South of South Walkability Plan









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Credits

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1 Introduction

Walking is a truly sustainable form of transportation. It leaves a minimal carbon footprint as it does not consume non-renewable resources or contribute to pollution. Walking is healthy exercise for individuals and a healthy community building activity for neighborhoods. Walking encourages interaction between neighbors and promotes commerce as people stroll, rather than speed, past stores. The South of South Walkability Plan recognizes the value of walking and proposes ways to improve conditions for the pedestrians that bring vitality to the South of South neighborhood in Philadelphia.

The South of South neighborhood is bounded by South Street, Broad Street, Washington Avenue, and the Schuylkill River. This primarily residential neighborhood has seen impressive growth in the last decade. Nearly every block in the neighborhood has building renovation or new construction underway. Significant private investment in the neighborhood has improved housing conditions and attracted new businesses. The location, density, and overall layout promote walkability. The map to the right shows that thousands of destinations are within a one-mile walk, which is typically considered a comfortable distance to walk within fifteen to twenty minutes. Residents living in the neighborhood may access employment, restaurants, grocery stores, parks, schools, and even Philadelphia's City Hall within one mile. The grid street pattern allows pedestrians to choose a variety of paths to reach their destination, which adds interest to their trips.

Existing Conditions

Growth and construction in the South of South neighborhood have also had less desirable effects with regard to walkability. Dumpsters, debris, and construction fences have emerged as major impediments to pedestrians using sidewalks in the neighborhood. Utility work and lack of maintenance have caused the pavement to fall into disrepair and become uneven in places. The South of South Walkability Plan recognizes that targeted public investment in projects to improve walkability will build on the neighborhood's assets while mitigating existing problems.

Aerial View of South of South



2 Concept

The 5 C's of Walkability

Five (5) C's of walkability provide a concept for addressing the obstacles and strengthening the assets for residents and visitors walking in the South of South neighborhood. The 5 C's concept is used in numerous pedestrian plans including The Walking Plan for London, planning in the Melbourne region, and many others¹. We adapted the 5 C's to meet South of South's planning needs as follows:

- Connected and Convenient: Routes should connect to key destinations and be convenient for pedestrians and cyclists.
- Conspicuous and Safe: Routes should be clearly defined to provide safety for pedestrians and cyclists. Signage, lighting, and traffic calming measures should help protect and contribute to their safety.
- Convivial: Routes and public spaces should encourage interaction between people. A visually interesting landscape of public spaces should provide interest to people passing by and allow for a variety of activities.
- Comfortable: Routes should be made of appropriate paving materials and be free of obstacles. Street furniture should provide opportunities to rest and provide shelter.
- Consistent and Sustainable: Route design should be consistent with sustainable design principles, protect the environment, and maximize green space.

The South of South Walkability Plan uses the 5 C's concept to design improvements that would make the neighborhood more walkable.



Neighbors Walking in South of South

A walkable community has the health benefit of exercise for residents. The prevalence of obesity in the US in 2006 was 33% for adult men, 35% for adult women, and 16% for children and adolescents. The Centers for Disease Control writes, *"This rate of obesity raises concern because of its implications for the health of Americans. Obesity increases the risk of many diseases and health conditions".*



² CDC, Overweight and Obesity, <u>http://www.cdc.gov/nccdphp/dnpa/obesity/index.</u> <u>htm</u>, August 20, 2008.

¹ The 5 C's were described in the London Planning Advisory Committee's *Walking Strategy for London* and used in Transport for London's *Making London a Walkable City: The Walking Plan for London* of February 2004 and the *Improving Walkability* plan of September 2005; The 5 C's were also central to the South Kensington Planning Committee Report in the Melbourne region.

3 Process

The South of South Walkability Plan is the product of the year-long project managed by the Philadelphia City Planning Commission (PCPC) and funded by a Transportation and Community Development Initiative (TCDI) through the Delaware Valley Regional Planning Commission (DVRPC). This section of the report describes the key steps in developing the South of South Walkability Plan; the process to develop the plan drew on the following resources:

- Advisory Committee
- Data Collection
- Public Input
- Prototype Development

The process began in September 2007 with data collection, best practices research, mapping, pedestrian and bicycle counts, speed studies, and qualitative observation to develop recommendations. Public input was gathered through surveys and community meetings. With the benefit of research and public input, the Advisory Committee developed recommendations and improvement plans for the neighborhood.

Advisory Committee

The initial impetus for the South of South Walkability Plan came from members of the South of South Neighborhood Association's (SOSNA) Streetscape and Traffic Calming Committee. Members of this community-based committee initially advocated for the South of South Walkability Plan based on the idea that 'everyone in the neighborhood deserves traffic calming'. This grand goal was addressed practically with a focused approach. Prioritizing improvements at school sites first would enable neighbors to see the benefits of targeted improvements and energize them to advocate for broader implementation at locations throughout the neighborhood. SOSNA Traffic Calming Committee members were joined by representatives from local schools, the Washington Avenue Business Association, PCPC, DVRPC, Philadelphia Streets Department, Philadelphia Water Department, and the consultant team to form the plan's Advisory Committee. The Advisory Committee met to review and guide the process that would result in a South of South Walkability Plan six times throughout the project. From the beginning, the Advisory Committee solidified the goal for the South of South Walkability Plan: *Address traffic calming with Low Impact Development (LID) streetscape designs that will maximize greenery and minimize the impact of development*

Existing Conditions



on the environment. Traffic calming is a term which encompasses a broad menu of tactics targeted at motorists, cyclists, and pedestrians that aim principally to reduce or slow down vehicular traffic. By recognizing the importance of traffic calming and incorporating it into the South of South Walkability Plan, it is intended that the full range of social, recreational, and transportation activities of *all* users of the street will be fostered instead of being impaired by rapid car traffic. All decisions taken in the course of the plan's development have been informed by this goal and are subsidiary to it in order to create a Connected, Conspicuous, Convivial, Comfortable, and Consistent community.

Data Collection

Data was collected to understand existing conditions in the South of South neighborhood. Data collection included counting the number of people walking and biking in the neighborhood, noting their primary destinations, and measuring current traffic speeds. Since most of the information collected was spatially based, Geographic Information System (GIS) was used to map existing data and information collected in the field for this plan. GIS is a means for capturing, storing, analyzing, managing, and presenting data which are spatially referenced. Existing data was collected from local and national sources including the DVRPC, Pennsylvania Spatial Data Access (PASDA), and PCPC. Pedestrian and bicyclist counts, field observations, and public comments were collected for this plan and also mapped using GIS. Base maps were established to describe existing conditions and identify primary nodes of activity in the neighborhood such as the Marian Anderson Recreation Center, Chew Playground, Naval Square, C.A. Arthur Elementary School, E.M. Stanton Elementary School, Universal Institute Charter School, South Street, and the Garden Blocks (St. Alban's Street and Madison Square). Maps were reviewed with the Advisory Committee and South of South residents to confirm the findings and obtain input on priorities for improvement.

Pedestrian and bicyclist counts were collected in November 2007 to define existing pedestrian and bicycle demand. Pedestrian counts not only represent the human activity of a specific area but also help gauge pedestrian habits. Pedestrian count locations were placed additionally in proximity to the schools to capture student behavior. This mix represents current conditions for pedestrian mobility throughout the neighborhood. A total of twenty-eight intersections were selected to capture both pedestrian and bicycle volume and their directional movements (i.e. northbound, eastbound, etc).

Speed studies were used to assess existing traffic speeds. Field measurements calculated vehicle speeds which were compared to the 85th percentile. Speed limits are typically set by establishing the 85th percentile of travel speeds. The 85th percentile is the speed at or below which 85 percent of the sample of free flowing vehicles are traveling. The following sites were analyzed to determine where speeding poses the greatest challenge:

- Catharine Street (westbound direction) between 21st and 22nd Streets
- Christian Street (eastbound direction) between 18th and 19th Streets
- Carpenter Street (eastbound direction) between 20th and 21st Streets
- Washington Avenue (westbound direction) between 20th and 21st Streets
- Washington Avenue (westbound direction) between 17th and 18th Streets

Data collection, best practices research, mapping, pedestrian and bicycle counts, speed studies, and qualitative observation were used to develop recommendations. Full data and count locations are on file at the PCPC.

Public Input

South of South residents were invited to participate in the planning process with a newsletter in the Fall of 2007. The newsletter explained the project and the benefits of improving walkability and contained the Walkability Checklist from the US Department of Transportation³. Residents used the checklist to rate their neighborhood and familiarize themselves with walkability as a central concept in the project. Surveys were collected at public meetings and through drop boxes at neighborhood stores. The surveys revealed that neighbors felt walking conditions needed to improve and the key problems included trash and speeding vehicles. Concepts for design improvements, traffic calming, and other streetscape modifications were presented to residents at a public meeting on February 28, 2008. After a group presentation, participants were encouraged to visit informational boards and rank their preferences for traffic calming and streetscape techniques.

The survey revealed the following:

- The overall #1 concern when walking in South of South is trash and litter.
- 75% of all respondents feel that South of South does not have adequate streetlighting, particularly pedestrian-level streetlighting.
- 52% of all respondents say that location is what makes the South of South neighborhood so unique.
- Respondents preferred bulb-outs as a traffic-calming measure for the South of South nieghborhood.
- The top priority for future transportation improvements was 'Improving Pedestrian Safety'. The lowest rated priority was 'Improving Vehicular Flow'.
- Respondents rated "Functional Art in Streetscape" as the most appropriate type of public art for South of South.

