

US EPA ARCHIVE DOCUMENT



Greening the City-County Building Plaza and the City Market East Plaza

Greening America's Capitals Indianapolis, Indiana



Office of Sustainable Communities
Smart Growth Program

GREENING AMERICA'S CAPITALS

Greening America's Capitals is an EPA program to help state capitals develop an implementable vision of distinctive, environmentally friendly neighborhoods that incorporate innovative green infrastructure strategies. In collaboration with U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (DOT) through the Partnership for Sustainable Communities, EPA provides design assistance to help support sustainable communities that protect the environment, economy, and public health and to inspire state leaders to expand this work elsewhere. Greening America's Capitals will help communities consider ways to incorporate sustainable design strategies into their planning and development to create and enhance interesting, distinctive neighborhoods that have multiple social, economic, and environmental benefits.

EPA chose Indianapolis, Indiana in 2012 as one of five state capital cities to receive this assistance, along with Baton Rouge, Louisiana; Des Moines, Iowa; Frankfort, Kentucky; and Helena, Montana.

Find more information about Greening America's Capitals is at www.epa.gov/smartgrowth/greencapitals.htm

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EXECUTIVE SUMMARY

The city of Indianapolis has long been a leader in integrating green design principles into their urban design and planning projects. City leaders have identified another opportunity to continue its greening efforts by creating a Green Civic District in the southeastern portion of the downtown. The city applied to the U.S. Environmental Protection Agency for assistance through the Greening America's Capitals program to focus on redesigning two plazas that will both be important open spaces in the district: the City-County Building Plaza, and the City Market East Plaza. Both plazas are currently underutilized but have the potential to serve as a model for green design for visitors, employees, and residents.

The city of Indianapolis would like redesign of the two plazas to achieve multiple goals:

- Be flexible yet support multiple year-round activities, including social gatherings and recreational activities.
- Improve bike and pedestrian connections to the rest of the downtown and the proposed adjacent developments.
- Feature sustainable design and green infrastructure features that can be a model for the rest of the city and help earn LEED certification for the City-County Building.

EPA hired a design team that assessed site conditions and led a three-day workshop that gathered input from city staff, community stakeholders and the community at large. The workshop solidified a vision for each plaza that included the desire for more greenspace, increased activity, simplified circulation paths and better integration with the Cultural Trail. The design concept for each plaza reorganizes the space to create direct walking paths and accessible green spaces, while integrating spaces for activity and events, amenities for bicycle and transit riders and increased plantings. City staff and key stakeholders also worked with the design team to formulate short-, mid-, and long-term strategies for funding and implementation.



Figure 1: Design concept for the City Market East Plaza.



Figure 2: Design concept for the City-County Building Plaza.

1 INTRODUCTION

The city of Indianapolis applied to EPA for assistance to redesign two public plazas located in the southeast quadrant of downtown Indianapolis—the City-County Building Plaza and the City Market East Plaza (Figure 3). The city wants to make the area around the plazas a “Green Civic District” that would include the City-County Building, the City Market, the future IndyGo bus hub on the south side of Washington Street and the future mixed-use development to the east of North Alabama Street. The two plazas serve as the primary open spaces in this area of the city. EPA hired a design team to assess the current plazas and surrounding neighborhood, organize a design workshop and develop a set of design options that illustrate green and sustainable design.

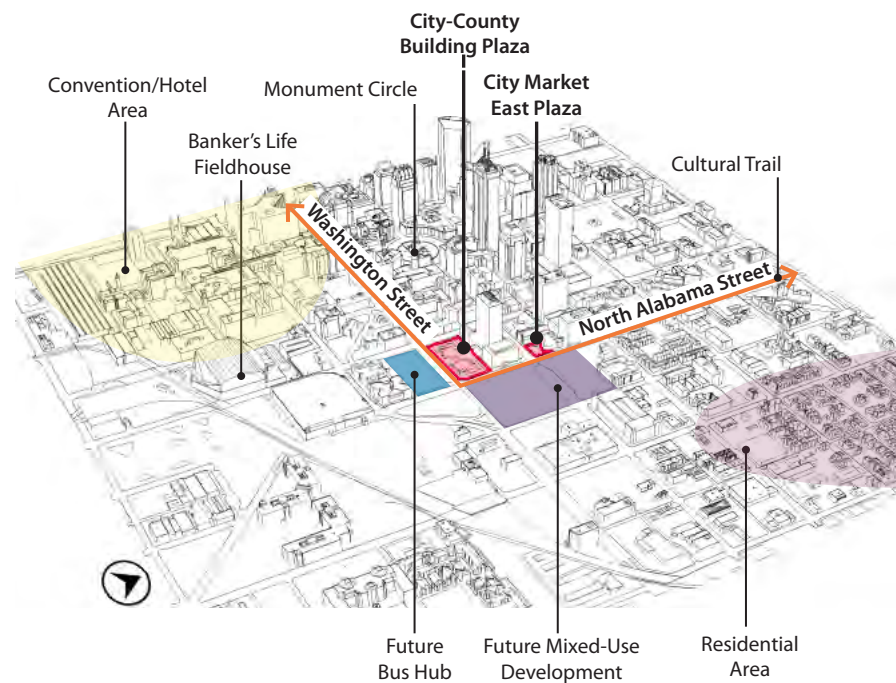


Figure 3: A context map of the site within the southeast quadrant of the downtown.

