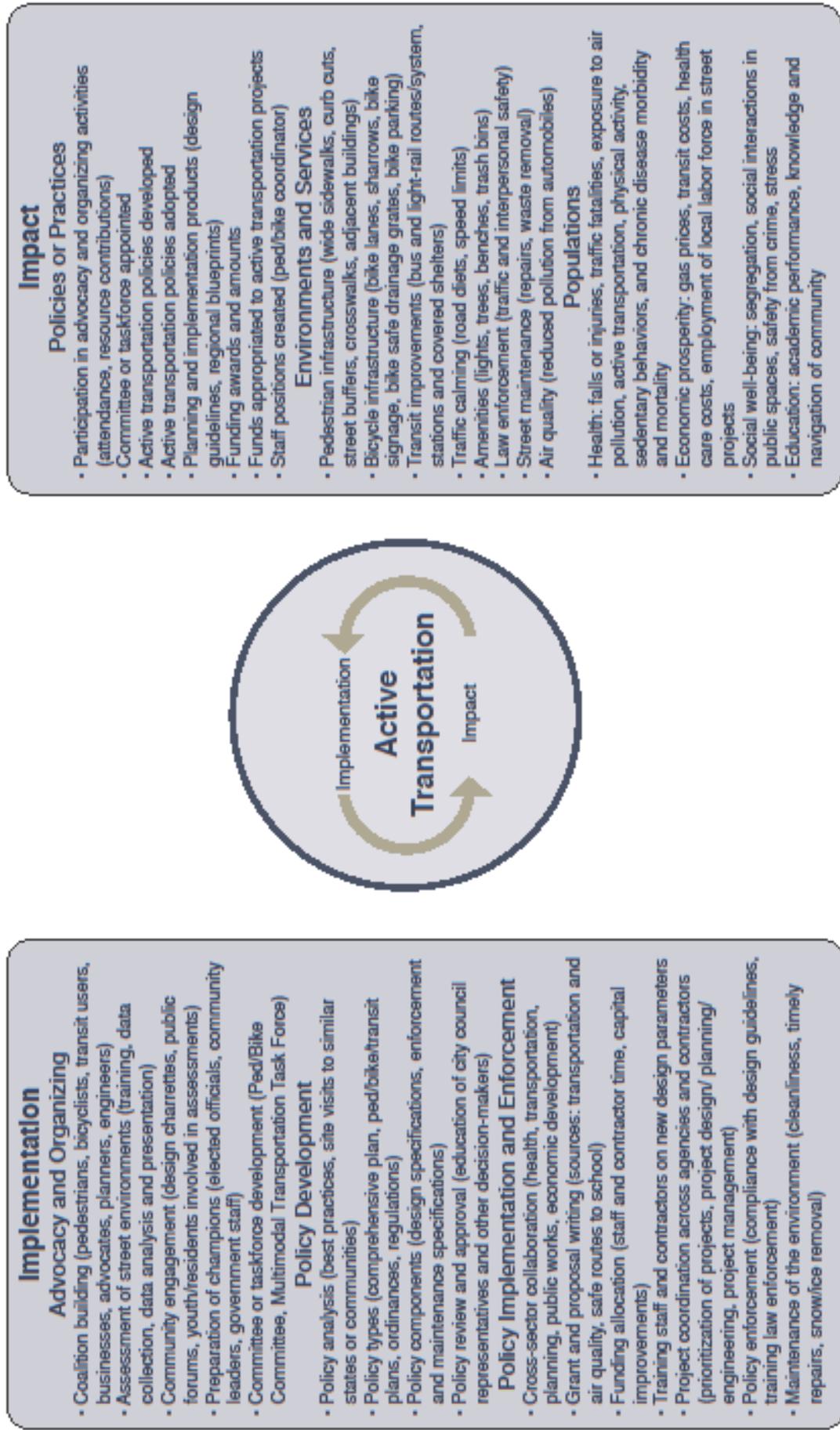
Active transportation policy or practice changes may have impacts on policies, environments and services, and/or populations (see Figure 1A for examples specific to active transportation).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change depends on the quality of implementation, including fidelity to model policies or best practices, as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 1 A: Active Transportation Implementation and Impact**



## Individual-Level Inputs, Outcomes, and Value

From an individual perspective, several investments and resources help to support active transportation policies and practices, and, as a result, individuals may experience costs, savings, benefits, and harms (see Figure 1B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of active transportation policies and practices. Some scenarios illustrating different individual-level experiences of the value of active transportation policies and practices are provided below.

### **Investments**

Individuals with jobs receive salaries or compensation, providing a stable source of income. Portions of this income can be invested in active transportation projects or costs associated with using public transportation systems. Similarly, personal assets or investments may be allocated to support active transportation projects or use of public transportation systems. Lower-income individuals, seniors, or persons with disabilities may receive state and/or federal subsidies to offset transportation costs (e.g., Temporary Assistance to Needy Families/Welfare to Work vouchers; Medicaid Non-Emergency Transportation Services). Employer-sponsored transportation programs may also provide assistance with costs associated with commuting to and from the workplace (e.g., tax-free commuter benefits).

### **Resources**

Likewise, individuals who are passionate about transportation infrastructure may invest their time (not otherwise committed), skills, or other non-monetary assets into efforts to: increase community awareness of the importance of street design, organize community support for active transportation policy initiatives, or cast a vote on specific transportation policies, among others. Some of these individuals may be volunteers who devote their time and effort into these types of community service projects. Collectively, these individuals may reflect proponents in support of multi-modal (i.e., motorized and non-motorized) transportation systems or adversaries opposed to these types of active transportation policies and practices. Given the time and effort invested, proponents and adversaries may both place great value on active transportation policies and practices. Cumulatively, the relative number of proponents valuing multi-modal designs in comparison to adversaries valuing automobile-oriented designs impacts the overall value of active transportation policies and practices.

Making changes to active transportation policies and practices may require input from civic groups, city council, or neighborhood associations. Given the potential impact of changes on their surroundings, individuals in these networks add value to change-based discussions. In addition, persons in leadership positions (e.g., public officials) may also exercise influence over any suggested changes.

### **Costs and Savings**

To support active transportation planning, implementation, and maintenance activities, individuals' federal, state, and local tax dollars allocated to transportation initiatives aid in financing active transportation policies and projects (i.e., increasing taxes increases individuals' out-of-pocket expenses, decreasing taxes increases individuals' savings). Because most individuals rely on transportation infrastructure, they are likely to value the use of some tax dollars to support the development and maintenance of this infrastructure. Some individuals may prefer to have these tax dollars spent solely on transportation infrastructure for automobiles, while others may desire multi-modal infrastructure to ensure the availability of public transit systems as well as pedestrian and bicycle facilities. In some cases, individuals within the community may place significant personal value on active transportation projects and wish to donate funds or other resources to initiate and institute change. Investments for automobile infrastructure and maintenance (e.g., highways, streets, traffic signals) are frequently much more expensive than infrastructure and maintenance for other modes of transportation (e.g., sidewalks, bike trails, light rail), thus increasing the need for more tax dollars. However, some alternative modes of transportation capitalize on the street infrastructure designed for automobiles (e.g., buses, bike lanes). In less densely populated areas (e.g., rural areas, sprawling suburban areas), the development of multi-modal transportation infrastructure and related services (public transportation) may cost more and it may not be practical for those with long trip distances.

Relatively new active transportation policies and practices to support multi-modal transportation may require

staff and contractor time invested in training. These individuals may value the time spent in training in order to gain more knowledge and skills in their field, but they may also view this as time added to or taken away from their other job duties, resulting in less value placed on active transportation policies and practices.

Most individuals residing in communities designed for automobiles have to personally invest in a motorized vehicle (through purchase or lease) to safely and efficiently get to destinations, thereby increasing the transportation costs for these individuals (i.e., vehicle, maintenance, gas). For some individuals, these motorized vehicles are appreciated for much more than simple transportation (e.g., comfort, style, amenities), which may further increase costs. On the other hand, some individuals are investing in non-motorized transport to save money (i.e., cheaper to purchase and maintain) as well as to minimize their carbon footprint (i.e., reduce harmful impacts on the environment) and improve their health (i.e., active transportation). At the same time, non-motorized transport may also range in price based on factors that extend beyond simple transit from place to place (e.g., bicycles may be valued for speed and style). Thus, these transportation resources may range in cost and value that extends beyond the basic need to get from place to place.

Again, all individuals in the community typically use some type of transportation system and most use these systems on a daily or frequent basis. Whether the mode of choice is automobile, public transit, bicycle, or walking, there are usually individual costs incurred for use of these systems. For instance, property owners may pay fees to maintain sidewalks for pedestrians and most automobile owners spend money on gas to power their vehicles. Higher gas prices and longer trip distances can make the cost of using and maintaining automobiles far outweigh the costs associated with pedestrian, bicycle, and transit modes.

Depending on the preferred mode of transportation and the household income, individuals may have a relatively higher or lower percent of their household income committed to transportation expenses, leaving a proportionate percentage available as disposable income. A significant proportion of an individual's income spent on transportation leaves fewer resources for other needs or desires (e.g., housing, food, entertainment), and, consequently, may decrease the individual's value of active transportation policies and practices.

Increased individual health care and health insurance costs may also result from greater use of sedentary forms of transportation (e.g., automobiles) as individuals may have less time for regular physical activity during the day, a major risk factor for many chronic diseases.

### Benefits and Harms

In general, the transportation infrastructure may increase access to education (e.g., schools, colleges or universities), employment, or entertainment opportunities, thereby supporting the individual's income or quality of life and increasing the individual's value of active transportation policies and practices. Individuals, who live in communities with more compact land use development and therefore closer proximity to a variety of destinations, may place greater value on active transportation policies and projects that increase multi-modal transportation given that walking, biking, and public transit trips benefit from relatively shorter distances to destinations. In addition, these communities tend to have greater street connectivity (i.e., grid-like street patterns) that provides multiple routes to get to and from different destinations, and these varied routes provide the individual with access to a greater number of destinations along the way. Similarly, these communities are more likely to have a well-connected public transit system (e.g., buses, light rail, trolleys, trains), providing increased mobility throughout the community. Taken together, these community characteristics increase the choices residents have to transport themselves by walking, biking, riding public transit, driving, or some combination of these modes. In the absence of compact land use development, individuals living in rural or sprawling suburban communities may place less value on street design policies and practices that increase active transportation as the longer distances to destinations may be prohibitive of walking or biking or it may result in very long public transit commutes.

Increased active transportation can also increase the exposure of pedestrians and bicyclists to automobile traffic, and in turn, the accompanying air pollutants. If this exposure results in a traffic injury or fatality or increased risk of asthma and related chronic conditions, this may result in individuals placing less value on active transportation policies and practices. On the other hand, greater numbers of walkers and bikers reduce the number of automobile drivers, and with a critical mass of drivers off the road, safety from traffic may increase and pollutants may decrease. In addition, with a critical mass of pedestrians, bicyclists, and public

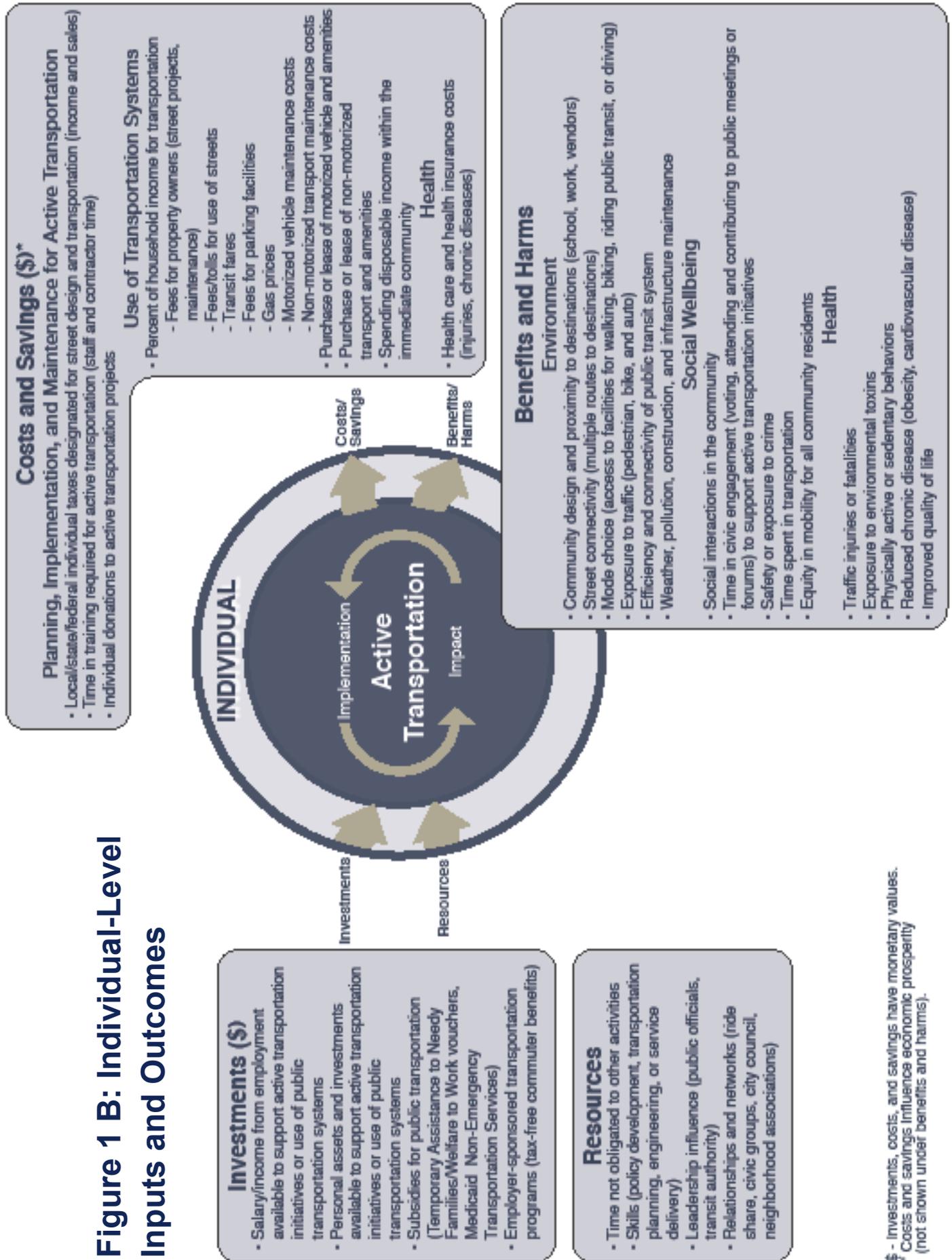
transit users in and around the streets – alongside appropriate traffic calming measures (e.g., narrow streets, slow speed limits) – automobile drivers may be more conscious of pedestrian and bicycle safety concerns, thus increasing the value of these policies and projects for pedestrians, bicyclists, and public transit users. At the same time, automobile drivers may experience longer commute times leading them to place less value on active transportation policies and practices. Similarly, the efficiency of buses or other public transit systems using the streets may decline as a result of the increased pedestrian and bicycle traffic or the traffic calming measures; yet, the ridership may increase as a result of having more pedestrians and bicyclists, particularly if the public transit systems have bike racks.

Other environmental factors influencing the use and value of active transportation include weather, the presence of pollutants (e.g., trash, industries or factories), and maintenance of the environment. For instance, if there are potholes or large cracks and misalignments on the streets or sidewalks, or if snow or ice is not cleared, they may not be functional for pedestrians and bicyclists. In addition, more people walking, biking, or using public transit is likely to increase the amount of litter in and around the streets, particularly without trash bins. Therefore, maintenance policies are critical components to add value to the active transportation policies and practices. Likewise, urban areas with industries or factories tend to have the largest amounts of air pollution; and, with more people walking or biking, these individuals have greater exposure to these environmental toxins. Frequently, the residential areas in closest proximity to the industries and factories tend to have higher rates of people in poverty who depend on public transportation systems as well.

Other social well-being factors influencing the use and value of multi-modal transportation include social interactions in the community, time for civic engagement, safety and crime, and equity in mobility for all residents. As an example, getting people out of their cars and into more public settings (e.g., streets, buses) can increase the number of social interactions individuals have with other residents and visitors. Increased contact with neighbors may heighten a general sense of community, including attendance or contributions in public meetings that address active transportation initiatives. While most of these interactions are likely to be positive, there may also be some increased exposure to crime. However, with a critical mass of people out in the community, interpersonal safety is likely to increase. For residents who do not own a motorized vehicle or those who are less affluent, active transportation systems are also likely to increase equity in individuals' mobility throughout the community.

Other health factors influencing the use and value of multi-modal transportation include increasing physical activity and reducing sedentary behaviors through active transportation, and, in turn, reducing chronic diseases and increasing quality of life.

**Figure 1 B: Individual-Level Inputs and Outcomes**



\* \$ - Investments, costs, and savings have monetary values.  
 † Costs and savings influence economic prosperity (not shown under benefits and harms).

## Agency- and Organizational-Level Inputs, Outcomes, and Value

Different agencies (e.g., transportation, planning, public works, health) and organizations (e.g., advocacy, design firms, construction businesses) are primarily responsible for developing and implementing active transportation initiatives as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in response, experience costs, savings, benefits, and harms (see Figure 1C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of active transportation policies and practices. The below scenarios exemplify different agency- and organization-level experiences of the value of active transportation policies and practices.

### **Investments**

Different agencies and organizations may generate revenue from a wide variety of sources. For instance, transportation agencies may obtain funds from parking meters, garages, or lots; congestion fees paid by road users during peak demand to reduce traffic congestion; tolls for bridges or roads; and public transit or light-rail fees; among others. Some portion of these funds can be allocated to active transportation policies and projects. Government and non-profit agencies often receive federal or state grants to support their active transportation initiatives (e.g., funds to install new sidewalks at an elementary school as part of a Safe Routes to School grant, Transportation Investment Generating Economic Recovery (TIGER) grants). Depending on the projected changes, qualifying projects may receive federal, state, or local tax credits (e.g., Historic Rehabilitation Tax Credits for façade and sidewalk improvements) to help offset the costs of active transportation policies and practices. Selected initiatives may also benefit from appropriations, earmarks, or bonds to provide supplemental funding. Grants and contracts may come to agencies and organizations from local sources, foundations, or businesses to fund this work. Businesses frequently provide corporate sponsorships or donations that may also support active transportation policies and projects.

### **Resources**

Similarly, agencies and organizations may contribute their own office space or equipment for meetings related to active transportation policies or projects (e.g., a community design charrette to obtain public input on a new bike lane on a local street). Equipment may also be donated or loaned, including computers, design software, copy machines, or construction equipment. Furthermore, agencies or organizations may obtain or provide donated land or easements for public use of land, and, in turn, this land provides a site for active transportation projects. As an example, a commercial district may agree to an active transportation guideline for a 15-foot-wide sidewalk, requiring local businesses to provide public easements for private land in front of their establishments. Media or communications agencies and organizations can provide free marketing services (message development), television or radio spots, billboards, newspaper articles or advertisements, or related services to support active transportation initiatives.

### **Costs and Savings**

For street design planning, implementation, and maintenance, agencies and organizations pay for staff time and benefits for a wide variety of tasks and responsibilities, such as community organizing and advocacy, policy development and obtaining buy-in from local elected and appointed officials, design and construction of projects, oversight and management of projects, communications and public relations, and maintenance, sanitation, and security. Contractors and consultants are frequently hired for design, construction, landscaping, and performance monitoring, among other responsibilities. New active transportation policies and guidelines may require the agency or organization to provide training to employees, contractors, or consultants. One associated challenge is that the more expensive automobile-oriented designs are likely to generate greater revenue for agencies and organizations working on these projects to support salaries and compensation than the less expensive multi-modal designs, so the value of active transportation policies and practices may be affected by the accompanying revenue or employment opportunities. Yet, most agencies and organizations may be motivated to keep employee transportation and health care costs low in order to attract high-quality employees with a lower cost of living (e.g., walking and biking to increase physical activity and prevent chronic diseases and conditions). As a result, these employers may value multi-modal infrastructure over automobile-oriented infrastructure.

Similar to individuals, agencies and organizations pay federal, state, and local taxes (income and sales), and

some of these funds may be allocated to active transportation initiatives. As noted previously, investments for automobile infrastructure and maintenance are usually more expensive than non-motorized transportation infrastructure, but some alternative modes of transportation also require the street infrastructure (e.g., buses, bike lanes). Therefore, it may be difficult to disentangle the costs for the multi-modal vs. automobile-oriented infrastructure, minimizing the cost advantage of active transportation systems.

Developers and agencies or organizations in communities under new or redevelopment may be subject to additional fees for active transportation projects (e.g., costs for sidewalks or bike lanes) or penalties if these design guidelines are not followed.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; computing equipment and software; office furniture; licensures and liability insurance; and other office supplies and equipment. Additionally, these entities may have direct expenses associated with active transportation initiatives, such as purchasing or leasing meeting space or equipment, land or easements, and supplies or materials (e.g., design and construction, media and communications).

As a result of increased use of non-motorized forms of transportation, there may be an increase in bike purchases and a decline in sales related to automobiles, leading these businesses to place relatively greater or lesser value on active transportation policies and practices. Alternatively, with respect to the use of active transportation systems, agencies and organizations may provide employer-sponsored transportation incentives (e.g., subsidized monthly transit passes), on-site facilities (e.g., showers and locker rooms), and parking accommodations (e.g., bike racks or storage lockers). The presence or absence of these benefits reflect the entity's value of active transportation and may have a strong influence on the employees' transportation behaviors. For businesses, some of these types of accommodations can also be made to diversify and increase clientele, such as increasing the number of walk-ins (e.g., main building entrances from the sidewalk as opposed to the parking lot). These strategies may work well to increase sales and profits in communities with lots of foot traffic and not so well in automobile-centric communities.

### Benefits and Harms

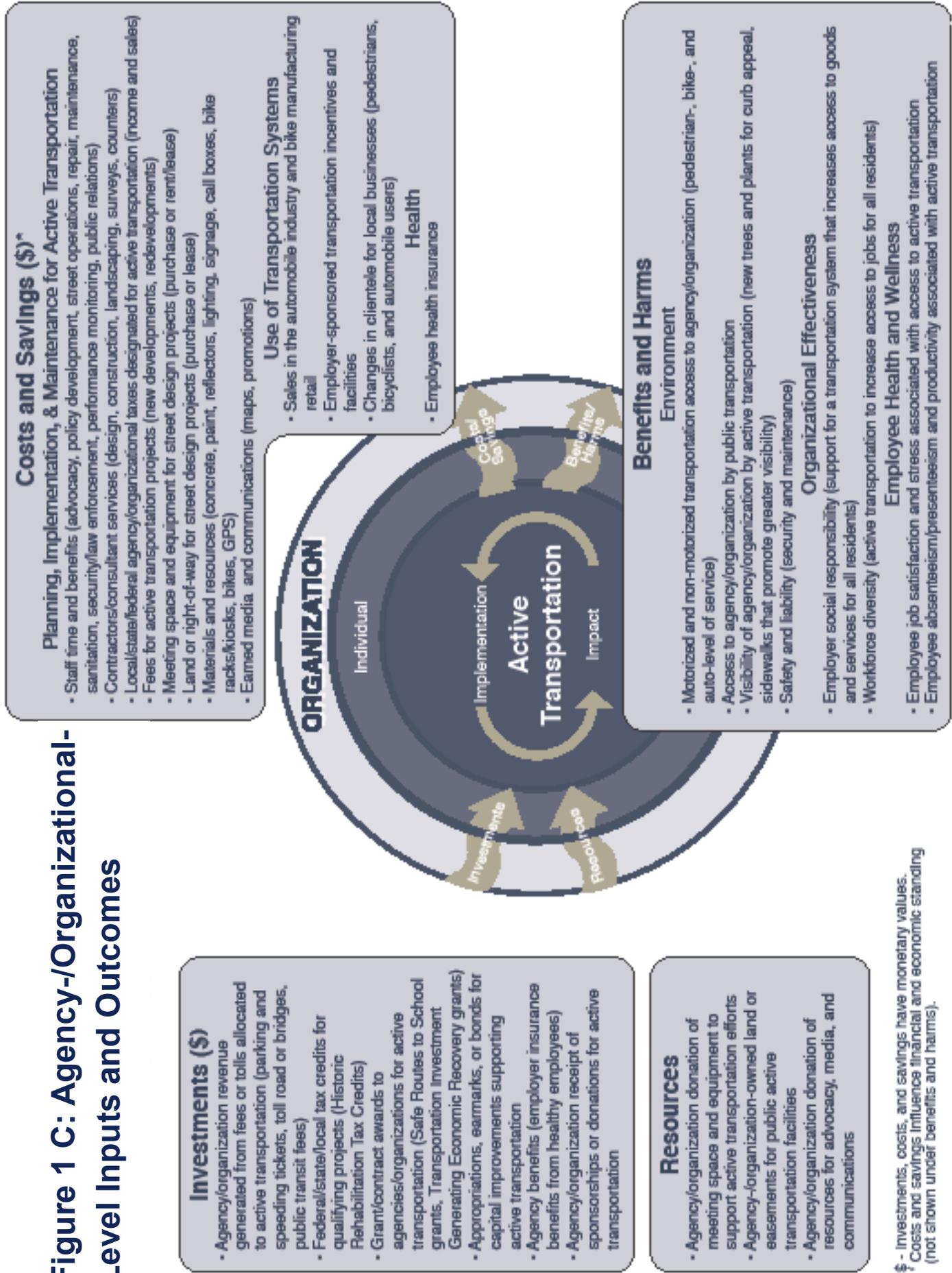
Agencies and organizations may be accessible to different populations by motorized transportation (automobile-level of service) and/or non-motorized transportation (pedestrian- or bicycle-level of service). Additionally, the location of the agency or organization along a public transportation route influences access and visibility by different populations. Likewise, agencies and organizations may take steps to increase safety from property theft and crimes against persons through installation of bike racks or storage lockers, pedestrian lighting, or video cameras. Safety from falls or injuries may also be prevented through maintenance of the environment in and around the agency or organization (e.g., removal of litter). In many cases, changes to increase safety and convenience for pedestrians, bicyclists, and transit users may result in less accessibility for drivers (e.g., underground parking garages rather than on-street parking or surface lots, access for service delivery trucks).

Agency or organization representatives may serve as leaders in the community, advocating for transportation infrastructure that serves the needs of all residents in the community (e.g., those who do not own a car). Elected and appointed officials are often strongly influenced by the business sector as well as government agency staff.

Similarly, agency and organization leaders may strive to increase workforce diversity internally by ensuring that their agency or organization is accessible through multiple transportation modes. For some people, the stress of getting to and from work on time can be significant and employers can take steps to reduce this stress, and, in turn, increase job satisfaction by working to improve active transportation.

Finally, walking (by itself or in conjunction with public transit use) and biking are active forms of transportation that have health benefits for employees. On the contrary, driving is a sedentary activity that may contribute to greater rates of overweight and obesity and related comorbidities. Healthier employees are frequently prone to less absenteeism and greater productivity, thereby creating benefits for the individual and the agency or organization.

**Figure 1 C: Agency-/Organizational-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Community–Level Inputs, Outcomes, and Value

Communities, including municipal, city, county, or regional authorities and their respective constituents, provide the infrastructure, environments, and political decision-making context for active transportation policies and practices. The authorities may include local government officials, regional transportation and transit authorities, school districts, public land agencies, and tribal governments, among others; and the constituents may include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to active transportation policy and practice efforts and, in response, experience costs, savings, benefits, and harms (see Figure 1D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of street design policies and practices. The following examples illustrate some of the community-level experiences of the value of active transportation policies and projects.

### Investments

Cities and counties frequently receive funds from state and federal transportation departments through prescriptive programs, such as MAP 21 (<http://www.fhwa.dot.gov/map21/>), SAFETEA-LU (<http://www.nhtsa.gov/About+NHTSA/Programs+%26+Grants>), and general funds for the community, city, or county that guide the allocation of funding to communities and active transportation projects. A more reactive approach is to have the city or county generate revenue through fees charged to developers for violating active transportation policies or guidelines. The resulting funds from the assessed fees can be used to support active transportation. In addition, the local economy may be enhanced through increased profits generated by local businesses (e.g., bike manufacturers, organizers of walking, running, or biking races). Increases in tourism may result from pedestrian-, bike-, and transit-oriented street designs, and, in turn, the new revenue from tourism can be allocated to active transportation projects to further improve safety or aesthetic appeal of the community streetscapes and non-motorized transit facilities. Finally, cities and counties may also receive funds from sponsors or private donors that can be allocated toward active transportation projects.

### Resources

To complement these monetary investments, cities and counties can also provide goods and materials or designate land to active transportation uses. Likewise, city or county elected and appointed officials can support active transportation as part of their campaigning or by serving as a spokesperson to raise community consciousness of the importance sustainable transportation alternatives. For instance, community politicians can advance a “triple bottom line” mindset, illustrating how active transportation policies and practices help *people* (health and social), protect the *planet* (environmental preservation), and generate *profit* (support the community’s economic vitality).

### Costs and Savings

For active transportation planning, implementation, and maintenance, the majority of the costs and savings can be accounted for in transportation infrastructure. As noted in previous sections, highways and roads are very expensive for cities and counties to build and maintain in comparison to sidewalks and bikeways. Yet, public transit systems and separated bike accommodations in roadways rely on streets just as automobiles do. City or county representatives and staff salaries (mayors, city council members, school board members) may provide time dedicated to the development and approval of plans (e.g., long range transportation plan, pedestrian and bicycle master plan), design guidelines and standards, zoning codes and land use regulations, and maintenance. Local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend active transportation policy and environmental changes to elected and appointed officials and participant or meeting costs may be incurred. Public meetings, such as community forums, design charrettes, town hall meetings, or public hearings, may also be hosted in order to capture comprehensive community input. For instance, design charrettes are workshops that bring together residents and key leaders to explore design options for a particular active transportation site. In addition, cities or counties may conduct assessments in order to generate environmental impact (mitigation and restoration) and health impact statements to forecast the influence of specific active transportation initiatives. Finally, cities and counties may employ the local labor force in active transportation projects as part of strategies to

increase economic development for the community.

With regard to use of active transportation systems, some of these communities allocate a portion of their local tax base, including income, sales, and property taxes as well as special business tax districts, to street design projects. Another method of designating funds to active transportation policy and practice efforts is through city or county budget provisions, such as decisions to design new or redesign existing street sections. In addition, cities and counties may lose revenue and jobs in the automobile industry with fewer drivers in the community; yet, revenue may increase from bike or public transit manufacturing or retail, goods, services, and tourism (as noted above) as well as pedestrian and bike races or events in the community. Increases in property values near active transportation projects may be another monetary benefit to the city or county; yet, steps may need to be taken to ensure that these improvements do not displace lower-income residents. Street closures for public events supporting active transportation, such as a Mayor's Bike to Work Day or Sunday Parkways, require law enforcement and other resources to ensure that the events are safe for participants. Pedestrian-, bike-, and transit-friendly communities may also draw private investments or new industries to the community as these types of places tend to support employees and their families, thus increasing the local tax base. In turn, residents walking and biking in their communities may increase the share of personal income expended in the local community (as opposed to competing with the surrounding areas more accessible by motorized vehicles). Lastly, city and county representatives and staff living and working in these types of communities may have higher rates of activity, and in turn, lower rates of chronic diseases or conditions, thereby lowering health insurance costs.