A School Working Session was held on May 12, 2008 to review improvement plans that would be applicable to the school campuses. This session was valuable in understanding the types of improvements that would match current school operating policies for maintenance and child safety on school property. A Final Public Meeting was held on June 19, 2008 to present the design improvement prototypes that would improve walkability in the South of South neighborhood.

Prototype Development

A range of design improvements were presented to the Advisory Committee and public based on what is applicable and appropriate for the scale of the neighborhood. Advisory Committee and public comment directed the selection of the school sites and four other locations in the neighborhood to illustrate improvements. Each design improvement prototype includes improvements based on comments from public input. Chapter 5 presents improvement strategies that are suitable to the South of South neighborhood and a map of how each block in the neighborhood has at least one prototype design that is applicable. The prototype designs in Chapters 6-10 highlight design improvements that are appropriate throughout the neighborhood based on similarity of street size and land use.

³ Walkability Checklist by the Partnership for a Walkable America, Pedestrian and Bicycle Information Center, and the US Department of Transportation at <u>http://</u>walktoschool.org/downloads/checklist-walkability.pdf.

4 Existing Conditions

Land use is primarily residential in the South of South neighborhood. Important East-West corridors include South Street, Christian Street, and Washington Avenue. South Street is a mixed-use commercial and residential corridor with a variety of restaurant and shopping options. Christian Street is primarily residential with most of the commercial uses located on corner properties. It is an important mobility corridor as it is the first street with both East and West travel lanes south of Market Street. Washington Avenue is also a commercial corridor with a focus on building and construction businesses. The three schools within the neighborhood are C.A. Arthur Elementary School, E.M. Stanton Elementary School, and the Universal Institute Charter School. Recreational facilities in the neighborhood include the Marian Anderson Recreation Center, the Christian Street YMCA, and a proposed park at Montrose and 22nd Streets. The map below displays many key neighborhood locations.



Existing Conditions

Pedestrian counts allowed the team to observe the existing conditions and pedestrian and bicyclist mobility patterns. Over 100 hours of observation and neighborhood condition assessment led to the following conclusions:

Walkability

- The size and scale of the neighborhood is conducive to walking.
- There are destinations for walking within the neighborhood and in adjacent neighborhoods.
- Existing sidewalk conditions vary. Sidewalks are in fair to good condition in many locations. Typically streets with construction in progress have the worst sidewalk conditions.
- ADA compliant access is inconsistent and incomplete. Many locations have curb ramps, though none of the ramps observed were ADA compliant.
- Crosswalk striping varies from poor to good condition.
- The only street with uniform pedestrian-level lighting is South Street. Many streets have areas with pedestrian-level lighting such as house lights maintained by property owners.
- In many locations, vehicles are parked too close to intersections, blocking the sidewalk and potentially the visibility of approaching vehicles.
- There are many locations where construction fencing blocks sidewalks, resulting in mid-block crossings and pedestrians walking in the vehicular travel way and creating a public safety hazard.
- Pedestrian countdown signals at the intersection of Grays Ferry Avenue and Washington Avenue for pedestrians crossing the wide cross section are needed.
- There are very few bus shelters in the neighborhood.

Bicycling

- A significant number of cyclists utilize the streets in the study area.
- There are a significant number of cyclists on South Street with a high vehicular traffic volume and no bike lanes. Some cyclists were observed on the sidewalk.
- The bicycle lane on Washington Avenue is often blocked by parked cars causing cyclists to veer into vehicular traffic lanes.

Traffic Calming

- Traffic calming measures are not consistent throughout the neighborhood.
- Existing traffic calming measures in South of South include on-street parking, narrow lane widths, flashers and signage in school zones, and some bicycle lanes. Washington Avenue also includes bulb outs.
- Generally, speeding was not observed with the exception of single blocks along Washington Avenue, Catharine Street, and Christian Street.
 - There was a slight increase in speed of two miles per hour above the speed limit observed along the Eastbound direction of Washington Avenue between 17th and 18th Streets, where the speed limit is thirty miles per hour. The speed limit was maintained along the Westbound direction.
 - There was an observed increase in speed of five miles per hour above the speed limit along the Westbound direction of Catharine Street between 21st and 22nd Streets, where the speed limit is twenty-five miles per hour.
 - There was a slight increase in speed of one mile per hour above the speed limit observed along the Westbound direction of Christian Street between 18th and 19th Streets, where the speed limit is twenty-five miles per hour. The speed limit was maintained along the Eastbound direction.

Greening

- Some streets have trees that appear to be maintained by the adjacent property owner. Tree maintenance varies from excellent to poor.
- The school playgrounds and the Marian Anderson Recreation Center appeared underutilized and in need of some repair.
- Several intersections along Grays Ferry Avenue have five or more approaches.
 Several of these intersections present an opportunity for geometric design improvements.
- Few trash cans are present and significant amounts of litter are present.

School Safety

- Crossing guards were observed at several intersections where a significant percentage of the pedestrian volumes are children:
 - Christian and 17th Streets
 - Catharine and 20th Streets
 - Catharine and 15th Streets
- There is no crossing guard at the intersection of Christian and 21st Streets, but there are high volumes of children crossing.
- Many children cross mid-block at 20th Street and Webster Street.
- Many children appeared to be walking in pairs or groups.
- Children need to cross Catharine Street to access school buses at the Universal Institute Charter School.

Qualitative and quantitative information provided a base for selecting the type of improvements that would be appropriate for improving walkability in the South of South neighborhood.



Pedestrian and bicyclist counts indicated that a greater percentage of people traveled in North-South directions than in East-West directions. The results reflect the neighborhood's location, edges, and orientation. The draw of Center City lies to the North and the Schuylkill River acts as a geographic boundary to the West. When analyzing the raw data, South Street was clearly the most heavily traversed corridor. South Street, the northernmost boundary of the South of South neighborhood, is one of Philadelphia's largest local and tourist attractions with its heavy commercial presence. Out of the top six most heavily traveled intersections, all five South Street locations studied were included. The two least traveled intersections were found to be on Grays Ferry Avenue.



Total Pedestrian Volume per Intersection

4 Existing Conditions

High bicycle volume exists primarily along South Street despite the lack of a formal bike lane. Four bike lanes exist within the South of South neighborhood on Washington Avenue, Grays Ferry Avenue, 22nd Street and 24th Street.



5 Improvement Strategies

A variety of improvement strategies were utilized to translate the internationally accepted 5 C's introduced in Chapter 2 to the South of South neighborhood. Walkability programs, design improvements, and traffic calming techniques are all suitable means to create a Connected, Conspicuous, Convivial, Comfortable, and Consistent community for walking. The table on the following page compares existing assets to plans that would improve walkability in the neighborhood.

Existing walkability programs easily adaptable to the South of South community abound with strong resources including the Centers for Disease Control's program KidsWalk-to-School (http://www.cdc.gov/nccdphp/dnpa/kidswalk/), the International Walk to School iwalk web-site (www. iwalktoschool.org), and Project for Public Spaces Traffic Calming 101 initiative (http://www.pps.org/info/placemakingtools/casesforplaces/livememtraffic).

Design improvements include a broad variety of landscaping, street furniture, and public art options. Landscaping opportunities considered appropriate for the South of South neighborhood include street trees, landscape strips, plants between steps, and tree pits. Street furniture such as benches, lighting, bus shelters, and trash cans are functional improvements that will ameliorate walkability in the neighborhood. The addition of trash receptacles and street lighting will address the issues of litter and safety, respectively. Public art, such as decorative murals, gateways, banners, or functional artwork will make walking more interesting. Functional artwork can be decorative and have a practical use like providing a place to sit or lock a bike. The options to the right were reviewed in the February public meeting to determine which improvement strategies the community prefers for design improvements.

Design Improvement Examples





Planter Boxes



Functional Artwork



Banners



Bulb-Out



Mural

Characteristics	Existing Assets	
Connected and Convenient	 Mixed uses in the neighborhood provide shopping, work, education, and recreation within walking distance. Center City's close proximity provides many additional destinations within walking distance. The grid street pattern provides 	
Constituous and	 pedestrians the ability to choose many routes to their destination. Building density and pedestrian activity 	
Safe	 provide eyes on the street to increase security for pedestrians. The narrow, primarily one-way streets provide some inherent traffic calming 	
Convivial	 Row houses that dominate the neighborhood provide a dense network 	
	 of residents to support transit and other services. Residents have joined together and advocated for a neighborhood park at Montrose and 22nd Streets. 	
Comfortable	 A variety of buildings close to the street, rather than behind a sea of parking, create visually interesting walks. 	
	 Street trees provide shade and add to a pleasant walking environment. 	
Consistent and Sustainable	 There is an active tree planting program through SOSNA. 	

Existing Conditions









Room for Improvement

- Green spaces such as the Marian Anderson Recreation Center and Chew Park are isolated by fences and/or busy streets.
- The redevelopment of vacant and underutilized commercial properties could provide additional destinations.
- Traffic calming measures including raised crosswalks, raised intersections, and bulb-outs will increase pedestrian safety.
- Increasing lighting will improve security and improved streetscape conditions will reduce trips and falls.
- The dense network of residential and commercial properties lacks adequate green space; this need was also highlighted in the South of South Community Plan and the GreenPlan Philadelphia initiative.
- Sidewalk and streetscape conditions are poor in many locations; conditions should be improved and unified to make the neighborhood accessible to all.
- Street furniture, garbage cans, lighting and public artwork should be added to make the streetscape more pedestrian friendly.
- Large areas are paved for playgrounds and parking lots. Pervious pavement and the addition of open pits for plantings and trees would improve drainage for stormwater and be visually appealing to pedestrians.

