

Healthy Community Design Resource Guide

Where Arizonans Live, Learn, Work, and Play



Acknowledgements

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This training resource is intended to serve as a complimentary guide to the 2014 APA AZ MAC21 Project – Healthy Community Design Toolkit, General Plan Updates:

<http://livableaz.org/wp-content/themes/executive-pro/images/HealthyCommunityDesignToolkit2014.pdf>

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“We ought to plan the ideal of our city with an eye to four considerations. The first, as being the most indispensable, is health.”

Plato, *Politics*

Overview

It is well established that community design and the built environment affect human health and wellbeing. This toolkit provides health advocates with a concrete path forward to improve community health. These tools can be used comprehensively in an integrated approach that examines how well the physical characteristics of a community promote positive health outcomes, or individually to address a specific problem. A wide range and deep breadth of elements of community planning, design, and development are addressed, from how to promote the use of rain gardens to improve local water quality to how to establish municipal policies that plan for a healthier future.

This resource was prepared by professional planners with an interest in public health for use by public health professionals interested in planning. It identifies key “Leverage Points” in local community design, planning and development to facilitate the complicated process of making Arizona communities healthier. The toolkit fits squarely into the history of planning and public health, an exemplar of the reunion of these parallel professions to improve quality of life. The profession of Urban Planning in the United States was itself a response to the public health crisis created by the success of the industrial revolution and rapidly expanding communities. Overcrowding near unregulated polluting factories along with lack of adequate waste disposal caused infectious diseases and other health problems, driving the need for separation of uses and zoning regulations. Now, public health professionals and planners are advocating for mixed-use communities so that people can be physically active in their busy daily lives.

According to the U.S. Department of Health and Human Services, “In its broadest sense, environmental health comprises those aspects of human health, disease, and injury that are determined or influenced by factors in the environment. This includes not only the study of the direct pathological effects of various chemical, physical, and biological agents, but also the effects on health of the broad physical and social environment, which includes housing, urban development, land-use and transportation, industry, and agriculture.”¹

*The Healthy
Community
Design—Where
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and Play*

resource guide
is designed for
use by Arizona
public health



partners, transportation, housing, and local municipalities to support and develop municipal policies, regulations, incentives, and programs that promote healthy communities. This resource guide provides many different avenues for action and enables communities to choose those ideas that fit well into their unique physical and social culture.

¹Department of Health and Human Services (US). *Healthy People 2010*. Volume 1. Washington: DHHS; November 2000.

Leverage Points

The leverage points in this guide can be used to promote walking and biking, promote access to healthy food, and support social cohesion throughout urban and rural communities in Arizona. These leverage points include:

- Subdivision Regulations
 - Subdivision Regulations establish the characteristics of roads and other features of new neighborhoods.
- Site Plan and Special Permit Review
 - Site Plan and Special Permit Review use established review criteria as the basis for requiring improvements to and approving development plans.
- General and Comprehensive Plans
 - General and Comprehensive Plans are the primary land use policy documents for cities and counties in Arizona. Arizona state law requires municipalities to adopt a comprehensive, long-range General Plans (ARS 9-461.05 and ARS 11-805) and counties to adopt Comprehensive plans. The municipality and county must readopt their plans every 10 years.
- Smart Growth Development
 - Smart Growth Development tools (including zoning regulations as well as incentives) promote Smart Growth, a comprehensive land use strategy that concentrates development around

commercial centers (such as downtowns and village centers) and public infrastructure to create walkable communities, protect open space and farmland, revitalize downtowns, and provide more housing and transportation choices.

- Road Design
 - Better road design standards encourage alternative forms of transportation, including more walking and biking. Complete Streets are designed to safely balance the needs of drivers, cyclists and pedestrians.
- Walking, Biking and Transit Networks
 - Most vehicle trips are short (50 percent are within 3 miles of home²). Communities can promote walking, biking and transit use by establishing and maintaining interconnected sidewalk, multi-use path and bicycle lane networks.
- Municipal Policies and Programs
 - Municipalities must lead by example, and local policies and programs can have significant effects on community health. These tools range from policies to site municipal and school facilities in walkable locations to programs that install benches, water fountains, shade trees and bicycle racks throughout the community.

² Federal Highway Administration. (2009) *National Household Travel Survey*. US Department of Transportation. Retrieved from: <http://www.fhwa.dot.gov/policyinformation/nhts.cfm> (via <http://www.bikeleague.org/content/national-household-travel-survey-short-trips-analysis>)

To identify which leverage points to begin with, the best starting place for using this toolkit is to meet with your local Planning Department, Public Works Department, and Health Department. Much of the work ahead involves developing working relationships with local representatives, as well as collaborating with these representatives in identifying how their area of jurisdiction relates to health and how you can collectively impact shared goals. In addition, these representatives will be able to help you formulate a plan and determine the best place to begin in your community.

Community Design and Health — Making the Connection

There is a growing body of research that links community design to health outcomes. The benefits of clean air and clean water are well known, as are the benefits of physical activity, but there are many connections between community design and human health that are not as widely recognized. A walk in the park not only exercises the body, but also relaxes the mind,³ reduces brain fatigue,⁴ and increases the ability to maintain focus on specific tasks.⁵ Introducing greenery to urban areas has also been shown to clean the air we breathe,⁶ reduce and clean stormwater runoff (keeping nearby water bodies cleaner),⁷ and reduce elevated outdoor temperatures that occur in developed areas.⁸ Greener parts of inner cities have also been shown to feel safer and to have reduced crime (provided that vegetation does not block views).⁹

A great deal of research has been done on the subject of transportation planning and its relationship to injury reduction, showing that streets can be made significantly safer for pedestrians and cyclists when traffic

³ Tsunetsugu, Yuko; Lee, Juyoung; Park, Bum-Jin; Tyrväinen, Liisa; Kagawa, Takahide; and Miyazaki, Yoshifuma. *Physiological and psychological effects of viewing urban forest landscapes assessed by multiple measurements*. Landscape and Urban Planning. Volume 113. May 2013. Pages 90-93. ISSN 0169-2046. 10.1016/j.landurbplan.2013.01.014. Retrieved from: <http://www.sciencedirect.com/science/article/pii/S0169204613000212>

⁴ Reynolds, G. (2013, March 27). *Easing Brain Fatigue With a Walk in the Park*. The New York Times. Retrieved from <http://well.blogs.nytimes.com/2013/03/27/easing-brain-fatigue-with-a-walk-in-the-park/?src=meandref=general>

⁵ Kaplan, S. (1995). *The Restorative Benefits of Nature: Toward an Integrative Framework*. *Journal of Environmental Psychology* 15: 169-182.

Taylor, A. (2009). Children With Attention Deficits Concentrate Better After Walk in the Park. *Journal of Attention Disorders* 12: 402-409.