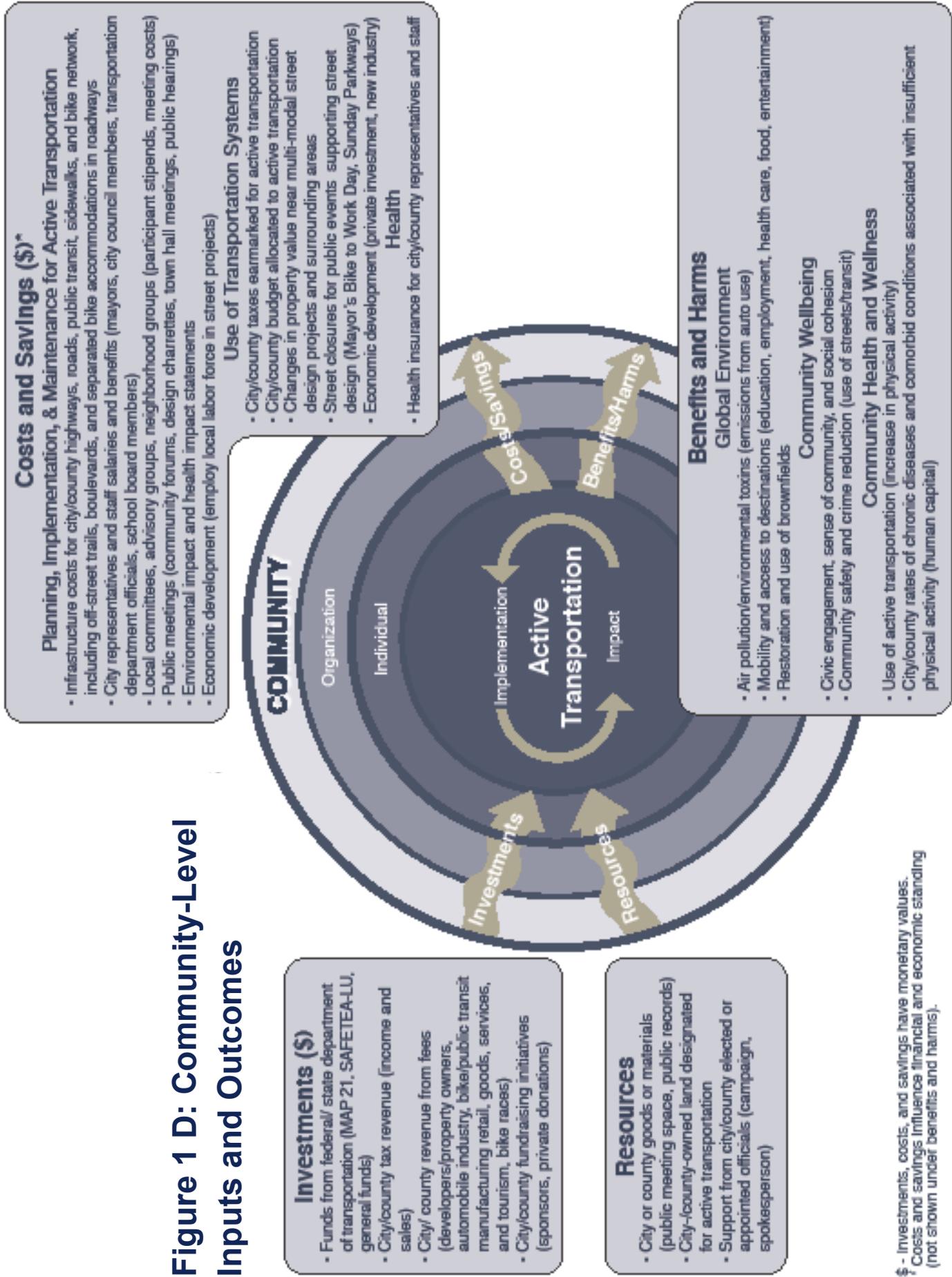
### **Benefits and Harms**

As more people are walking, biking, and using public transit and fewer people are driving, the emissions from automobiles decrease and result in overall reductions in pollutants and toxins in the community environment. Community design projects incorporating active transportation principles typically require increases in population density (more urban development, less suburban sprawling development) that may not appeal to sectors of the population. Yet, mobility and access to destinations for education, employment, health care, food, and entertainment, among others, increases as those who do not own personal vehicles have increased opportunities to move about the community. Changes in active transportation may also restore or create uses for brownfields, which will aesthetically and functionally improve the community environment.

More foot and pedal traffic from pedestrian and bike infrastructure improvements as well as fewer people in their motorized vehicles also creates more opportunities for social interactions in and around these community streetscapes, as opposed to individuals and their families isolated in their motorized vehicles. Greater social interactions, such as people knowing their neighbors or neighborhood vendors, may increase perceptions of social cohesion and a sense of community that, in turn, may also increase civic engagement and perceptions of community safety, and reduce crime.

The health benefits of walking, biking, and using public transit as part of active transportation to increase overall physical activity have been identified in previous sections. With more citizens living disease- and disability-free days, human capital in the community increases bringing about greater productivity, ingenuity, and diversity for a sustainable future.

**Figure 1 D: Community-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Society–Level Inputs, Outcomes, and Value

Federal and state authorities and their respective constituents are one of the primary sources of funding to support active transportation policies and practices. Collectively, these investments and resources designated to street design initiatives lead to a variety of costs, savings, benefits, and harms (see Figure 1E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of active transportation policies and practices. The below scenarios exemplify different societal-level experiences of the value of active transportation policies and projects.

### **Investments**

State or federal tax revenue may contribute to the pool of funds available to support national or state active transportation initiatives (e.g., revenue generated through the federal gas tax may add to the funds supporting transportation projects). State or national fundraising initiatives to support active transportation policies and practices may be successful in obtaining funds from sponsorships or private donations.

### **Resources**

State or federal land may be designated to active transportation uses as opposed to highways and roads. State or federal goods and materials may also be identified for use in active transportation policies and practices (e.g., public meeting space, public records). Like city or county elected and appointed officials, state or federal officials can support active transportation as part of their campaigning or by serving as spokespersons to raise public awareness of the importance sustainable transportation alternatives.

### **Costs and Savings**

With respect to active transportation planning, implementation, and maintenance, state and federal costs and savings may be attributed to transportation infrastructure for state or federal highways, roads, public transit, sidewalks, and bike networks. State or federal representatives and staff salaries (governors, senators, representatives, transportation department officials) may also provide time dedicated to the development and approval of policies and practices to support active transportation. State or federal committees may deliberate on guidelines or funding for active transportation policy and environmental strategies influencing change at the local level. Likewise, state or federal agencies may hold public meetings to incorporate public input into decision-making.

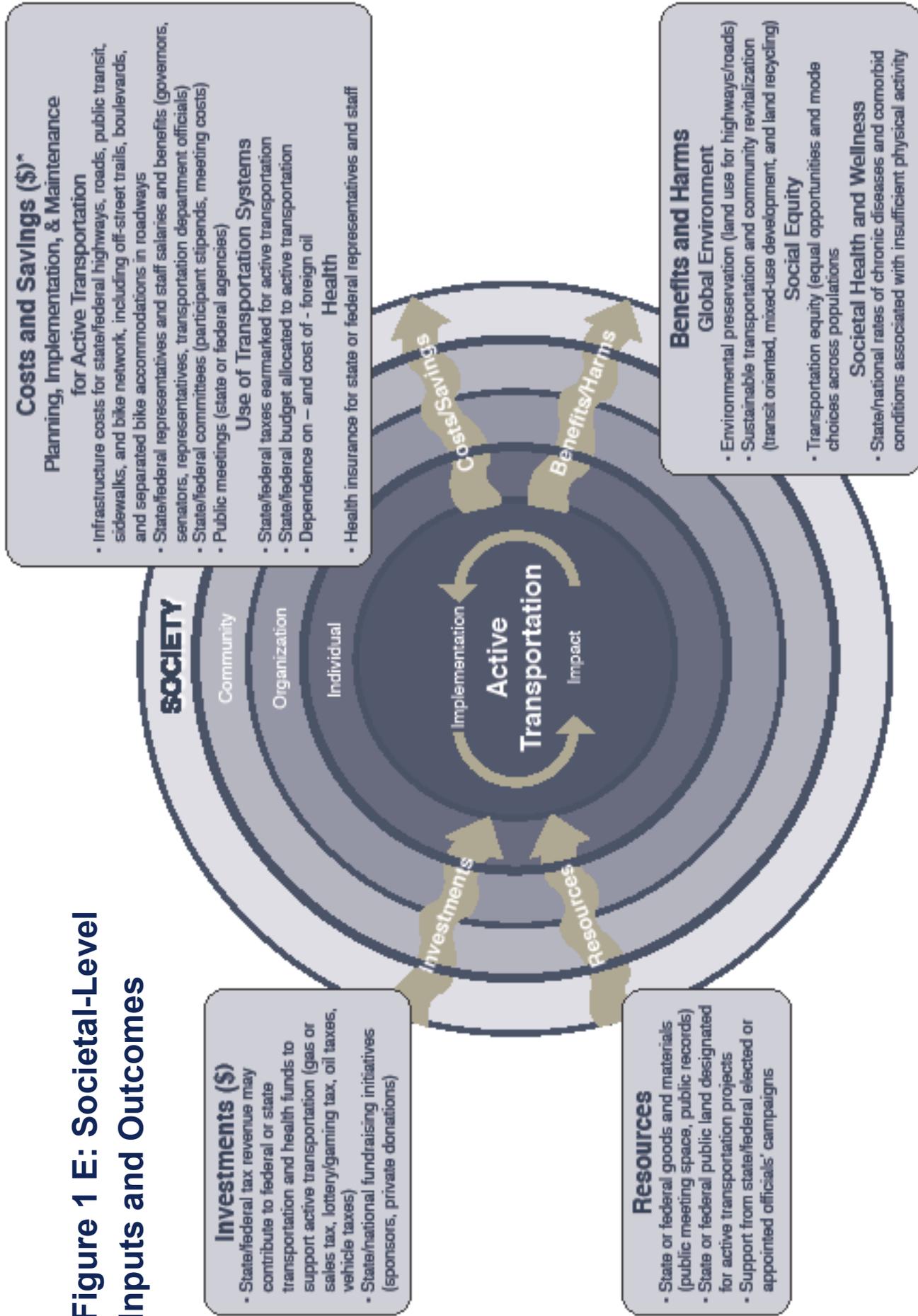
For use of transportation systems, state or federal budget provisions may be established and appropriated for transportation or infrastructure improvements, such as the Transportation Enhancements/ Transportation Alternatives Program, Congestion Mitigation and Air Quality program, Surface Transportation Program, Safe Routes to School program, American Recovery and Reinvestment Act Transportation Enhancements, other related American Recovery and Reinvestment Act programs, Recreational Trails program, Highway Safety Improvement Program, and Highway Safety Funds program. In addition, state and federal revenue may also be affected by automobile industry declines (e.g., manufacturing, sales, or repairs) or increases in revenue related to bike or public transit manufacturing retail, goods, services, and tourism as well as state or national events, such as races or walks. Greater reliance on motorized vehicles also leads to more dependence on fossil fuel energy, and, in turn, foreign oil and its associated costs.

### **Benefits and Harms**

Less highway and road construction to support sprawling, auto-oriented communities can increase preservation of the natural environment. Similarly, efforts to increase transit-oriented, mixed-use developments and land recycling can lead to a greater focus on sustainable forms of transportation and more community revitalization. Alternatively, these priorities may result in less support or services to developments in sprawling suburban communities.

System-wide access for pedestrians, bicyclists, public transit users, and automobile drivers increase equal opportunities for citizens to get to and from destinations in a manner that suits subpopulations with varying levels of income as well as differing opportunities to engage in physically active behaviors throughout the day, thereby increasing transportation and health equity.

**Figure 1 E: Societal-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## PARKS AND PLAY SPACES

### Implementation

Efforts to improve parks and play spaces include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 2A for examples specific to parks and play spaces).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives in the community;
- identify needs and priorities in the community;
- develop local leadership to direct a vision and plan for change;
- create decision-making bodies composed of representatives that promote health in all policies; and
- leverage financial and other resources to instigate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, guidelines, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability to the community;
- draft new policies/practices or modify existing policies/practices, including designated sources of funding and necessary design specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) staff/consultants/contractors with sufficient knowledge, skills, and capabilities to carry out protocols and operations;
- ensure sufficient coordination and communication across agencies, departments, and partners responsible for implementation and enforcement;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure active participation among youth and community residents;
- assure the relevance to, and the safety and satisfaction of, the entire community; and
- secure funding and resources for maintenance.

### Impact

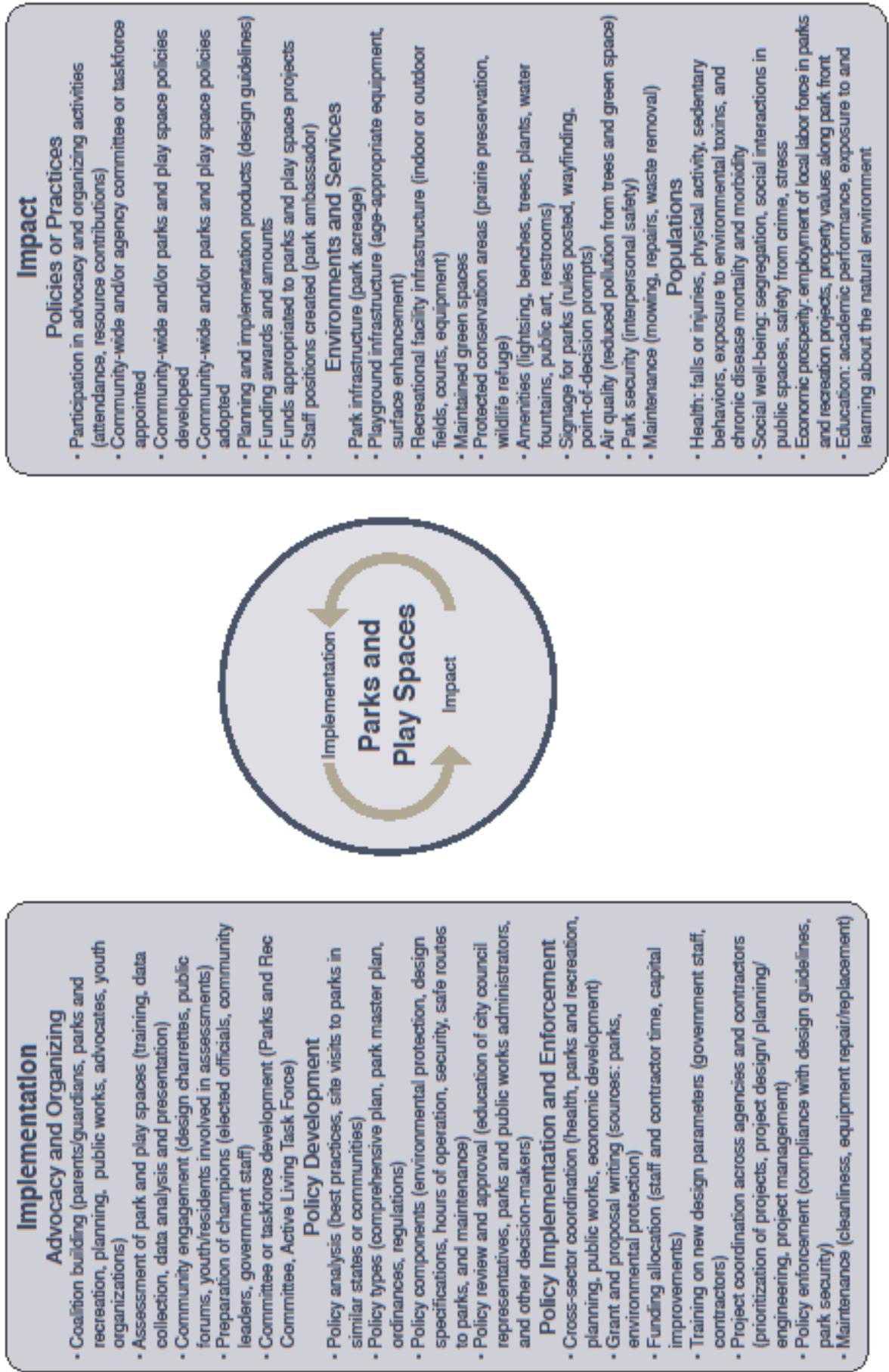
Parks and play spaces policy or practice changes may have impacts on policies, environments and services, and/or populations (see Figure 2A for examples specific to parks and play spaces).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change is dependent on the quality of implementation, including fidelity to model policies or best practices as well as acceptability to the community-at-large. In turn, quality improvement of the implementation is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 2 A: Parks and Play Spaces Implementation and Impact**



## Individual-Level Inputs, Outcomes, and Value

From an individual perspective, several investments and resources help to support parks and play spaces policies and practices, and, as a result, individuals may experience costs, savings, benefits, and harms (see specific examples in Figure 2B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of parks and play spaces policies and practices. Some scenarios illustrating different individual-level experiences of the value of parks and play spaces policies and practices are provided below.

### Investments

Individuals with jobs receive salaries or compensation, providing a stable source of income. Portions of this income can be invested in parks and play spaces projects or costs associated with using parks or play spaces. Similarly, personal assets or investments may be allocated to support parks and play spaces projects or use of these spaces. Fees may be collected to use park and recreation facilities or programming (e.g., fee associated with participation in soccer league). Lower-income individuals may receive scholarships to participate in park programs. Employer-sponsored recreation programs may also provide assistance with costs for recreation programs.

### Resources

Individuals who are passionate about parks and play spaces may invest their time, skills, or other non-monetary assets into efforts to: increase community awareness of the importance of parks and recreation, organize community support for parks and recreation policy initiatives, or vote on specific parks and recreation policies, among others. Some of these individuals may be volunteers who devote a lot of time and effort into community service projects. Collectively, these individuals may reflect proponents in support of investing in parks and play spaces initiatives or adversaries opposed to using public funds for these types of policies and projects. Given the time and effort devoted to these interests, proponents and adversaries may place great value on parks and recreation policies and projects. Cumulatively, the relative number of proponents valuing public investments in parks and play spaces in comparison to those interested in cutting public spending impacts the overall value of parks and play spaces policies and practices.

Making changes to parks and play spaces policies and practices may require input from civic groups, city council, or neighborhood associations. Given the potential impact of changes on their surroundings, individuals in these networks add value to parks and play spaces in the community. In addition, persons in leadership positions (e.g., public officials) may also exercise influence over any suggested changes.

### Costs and savings

To support parks and play spaces planning, implementation and maintenance activities, individuals with jobs related to the design, construction, or development of the projects may highly value their completion. The development of a new recreation facility, for example, may provide job security to a contractor or architect of that space. Consequently, the contractor or architect may place more value on parks and play spaces projects than someone who doesn't rely on these initiatives for financial security. In addition, larger-scale parks and recreation projects, though initially more costly, provide longer-term stability for those involved

Relatively new park and play space policies and practices (e.g., age-appropriate playground equipment) may require staff and contractor time invested in training. These individuals may value the training as a way to gain more knowledge and skills in their field, but they may also view this as time added to or taken away from their other job duties, resulting in less value placed on these policies and practices.

Individual federal, state, and local tax dollars allocated to parks and play spaces initiatives aid in financing associated policies and projects (i.e., increasing taxes increases individual costs, decreasing taxes increases individual savings). Because most individuals use parks or recreation infrastructure, they are likely to value the use of some tax dollars to support the development and maintenance of this infrastructure.

Individual property tax dollars allocated to parks and recreation can also help to fund parks and play spaces initiatives. Some individuals may value the creation of new parks, while others place value on improvement of existing parks. The creation of a new park may require a significant financial commitment (e.g., purchase/ allocation of land for new development, construction costs), whereas infrastructure and access improvements

in existing parks usually require less capital to implement (e.g., development of trails in parks, updates to playground equipment). Depending on their location and associated amenities, parks may be used for purposes other than green space (e.g., sports, movie nights), providing additional value to the individuals who use those facilities. However, parks are not equitably distributed throughout communities, resulting from communities with lower tax bases and individuals who are located near these parks may assess value commensurately.

Individual fees are collected by parks and recreation departments when residents utilize specific facilities (e.g., pool, recreation center) or participate in programs (e.g., summer camps, sports camps). These fees for participation may absorb costs associated to equipment involved in playing sports (e.g., baseball benches, basketball or soccer goals). Individuals paying the fees may see value in spending disposable income on recreation while others may prefer to spend this income in other ways, influencing their respective value of parks and play spaces.

Through increases in physical activity, individuals may experience improved health and, in turn, less costly health insurance rates and fewer expenses associated with health care.

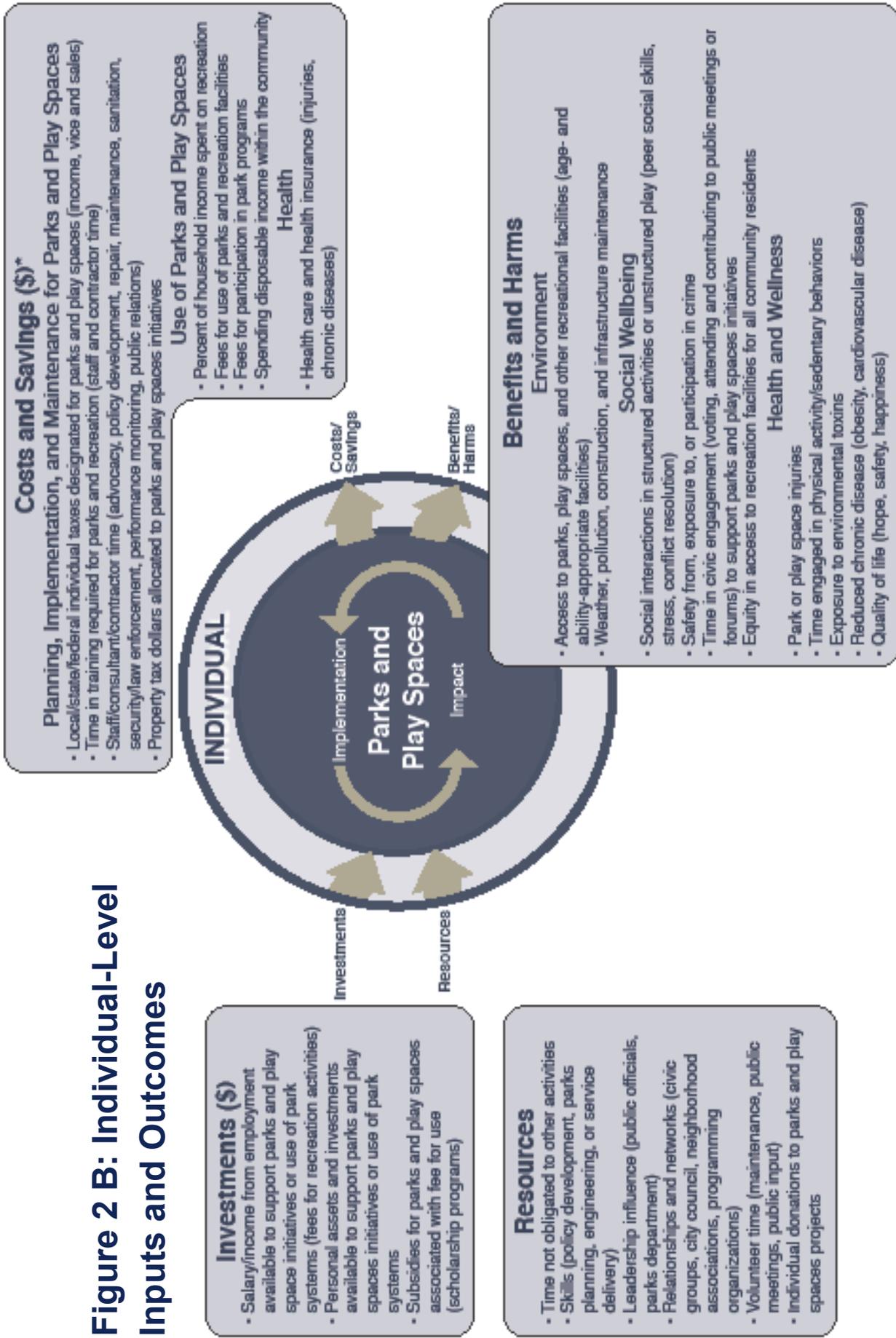
### Benefits and harms

Individuals living in close proximity to parks or recreation facilities may have increased exposure to the outdoor environment through age- and ability-appropriate facilities and programs. If these outdoor environments are well-maintained, then the parks and play spaces contribute to the overall aesthetics of the surrounding neighborhoods. Other environmental factors influencing the use and value of parks and playgrounds include weather (e.g., park functionality may be compromised due to weather conditions), access (e.g., restricted hours of operation), and transportation factors (e.g., park accessibility for pedestrians and bicyclists).

Park facilities may also increase opportunities for youth and community residents to interact with one another through unstructured play, programs, volunteering, and other events. These types of interactions may stimulate a greater sense of community and more civic engagement among residents. Increases in physical activity and social interactions may benefit individuals' mental, physical, emotional, social, and spiritual health, and subsequently, impact a person's quality of life. In contrast, parks and play spaces in unsafe neighborhoods tend to limit neighbors getting to know one another through activities in parks and other recreation facilities.

In addition, individuals living close by may experience greater physical activity levels by utilizing the playgrounds, trails, fields, and pools and through walking, biking, and playing. These increases in physical activity and reductions in sedentary behavior are likely to result in a reduction in chronic diseases and related co-morbidities, including overweight and obesity.

**Figure 2 B: Individual-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence economic prosperity (not shown under benefits and harms).

## Agency- and Organizational-Level Inputs, Outcomes, and Value

Different agencies (e.g., parks and recreation, planning, public works, health) and organizations (e.g., advocacy, design firms, construction businesses) are primarily responsible for developing and implementing parks and play space initiatives as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in response, experience costs, savings, benefits, and harms (see Figure 2C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of parks and play spaces policies and practices. The below scenarios exemplify different agency- and organization-level experiences of the value of parks and play spaces policies and practices.

### Investments

Different agencies and organizations may generate revenue from a wide variety of sources. For instance, parks and recreation agencies may obtain funds from programming fees (e.g., cost for a child to participate in a soccer program held at the local park) and fees for using a park facility (e.g., cost for utilizing a swimming pool), among others. Some portion of these funds can be allocated to parks and play spaces policies and projects. Government and non-profit agencies often receive federal, state, local, foundations, or businesses grants or contracts to support parks and play spaces initiatives (e.g., KaBOOM!, Parks and Recreation Trust Fund, or Parks and Recreational Facility Construction Grant Program). Qualifying projects may receive federal, state, or local tax credits (e.g., Historic Rehabilitation and Preservation Tax Credits for park improvements) to help offset the costs of parks and play spaces policies and practices. Selected initiatives may also benefit from appropriations, earmarks, or bonds to provide supplemental funding. Businesses can provide corporate sponsorships or donations that may also support parks and play spaces policies and projects.

### Resources

Similarly, agencies and organizations may contribute their own office space or equipment for meetings related to parks and play spaces policies or projects (e.g., a community design charrette to obtain public input on a new neighborhood park). Equipment may also be donated or loaned, including computers, design software, copy machines, or construction equipment. Furthermore, agencies or organizations may obtain or provide donated land or easements for public use of land, and, in turn, this land provides a site for park or play space projects. As an example, a commercial district may agree to a park easement requiring local businesses to provide private land in between their establishments to build a small pocket park. Media or communications agencies and organizations can provide free marketing services (message development), television or radio spots, billboards, newspaper articles or advertisements, or related services to support parks and play spaces initiatives.

### Costs and Savings

For parks and play spaces planning, implementation, and maintenance, agencies and organizations pay for staff time and benefits for a wide variety of tasks and responsibilities, such as community organizing and advocacy, policy development and obtaining buy-in from local elected and appointed officials, design and construction of the projects, oversight and management of the project, communications and public relations, and maintenance, sanitation, and security. Contractors and consultants are frequently hired for design, construction, landscaping, and performance monitoring, among other responsibilities. New parks and play spaces policies and guidelines may require the agency or organization to provide training to employees, contractors, or consultants.

Similar to individuals, agencies and organizations pay federal, state, and local taxes (income and sales), and some of these funds may be allocated to parks and play spaces initiatives. For example, a sporting goods sales tax might be allocated specifically to development or enhancement of parks and play spaces, requiring the taxes paid by sporting good business or organizations to go directly toward park improvements.

Developers may be subject to guidelines for inclusion of parks and play spaces in new or redevelopment projects and they may be subject penalty fees for refusing to adhere to the guidelines. Other agencies, businesses, and organizations may preserve land for parks and play spaces, yet require a lease for public use of the land.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; computing equipment and software; office furniture; licensures and liability insurance; and other office supplies and equipment. Additionally, these entities may have direct expenses associated with parks and play spaces initiatives, such as purchasing or leasing meeting space or equipment, land or easements, and supplies or materials (e.g., design and construction, media and communications).

Parks and recreation or public works agencies have personnel and material costs for maintaining parks and play spaces, including mowers, equipment, paint, lighting, signage, call boxes, water fountains, benches, foliage, and more.

As a result of increased use of parks and play spaces, there may be an associated increase in recreation equipment purchases from community vendors (e.g., sporting goods) and a decline in sales related to sedentary activities (e.g., video games), leading these business representatives to place relatively greater or lesser value on parks and play spaces policies and practices.

Alternatively, with respect to the use of parks and play spaces, agencies and organizations may provide employer-sponsored park incentives (e.g., subsidized monthly parks or recreation passes or usage fees), on-site facilities (e.g., recreational facilities, showers, and locker rooms), and discounts on health insurance benefits. The presence or absence of these benefits reflect the entity's value of parks and play spaces and may have a strong influence on employees' physical activity behaviors. In turn, healthier employees may save the agencies and organizations costs related to health insurance or employee absenteeism.