Traffic Calming

Traffic calming encompasses a range of improvement techniques and measures to reduce the speed of vehicles and increase the visibility of pedestrians. Measures to "calm" traffic can increase both the real and perceived safety of pedestrians and bicyclists and improve the quality of life within the neighborhood. A comprehensive review of a variety of traffic calming measures was conducted in Advisory Committee and Public Meetings due to significant potential impact on local walkability. The following table shows four traffic calming measures that were reviewed for their applicability to the South of South neighborhood.

Improvement	Benefits
Bulb-Out	 Reduces crossing distance/ improves sight lines Slows traffic by creating a narrower street opening Can improve neighborhood appearance with landscaping Can prevent illegal parking close to intersections
Raised Crosswalk and Raised Intersections	 Reduces speeds Improves visibility for pedestrians Improves the visibility of pedestrians May reduce vehicular volumes
Roundabout	 Reduces speeds and intersection congestion Significantly reduces motor vehicle collisions Reduces the number of potential conflict points at an intersection Enhances neighborhood appearance when properly landscaped
Chicane	 Reduces speeds Slows traffic by creating a narrow street opening Can improve neighborhood appearance with landscaping

Examples







Disadvantages

- Can result in loss of one on-street parking space
- May prevent right turns at intersection when another vehicle is stopped
- If landscaping is included, maintenance responsibilities need to be assigned to a responsible party
- Slows emergency vehicles slightly
- May generate noise and additional emissions from vehicle deceleration and acceleration
- Requires more maintenance than traditional crosswalks
- Icing can be a problem if not removed
- Could shift traffic elsewhere
- May require removal of some on-street parking
- Pedestrians may initially have difficulty in asserting their priority
- If landscaping is included, maintenance responsibilities need to be assigned to a responsible party
- Can shift traffic elsewhere
- Can result in loss of on-street parking spaces

Photo by Richard Drdul

The needs and priorities of the South of South community established through detailed reviews of existing conditions and public input led to the design improvement prototypes illustrated in the remaining chapters including bulb-outs, raised crosswalks, and raised intersections. It was ascertained that roundabouts as a traffic calming measure could also be effective in certain conditions, but would require stronger public and political support than currently exists in South of South to be implemented in this neighborhood. Therefore, a roundabout was not selected as one of the illustrated prototype improvements. The case of the roundabout

Prototype Categories

One of the first decisions of the Advisory Committee was to prioritize the implementation of design improvements at school locations first; thereby protecting the neighborhood's youngest residents while providing samples of traffic calming measures and designs that can be implemented throughout the neighborhood. Therefore, all of the school locations (C. A. Arthur Elementary School, Universal Institute Charter School, and E.M.

represents a good example of the need to raise awareness among South of Southresidentsabout full spectrum the improvement of possibilities. The planning soundest decisions can be made only after the public understands impact the of each improvement strategy and sufficient support can be garnered from the community. The proposed Sidewalk Team of community liaisons could serve to promote the kind of awareness that is needed to permit the most informed improvement decisions.



5 Improvement Strategies

Stanton School) were illustrated with design improvements in the plan to make pedestrians Conspicuous and Safe in Chapter 7. Four other sites were selected as prototypes to illustrate the types of improvements that could be applied throughout the neighborhood. The streets within the South of South neighborhood were organized into four categories: Industrial/ Commercial, Mixed-Use, Grid Street, and Urban Lane. The map on the previous page shows the streets that fit each of these categories. The prototype drawings provided in this report depict design improvements that will be appropriate for each block in the neighborhood, since each street in the neighborhood fits one of the four categories. For instance, the Connected and Convenient improvements drawn for the intersection of Washington Avenue and 19th Street represent improvements that would be appropriate on any of the industrial/commercial corridors outlined in purple. The Mixed-Use category is illustrated by Christian and 22nd Streets, Grid Street by Fitzwater and 18th Streets, and the yellow Urban Lane by the 2000 Block of Kimball Street. Hence, the design improvement prototypes in the next chapters can be applied to the entire South of South neighborhood. Each of the following chapters begins with a discussion of one of the 5 C's and illustrates the specific concept with a rendering of potential walkability improvements.

6 Connected and Convenient

Washington Avenue and 19th Street

The South of South neighborhood has a strong foundation for creating a Connected and Convenient neighborhood for walking and bicycling. Its location and the grid street layout are important assets because they create a geographically distinct neighborhood that remains connected to Center City and other major nodes of activity outside the immediate area.

Washington Avenue and 19th Street Prototype

Several neighbors noted a disconnect between the South of South neighborhood and Chew Playground. Chew Playground lies just beyond the southernmost border of South of South along Washington Avenue. The park is important because it represents green space and a place for people to play, which is important because the South of South neighborhood has one of the lowest amounts of green space in Philadelphia. From the first public meeting there was great interest for more green space. Therefore, one of the plan's design alternatives needed to connect the neighborhood with the green space that currently exists across a busy four-lane street. Bulb-outs are proposed because they act as a visual cue to motorists to reduce and improve visibility of pedestrians by reducing crosswalk lengths. Although bulb-outs exist at this location, they are undersized. Enlarging the size of the bulb-outs creates additional sidewalk space for green space that will improve the streetscape aesthetic and stormwater infiltration. Bioretention cells are strategically situated soil and plant-based filtration devices that remove pollutants from stormwater and can also be constructed in the sidewalk planting zone. The Philadelphia Water Department has issued recommendations and regulations for the installation of lowimpact stormwater management structures in the Philadelphia Stormwater Management Guidance Manual Version 2.0.

A decorative crosswalk is proposed for all four crosswalks of the intersection. The design would create a clear visual and physical connection to Chew Playground and help unite the two neighborhoods located on either side of Washington Avenue. The design should reflect the individuality of the surrounding community and enhance the overall streetscape environment. Additional street amenities that were stressed as being important to the neighborhood, such as bike racks, trash cans and even murals have been incorporated into the design alternative.

Respondents to the survey circulated to the South of South community indicated that they would prefer to have back-in angle parking instead of parallel parking along Washington Avenue by a 3-1 margin. Back-in angle parking increases on-street parking capacity by approximately 30% when analyzed in comparison to parallel parking. The parking design promotes reduced vehicular speeds, will minimize conflicts between cyclists, vehicular traffic, and parking lane movement, encourages the safe use of the bicycle lane, and promotes pedestrian activity along the street. The back-in angle parking should prove safer for bicyclists who travel along the Washington Avenue bicycle lane than current design of the cartway and parking lanes. A distinct pavement color would improve visibility of and further differentiate the traffic and parking lanes.

The streetscape design should include regular spacing of streetlight fixtures and new street trees. Healthy urban trees complement the scale of the right-of-way and strengthen the line of sight. Washington Avenue, given its wide streets, has great potential as an active edge to the South of South neighborhood that comfortably and conveniently accomodates all its users. This design encourages robust commercial activity yet reduces pedestrian and bicyclist conflict by incorporating functional and attractive streetscape amenities in the immediate vicinity. By encouraging new and expanded commercial ventures in the neighborhood, destinations that are within walking distance are expanded. Improved, Connected, and Convenient destinations ultimately stimulate additional street activity in the area, thereby improving walkability.

Washington Avenue and 19th Street Existing Conditions





Washington Avenue and 19th Street Streetscape Parking and Bike Lanes

Bulb-outs with Greenery

Bulb-outs are a traffic calming measure that act as a visual cue to motorists to reduce speed. They also improve visibility of pedestrians and reduce crosswalk distances. The additional sidewalk space created by the bulb-out can be used as green space to improve the streetscape aesthetic and provide stormwater infiltration.

Decorative Crosswalk

A decorative crosswalk could be integrated into all four crosswalks of the intersection. The design should reflect the individuality of the neighborhood and enhance the overall streetscape environment, while meeting standards for reflectivity and durability.



Streetlights and Street Trees

The streetscape design should include regular spacing of streetlight fixtures and new street trees. Healthy urban trees complement the scale of the right-of-way and strengthen the line of sight. A continuous root zone of a minimum of 500 cu. ft. should be encouraged. Bioretention cells can also be constructed in the sidewalk planting zone.

Back-in Angle Parking

Back-in angle parking improves safety as well as total parking capacity by approximately 30%. The parking design promotes reduced vehicular speeds, encourages the safe use of the bicycle lane and promotes pedestrian activity along the street.

Bicycle Lane

The bicycle lane is clearly denoted by a change in pavement color as well as standard white lines and symbols. The colorized surface of the bicycle lane minimizes conflicts between cyclists, vehicular traffic and parking lane movement.

Washington Avenue and 19th Street Chew Playground Connection

Bulb-outs with Greenery

Bulb-outs are a traffic calming measure that act as a visual cue to motorists to reduce speed. They also improve visibility of pedestrians and reduce crosswalk distances. The additional sidewalk space created by the bulb-out can be used as green space to improve the streetscape aesthetic and provide stormwater infiltration.

Street Furniture

New street furniture, such as trash receptacles, light fixtures and bike racks, add to the overall aesthetics and functionality of the streetscape.

Decorative Crosswalk A decorative crosswalk could be integrated into all four crosswalks of the intersection. The crosswalk design would improve visibility of pedestrians and improve safety. The design would create a clear connection to Chew Playground and help unite the two neighborhoods located on either side of Washington Avenue. The design should reflect the individuality of the neighborhood and enhance the overall streetscape environment.



7 Conspicuous and Safe

School Sites and Christian and 22nd Streets

Conspicuous and Safe is the concept that routes should be clearly defined to enhance safety for pedestrians and cyclists. Improved and enhanced signage, lighting, and traffic calming measures help protect and contribute to a walking route's safety.