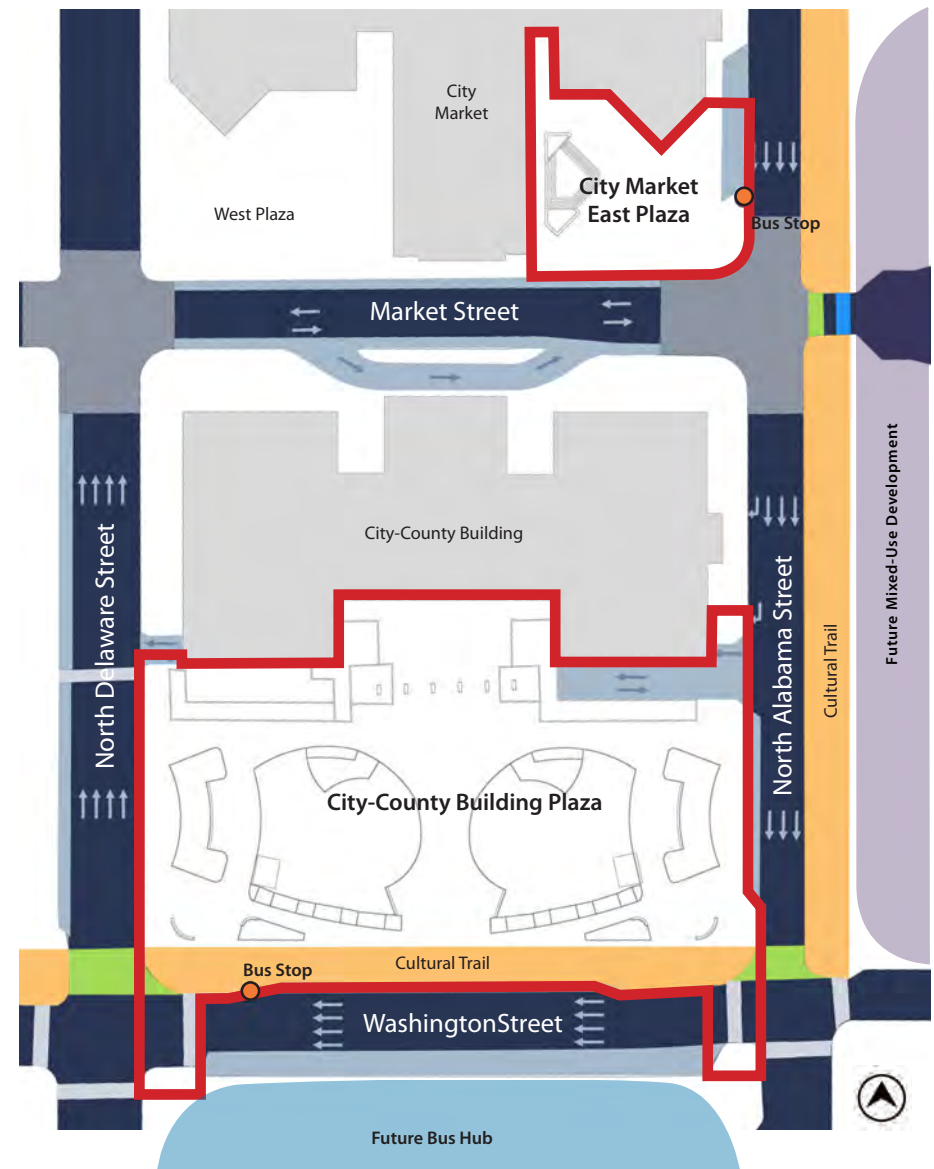


Figure 4: A map showing the location of the two plazas, the traffic flow around the plazas, and the proximity to the Indianapolis Cultural Trail.

The plazas are located along the Indianapolis Cultural Trail—a well-used, eight-mile urban greenway with bike and pedestrian paths that connects downtown neighborhoods, cultural districts, and other amenities and attractions. The trail also has green infrastructure features that include rain gardens that collect stormwater runoff and allow it to naturally infiltrate into the ground and be cleaned in the process (Figure 5). In addition to cleaning the water this reduces flow into the city sewer system. The city would like similar green infrastructure features in the design options for both plazas to improve the look of the plazas and address stormwater runoff issues.

City staff and the building managers for both the City-County Building and the City Market would also like to see more activity occur in the plaza. Currently most people just pass through the plazas and few stop because there really is nowhere comfortable to sit and nothing to do. People on the Cultural Trail also tend to walk or ride by without stopping.

The design team listened to the concerns and wants of many people during a three-day workshop and developed design options for each of the plazas that could serve the needs of the current and future population of downtown Indianapolis, and use green infrastructure to improve the look of the plazas, as well as manage stormwater runoff.



Figure 5: Raingardens along the Indianapolis Cultural Trail collect and absorb stormwater runoff. These gardens are an example of green infrastructure. Image provided by the City of Indianapolis.

2 PROJECT AREA

CITY-COUNTY BUILDING PLAZA

The City-County Building Plaza was constructed in the early 1960s on the site of the former courthouse. The 28-story building has 4,000 visitors a day, many of whom enter through the plaza. The plaza gets little use aside from being a pass-through to the building's entrance. The dominant feature of the plaza is the raised planting beds that are inaccessible to people and hinder views into and out of the plaza (Figure 6). The planters are made of black granite blocks that can be reused in the future design of both the City-County Building Plaza and the City Market East Plaza.

The plaza sits atop a parking garage that stretches from the building to the property lines (Figure 7). Because the plaza is on the roof of the garage, soil has to be mounded up in areas to allow plants and trees to grow (this is why the current planters are raised). The garage has two existing exhaust vents, two emergency exits, and an access ramp that cannot be moved, and therefore will need to be integrated into any new design.

Foot traffic through the plaza could increase significantly with the construction of the new IndyGo bus hub across Washington Street and the proposed mixed-use development across Alabama Street. Both adjacent projects have the potential for strong physical connections to the plaza through safe crosswalks and welcoming visual gateways. The new design of the plaza could provide amenities and activity spaces complementing these and other adjacent uses.

The building has recently undergone \$8 million in sustainability upgrades, and the city is now looking to redesign the plaza to meet the same level of sustainability. Upgrades to the plaza could support LEED (Leadership in Energy and Environmental Design) certification for the building (See Appendix A for possible LEED credit points).

The Indianapolis Cultural Trail runs along the southern edge of the plaza within the right-of-way of Washington Street. The trail is a 7.5-mile path that connects five downtown cultural districts. In addition to a walking and biking path, the trail has a "super planter" that collects, treats, and infiltrates stormwater runoff. The trail also includes an abundance of shade trees.



Figure 6: A view into the plaza showing the raised planting beds that are inaccessible to people.

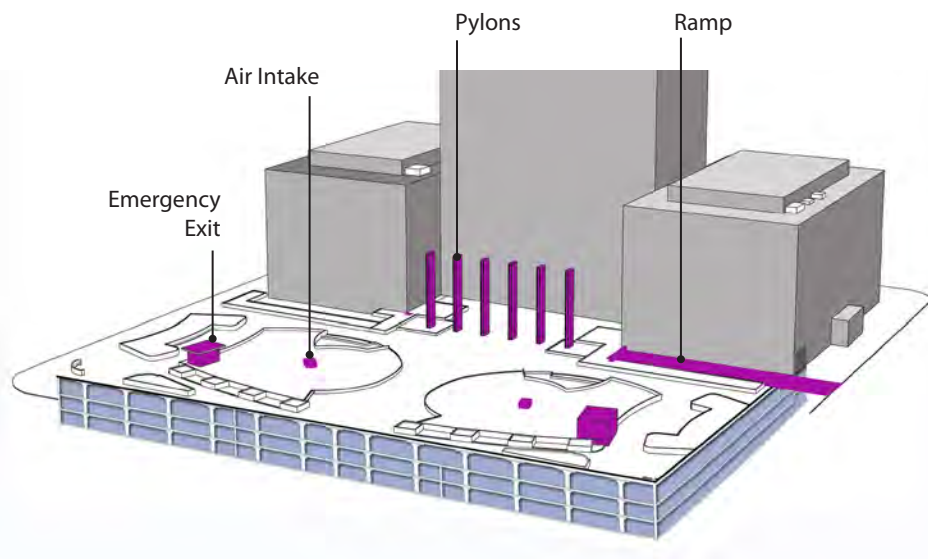


Figure 7: The parking garage under the plaza serves employees of the building. The rooftop condition limits planting depths and determines how much stormwater can be captured for reuse. The garage vents, exits, and ramp cannot be moved and will need to be incorporated into the design.

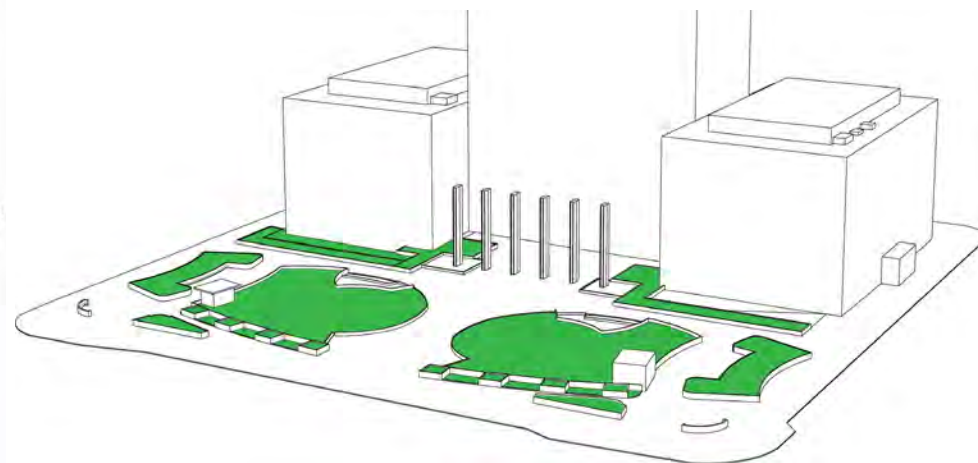


Figure 8: Roughly half of the plaza area is planted in raised beds.