### Benefits and Harms

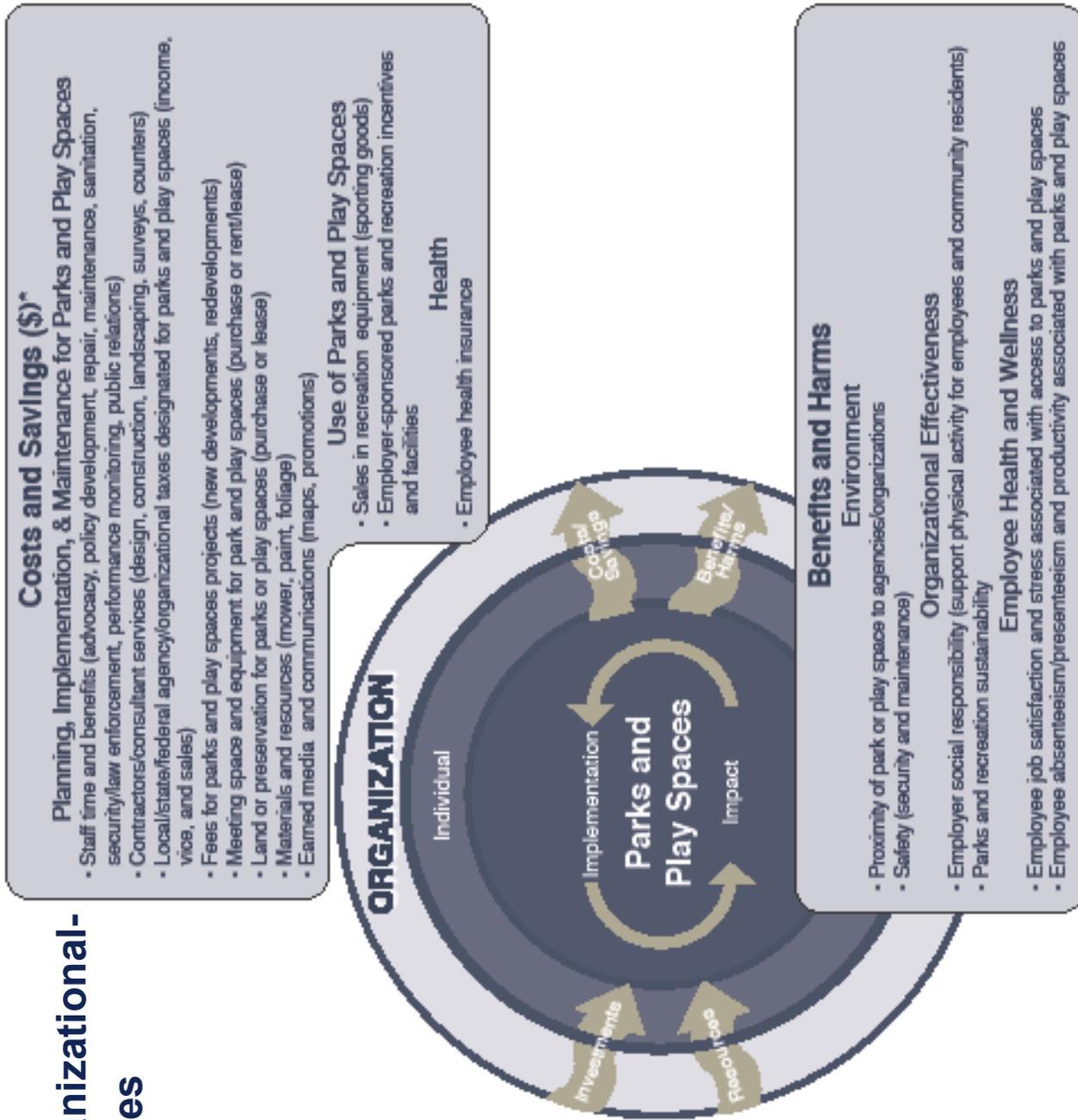
Employers can locate their agencies, businesses, or organizations near parks and play spaces to make it easy for their employees to use these spaces on breaks or before and after the work day.

Safety from falls or injuries may also be prevented through maintenance of the environment in and around the parks and play spaces. For example, removing fallen trees after a storm or having liability insurance to provide compensation as needed for a child sustaining injuries after use of playground equipment. Ongoing maintenance of park and play space facilities is particularly important to ensure litter or glass is removed from the play space and that equipment is repaired in a timely fashion.

Agency or organization representatives may serve as leaders in the community, advocating for parks and play spaces infrastructure that serves the needs of all residents in the community (e.g., those with physical disabilities). These leaders may strive to increase political and community support for parks and play spaces in order to increase their sustainability..

Finally, greater physical activity in employees using parks and play spaces has health benefits, particularly for those with relatively sedentary jobs (e.g., sitting at a computer, sitting while driving a vehicle). Healthier employees are frequently prone to less absenteeism and greater productivity, thereby creating benefits for the individual and the agency, business, or organization.

**Figure 2 C: Agency-/Organizational-Level Inputs and Outcomes**



**Investments (\$)**

- Agency/organization revenue generated from fees allocated to parks and play spaces (programming fees, fee for use)
- Federal/state/local tax credits for qualifying projects (Historic Rehabilitation and Preservation Tax Credits)
- Grants/contracts awarded to parks and recreation agencies (Parks and Recreation Trust Fund, Parks and Recreational Facility Construction Grant Program)
- Appropriations, earmarks, or bonds for capital improvements supporting parks and play spaces
- Agency benefits (employer insurance benefits from healthy employees)
- Agency/organization receipt of sponsorships or donations for parks and play spaces

**Resources**

- Agency/organization donation of meeting space and equipment to support parks and play spaces efforts
- Agency-/organization-owned land or easements for parks and play spaces facilities
- Agency/organization donation of resources for advocacy, media, and communications

**Costs and Savings (\$)\***

- Planning, Implementation, & Maintenance for Parks and Play Spaces
- Staff time and benefits (advocacy, policy development, repair, maintenance, sanitation, security/law enforcement, performance monitoring, public relations)
- Contractors/consultant services (design, construction, landscaping, surveys, counters)
- Local/state/federal agency/organizational taxes designated for parks and play spaces (income, vice, and sales)
- Fees for parks and play spaces projects (new developments, redevelopments)
- Meeting space and equipment for park and play spaces (purchase or rent/lease)
- Land or preservation for parks or play spaces (purchase or lease)
- Materials and resources (mower, paint, foliage)
- Earned media and communications (maps, promotions)

**Use of Parks and Play Spaces**

- Sales in recreation equipment (sporting goods)
- Employer-sponsored parks and recreation incentives and facilities
- Employee health insurance

**Health**

**Benefits and Harms**

**Environment**

- Proximity of park or play space to agencies/organizations
- Safety (security and maintenance)

**Organizational Effectiveness**

- Employer social responsibility (support physical activity for employees and community residents)
- Parks and recreation sustainability

**Employee Health and Wellness**

- Employee job satisfaction and stress associated with access to parks and play spaces
- Employee absenteeism/presenteeism and productivity associated with parks and play spaces

\* - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Community–Level Inputs, Outcomes, and Value

Communities, including municipal, city, county, or regional authorities and their respective constituents, provide the infrastructure, environments, and political decision-making context for parks and play spaces policies and practices. The authorities may include local government officials, regional park districts and park authorities, school districts, public land agencies, and tribal governments; and the constituents include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to parks and play spaces policy and practice efforts and, in response, experience costs, savings, benefits, and harms (see Figure 2D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of parks and play spaces policies and practices. The following examples illustrate some of the community-level experiences of the value of parks and play spaces policies and projects.

### Investments

To support parks and play spaces initiatives, cities and counties frequently receive funds through park millage, or property taxes designated for parks and recreation operations as well as state or federal grants or contracts (e.g., U.S. National Park Service, general funds). Another source of funds is to have the city or county generate revenue through fees charged to developers, participants in park events and programs, those renting sporting goods or equipment). Increases in tourism may result from guests visiting parks or play spaces, and, in turn, the new revenue from tourism can be allocated to parks and play spaces projects to further improve safety or aesthetics in the community. Finally, cities and counties may also receive funds from sponsors or private donors that can be allocated toward parks and play spaces projects.

### Resources

To complement these monetary investments, cities and counties can also provide goods and materials or designate land to parks and play space uses. Likewise, city or county elected and appointed officials can support parks and play spaces as part of their campaigning or by serving as a spokesperson to raise community consciousness of the importance of park, open green spaces, and other recreational facilities. For instance, community politicians can advance a “triple bottom line” mindset, illustrating how parks and play spaces policies and practices help *people* (health and social), protect the *planet* (environmental preservation), and generate *profit* (support the community’s economic vitality).

### Costs and Savings

For parks and play spaces planning, implementation, and maintenance, one major source of potential costs or savings is the infrastructure for parks, play spaces, and other recreational facilities. Likewise, city or county representatives and staff salaries (mayors, city council members, school board members) may pay for their time dedicated to the development and approval of plans (e.g., long range plans, parks and recreation master plan), design guidelines and standards, zoning codes and land use regulations, and maintenance. Local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend parks and play spaces policy and environmental changes to elected and appointed officials and participant or meeting costs may be incurred. Public meetings, such as community forums, design charrettes, town hall meetings, or public hearings, may also be hosted in order to capture comprehensive community input. For instance, design charrettes are workshops that bring together residents and key leaders to explore design options for a particular park, play space, or recreation facility site. In addition, cities or counties may conduct assessments in order to generate environmental impact (mitigation and restoration) and health impact statements to forecast the influence of a specific park or play space initiative. Finally, cities and counties may employ the local labor force in park and play space projects as part of strategies to increase economic development for the community.

With regard to use of parks and play spaces, some of these communities allocate a portion of their local tax base, including income, sales, and property taxes as well as special business tax districts, to park, play space, and other recreation projects. Another method of designating funds to parks and play spaces policy and practice efforts is through city or county budget provisions, such as decisions to design new or redesign existing parks. Increases in property values near park and play space projects may be another monetary benefit to the city or county; yet, steps may need to be taken to ensure that these improvements do not

displace lower-income residents. Communities may also draw private investments or new industries to the community with improved parks and play spaces as these types of community resources tend to support employees and their families, thus increasing the local tax base. Lastly, city and county representatives and staff living and working in these types of communities may have higher rates of activity, and in turn, lower rates of chronic diseases or conditions, thereby lowering health insurance costs.

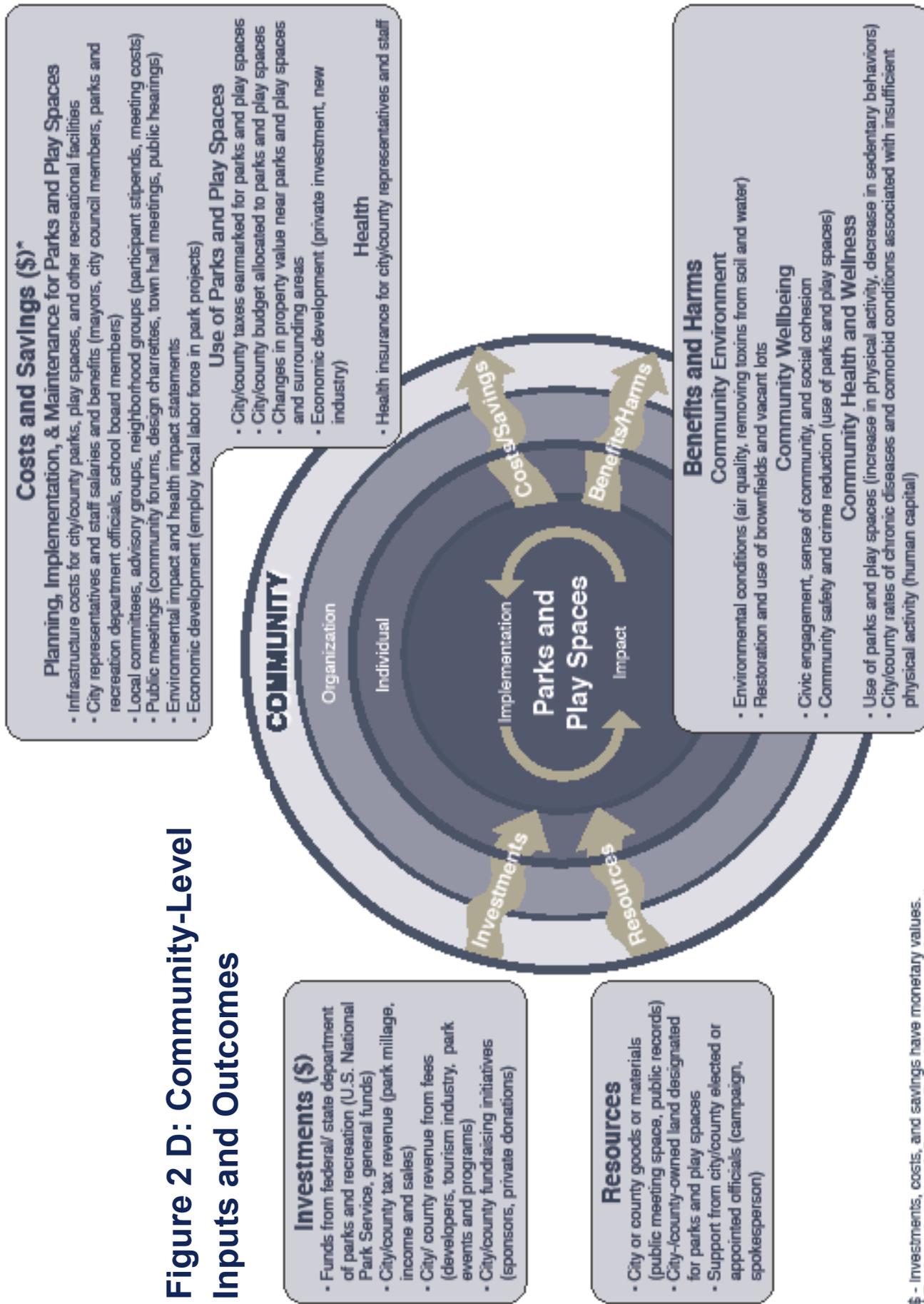
### **Benefits and Harms**

Parks and play spaces with natural environments and greater foliage help to reduce pollutants and toxins in the community environment (i.e., air, water, and soil quality). Changes in parks and play spaces may also restore or create uses for brownfields or vacant lots, aesthetically and functionally improving the community environment.

More foot traffic from park users creates more opportunities for social interactions in and around these parks and play spaces, as opposed to individuals and their families isolated in their homes or yards. Greater social interactions, such as people knowing their neighbors, may increase perceptions of social cohesion and a sense of community that, in turn, may also increase civic engagement and perceptions of community safety, and reduce crime.

The health benefits of walking, biking, and using parks and play spaces to increase overall physical activity may lead to more citizens living disease- and disability-free days, thereby increasing human capital, productivity, ingenuity, and diversity for a sustainable future.

**Figure 2 D: Community-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Society–Level Inputs, Outcomes, and Value

Federal and state authorities and their respective constituents are one of the primary sources of funding to support parks and play spaces policies and practices. Collectively, these investments and resources designated to parks and play spaces initiatives lead to a variety of costs, savings, benefits, and harms (see Figure 2E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of parks and play spaces policies and practices. The below scenarios exemplify different societal-level experiences of the value of parks and play spaces policies and projects.

### **Investments**

State or federal tax revenue may contribute to the pool of funds available to support national or state parks and play spaces initiatives (e.g., revenue generated through lottery or gaming tax may add to the funds supporting parks and play spaces projects). State or national fundraising initiatives to support parks and play spaces policies and practices may be successful in obtaining funds from sponsorships or private donations.

### **Resources**

State or federal land may be designated to park and play space uses. State or federal goods and materials may also be identified for use in parks and play spaces policies and practices (e.g., public meeting space, public records). Like city or county elected and appointed officials, state or federal officials can support parks and play spaces as part of their campaigning or by serving as a spokesperson to raise public awareness of the importance of park, open green spaces, and other recreational facilities.

### **Costs and Savings**

With respect to parks and play spaces planning, implementation, and maintenance, state and federal costs and savings may be attributed to park infrastructure for state or federal parks. State or federal representatives and staff salaries (governors, senators, representatives, parks and recreation department officials) may also provide time dedicated to the development and approval of policies and practices to support parks and play spaces, including health insurance rates that may decrease with healthier lifestyles impacted by better access to parks and play spaces. State or federal committees may deliberate on guidelines or funding for parks and play spaces policy and environmental strategies influencing change at the local level. Likewise, state or federal agencies may hold public meetings to incorporate public input into decision-making.

For use of parks and play spaces, state or federal budget provisions may be established and appropriated for park or infrastructure improvements, such as the National Park Service, National Park Conservation Associations, Park Enhancements Programs, Air Quality program, Land Acquisition, and Recreational Facilities program. In addition, state and federal revenue may also be affected by increases in revenue related to sporting goods, services, programming, and tourism as well as state or national events, such as races, walks, festivals, and other park events.

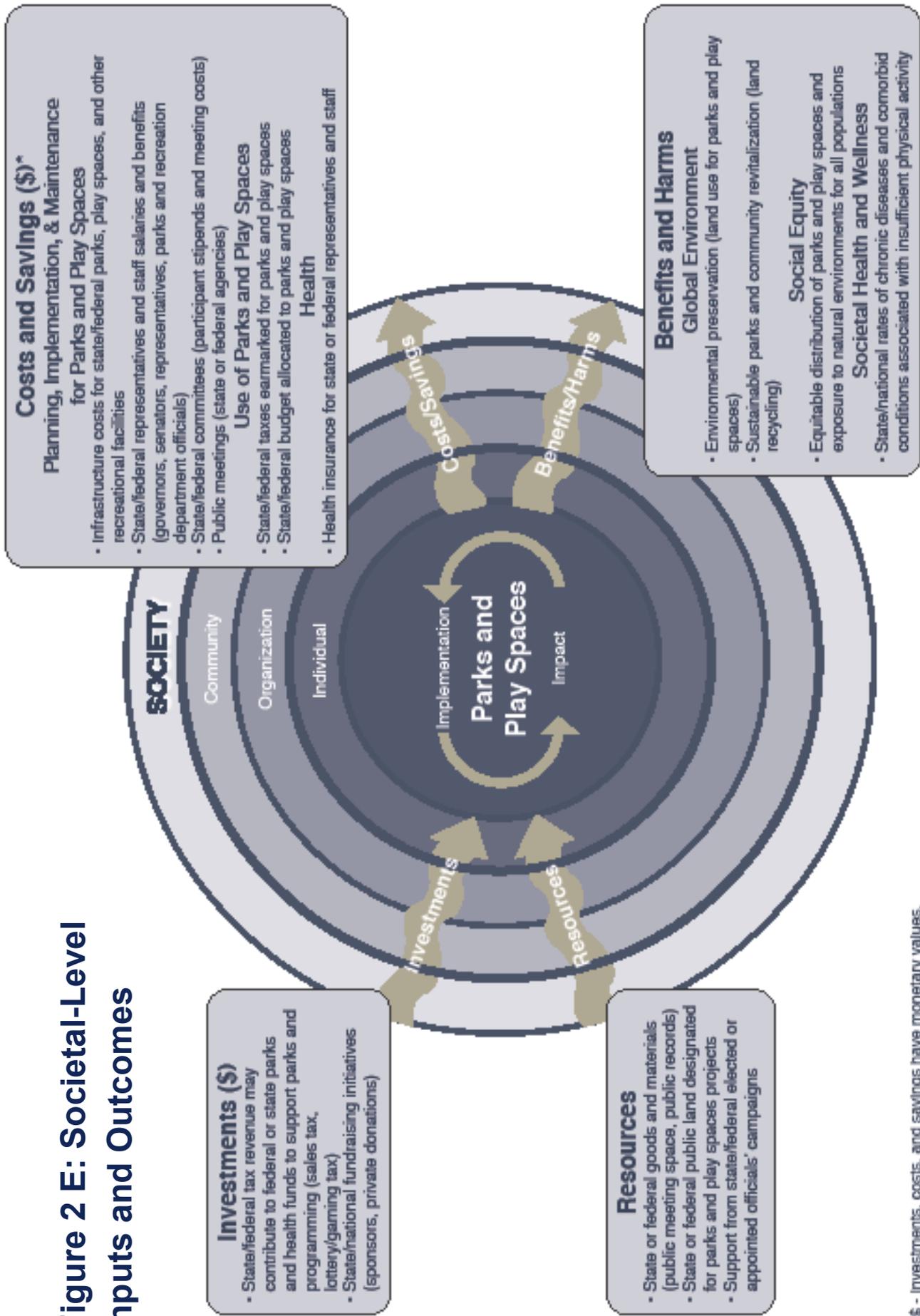
### **Benefits and Harms**

Less vacant lots and brownfields and more land used for parks and play spaces can increase preservation of the natural environment. Similarly, efforts to increase mixed-use developments and land recycling can lead to a greater focus on sustainable parks and play spaces and more community revitalization.

System-wide access to parks and play spaces increase equal opportunities for citizens to gain exposure to natural environments and to engage in physically active behaviors throughout the day, thereby increasing equity across populations through parks and play spaces.

As identified in previous sections, the health benefits of walking, biking, and using parks and play spaces to increase overall physical activity can produce more citizens living disease- and disability-free days, increasing vitality and quality of life for all people.

**Figure 2 E: Societal-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## CHILD CARE PHYSICAL ACTIVITY STANDARDS

### Implementation

Efforts to improve physical activity standards – to increase the duration and intensity of activity in structured or unstructured play – in child care settings (e.g., early childhood education centers, afterschool programs) may include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 3A) for examples specific to child care physical activity standards).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives in the child care setting or surrounding community;
- identify needs and priorities among these representatives;
- develop leadership in child care agencies and the community to direct a vision and plan for change;
- create decision-making bodies composed of representatives (e.g., parents, teachers, administrators) that promote health in all policies; and
- leverage financial and other resources to initiate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, standards, guidelines, curricula, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability to the child care setting and surrounding community;
- draft new standards/practices or modify existing standards/practices, including designated sources of funding and necessary specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers and child care administrators for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) teachers/staff/consultants/contractors with sufficient knowledge, skills, and capabilities to uphold standards and use new curricula;
- ensure sufficient coordination and communication across agencies, departments, and partners responsible for implementation and enforcement;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure active participation among youth;
- assure the relevance to, and the safety and satisfaction of, the entire community; and
- secure funding and resources for maintenance.

### Impact

Policy or practice changes related to child care physical activity standards may have impacts on policies, environments and services, and/or populations (see Figure 3A for examples specific to child care physical activity standards).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change depends on the quality of implementation, including fidelity to model policies or best practices, as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 3 A: Child Care Physical Activity Standards Implementation and Impact**

**Implementation**

- Advocacy and Organizing**
  - Coalition building (parents/guardians, child care providers and agencies, youth organizations)
  - Assessment of child care physical activity facilities (training, data collection, analysis, and presentation)
  - Community engagement (public forums, youth/residents involved in assessments)
  - Preparation of champions (elected officials, community leaders, child care providers)
  - Committee or taskforce development (Early Childhood and Youth Development)
- Policy Development**
  - Policy analysis (best practices, site visits to child care facilities in similar states or communities)
  - Policy types (child care provider licensure, wellness policies, curricula)
  - Policy components (required active time, restrictions on sedentary time, programming, enforcement, and environment specifications and maintenance)
  - Policy review and approval (education of city council representatives, child care administrators, and other decision-makers)
- Policy Implementation and Enforcement**
  - Cross-sector coordination (education/schools, health, child care, parks and recreation, youth organizations)
  - Grant and proposal writing (sources: Child Care Bureau and Head Start - US DHHS, HUD, 21st Century Community Learning Centers - Dept of Education)
  - Funding allocation (staff time, capital improvements)
  - Training on new physical activity standards (child care staff, administrators)
  - Program coordination and supervision
  - Policy enforcement (agency/provider compliance with new standards, active participation by youth)
  - Maintenance of the environment (cleanliness, facility or equipment repair/replacement)



**Impact**

**Policies or Practices**

- Participation in advocacy and organizing activities (attendance, resource contributions)
- Community-wide and/or agency committee or taskforce appointed
- Community-wide and/or agency physical activity policies developed
- Community-wide and/or agency physical activity policies adopted
- Planning and implementation products (new curricula)
- Funding awards and amounts
- Funds appropriated to child care agencies
- Community-wide and/or agency staff positions created

**Environments and Services**

- Safe routes to child care facilities (walking, biking)
- Indoor and outdoor recreation infrastructure (playgrounds, courts, fields, bike racks, open spaces)
- Equipment and storage (basketballs, jump ropes)
- Physical activity education for child care providers
- Enforcement of standards (child care licenses)
- Facility maintenance (repairs, waste removal)

**Populations**

- Health: falls or injuries, active transportation, physical activity, sedentary behaviors, chronic disease morbidity and mortality
- Social well-being: social interactions with peers in structured activities or unstructured play, safety from crime, stress
- Economic prosperity: employment of local labor force in child care settings, sliding fee scales or free services
- Education: academic performance, team-building skills, conflict resolution skills, exposure to the natural environment

## Individual-Level Inputs, Outcomes, and Value

From an individual perspective, several investments and resources help to support improvements in child care physical activity standards, and, as a result of these policies and practices, individuals may experience costs, savings, benefits, and harms (see Figure 3B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of improved child care physical activity standards. Some scenarios illustrating different individual-level experiences of the value of child care physical activity standards are provided below.

### **Investments**

In order to pay for oversight and education of their children or to contribute financially to child care policy initiatives, parents, guardians, or community residents may draw on income from salaries or other compensation as well as personal assets and savings. Similarly, parents or guardians who pay federal, state, or local income taxes may be eligible to receive assistance through federal, state, or local tax credit programs and subsidies, or child care tuition assistance through their employers. In contrast, communities with high rates of poverty and unemployment have fewer parents, guardians, and community residents that can afford to pay for child care or to contribute financially to child care improvements.

### **Resources**

Parents, guardians, and community residents also have skills and resources that can serve to support improvements in child care physical activity standards in lieu of financial assets. For instance, individuals may have experience developing similar types of policies or standards, or they may have training or expertise in physical education or child care services. Leaders, such as public officials or child care administrators, may have influence at national, state, local, or institutional levels to rally support for child care improvements. Likewise, most individuals have connections that can be drawn upon to influence change through relationships with family, friends, co-workers, and neighbors as well as affiliations with groups and organizations (e.g., parent-teacher association). At the individual level, the most important resource is probably unobligated time to allow these skills and resources to be committed to child care improvements.

### **Costs and Savings**

To support planning, implementation, and maintenance of child care physical activity standards, agency staff members may incur training costs. Some individuals may consider the fees and time spent in training as a valuable investment in building job-related knowledge and skills. In contrast, other individuals may view this training as time added to or taken from their current duties (e.g., creating lesson plans, leading children's activities), resulting in a lower perceived value of physical activity standards. Staff members who have received additional training to meet new standards may, in turn, receive higher salaries.

Parents, guardians, and community residents may opt to provide financial support to child care initiatives to improve physical activity standards. And, individual tax dollars (i.e., federal, state, and local) may be allocated to finance early childhood education as well as before and after school programs and services. Some taxpayers may prefer to have these funds spent on other programs or services, and others may not want to use tax dollars for these types of programs and services at all. These desires can impact the perceived value of improvements to child care physical activity standards.

Many parents or guardians responsible for young children need to maintain some form of external child care and therefore assume the costs associated with these services. Fees paid by parents or guardians to child care agencies are a main source of funding for these agencies. In turn, some portion of child care fees may be used to develop physical activity guidelines or curricula or to improve recreation infrastructure. While some parents or guardians may place value on physical activity for their children and prefer to allocate funds to the improvement of these standards, others may see benefit in reserving the money for other improvements to the child care facilities (e.g., building repair and maintenance) or services (e.g., academic or art programs). Since funds are finite, the challenge lies in budgeting and distributing resources to serve multiple interests while still focusing on the value of physical activity standards. Some parents or guardians may prefer in-home or other child care arrangements (e.g., family, friends) instead of going through an agency. In cases where parents or guardians choose other forms of child care (e.g., nanny or single-family

child care professional), changes to child care physical activity standards may not directly impact these families, which may lessen support for the use of public resources for these purposes.

From a community standpoint, child care agencies with recreational facilities may be an asset, if the agencies allow residents to use the recreational facilities when children are not using them. This may increase the perceived value of child care physical activity standards, particularly those that include provisions to update and maintain recreation facilities. Yet, these agencies may require individuals or groups to pay fees to use the recreational facilities to cover liability, programming, or maintenance costs. If the fees are expensive, the perceived value of the child care agency's efforts to improve physical activity standards may fall by the wayside.

Over time, increased individual health care or health insurance expenses may result from children having less regular and less rigorous physical activity throughout the day, a major risk factor for many costly chronic diseases. At the same time, participation in sports or other activities may expose children to injuries and associated medical bills in the short term. These different perspectives all have an influence on the value of efforts to improve child care physical activity standards.

### Benefits and Harms

Environmental factors, including conditions of the area in and around the child care setting, may impact an individual's value of new or improved child care physical activity standards. Child care agencies with ample space may increase a child's exposure to open, natural fields for outdoor recreation and to indoor and outdoor recreation facilities and equipment that stimulate creative, active play. These types of environments offer a variety of opportunities for structured (e.g., team sports, dance) and unstructured activities, and, in turn, tend to provide stimulation to children with varying interests and abilities. Alternatively, agencies with insufficient indoor and outdoor space and equipment may hamper children's desires and abilities to be active.

Parents of children who do not have access to physical activity facilities or equipment at home or in their neighborhood may place a greater emphasis on improvements to child care physical activity than individuals whose children have other outlets for physical activity. For children within walking or biking distance or for those using public transportation, the presence of sidewalks, bike lanes, or transit stops around the child care setting may increase active transportation to and from the child care setting (i.e., safe routes to child care). This type of infrastructure supports a more active lifestyle that can lead to greater support for child care physical activity standards. In contrast, child care agencies in areas that are not conducive to safe outdoor play or active transportation due to crime or heavy traffic, for example, may not receive much support for requirements to increase these types of physical activity.

In addition, weather and climate may impact the use of outdoor recreation or active transportation facilities. For example, in areas where the weather is mild, child care agencies may have greater ability to use outdoor space for designated physical activity time, whereas a region experiencing harsh winters may find it more difficult to allocate the space to meet newly set standards for time in quality physical activities.

Social well-being factors may also influence the value of child care physical activity standards. For instance, providing access to safe and age-appropriate physical activity opportunities allows children to spend more time engaged in structured or unstructured play, which increases social interactions. Heightened social interactions can foster the development of important life skills, such as conflict resolution, sharing, and relationship building.

Additionally, increased time spent in productive physical activity programs may result in decreased time spent engaged in, or subject to, crime. If a child is involved in supervised programs at a child care agency, this can decrease the time the child may be unsupervised at home or in the community while their parent or guardian is otherwise occupied. Thus, the chance that the child is engaged in, or a victim of, delinquent activities may be reduced.

Curricula with a focus on physical activity can teach children skills to maintain an appropriate weight and muscle tone so they start with a healthy body image at a young age. Body image is an important aspect of a young person's socio-emotional development, and, over time, a healthy body image can reinforce proper levels of physical activity into adulthood.

Individuals may experience social and emotional benefits from volunteering their time and skills, or donating their material assets. For instance, time may be spent contributing to the creation of new physical activity standards, attending public meetings or events, or gathering community support for child care initiatives. Some of this time may reflect the interests of proponents supporting improved physical activity standards and some of this time may reflect adversaries opposing these standards. Depending on the viewpoint, the relative number of proponents in comparison to adversaries impacts the overall value of these types of child care initiatives in the community.