School Sites

Providing a safe environment for children to get to and from school is essential. Almost 80% of all Philadelphia elementary school students walk to and from school. Approximately 95% of students at the C.A. Arthur Elementary School walk to and from school. Philadelphia Councilman James F. Kenney's report on safety while walking to school notes in recent years there has been a steady rise in the number of students being struck by vehicles on their way to and from school. In the most recent year data were collected, 96 Philadelphia School District students were struck by moving vehicles either on their way to school or returning home from school. Seventy-five percent of these incidents occurred immediately outside their respective schools. Children's safety is a basic and obvious necessity for a neighborhood to be livable⁴.

According to the U.S. Department of Transportation, School Walking Zones "extend from the residential area to elementary schools" and can be defined liberally according to local geographic and other criteria posited by families and school officials⁵. Typically, such zones encompass the area within the school catchment in which students could reasonably be expected to walk to school. These zones should have special priority, as children are particularly vulnerable to traffic accidents. Within the schools' vicinities in our study area, there are other high pedestrian generators such as community centers, churches and commercial areas. Based on the survey conducted at the initiation of the project, the current condition of the sidewalks in this area is generally deteriorated. Broken concrete punctuated by frequent intersections, curbcuts and empty lots abound. Entrances, driveways and planting treatments lack a consistent design framework in the school vicinities. Low volume traffic streets are common in the school walking zone. These current conditions create an urgent need to upgrade the sidewalk network. While the School Walking Zone in the South of South Walkability Plan is a relatively small area of the city, it presents some interesting challenges and opportunities to set standards and examples for the rest of the Philadelphia school zones.

Designated crosswalks are a critical component of the pedestrian network. A crosswalk is defined as "the portion of a roadway designated for pedestrians to use in crossing the street". The continental design, widely used in Philadelphia and characterized by white stripes, is recommended because research indicates that it is the most visible to drivers. By using the continental design for crosswalk markings, it also improves crosswalk detection for people with low vision and cognitive impairments. The City of Philadelphia requires that the continental style crosswalk be used at intersections in all school zones. Because of this requirement, only continental style crosswalks are incorporated around the school areas.

Signage is currently in place to alert drivers to children crossing near all of the school sites. The signage should remain or be improved during the implementation of improvements at any of the schools.

Of the eight speed study investigations conducted at the initiation of this study, the location with the highest actual average vehicle speed over the posted speed limit was captured at Catharine Street between 21st Street and 22nd Street. The 85th percentile speed was calculated at thirty mph, five miles per hour over the street's speed limit of twenty-five mph. Located only one block away from C.A. Arthur Elementary School, these data suggest that this is an appropriate location for instituting improved

⁴ Hon. James F. Kenney. "Protecting Children on their Way to School and Home Again...Finding a Solution that Saves Lives." Sep. 15, 2004.

⁵ Safe Routes to School Guide. <u>http://www.saferoutesinfo.org/guide/engineering/</u>school_route_maps.cfm.

traffic calming measures. With approximately 95% of students at the C.A. Arthur Elementary School walking to and from school, the case for such measures is further underscored.

Given the above average vehicle speeds in the immediate area, the principal safety feature recommended for the pedestrian routes adjacent to the C.A. Arthur Elementary School is a raised pedestrian crosswalk. Implementing a raised crosswalk would reduce vehicle speeds because motorists must

such as tree pits and permeable pavers should be added. Additional information on stormwater management practices is set out in Chapter 10. Bike racks, park benches and planters should be used as both decorative and functional elements. Such amenities will add to the overall aesthetics and functionality of the school zone.

travel over an elevated surface. A raised pedestrian crosswalk also enhances the visibility of the students to drivers. Locating the crosswalk directly across from the school yard gate entrance will minimize the travel distance of the children by creating the most direct link to and from the school.

Additional street trees along school property are recommended. Trees provide a protective barrier between cars and pedestrians while also extending the existing tree canopy. Additional trees will provide a pleasant greening of the streets and provide natural protection from the elements. Stormwater management techniques

C.A. Arthur Elementary School Entrance Existing Conditions



C.A. Arthur Elementary School

Stormwater Runoff Management

A combination of planting and paving should be used at edge of sidewalk.

Street Trees

Additional trees should be planted along the school to enhance the benefits of a tree canopy. Healthy urban trees complement the scale of the right-of-way and strengthen the line of sight.

Street Furniture

Bike racks, park benches, and planters can be used as both decorative and functional elements. Such amenities would add to the overall aesthetics and functionality of the school zone.

Raised Pedestrian Crosswalk

A raised crosswalk could be implemented as a traffic calming measure at the schoolyard gate entrance. A continental crosswalk will alert motorists to reduce their vehicle speed.



Advisory Committee members indicated that stormwater runoff was a major issue that should be addressed in this plan. Since the current blacktopped playground at C.A. Arthur Elementary School is very large, this impervious surface is a significant contributor to the stormwater runoff in the neighborhood.

School representatives stated they would prefer to alleviate runoff through the installation of porous paving on the playground surface. Porous paving promotes infiltration and reduces stormwater runoff. Brightly colored porous pavement adds a great deal to the playground, both aesthetically and functionally. Moreover, the large playground area is ample enough to provide a great opportunity for designated basketball, soccer, hopscotch, and other play facilities to provide exercise and recess activities for the students. Stormwater management is discussed in more detail in Chapter 10.

School representatives also indicated that the current dumpster located on its premises was dangerous and that a method to prevent children playing on or near it was needed. A screen wall in front of the dumpster would shield the unpleasant areas from public view. This design would also keep children from entering the dumpster area out of the sight of supervision.

The addition of age-appropriate playground equipment is also recommended. Playground equipment helps children develop physical coordination, strength, and flexibility, and provides recreation and enjoyment. Playground equipment could not only serve the children during the school hours as a safe and more creative place to play but also serve the recreational needs of the broader public after school hours. Adding school playground equipment is a way to create an additional recreation area in a neighborhood that has limited open space resources.

Another concern raised by school representatives was the physical impact of the hard pavement on children at play. Soft materials beneath the playground equipment reduce the chances of children getting hurt while playing. State-of-the-art protective surfacing under and around the playground equipment would provide a safer environment for children to play. The ability to absorb shock during a fall can be reduced considerably through a softer surface. Additionally, it is easy to obtain a surface that is sustainable and made of recycled materials.



C.A. Arthur Elementary School Playground Existing Conditions

C.A. Arthur Elementary School

Screen Wall

Screen walls shield unpleasant areas from the public. This design would prevent children from climbing onto or into the dumpster.

Porous Paving

Porous paving promotes infiltration and reduces stormwater runoff. Brightly colored paving adds a great deal to the playground, both aesthetically and functionally.

Recreational Furnishings

The large playground area is ample enough to provide a great opportunity for basketball, soccer, hopscotch and other markings to provide exercise and recess activities for students.



C.A. Arthur Elementary School



Special Matting

Protective surfacing under and around the playground equipment provides a safe play environment for children. A soft surface absorbs shock during a fall.

Street Furniture

New street furniture such as trash receptacles, benches, and bike racks, add to the overall aesthetics and functionality of the school.

Universal Institute Charter School is comprised of three buildings, each of which contains a different age group. This provides the students with a campus type environment. When observing the site location, it was noted that large groups of children gathered along the corners of the school. Moreover, children from the elementary school must cross Catharine Street to ride the school bus. A lot of pedestrian activity is generated by the arrangement of the school's physical plant. During the first public meeting it was noted that parents dropping off students at Universal Institute Charter School appear to contribute to current traffic congestion problems by illegally parking their vehicles and leaving them unoccupied as they go inside the school to pick up or drop off their child. The illegally parked cars cause major problems for school buses that do not have adequate room to safely turn onto Catharine Street. Additionally, cars are typically parked within the pedestrian crosswalk, which diverts students into the intersection to cross the street. After examining the various issues at Universal Institute Charter School, recommendations include ways of providing a safer place for children. Incorporating a single bulb-out was deemed the most effective way to achieve this. A bulb-out will reduce crossing distance and improve sight lines. Taking into account the physical plant of the school, the bulb-out would increase the sidewalk area where children are gathering. Bulb-outs also help create a barrier to keep vehicles from illegally parking within the crosswalk. Incorporating a single bulb-out at the southeast corner of Catharine and 15th Streets allows the school buses to maintain their turning radii. Bike racks, benches and planters have been incorporated into the design, providing both decorative and functional elements. Such amenities would add to the overall aesthetics and functionality of the school campus.



Universal Institute Charter School Existing Conditions

Streetlights and Street Trees

The streetscape design should include regular spacing of streetlight fixtures and new street trees. It should also encourage a continuous root zone (min. 500 cu. ft. per tree). Healthy urban trees complement the scale of the right-of-way and strengthen the line of sight. Bioretention cells can also be constructed in the sidewalk planting zone.

Universal Institute Charter School

Bulb-Outs

Bulb-outs are a traffic calming measure that act as a visual cue to motorists to reduce speed. They also improve visibility of pedestrians and reduce crosswalk distances.

Street Furniture

New street furniture such as trash receptacles, benches, and bike racks add to the overall aesthetics and functionality of the school.



Large numbers of children were observed walking to E.M. Stanton Elementary School with its main entrance at Christian and 17th Streets as well as arriving by bus. Illegally parked cars and bikes locked to poles were found throughout the area. Existing pavement markings conditions are poor based on the field observation. After considering a number of improvement strategies, it was determined through public input that bulbouts located at all four corners would be the best fit for this location. Bulb-outs would reduce the time a student needs to cross the intersection. Additionally, bulb-outs create a barrier to keep vehicles from illegally parking across the crosswalk while allowing buses to turn. The addition of pedestrian countdown signals is recommended as an important crossing safety feature. The signal displays the number of seconds remaining to cross the intersection safely. This reduces the likelihood that a person is still in the intersection when the signal changes. Resurfacing the sidewalk throughout the school walk zone would enhance safety while improving walkability. The incorporation of decorative, colored, or stamped concrete combined with pavers is recommend for an attractive, safe, durable, and relatively maintenance free solution. Bike racks, trash cans and planters have been incorporated in the design, providing both decorative and functional elements. Such amenities would add to the overall aesthetics and functionality of the school zone.