⁶ Pugh, Thomas A. M.; MacKenzie, A. Robert; Whyatt, J. Duncan; and Hewitt, C. Nicholas. *Effectiveness of Green Infrastructure for Improvement of Air Quality in Urban Street Canyons*. Environmental Science and Technology 2012 46 (14), 7692-7699

⁷ Seitz, Jennifer and Escobedo, Francisco. May 2008. *Urban Forests in Florida: Trees Control Stormwater Runoff and Improve Water Quality*. University of Florida. Institute of Food and Agricultural Services. Retrieved: March 20, 2013. Retrieved from: <https://edis.ifas.ufl.edu/fr239>

⁸ Tsunetsugu, Yuko; Lee, Juyoung; Park, Bum-Jin; Tyrväinen, Liisa; Kagawa, Takahide; and Miyazaki, Yoshifuma. *Physiological and psychological effects of viewing urban forest landscapes assessed by multiple measurements*. Landscape and Urban Planning. Volume 113. May 2013. Pages 90-93. ISSN 0169-2046. 10.1016/j.landurbplan.2013.01.014. Retrieved from: <http://www.sciencedirect.com/science/article/pii/S0169204613000212>

⁹ Kou, F.E. and Sullivan, W.C. *Environment and Crime in the Inner City: Does Vegetation Reduce Crime?* Environment and Behavior, 2001

calming measures are implemented.¹⁰ Reduced traffic also improves mental health and social outcomes. Studies have shown that children who live on streets with less traffic have more friends,¹¹ and more time outdoors can lead to more chances for social interaction.

In Jane Jacobs' classic book, *The Death and Life of Great American Cities*, she argued that walkable neighborhoods with higher densities, mixed-uses, and a significant public realm bring people out onto the streets, leading to greater safety through more "eyes on the street", as well as an increase in social networks and community trust. One study found that a feeling of safety affects health, as evidenced by a higher prevalence of obesity in women who live in areas where they do not feel safe.¹² In another study, it was found that porches and other architectural features that promote viewing of the street from the exterior of a building have a positive impact on perceived social capital (connections within and between social networks).¹³

¹⁰ Bunn, F.; Collier, T.; Frost, C.; Ker, K.; Steinbach, R.; Roberts, I.; Wentz, R. (2003). Area-wide Traffic Calming for Preventing Traffic Related Injuries. Cochrane Database of Systematic Reviews.

¹¹ Appleyard, Donald. *Livable Streets*. 1981. Palgrave Macmillan

¹² Burdette, H. L., Wadden, T. A. and Whitaker, R. C. (2006). *Neighborhood Safety, Collective Efficacy, and Obesity in Women with Young Children*. *Obesity*, 14: 518–525. doi: 10.1038/oby.2006.67

¹³ Brown, Scott C.; Mason, Craig A.; Lombard, Joanna L.; Martinez, Frank; Plater-Zyberk, Elizabeth; Spokane, Arnold R.; Newman, Frederick L.; Pantin, Hilda; and Szapocznik, José. *The Relationship of Built Environment to Perceived Social Support and Psychological Distress in Hispanic Elders: The Role of "Eyes on the Street"* *J Gerontol B Psychol Sci Soc Sci* (2009) 64B(2): 234-246 first published online January 1, 2009 doi:10.1093/geronb/gbn011

Having a healthy community for children to grow up in is one of society's biggest concerns. Being able to walk or bike to school or to a friend's house independently can help build competence and, by extension, self-



confidence. In addition, one study found that children who cycle or walk to school perform measurably better on tasks demanding concentration, such as solving puzzles, and that these effects last for up to four hours after children arrive at school.¹⁴ Another study found that children who live in neighborhoods in which they can walk to school, the library, and nearby supermarkets with healthy food are 59 percent less likely to be obese than children in neighborhoods without these characteristics.¹⁵

“The built environment presents both opportunities for and barriers to participation in physical activity, thereby influencing whether or not we exercise. Research by CDC and others has indicated that two of the main reasons for not exercising are lack of structures or facilities (such as sidewalks and parks) and fears about safety.” —R. Jackson, et al., *Healthy Environment: The Impact of the Built Environment on Public Health*, Centers for Disease Control and Prevention.

¹⁴ Goodyear, Sarah. *The Link Between Kids Who Walk or Bike to School and Concentration*. (2013). The Atlantic Cities Place Matters . Retrieved from:<http://www.theatlanticcities.com/commute/2013/02/kids-who-walk-or-bike-school-concentrate-better-study-shows/4585/>

¹⁵ Rochman, Bonnie. *Walking to School, Libraries and Markets Helps Keep Kids Slimmer: A cluster of studies relies upon geographical data-mapping to analyze the impact of neighborhood on children's health*. (2012). Time Health and Family. Retrieved from:<http://healthland.time.com/2012/04/10/walking-to-school-libraries-and-markets-helps-keep-kids-slimmer>

The physical environment plays a powerful role in shaping the choices we make every day and can create impacts that we do not always perceive. For example, development patterns that include large amounts of parking affect transportation choices. Destinations become further apart, making it more difficult and less pleasant to walk or bike, as well as less efficient to provide transit service. More people choose to drive for more of their daily trips, leading to increased air pollution and decreased physical activity.

Access to healthy food also plays a significant role in the health of a community. Living closer to a supermarket leads to lower rates of obesity and diabetes.¹⁶

¹⁶Drewnowski, Adam et al., *Obesity and Supermarket Access: Proximity or Price?*, American Journal of Public Health 102, no. 8 (August 2012): e74–e80, doi:10.2105/AJPH.2012.300660.

Understanding Municipal Processes and Where You Fit In

The cities and towns of Arizona have different forms of government, with most having a Council/Manager form of government. Most towns have a Town Meeting (or multiple town meetings as deemed necessary) at which a majority of residents present make decisions, voting on land use regulations, proposed budgets and other important aspects of local government. Some larger cities or towns have a representative Town Meeting, which means that elected Town Meeting members are the only people who can vote on policy and regulatory decisions. Some towns also have Town Managers or Town Administrators. Most cities have a Mayor and a City Council, and a City Manager. It is important to know which kind of government you are going to be working with, as your strategy to leverage change will vary. For additional information on Arizona cities and towns, visit <http://www.azleague.org/>, the website of the Arizona League of Cities and Towns.

If you work in the public or government sector, you will probably want to start your work within your public or government structure to leverage change. If you are an advocate working to make your community healthier, you might start by speaking with a city council member for a specific area or district. You might also try working with the appropriate professional staff or Boards, most likely planners/Planning Association, engineers/Public Works, or Public Health/Public Health Association. Member organizations in the community, such as Arizona Forward or Urban Land Institute, are also key allies.

In the case of a town, ideas can be brought to professional staff or the boards they serve, or to members. In some smaller communities,

professional staff may be limited to a Town Clerk (full or part-time) and Highway, Police and Fire Departments. Most communities have a Community Development or Planning Department and a Department of Health.

If you are unsure who to contact, check the municipality's website or stop in at your Town or City Hall. Regardless of who you are or what kind of a government you are functioning in, it is essential for you to understand your municipality's existing rules and regulations as well as the established processes for changing them.

The public can be a powerful force in transforming a community and also in directing the kind of transformation desired. Encouraging as much public involvement as possible from all community stakeholders will give many people a voice and build momentum for a healthier community. Ideas for change may come from children at a local elementary school who want to be able to ride their bikes to school, from seniors who cannot find a nice place to walk, or perhaps from parents who want healthier food made available in their community. Regardless of who originates ideas to make your community healthier, they may need assistance in bringing ideas before the appropriate board or committee. A key call-to-action is "this idea will save us money."