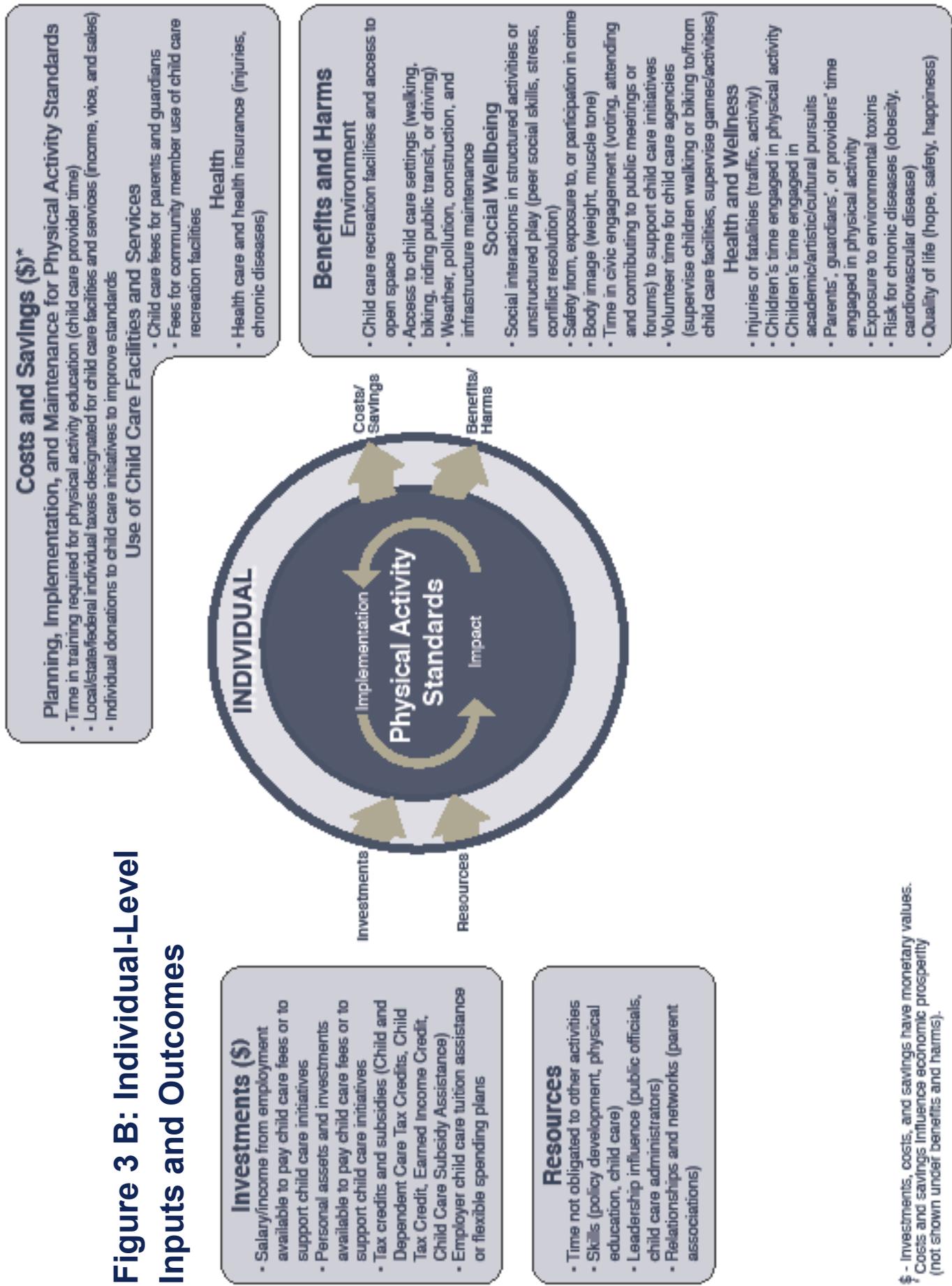
In addition to civic engagement, volunteers may also spend their time providing direct support to increase the amount of time children are physically active in child care settings. For example, adults may supervise children walking or biking to and from the child care settings or they may organize games and activities for children while they are in the child care settings.

Health factors may affect the perceived or real value of child care physical activity standards. Increases in children's time spent in physical activity during the day, as agencies carve out time specifically dedicated to structured activities or unstructured play, can increase a child's strength and cardiovascular health. A heightened focus on physical activity in child care settings may also foster increased time spent in physical activity by parents, guardians, siblings, grandparents, and child care providers.

When children spend more time in sports and recreation, this may take away from time spent in academic, artistic, or cultural activities, particularly if these activities require the child to be stationary or sedentary. Children's health relies on their cognitive, physical, and socio-emotional development, making it important to strike a balance across these different activities. In addition, new physical activity standards in child care settings may have potential adverse effects as well. For instance, increasing the time spent in physical activity may also increase the frequency or intensity of physical injury or exposure to environmental toxins (e.g., outdoor play in areas with air pollution).

However, in general, more physical activity can reduce morbidity and mortality associated with many chronic diseases. Taken in concert, changes that improve a child's ability to obtain a minimum amount of daily exercise and enhance social opportunities can positively impact physical health, mental health, and quality of life.

**Figure 3 B: Individual-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence economic prosperity (not shown under benefits and harms).

## Agency- and Organizational-Level Inputs, Outcomes, and Values

Agencies and organizations (e.g., advocacy, child care, school, government) are primarily responsible for developing and implementing child care physical activity standards as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in turn, experience costs, savings, benefits, and harms (see Figure 3C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved child care physical activity standards. The below scenarios exemplify different agency- and organization-level experiences of the value of child care physical activity standards.

### **Investments**

Agencies and organizations providing direct child care services, or indirect administrative and other support for these services, obtain funding from multiple sources that may be used for the development, implementation, and maintenance of physical activity standards. Primarily, child care agencies generate revenue through fees collected from a child's parents or guardians, reimbursement from parent or guardian employers, or subsidies from federal and state agencies supporting children and family services. Child care agencies working to improve physical activity standards may be eligible for federal, state, or local tax credits, or they may be awarded grants or contracts to support capital improvements (e.g., new recreation facilities, pedestrian or bike facilities) or to subsidize physical activity equipment or resources. Similarly, these agencies may be able to gain support from local decision-makers to get bonds or other funds appropriated or earmarked for capital improvements in or around the agency. Local schools offering after school or early child education programs may also allocate funds in support of physical activity facilities or equipment. In addition, insurance companies who provide employment benefits may offer discounts or reimbursements to child care agencies who institute physical activity standards. Moreover, local businesses or corporations may provide donations or sponsorships toward infrastructure improvements (e.g., a new playground in the name of a local business).

### **Resources**

Along with financial aid, child care agencies may receive non-financial support for improvements in physical activity facilities and equipment, or they may contribute non-monetary resources themselves. For example, organizations may donate meeting or office space suitable for trainings or local businesses may offer new/used sports equipment for use in physical activity programs (e.g., jump ropes, balls, and nets). In addition, organizations may contribute land (permanent or temporary) to extend access to outdoor play spaces. For instance, a school may agree to grant a child care agency access to their fields during after-school hours. Media or communications agencies and organizations can provide free marketing services (e.g., message development) or advertisements (e.g., newspaper articles) to support child care physical activity standards.

### **Costs and Savings**

To plan, implement, and maintain child care physical activity standards, agencies and organizations provide salaries and benefits in exchange for a wide variety of policy- and practice-related tasks and responsibilities. For instance, staff time may be allocated to drafting new standards or curricula, collaborating with local elected and appointed officials, developing advocacy and community organizing strategies, coordinating communications and public relations, or delivering training. Child care agency administrators and staff may find that improvements in physical activity standards foster greater longevity for their organization by increasing demand for specialized professionals in the field or through garnering additional grants or state funding.

Contractor or consultant time may be dedicated to a variety of forms of training or technical assistance, including: staff skill building, engaging local residents in advocacy, informing government officials about resource needs, or recreation facility design and construction. Collaboration with other child care providers may reduce contractor and consultant costs by distributing these costs across agencies, and, in turn, increasing staff exposure to a wider network of child care professionals. Organizations that require their staff to participate in advocacy or collaborative efforts outside the agency may or may not view the time spent as a valuable investment based on their perceptions of effectiveness of the new standards and the potential impact on staff workload.

Similar to individuals, agencies and organizations pay federal, state, and local taxes (income and sales), and some of these funds may be allocated to initiatives supporting child care policies and environments (e.g., Head Start), yet these resources are typically not designated specifically for recreation and play.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; computing equipment and software; office furniture; licensures and liability insurance; and other office supplies and equipment. Since physical activity may increase the risk of injury, the agency may have to cover increasing costs for liability insurance in case accidents occur on property. Additionally, child care agencies working to improve physical activity standards may have direct expenses, such as purchasing or leasing meeting space or equipment, land or easements for recreation facilities, recreation equipment and storage, and supplies or materials (e.g., resources for new curricula, lesson plans, activities). For example, an agency interested in offering team sports such as basketball may need to acquire, or secure use of, a marked court, nets, basketballs, and storage for the balls and nets when they are not in use. As child care facilities provide additional or enhanced physical activity opportunities, it may be important to advertise new programs or services within the community. While the cost of advertising may be substantial at the beginning, it has the potential of increasing the customer base and thus generating additional revenue in order to build capital in the long run.

Agencies or organizations may also have costs associated with maintenance of courts, fields, gyms, pools, and open spaces as well as equipment updates or improvements. As a result of increased use, the facilities, equipment, and materials may require a higher level of allocated funds to keep these resources in working condition.

As a result of increased use of facilities for recreation or active transportation in these settings, there may be an increase in purchases of these resources (e.g., playground equipment, bike racks).

Agencies or organizations focusing on preventive health through enhanced physical activity opportunities may experience savings through reductions in the employer-paid portion of insurance premiums for salaried, exempt employees and staff members.

### Benefits and Harms

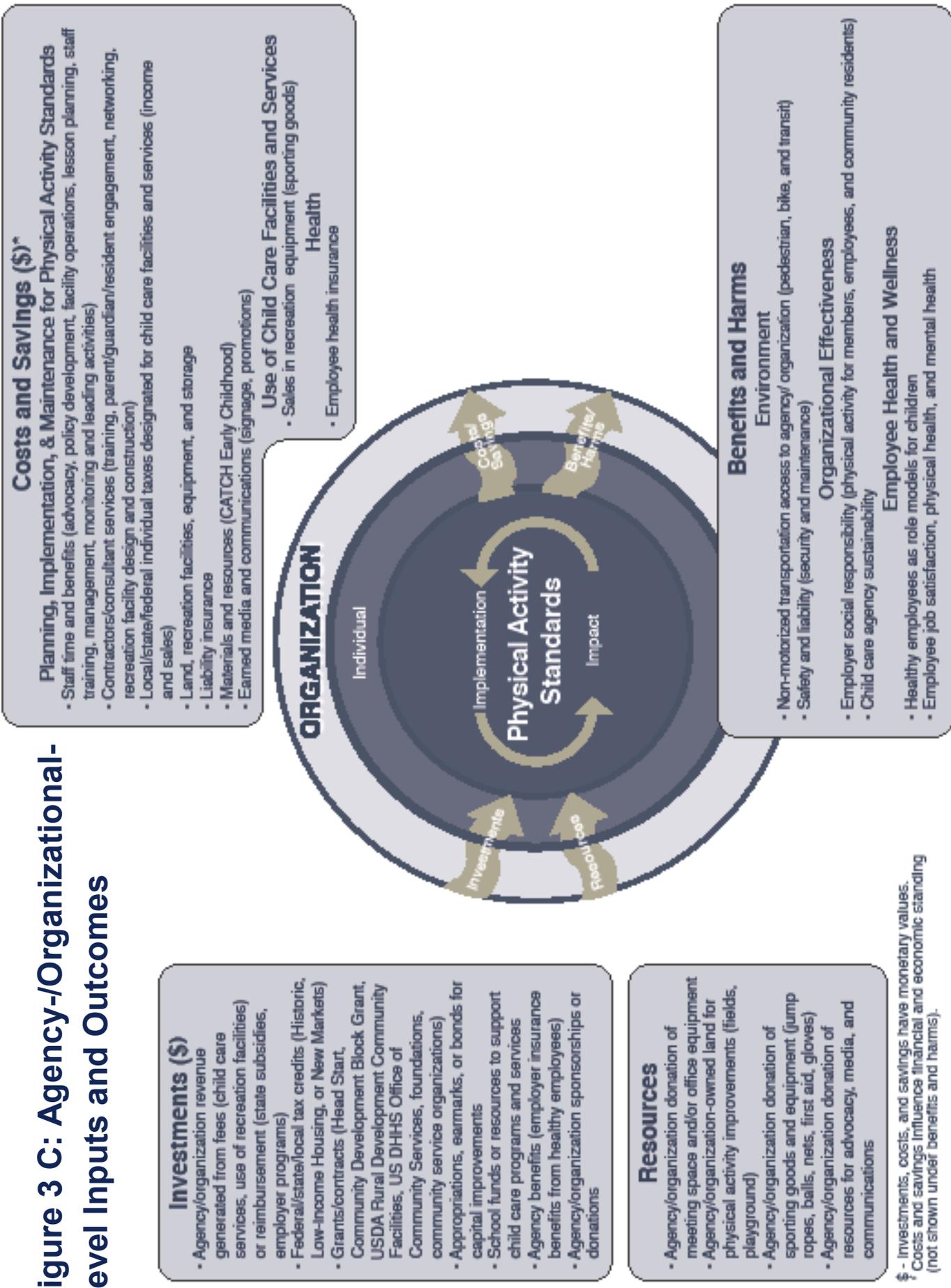
Child care agencies may experience both harms and benefits associated with improved physical activity standards. From an environmental perspective, child care services and programs may not be accessible for residents in different neighborhoods, either due to location or hours of operation. For instance, it may be difficult for agencies to gain support for standards to improve active transportation from families who have a long commute to work or inconsistent work hours because they may not be able to walk, bike, or use public transit to get their children to and from the agencies. In addition, injuries from falls or use of recreational facilities or equipment may also result from increased physical activity in the child care setting. The frequency of these injuries, and subsequent agency liability concerns, may be avoided by maintaining the recreation areas (e.g., removal of litter, repairing broken facilities or equipment). For facilities and equipment related to active transportation, this may also involve the removal of ice and snow to increase safety. Likewise, agencies and organizations may take steps to increase safety from property theft and crimes against persons through installation of bike racks or storage lockers, pedestrian lighting, or surveillance video cameras.

Organizational effectiveness of the agency in the community-at-large may be increased by having agency or organizational representatives serve as leaders in the community. For instance, these leaders can advocate for community resources to support improved environments for physical activity in child care settings that can increase children's levels of physical activity. Likewise, these leaders can create joint use agreements to increase access to recreation facilities and equipment among residents in the community. Elected and appointed officials are often strongly influenced by the business sector as well as government agency staff; these agencies and organizations frequently have employees that depend on child care services. Internally, the agency can improve its sustainability by offering enhanced physical activity programs, services, and environments that may generate new clients and revenue.

The increased attention to physical activity in the agency is likely to affect the physical fitness of employees or to draw new physically fit employees. These adults can serve as positive role models for health and physical fitness for the children. During structured and unstructured play, the increased social interactions

among staff and children may also encourage the establishment of higher quality mentoring relationships, positively influencing the mental health of the adults and the children. Finally, children with sufficient physical activity breaks throughout the day are more apt to listen to and respect directives from child care staff and employees, which may improve employee job satisfaction and reduce stress levels. The reduction in stress can improve overall health (reduced cortisol levels associated with stress reduction are shown to improve immune function) and reduce staff absenteeism.

**Figure 3 C: Agency-/Organizational-Level Inputs and Outcomes**



**Investments (\$)**

- Agency/organization revenue generated from fees (child care services, use of recreation facilities) or reimbursement (state subsidies, employer programs)
- Federal/state/local tax credits (Historic, Low-income Housing, or New Markets)
- Grants/contracts (Head Start, Community Development Block Grant, USDA Rural Development Community Facilities, US DHHS Office of Community Services, foundations, community service organizations)
- Appropriations, earmarks, or bonds for capital improvements
- School funds or resources to support child care programs and services
- Agency benefits (employer insurance benefits from healthy employees)
- Agency/organization sponsorships or donations

**Resources**

- Agency/organization donation of meeting space and/or office equipment
- Agency/organization-owned land for physical activity improvements (fields, playground)
- Agency/organization donation of sporting goods and equipment (jump ropes, balls, nets, first aid, gloves)
- Agency/organization donation of resources for advocacy, media, and communications

§ - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

**Costs and Savings (\$)\***

**Planning, Implementation, & Maintenance for Physical Activity Standards**

- Staff time and benefits (advocacy, policy development, facility operations, lesson planning, staff training, management, monitoring and leading activities)
- Contractors/consultant services (training, parent/guardian/resident engagement, networking, recreation facility design and construction)
- Local/state/federal individual taxes designated for child care facilities and services (income and sales)
- Land, recreation facilities, equipment, and storage
- Liability insurance
- Materials and resources (CATCH Early Childhood)
- Earned media and communications (signage, promotions)

**Use of Child Care Facilities and Services**

- Sales in recreation equipment (sporting goods)
- Employee health insurance

**Benefits and Harms**

**Environment**

- Non-motorized transportation access to agency/ organization (pedestrian, bike, and transit)
- Safety and liability (security and maintenance)

**Organizational Effectiveness**

- Employer social responsibility (physical activity for members, employees, and community residents)
- Child care agency sustainability

**Employee Health and Wellness**

- Healthy employees as role models for children
- Employee job satisfaction, physical health, and mental health

## Community-Level Inputs, Outcomes, and Values

Communities, including municipal, city, county, or regional authorities and their respective constituents, affect the political decision-making and funding context for child care physical activity standards. The authorities may include local government officials, school districts, public land agencies, and tribal governments; and the constituents include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to child care agencies and, in response, may experience costs, savings, benefits, and harms (see Figure 3D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved child care physical activity standards. The following examples illustrate some of the community-level experiences of the value of these standards.

### Investments

Depending on the child care setting, community-level funds may be derived from state or federal sources (e.g., Departments of Education, Parks and Recreation, Social Services, Health and Human Services), city or county tax revenue, and other sources of city or county revenue (e.g., rent or leases, permits, services). As an example, revenue generated through vice taxes on gambling or alcohol sales are often offered to school districts for use in programmatic and policy improvements. Communities may also have fundraising initiatives to garner financial resources from sponsors or to obtain private donations.

### Resources

In addition to monetary investments, city or county governments can support improvements to child care physical activity standards as part of larger community-wide campaigns. In providing a public voice to the improvement efforts, community representatives can share information about the benefits associated with more physical activity and its impact at the community level. As a result of heightened awareness, community residents may show greater interest in improving child care physical activity standards and participate in efforts to organize and advocate for change. Cities and counties can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by child care providers for physical activity. For instance, setting aside defined areas where children can participate in physical activity can promote better health (physical and social) and efficient use of environmental resources.

### Costs and Savings

Community-level costs and savings associated with the planning, implementation, and maintenance of child care physical activity standards largely correspond to organizing and supporting personnel. Salaries and benefits are needed for staff charged with coordinating and managing local cross-sector agency collaboration, which ensures synchronized efforts to create and implement improved physical activity standards. This synergistic approach is likely to add value by improving the efficiency of all participating agencies. Yet, teaming up to focus on, and improve, physical activity standards in childcare centers may divert funding allocated to other community projects. In this light, some communities may question the value of expanding focus on initiatives related to childcare physical activity standards. In addition to the personnel costs, local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend policy or program changes related to physical activity in child care settings to elected or appointed officials. As an example, community forums may be held to ensure policy-makers understand all viewpoints held by community members before sponsoring a proposal for city council approval. Forums such as these may incur associated participant or meeting costs.

Use of the child care facilities and services also plays a role the overall costs and savings. Cities or counties may have funds earmarked for child care or allocate a portion of the local budget to fund after-school physical activity programs, specifically providing support for child care facilities in lower-income or disadvantaged areas. Additionally, improvements to child care physical activity standards can lead to the construction of new structures or facilities, creating opportunities to employ the local labor force. These new construction projects require updated permits and enhanced utility services, which builds the city/county revenue noted above. Communities offering transportation for their students (e.g., bus service) may decide to implement an additional route or bus for students in afterschool programs, thereby increasing transportation costs. Depending on the rate of usage of these services, communities may place a higher

value on enhancing transportation services or prefer alternate allocation of available funds. Updating child care physical activity standards can also have impacts on the economic prosperity, civic engagement, and health of a community; in turn, the combination of facility improvements and community involvement may increase property values in the community.

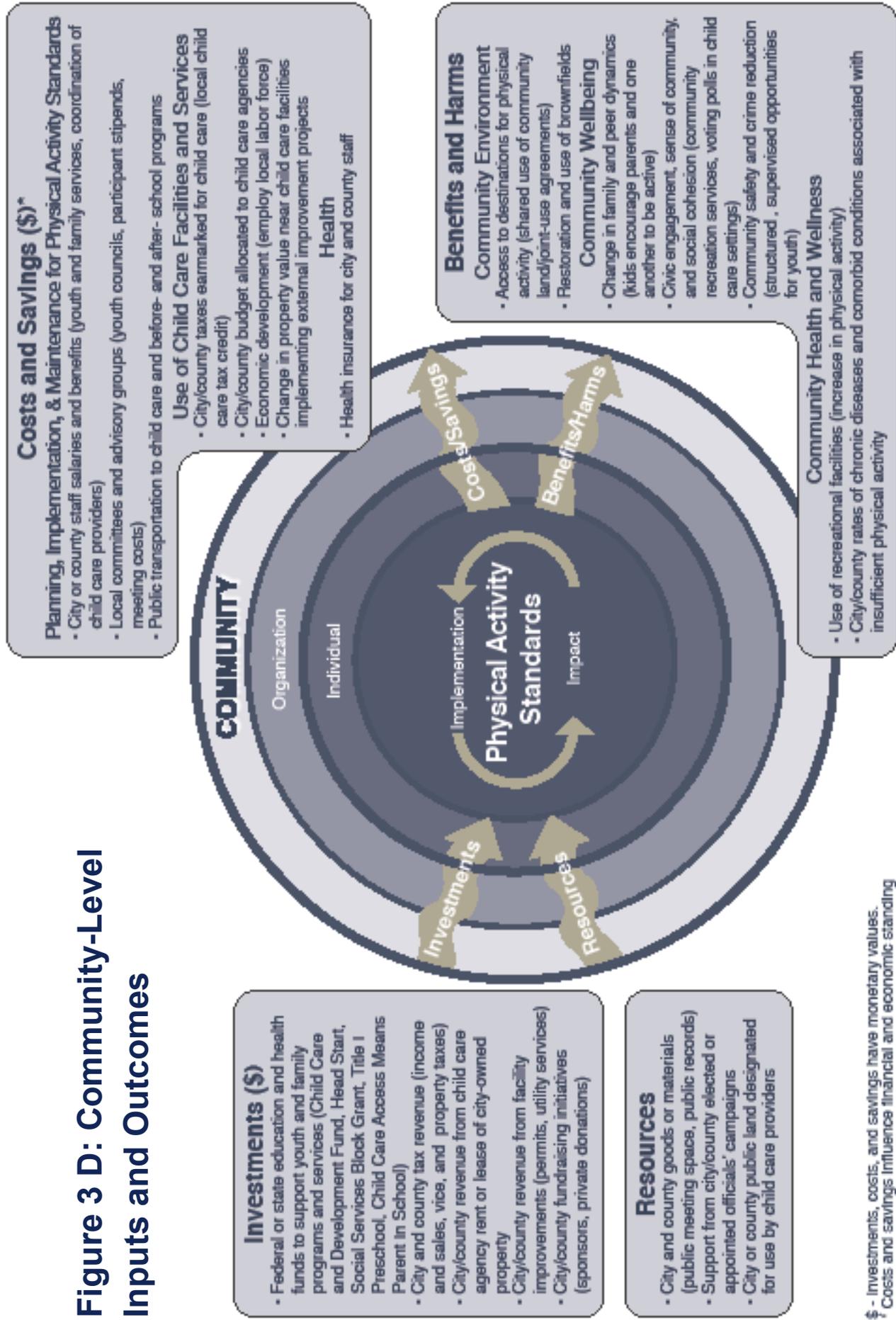
### Benefits and Harms

By improving or creating new or better places for children to be active in child care facilities, changes to physical activity standards can increase access to destinations for physical activity on a community scale. In many communities, access to venues for physical activity may be limited. Community-wide adoption of improved standards facilitates the bridging of income-based divides that can otherwise leave resources unequally distributed. External improvements to the condition of child care facilities (e.g., laying sod or seeding to provide grassy areas) are likely to increase use of facilities for physical activity. Joint-use agreements between communities and child care agencies can enhance access without the need to generate new recreation facilities. However, increasing access to additional places to be active may cause a decrease in use of other recreation facilities in the community, thus potentially decreasing patronage to those facilities.

Structured or unstructured play outside or at recreational facilities promotes social interactions and social cohesion with peers, parents, and community members. As people feel a greater sense of community, they are more supportive community wellbeing, which decreases crime rates (e.g., through neighborhood watch groups). These improvements may also spur the use of child care facilities for non-child care related activities, such as civic engagement activities (e.g., location for voting polls). As the facilities are used more frequently, residents in the community may interact more frequently, enhancing perceptions of safety and social cohesion.

Due to consistent exposure to environmental improvements promoting physical activity, people living and working in these communities may be influenced to have higher rates of physical activity, and in turn, lower rates of chronic diseases or conditions. With more citizens living disease- and disability-free days, human capital in the community may increase, bringing about greater productivity, ingenuity, and diversity for a sustainable future.

**Figure 3 D: Community-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Societal-Level Inputs, Outcomes, and Values

Federal and state authorities and their respective constituents play a key role in the funding and support for improvements to child care physical activity standards. Collectively, federal and state agencies (health, education, social services, parks) as well as national and state associations provide the investments and resources to child care facilities, leading to a variety of costs, savings, benefits, and harms (see Figure 3E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improvements to child care physical activity standards. The below scenarios exemplify different societal-level experiences of the value of child care physical activity standards.

### **Investments**

State and federal tax revenue may be allocated to programs supporting child care facilities and afterschool programs (e.g., Child Care Development Fund, Head Start, Title I Preschool). In addition, state and national fundraising initiatives can be used to generate interest and resources to change child care physical activity standards.

### **Resources**

Similar to city or county governments, state and federal governments can support improvements to child care physical activity standards as part of larger statewide or national campaigns. State and federal governments can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by child care providers for physical activity.

### **Costs and Savings**

With respect to planning, implementation, and maintenance of improvements to physical activity standards in childcare settings, costs and savings are primarily attributed to state and federal staff time, or contractor and consultant time. Representatives and staff of state and federal agencies (e.g., elected officials, department employees) work together to develop or revise policies, oversee and regulate their implementation, and provide guidance to childcare providers. These agencies also hold public meetings with state or federal representatives to facilitate greater understanding of the public perspective and to influence the creation or revision of policies.

In addition, state and federal budgets can be developed to include allocations for child care facilities, such as those provided through the Health and Human Services Office of Child Care and those funded by the American Recovery and Reinvestment Act. As society puts greater emphasis on the provision of physical activity options for kids in child care settings, more public money is spent to deliberate on policy changes, implement the changes, and enforce the changes in agencies.

Alongside federal and state government support, independent state and national groups (e.g., alliances, associations) come together through conferences and meetings to educate and advocate for childcare-based physical activity standards. Financing to support agency representatives (travel, food, lodging) and other meeting costs may be incurred as agencies typically do not have these resources.

Non-profit, for profit, and educational organizations (e.g., National Association for Sport and Physical Activity; American Alliance for Health, Physical Education, Recreation and Dance) may provide training and advocacy opportunities for professionals and volunteers who place value on improving physical activity standards for children. These groups can also facilitate communication and unify efforts to change current policies and practices in child care settings by providing an avenue for continuing education, advocacy, and promotion of new policies. All of these activities require staff or consultant/contractor time as well.

Improvements in physical activity standards may result in reduced health insurance costs for federal, national, and state agencies and organizations as well.

### **Benefits and Harms**

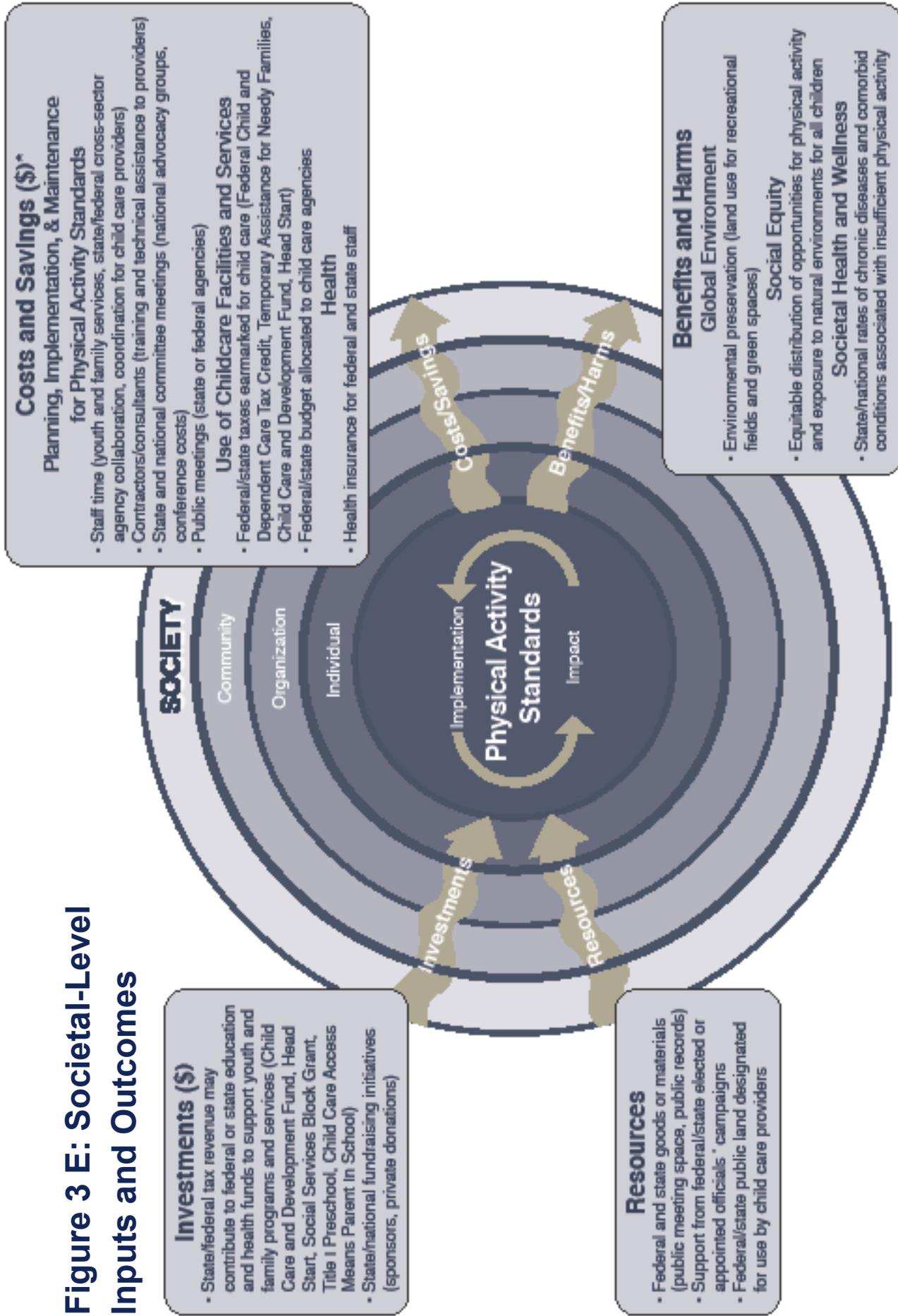
State or federal land preservation efforts can retain natural environments or repurpose land for recreation. These initiatives help to prevent use of untouched, wooded land to build new facilities. In part, these efforts may prescribe that developers include child care and recreation spaces in new buildings, thereby increasing

access to child care services and reducing disturbances to the environment and the animals that live nearby.

Wide-spread distribution of physical activity opportunities provides greater access to all members of a system, regardless of income level or social demographics. With resources evenly spaced and situated throughout and across populations, more members of society can partake in recreational activities without barriers such as geographical access or financial burden.

As previously identified, the health benefits of incorporating minimum levels of physical activity into the daily schedule of young children can produce healthier adolescents and adults, increasing the number of citizens living disease- and disability-free, reducing rates of chronic disease, increasing vitality and improving quality of life for all people. Additional societal costs associated with poor performance in school (e.g., grade repetition) and health conditions (e.g., childhood obesity) may be averted.

**Figure 3 E: Societal-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## CHILD CARE NUTRITION STANDARDS

### Implementation

Efforts to improve nutrition standards – to increase the consumption of nutritious meals, snacks, and beverages or to limit consumption of foods and beverages with minimal nutritional value – in child care settings (e.g., early childhood education centers, afterschool programs) may include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 4A for examples specific to child care nutrition standards).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives in the child care setting or surrounding community;
- identify needs and priorities among these representatives;
- develop leadership in child care agencies and the community to direct a vision and plan for change;
- create decision-making bodies composed of representatives (e.g., parents, teachers, administrators) that promote health in all policies; and
- leverage financial and other resources to initiate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, standards, guidelines, curricula, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability to the child care setting and surrounding community;
- draft new standards/practices or modify existing standards/practices, including designated sources of funding and necessary specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers and child care administrators for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) teachers/staff/consultants/contractors with sufficient knowledge, skills, and capabilities to uphold standards and use new curricula;
- ensure sufficient coordination and communication across agencies, departments, and partners responsible for implementation and enforcement;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure active participation among youth;
- assure the relevance to, and the safety and satisfaction of, the entire community; and
- secure funding and resources for maintenance of the environment.