The addition of attractive streetscape amenities in the immediate vicinity encourages new commercial activity in the area.



E.M. Stanton Elementary School Existing Conditions

Sidewalk Reconstruction	E.M.	Stanton Elementary School
Sidewalk reconstruction throughout the school zone is necessary for walkability and safety. Decorative, colored, or stamped concrete combined with pavers is recommended for an attractive, safe, durable and relatively maintenance free solution. Street Furniture New street furniture such as trash receptacles, benches, and bike racks add to the overall aesthetics and functionality of the school.	Bulb-Outs Bulb-outs are a traffic calming measure that act as a visual cue to motorists to reduce speed and improve visibility of pedestrians by reducing crosswalk lengths.	Pedestrian Countdown Signals Pedestrian countdown signals are recommended crossing safety measures. The signal displays the number of seconds remaining to cross the intersection safely. This reduces the likelihood that a person is still in the intersection when the signal changes.

Traffic calming is a key component in making an area Conspicuous and Safe by giving all users of the street opportunity to enjoy it. By addressing high speeds, traffic calming can increase both the real and perceived safety of pedestrians and bicyclists and improve the quality of life within the neighborhood. Traffic calming measures including raised crosswalks, raised intersections, and bulb-outs will increase pedestrian safety. Traffic calming was a critical subject presented at the first public meeting. An entire section within the survey was devoted to the issue and the responses influenced the proposed design improvement prototypes.

Survey results indicated people in the South of South community felt the

two highest priorities for future transportation needs were to improve pedestrian and bicyclist safety. There was positive feedback at the public meeting regarding the appropriateness of raised crosswalks in South of South. Earlier research revealed that highest number of bicycle accidents in the neighborhood occurred at the intersection of Christian and 22nd Streets. Christian Street is the first two-lane street north of Washington Avenue and is often considered the spine of the neighborhood. Community feedback and site selection research indicated that the intersection of Christian and 22nd Streets was an appropriate location for traffic calming.

Similar to a raised crosswalk, a raised intersection not only reduces vehicle speeds, but also improves the visibility of pedestrians to drivers, and improves pedestrians' sight of oncoming vehicular traffic. The entire intersection, including crosswalks, is raised 3 to 6 inches above street level. The raised intersection would improve pedestrian visibility, reduce vehicle speeds, and improve safety. Pavement treatments demarcating the raised intersection enhance the visual environment. Advance warning signs such as "Raised Pedestrian Crossing" should be posted. Ramps, typically at 4% to 8% grade, are incorporated on all approaches. The raised intersection physically forces drivers to moderate their speed, thereby creating a safer atmosphere for pedestrians.

Decorative crosswalks can be incorporated with the raised intersection design to define the crosswalks as pedestrian space and add character and interest to the streetscape. A different pattern should be used for the interior portion of the intersection to differentiate from vehicular and pedestrian crossing. The design could reflect the individuality of the neighborhood since a variety of commercial products are available. The

Christian and 22nd Streets Existing Conditions



visual pattern would also act as a visual barrier to vehicles parking in the crosswalk.

To ensure maximum usage of bicycles, the bike lane that runs along 22nd Street should be clearly marked with white pavement markings and a cyclist graphic printed on the pavement. Colorized surfaces may also be used where a conflict point is identified. Typically, bike lanes are shown leading up to and coming from the intersection, but not within in the intersection. Signs may be used to continue to alert motorists to both pedestrians and bicyclists in the intersection.

Traffic calming is most successful when it is accompanied by streetscaping and neighborhood greening. The creation of a safe neighborhood atmosphere establishes an environment that promotes safer traffic patterns. Therefore, additional amenities were applied to this intersection. Some of the community's comments made in the first public meeting were that there was not enough street lighting around the neighborhood, so there was a safety concern when walking at night. According to the survey results, 75% of the people do not feel that the neighborhood has adequate street lighting. The addition of Center City District-type light fixtures would add to the overall aesthetics and functionality of the neighborhood. This increases the sense of security for residents and creates an attractive nighttime environment.

The intersection of Christian and 22nd Streets is classified in the Street Classification as Mixed-Use, since it is comprised of both residential and commercial activities. This design will encourage new commercial activity in the area by incorporating functional and attractive streetscape amenities in the immediate vicinity. By encouraging new commercial ventures in the neighborhood, new destinations that are within walking distance of residential homes are created. This ultimately stimulates additional street activity in the area.

Pedestrian Streetlighting



Mixed-Use: Christian and 22nd Streets

Raised Intersection

The intersection, including crosswalks, is raised 3 to 6 inches above street level. The raised intersection would improve pedestrian visibility, reduce vehicle speeds, reduce vehicle-pedestrian conflicts, and improve safety. Pavement treatments demarcating the raised intersection enhance the visual environment. Advance warning signs such as "Raised Pedestrian Crossing" should be posted. Ramps, typically 4%-8% grade are incorpoated into the approaches.

Decorative Crosswalks

Decorative crosswalks could be incorporated with the raised intersection design. They should be a different pattern from the interior portion of the intersection to clearly define pedestrian crossings. Decorative crosswalks are often incorporated at high-traffic areas and intersections to improve visibility of pedestrians and improve safety. The design should reflect the individuality of the neighborhood and enhance the overall streetscape environment.

Bicycle Lane

To ensure maximum usage of bicycles in the city, bike lanes should be clearly marked with standard markings and colorized surfaces may be used where a conflict point is identified.

Pedestrian-Level Lighting

Pedestrian light fixtures allow for efficient distribution of light on sidewalks and enhanced visibility for pedestrians. This increases the sense of security for residents and creates an attractive nighttime environment.

Mixed-Use Development

Encouraging new commercial activity in the area by incorporating functional and attractive streetscape amenities in the immediate vicinity. By encouraging new commercial ventures in the neighborhood, new destinations that are within walking distance of residential homes are created. This ultimately stimulates additional street activity in the area.



8 Convivial

Fitzwater and 18th Streets

Convivial design focuses on making spaces enjoyable and friendly for pedestrians while removing barriers to social interaction. A Convivial commercial corridor welcomes pedestrians with interesting facades and displays. As more residents occupy formerly vacant properties in the South of South neighborhood, new businesses are developing to cater to their needs. Still, many vacant storefronts are ready to be transformed and one of the goals of public infrastructure investments, such as the ones outlined in this plan, is that streetscape improvements will spur additional private sector development. The garden blocks at St. Albans Street and Madison Square are a particularly good example of a Convivial residential street design. These blocks invite people passing by to walk down them with their beautiful gardens and encourage neighbors to interact in the shared green space in front of their homes.

It was heard repeatedly from the Advisory Committee and at public meetings that there was a need for more green space in the South of South neighborhood. This priority was emphasized in the previous "South of South Community Plan" and the "GreenPlan Philadelphia Initiative". Participants in the Advisory Committee and in the public meetings also emphasized the need for additional green space. Several projects are currently planned to increase the neighborhood's green space including the park at Montrose and 22nd Streets and a SOSNA tree planting program and window box competition. This need was translated into all of the design improvement prototypes by adding trees and plant beds wherever possible beginning with appropriately placed benches. Washington Avenue and 19th Street was selected for the Industrial/Commercial prototype to strengthen the link between the South of South and the neighboring Chew Playground. The need for connecting neighbors to green space was an additional factor in selecting a Grid Street prototype. There were many locations to consider, since the Grid Street is the most prevalent street type in the neighborhood. The intersection of Fitzwater and 18th Streets was selected as the prototype because it was next

to the public green space of the Marian Anderson Recreation Center. This center has a baseball field that is encompassed by a fence that blocks people passing by from the space. The entrance to the center is at Catharine and 17th Streets. The fence should remain to protect the field and also to provide a barrier during baseball games. People passing by may be made to feel like they are walking through a green space, however, by incorporating more greenery in the streetscape beside the fencing, visually reducing its barrier effect. The design for the Grid Street prototype incorporated planting and additional trees in the streetscape to visually connect the street to the park. These plantings should use Low Impact Development (LID) devices to collect stormwater such as rain gardens and bioretention cells, thus decreasing the impact of development on the environment. Backless benches were added on the street side of the fence to provide a space for walkers to rest or for people to enjoy a baseball game. These benches should be artfully designed in order to add functional artwork into

to add functional artwork into was the preferred choice of public artwork by the majority of public meeting attendees. Downspout planters (detail photo to the right) and rain gardens were sketched on the brick buildings lining the North side of Fitzwater Street (following page) to use the often overlooked space on the side of buildings and between driveways. Decorative crosswalks were planned for the intersection. The before picture is shown on this page and the Grid Street Prototype follows on the next page. Together these design components increase green space and sustainable design and create a Convivial environment for pedestrians.

Downspout Planter



Fitzwater and 18th Streets Existing Conditions



⁶ GreenPlan Philadelphia, City of Philadelphia, PA Department of Conservation and Natural Resources, William Penn Foundation. <u>www.greenplanphiladelphia.com</u>.

Grid Street: Fitzwater and 18th Streets

Permeable Pavers

Existing residential driveways can be retrofitted with permeable unit pavers. Permeable unit paver systems are concrete blocks or stones with spaces or gaps between them, allowing stormwater to flow through and infiltrate into subsoils. Infiltration filters and traps pollutants, improving the quality of the receiving waterway.