The information provided in this guide includes processes for ensuring that health is considered in municipal planning decisions. This is the foundation of the Arizona Alliance for Livable Communities (AALC), whose mission is to educate, engage, and encourage communities and decision makers to transform cities and towns in ways that improve health, livability, and wellbeing. AALC's vision is that all Arizona communities are vibrant, safe,

and healthy, providing equitable opportunities for all people to thrive. There are times however when pursuing the healthy community design strategies may not be sufficient (for example when a community is facing a decision on a large proposed development or a significant change to municipal bylaws) and a more focused assessment of health impacts is warranted. Health Impact Assessment (HIA) is a tool for doing this. HIA is a data-driven tool used to assess the potential health impact a policy, procedure or program may have. During an HIA process, public and private sector partners come together to understand health consequences, mitigations for these potential consequences, and to ensure the voice of the community is recognized throughout the HIA process. HIAs have been used to address the impacts of a variety of policies and programs, including transportation, urban development, and zoning policies. HIAs have been gaining popularity in Arizona as we continue to build capacity and expertise across the state to complete HIAs. For more information on Health Impact Assessments, visit: livableaz.org and www.humanimpact.org.

Subdivision Regulations



Definitions

- Approval Not Required (ANR) refers to subdivisions that result in new parcels with frontage along existing roadways. This type of subdivision does not require approval by the local Planning Board.
- Complete Streets are roads that are designed for all modes of transit, including vehicles, public transportation, biking and walking, and people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking.
- Low Impact Development (LID) is a stormwater management approach that mimics nature by managing stormwater as close as possible to its source. LID employs techniques such as preserving and recreating natural landscape features, minimizing imperviousness, detaining and infiltrating stormwater in dry basins, and treating stormwater as a resource rather than a waste product.

- Stormwater Pollution occurs when rain that falls on streets, parking lots and other land carries pollutants into lakes, rivers, streams or other water bodies. Pollutants can include oil and fuel from vehicles, fertilizers and pesticides from yards or agricultural lands, pet waste, and soil picked up by erosion.
- Subdivision is the division of a tract of land into two or more smaller parcels. A subdivision can occur along an existing road or can create a new road.
- Subdivision Regulations set rules that determine the characteristics of a land subdivision development. For example, Subdivision Regulations typically address road design, utilities, open space and stormwater drainage.
- Urban Heat Island Effects occur when pavement and buildings absorb solar energy throughout the day and radiate that heat back into the air. This is due to pavement, buildings and other structures absorbing more heat from sunlight than the natural landscape. For example, this can cause the ambient temperature of a city of one million people to be 2-5°F hotter during the day and up to 22°F hotter at night than a rural location in the same area.¹⁷

¹⁷*Heat Island Effect*.(2013). US Environmental Protection Agency. Retrieved from: <http://www.epa.gov/hiri/>

Overview

The Subdivision Regulations established by a community have a dramatic effect on the characteristics of subdivision developments, and, by extension, affect community health. Perhaps most importantly, Subdivision Regulations govern the design of new roadways. Requiring sidewalks and shade trees helps create a safe and comfortable pedestrian environment that promotes walking. Requiring narrower roads and traffic calming measures creates safer streets for pedestrians and enables children to travel safely and to be more active. This is especially true if a subdivision sets aside land for a playground or community park. Connecting sidewalks and bike lanes to larger networks creates additional opportunities for physical activity and allows people to access the larger community without having to rely on an automobile. For example, connections to sidewalk networks can allow children to walk or bike to school.

Subdivision Regulations Healthy Community Design Checklist

- Require sidewalks.
 - In rural environments or other locations where sidewalks on both sides of the street may not make sense, a sidewalk on one side of the street is acceptable.
- Require interconnecting street and sidewalk networks.
 - If a dead-end is created, require the subdivision design to allow for streets to be connectable in the future.
 - Where applicable, require multi-use paths at the end of dead-end streets that connect to a larger network of pathways.

- Require bicycle and pedestrian linkages to nearby public ways.
- Design driveways to minimize pedestrian impacts.
 - Encourage shared/common driveways to reduce the number of automobile curb cuts.
 - Require driveways to rise up to the level of the sidewalk instead of designing the sidewalk to descend to the level of the driveway.
- Narrow road widths and the turning radius at intersections to reduce traffic speeds and the crossing distance at intersections. (Reducing the total amount of pavement also decreases stormwater runoff pollution impacts on waterways as well as urban heat island effects.)
- Require Low Impact Development (LID) stormwater management techniques to protect the quality of surface waters that serve recreational and drinking water purposes.
- Encourage a preliminary meeting with the Planning Board/Department prior to subdivision design to review potential healthy design strategies.
- Encourage submission of Preliminary Subdivision Plans to provide an opportunity to encourage healthy design strategies before plans are finalized.
- Create an Inter-Departmental Project Review Process that establishes meetings of representatives from various municipal departments/boards, including the Board of Health, to provide review and feedback on projects while still in design development.
- Require a set-aside of future parkland to give the homeowner's association, municipality or other entity time to acquire it.

- Encourage a community garden set-aside for subdivisions with small lot sizes.
- Require roads to be designed to “Complete Streets” standards, with equal attention to the needs of automobiles, cyclists and pedestrians.
- Require shade trees along pedestrian and bicycle pathways.
- Require traffic and environmental impact studies for subdivisions over 5 units.
- Require an analysis of pedestrian circulation for subdivisions over 15 to 20 units.

Site Plan and Special Permit Review



Definitions

- Low Impact Development (LID) is a stormwater management approach that mimics nature by managing stormwater as close as possible to its source. LID employs techniques such as preserving and recreating natural landscape features, minimizing imperviousness, detaining and infiltrating stormwater in dry basins, and treating stormwater as a resource rather than a waste product.
- Site Plan Review is a process for reviewing site plans according to established goals and design criteria. Criteria are established to meet environmental, health, walkability, urban design and other goals that fit new development into the larger community. The reviewing board can require reasonable changes to a plan, including road design, parking, lighting, etc., but, except in extreme cases, cannot block a plan from going forward.
- Special Permit Review is a discretionary approval for a use or project that is not allowed by-right.

- Stormwater Runoff Pollution is rain that falls on streets, parking lots, or other developed land, that carries pollution into lakes, rivers, streams, or other bodies of water. This can be pollutants such as oil or fuel from vehicles, fertilizers or pesticides from agricultural lands, pet waste, or soil from construction sites.
- Urban Heat Island Effects occur when pavement and buildings absorb solar energy throughout the day and radiate that heat back into the air. This is due to pavement, buildings and other structures absorbing more heat from sunlight than the natural landscape. For example, this can cause the ambient temperature of a city of one million people to be 2-5°F hotter during the day and up to 22°F hotter at night than a rural location in the same area.¹⁸

¹⁸*Heat Island Effect.* (2013). US Environmental Protection Agency. Retrieved from: <http://www.epa.gov/hiri/>

Overview

The Site Plan Review process, which is commonly the purview of the Community Development or Planning Department, uses established Site Plan Review criteria as the basis for reviewing development plans. After reviewing a site plan, the Planning Board or other reviewing authority can either approve the project or require changes prior to approval. This process can allow a community to require healthy community design criteria to be included in a project. The changes required as a result of Site Plan Review can include improvements to plan layout, sidewalks, bicycle parking, stormwater management, etc. Due to their discretionary nature, Special Permit projects can be required to make more significant site plan changes, including amendments to the proposed use and scope of a project. However, even a Special Permit process should be guided by explicit principles and criteria that relate to larger community goals. All review decisions, whether through Site Plan or Special Permit Review, must be defensible and must serve a purpose that relates to public health, safety or wellbeing.

Establishing the right community goals and review criteria is important. This can ensure the approval of projects that encourage walking, biking and other outdoor activities, and that protect the quality of the outdoor environment.

Site Plan and Special Permit Review Healthy Community Design Checklist

- Encourage submission of preliminary site plans (also known as a pre-application conference) to provide an opportunity to encourage healthy design strategies before plans are finalized.