### Impact

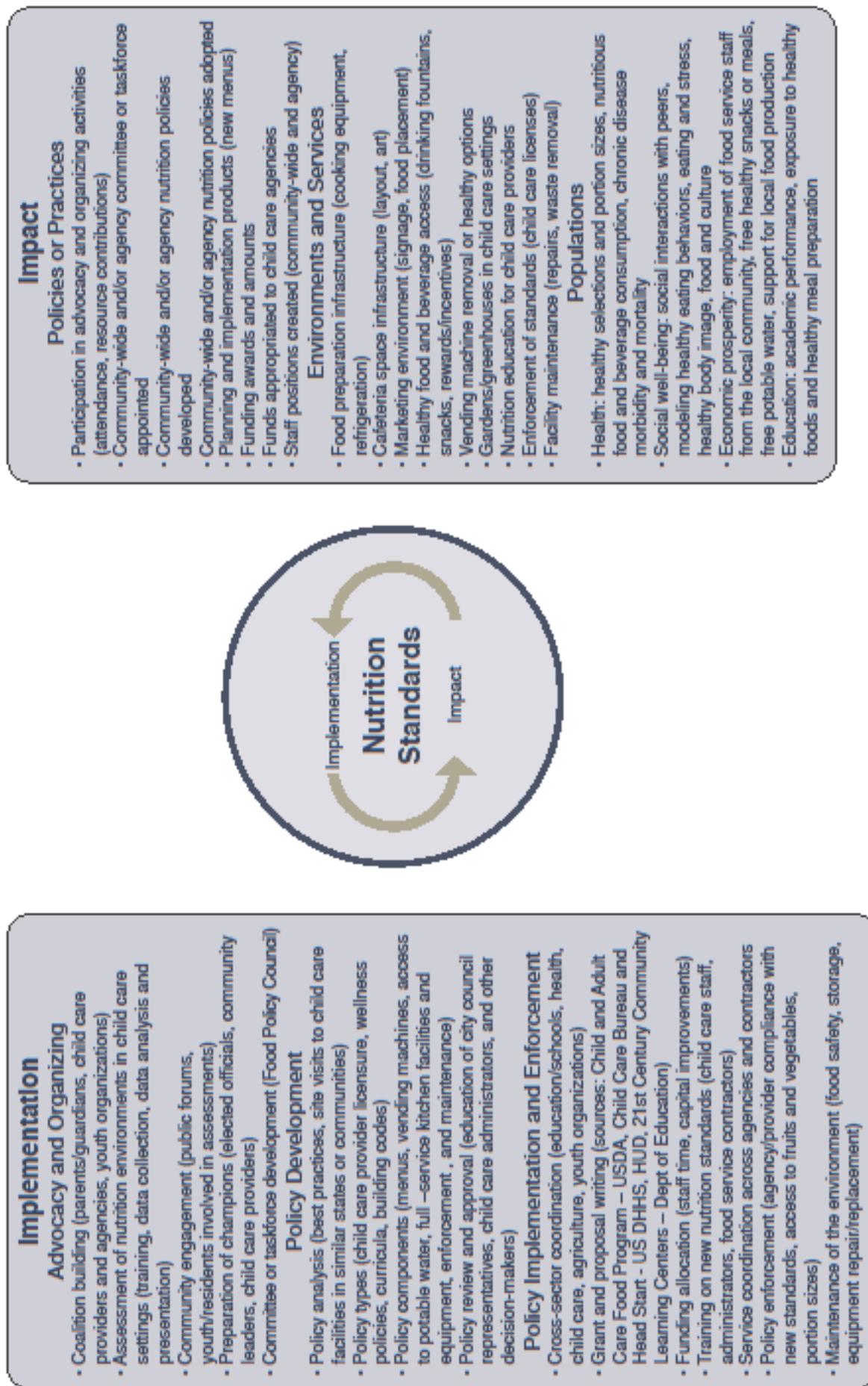
Policy or practice changes related to child care nutrition standards may have impacts on policies, environments and services, and/or populations (see Figure 4A for examples specific to child care nutrition standards).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change depends on the quality of implementation, including fidelity to model policies or best practices, as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 4 A: Child Care Nutrition Standards Implementation and Impact**



## Individual-Level Inputs, Outcomes, and Values

From an individual perspective, several investments and resources help to support policies and projects related to child care nutrition standards, and, as a result of these policies and projects, individuals may experience costs, savings, benefits, and harms (see specific examples in Figure 4B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of child care nutrition standards policies and projects. Some scenarios illustrating different individual-level experiences of the value of policies and projects related to child care nutrition standards are provided below.

### Investments

In order to pay for oversight and education of their children or to contribute financially to child care policy initiatives, parents, guardians, or community residents may draw on income from salaries or other compensation as well as personal assets and savings. Similarly, parents or guardians who pay federal, state, or local income taxes may be eligible to receive assistance through federal, state, or local tax credit programs and subsidies, or child care tuition assistance through their employers. In contrast, communities with high rates of poverty and unemployment have fewer parents, guardians, and community residents that can afford to pay for child care or to contribute financially to child care improvements.

### Resources

Parents, guardians, and community residents also have skills and resources that can serve to support improvements in child care nutrition standards in lieu of financial assets. For instance, individuals may have experience developing similar types of policies or standards, or they may have training or expertise in nutrition or child care services. Leaders, such as public officials or child care administrators, may have influence at national, state, local, or institutional levels to rally support for child care improvements. Likewise, most individuals have connections that can be drawn upon to influence change through relationships with family, friends, co-workers, and neighbors as well as affiliations with groups and organizations (e.g., parent-teacher association). At the individual level, the most important resource is probably unobligated time to allow these skills and resources to be committed to child care improvements.

### Costs and Savings

To support planning, implementation, and maintenance of child care nutrition standards, agency staff members may incur training costs. Some individuals may consider the fees and time spent in training as a valuable investment in building job-related knowledge and skills. In contrast, other individuals may view this training as time added to or taken from their current duties (e.g., making meals or snacks, leading children's activities), resulting in a lower perceived value of nutrition standards. Staff members who have received additional training to meet new standards may, in turn, receive higher salaries.

Parents, guardians, and community residents may opt to provide financial support to child care initiatives to improve nutrition standards. Individual tax dollars (i.e., federal, state, and local) may also be allocated to finance early childhood education as well as before and after school programs and services. Some taxpayers may prefer to have these funds spent on other programs or services, and others may not want to use tax dollars for these types of programs and services at all. These desires can impact the perceived value of improvements to child care nutrition standards.

Many parents or guardians responsible for young children need to maintain some form of external child care and therefore assume the costs associated with these services. Fees paid by parents or guardians to child care agencies are a main source of funding for these agencies. In turn, some portion of child care fees may be used to develop nutrition guidelines or curricula or to improve nutrition facilities. While some parents or guardians may place value on better nutrition for their children and prefer to allocate funds to the improvement of these standards, others may see benefit in reserving the money for other improvements to the child care facilities (e.g., building repair and maintenance) or services (e.g., academic or art programs). Since funds are finite, the challenge lies in budgeting and distributing resources to serve multiple interests while still focusing on the value of nutrition standards. Some parents or guardians may prefer in-home or other child care arrangements (e.g., family, friends) instead of going through an agency. In cases where parents or guardians choose other forms of child care (e.g., nanny or single-family child care professional),

changes to child care nutrition standards may not directly impact these families, which may lessen support for the use of public resources for these purposes.

Over time, increased individual health care or health insurance expenses may result from children having poor nutritional intake throughout the day, a major risk factor for many costly chronic diseases. These different perspectives all have an influence on the value of efforts to improve child care nutrition standards.

### **Benefits and Harms**

Environmental factors, including a child care's nutrition facilities, provision of healthy foods and beverages, and restriction of non-nutritional foods and beverages, may impact an individual's value of new or improved child care nutrition standards. Child care agencies with affordable, healthy food and beverage purchasing/contracts, adequate food preparation and storage facilities, cooking equipment and supplies, and healthy vending contracts can improve access to a variety of healthy foods as well as preparation of different types of foods as snacks or meals, enhancing the nutritional intake of children enrolled at the facility and establishing good eating habits at an early age. Yet, children at child care agencies not yet functionally equipped to handle changes in nutrition standards may have limited exposure to healthy foods and beverages (e.g., quality, variety).

Individual assessments of value may also be influenced by child care facilities' access to gardens. Children exposed to gardening and education about food production may be more willing to try fruits and vegetables. In addition, children attending child care facilities with access to gardens would likely have access to fresher, less expensive fruits and vegetables grown in the garden, which may lower nutrition-based fees assessed to parents, grandparents, or guardians paying for their care.

Social well-being factors may also influence the value of child care nutrition standards. For instance, providing healthy foods encourages social interactions at snack and meal time. The provision and intake of healthy foods and beverages by adults in the child care facility also models healthy consumption behaviors for the children. Quality social interactions at mealtime can foster the development of a positive food culture and reduce the association of stress and eating.

Curricula with a focus on nutrition can teach children skills to maintain a varied, healthy diet and controlled portions, leading to an appropriate weight. Thus, children start with a healthy body image at a young age. Body image is an important aspect of a young person's socio-emotional development, and, over time, a healthy body image can reinforce proper nutrition habits into adulthood.

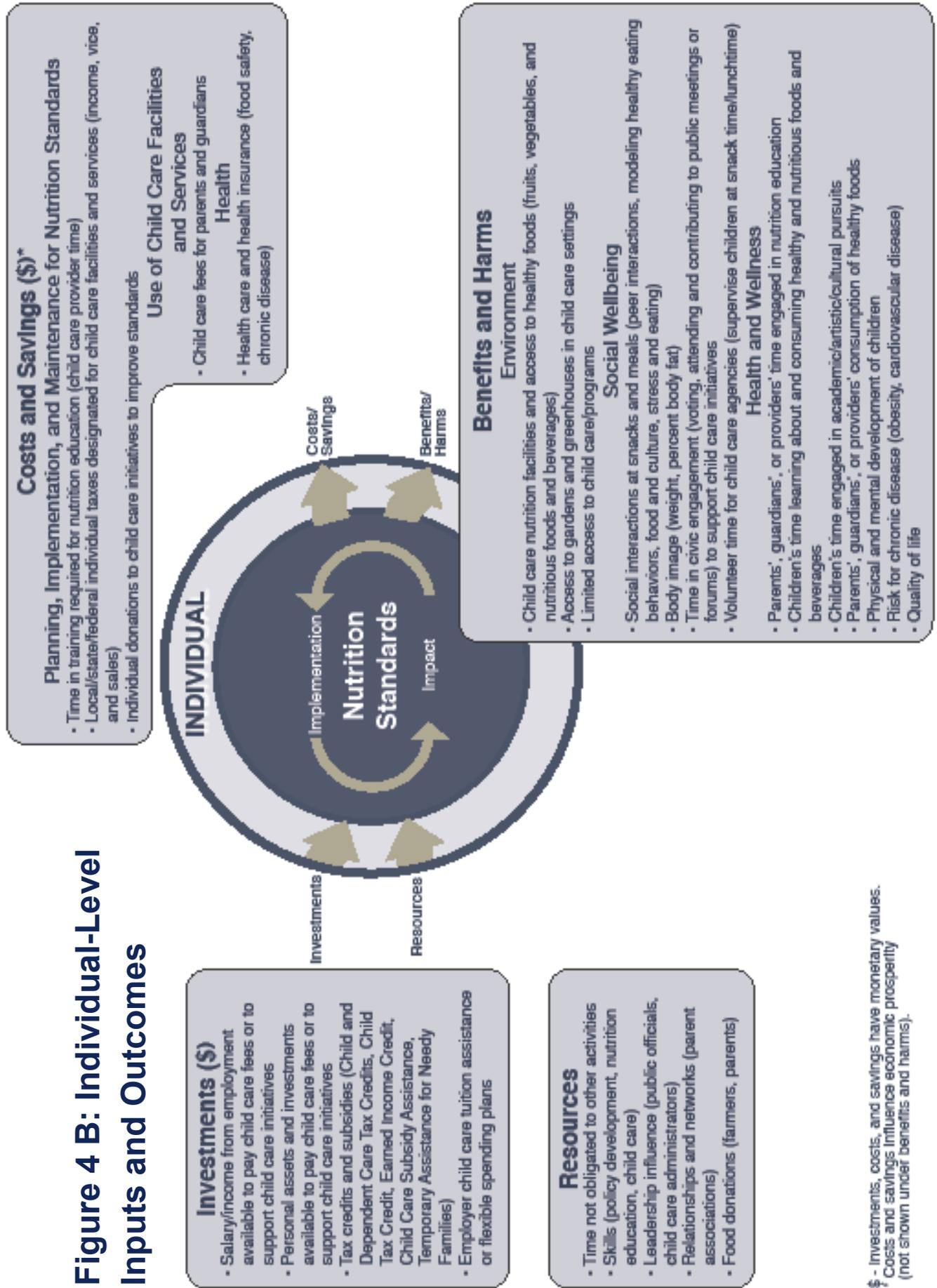
Individuals may experience social and emotional benefits from volunteering their time and skills, or donating their material assets. For instance, time may be spent attending public meetings or events, or gathering community support for child care initiatives. Some of this time may reflect the interests of proponents supporting improved nutrition standards and some of this time may reflect adversaries opposing these standards. Depending on the viewpoint, the relative number of proponents in comparison to adversaries impacts the overall value of these types of child care initiatives in the community.

In addition to civic engagement, volunteers may also spend their time providing direct support to child care facilities. For example, adults may prepare healthy snacks or meals for children, supervise children at snack/meal time, or organize interactive nutritional activities, such as food preparation demonstrations, for children in the child care setting.

Health factors may affect the perceived or real value of child care nutrition standards. Increases in children's consumption of healthy foods may improve metabolic function, energy levels, and overall health. Eating healthy foods also promotes positive physical and mental development in children. A heightened focus on nutrition in child care settings may also foster better food choices by parents, guardians, siblings, grandparents, and child care providers.

In general, better nutrition can reduce morbidity and mortality associated with many chronic diseases. Taken in concert, changes that improve a child's consumption of healthy foods and beverages and enhance social opportunities can positively impact physical health, mental health, and quality of life.

**Figure 4 B: Individual-Level Inputs and Outcomes**



## Agency- and Organizational-Level Inputs, Outcomes, and Values

Agencies and organizations (e.g., advocacy, child care, school, government) are primarily responsible for developing and implementing child care nutrition standards as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in turn, experience costs, savings, benefits, and harms (see Figure 4C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved child care nutrition standards. The below scenarios exemplify different agency- and organization-level experiences of the value of child care nutrition standards.

### **Investments**

Agencies and organizations providing direct child care services, or indirect administrative and other support for these services, obtain funding from multiple sources that may be used for the development, implementation, and maintenance of nutrition standards. Primarily, child care agencies generate revenue through fees collected from a child's parents or guardians, reimbursement from parent or guardian employers, or subsidies from federal and state agencies supporting children and family services. Child care agencies working to improve nutrition standards may be eligible for federal, state, or local tax credits, or they may be awarded grants or contracts to support capital improvements (e.g., new food preparation or storage facilities) or to subsidize appliances, equipment, or cooking supplies and resources. Similarly, these agencies may be able to gain support from local decision-makers to get bonds or other funds appropriated or earmarked for capital improvements in the agency. Local schools offering after school or early child education programs may also allocate funds in support of these types of facilities or resources. In addition, insurance companies who provide employment benefits may offer discounts or reimbursements to child care agencies who institute nutrition standards. Moreover, local businesses or corporations may provide donations or sponsorships toward infrastructure improvements (e.g., a new kitchen or cafeteria named after a local business).

### **Resources**

Along with financial aid, child care agencies may receive non-financial support for improvements in facilities, equipment, or resources increasing access to healthy foods and beverages, or they may contribute non-monetary resources themselves. For example, organizations may donate meeting or office space suitable for trainings or local businesses may offer new/used food preparation and storage equipment (e.g., gently-used refrigerators, utensils and cookware). In addition, organizations may contribute land (permanent or temporary) for a garden or greenhouse supporting nutrition education and exposure to freshly grown fruits or vegetables. Media or communications agencies and organizations can provide free marketing services (e.g., message development) or advertisements (e.g., newspaper articles) to support child care nutrition standards.

### **Costs and Savings**

To plan, implement, and maintain child care nutrition standards, agencies and organizations provide salaries and benefits in exchange for a wide variety of policy- and practice-related tasks and responsibilities. For instance, staff time may be allocated to drafting new menus or contracts with vendors offering healthy foods and beverages, collaborating with local elected and appointed officials, developing advocacy and community organizing strategies, coordinating communications and public relations, contract negotiation, purchasing and maintaining inventory, or food preparation. Child care agency administrators and staff may find that improvements in nutrition standards foster greater longevity for their organization by increasing demand for specialized professionals in the field or through garnering additional grants or state funding.

Contractor or consultant time may be dedicated to a variety of forms of training or technical assistance, including: staff skill building, engaging local residents in advocacy, informing government officials about resource needs, or design and construction of kitchens, cafeterias, gardens, or greenhouses. Collaboration with other child care providers may reduce contractor and consultant costs by distributing these costs across agencies, and, in turn, increasing staff exposure to a wider network of child care professionals. Organizations that require their staff to participate in advocacy or collaborative efforts outside the agency may or may not view the time spent as a valuable investment based on their perceptions of effectiveness of the new standards and the potential impact on staff workload.

Similar to individuals, agencies and organizations pay federal, state, and local taxes (income and sales), and some of these funds may be allocated to initiatives supporting child care policies and environments (e.g., Head Start); yet these resources are typically not designated specifically for increasing access to healthy foods and beverages.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; computing equipment and software; office furniture; licensures and liability insurance; and other office supplies and equipment. On-site food preparation and provision of a wide range of foods and beverages may increase costs for liability insurance related to food safety or allergic reactions occurring on property. Additionally, child care agencies working to improve nutrition standards may have direct expenses, such as purchasing or leasing food preparation and storage equipment (e.g., cooking supplies, refrigeration), and the purchase of foods and beverages. For example, an agency interested in providing fresh fruits and vegetables for snacks/lunches may require refrigeration to house the food before it is prepared and store any leftovers. Agencies also have costs associated to menu and meal planning (e.g., software to organize menu options, ensuring food is prepared and served at the peak of freshness). As child care facilities provide enhanced nutritional options, it may be important to advertise new programs or services within the community. While the cost of advertising may be substantial at the beginning, it has the potential of increasing the customer base and thus generating additional revenue in order to build capital in the long run.

Agencies or organizations may also have costs associated with maintenance of kitchens, cafeterias, vending machines, and other food service facilities and equipment. As a result of increased use, the facilities, equipment, and materials may require a higher level of allocated funds to keep these resources in working condition. Sales of foods and beverages may also be higher than previously experienced (e.g., number of lunches purchased exceeds the number of lunches brought from home) due to changes in use of the facilities.

Altered or enhanced use of nutrition facilities in child care settings may engender more frequent or rigorous food safety and quality inspections from the health department. For example, facilities that historically served pre-made foods from external vendors may not have had previous inspections since they weren't present or used. Changes in child care nutrition standards may also suggest continued tracking of sales or consumption data to validate appropriate use of resources.

Agencies or organizations focusing on preventive health through enhanced nutrition may experience savings through reductions in the employer-paid portion of insurance premiums for salaried, exempt employees and staff members.

### Benefits and Harms

Child care agencies may experience both harms and benefits associated with improved nutrition standards. From an environmental perspective, child care services and programs may be the only place for youth to access quality, low cost foods. For instance, families that live in food deserts may not have consistent access to fresh fruits and vegetables, and depend on the child care facility to supplement their child's nutrition. In addition, choking, food-borne illness, or allergy-related injuries may also result from changes to nutrition policies in child care settings. The frequency of these incidents, and subsequent agency liability concerns, may be avoided through appropriate food safety, selection, and storage and by educating food service staff (e.g., appropriate storage temperatures for perishable items, instruction about offering foods in appropriate sizes for children of different ages). Likewise, agencies and organizations may take steps to increase safety through installation of gates around facility gardens, locks on refrigerators, or surveillance video cameras.

Organizational effectiveness of the agency in the community-at-large may be increased by having agency or organizational representatives serve as leaders in the community. For instance, these leaders can advocate for community resources to support improved child care nutrition environments and standards that can, for instance, increase requirements for intake of fruits and vegetables or limit saturated fat content in snacks. Likewise, these leaders can create joint use agreements to increase access to gardens or food preparation facilities among residents in the community. Elected and appointed officials are often strongly influenced by the business sector as well as government agency staff; these agencies and organizations frequently have employees that depend on child care services. Internally, the agency can improve its sustainability by offering enhanced nutritional programs, services, and environments that may generate new clients and revenue.

The increased attention to nutrition in the agency is likely to affect the health of employees or to draw new employees conscientious of healthy eating and nutrition. These adults can serve as positive role models for health and improved nutrition for the children. During snack and meal times, the increased social interactions among staff and children may also encourage the establishment of higher quality mentoring relationships, positively influencing the mental health of the adults and the children. Finally, children with adequate nutrition have improved mental function and cognitive abilities, which may improve their overall performance and subsequently enhance employee job satisfaction and reduce stress levels. The reduction in stress can improve overall health (reduced cortisol levels associated with stress reduction are shown to improve immune function) and reduce staff absenteeism.

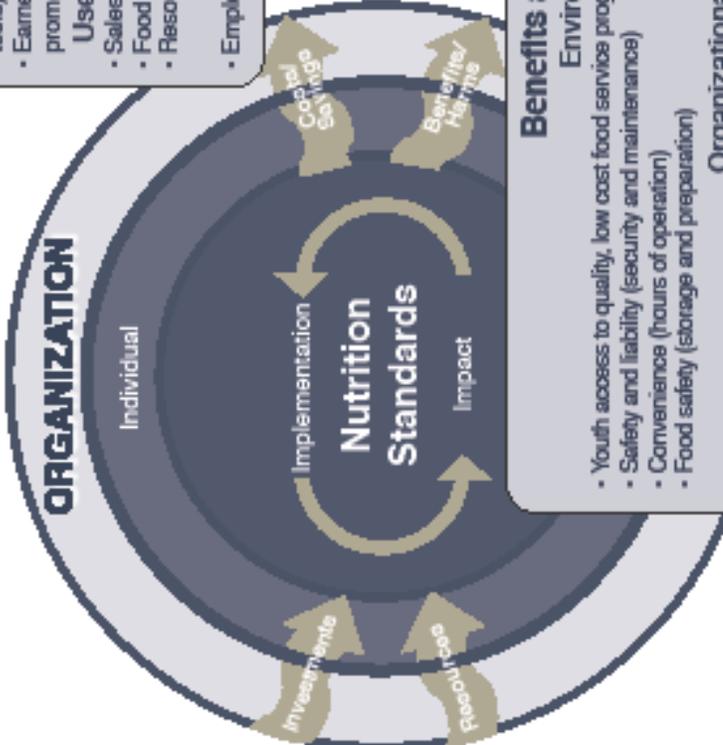
**Figure 4 C: Agency-/Organizational-Level Inputs and Outcomes**

**Investments (\$)**

- Agency/organization revenue generated from fees (child care services, use of food preparation facilities) or reimbursement (state subsidies, employer programs)
- Federal/state/local tax credits (Historic, Low-income Housing, or New Markets; business-sponsored child care for employees)
- Grants/contracts (Head Start, Community Development Block Grant, USDA Rural Development Community Facilities, USDA Federal Food and Nutrition Programs, US DHHS Office of Community Services, foundations, community service organizations)
- Appropriations, earmarks, or bonds for capital improvements
- School funds or resources to support child care programs and services
- Agency benefits (employer insurance benefits from healthy employees)
- Agency/organization sponsorships/donations

**Resources**

- Agency/organization donation of meeting space and/or equipment
- Agency/organization-owned land for gardens or greenhouses
- Agency/organization donation of food (wholesale suppliers, farmers)
- Agency/organization donation of resources for advocacy, media, and communications



**Costs and Savings (\$)\***

**Planning, Implementation, & Maintenance for Nutrition Standards**

- Staff time and benefits (advocacy, policy development, menu planning, management, contract negotiation, purchasing, inventory, sales, food and beverage preparation)
- Contractors/consultant services (training, parent/guardian, resident engagement, networking, food preparation facility design and construction)
- Local/state/federal agency/organization taxes designated for child care facilities (income and sales)
- Food and beverage purchases
- Space, food preparation facilities, equipment, and storage (cooking supplies, refrigeration, vending machines, concession stands, storage)
- Liability insurance
- Materials and resources (menus and meal planning tools)
- Earned media and communications (signage, promotions)

**Use of Child Care Facilities and Services**

- Sales of foods and beverages
- Food safety and quality inspections (health department)
- Resources (surveys, sales tracking)

**Health**

- Employee health insurance

**Benefits and Harms**

**Environment**

- Youth access to quality, low cost food service programs
- Safety and liability (security and maintenance)
- Convenience (hours of operation)
- Food safety (storage and preparation)

**Organizational Effectiveness**

- Employer social responsibility (nutrition education and healthy eating for members, employees, and community residents)
- Child care agency sustainability

**Employee Health and Wellness**

- Healthy employees as role models for children
- Employee job satisfaction, physical health, and mental health

\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Community-Level Inputs, Outcomes, and Values

Communities, including municipal, city, county, or regional authorities and their respective constituents, affect the political decision-making and funding context for child care nutrition standards. The authorities may include local government officials, school districts, public land agencies, and tribal governments; and the constituents include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to child care agencies and, in response, may experience costs, savings, benefits, and harms (see Figure 4D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved child care nutrition standards. The following examples illustrate some of the community-level experiences of the value of these standards.

### **Investments**

Depending on the child care setting, community-level funds may be derived from state or federal sources (e.g., Departments of Education, Social Services, Health and Human Services), city or county tax revenue, and other sources of city or county revenue (e.g., rent or leases, permits, services). As an example, revenue generated through vice taxes on gambling or alcohol sales are often offered to school districts for use in programmatic and policy improvements. Communities may also have fundraising initiatives to garner financial resources from sponsors or to obtain private donations.

### **Resources**

In addition to monetary investments, city or county governments can support improvements to child care nutrition standards as part of larger community-wide campaigns. In providing a public voice to the improvement efforts, community representatives can share information about the benefits associated with better nutrition and its impact at the community level. As a result of heightened awareness, community residents may show greater interest in improving child care nutrition standards and participate in efforts to organize and advocate for change. Cities and counties can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by child care providers for gardens and greenhouses. These opportunities can promote better health (physical and social) and efficient use of environmental resources.

### **Costs and Savings**

Community-level costs and savings associated with the planning, implementation, and maintenance of child care nutrition standards largely correspond to organizing and supporting personnel. Salaries and benefits are needed for staff charged with coordinating and managing local cross-sector agency collaboration, which ensures synchronized efforts to create and implement improved nutrition standards. This synergistic approach is likely to add value by improving the efficiency of all participating agencies. Yet, teaming up to focus on, and improve, child care nutrition standards may divert funding allocated to other community projects. In this light, some communities may question the value of expanding focus on initiatives related to child care nutrition standards. In addition to the personnel costs, local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend policy or program changes related to child care nutrition standards to elected or appointed officials. As an example, community forums may be held to ensure policy-makers understand all viewpoints held by community members before sponsoring a proposal for city council approval. Forums such as these may incur associated participant or meeting costs.

Use of the child care facilities and services also plays a role in the overall costs and savings. Cities or counties may have funds earmarked for child care or allocate a portion of the local budget to fund healthy snacks in after-school programs, with some funds specifically providing support for child care facilities in lower-income or disadvantaged areas. Additionally, improvements to child care nutrition standards can lead to the construction of new structures or facilities, creating opportunities to employ the local labor force. These new construction projects require updated permits and enhanced utility services, which builds the city/county revenue noted above. Updating child care nutrition standards can also have impacts on the economic prosperity, potentially impacting the sale of healthy foods and beverages by local vendors. Enhanced nutrition standards may also spur civic engagement and improve the health of a community; in turn, the combination of facility improvements and community involvement may increase property values in the community.

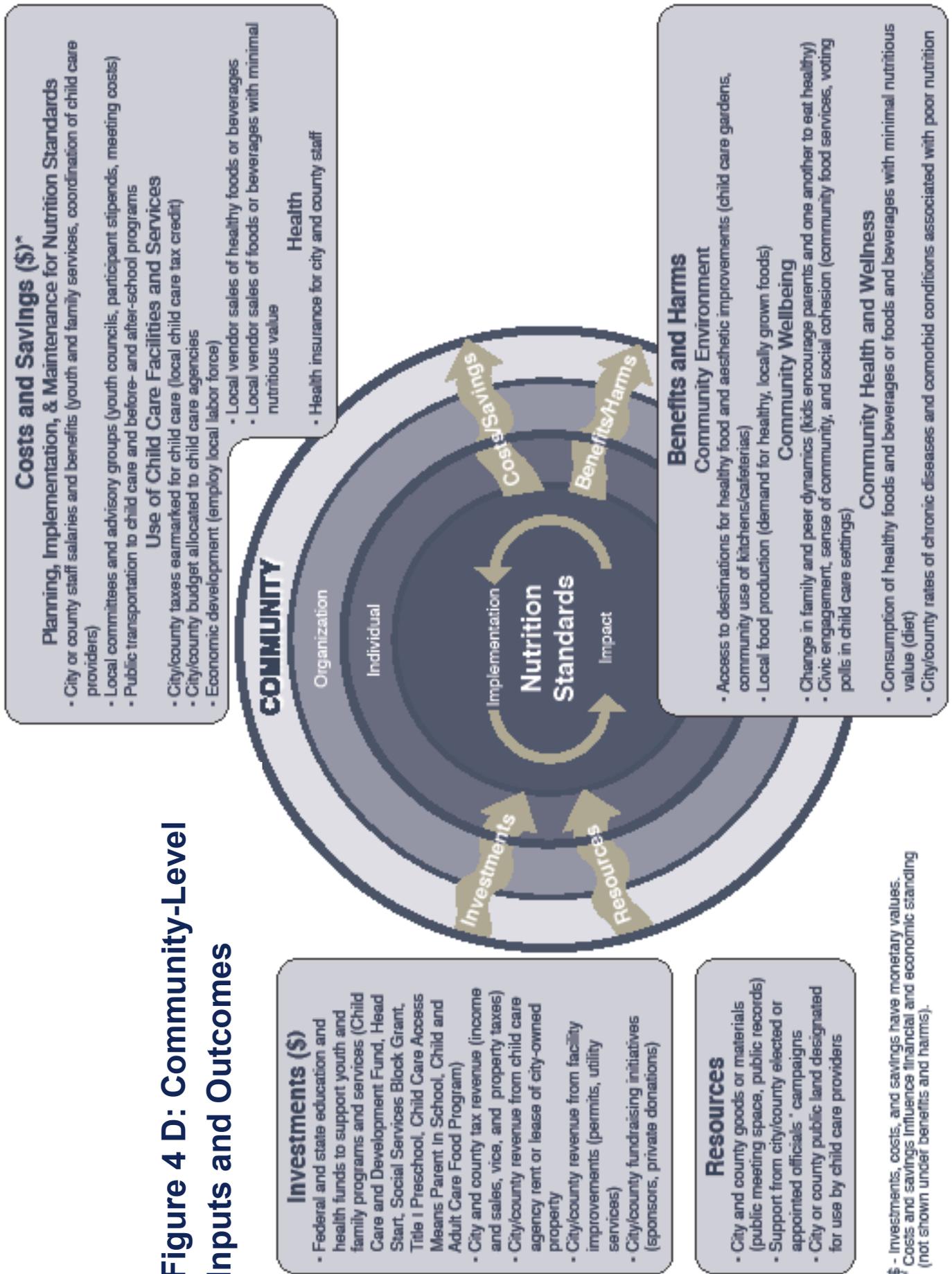
## Benefits and Harms

By improving or creating new or better places for children to enjoy nutritional foods and beverages in child care facilities, changes to nutrition standards can increase access to healthy foods and provide aesthetic improvements on a community scale (e.g., child care gardens). Community-wide adoption of improved standards facilitates the bridging of income-based divides that can otherwise leave resources unequally distributed. Joint-use agreements between communities and child care agencies can enhance access to fresh fruits and vegetables without the need to generate new gardens or greenhouses.