Rain Gardens

A rain garden, or planted depression, functions as a vegetative stormwater management device. The vegetative strips located between driveways are designed to absorb stormwater runoff from the driveways and downspouts.

Street Furniture

New street furniture such as trash receptacles, light fixtures and bike racks, add to the overall aesthetics and functionality of the streetscape. Artistic details such as mosaics can be added to the benches in order to reflect the desired neighborhood character.

Decorative Crosswalk

Decorative crosswalks are often incorporated at hightraffic areas and intersections to improve visibility of pedestrians and improve safety. The design should reflect the individuality of the neighborhood and enhance the overall streetscape environment.

Downspout Planters

Downspouts are treated as "wall sculpture" with the addition of planters attached to the main pipe. Plants absorb a portion of the stormwater runoff from the roof before it reaches the street. These planters would add aesthetic value as well as serve a functional purpose.

LID

Incorporate Low Impact Development devices into stormwater management practices. Encourage a continuous root zone. Bioretention cells can also be constructed in the sidewalk planting zone.



9 Comfortable 2000 Block of Kimball Street

Designing for Comfortable walking involves creating paths that are free from traffic noise and fumes and provide opportunities for rest and shelter. The South of South neighborhood has many smaller sized streets that are inherently quieter and have lighter traffic due to their size. These smaller streets or Urban Lanes typically have one vehicular travel lane with room for one or no parking lane. Garden blocks are also Urban Lanes though they are closed to vehicular traffic and reserved for pedestrians. Participants identified streets such as St. Albans, Kater, and Montrose as streets where people enjoyed walking and as examples of what people felt was positive about existing conditions.

A key improvement that would make Urban Lanes more Comfortable is to improve the sidewalk conditions. Since property owners are responsible for the sidewalk, the most efficient way to accomplish this is to create programs where property owners can work together to create a Consistent uniform walking environment. Property owners joining together for improvements would also be more likely to find matching funding as described in Chapter 11. An example of neighbors working together is at 21st and Fitzwater Streets where they removed dead trees, hired an arborist to educate neighbors, and bought and planted seven trees on the block.

The 2000 block of Kimball Street was selected as the Urban Lanes prototype because it has a lot of construction underway; this makes it similar to many blocks throughout the neighborhood. It also provides an opportunity to show how a block with a very narrow "footprint" could be transformed into a Comfortable walking route through a combination of neighbors working together and strategic public investments.

The Urban Lane prototype shows neighbors capturing the space between steps for rain gardens. The space between steps is often paved and not typically used as a pedestrian passage. Capturing this space for gardens would be appropriate throughout the neighborhood on virtually all street classifications. It is particularly appropriate for an Urban Lane where the sidewalk is often very narrow and there is little room for tree pits close to the curb. The prototype also shows two levels of lighting: for vehicles at the top of the lamp post, and for pedestrians at the bottom of the post. Pedestrian-level light makes walking at night more Comfortable and also more Conspicuous and Safe, particularly on low-trafficked streets. Banners can be hung on the lamppost and be used to capture neighborhood identity or designation of a historic or culturally significant place.

Kimball Street Existing Conditions

Urban Lane: Kimball Street

Streetlights and Pole-Mounted Pedestrian Lights

Streetlights with pole-mounted pedestrian lights offer a combination lighting system that illuminates both the vehicular roadway and the sidewalk. The pedestrian light fixture is mounted approximately 12' above grade on the vehicular pole. The lower-level pedestrian light fixtures allow for efficient distribution of light on sidewalks and enhanced visibility for pedestrians. This increases the sense of security for residents and creates an attractive nighttime environment.

Decorative Crosswalk

A decorative crosswalk could be integrated into all four crosswalks of the intersection. The crosswalk design would improve visibility of pedestrians and improve safety. The design would create a clear connection to Chew Playground and help unite the two neighborhoods located on either side of Washington Avenue. The design should reflect the individuality of the neighborhood and enhance the overall streetscape environment.

Signage

Permanent or temporary banners enhance the identity of the South of South neighborhood and create a sense of place. The banners can be installed on streetlight posts and add to the vibrancy of the public right-of-way. The choice of a lasting material is essential to a well-maintained and positive appearance.



10 Consistent and Sustainable

This plan seeks to incorporate best practices in stormwater management to ensure that design improvement prototypes use sustainable site design, otherwise known as Low Impact Development (LID). Using LID ensures that new development mitigates its impact on the environment and whenever possible improves the impact of development on the environment.

The neighborhood is served by a combined stormwater and sewerage system. All storm water runoff is discharged directly into the sewer system. Curbside streetscaping and traffic calming measures can be designed to reduce stormwater runoff. Such measures have proven successful in other cities with combined sewers and have reduced the need for costly regional projects such as underground detention basins. South of South residents are interested in implementing these techniques in their neighborhood.

Concerns over traditional stormwater management practices have been unfolding for several years and many recent Philadelphia Water Department regulations are focused on this issue. Traditional stormwater management practices require elaborate and costly structures. While safe and efficient at the site level, these structures cause regional and localized problems downstream such as stream erosion, poor water quality, reduced groundwater recharge, flooding, and other environmental problems. In an urban environment, a large number of impervious surfaces such as roadways, sidewalks, rooftops, and compacted greenfields displace large quantities of stormwater runoff and alter the balance between three critical factors: infiltration, runoff, and evapotranspiration. These are the critical factors that control stormwater in a natural environment. A new approach to site design and retrofit has evolved over the last decade in order to regain this natural balance. Rather than focusing on the large storm event, practitioners need to optimize management of small and frequent storms while also implementing control mechanisms for large storms. LID strategies are landscape features or site design elements that maintain or enhance the natural hydrologic function of a site. These LID techniques need to be carefully designed to fit into a site or streetscape. If designed correctly, they can be valuable urban design tools that serve an important function and enhance the visual appearance of a neighborhood. Implementing LID devices can contribute to:

- Reduced volumes of stormwater runoff carrying debris and pollutants.
- Decreased impervious surfaces that prevent infiltration and replenishment of the local groundwater supply.
- Greater localized transference of water through evapo-transpiration which helps reduce urban heat island effect.

The Philadelphia Stormwater Management Guidance Manual Version 2.0 emphasizes an integrated site design approach to stormwater management and the application of LID devices. Employing systems of distributed LID devices in streetscape design and promoting the disconnection of impervious areas creates a comprehensive approach to sustainable stormwater management. It should be noted the City of Philadelphia regulates the design of public streets and structural stormwater management practices (SMPs) are not typically permitted in the right-of-way. The City is looking to develop new green



street design regulations and it is important to identify future opportunities to implement LID elements. Strategies that can be employed in a future retrofit of the South of South streetscape include: planting vegetation, rain gardens, planter boxes, bioretention cells and permeable unit pavers.

Planting Vegetation

The Philadelphia Stormwater Management Guidance Manual Version 2.0 includes a discussion about street design and the opportunity to distribute SMPs throughout the right-of-way. One way to accomplish this is to utilize vegetated areas in streetscape design for water quality treatment and detention. Trees and vegetation reduce stormwater runoff and erosion. Precipitation is caught by tree canopies and increases the likelihood of evapo-transpiration. Integrating trees into urban transportation corridors increases green infrastructure while providing aesthetic benefits. Healthy urban tree canopies are estimated to reduce urban runoff volume 4 to 8% and peak storm runoff 10 to 20%. Creating a continuous root zone can help to promote a healthy tree growth environment. The zone (minimum 500

cubic feet per tree) allows space for the tree to expand and grow and helps alleviate some of the issues often associated with street trees-namely sidewalk heaving and cracking.

Other design features such as aeration strips under sidewalks or cantilever sidewalks would also benefit healthy tree growth. For high pedestrian traffic areas the root zone is recommended to include a modular structural cell system. This can support weight loads while preventing soil compaction which could adversely affect the health of the street tree. It should be noted that structural cell systems are costly and should be used only in areas where substantial investment can be made.

Rain Gardens, Planter Boxes and Urban Bioretention Cells

A rain garden is a shallow depression planted with native plants. The garden is designed to catch stormwater runoff from impervious surfaces. The water is then filtered through the soil layers naturally reducing the amount of pollution reaching the receiving waterways. Rain gardens are often planted near private residences and can be placed near the receiving end of downspouts. In this location, the rain gardens catch stormwater runoff from roofs and, depending on the soil type, allow natural infiltration into the soils. In effect, the downspouts are disconnected from adjacent sewers.

Planter boxes or raised planters installed alongside buildings can also act as a small-scale rain garden by retaining stormwater runoff. Flow-through planter boxes are designed with an impervious bottom or are placed on an impervious surface (Philadelphia Stormwater Management Guidance Manual Version 2.0). Much like rain gardens, water quality is improved with infiltration and the planters can reduce the overall stormwater volume and flow that reaches the local sewer system. Native plantings should be chosen



according to their saturation-tolerance and resistance to drought conditions. Planters can be placed alongside buildings if lined properly and the proper measures are taken to protect foundations. Perforated pipes are added at the bottom of the planter to convey filtered water to an appropriate disposal point. This process takes place at a slower rate than surface water thus reducing stormwater runoff peak rates.