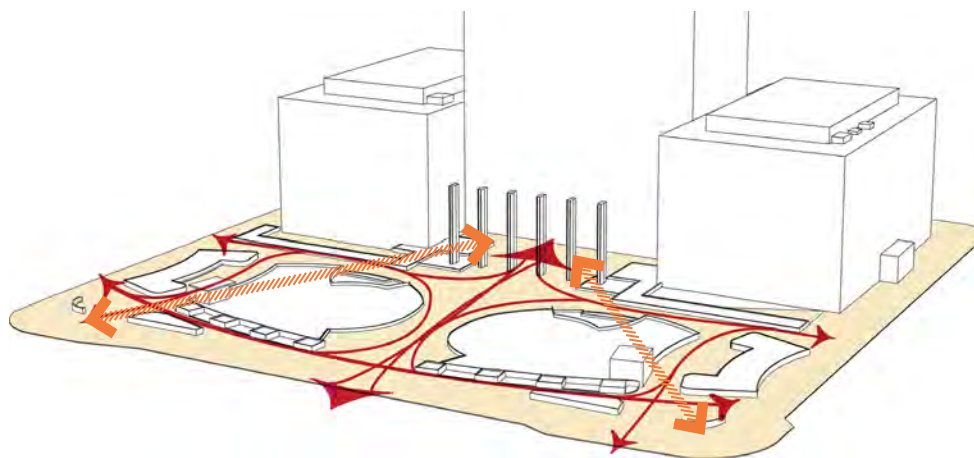


Figure 9: The pedestrian circulation (shown by red lines) is awkward for those who want to access the buildings from the street corners (shown in the orange dashed lines).

CITY MARKET - EAST PLAZA

City Market - East Plaza is located on the corner of Market Street and North Alabama Street. The market was established in the 1880s, serving a thriving downtown with fresh produce, bread, cheeses, meats, and fish. The market closed in the 1960s, but was renovated and reopened in 1977. The renovations included the addition of new building wings to the east and west fronted by half-acre plazas. The west wing currently houses a civic gathering space known as The Platform. The west plaza is a popular outdoor lunch spot and is being redesigned to include indoor-outdoor restaurant/pub seating along the market building. The east wing addition currently houses a YMCA and the Indy Bike Hub, which provides cyclists with storage and service under one roof with showers and changing rooms. The YMCA/bike hub is conveniently located along the Cultural Trail which runs along the eastern side of North Alabama Street across from the plaza.

East Plaza is not very inviting and functions primarily as a pass-through to the YMCA's main entrance and the side door of the City Market. A driveway and some parking spaces that were in the plaza were recently removed, leaving a large concrete and brick expanse. A sunken fountain along the City Market wall has not functioned for years.

Since 2010, the managers of the City Market have been looking for ways to use the plaza for market and YMCA events and incorporate some sustainable design features to capture and treat stormwater. In 2010 they received a \$20,000 stormwater reclamation grant from United Water (the operators of the city's water and wastewater systems) to redesign the fountain. The design process stalled out in 2011 due to lack of additional funding, but the managers of the City Market hope that the Greening America's Capitals project will kick-start efforts to redesign the plaza.



Figure 10: View of the plaza from Market Street showing the excessive amount of paving and lack of green space.

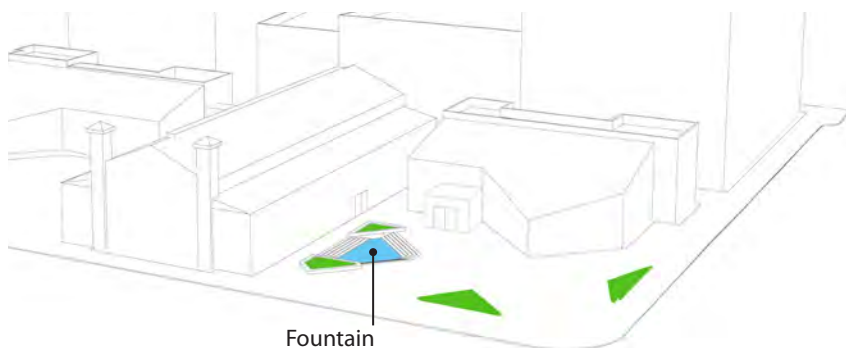


Figure 11: A small percentage of the current plaza is planted, while an inoperable sunken fountain occupies a significant amount of space along the City Market building.

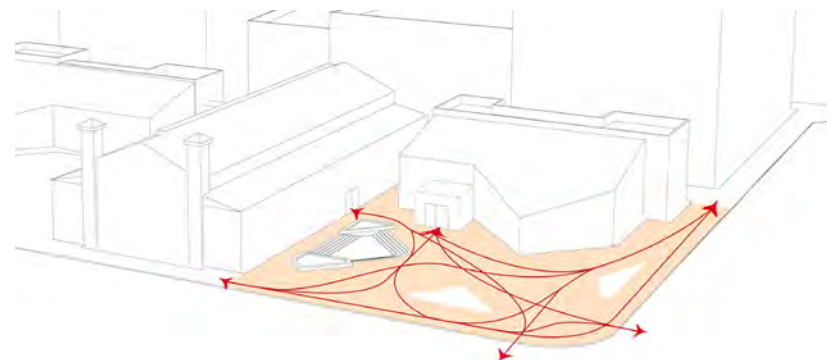


Figure 12: A plaza redesign should allow for flexible circulation to the many access points. The City Market stakeholders requested a strong path from the busy street corner to the building entrance (shown by the dashed orange line).

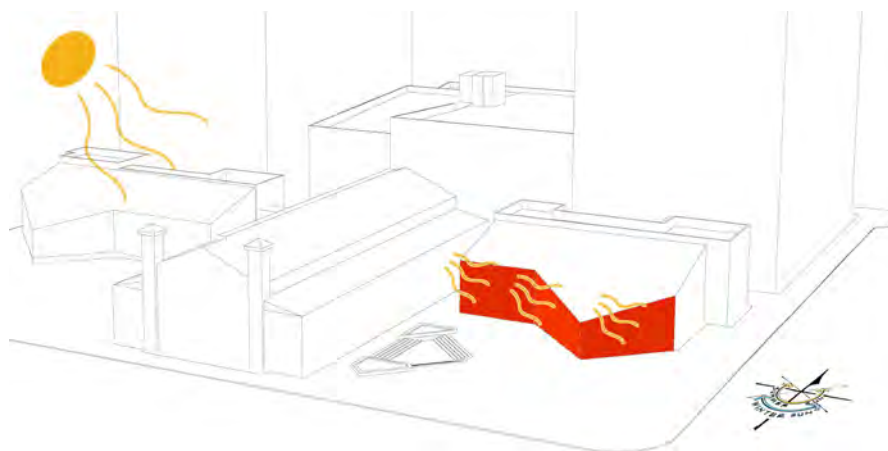


Figure 13: The south-facing solid brick wall and windowed walls of the YMCA/bike hub absorb the heat of the sun creating uncomfortable temperatures in the building during the warmer months.

3 PUBLIC WORKSHOP

The design team held a three-day workshop March 19-21, 2013. The workshop included four interactive focus group sessions—one on green Infrastructure, one on implementation and funding, and one for each of the plazas where participants shared their ideas for how the plazas could be improved. Participants included city staff representatives, building managers from the City-County Building and City Market, market vendors, community members, and several design professionals. The design team held a public open house at the end of the second day that showed design progress, and a wrap-up presentation on the last day where they displayed the final design concepts and asked participants “if they got it right.” Participants believed they had.