- Create an Inter-Departmental Project Review Process that establishes meetings of representatives from various municipal departments/boards, including the Board of Health, to provide review and feedback on projects while still in design development.
- Allow the Planning Board or other reviewing authority to reduce parking requirements through Site Plan or Special Permit Review based on information that demonstrates that the proposed development will have reduced parking demand.

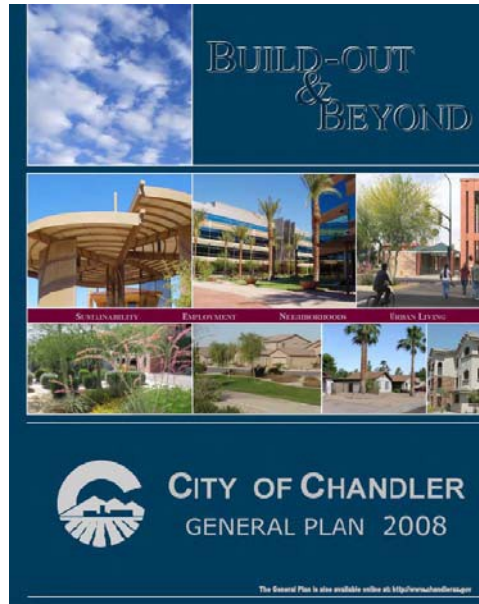
Site development plans must:

- Provide for safe internal traffic and pedestrian flows, and provide bicycle and pedestrian connections to the larger community.
- Include site-wide sidewalk networks in large developments, and reduce on-site driving through efficient design of roads and parking areas.
- Particularly in the case of institutional uses (including schools, churches and other community-based facilities), make appropriate connections to the larger community, including connections to sidewalks, bike lanes, multi-use paths, etc. (even if they will not connect to networks currently built).
- Include bicycle parking/storage.
 - All commercial and civic developments must provide bicycle racks for customers and employees.

- Large commercial and civic developments (e.g. larger than 20,000 square feet) must provide covered bicycle storage and shower facilities for employees.
- Multifamily residential buildings must provide covered bicycle storage for at least 15 percent of all building occupants.
- Orient buildings to serve pedestrians on the street, where appropriate. Place parking lots at the back or to the side of buildings, with the main entrance in the front and near the sidewalk. A secondary entrance may be oriented to the parking.
- Minimize the total paved area to decrease stormwater runoff pollution impacts on waterways, and to reduce urban heat island effects.
- Incorporate Low Impact Development (LID) stormwater management techniques to the extent feasible in order to protect the quality of surface waters that serve recreational and drinking water purposes.
- Provide landscaped parking lot islands (where applicable) and shade trees to create comfortable walking conditions and to reduce urban heat island effects.
- To the extent feasible, set aside 10 percent of all parking lot spaces for carpools and fuel efficient vehicles.
- Consider siting outdoor common areas (e.g. shaded outdoor seating for lunch) and exercise options where appropriate.

- Consider using light colored pavements and reflective roofing materials or green roofs in order to reduce urban heat island effects.

General and Comprehensive Plans



Definitions

- Complete Streets are roads that are designed for all modes of transit, including vehicles, public transportation, biking and walking, and people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking.
- Infill Developments are projects in already developed areas that “fill in” vacant lots (e.g. between existing buildings). Infill most commonly happens in downtown areas and is designed to increase density to create a more walkable and more aesthetically uniform streetscape.
- General Plan (cities and towns) and Comprehensive Plans (counties) are community-wide, action-oriented plans designed to achieve a shared community vision. General and Comprehensive Plans

establish future goals in areas such as land use, transportation, housing and economic development.

- Smart Growth refers to development that is concentrated in and around downtowns, village centers, transit stops, or other infrastructure that provides convenient access to goods and services without relying on use of automobiles. Smart Growth is characterized by mixed-use downtowns and neighborhoods, diverse housing options and increased walkability. This compact development pattern protects open space and farmland, revitalizes downtowns, supports affordable housing options, and provides more transportation choices by directing growth to locations where higher densities can be supported.
- Universal Design incorporates the needs of everyone, including the elderly and people with disabilities, into a design to allow its use by the greatest number of people regardless of age or ability.

Overview

Because a General or Comprehensive Plan is a document that establishes a vision for the future, it can be a very powerful tool in shaping the future health of a community. A General Plan can respond to changing demographics (e.g. increases in senior citizen populations with lower rates of automobile use), and can promote healthy community strategies such as protection or creation of open space, zoning regulations that increase walkability, and transportation network improvements. Healthy community principles can be incorporated throughout a General Plan that is under development. The American Planning Association Arizona Chapter MAC21 Project has a specific toolkit dedicated to the incorporation of Healthy Community Design into General Plans. That toolkit is a guide for local residents who wish to participate in the General Plan process and can be found here:

<http://livableaz.org/wp-content/themes/executive-pro/images/HealthyCommunityDesignToolkit2014.pdf>

An Open Space and Recreation Plan (OSRP) addresses preservation and development of open space, greenways, playgrounds and ball fields. The OSRP can provide guidance in protecting water supplies and open spaces, connecting different greenspaces to each other, or connecting trails and paths to create a more cohesive network.

In addition to General and Comprehensive Plans and Open Space and Recreation Plans, there are a wide variety of additional plans that communities adopt, including greenway plans, bike and pedestrian plans, and plans that focus on a specific area of a city. Only General Plans and OSRPs are included in the checklist below. Most, if not all, community planning processes have a large public outreach component. This provides

advocates of particular issues with an opportunity to publically discuss and build support for their ideas within the community.

Community Plans Healthy Community Design Checklist

General and Comprehensive Plans

- Ensure that a public health expert or advocate serves on the Plan committee.
- Require a public health component in each of the General Plan chapters.
- Housing
 - Encourage siting of housing developments within walking distance of parks, schools, jobs and shopping.
 - Establish zoning regulations that allow for a variety of housing types at densities that support walkable commercial services and transit.
 - Allow higher density development around transit stops.
 - Encourage affordable and senior housing projects to include access (by foot or transit) to public parks, fitness opportunities, and healthy food shopping.
- Transportation and Circulation
 - Promote development of interconnected bike lanes, multi-use paths and sidewalk networks.

- Address sidewalk maintenance and snow clearing.
- Ensure that different transit options connect to each other.
- Plan for streets to be brought up to Complete Streets standards.
- Assess the location of transit routes and stops.
- Ensure universal design at transit stops.
- Accommodate bikes on public transit.
- Promote traffic calming and enhanced intersection design for pedestrian safety.

Open Space and Recreation

- Promote the development of interconnected pathway networks.
- Develop recreational opportunities near underserved neighborhoods.
- Acquire new public open spaces and maintain existing open spaces.
- Create community gardens in parks.

Education

- Develop a Safe Routes to School program.
- Site educational facilities centrally within walking distance of residential populations and transit options.

- Close roads adjacent to schools to through-traffic during drop-off and pick-up times to increase safety for children who are walking and biking.

Land Use

- Revise zoning regulations to promote compact, walkable smart growth development.
- Encourage the establishment of community gardens.
- Allow/encourage infill, cluster and mixed-use development.
- Reduce setbacks in zoning regulations to bring buildings closer to the street.
- Leverage Agricultural Preservation Restrictions (APR) to protect farmland and local food sources.
- Commercial development
 - Reduce off-street parking requirements and encourage on-street parking to facilitate smart growth and walkability.
 - Encourage integration of fitness opportunities for employees and customers.