Permeable Unit Pavers

Permeable unit paver systems are concrete blocks or stones with spaces or gaps between them allowing stormwater to flow through and into an underground stone storage area or a tree planting area. The permeable pavers can be used to treat roadway or sidewalk runoff. The paver system allows stormwater infiltration into the subsurface gravel base and encourages infiltration or partial infiltration into subsoils that filter and trap pollutants. This process improves the quality of runoff and the receiving waterway. In tree planting situations permeable pavers allow water to enter the tree root zone providing an essential water supply for trees. The permeable pavers should be placed over the entire length of the continuous root zone. Permeable paver blocks can also accommodate pedestrian foot traffic; however, in high traffic areas a modular structural cell system should be included to prevent root compaction. The use of permeable pavers in the sidewalk tree planting zone offers the following benefits:

- Promotes tree survival by providing air and water to roots.
- Durable, high-strength, low-absorption concrete units resist freeze-thaw and heaving.
- Reduces micro-climatic temperatures and contributes to urban heat island reduction.

Permeable Unit Pavers or Cobblestones



11 Commitment *A Community Implementation Plan*

Sustainability of the visions and designs for enhanced walkability in the South of South community requires an implementation strategy with a consistency of purpose and conviction. What is recommended is a shared reward regardless of whether the change agency is local government, an individual private citizen, resident, merchant or developer, a public utility or a community development organization. Partnerships are the foundation for evincing an ongoing commitment to improve walkability in the South of South community.

Cooperative commitment would guide responses to zoning issues, capital investment priorities, maintenance efforts, and grant request decisions for the community in the months and years ahead. While there may be refinements of the particular design concepts presented in the prototypes in this plan as the City of Philadelphia moves towards a new and more sustainable development framework, the common principles, identified over the course of this plan, must be encouraged and enforced to the maximum extent practicable.

A ten-year implementation plan was prepared with costs and phasing related to the final recommendations. The plan includes organizational sustainability with specific mechanisms for maintenance, such as a special services district that would maintain special urban design features like banners, landscaping, and pedestrian level lights. Potential funding sources for proposed improvements are listed along with actions that have minimal or no costs. The South of South Walkability Plan will be able to access a great diversity of funding streams since the plan addresses a number of different goals including community development, child safety and fitness, transportation enhancements, conservation, and watershed and open space protection. Organizing the opportunities to ensure that South of South continues to build on prior and ongoing initiatives to improve walkability as a Connected, Convenient, Conspicuous, Comfortable, Convivial, and an increasingly sustainable community is essential and within reach. The bulleted action points below with compact fluorescent lightbulb (CFL) lightbulb icons refer to pilot program ideas that are explored in more depth in this chapter. The following are some short-term actions that can begin immediately:

Short-Term or Immediate Action

You can partner with neighbors at little or no cost to do the following:

Keep your stoop lights on timers.

- + 1
- Appoint a Sidewalk Team to measure and monitor problems and progress.
- Coordinate with utilities, City departments, and local elected officials quarterly for planned improvements to public space, roadway, walkway, and curb reconstruction improvements and plans.
- Use block captains and other local leaders to spread the word.
- Institutionalize window box competitions.

Trees Purchased and Planted by Neighbors



Pilot Program Idea 1 Create a Sidewalk Team



Appoint three community walkability liaisons as the Sidewalk Team along with a Streets Department representative, a utility representative and area Philadelphia More Beautiful Commission district block captain.

What The Sidewalk Team would be a group of community and public stakeholders tasked with monitoring the implementation of improvement plans and coordinating them with other public and private projects in the neighborhood. The formation of the team would increase the possibility of leveraging other sources of funding and political support.

Why Empowering a diverse cross-section of community stakeholders with monitoring implementation increases ability to identify opportunities for input in public and private development plans moving ahead when they can be most effective.

Savings can result when a sidewalk is incorporated into a larger, more comprehensive infrastructure project. For example, although sidewalks and curbs can be constructed as a stand-alone project, they are often included in roadway, bridge or utility projects. The cost of sidewalk and curb construction can then be distributed among a larger number of stakeholders. Even unplanned work performed by a utility during emergency repairs can restore and replace sidewalks and curbs consistent with up-to-date guidelines with only minimal or incremental cost born by others.

How

- Reach out to all utilities quarterly for planned improvements, and make them cognizant of the need to replace or improve sidewalks when unplanned disruptions in streets and sidewalk conditions occur.
- Reach out to City departments and local elected officials, especially the Streets department, to stress the importance of knowing timing and plans for public space, roadway, sidewalk and curb reconstruction and improvements.
- Work with City Planning, Streets and Licenses and Inspections to provide guidelines in the form of a handout or brochure for development proposals, permit, zoning and construction requests.
- Introduce team members to new residents and businesses; share vision and guidelines.
- Use block captain organization and other local leaders to spread the word on vision and guidelines beyond reliance on electronic communications. Designate a single entity such as SOSNA to serve as scribe and secretary of the efforts.

When Establish the Sidewalk Team as soon as possible upon the release of this plan.

Cost Volunteer time and duplication of materials.

Requiring additional implementation time, effort, partnering and coordination among and between community business and civic organizations and local government, the South of South community can build on its own initiatives and adopt some best practices from other Philadelphia communities and neighborhoods initiatives across the nation.

Mid-Term Action

Partner with local businesses and government to find matching funds to do the following:

- Continue success of 100 Trees for South of South:
 - Home Depot Foundation, Community Trees Program.
 - Pennsylvania Department of Conservation and Natural Resources, Community Forest Grants Program.
 - TreeVitalize is a public/private partnership spearheaded by the Pennsylvania Department of Conservation and Natural Resources (DCNR). The partnership is working to restore tree cover in Southeastern Pennsylvania where more than 5 million trees have been lost in the past 15 years. For more information visit: www. treevitalize.net.
- Use block captains to identify blocks for clean-up competition.
 - Philadelphia Department of Streets, More Beautiful Committee Clean Block Contest.
- Partner with local business owners for litter disposal and specialized recycling containers such as *Big Bellies* (illustrated in the image above right).
 - Philadelphia Department of Streets, street furniture contractors and small grant application programs.
- Initiate sidewalk incentive match program with SOSNA.
 - A Tree Ate My Sidewalk set-aside.
 - Sidewalk Renew commitment from all property owners on a block
- Install pedestrian level lighting fixtures on existing street light poles.
 - Seek donations or discounts on lights from area business for use in outdoor fixtures, as part of a community greening and lighting initiative.

Big Belly

Big Belly Solar Trash Receptacles compact the trash that is deposited in them so they have five times the capacity of ordinary trash receptacles. They are powered entirely by solar energy and can reduce collection costs through fewer trips.



- Significantly upgrade and improve school sites to benefit the community:
 - Trees and sidewalk planters to help break the monotony of the pavement and, when placed at the edge of the sidewalk, function as vehicle traffic buffers.
 - Bulb-out sidewalk extensions and pavement markings to reduce crossing distance and create better visibility.
 - Bike parking to encourage young residents.
 - School flashers.
 - · Prioritizing improvements in vicinity of schools.
 - Comprehensive resurfacing of the sidewalks with decorative paving to ensure a safe route to schools.
 - School flashing traffic signals.
 - A campus loop that uses a common vocabulary of design improvements to connect all three neighborhood school and community centers could benefit everyone.

Pilot Program Idea 2 Commit to a Continually Clean Community



Why The community survey revealed a strong consensus that the way to make walking more inviting was to reduce litter and street trash. There is a perception that the major contributors are: (1) ongoing impact of construction and related debris; (2) food and drink waste from area takeout facilities; (3) need to increase understanding of importance of cleanliness among all members and ages of community; and (4) lack of public trash receptacles.

Who Annual spring cleanups are terrific but staying on top of litter and trash requires constant vigilance and ongoing education led by the *Sidewalk Team*, the City's SWEEP and Sanitation Enforcement Officers and business owners, especially those along the main commercial and mixed-use streets. For this pilot program to be successful, residents throughout the South of South neighborhood must be fully committed to playing an active role.

How

- Work with council representative to publicize and then launch a neighborhood sanitation violation enforcement blitz.
- Capitalize on efforts underway on South Street and Avenue of the Arts with groups like Ready, Willing and Able.
- Close the loop with new voluntary assessment programs for Washington Avenue, Grays Ferry Avenue, and Schuylkill Avenue, identify business and corporate sponsors and coordinate with City street cleaning schedules.
- Sweeping two to three times a day is ideal as the well-funded Center City District accomplishes this along with periodic steam cleaning.
- Frequency of cleaning can be calibrated to match the pedestrian volumes of South of South and commitment of stakeholders.
- There is an ongoing public policy debate about whether trash receptacles create more or less mess. Several approaches should be field-tested. Work with the Streets Department and Public Property's street furniture contractor and small grant applications program to:
 - Secure pilot program for 22nd Street and/or Christian Street possibly using the solar-powered Big Belly trash receptacles currently being tried in Center City and University City.
 - Select 3-6 heavily used Center City-bound bus stops on Grays Ferry Avenue and 16th Street to locate municipal receptacles.
 - Explore the strategic placement of on-street public recycling receptacles for South Street, Marian Anderson Recreation Center and Chew playground.

When SOSNA and South Street businesses are already working on a long-term street and sidewalk cleaning program. Once it is in full swing, "peer pressure" and economies of scale should motivate others to join in.

Cost Manual sidewalk sweeping costs between \$25,000 and \$75,000 per year using shared private dumpsters or city-supported disposal. To deploy six Big Bellies at the busiest locations would cost \$3300-\$4000 per receptacle, plus annual collection costs. Municipal litter and recycling bins cost \$300-\$500 each, plus inclusion in sanitation and recycling routes.