The following project goals emerged through the workshop:

Overall Goals

- Make the plazas examples of sustainable design.
- Use simple, unified materials for paving, walls, seating, and plantings.
- Integrate the Cultural Trail into the design of the plazas.
- Keep future users in mind for design of the bus hub, residential community expansion, and proposed multi-use development.

City-County Building Plaza Goals

- Provide space for many different activities.
- Provide greenspace that is accessible to people.
- Manage and treat stormwater runoff through green infrastructure.
- Design clear lines of sight through the plaza.
- Make crosswalks wider and more visible across Washington Street to the future bus hub.

City Market - East Plaza Goals

- Create more green space and remove paving.
- Remove or redesign the fountain.
- Draw activity from buildings into the plaza such as fitness classes and market stalls.
- Reinforce the circulation path from the street corner to building entrances.

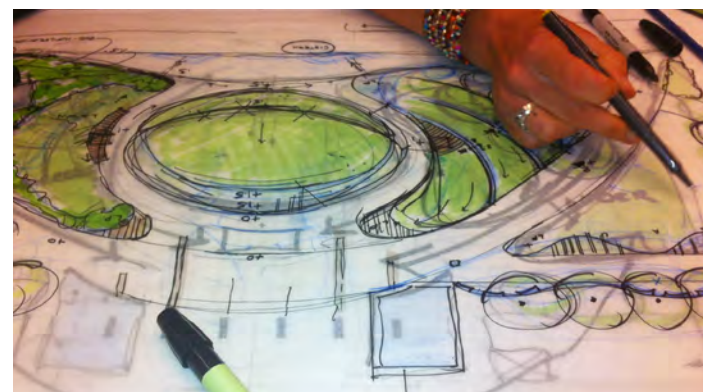


Figure 14: A design concept takes shape for the City-County Building Plaza.



Figure 15: Wrap-up workshop presentation at The Platform.

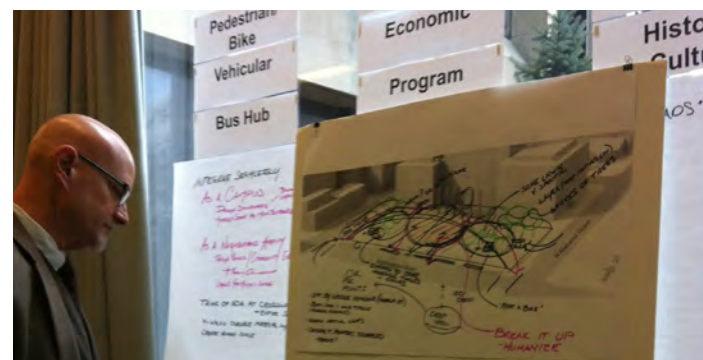


Figure 16: Notes from the focus group sessions on display.

4 DESIGN CONCEPTS CITY-COUNTY BUILDING PLAZA

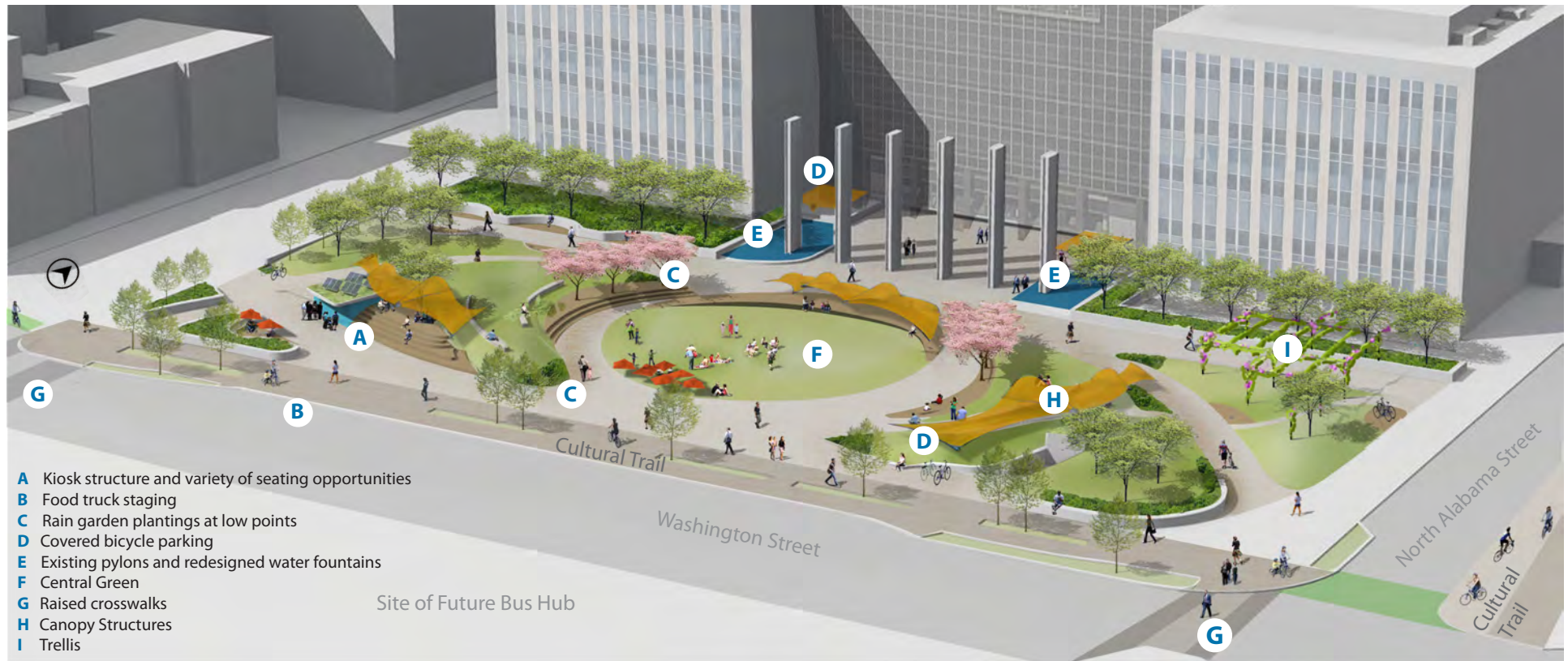


Figure 17: City-County Building Plaza design concept.

The vision for the City-County Building Plaza responds to the community's primary request for a year-round active, vibrant space. The plaza would not only be used by downtown workers and visitors, but eventually by the residents of the new development proposed to the east of the plaza. In the design option, the plaza will be reorganized around a central green flanked by direct paths of circulation. This lawn could be converted into a skating rink in the winter. Perimeter walls will be kept to a minimum, allowing people to enjoy the lawn areas. Where there are walls, they are low and used for seating. The seating walls and some stepped seating decks serve as retaining walls where soil is mounded for tree planting since plantings must be elevated due to the parking garage below. The trees will help shade the plaza to provide a comfortable pedestrian space. Kiosks will provide space for food vendors and other amenities, and could be covered by green roofs and solar panels. Additional vendors such as food trucks could park nearby along Washington Street.

Canopy structures and trellises will create a dynamic visual presence, define zones, and provide shade and scale where it may not be possible to plant trees. Canopies also funnel stormwater to various catchment systems, including cisterns that sit on the plaza roof; deep cisterns located under the perimeter sidewalks; and shallow tray systems located under both paving and planted areas (Figure 18). Water for irrigation and fountain use could be pumped from the cisterns, while the trays could provide water directly to root systems of lawn, trees, and shrubs. Plantings in beds on the edge of the lawn areas can filter runoff so that water is taken up by the plants' roots and evaporated through a process called "evapotranspiration." These beds are also known as rain gardens. Bicycle parking, including sheltered parking, will be integrated throughout. Materials from the existing plaza, primarily the granite walls, could be reused in new seating walls and paving. Raised crosswalks provide a strong visual connection and safer crossing to the new bus hub across Washington Street.