Child care nutrition standards can also promote social interactions and social cohesion between children and their peers, parents, and community members. As an example, children engaged in nutrition education, food preparation, or taste tests may engage in food-related discussions with their friends/families and encourage the consumption of healthier foods at home. As people feel a greater sense of community, they are more supportive of community wellbeing and these improvements may also spur the use of child care facilities for non-child care related activities, such as civic engagement activities (e.g., location for voting polls). As the facilities are used more frequently, residents in the community may interact more frequently, enhancing perceptions of safety and social cohesion.

Exposure to environments promoting nutrition can lead people in these communities to change their diets to include healthier foods and beverages and to exclude less nutritious alternatives, and in turn, lower rates of chronic diseases or conditions. With more citizens living disease- and disability-free days, human capital in the community may increase, bringing about greater productivity, ingenuity, and diversity for a sustainable future.

**Figure 4 D: Community-Level Inputs and Outcomes**



## **Societal-Level Inputs, Outcomes, and Values**

Federal and state authorities and their respective constituents play a key role in the funding and support for improvements to child care nutrition standards. Collectively, federal and state agencies (health, education, social services, agriculture) as well as national and state associations provide the investments and resources to child care facilities, leading to a variety of costs, savings, benefits, and harms (see Figure 4E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improvements to child care nutrition standards. The below scenarios exemplify different societal-level experiences of the value of child care nutrition standards.

### **Investments**

State and federal tax revenue may be allocated to programs supporting child care facilities and afterschool programs (e.g., Child and Adult Care Food Program, Child Care Development Fund, Head Start, Title I Preschool). In addition, state and national fundraising initiatives can be used to generate interest and resources to change child care nutrition standards.

### **Resources**

Similar to city or county governments, state and federal governments can support improvements to child care nutrition standards as part of larger statewide or national campaigns. State and federal governments can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by child care providers for gardens and greenhouses.

### **Costs and Savings**

With respect to planning, implementation, and maintenance of improvements to child care nutrition standards, costs and savings are primarily attributed to state and federal staff time, or contractor and consultant time. Representatives and staff of state and federal agencies (e.g., elected officials, department employees) work together to develop or revise policies, oversee and regulate their implementation, and provide guidance to childcare providers. These agencies also hold public meetings with state or federal representatives to facilitate greater understanding of the public perspective and to influence the creation or revision of policies.

In addition, state and federal budgets can be developed to include allocations for child care facilities, such as those provided through the Health and Human Services Office of Child Care and those funded by the American Recovery and Reinvestment Act. As society puts greater emphasis on the provision of better nutritional options in child care settings, more public money is spent to deliberate on policy changes, implement the changes, and enforce the changes in agencies.

Alongside federal and state government support, independent state and national groups (e.g., alliances, associations) come together through conferences and meetings to educate and advocate for childcare nutrition standards. Financing to support agency representatives (travel, food, lodging) and other meeting costs may be incurred as agencies typically do not have these resources.

Non-profit, for profit, and educational organizations (e.g., Child Care Services Association, American Dietetic Association) may provide training and advocacy opportunities for professionals and volunteers who place value on improving nutrition standards for children. These groups can also facilitate communication and unify efforts to change current policies and practices in child care settings by providing an avenue for continuing education, advocacy, and promotion of new policies. All of these activities require staff or consultant/contractor time as well.

Improvements in nutrition standards may result in reduced health insurance costs for federal, national, and state agencies and organizations as well.

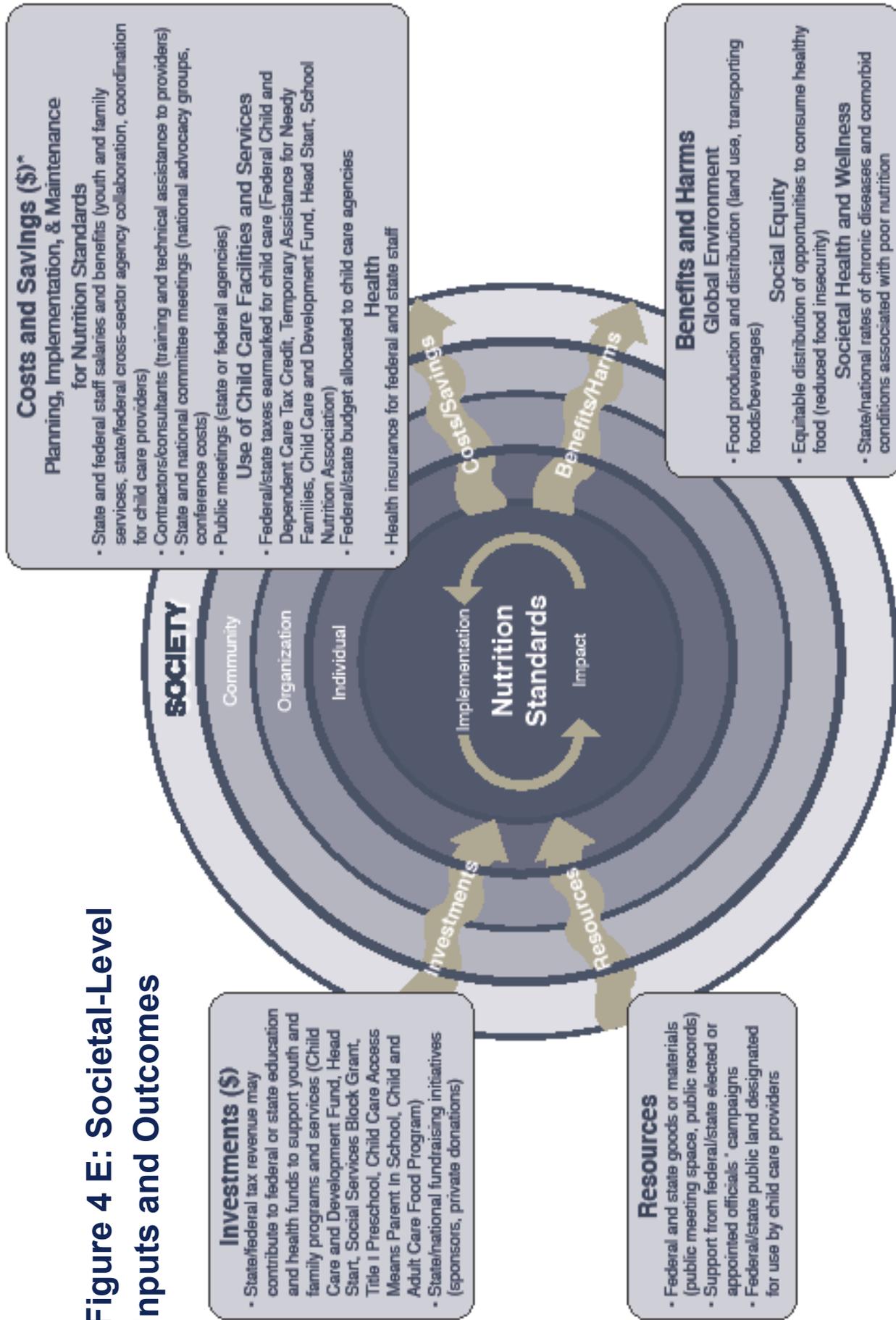
### **Benefits and Harms**

With regard to the global environment, child care nutrition standards may impact food production and distribution. As the need for fruits, vegetables, and other healthy foods increases due to changes in child care nutrition standards, state or federal land may be reallocated or repurposed to enhance food production for facilities serving children. Increases in produce will, in turn, require changes to food and beverage transportation. In part, these efforts may increase access to healthy food options for children in child care facilities.

Wide-spread distribution of opportunities for nutritious foods provides greater access to all members of a system, regardless of income level or social demographics. With resources evenly spaced and situated throughout and across populations, more members of society can enjoy healthy foods without barriers such as geographical access or financial burden.

As previously identified, the health benefits of incorporating healthy foods into the daily diet of young children can produce healthier adolescents and adults, increasing the number of citizens living disease- and disability-free, reducing rates of chronic disease, increasing vitality and improving quality of life for all people. Additional societal-level health costs associated with poor nutrition (e.g., childhood overweight or obesity) may be averted as well.

**Figure 4 E: Societal-Level Inputs and Outcomes**



\$ - Investments, costs, and savings have monetary values.  
 \* Costs and savings influence financial and economic standing (not shown under benefits and harms).

## FARMERS' MARKETS

### Implementation

Efforts to improve farmers' markets – to increase access to healthy, affordable foods and beverages -- may include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 5A for examples specific to farmers' markets).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives in the community;
- identify needs and priorities among representatives in the community;
- develop local leadership to direct a vision for farmers' markets and plan for change;
- create decision-making bodies composed of representatives (e.g., farmers, market managers, residents) that promote health in all policies; and
- leverage financial and other resources to instigate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, guidelines, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability to the community;
- draft new policies/practices or modify existing policies/practices, including designated sources of funding and necessary specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) market managers/staff/consultants/contractors with sufficient knowledge, skills, and capabilities to carry out protocols and operations;
- ensure sufficient coordination and communication across farmers, agencies, departments, and partners responsible for implementation;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure participation and purchasing of fresh produce by youth and community residents;
- assure the relevance to and the safety and satisfaction of the entire community; and
- secure funding and resources for maintenance.

### Impact

Farmers' markets policy or practice changes may have impacts on policies, environments and services, and/or populations (see Figure 5A for examples specific to farmers' markets).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change is dependent on the quality of implementation, including fidelity to model policies or best practices as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 5 A: Farmers' Markets Implementation and Impact**

**Implementation**

- Coalition building (farmers, market managers, residents, community organizations)
- Assessment of farmers' markets and surrounding environments (training, data collection, data analysis and presentation)
- Community engagement (residents/youth involved in assessments, outreach to market managers and local food producers/distributors)
- Preparation of champions (elected officials, farmers' market managers, residents)
- Committee or taskforce development (Food Policy Council)

**Policy Development**

- Policy analysis (best practices, site visits to markets in similar states or communities)
- Policy types (contracts with farmers, comprehensive plan, zoning ordinances, SNAP/WIC)
- Policy components (allowable products for sale at market, proximity of farmers to market, food safety, monitoring and enforcement)
- Policy review and approval (education of decision-makers and city council members)

**Policy Implementation and Enforcement**

- Cross-sector collaboration (public health, agriculture, economic development, planning, chamber of commerce)
- Grant and proposal writing (sources: agriculture, health, economic development)
- Funding allocation (staff time, space and equipment, and farmers' transportation expenses)
- Training on new policies (SNAP/WIC policies, foods and beverages restrictions)
- Project coordination across agencies and businesses (market design/planning, incentives, unsold products/waste disposal)
- Maintenance of the environment (food safety, cleanliness)



**Impact**

**Policies or Practices**

- Participation in advocacy or organizing activities (attendance, resource contribution)
- Committee or taskforce appointed
- Community-wide and/or farmers' market policies developed
- Community-wide and/or farmers' market policies adopted
- Planning and implementation products (vendor booths, signage)
- Funding awards and amounts
- Funds appropriated to farmers' markets (space or incentives for markets)
- Staff positions created (city liaison)

**Environments and Services**

- Market infrastructure (tables, tents, electronic benefit transfer – EBT – machines, signage and marketing)
- Healthy foods and beverages (quality/ quantity products, cost, variety)
- Non-nutritious foods and beverages (quality/ quantity products, cost, variety)
- Number and location of farmer's markets (reduced food deserts)
- Site maintenance (waste removal, street cleaning)

**Populations**

- Health: purchases/consumption of healthy foods and beverages, purchases/consumption of non-nutritious foods and beverages, chronic disease morbidity and mortality
- Economic prosperity: affordability of healthy foods and beverages (SNAP/WIC), employment of local labor force in farmers' markets, new farmers' market businesses, local food production and distribution
- Social well-being: social interactions in and around corner stores; safety from crime, stress, and discrimination; food and culture
- Education: academic performance, knowledge of places to purchase healthy foods and beverages, exposure to healthy foods

## Individual-Level Inputs, Outcomes, and Value

From an individual perspective, several investments and resources help to support farmers' market policies and practices, and, as a result, individuals may experience costs, savings, benefits, and harms (see specific examples in Figure 5B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of farmers' market policies and practices. Some scenarios illustrating different individual-level experiences of the value of farmers' market policies and projects are provided below.

### Investments

Individuals with jobs receive salaries or compensation, providing a stable source of income. Portions of this income can be invested in purchasing products from farmers' markets or to provide financing for farmers' market initiatives. Similarly, personal assets or investments may be allocated to support purchases or projects. Lower-income individuals, seniors, or persons with disabilities may receive state and/ or federal subsidies to offset costs for foods and beverages (e.g., Supplemental Nutrition Assistance Program (SNAP), Women, Infants, and Children program (WIC)). And, farmers may receive tax credits or subsidies for the land to grow produce for the farmers' markets.

### Resources

Individuals with a strong commitment to increasing access to locally-grown fruits and vegetables may offer their time, skills, or other non-monetary assets into efforts to: increase community awareness of the importance of access to healthy foods and beverages, organize community support for farmers' market initiatives, or cast a vote on specific policies to increase the number of farmers' markets in the community, among others. Some of these individuals may be volunteers who devote their time and effort into these types of community service projects. Collectively, these individuals may reflect proponents in support of farmers' markets or adversaries opposed to these types of policies and practices. Given the time and effort invested, proponents and adversaries may both place great value on farmers' market policies and practices. Cumulatively, the relative number of proponents valuing an emphasis on locally grown produce in comparison to adversaries valuing a global food production and distribution system, or those interested in replacing farmers' markets with larger, chain stores, impacts the overall value of farmers' market policies and practices.

Making changes to community-level policies and practices affecting farmers' markets or working with market managers to develop new policies and practices supporting sales of nutritious foods and beverages may require input from civic groups, city council, or neighborhood associations, among others. Given the potential impact on increased access to healthy foods and beverages, individuals in these networks add value to change-based discussions. In addition, persons in leadership positions (e.g., public officials) may also exercise influence over any suggested changes.

### Costs and Savings

Planning, implementation and maintenance require individual time spent in areas activities, such as advocacy for increasing the affordability of healthy foods and beverages as well as farmers', market managers', and staff time in food production, sales, security, and other operational and management tasks. Advocates may be customers who frequent the farmers' markets and have an interest in specific changes, such as greater variety in products available, increased affordability of healthy food and beverage options, or improvements to market hours of operation or market layout. In addition, residents who live close to the market may suggest allocating funds toward cosmetic or external improvements, serving to beautify the area and increase property value. While some individuals may appreciate the job security associated with enhanced policies (e.g., site maintenance personnel), others may see added requirements as drawing time away from other important tasks (e.g., a farmer who could be spending more time in the field growing crops).

Individual federal, state, and local tax dollars allocated to farmers' market initiatives aid in financing these policies and projects (i.e., increasing taxes increases individual costs, decreasing taxes increases individual savings). Yet, because individuals in many communities may rely on farmers' markets as a primary source of fresh produce, they are likely to value the use of some tax dollars to support healthier options in the markets. Some individuals may prefer to have these tax dollars spent on other priorities for the community.

In food deserts or other areas lacking sufficient healthy food options, farmers' markets provide a venue for purchasing otherwise inaccessible foods. Frequently, healthier options have higher prices, and, therefore, require a larger share of individual or family income, potentially reducing disposable income or finances available for other basic needs (e.g., housing, education, transportation).

Increased individual health care and health insurance costs may also result from purchase and consumption of foods with minimal nutritional value, a major risk factor for many chronic diseases. Alternatively, greater access to fresh produce in farmers' markets can help to reduce purchase and consumption of less nutritious foods and beverages by replacing these calories with more nutritional options.

### **Benefits and Harms**

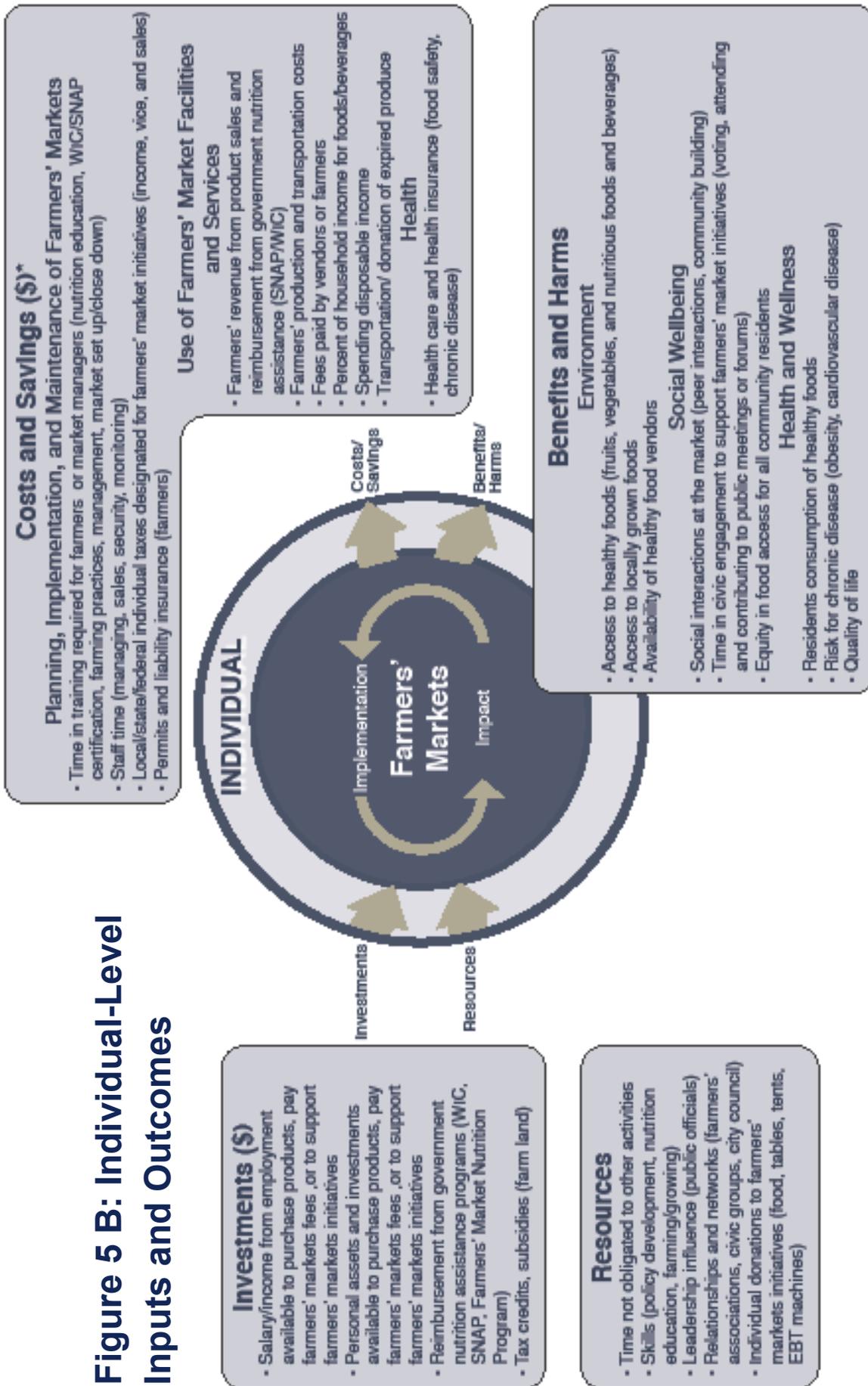
As noted previously, individuals living in areas without grocery stores or with a predominance of fast food restaurants may place a high value on farmers' markets. New or improved markets may increase access to fresh fruits and vegetables. By working with local farmers and producers to increase access to locally grown foods, these connections can help to boost the local economy by keeping funds in the community and surrounding areas. In addition, the revenue generated by local farmers can be used to increase sustainability of local agriculture and environments supporting healthy growing practices.

The hours of operation may prohibit access for some residents; for example, a farmers' market that is only open from 9am until 12pm on weekdays limit access to individuals who work regular business hours. Similarly, outdoor markets that close due to inclement weather may negatively impact individuals who rely solely on the market for their produce.

Farmers' markets may serve to increase social interactions among residents, and, in turn, neighborhood cohesion. Local farmers' markets provide a venue for people to meet, socialize, and discuss community-related strengths and concerns. As a result, community residents may become more civically engaged in local issues, generally and specifically with respect to support for farmers' markets. These bonds may lead to an overall improvement in social well-being and quality of life. Farmers' markets may also increase equity in access to healthy foods and beverages across neighborhoods.

Ultimately, these opportunities to increase fresh produce purchases influence better nutrition and reduced risk of chronic diseases and comorbidities, such as overweight/obesity.

**Figure 5 B: Individual-Level Inputs and Outcomes**



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 † Costs and savings influence economic prosperity (not shown under benefits and harms).

## Agency- and Organizational-Level Inputs, Outcomes, and Values

Agencies, businesses, and organizations (e.g., farmers' organizations, farmers' markets, government) are primarily responsible for developing and implementing farmers' market initiatives as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in turn, experience costs, savings, benefits, and harms (see Figure 5C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved farmers' markets. The below scenarios exemplify different agency- and organization-level experiences of the value of farmers' markets.

### Investments

Businesses providing direct farmers' markets services, or agencies and organizations offering indirect administrative and other support for these services, obtain funding from multiple sources that may be used for the development, implementation, and maintenance of farmers' markets. Primarily, farmers market profits from produce sales or reimbursement from federal and state agencies supporting government nutrition assistance (e.g., Supplemental Nutrition Assistance Program, Women, Infants, and Children). Markets generate revenue through fees collected from farmers interested in setting up booths at the market. Through tax credits or incentives, new or renovated markets may be financed in lower-income neighborhoods. Farmer's markets working to increase access to healthy, affordable foods may be awarded grants or contracts to support market operations (e.g., tents, tables, EBT machines, signage). Moreover, local businesses or corporations may provide donations or sponsorships toward farmers' market improvements (e.g., a new location, indoor or outdoor facility, electricity).

### Resources

Agencies and organizations may receive non-financial support for farmers' markets improvements, or they may contribute non-monetary resources themselves. For example, organizations may donate meeting or office space suitable for trainings on how to profit from making healthy products available, or local businesses may offer new/used storage equipment, shelter, or food (e.g., gently-used bins or boxes to store/display products, tents for vendors). In addition, agencies or organizations may contribute land (permanent or temporary) to provide access to the farmers' markets. For instance, a school may agree to allow a farmers' market to sell fresh fruits or vegetables. Media or communications agencies and organizations can provide free marketing services (e.g., message development) or advertisements (e.g., newspaper articles) to support farmers' markets.

### Cost and Savings

To plan, implement, and maintain farmers' markets, agencies, markets, and organizations provide salaries and benefits in exchange for a wide variety of tasks to promote policy, practice, and environmental changes. For instance, staff time may be allocated to market management, setting up and taking down the market, collaborating with local elected and appointed officials, developing advocacy and community organizing strategies, coordinating communications and public relations, and market promotion.

Contractor or consultant time may be dedicated to a variety of forms of training or technical assistance, including: skill building, engaging local residents in advocacy, informing government officials about resource needs, or coordinating with food producers and distributors to increase availability of fruits and vegetables. Collaboration with other farmers' markets may reduce contractor and consultant costs by distributing these costs across agencies, and, in turn, increasing staff exposure to a wider network of farmers' markets. Organizations allowing their staff to participate in advocacy or collaborative efforts may or may not view the time spent as a valuable investment based on their perceptions of effectiveness of these efforts in producing change to increase the feasibility of sustaining farmers' markets and the potential impact on staff workload.

Similar to individuals, agencies, businesses, and organizations pay federal, state, and local taxes (income and sales), and some of these funds may be allocated to initiatives supporting farmers' markets policies and environments.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; and liability insurance. Additionally, markets, or agencies and organizations, working to improve or

enhance farmers' markets may have direct expenses, such as purchasing or creating market signage; providing tables or tents for farmers and vendors; or supplying an EBT machine to accept government nutrition assistance (e.g., Supplemental Nutrition Assistance Program, Farmers' Market Nutrition Program). As farmers' markets provide enhanced nutritional options, it may be important to advertise new programs or services within the community. While the cost of advertising may be substantial at the beginning, it has the potential of increasing the customer base and thus generating additional revenue in order to build capital in the long run.

Agencies or organizations may also have costs associated with transport of expired fruits and vegetables to food pantries or other places accepting these types of donations.

With fresh products, farmers' markets may engender more frequent or rigorous food safety and quality inspections from the health department. For example, a special permit is required to offer food samples or any packaged or prepared food at the farmers' market.

Agencies or organizations focusing on preventive health through enhanced nutrition opportunities may experience savings through reductions in the employer-paid portion of insurance premiums for salaried, exempt employees and staff members.

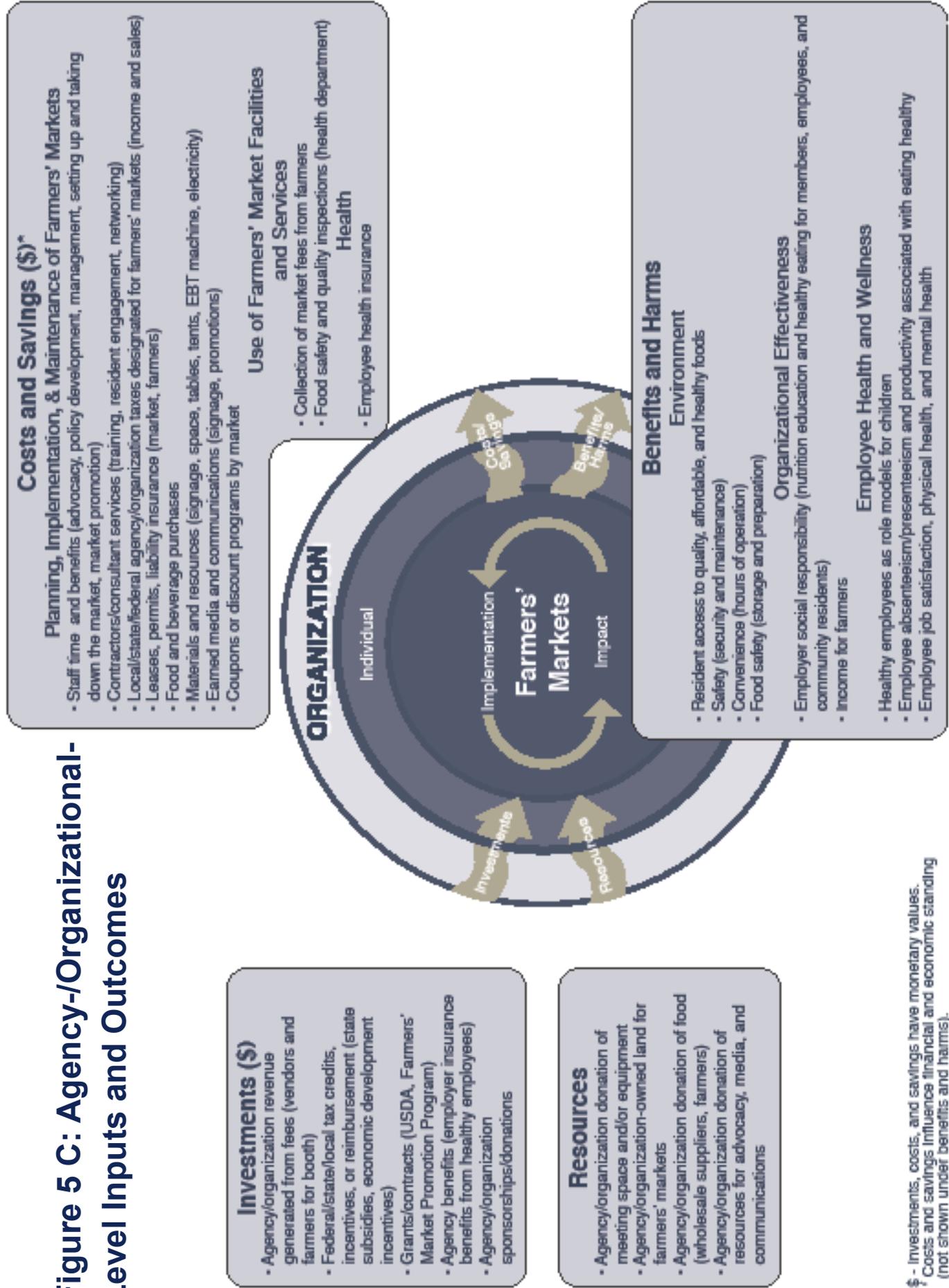
### Benefits and Harms

Agencies, businesses, and organizations may experience both harms and benefits associated with increased access to farmers' markets. From an environmental perspective, farmers' markets may be the only place for residents to access quality, lower-cost healthy foods; therefore, convenient store hours are critical to enhancing this access. For instance, families that live in food deserts may not have consistent access to fresh fruits and vegetables, and depend on the farmers' market to provide these foods and beverages. Quality farmers' markets enforce food safety guidelines to prevent food-borne illness or allergic reactions in the farmers' markets. The frequency of these incidents, and subsequent liability concerns, may be avoided through appropriate food selection/storage and by educating farmers, vendors, and market managers (e.g., appropriate storage temperatures for perishable items). Likewise, agencies and organizations may take steps to increase safety from property theft and crimes against persons through presence of security or surveillance video cameras. As an asset in the community, market managers and staff working to address the appearance and cleanliness of the market may also increase the perceived value of the market to the community environment.

Organizational effectiveness of the market in the community-at-large may be increased by having market representatives serve as leaders in the community. For instance, these leaders can advocate for community resources to support improved environments for farmers' markets and access to healthy, affordable foods and beverages. Additionally, establishment of farmers' markets can increase the income of farmers allowing them to continue to support the sustainability of the farmers' markets.

The increased attention to nutrition in the market is likely to affect the health of employees or to draw new health-conscious employees. These adults can serve as positive role models for health and nutrition in the surrounding community. The employers and employees can mutually benefit from good nutrition and improved health through less employee absenteeism as well as greater job satisfaction (e.g., promoting health in the community) and better physical and mental health.

**Figure 5 C: Agency-/Organizational-Level Inputs and Outcomes**



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 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Community-Level Inputs, Outcomes, and Values

Communities, including municipal, city, county, or regional authorities and their respective constituents, affect the political decision-making and funding context farmers' markets. The authorities may include local government officials, school districts, public land agencies, and tribal governments; and the constituents include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to farmers' markets and, in response, may experience costs, savings, benefits, and harms (see Figure 5D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of increasing access to healthy, affordable foods through farmers' markets. The following examples illustrate some of the community-level experiences of the value of these businesses.