Pilot Program Idea 3 Make it Simple: A Sidewalk Improvement Match Program



Why Property owners have primary liability for the condition of the footways abutting their property. Cost is a major impediment for many owners to make necessary repairs and improvements. Furthermore, the current diversity and patchwork of pavement materials and conditions, and narrow lot size for most structures promises the most cost-effective and aesthetically pleasing outcome if multiple property owners act in cooperation. Significant contributors to broken sidewalks are aged street trees which can impact several properties along with subsidence issues, sidewalk voids, utility repairs and upgrades. There is no unified paving formula but the community, be it one block or several, can adopt a distinct formula to be used moving forward. The outcome could be one of many paving options.

Who A local non-profit community development organization establishes a competitive grant program in cooperation with owners, Fairmount Park, Philadelphia Horticultural Society, Streets Department, and grant funding with two separate categories. This builds on the street tree planting initiative.

How

- Set annual grant application cycle in the fall for following spring.
- The Spruce Hill Block Improvement Grant program utilizes membership dues for matching funds. This is a good model to duplicate in South of South for the purpose of eliciting direct contributions of committed property owners, blocks, and adjacent pairs of blocks.
- Category 1: A Tree Ate My Sidewalk set-aside (single property):
 - Single or adjacent effected property owners commit to 50/50 match for replacement of sidewalk and tree if needed.
 - Community organization takes pro-active approach in identifying worst pedestrian conditions and working to solicit participation.
- Category 2: Sidewalks Renew (block):
 - Applications indicating commitment from every property owner along a single block face on one or both sides of a street willing to provide 75% of the cost for replacement building line to curb.
 - Priority points in review for efforts which include planters and window boxes, outdoor house lights, or benches adding comfort and conviviality to the block.
- Celebrate success after project completion.

When Organization and earmarking the first pot of dollars will determine the size of the program, and grant terms and conditions. Goal should be set to solicit first round of applications in time for the 2009 construction season.

Cost 5-foot-wide brick, concrete, bituminous or aggregate sidewalk per foot can range from \$40 to \$140 depending on whether it includes new curbs and material choices. An initial goal of \$20,000 annually can make a difference block by block; particularly for the narrow footways of urban lanes.

Pilot Program Idea 4 Light up the Night



Why Pedestrian lighting sends a message which encourages pedestrian traffic and enhances the community security and local business exposure. The initial community survey raised both real and perceived concerns with crime and safety in the neighborhood. Separate roadway and footway pedestrian-scaled lighting schemes are expensive to install, maintain and power. A majority of City sponsored pedestrian lighting streetscapes have historically been part of comprehensive public-private partnerships along major retail corridors with high pedestrian volumes. Other than limited strategic improvement plans for designated corridors, it is unlikely that a universal program for publicly provided pedestrian scaled lighting would ever be implemented.

How

- Advocate for installation on existing street light poles clamp-on pedestrian level fixtures within a one and a half block radius of every school, school yard, recreational facility, park.
- Work with the City to identify any locations where an illuminated bus shelter could be placed to benefit riders and neighbors.
- Seek bulk donations or discounts from area businesses for CFLs for use in outdoor fixtures, timers and/or fixtures themselves as part of a community greening/lighting initiative to encourage neighbors to leave their stoop lights on.
- Seek to incorporate pedestrian lighting in any major streetscape improvement project.
- Explore solar powered lights as a way to be green and save dollars.

When A lighting working group should be established among existing stakeholders upon the release of this plan to determine available local resources for neighborhood lighting initiatives and track planned streetscape improvement projects over the long term so that pedestrian lighting can be incorporated into such projects.

Cost Variable depending on effort.

Streetlighting in Center City

Pilot Program Idea 5 Initiate Discussion and Implementation of School Site Improvement Plans



What The Walkability Plan school site improvement plans are integral to enhancing the livability of the SOS neighborhood. The school sites' importance to a unique set of stakeholders is both an advantage and a challenge in realizing the improvement plans. To best engage these stakeholders, a separate school site-focused working group would be established to see the improvement plans through to completion.

Why The proposed school site improvements benefit the entire community. They compliment the Center City District's school focus and strategy of targeting discrete locations and completing specific projects with increased likelihood of attracting funding from a mix of public, private, and foundation sources.

Who Participants may include the City Chief Education Officer, Planning Commission Executive Director and staff, Philadelphia School District superintendent, principals of C.A. Arthur School, E.M. Stanton School, and Universal Charter School, CCD representative.

How Consultant team to provide briefing on design schemes with expectation that a leader in City government and neighborhood partners will be designated to implement the plan goals.

When Set briefing date with new school site-related stakeholders within 90 days of the Philadelphia City Planning Commision's receipt of final report.

Cost If the site improvement plans depicted in this study were to be implemented throughout the entire walk-to-school zone, the total cost for the zones around C.A. Arthur School, E.M. Stanton School and Universal Charter School is in the range of \$1.5M to \$2M.

Big changes require big commitments of resources and community will. To successfully press for implementation of each of the prototype streetscape designs, action on several fronts is required over the next decade. These include the following:

Long-Term Action

One can make institutional changes in neighborhood policies and practices to:

- - Federal, State and local dollars through the Delaware Valley Regional Planning Commission, for programs such as *Home Town Streets & Safe Routes to School Programs and Transportation Enhancement (TE).*
 - Pennsylvania Department of Community & Economic Development, *Urban Development Program (UDP)*.
- Develop and Implement a Community Vision for Revitalization and Growth.
 - Urban Land Institute, Community Action Grants; Pennsylvania Downtown Center, Planning Grant.
- Reconnect to regional economy through neighborhood sustainability efforts.
 - William Penn Foundation, Grant Program for Promoting Sustainable Regional Development through Environment & Communities.
- Establish tax increment financing (TIF) district or business improvement district (BID).
 - Portion of tax revenue is dedicated for specific purpose, such as lighting public space amenities, etc.
- Federal Surface Transportation law: shape projects to meet prioritized focus areas in 2009.
 - With the expiration of the federal appropriations law, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in Fall 2009, and a pending new authorization and a new party in power in the executive branch, the entire federal approach and local matching requirements of the past could become moot, including any programmatic sources. The community should be organized and prepared to respond to new potential funding sources.

Pilot Program Idea 6 Press for Implementation of Each of the Prototype Streetscape Design Improvements



Why The proposed streetscape design improvements outlined in the Walkability Plan are a result of the efforts and objectives of the stakeholders involved in the South of South Walkability project. Their realization is crucial for building on the neighborhood's existing assets and enhancing the connectedness, safety, attractiveness, comfort, and sustainability of the South of South neighborhood.

Who Residents, Community organizations, Elected Officials, Local, Regional, State, and Federal Officials.

How Public streetscape, community, and transportation improvements to infrastructure and operations can be programmed and funded in a variety of ways.

Traditional potential public sources for capital improvements include:

- US Department of Transportation surface transportation program dollars under the 2005 SAFETEA-LU transportation appropriations act. Although currently set to expire in 2009, there may be time for reprogramming or directing remaining funds. Funds available include core formula programs and discretionary competitive programs. More information about SAFETEA-LU is available at the US Department of Transportation/Federal Highway Administration's website at http://www.fhwa.dot.gov/safetealu/summary.htm. Examples of programs are:
 - Transportation Enhancement Program focuses on safe bicycle and pedestrian facilities, scenic routes, transit stop and roadway beautification, and other investments to increase opportunities for recreation, accessibility, and safety for everyone. Funding is provided through an 80 percent federal and 20 percent state or local match.
 - Safe Routes to School Program provides funding to make walking and bicycling to school safe and routine. Grants are available to help plan and build safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school.
 - Congestion Mitigation and Air Quality Improvement Program is authorized for transportation projects within non-attainment areas, such as Philadelphia, defined by the Clean Air Act Amendments of 1990. To be funded, projects must contribute to attainment of the National Ambient Air Quality Standards. Funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle and pedestrian activities. Funding is provided through an 80 percent federal and 20 percent state or local match.
 - National Highway System (NHS) funding is programmed through Metropolitan Planning Organizations in coordination with state and local governments and in addition to roadway improvements can be used for pedestrian walkways on land adjacent to any highway or roadway on the National Highway System. Funding is provided through an 80 percent federal and 20 percent state or local match.
 - The Federal Transit Administration has several programs, both by formula and through discretionary grants to spur transit oriented development and provide transit related amenities such as shelters, next bus information systems, and transit related stop signage which can be incorporated into other streetscape improvement efforts.

- The US Department of Housing & Urban Development (HUD) Community Development Block Grants (CDBGs) provides grants for neighborhood revitalization, economic development, and improvement of community facilities and services, especially in low and moderate income areas. These grants require no match of funds or services from the community. HUD provides entitlement to each of these communities annually and the community develops its own programs and sets funding priorities. More information on CDBGs can be found at: http://mf.hud.gov:63001/dgms/gpi/display.cfm? program=25.
- Pennsylvania's Transportation Enhancements, Home Town Streets and Safe Routes to School Programs draws upon and supplements federal programs. See http://www.dot.state.pa.us/Penndot/Bureaus/CPDM/Prod/Saferoute.nsf . See also http://www.dvrpc.org/transportation/capital/hts_srs.htm.
- Pennsylvania's Department of Community and Economic Development has an urban redevelopment program with grant opportunities. See http://www.newpa. com/programDetail.aspx?id=81.
- Pennsylvania Downtown Center manages the Elm Street Program which dispenses planning grants, Elm Street Designation, and Residential Reinvestment grants which may be applicable to some community corridors. See http://www.padowntown.org/programs/elmstreet.
- Pennsylvania's Department of Conservation and Natural Resources as noted above is working in urban areas to add tree cover under TreeVitalize (www. treevitalize.net) and has several programs which focus on investing in community open space improvements.

When Block by block or corridor by corridor, projects need to be carefully planned and incorporated into the local, regional, and state 12 year transportation improvement plans and programs under traditional public funding programs.