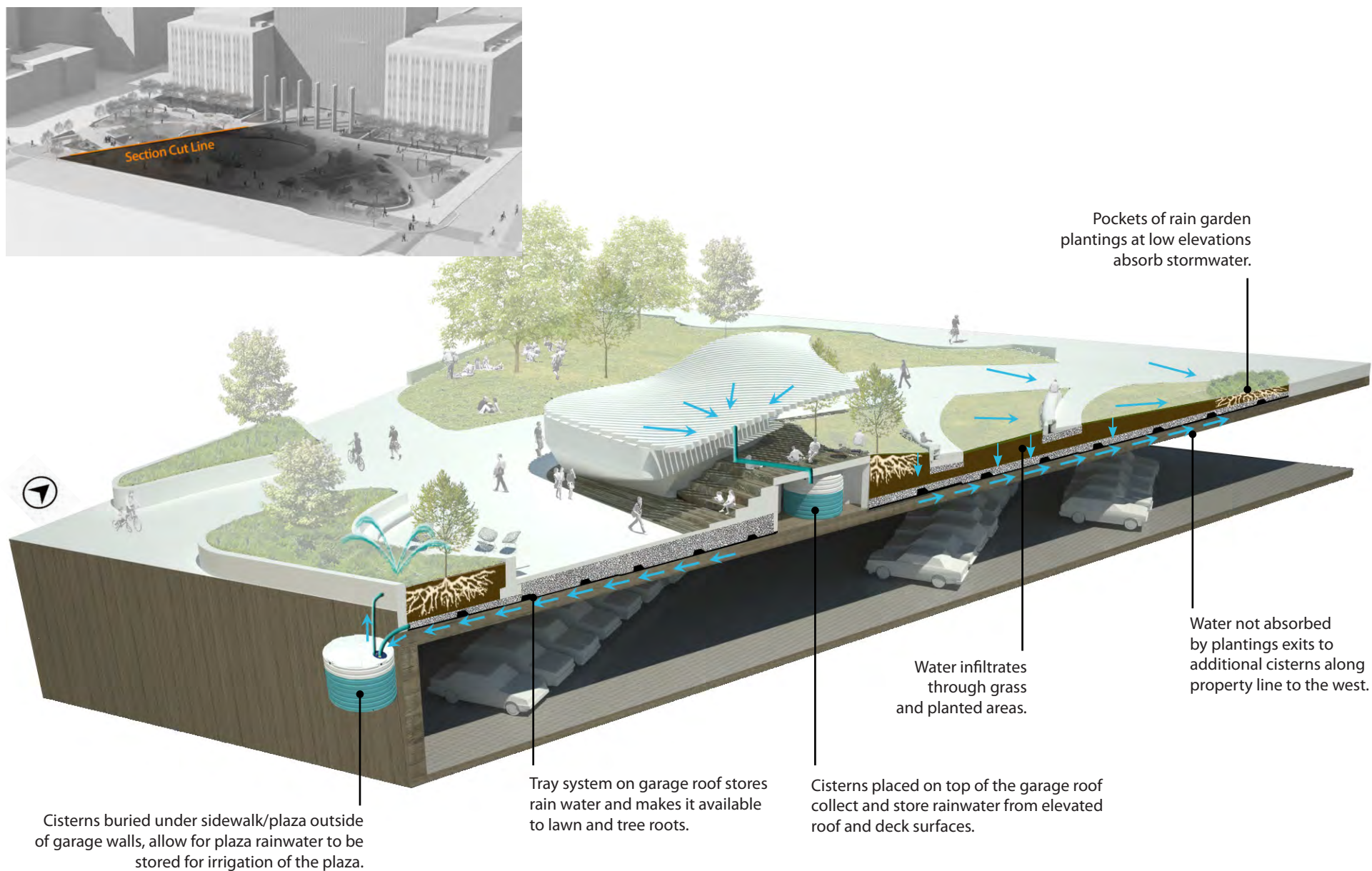


Figure 18: Section cut across the City-County Building Plaza concept illustrating potential green infrastructure solutions (water flow is represented by the blue arrows).

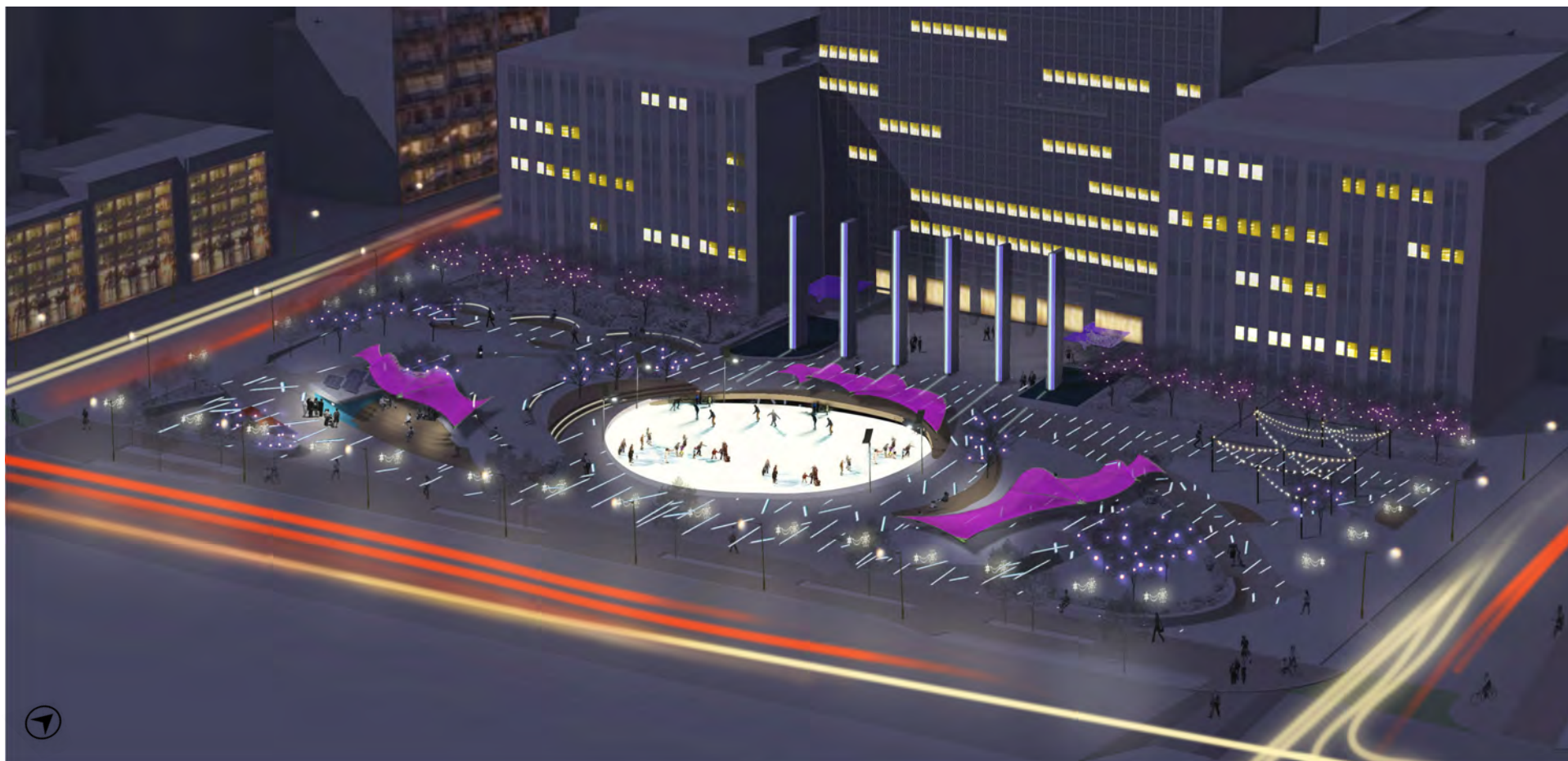


Figure 19: Winter evening view of the City-County Building design concept.