Economic Development

- Encourage mixed-use developments over single-use commercial developments to increase density and pedestrian traffic.

- Provide public transportation options to large commercial and industrial areas.
 - Enable and encourage commercial agriculture.
- Natural and Cultural Resources
 - Develop a walking or biking tour of cultural and historic sites.
- Services and Facilities
 - Locate or consolidate municipal facilities in town and city centers to increase walking and biking access.
- Include a Food/Food Systems Chapter
 - Leverage Agricultural Preservation Restrictions (APR) to protect farmland and local food sources.
 - Create community gardens.
 - Ensure universal access to healthy food.
 - Promote urban agriculture.
 - Establish community farmers markets.

Open Space and Recreation Plan (OSRP)

- Require a public health expert or advocate to serve on the OSRP committee.

- Acquire conservation lands and develop hiking trails, focusing on efforts near existing open space and trails, as well as underserved neighborhoods and other residential populations.
- Develop new and improve existing parks and playgrounds, focusing on efforts near underserved neighborhoods and other residential populations.
 - Create community gardens in parks.
- Plan an interconnected system of accessible open spaces. Ensure that open spaces are connected to multiple modes of transportation and are easily accessed by all residents.
- Develop bike paths and greenways that connect to the larger community, and install bicycle parking facilities at open space locations and transit hubs.
- Build and maintain sidewalk networks, and ensure that they connect to the larger community, including community open spaces.
- Adopt the Community Preservation Act to help fund open space and recreation enhancements.
- Protect areas of the community that are important to flood and stormwater management.

Smart Growth Development



Definitions

- Accessory Apartments, sometimes called mother-in-law units, are smaller apartments located on single-family residential properties (e.g. an apartment over a garage or in a converted garage). Accessory Apartments can allow older residents to live near their family members or can offer low-cost housing options that provide supplementary income to homeowners. When located near existing centers (downtowns, village centers, etc.), new accessory apartments provide walkable access to a variety of goods, services and recreational opportunities.
- Chapter 40R Smart Growth Overlay District is a zoning district superimposed over existing underlying zoning districts that allows for higher density development. Within a 40R District, a developer has a choice of undertaking a higher density development in accordance

with the requirements of the 40R Overlay District, or may undertake a lower density development in accordance with the requirements of the underlying district. Chapter 40R Districts feature increased residential densities, may allow for mixed-uses, and may establish design standards. 40R Districts must be located near transit stations or “areas of concentrated development” such as downtowns, and must meet specific state criteria regarding allowed housing densities and required percentage of affordable housing. Communities that establish a 40R District receive a one-time incentive payment from the state based on the number of additional (“bonus”) residential units permitted by-right (beyond the number of units allowed by the underlying zoning districts), and also receive bonus payments upon the issuance an occupancy permit for each “bonus” unit. Compact Neighborhood Zoning (CNZ) is a new tool similar to 40R that features different residential density and affordability requirements.

- Form-Based Code is a relatively new type of zoning code that places an emphasis on building, site and community design over use regulations. In form-based codes, the physical form of the building (including height, setbacks and design standards) is established, while allowed uses are not as restricted as they are in standard zoning. Compared to traditional zoning codes, form-based codes set more specific requirements for the physical design characteristics of development, and are similar in some ways to a regulatory set of design standards. Form-based code can be combined with standard “Euclidian” or used-based zoning within several hybrid forms. Form-based codes are more illustrative than traditional zoning codes and

are particularly appealing for use in special character districts (e.g. downtowns, historic districts and commercial corridors).

- Infill is new construction or redevelopment that “fills in” empty lots or adds units or uses in areas that are already developed. For example, a new infill building would be constructed in an empty lot between existing buildings. Infill most commonly occurs in and near downtown areas and is designed to increase density in order to create a more walkable, vibrant and aesthetically pleasing community. Infill replicates historic city, town and village development patterns and is an important tool for concentrating development in walkable neighborhoods rather than sprawling into undeveloped areas.
- Mixed-Use Zoning Districts allow more than one type of use on a single parcel. This typically refers to zoning that allows commercial uses on the first and sometimes second floors of a building, with the remaining floors above the commercial space zoned for residential uses. A mixed-use zoning district is not necessarily the same as a mixed-use district, which is a broader concept describing an area with a mix of complimentary commercial and residential uses where a variety of goods and services are available. Mixed-use districts can be zoned with a single Mixed-use zoning district, or may include a variety of different zoning districts. Mixed-use districts are also good candidates for form-based code.
- Smart Growth refers to development that is concentrated in and around downtowns, village centers, transit stops, or other infrastructure that provides convenient access to goods and services without relying on use of automobiles. Smart Growth is characterized

by mixed-use downtowns and neighborhoods, diverse housing options and increased walkability. This compact development pattern protects open space and farmland, revitalizes downtowns, supports affordable housing options, and provides more transportation choices by directing growth to locations where higher densities can be supported.

- Traditional Neighborhood Development (TND) is characterized by homes on small lots with small setbacks. These developments, which can consist of both single family and multifamily homes, are modeled after older (traditional) neighborhoods near downtowns and village centers that have narrow streets, make use of on-street parking, and tend to have a more diverse mix of unit sizes and higher residential densities than newer neighborhoods.
- Transit Orientated Development (TOD) is a mix of uses clustered within walking distance (usually $\frac{1}{4}$ mile) of a transit station with a relatively high frequency of service. Successful TOD districts typically feature high quality pedestrian and bicycle networks, reduced parking requirements for automobiles, and public amenities in order to encourage compact multifamily homes and varied businesses.
- Urban Sprawl is low density, auto-oriented development that segregates residential, commercial and other uses. It is characterized by low density housing subdivisions, strip malls and shopping malls.

Overview

Smart growth, sometimes called compact growth, is a comprehensive land use strategy that concentrates development in and near commercial centers (downtowns, village centers, etc.) and infrastructure in order to create more walkable communities, protect open space and farmland, revitalize and beautify downtowns and nearby neighborhoods, and provide more housing and transportation choices. By increasing development densities in centralized locations and locating residential, commercial and civic uses within proximity of each other, smart growth increases the number of homes and destinations in walking distance, as well as associated pedestrian activity. Destinations can include work, shopping, parks, community gardens, municipal services and public transit. Higher residential densities and greater interaction among different uses enhances business vitality, supporting a greater variety of commercial services and employment opportunities within walking distances of each other and nearby neighborhoods.

Mixed-use development on a downtown street (e.g. ground floor commercial uses with residential uses above). Traditional neighborhoods within walking distance of mixed-use neighborhood or town centers are also a good example of smart growth. In rural communities, smart growth zoning restricts strip commercial development, allows residential units above commercial uses in the village center, and allows traditional neighborhoods near the village center. All of these examples encourage walking (for example, from home to a café, from shop to shop, from home to work, etc.) and lead to a healthier community. In addition, by concentrating development in areas where public infrastructure can support higher densities, urban sprawl development patterns are avoided.

This preserves open space, farmland, critical environmental resources and valued rural landscapes.

Smart growth zoning tools make communities more walkable by increasing allowed development densities and broadening the mix of compatible uses permitted in an area. These zoning tools allow for smaller lot sizes, mixed-use development and multifamily housing (e.g. duplexes, rowhomes or larger multifamily developments). Infill development, new neighborhood centers, Transit Oriented Development (TOD), cluster or Open Space Residential Developments, accessory apartments, urban parks and community gardens, and mixed-use districts are all examples of smart growth.