### Investments

Depending on the setting, community-level funds may be available to support access to healthy foods from state or federal sources or program (e.g., Supplemental Nutrition Assistance Program, Woman, Infants, and Children, Farmers' Market Nutrition Program), city or county tax revenue, and other sources of city or county revenue (e.g., rent or leases, permits, services). Communities may also have fundraising initiatives to garner financial resources from sponsors or to obtain private donations.

### Resources

In addition to monetary investments, city or county governments can support farmers' markets as part of larger community-wide campaigns. In providing a public voice to the improvement efforts, community representatives can share information about the benefits associated with better nutrition and its impact at the community level. As a result of heightened awareness, community residents may show greater interest in improving access to healthy, affordable foods and participate in efforts to organize and advocate for more farmers' markets. Cities and counties can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by farmers' markets.

### Costs and Savings

Community-level costs and savings associated with the planning, implementation, and maintenance of the farmers' markets largely correspond to organizing and supporting staff salaries and benefits. These resources can support city staff time for coordinating and managing local cross-sector agency collaboration to ensure synchronized efforts to create and implement farmers' markets. This synergistic approach is likely to add value by improving the efficiency of all participating agencies. Yet, teaming up to focus on, and improve access to healthy, affordable foods through farmers' markets may divert funding allocated to other community projects. In this light, some community representatives may question the value of initiatives related to farmers' markets. In addition to personnel costs, local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend policy or practice changes related farmers' markets to elected or appointed officials. As an example, community forums may be held to ensure policy-makers understand all viewpoints held by community members before sponsoring a proposal for city council approval. Forums such as these may incur associated participant or meeting costs.

Use of the farmers' markets facilities and services also plays a role in the overall costs and savings. Cities or counties may have funds earmarked for farmers' markets or allocate a portion of the local budget to fund opportunities for creating access to healthy, affordable foods, with some funds specifically providing support for farmers' markets in lower-income, disadvantaged, and food desert areas. Additionally, improvements to farmers' markets can lead to the development of new markets, creating opportunities to employ the local labor force. These new markets require updated permits and enhanced utility services, increasing city/county revenue.

Communities offering public transportation for their residents (e.g., bus service) may decide to implement an additional route or bus for residents to the farmers' market, thereby increasing transportation costs. Updating farmers' markets can also attract new businesses or consumers to the area, contributing to an increased tax base. In turn, the combination of facility improvements and new businesses may increase property values in the community.

City or county government employees may also benefit from an increased consciousness of the benefits of healthy eating, resulting in less expensive insurance premiums and local budget savings through reductions in these costs for salaried, exempt employees and staff members.

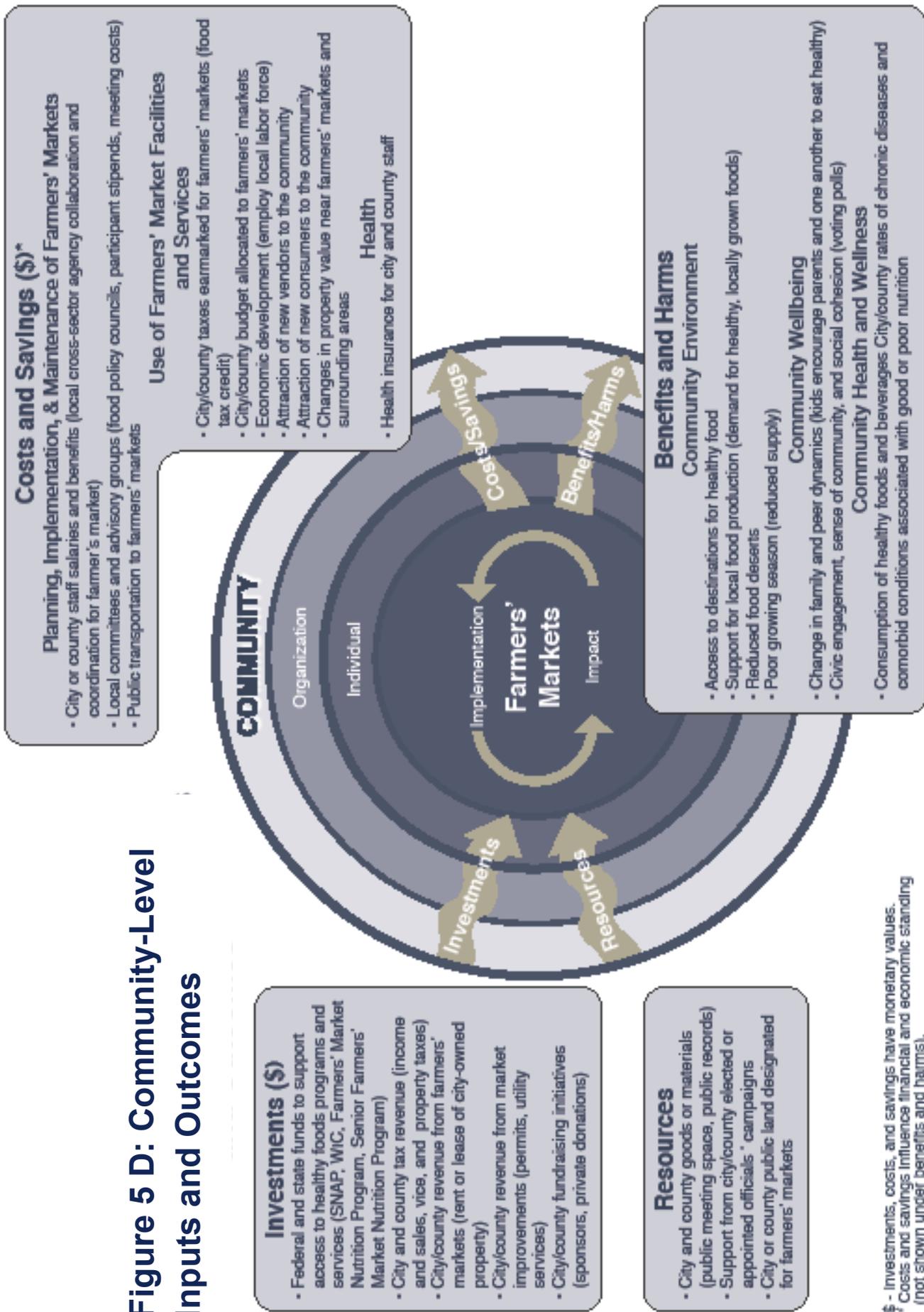
### Benefits and Harms

By improving or creating access to healthy, affordable foods through farmers' markets these destinations may eliminate food deserts and provide aesthetic improvements on a community scale. Similarly, with increased access to healthy foods, the demand for healthy and locally grown foods may improve creating new economic opportunities for local farmers or other local food producers and distributors. However, farmers' markets rely heavily on external factors including the weather to produce their supply. A poor growing season may reduce the amount of crop available for farmers to sell at the market.

Farmers' markets can also promote social interactions and social cohesion among children, parents, and community members. As an example, children receiving nutrition education in school and opportunities to make healthy choices in farmers' markets may engage in food-related discussions with their friends and families to encourage the consumption of healthier foods. As people feel a greater sense of community, they are more committed to community wellbeing, leading to a greater focus on community safety and decreases in crime rates (e.g., through neighborhood watch groups). These improvements may also spur the use of farmers' markets for other food or non-food related activities, such as civic engagement activities (e.g., location for voting polls, cooking classes or demonstrations). As the facilities are used more frequently, residents in the community may interact more frequently, enhancing the perception of social cohesion.

Consistent exposure to environmental improvements promoting nutrition throughout the community may influence residents to change their diets to include more healthy foods and beverages and exclude less nutritious items, and in turn, lower rates of chronic diseases or co-morbid conditions. With more citizens living disease- and disability-free days, human capital in the community may increase, bringing about greater productivity, ingenuity, and diversity for a sustainable future.

**Figure 5 D: Community-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Societal-Level Inputs, Outcomes, and Values

Federal and state authorities and their respective constituents play a key role in the funding and support for improvements to farmers' markets. Collectively, federal and state agencies (health, education, social services, agriculture) as well as national and state associations provide the investments and resources to farmers' markets, leading to a variety of costs, savings, benefits, and harms (see Figure 5E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improvements to farmers' markets. The below scenarios exemplify different societal-level experiences of the value of farmers' markets.

### **Investments**

State and federal tax revenue may be allocated to programs supporting farmers' markets (e.g., Supplemental Nutrition Assistance Program, Women, Infants, and Children, Farmers' Market Nutrition Program). In addition, state and national fundraising initiatives can be used to generate interest and resources to develop or enhance farmers' markets.

### **Resources**

Similar to city or county governments, state and federal governments can support farmers' markets as part of larger statewide or national campaigns. State and federal governments can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used for farmers' markets.

### **Costs and Savings**

With respect to planning, implementation and maintenance of farmers' markets, costs and savings are primarily attributed to state and federal staff time, or contractor and consultant time. Representatives and staff of state and federal agencies (e.g., elected officials, department employees) work together to develop or revise policies, oversee and regulate their implementation, and provide guidance and resources to market managers and food producers and distributors (e.g., Farm Bill). These agencies also hold public meetings with state or federal representatives to facilitate greater understanding of the benefits of farmers' markets to communities (i.e., health, social, economic), influencing the creation or revision of policies and practices to support these farmers' markets.

In addition, state and federal budgets may include resources specifically allocated to increase access to healthy, affordable foods through farmers' markets, such as those provided through the United States Department of Agriculture. As society puts greater emphasis on creating access to healthy, affordable foods through farmers' markets, more public money is spent to deliberate on policy changes, implement the changes, and enforce the changes.

Alongside federal and state government support, state and national associations or groups (e.g., American Dietetic Association, small business associations) come together through conferences and meetings to educate and advocate for farmers' markets. Financing to support agency representatives (travel, food, lodging) and other meeting costs are required as agencies typically do not have these resources.

Non-profit, for profit, and educational organizations (e.g., universities, university extension programs, farmers' advocacy organizations) may provide training and advocacy opportunities for professionals and volunteers who place value on creating access to healthy, affordable foods through farmers' markets. These groups can also facilitate communication and unify efforts to change current policies and practices in farmers markets by providing an avenue for continuing education, advocacy, and promotion of new policies or guidelines. All of these activities require staff or consultant/contractor time as well.

Improvements in farmers' markets may result in reduced health insurance costs for federal, national, and state agencies and organizations by increasing nutrition and overall health of these employees.

### **Benefits and Harms**

With regard to the global environment, farmers' markets may impact food production and distribution. As the need for fruits, vegetables, and other healthy foods increases due to changes in farmers' markets, state or federal land may be reallocated or repurposed from commodities to fruit and vegetable production. Increases in produce will, in turn, require changes to food and beverage distribution and transportation (e.g., increase

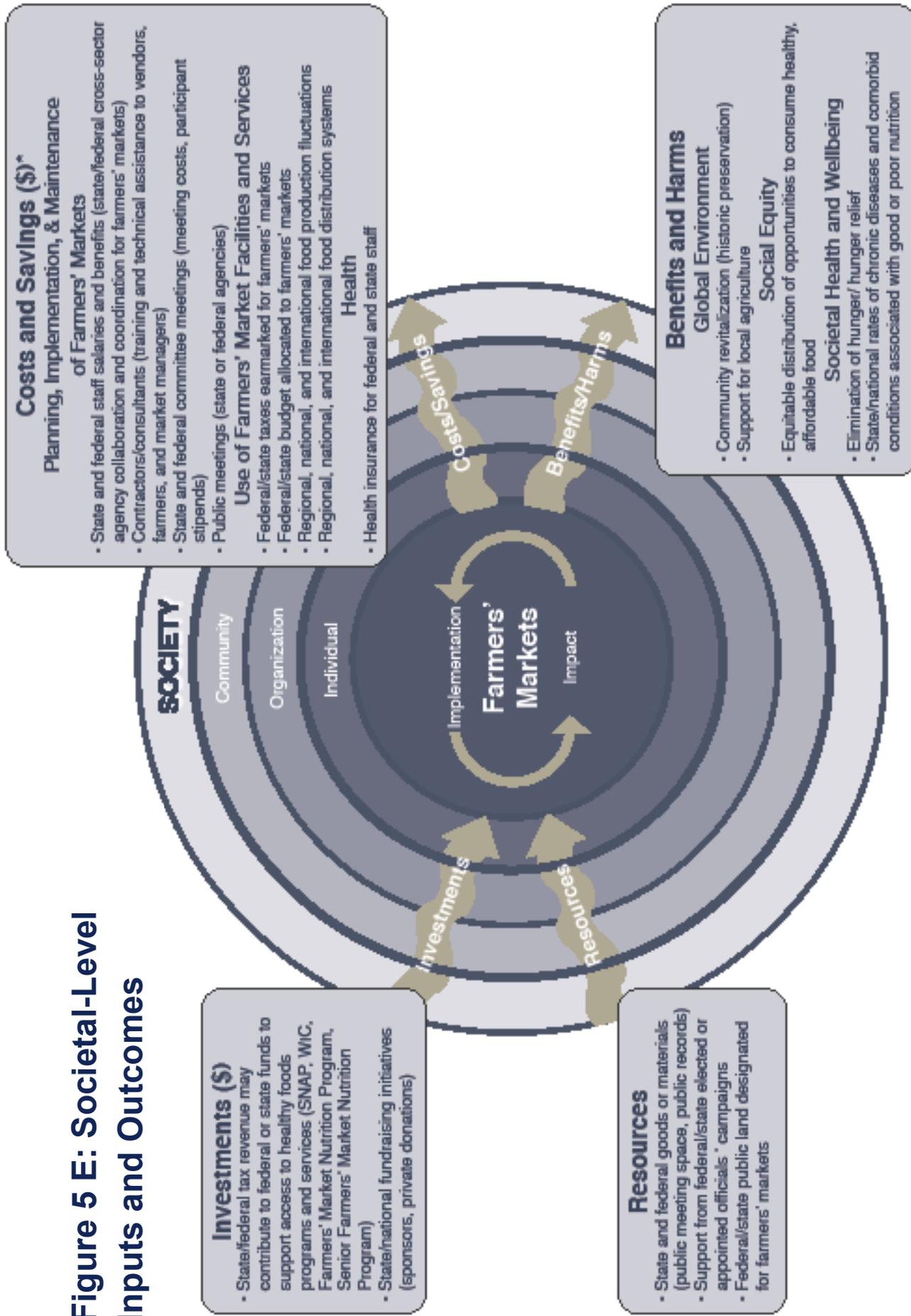
emphasis on the benefits of locally grown produce to preserve the quality and freshness of produce).

Wide-spread distribution of opportunities for nutritious foods provides greater access to all members of a system, regardless of income level or social demographics. With resources evenly spaced and situated throughout and across populations, more members of society can enjoy healthy foods without barriers such as geographical distance or financial burden.

As previously identified, the health benefits of incorporating more healthy foods and beverages as well as fewer products with minimal nutritional value into the daily diet of citizens increases the number of disease- and disability-free days, reducing rates of chronic disease, increasing vitality and improving quality of life for all people. Additional societal-level health costs associated with poor nutrition (e.g., childhood overweight or obesity) may be averted as well.

The impact of a policy, practice, or environmental change is dependent on the quality of implementation, including fidelity to model policies or best practices as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

**Figure 5 E: Societal-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## CORNER STORES

### Implementation

Efforts to improve corner stores – to increase access to healthy, affordable foods and beverages – may include advocacy and organizing, policy development, and/or policy implementation and enforcement activities (see Figure 6A for examples specific to corner stores).

Advocacy and organizing activities refer to “upstream” preparation steps that help to:

- generate participation and support from different representatives in the community;
- identify needs and priorities among representatives in the community;
- develop local leadership to direct a vision for corner stores and plan for change;
- create decision-making bodies composed of representatives (e.g., farmers, food distributors, corner store owners, residents) that promote health in all policies; and
- leverage financial and other resources to instigate and sustain policy, practice, or environmental changes.

Policy development activities are designed to:

- assess the relevance and effectiveness of existing laws, regulations, ordinances, mandates, resolutions, guidelines, or other rules and procedures;
- examine model policies and best practices in the field as well as their applicability to the community;
- draft new policies/practices or modify existing policies/practices, including designated sources of funding and necessary specifications to ensure the policies are implemented as intended; and
- garner support from local decision-makers for policy adoption.

The purposes of policy implementation and enforcement activities are to:

- allocate funds and resources for implementation;
- hire (or train/cross-train) owners/staff/consultants/contractors with sufficient knowledge, skills, and capabilities to carry out protocols and operations;
- ensure sufficient coordination and communication across businesses, agencies, departments, and partners responsible for implementation;
- monitor progress and necessary adaptations to guarantee compliance and implementation quality;
- ensure participation and purchasing of healthy options by youth and community residents;
- assure the relevance to and the safety and satisfaction of the entire community; and
- secure funding and resources for maintenance.

### Impact

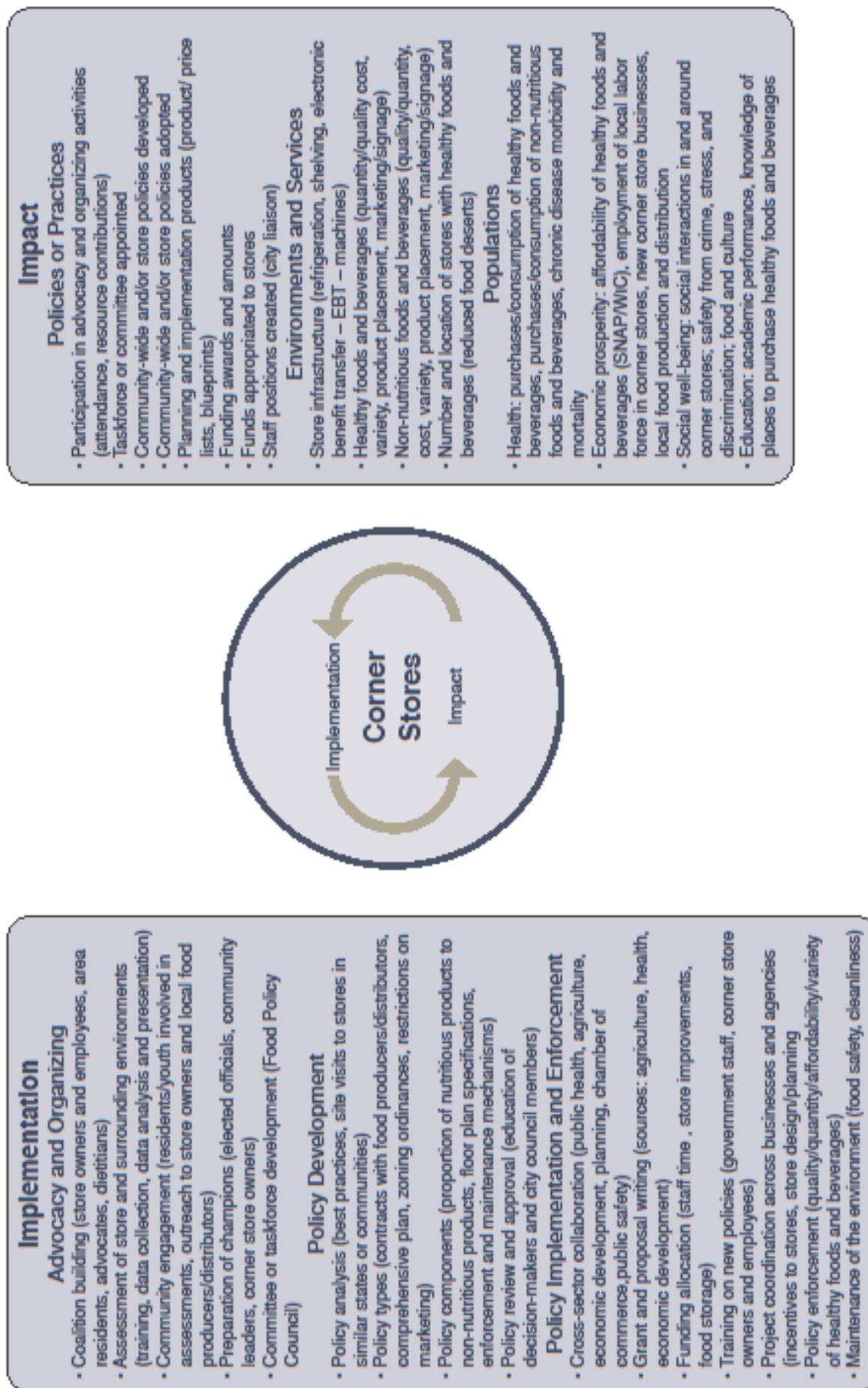
Corner store policy or practice changes may have impacts on policies, environments and services, and/or populations (see Figure 6A for examples specific to corner stores).

- Policy or practice impacts correspond to the short-term outcomes most closely related to the policy or practice implementation activities described above.
- Environment- and service-oriented impacts refer to intermediate outcomes associated with new or modified policies or practices.
- Population impacts include longer-term impacts of the policy, practice, or environment- and service-oriented changes on health, social well-being, economic prosperity, education, and overall quality of life.

### Cycles of Implementation and Impact

The impact of a policy, practice, or environmental change is dependent on the quality of implementation, including fidelity to model policies or best practices as well as acceptability to the community-at-large. In turn, quality improvement of implementation efforts is informed by the extent of the impact on policies, practices, environments, services, and populations.

Figure 6 A: Corner Stores Implementation and Impact



## Individual-Level Inputs, Outcomes, and Value

From an individual perspective, several investments and resources help to support corner stores policies and practices, and, as a result, individuals may experience costs, savings, benefits, and harms (see specific examples in Figure 6B). Together, the relative impacts of the costs and harms as compared to the savings and benefits influence the perceived and actual value of corner store policies and practices. Some scenarios illustrating different individual-level experiences of the value of corner store policies and practices are provided below.

### **Investments**

Individuals with jobs receive salaries or compensation, providing a stable source of income. Portions of this income can be invested in purchases of healthy products from corner stores or to help finance corner store projects or improvements. Similarly, personal assets or investments may be allocated to support purchases or projects. Lower-income individuals, seniors, or persons with disabilities may receive state and/or federal subsidies to offset costs for foods and beverages (e.g., Supplemental Nutrition Assistance Program (SNAP), Women, Infants, and Children program (WIC)).

### **Resources**

Individuals who are passionate about having healthy options in corner stores may donate their time (not otherwise committed), skills, or other non-monetary assets into efforts to: increase community awareness of the importance of access to healthy foods and beverages, organize community support for corner store initiatives, or cast a vote on specific policies to increase the number of healthy corner stores in the community, among others. Some of these individuals may be volunteers who devote their time and effort into these types of community service projects. Collectively, these individuals may reflect proponents in support of healthy corner stores or adversaries opposed to these types of policies and practices. Given the time and effort invested, proponents and adversaries may both place great value on corner store policies and practices. Cumulatively, the relative number of proponents valuing an emphasis on nutritious options in comparison to adversaries valuing non-nutritious options, or those interested in replacing corner stores with larger, chain stores, impacts the overall value of healthy corner store policies and practices.

Making changes to community-level policies and practices affecting corner stores or working with corner store owners to develop new policies and practices supporting sales of nutritious foods and beverages may require input from civic groups, city council, or neighborhood associations, among others. Given the potential impact on increased access to healthy foods and beverages, individuals in these networks add value to change-based discussions. In addition, persons in leadership positions (e.g., public officials) may also exercise influence over any suggested changes.

### **Costs and Savings**

Planning, implementation, and maintenance require individual time spent in activities, such as advocacy for increasing the affordability of healthy foods and beverages as well as corner store owners and staff time in stocking, purchasing, sales, and other operational and management tasks. Advocates may be customers who frequent the corner store and have an interest in specific changes, such as greater variety in products available, addition of healthy food and beverage options, increased affordability of healthy food and beverage options, or improvements to store layout. In addition, residents who live close to the store may suggest allocating funds toward cosmetic or external improvements, serving to beautify the area and increase property value.

Individuals whose jobs or salaries are impacted by increases in healthy corner stores might place higher value on policies or projects than people who may not be otherwise impacted. For example, increases in stocked items would require additional staff hours to manually change the layout of the store and rearrange items for sale. Furthermore, in conjunction with implementation costs, costs and savings associated with use and maintenance may also be impacted by policy or environmental interventions. A decision to begin carrying perishable items (e.g., a fresh fruit stand) creates a need for enhanced receiving services and storage and refrigeration in order to maintain these goods. While some staff members may view these changes as positive, others might perceive these changes as unnecessarily increasing workload/training demands.

Individual federal, state, and local tax dollars allocated to corner store initiatives aid in financing these policies and projects (i.e., increasing taxes increases individual costs, decreasing taxes increases individual savings). Yet, because individuals in many communities may rely on corner stores as a primary source of foods and beverages, they are likely to value the use of some tax dollars to support healthier options in these corner stores. Some individuals may prefer to have these tax dollars spent on other priorities for the community. In food deserts or other areas lacking sufficient healthy food options, corner stores provide a venue for purchasing otherwise inaccessible foods. Frequently, healthier options have higher prices, and, therefore, require a larger share of individual or family income, potentially reducing disposable income or finances available for other basic needs (e.g., housing, education, transportation).

Increased individual health care and health insurance costs may also result from purchase and consumptions of foods with minimal nutritional value, a major risk factor for many chronic diseases. Alternatively, greater access to healthy foods and beverages in corner stores can help to reduce purchase and consumption of these foods and beverages by replacing these calories with more nutritional options.

### Benefits and Harms

As noted previously, individuals living in areas without grocery stores or with a predominance of fast food restaurants may place a high value on corner stores with healthy policies and associated environments. New or improved corner stores may increase access to healthy foods, such as fresh, canned, or frozen fruits and vegetables. At the same time, these initiatives decrease access to high calorie, non-nutritious foods by reassigning shelf space to the healthier options. With improved access to healthy foods, individuals are likely to consume more fruits, vegetables, and healthy foods and beverages.

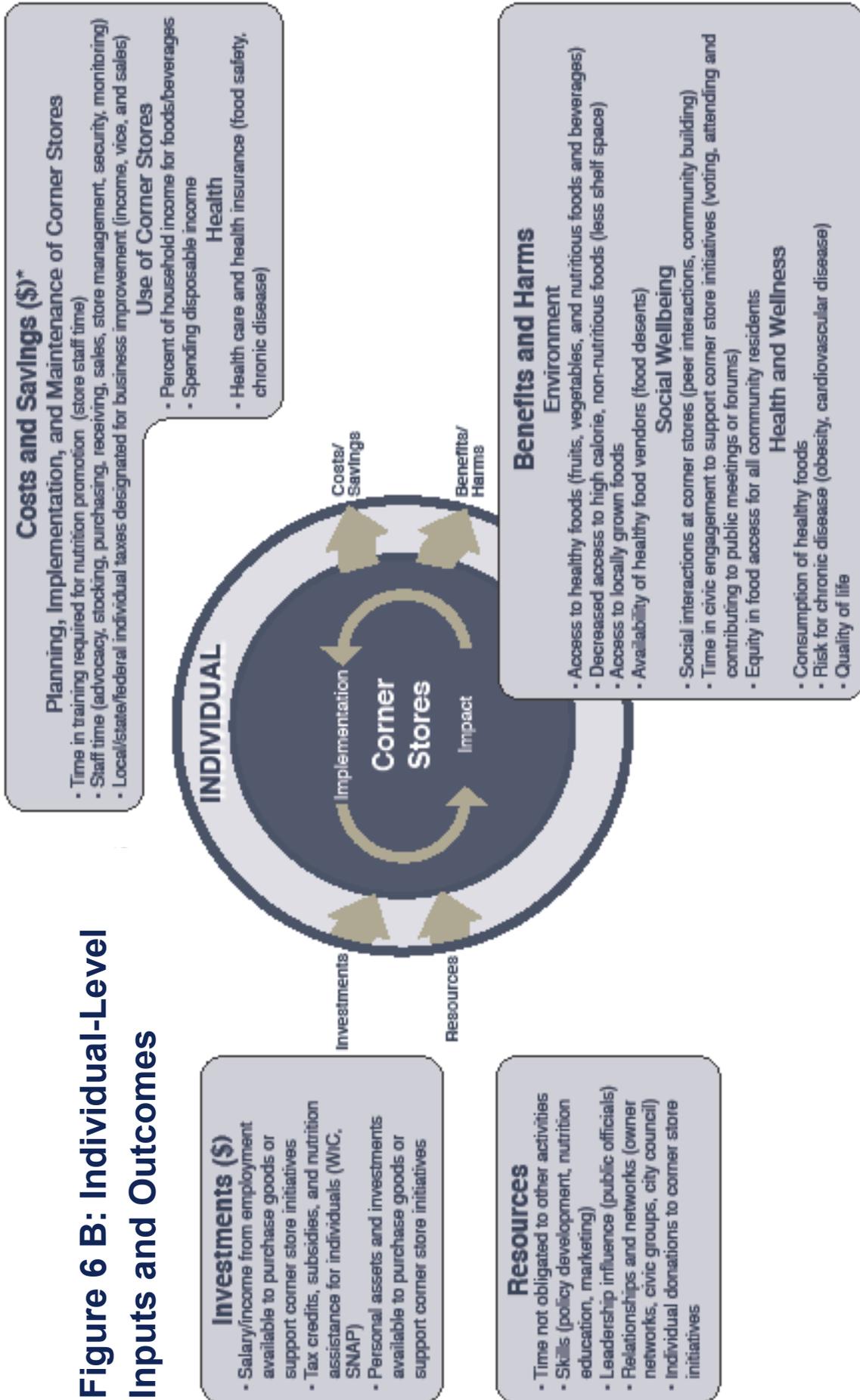
However, this requires a fundamental change in perceptions of corner stores from places where people stop to get a quick, unhealthy snack (i.e., those high in sugar, fat, or salt content) to places that offer nutritious snacks or meals. In the short-term, the decrease in the commonly purchased unhealthy options may cause the store to experience a reduction in total sales, adversely affecting staffing, compensation, and sustainability.

For the corner stores, one potential avenue to cut some of the food production and distribution costs is to work with local farmers and producers to increase access to locally grown foods. These connections can increase the local economy by keeping funds in the community and surrounding areas. In addition, the revenue generated by local farmers can be used to increase sustainability of local agriculture and environments supporting healthy growing practices.

Corner stores may serve to increase social interactions among residents, and, in turn, neighborhood cohesion. Local corner stores provide a venue for people to meet, socialize, and discuss community-related strengths and concerns. As a result, community residents may become more civically engaged in local issues, generally and specifically with respect to healthy corner stores. These bonds may lead to an overall improvement in social well-being and quality of life. Healthy corner stores may also increase equity in access to healthy foods and beverages across neighborhoods.

Ultimately, these opportunities to make healthier food and beverage purchases influence better nutrition and reduced risk of chronic diseases and comorbidities, such as overweight/obesity, cardiovascular health, and diabetes.

**Figure 6 B: Individual-Level Inputs and Outcomes**



\* - Investments, costs, and savings have monetary values.  
 † Costs and savings influence economic prosperity (not shown under benefits and harms).

## Agency- and Organizational-Level Inputs, Outcomes, and Values

Agencies, businesses, and organizations (e.g., corner stores, farmers' organizations, government) are primarily responsible for developing and implementing healthy corner store initiatives as well as monitoring their impact over time. In response, these entities contribute an array of investments and resources to these efforts and, in turn, experience costs, savings, benefits, and harms (see Figure 6C). When combined, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of improved corner stores. The below scenarios exemplify different agency- and organization-level experiences of the value of corner stores.