The design concept seeks to generate year-round activity as well as evening interest. In the winter, the central lawn could host an ice rink while the kiosks could rent skates and sell hot chocolate and other cold-weather treats. This would create a unique cold-weather destination in the city that would also generate revenue.

The night lighting scheme itself could be a reason to visit the plaza. The existing granite pylons could be treated with a simple LED light bands, updating this original feature of the plaza with 21st century technology. Glowing bands of light could accent the curvilinear shapes of the paths, walls, decks and seating, creating safe

pedestrian areas while minimizing light pollution and the clutter of poles. Vibrant accent lighting could highlight architectural features and activity spaces throughout the plaza.



Figure 20: View into plaza and the kiosk area from the southwest corner.

This view captures the approach to the City-County Building from the intersection of Delaware Street and Washington Street. While a main pathway will curve toward the building entrance, a series of kiosk windows serve the bustling corner where the Cultural Trail, new bus hub, and plaza meet. The community requested that the kiosk concept be designed for flexibility in programming. The kiosk also screens the existing emergency exit structure for the parking garage. This structure could include public restrooms or act as a screen for portable restrooms that could be brought in

seasonally or for specific functions. To the right, seating is visible at the plaza level and on raised decks that offer prime views for people-watching at the sidewalk and of the central green beyond. The raised deck will also allow for deeper soil to support trees and cover stormwater storage cisterns sitting on the parking garage roof.

4 DESIGN CONCEPTS CITY MARKET - EAST PLAZA

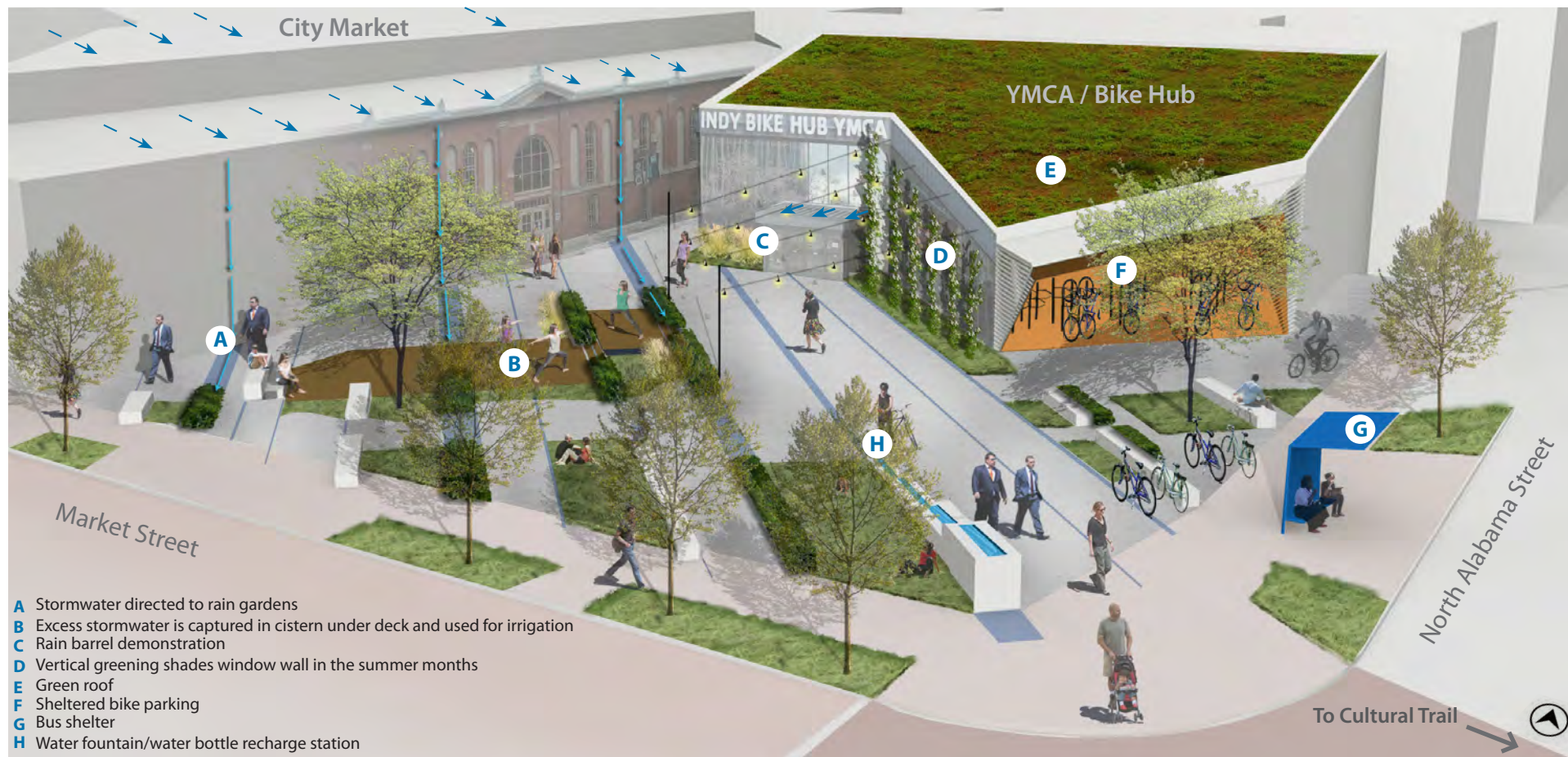


Figure 21: City Market - East Plaza design concept.

The design concept energizes the plaza with activity while adding lush green infrastructure features such as vertical greening and rain gardens. The main path of circulation from the building entrances to the street corner could be reinforced with a wide walk and a water feature at the entrance using filtered stormwater collected from the roofs and plaza. The water feature ends in a drinking fountain/water bottle recharge station which uses potable water (Figure 21). The remaining spaces will be divided into small gathering areas with seating walls of granite reused from the City-County Building Plaza and shaded by new trees. Sheltered bike parking is prominent along the YMCA wall, making the bike hub use more visible to passersby and providing a possible location for a future bike share program. The former

fountain area could be covered by decks that provide a gathering/lunch spot as well as programmed activity space that could host fitness classes. Stormwater runoff will be collected from the market's roof (see blue lines on Figure 21) and directed to small rain gardens that provide stormwater infiltration. Paving bands on the surface of the plaza suggest the water's path as it is piped underground to the cistern. Excess stormwater could be captured in cisterns located under the deck for use in irrigation (Figure 22). Walls with climbing vines and a green roof help manage stormwater and regulate the temperature of the YMCA building. A new bus shelter would create a comfortable waiting area for transit riders.