Even in communities that are largely car dependent, smart growth development can create a more walkable community by enabling drivers to “park once” in a single district in order to accomplish multiple tasks on foot. Making just one stop to accomplish multiple tasks improves health and reduces environmental impacts. Over time, smart growth retrofits (sometimes called suburban retrofits) can help to make all communities and neighborhoods more walkable and less car dependent.

Smart Growth Development Checklist

- Assess how well your zoning regulations promote smart growth, walkability, healthy food access and physical activity.
- Revise zoning maps and text to establish regulations that provide for diverse housing options, retail, services and employment within walkable distances. To increase walkability, amended zoning regulations should allow for increased density near downtown areas (e.g. by reducing minimum lot sizes and/or required lot area per unit)

and should enable new infill development. Zoning map changes can be used to promote mixed-use neighborhoods with housing, schools and shopping within walking distances.

- Establish mixed-use zoning districts that allow residential units above commercial uses in downtown, village center and other appropriate locations.
- Reduce off-street parking requirements in order to allow more space in central locations to be utilized for housing, retail and other active uses (increasing development densities), and to reduce the negative impacts associated with an oversupply of off-street parking (aesthetic impacts, dead spaces in central commercial areas, sprawl and increased driving impacts, reduced walkability, increased stormwater pollution, etc.).
 - Reduce off-street parking requirements and the number of automobile curb cuts allowed.
 - In downtowns and village centers, shift the burden of providing parking from private property owners to the municipality. Allow payments in lieu of meeting off-street parking requirements that can go into a municipal fund for public parking and transit improvements.
 - Allow the Planning Board to reduce off-street parking requirements when reduced needs are demonstrated through shared parking arrangements, mixed-uses with different peak parking times, demand management measures, etc.
 - Allow developers to set aside some portion of the space required for parking as green space that can be developed into parking later if needed.

- Require parking to be located behind (or to the side) of buildings where appropriate, with the main entrance in the front and near the sidewalk for better pedestrian access and a more aesthetically pleasing streetscape.
- Adopt inverse zoning regulations such as maximum lot sizes, minimum building heights, and maximum off-street parking spaces to increase development densities.
- Allow and promote community gardens by amending the community's zoning land use tables, establishing a community garden ordinance, and encouraging integration of community gardens into new development (e.g. through Subdivision Regulations and Site Plan and Special Permit Review).
- Establish Transportation Oriented Development (TOD) zoning districts that create new housing within walking distance of public transit and provide walking/transit access to shopping, jobs, schools and other community resources.
- Allow accessory dwellings units. When located near existing centers (downtowns, village centers, etc.), new accessory apartments provide walkable access to a variety of goods, services and recreational opportunities. Accessory units can also create low-cost housing options that provide supplementary income to homeowners.
- Allow Cluster Residential Developments (also known as Open Space Residential Developments) that preserve open space and provide hiking and other recreational opportunities in neighborhoods.
- Establish a Traditional Neighborhood Development (TND) Zoning Overlay District to allow new neighborhood developments that are

modeled after older neighborhoods characterized by walkability, a diverse mix of housing options, and higher residential densities.

- Undertake a comprehensive Smart Growth Zoning Overhaul, reviewing and revising the following as needed to implement smart growth goals: Zoning Map, Table of Land Uses, Table of Dimensional Standards, Off-Street Parking Regulations, Site Development Standards, Site Plan and Special Permit Review, Form-Based Codes (in special districts or for entire municipality)
- Offer tax incentives (or, for nonprofit entities, lower payments in lieu of taxes) to new private educational facilities and other private institutional uses to site their facilities in walkable locations.
- Use tax incentives such as District Improvement Financing (DIF) to encourage private investment in appropriate locations.

Road Design



Definitions

- Complete Streets are roads that are designed for all modes of transit, including vehicles, public transportation, biking and walking, and people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking.
- Cycletracks are protected bike lanes that are physically separated from automobile traffic with parked cars, curbs or bollards.
- Urban Heat Island Effects occur when pavement and buildings absorb solar energy throughout the day and radiate that heat back into the air. This is due to pavement, buildings and other structures absorbing more heat from sunlight than the natural landscape.

Overview

Incorporating Complete Streets principals into local standards governing the construction and repair of municipal roads can create a safer and more inviting environment for drivers, bikers and walkers alike. In communities with Complete Streets policies or standards, implementation often occurs only as roads are reconstructed or repaved.

Improved road design standards can address travel lane widths, bike lanes, sidewalks, streetscapes, and other aspects of roadway infrastructure. Better road design standards encourage alternative forms of transportation, including more walking and biking, as fewer people will walk or bike along roads that feel unsafe.

Good design of sidewalks and intersections enhances safety by improving interactions between cars, pedestrians and cyclists. Reducing the number of automobile curb cuts decreases the number of points of conflict between cars, pedestrians and bikers. Narrowing road widths, especially at pedestrian crosswalks, slows vehicles down and reduces the time required for street crossings.

Street design has a significant effect on driving habits. For example, traffic can be slowed by creating artificial chicanes, narrowing road widths, installing bump-outs at crosswalks, raising crosswalks (“tables”), or reducing an intersection’s turning radius. Proper signage and line painting for pedestrian crossings and bicycle lanes can alert drivers to potential interactions with pedestrians and cyclists and increase overall safety.

Road Design Healthy Community Design Checklist

- Adopt a community-wide Complete Streets Policy with strong, enforceable language.
- Update/establish municipal standards for Complete and Green Streets, including design standards for sidewalks, crosswalks, bicycle lanes and cycletracks, bicycle and pedestrian signage, bicycle parking, lighting, street trees, intersections, etc.
 - Require pedestrian crossings at large or complicated intersections, with pedestrian refuges where needed.
 - Revise municipal road building standards to narrow travel lane widths and include bike lanes, sidewalks and streetscaping. Place bike lanes in between parking and the sidewalk if possible, and ensure that bike lanes are clearly separated from sidewalks.
 - Ensure that street design standards comply with the Americans with Disabilities Act (ADA) and meet the needs of people of all abilities.
- Promote on-street parking over off-street parking to increase pedestrian safety (by reducing automobile curb cuts) and to facilitate smart growth (by enabling increased development densities).
 - Provide public parking (on-street if possible), reduce/eliminate private off-street parking requirements, and work to reduce automobile curb cuts (through private property agreements,

incentives and zoning regulations that limit new automobile curb cuts).

- Evaluate the occupancy and price of on-street parking to reduce cruising for parking spaces.
 - Consider innovative parking designs such as angled parking to improve visibility and reduce conflicts between parking cars and cyclists.
-
- Develop and implement a Traffic Calming Program. Establish methods to survey residents and police to identify problem spots. Pay special attention to major pedestrian corridors and areas around schools.
 - Incorporate street shade trees and bike lanes (along the street) or cycletracks (separate from the street) into municipal street improvement projects.
 - Require public input for street improvement projects prior to design so that community concerns and suggestions can be incorporated into construction plans.
 - Create an Inter-Departmental Project Review Process that establishes meetings of representatives from various municipal departments/ personnel, to provide review and feedback on projects while still in design development.
 - Prioritize projects that promote walkability and bikeability in the community's Capital Improvement Plan. Develop a long-term Capital Improvement Plan if the municipality does not have one.

- Attach pedestrian and bicycle improvements to road maintenance, not just road reconstruction projects.
- Develop roadside paths in rural areas where sidewalks may not be appropriate.