### Investments

Businesses providing direct corner store services, or agencies and organizations offering indirect administrative and other support for these services, obtain funding from multiple sources that may be used for the development, implementation, and maintenance of healthy corner stores. Primarily, store owners generate revenue through store sales or reimbursement from federal and state agencies supporting government nutrition assistance (e.g., Supplemental Nutrition Assistance Program, Women, Infants, and Children). Through tax credits or incentives, new or renovated stores may be financed in lower-income neighborhoods. Corner stores working to increase access to healthy, affordable foods may be awarded grants or contracts (e.g., Healthy Corner Store Initiatives, Healthy Food Financing Initiative) to support store development or improvements (e.g., refrigeration, storage, or shelving, EBT machines, signage). Moreover, local businesses or corporations may provide donations or sponsorships toward corner store improvements (e.g., shelving, signage).

### Resources

Agencies and organizations may receive non-financial support for corner store improvements, or they may contribute non-monetary resources themselves. For example, organizations may donate meeting or office space suitable for training on how to profit from making healthy products available in corner stores, or local businesses may offer new/used storage, refrigeration, or shelving equipment. Farmers or other food producers may donate fresh produce or other healthy products. In addition, agencies or organizations may contribute land (permanent or temporary) for development of new corner stores. Media or communications agencies and organizations can provide free marketing services (e.g., message development) or advertisements (e.g., newspaper articles) to support healthy corner stores.

### Cost and Savings

To plan, implement, and maintain healthy corner stores, stores, agencies, and organizations provide salaries and benefits in exchange for a wide variety of tasks to promote policy, practice, and environmental changes. For instance, staff time may be allocated to store management, training store owners, working with food producers and distributors, collaborating with local elected and appointed officials, developing advocacy and community organizing strategies, coordinating communications and public relations, and corner store promotion.

Contractor or consultant time may be dedicated to a variety of forms of training or technical assistance, including: skill building, engaging local residents in advocacy, informing government officials about resource needs, or coordinating with food producers and distributors to increase availability of fruits and vegetables. Collaboration with other corner stores or markets may reduce contractor and consultant costs by distributing these costs across agencies, and, in turn, increasing staff exposure to a wider network of corner stores. Organizations allowing their staff to participate in advocacy or collaborative efforts may or may not view the time spent as a valuable investment based on their perceptions of effectiveness of these efforts in producing change to increase the feasibility of sustaining healthy corner stores and the potential impact on staff workload. Changes in products sold in corner stores may also suggest new inventory and sales tracking needs to validate that these investments are an appropriate use of resources.

Similar to individuals, agencies, businesses, and organizations pay federal, state, and local taxes (income and sales), and some of these funds may be allocated to initiatives supporting healthy corner stores' policies and environments.

All agencies and organizations have general operating expenses, including mortgages, leases, or rent; utilities; and liability insurance. Additionally, stores, or agencies and organizations working to improve or enhance corner stores, may have direct expenses, such as purchasing or creating store signage; addressing store shelving, storage, and refrigeration; or supplying an EBT machine to accept government nutrition assistance (e.g., Supplemental Nutrition Assistance Program). As corner stores provide enhanced nutritional options, it may be important to advertise new food or services within the community. While the cost of advertising may be substantial at the beginning, it has the potential of increasing the customer base and thus generating additional revenue in order to build capital in the long run.

Agencies or organizations may also have costs associated with transport of expired fruits and vegetables to food pantries or other places accepting these types of donations. With fresh products, corner stores may engender more frequent or rigorous food safety and quality inspections from the health department. For example, a special permit is required to sell any packaged/prepared food or fresh cut fruit and vegetables at the corner store.

Agencies or organizations focusing on preventive health through enhanced nutrition opportunities may experience savings through reductions in the employer-paid portion of insurance premiums for salaried, exempt employees and staff members.

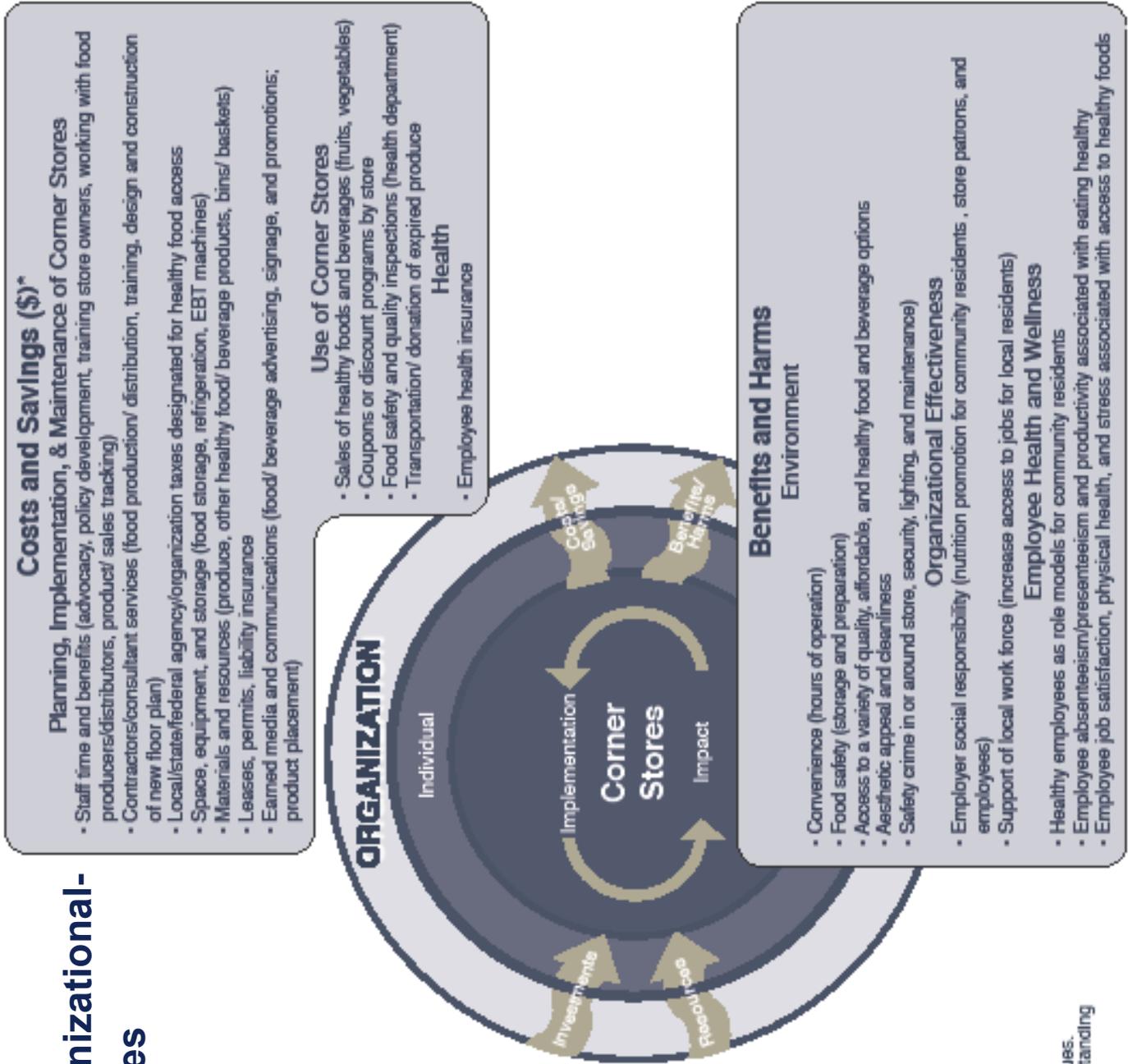
### Benefits and Harms

Agencies, businesses, and organizations may experience both harms and benefits associated with increased access to healthy foods in corner stores. From an environmental perspective, corner stores may be the only place for residents to access quality, lower-cost healthy foods; therefore, convenient store hours are critical to enhancing this access. For instance, families that live in food deserts may not have consistent access to fresh fruits and vegetables, and depend on the corner stores to provide these foods and beverages. Quality corner stores enforce food safety guidelines to prevent food-borne illness or allergic reactions in the corner stores. The frequency of these incidents, and subsequent liability concerns, may be avoided through appropriate food selection/storage and by educating store owners and staff (e.g., appropriate storage temperatures for perishable items). Likewise, agencies and organizations may take steps to increase safety from property theft and crimes against persons through presence of security or surveillance video cameras. As an asset in the community, corner stores working to address the appearance and cleanliness of the store may also increase the perceived value of the store to the community environment.

Organizational effectiveness of the agency in the community-at-large may be increased by having business representatives serve as leaders in the community. For instance, these leaders can advocate for community resources to support improved environments for corner stores and access to healthy, affordable foods. Additionally, establishment or enhancement of corner stores can increase job opportunities for local residents.

The increased attention to nutrition in the store is likely to affect the health of employees or to draw new health-conscious employees. These adults can serve as positive role models for health and nutrition in the surrounding community. The employers and employees can mutually benefit from good nutrition and improved health through less employee absenteeism as well as greater job satisfaction (e.g., promoting health in the community) and better physical and mental health.

**Figure 6 C: Agency-/Organizational-Level Inputs and Outcomes**



**Investments (\$)**

- Agency/organization revenue generated from product sales
- Federal/state/local tax credits or incentives (State-level property tax credit for stores in lower-income areas)
- Revenue generated from government nutrition assistance (WIC, SNAP)
- Grants/contracts awarded to corner stores (Healthy Corner Stores Initiative, Healthy Food Financing Initiative)
- Agency/organization sponsorships/donations to corner stores

**Resources**

- Agency/organization donation of meeting space and/or equipment
- Agency/organization donation of produce (wholesale produce suppliers or farmers) or wholesales/discounted pricing on healthy foods and beverages (food producers/distributors)
- Agency/organization donation of resources for advocacy, media, and communications

\* - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## Community-Level Inputs, Outcomes, and Values

Communities, including municipal, city, county, or regional authorities and their respective constituents, affect the political decision-making and funding context for healthy corner stores. The authorities may include local government officials, school districts, public land agencies, and tribal governments; and the constituents include residents, businesses, advocacy groups, faith-based and nonprofit organizations, and other institutions or organizations with a vested interest in the welfare of the community. Together, these community representatives contribute an array of investments and resources to healthy corner stores and, in response, may experience costs, savings, benefits, and harms (see Figure 6D). The distribution and relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of increasing access to healthy, affordable foods through corner stores. The following examples illustrate some of the community-level experiences of the value of these businesses.

### Investments

Depending on the setting, community-level funds may be available to support access to healthy foods from state or federal sources or programs (e.g., Supplemental Nutrition Assistance Program, Woman, Infants, and Children, United States Economic Development Administration, Healthy Food Financing Initiative), city or county tax revenue, and other sources of city or county revenue (e.g., rent or leases, permits, services). Communities may also have fundraising initiatives to garner financial resources from sponsors or to obtain private donations.

### Resources

In addition to monetary investments, city or county governments can support healthy corner stores as part of larger community-wide campaigns. In providing a public voice to the improvement efforts, community representatives can share information about the benefits associated with better nutrition and its impact at the community level. As a result of heightened awareness, community residents may show greater interest in improving access to healthy, affordable foods and participate in efforts to organize and advocate for healthier corner stores. Cities and counties can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used by corner store owners.

### Costs and Savings

Community-level costs and savings associated with the planning, implementation, and maintenance of healthy corner stores largely correspond to organizing and supporting personnel or staff salaries and benefits. These resources can support city staff time for coordinating and managing local cross-sector agency collaboration to ensure synchronized efforts to create and implement healthy corner stores. This synergistic approach is likely to add value by improving the efficiency of all participating agencies. Yet, teaming up to focus on and improve access to healthy, affordable foods through corner stores may divert funding allocated to other community projects. In this light, some community representatives may question the value of initiatives related to corner stores. In addition to personnel costs, local committees or taskforces, advisory groups, or neighborhood groups may be convened in order to recommend policy or practice changes related healthy corner stores to elected or appointed officials. As an example, community forums may be held to ensure policy-makers understand all viewpoints held by community members before sponsoring a proposal for city council approval. Forums such as these may incur associated participant or meeting costs.

Use of the corner stores facilities and services also plays a role in the overall costs and savings. Cities or counties may have funds earmarked for corner stores or allocate a portion of the local budget to fund opportunities for creating access to healthy, affordable foods, with some funds specifically providing support for corner stores in lower-income, disadvantaged, and food desert areas. Additionally, improvements to corner stores can lead to the development of new stores, creating opportunities to employ the local labor force. These new stores require updated permits and enhanced utility services, increasing city/county revenue.

Communities offering public transportation for their residents (e.g., bus service) may decide to implement an additional route or bus for residents to the corner stores, thereby increasing transportation costs. Updating corner stores can also attract new businesses or consumers to the area, contributing to an increased tax

base. In turn, the combination of facility improvements and new businesses may increase property values in the community.

City or county government employees may also benefit from an increased consciousness of the benefits of healthy eating, resulting in less expensive insurance premiums and local budget savings through reductions in these costs for salaried, exempt employees and staff members.

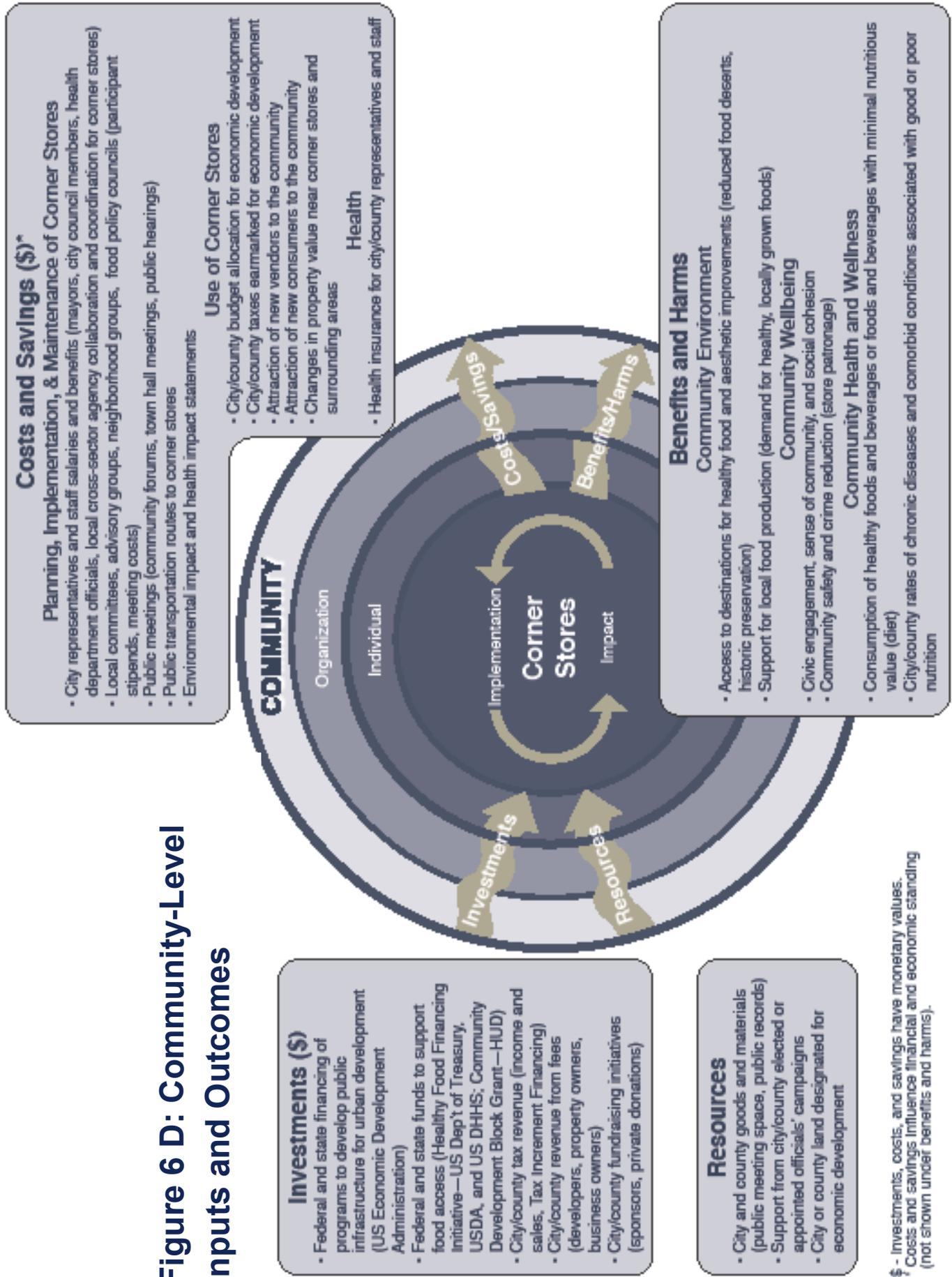
### **Benefits and Harms**

By improving or creating access to healthy, affordable foods through corner stores, these destinations may eliminate food deserts and provide aesthetic improvements on a community scale. Similarly, with increased access to healthy foods, the demand for healthy and locally grown foods may improve creating new economic opportunities for local farmers or other local food producers and distributors.

Corner stores can also promote social interactions and social cohesion among children, parents, and community members. As an example, children receiving nutrition education in school and opportunities to make healthy choices in corner store may engage in food-related discussions with their friends and families to encourage the consumption of healthier foods. As people feel a greater sense of community, they are more committed to community wellbeing, leading to a greater focus on community safety and decreases in crime rates (e.g., through neighborhood watch groups). These improvements may also spur the use of corner stores facilities for other food or non-food related activities, such as civic engagement activities (e.g., location for voting polls, cooking classes or demonstrations). As the facilities are used more frequently, residents in the community may interact more frequently, enhancing the perception of social cohesion.

Consistent exposure to environmental improvements promoting nutrition throughout the community may influence residents to change their diets to include more healthy foods and beverages and exclude less nutritious items, and in turn, lower rates of chronic diseases or co-morbid conditions. With more citizens living disease- and disability-free days, human capital in the community may increase, bringing about greater productivity, ingenuity, and diversity for a sustainable future.

**Figure 6 D: Community-Level Inputs and Outcomes**



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## Societal-Level Inputs, Outcomes, and Values

Federal and state authorities and their respective constituents play a key role in the funding and support for healthy corner stores. Collectively, federal and state agencies (health, education, social services, agriculture) as well as national and state associations provide investments and resources to corner stores, leading to a variety of costs, savings, benefits, and harms (see Figure 6E). In response, the relative impacts of the costs and harms as well as the savings and benefits influence the perceived and actual value of healthy corner stores. The below scenarios exemplify different societal-level experiences of the value of healthy corner stores.

### **Investments**

State and federal tax revenue may be allocated to economic development or programs supporting healthy corner stores (e.g., Supplemental Nutrition Assistance Program; Women, Infants, and Children, Housing and Urban Development grants; Healthy Food Financing Initiative). In addition, state and national fundraising initiatives can be used to generate interest and resources to develop or enhance corner stores.

### **Resources**

Similar to city or county governments, state and federal governments can support healthy corner stores as part of larger statewide or national campaigns. State and federal governments can also provide goods or materials (e.g., meeting space, public records) or designate public land to be used for new corner stores.

### **Costs and Savings**

With respect to planning, implementation, and maintenance of corner stores, costs and savings are primarily attributed to state and federal staff time, or contractor and consultant time. Representatives and staff of state and federal agencies (e.g., elected officials, department employees) work together to develop or revise policies, oversee and regulate their implementation, and provide guidance and resources to corner store owners and food producers and distributors (e.g., Farm Bill). These agencies also hold public meetings with state or federal representatives to facilitate greater understanding of the benefits of healthy corner stores to communities (i.e., health, social, economic), influencing the creation or revision of policies and practices to support these corner stores.

In addition, state and federal budgets may include resources specifically allocated to increase access to healthy, affordable foods through corner stores, such as those provided through the United States Department of Agriculture. As society puts greater emphasis on creating access to healthy, affordable foods in corner stores, more public money is spent to deliberate on policy changes, implement the changes, and enforce the changes.

Alongside federal and state government support, state and national associations or groups (e.g., American Dietetic Association, small business associations) come together through conferences and meetings to educate and advocate for healthy corner stores. Financing to support agency representatives (travel, food, lodging) and other meeting costs are required as agencies typically do not have these resources.

Non-profit, for profit, and educational organizations (e.g., universities, university extension programs, farmers' advocacy organizations) may provide training and advocacy opportunities for professionals and volunteers who place value on creating access to healthy, affordable foods through corner stores. These groups can also facilitate communication and unify efforts to change current policies and practices in corner stores by providing an avenue for continuing education, advocacy, and promotion of new policies or guidelines. All of these activities require staff or consultant/contractor time as well.

Improvements in corner stores may result in reduced health insurance costs for federal, national, and state agencies and organizations by increasing nutrition and overall health of these employees.

### **Benefits and Harms**

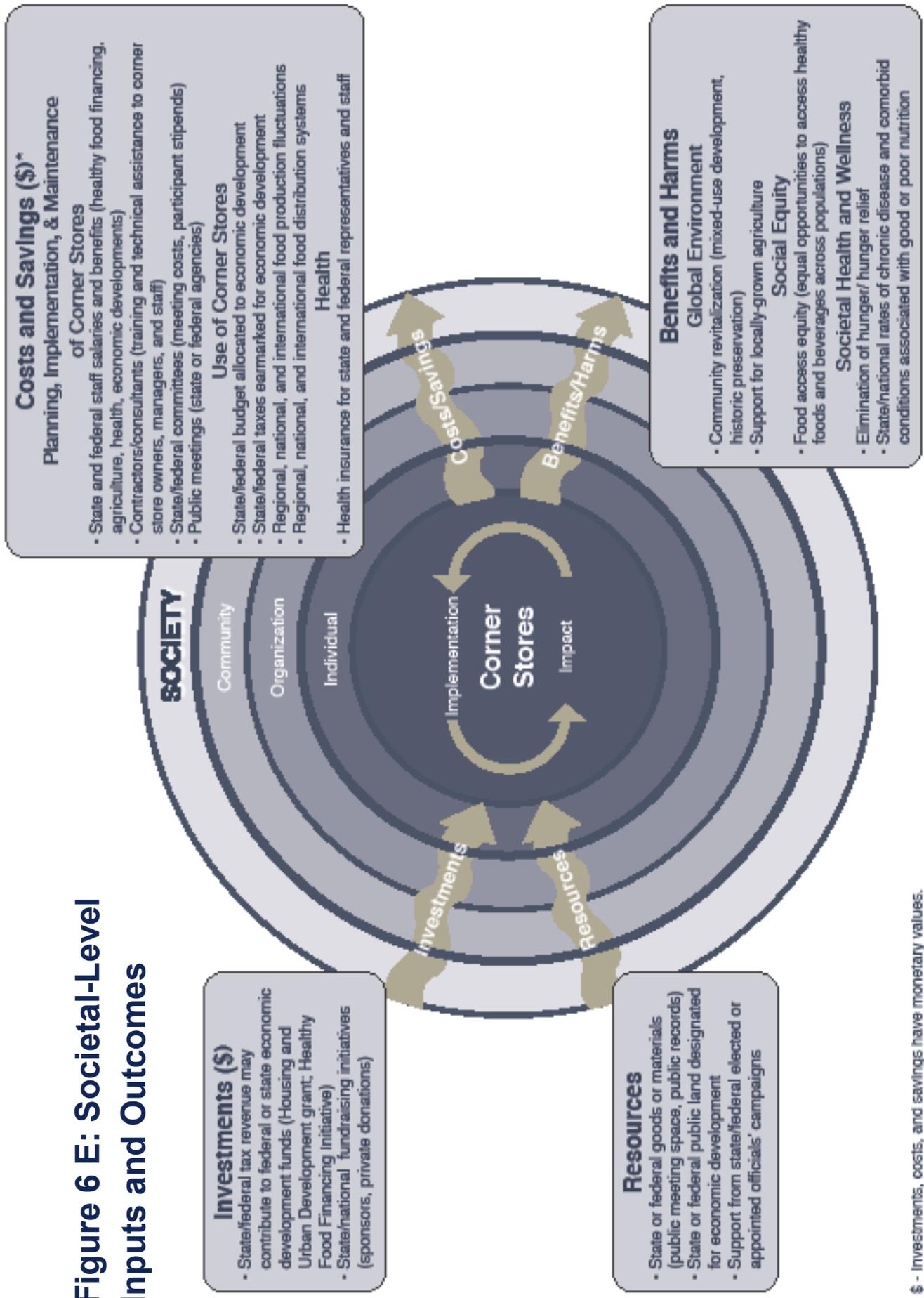
With regard to the global environment, healthy corner stores may impact food production and distribution. As the need for fruits, vegetables, and other healthy foods increases due to changes in corner stores, state or federal land may be reallocated or repurposed from commodities to fruit and vegetable production. Increases in produce will, in turn, require changes to food and beverage distribution and transportation (e.g., increase

emphasis on the benefits of locally grown produce to preserve the quality and freshness of produce).

Wide-spread distribution of opportunities for nutritious foods provides greater access to all members of a system, regardless of income level or social demographics. With resources evenly spaced and situated throughout and across populations, more members of society can enjoy healthy foods without barriers such as geographical distance or financial burden.

As previously identified, the health benefits of incorporating more healthy foods and beverages as well as fewer products with minimal nutritional value into the daily diet of citizens increases the number of disease- and disability-free days, reducing rates of chronic disease, increasing vitality, and improving quality of life for all people. Additional societal-level health costs associated with poor nutrition (e.g., childhood overweight or obesity) may be averted as well.

**Figure 6 E: Societal-Level Inputs and Outcomes**



\$\$\$ - Investments, costs, and savings have monetary values. Costs and savings influence financial and economic standing (not shown under benefits and harms).

## NEXT STEPS: APPLYING THE VALUE FRAMEWORKS

The value frameworks illustrate the complex and ever changing nature of policy, system, and environmental strategies to prevent childhood obesity and serve as introductory tools for representing diverse inputs and impacts associated with these interventions. The frameworks consider factors operating at the individual-, organizational/agency-, community-, and societal-levels to identify a range of potential health, social, economic, and environmental impacts as well as net costs and investments. When customized, these frameworks enable community representatives to plan and prepare for advocacy initiatives; policy adoption, implementation, enforcement, and sustainability efforts; and changes to the built environment to prevent childhood obesity.

Value frameworks for six childhood obesity prevention strategies are provided in this manual. These frameworks may be tailored and adapted to: reflect on existing childhood obesity prevention strategies, start a dialogue about new intervention opportunities, or create new value frameworks for a variety of other policy, system, and environmental strategies. Because these frameworks identify several common inputs and impacts, they can be used for a wide range of strategies or topics. To develop a value framework for your community, consider how the intervention strategy impacts each level of the framework (i.e., individual, organization/agency, community, society) in the context of inputs (investments and resources) and outcomes (costs and savings; benefits and harms).

Here, we describe four ways in which advocates and other community representatives can put these value frameworks into action.

### Advocacy and Policy Development

Decision-makers are heavily influenced by constituents, area businesses, community-based organizations, and other public or private groups. These frameworks offer some tools for individuals and groups to structure conversations in the community to generate community support, or to present key issues to appointed or elected officials. Customized value frameworks provide a multidimensional, comprehensive analysis of potential inputs and impacts related to steps in the policy, system, and environmental change process, including strategic planning and implementation of policy initiatives as well as use and maintenance of environments.

The frameworks may help residents and other community representatives alike to articulate systems-level viewpoints critical in developing successful policies that consider the political, social, financial, and environmental impacts of potential actions to address childhood obesity. Because decision-makers often have limited time to meet with their constituents, these tools can help to succinctly convey the problem, the proposed solution, associated costs or savings, and potential benefits or harms.

Likewise, decision-makers can use the frameworks to generate support for new investment opportunities by illustrating their potential impacts on people, organizations, and systems within the jurisdiction to councils, boards, committees, or staff. The frameworks may help to introduce evidence-based policies with a higher potential of positively influencing local residents and to highlight the costs and benefits for individuals, organizations, and the community-at-large. In addition, the frameworks can help to identify the resources that will be necessary to make policy, system, and environmental changes happen and, therefore, serve as a guide for organizers and decision-makers to seek support from potential sponsors and funders.

### Policy Adoption and Implementation

The success of policy and environmental strategies is contingent on the adoption of the policy and the quality of its implementation. Seemingly minor alterations to the components of a policy or to a design, plan, or blueprint during implementation may have significant effects on timelines, monetary costs, or intended impacts of an intervention. Because the value frameworks consider the planning, implementation, and maintenance steps in the process, the frameworks can help to ensure the policy and environmental changes adhere to an identified set of guidelines or standards from the very beginning.

**Active Transportation Example:** The installation of curb cuts can promote pedestrian access and physical activity, particularly among residents pushing strollers or individuals in wheelchairs. If, during construction, design modifications are made to place pedestrian lighting along the sidewalk and a light post is installed at the corner where the curb cut meets the sidewalk, the value of the curb cut is masked by the blocked pathway

to the sidewalk. In turn, the intended users are unable to get onto the sidewalk and the intervention does not reach its goal of increasing pedestrian access and physical activity.

By laying out the implementation steps, the value frameworks also help to anticipate challenges that may be encountered along the way. Preparation for unanticipated barriers or challenges can mitigate the influence of external factors on the adoption or implementation of a policy or environmental change. Planning steps can be taken to identify potential obstacles and options for addressing or circumventing the problems in the first place.

**Farmers' Market Example:** Reimbursement for WIC vouchers used at farmers' markets can increase access to fruits and vegetables for lower income residents in communities. In some states, the systems may not be in place to reimburse WIC vouchers, thus constraining access to produce among lower income residents due to cost barriers. Before a farmers' market adopts and implements policies to support the use of WIC vouchers, it may be helpful to ensure that the state has the necessary systems in place for reimbursement.

### Policy Enforcement and Sustainability

Ultimately, the value of a policy, system, or environmental change relies on the resources in place to enforce and sustain the policy, or to maintain the environment, over time. The value frameworks can inform discussions about a longer-term vision for the community as individual intervention effects get translated into systemic, lasting changes in community norms and practices. Looking across value frameworks to find common inputs and impacts for different strategies can highlight the synergy of multiple strategies and their collective influences on outcomes. Consideration of the financial and non-monetized inputs in conjunction with short-term, intermediate, and long-term impacts (i.e., costs, savings, benefits, and harms) can, in turn, facilitate planning for enforcement strategies, policy longevity, and maintenance of quality environments to support healthy eating and active living. While the lack of financial resources is often cited as the most significant hurdle precluding maintenance and sustainability, there may be a host of other systemic reasons why these policy and environmental changes may or may not have lasting effects on populations (e.g., resident demand, community involvement and ownership). These frameworks can help to identify and track what is working and what is not.

The value frameworks provide a rubric for beginning to appreciate how intervention strategies impact individuals, organizations, communities, and society as a whole. Through these multidimensional viewpoints, the frameworks incorporate "grass-roots" and "grass-tops" perspectives of decision-makers, community members, and other community representatives necessary for realistic and sustainable approaches. For purposes of evaluation, customized value frameworks can be used by communities to develop measures of intervention dose and impact accordingly. In collaboration with economists, communities may be able to assign values to some or all of these measures in order to weigh and summarize the overall value of the prevention strategies. Additionally, the frameworks start to introduce the longer-term effects of the social determinants of health into the "cost" and "value" conversations, encouraging investigation into health disparities and inequities that get in the way of positive, sustainable outcomes. As a result, these frameworks bring communities another step closer to engaging in value-based decision-making for childhood obesity prevention.

For assistance with creating an intervention-specific value framework for your community, please contact Transtria, LLC at [admin@transtria.com](mailto:admin@transtria.com).

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