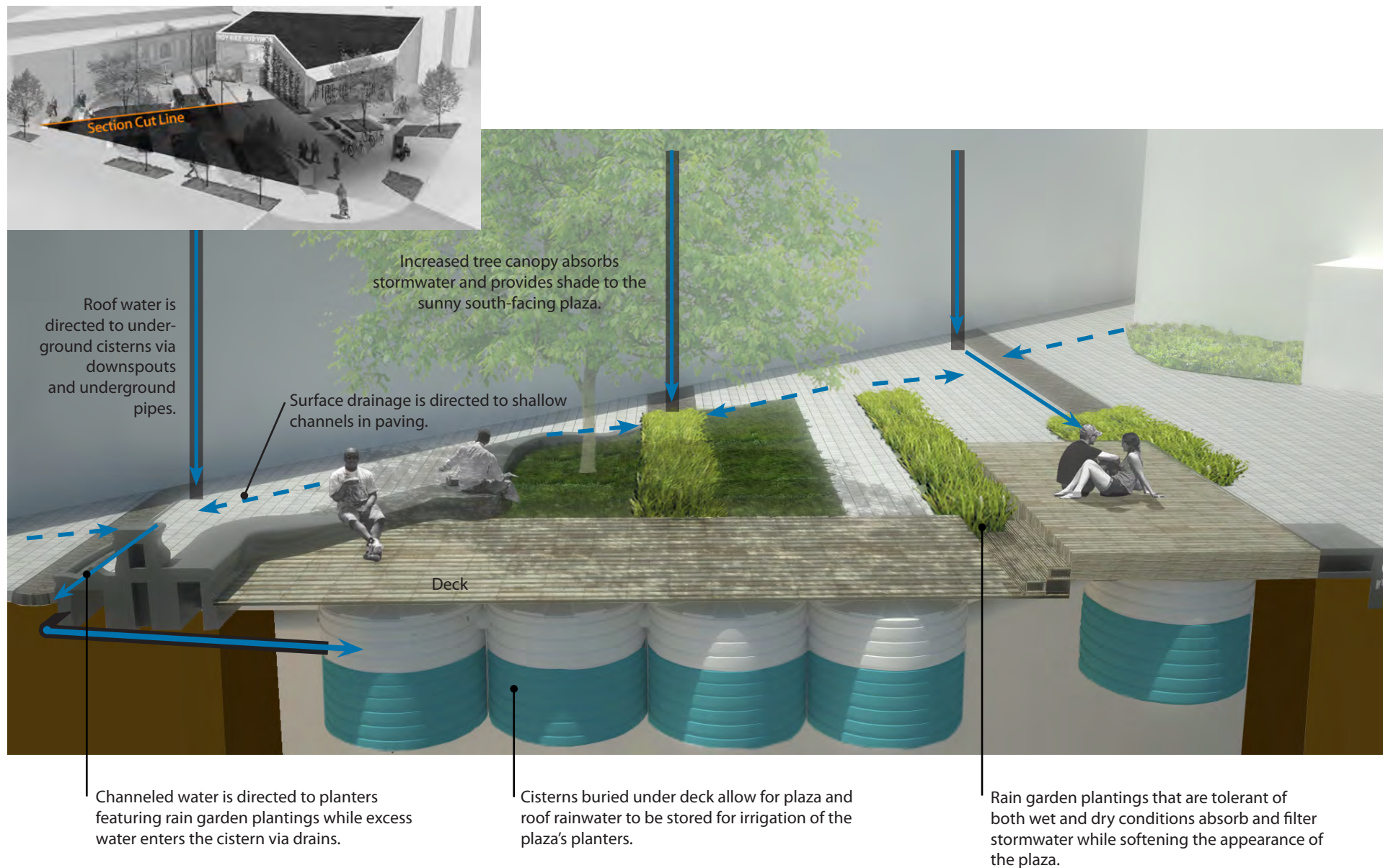


Figure 22: Section cut across the City Market - East Plaza concept illustrating potential stormwater infrastructure. The deck is in the location of the sunken fountain and provides a multi-use seating and activity area which screens—and also provides access to—the cisterns underneath.



Figure 23: City Market - East Plaza concept view of water bottle recharge fountain with sheltered bike parking along the YMCA wall behind.

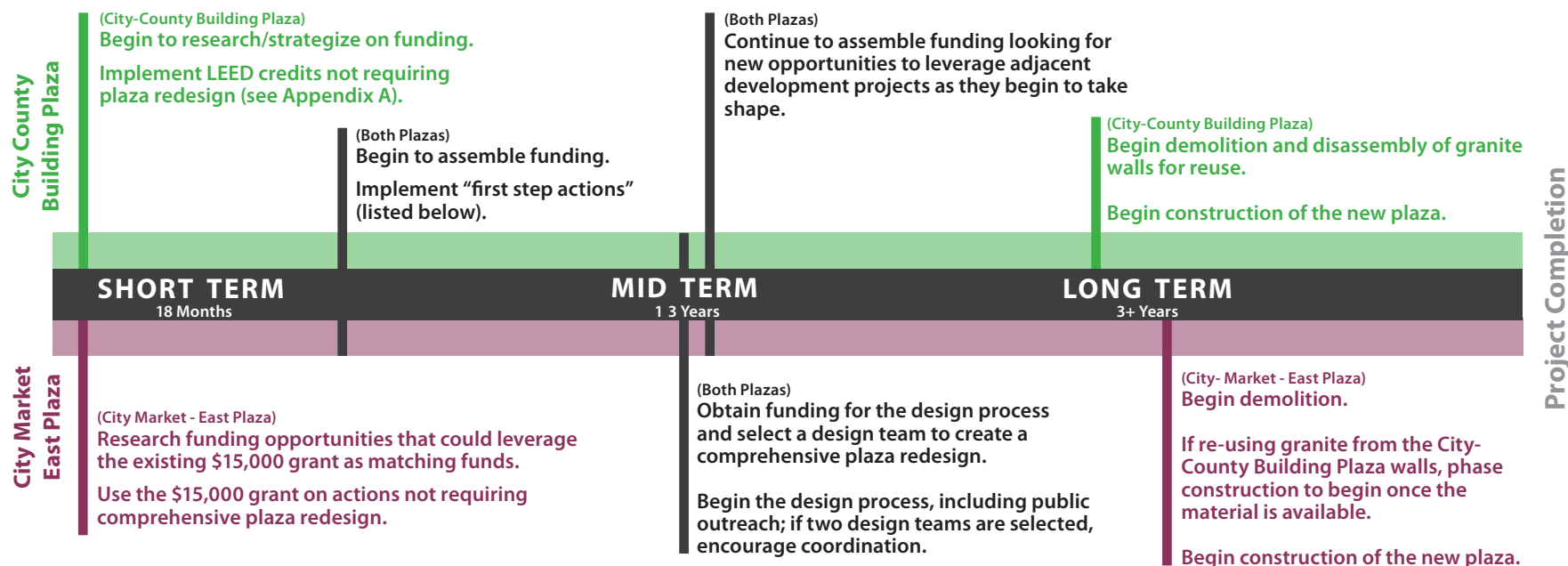
The blank southeast wall of the YMCA provides a great opportunity for a sheltered bike storage area. Vertical storage would use less space while making the bikes more visible, helping convey the bike hub use to passersby and Cultural Trail users. The area could also be specially designated for a bike share program. This view also illustrates a drinking fountain/water bottle recharge station to further enliven the plaza. The fountain could be used by City Market lunch patrons, commuters, trail users, and YMCA members. Encouraging the reuse of bottles would conserve

resources and eliminate waste. The fountain design could incorporate the talents of a local artist and create a unique centerpiece for the plaza.

5 NEXT STEPS

The creation of a Green Civic District anchored by the two plazas would ideally treat the two plazas as one large project, funded in coordination with surrounding developments. The new plazas would serve as an amenity to the new IndyGo bus hub and future mixed-use development across North Delaware Street. A comprehensive approach would leverage funding from adjacent projects, but this big-picture, coordinated approach may be too difficult to achieve due to the complexities of funding and phasing. A more incremental approach to assembling funding sources for each plaza may be required. The following timeline and funding table apply this incremental approach.

IMPLEMENTATION TIMELINE



FIRST STEP ACTIONS

Can begin prior to a comprehensive plaza redesign.