Walking, Biking and Transit Networks



Definitions

- Capital Improvement Plans (CIPs) address large scale infrastructure projects such as road and school construction. A CIP details municipal capital improvement projects, ranks them in order of importance to the community, and provides timetables and a funding plan.
- Sustainable Transportation Networks are interconnected systems for modes of transportation that do not rely on automobiles. Sustainable transportation networks include public transportation networks for busses, subways, streetcars, etc., as well as walking and biking networks.

Overview

Ninety percent of all travel is done by car, but 50 percent of trips are within 3 miles of home, and 63 percent of trips are within 5 miles of home.¹⁹ Meanwhile, the Centers for Disease Control (CDC) recommends 150 minutes of exercise per week. Given that most vehicle trips are less than 3 miles, these short trips provide perfect opportunities for walking or biking and can be encouraged by establishing and maintaining networks of sidewalks, multi-use paths and bike lanes throughout a community.

Unfortunately, most communities do not yet have comprehensive interconnected sustainable transportation networks that support walking and biking. Sidewalks are sometimes not present, or are present but are not well-maintained. Bike lanes are often present only along part of a street, and even in cases where bike lanes are provided along the entire length of a street, a turn onto a different street may not connect to another bike lane. Multi-use paths (bike paths, rail trails, greenways, etc.) are growing in popularity but often provide limited sustainable transportation connections across a community.

Extensive rail/subway, such as Light rail, systems require a huge investment and often make sense in connection with larger cities like Phoenix. Other rail systems, including trams and streetcars, can make sense for smaller cities but also involve a large investment that makes most communities and states shy of developing such systems. Bus networks often fill the void where rail and light rail investments have not or cannot be made.

¹⁹Federal Highway Administration. (2009) *National Household Travel Survey*. US Department of Transportation. Retrieved from: <http://www.fhwa.dot.gov/policyinformation/nhts.cfm> (via <http://www.bikeleague.org/content/national-household-travel-survey-short-trips-analysis>)

In addition to fixed-routes, transit authorities must meet the need for more flexible transit options like shuttle services, especially for senior, disabled and low-income populations, and in rural areas. These vital on-demand networks provide mobility to those who do not drive, either by choice or need, and can provide critical connections to open space resources, farmers' markets and quality grocery stores, as well as to work, school and commercial centers.

Developing interconnected sustainable transportation networks makes walking, biking and use of transit more attainable for more people. The Arizona Transit Association (AzTA) is a key state organization working to do just that. General plans can create a vision for walking and biking networks, and tools such as Capital Improvement Plans and the Community Preservation Act can help fund these projects. Large-scale community planning efforts can help get residents involved in planning, executing and eventually using a robust sustainable transportation network.

Walking, Biking and Transit Networks Healthy Community Design Checklist

- Develop a sidewalk inventory and maintenance program. This can be added to existing pavement management programs/systems for streets, which are typically managed by the Department of Public Works.
- Create a community-wide Greenway and Bikeway Plan or add a Greenway and Bikeway chapter to the Open Space and Recreation Plan.
- Establish Capital Improvement Plans that include greenway, bikeway, sidewalk and other sustainable transportation projects.

- Ensure that annual municipal budgets include adequate funds for greenway, bikeway, and sidewalk maintenance.
- Provide public bicycle racks at strategic locations in the downtown or town center. If needed, use existing on-street parking spaces for this purpose.
- Adopt the Community Preservation Act (CPA) to help fund open space and recreation improvements identified by community plans. Ensure that the community's CPA Plan identifies recreation paths as a funding priority.
- Ensure a clear distinction between spaces for walking versus biking, as these uses can come into conflict and pose a threat to pedestrians. Where this is not possible, consider design solutions that minimize pedestrian/bicycle conflicts (e.g. wider greenways and bike paths).
- Design greenways and bike paths to have destination stops along the route as well as at each end.
 - Select routes that pass by destination locations.
 - Create extensions that lead to destinations.
 - Create new parks and open space destinations along routes.
 - Use redevelopment initiatives and zoning regulations to create/encourage new destinations along routes.
 - Install maps and signage to identify destinations.
 - Provide information about destination locations on appropriate websites.
- Evaluate which greenways and bike paths are used and why in order to improve the network.

- Advocate for public transportation that reaches those who need it most, that connects people to open space and recreation opportunities, and that provides access to quality food.
- Advocate for well-designed transit stops, including shaded waiting areas with seating, covered bicycle parking, and compliance with Americans with Disabilities Act (ADA) requirements.
 - Contact your municipality's representative to your Regional Transit Authority (RTA) governing or advisory board, and/or contact the RTA directly.
 - Attend public outreach meetings held by your RTA, and/or attend meetings of your community's Transportation or Public Transportation Committee.
 - Identify and work with organizations that are already involved with issues of concern.
- Adopt a community-wide Complete Streets Policy to ensure that streets accommodate all modes of transit.
- Develop measures to monitor and maintain road markings for pedestrians and cyclists, and to provide an easy way for the public to notify the municipality of problem spots. These measures may be accomplished through a new program or integrated into an existing Traffic Calming Program.
- Work with municipal staff and transit authorities to design walking, biking and mass transit networks that interconnect with each other. These interconnections (e.g. bike paths connect to bus routes and bus stops provide secure bicycle storage) facilitate use of multiple modes of sustainable transportation in a single trip.

- Keep sidewalks clear of snow in order to provide for safe winter walking (as appropriate based on state region).
 - Publicize the requirement for private property owners to shovel sidewalks in front of their properties, and create a robust enforcement program to ensure that this requirement is met. Some communities have shoveling programs in which volunteers help those in need of assistance.
 - Establish and enforce procedures for municipal snow plowing to maintain clear pedestrian pathways where streets meet sidewalks (e.g. to avoid piling snow at street-sidewalk junctions, and to continue to regularly check and clear street-sidewalk junctions until all sidewalks are cleared of snow).
 - Alternatively, advocate for the sidewalk network to be considered a public service similar to the public street network that is kept clear of snow by the municipality. At minimum, the municipality should assume responsibility for snow clearing in downtown commercial districts.
 - Work with the Arizona Department of Transportation (ADOT) to address issues along state-owned roads.
- Develop procedures to include bike lanes and cycletracks in plowing and street sweeping operations.
- Ensure that sidewalk, greenway/bike path and transit networks comply with the Americans with Disabilities Act (ADA) and meet the needs of people of all abilities. Partner with groups that represent senior and disabled populations (e.g. the Area Agency on Aging) to identify strategies to ensure that transportation networks are universally accessible.

Municipal Policies and Programs



Definitions

- Complete Streets are roads that are designed for all modes of transit, including vehicles, public transportation, biking and walking, and people of all abilities. Design considerations include bike or bus lanes, road narrowing, sidewalks, crosswalks, and facilities such as covered bus stops or bicycle parking.
- Green Infrastructure consists of natural or engineered systems (including rain gardens, bioswales, green roofs and cisterns) that capture and control stormwater near to where it falls. In these systems, stormwater can be cleansed as it moves through soils and the roots of plants, returned through soils to groundwater (infiltration), returned to the air (evapotranspiration), or captured to irrigate plants or flush toilets (reuse). Because these systems typically use plants to enhance or mimic natural processes, they are called “green infrastructure.” Green infrastructure contrasts with traditional “gray

infrastructure,” which is typically built to convey rainfall from roofs, parking lots and streets into catchbasins and pipes that have outlets at the nearest waterway.