City County Building Plaza

- Implement LEED Credits that can begin immediately (see Appendix A).
- Coordinate food trucks at Washington Street.
- Install raised crosswalks across Washington Street intersections once the bus hub is complete.

City Market - East Plaza

- Fill in the existing fountain and install a deck and plantings.
- Install vertical plantings along the YMCA/bike hub.
- Install a rain barrel demonstration area at the YMCA/ bike hub.
- Install a sheltered bike rack at the YMCA/bike hub wall.
- Design and install a water bottle recharge fountain.
- Install a bus shelter.

Plaza Components and Funding Strategies

Wants	Action	Funding Source
Redesign plazas as an example of sustainable design	Absorb stormwater on site through: rain gardens, collection/reuse systems, increased tree canopy and general greening.	<p>EPA Clean Water Act Section 319 funding <i>Provides funding for urban stormwater strategies to prevent pollution. Both plazas contain strategies that mitigate pollution with rain gardens.</i></p> <p>Indiana Department of Natural Resources: Land & Water Conservation Fund (LWCF) <i>As the primary greenspace for a growing area of the city, the plazas meet the grant's objective to develop outdoor recreation sites and facilities. Grants range from \$20,000 to \$200,000 and require a 50% local match.</i></p> <p>Indiana Department of Natural Resources: Community & Urban Forestry Grants <i>As public properties that address environmental issues such as water quality, air quality, and pollutants, the plazas are eligible for Urban Forestry grant funding. Tree planting on the plazas would be an eligible use of funds. Grants range from \$2,000 to \$12,000.</i></p> <p>United Water Indianapolis <i>United Water Indianapolis provided the City Market with \$20,000 in 2010 to redesign the defunct fountain in the plaza. These funds could be used to design and build the water bottle recharge fountain. United Water may be able to fund additional green infrastructure features in both the plazas.</i></p>
	Provide demonstration areas at the City Market East Plaza that show sustainable food production for school groups and the general public.	<p>Healthy Cities Initiative <i>Indianapolis has been a past recipient of Healthy Cities funding and may be eligible again. With the ongoing movement to combat obesity and related diseases, new funding sources are likely to become available. Health insurance companies, hospitals/healthcare institutions, and private foundations are likely funders.</i></p> <p>Grow-N-Indy <i>Although designed to create community gardens to increase Indianapolis residents' access to nutritious food, the initiative may also support urban agriculture efforts at the East Plaza for its ability to reach a wide audience.</i></p> <p>Indy Food Fund <i>The food demonstration component of the East Plaza aligns with the fund's goal to support an Indianapolis food system that provides everyone access to healthy and nutritious food, enhances ecology, and creates meaningful economic and civic opportunities. The fund awarded its first grants in 2013 totaling \$45,450.</i></p>
Create a vibrant plaza for a variety of users.	Provide spaces and structures for a range of activities such as performances, skating, and vendors. Create an outdoor fitness area in City Market East Plaza.	<p>National Endowment for the Arts: Our Town Grant <i>The redesigned plazas meet grant goals by increasing livability of a growing urban neighborhood and providing new gathering spaces for the performing arts. Through the redesign, the plazas themselves serve as urban art. Grants range from \$25,000 to \$200,000.</i></p> <p>Community Development Block Grants <i>HUD provides state-administered funding for reconstruction of neighborhood centers, recreation facilities, and other public works, all of which align with the plazas and their components.</i></p> <p>Healthy Cities Initiative <i>The deck could be used for fitness activities and is one of several plaza components that directly support a healthy lifestyle (See the grant description above).</i></p> <p>Central Indiana Community Foundation <i>The foundation offers several grant opportunities that support health and wellness and vitality of neighborhoods and communities. Both plazas meet these goals. Awards vary by grant and range from \$5,000 to \$100,000.</i></p>
Increase the comfort and usability of the plazas.	Provide a drinking/water bottle fountain.	<p>United Water Services of Indiana <i>A past contributor to the Cultural Trail, the fountain provides a unique opportunity for corporate giving that further supports that initiative while supporting an amenity directly related to water.</i></p> <p>Cultural Trail Funders <i>As an amenity to trail users, the fountain can be considered an extension of trail enhancement efforts, and may appeal to past trail funders.</i></p> <p>Healthy Cities Initiative <i>The drinking fountain is one of several plaza components that directly support a healthy lifestyle (See the grant description above).</i></p>
Increase connectivity to the Cultural Trail and future bus hub.	Provide bicycle storage and facilities. Provide a bus shelter.	<p>Federal/State Transit Funding <i>Bike improvements on the plazas directly improve connectivity and convenience, for transit riders and pedestrians. The facilities could receive funding as components of a larger initiative such as the neighboring IndyGo bus hub or a new bike share program.</i></p>

APPENDIX A

One of the primary goals of the Indianapolis Greening America's Capitals project is to help identify LEED credits that the plaza redesign can contribute to a LEED Existing Building certification for the City-County Building. The building has recently undergone \$8 million in sustainability upgrades, but requires additional points to achieve certification. The table below lists the LEED credits which are likely achievable on the current plaza or through plaza redesign.

Achievable LEED Credits for the City-County Building Plaza		
LEED Credit	Requirements	Action
SS Credit 2: Building exterior and hardscape management plan (1 point)	Use low-impact and biodegradable cleaners for hardscape surfaces. Use magnesium chloride, potassium acetate, or potassium chloride for de-icing. Switch to lower-impact maintenance equipment, such as mulching mowers and low-decibel blowers.	Can begin immediately. No plaza enhancements required.
SS Credit 3: Integrated Pest Management, Erosion Control, and Landscape Management Plan (1 point)	Divert landscape waste from disposal. Minimize use of chemical fertilizers. Adopt an outdoor integrated pest management plan. Adopt an erosion and sedimentation control plan for ongoing landscape operations.	Can begin immediately. No plaza enhancements required.
SS Credit 4: Alternative Commuting Transportation (1 point)	Demonstrate a 10% reduction in conventional commuting trips. Provide space and infrastructure features, such as bicycle racks, changing facilities, and access to mass transit. Offer employee incentives for using alternative transportation. Communicate with building occupants about alternatives and facilitate communication among building occupants for coordinating ride sharing.	Efforts to gauge the current use of alternative transportation can begin immediately. Incentives to encourage alternative transportation can also begin. The construction of the IndyGo bus hub and the sheltered bike racks of the plaza redesign should have a measurable impact as well.
SS Credit 5: Site Development – Protect or Restore Open Habitat (1 or 2 points)	Install native or adapted vegetation on 25% of the total site area (excluding the building footprint) or 5% of the total site area (including the building footprint), whichever is greater (1 point).	Points would have to be achieved through an off-site restoration area, which is allowable. The plaza redesign includes large areas of lawn that does not qualify as native or adapted habitat.
SS Credit 7.1: Heat Island Reduction: Non-Roof (1 point)	OPTION B: Place at least 50% of parking spaces under cover. Parking cover must have a solar reflectance index (SRI) of at least 29.	With a combination of planting and new paving, the plaza can meet the SRI requirement.
SS Credit 8: Light Pollution Reduction (1 point)	OPTION B: Partially or fully shade all fixtures 50 watts and over so that they do not directly emit light into the night sky.	Can begin immediately, and may be possible to retrofit existing fixtures.
WE Credit 3: Water Efficient Landscaping (1 point)	Reduce use of natural surface or subsurface water for landscape irrigation 50% reduction:	Lawn and planting features of the redesigned plazas will require irrigation. The credit can be fulfilled through efficient irrigation technologies, and use of captured rainwater. Use of groundwater is not normally allowed, but a case could be made that the plaza's use of excess groundwater, that would otherwise be pumped into the combined sewer should be allowed.