- Joint (or Community) Use Agreements are formal agreements between separate government entities that allow for shared use of public property or facilities (e.g. an agreement between a city and a school district to allow community members to use playgrounds and fields when school is not in session).
- Safe Routes to School programs designate a safe path to school for children using sidewalks, bike lanes and multi-use paths. Signage identifies the route to drivers where appropriate.
- Smart Growth refers to development that is concentrated in and around downtowns, village centers, transit stops, or other infrastructure that provides convenient access to goods and services without relying on use of automobiles. Smart Growth is characterized by mixed-use downtowns and neighborhoods, diverse housing options and increased walkability. This compact development pattern protects open space and farmland, revitalizes downtowns, supports affordable housing options, and provides more transportation choices by directing growth to locations where higher densities can be supported.
- Transportation Demand Management employs strategies to decrease traffic that reduce travel demand, especially use of single-occupancy automobiles, or that redistribute travel demand.

- Walking School Bus programs organize children, led by adults such as parents or teachers, to walk to and from school as a group. Bicycle trains are similar but involve biking instead of walking.

Overview

Municipalities must lead by example, and municipal policies and programs can have a very real effect on the health of a community. These strategies address siting of schools and municipal buildings, developing programs that promote healthy activities, and incorporating healthy community ideas into everyday municipal decisions.

The siting of municipal facilities and schools in accessible, smart growth locations that can be reached with existing walking, biking and public transit options can go a long way to promote more walking and biking. For example, a school sited at the edge of a community may only be reachable without a car by a select few who live in that part of town. In comparison, a school located in the heart of downtown neighborhood allows many more students and staff to walk or bike to school. The Federal Highway Administration points to the dangers of traffic as one of the largest reasons that parents do not allow their children to walk to school.²⁰ Programs that attempt to overcome this barrier and actively promote walking and biking to school include Safe Routes to School and Walking School Busses or Bicycle Trains. In addition, by getting some students to walk and bike to school rather than being dropped off by cars, these programs also reduce traffic around schools, further increasing safety for students and increasing parent comfort levels with allowing their children to walk to school.

Municipal programs can also incentivize walking, biking and public transit use by municipal employees. Meanwhile, a robust network of Complete

²⁰*Barriers to Children Walking and Biking to School*. (2005). U.S. Centers for Disease Control. (as cited in *Safe Routes to School*. (2012). USDOT Federal Highway Administration. Retrieved from: http://www.fhwa.dot.gov/environment/safe_routes_to_school/#s4)

Streets promotes active lifestyles while ensuring that everyone can safely travel to where they need to go.

Municipal Policies and Programs Healthy Community Design Checklist

Adopted Policies and Resolutions

- Adopt a policy to site new municipal facilities in walkable locations, and for site plans to be walkable. (City Council/Town Meeting)
- Adopt a policy to site new schools within walking distance of existing residential populations, to focus on the renovation of existing neighborhood schools when feasible, and for school site plans to be walkable. (School Board)
- Adopt a policy to site public affordable and senior housing in walkable locations with easy access to shopping, services, recreation and transit. (City Council/Town Council)
- Adopt the Planning for a Healthier Future through the Built Environment and Community Design Resolution. (Board of Health)
- Adopt green and fit buildings policies for school and municipal construction projects. (City Council/Town Meeting, School Board)
- Adopt a Complete Streets Policy (City Council/Town Meeting, Board of Public Works)

Administrative Policies

- Require a community health advocate to sit on the School Building Committee and all ad hoc municipal building committees.
- Create an Inter-Departmental Project Review Process that establishes meetings of representatives from various municipal

departments/boards, including the Board of Health, to provide review and feedback on projects while still in design development.

- Establish joint use agreements (also known as community use agreements) making school and municipal facilities (e.g. pools, playgrounds or playing fields) open to all residents.

Programs

- Develop Safe Routes to School and Walking School Bus programs. Close roads adjacent to schools to through traffic during morning drop-off and afternoon pick-up times to increase safety for walking and biking students and faculty.
- Create a municipal program to implement, monitor and evaluate the effectiveness of municipal healthy community efforts.
- Implement a municipal Transportation Demand Management Program.
- Offer incentives to encourage municipal and school employees to use sustainable transportation.
 - Subsidize public transportation passes.
 - Provide vouchers for employees who carpool, walk, bike or take transit to work.
 - Encourage opt-out parking programs for employees who do not regularly drive to work.
- Establish a Farm to School Program to source school foods from local growers.
- Establish a Traffic Calming Program.

Other Actions

- Install green infrastructure (e.g. rain gardens and green roofs) on municipal properties, and use examples of municipal green infrastructure for public education.
- Install benches, water fountains, trees and bicycle racks at schools, municipal facilities and in public spaces to promote walking and biking.
- Ensure local, safe and varied playgrounds for children of all ages.
- In downtowns and town centers, promote smart growth and walkability by providing public parking (on-street if possible), removing private off-street parking requirements, and working to eliminate automobile curb cuts.
- Provide public bicycle racks at strategic locations in the downtown or town center. If needed, use existing on-street parking spaces for this purpose.
- Develop contractual requirements for school (and other municipal) food providers to source a certain percentage of their food locally, and assist institutional food providers with local food sourcing.

Conclusion

The Arizona Department of Health Services (ADHS) recognizes the important connection between community design and health. Working collaboratively with community partners, ADHS fosters environments that support healthy behavior, such as biking and walking.

Through [AZ Healthy Communities](#) ADHS supports communities that are using, or are interested in using, collaborative approaches to healthy community design and the promotion of healthy lifestyles. AZ Healthy Communities strives to increase neighborhoods that promote healthier lifestyles, increase evidence on the effectiveness of innovative healthy community planning, and decrease health and social inequities by focusing on the influence of where Arizonans live, learn, work, and play.

Thank you for supporting health and wellness for all Arizonans through Healthy Community Design.

Resources

Arizona

- Arizona Department of Health Services: www.azdhs.gov
- Arizona Nutrition Network: <http://www.eatwellbewell.org/>
- American Planning Association Arizona Chapter MAC21 Project. Healthy Community Toolkit – General Plan Updates: <http://livableaz.org/wp-content/themes/executive-pro/images/HealthyCommunityDesignToolkit2014.pdf>
- Arizona Department of Transportation: <http://www.azdot.gov/planning>
- Arizona Alliance for Livable Communities (AALC): livableaz.org
- Arizona Councils of Governments: <https://www.azmag.gov/archive/AZ-COGs/index.asp>
- Arizona League of Cities and Towns: <http://www.azleague.org/>
- Urban Land Institute, Arizona. Community Plan: <http://arizona.uli.org/>
- Arizona Transit Association: <http://www.azta.org/>
- Arizona Forward: <http://www.arizonaforward.org/>

National

- Active Living Research: <http://activelivingresearch.org/>
- American Public Health Association. Transportation and Health Toolkit: <http://www.apha.org/advocacy/priorities/issues/transportation/Toolkit.htm>
- Centers for Disease Control and Prevention (CDC). Designing and Building Healthy Places: <http://www.cdc.gov/healthyplaces/>
- Comprehensive Planning for Public Health: <https://www.planning.org/research/publichealth/pdf/surveyreport.pdf>
- Human Impact Partners, Health Impact Assessment (HIA): <http://www.humanimpact.org/>
- World Health Organization (WHO). Health Impact Assessment (HIA): <http://www.who.int/hia/en/>
- Urban Land Institute. Building Healthy Places: <http://uli.org/research/centers-initiatives/building-healthy-places-initiative/>
- Smart Growth America: <http://www.smartgrowthamerica.org/>
- LEED for Neighborhood Development: <http://www.usgbc.org/leed>

