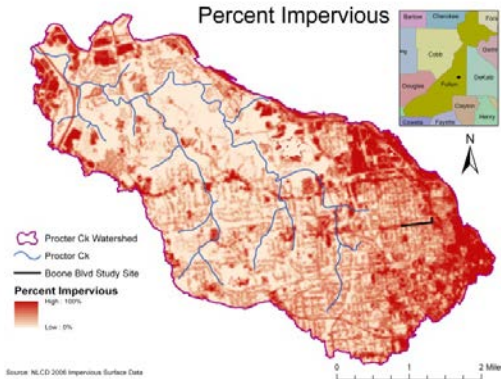


# Proctor Creek's Boone Boulevard Green Street Health Impact Assessment (HIA)

U. S. Environmental Protection Agency, Region 4 and Office of Research and Development

## Proctor Creek Watershed



The Proctor Creek Watershed (HUC 12: 031300020101) is located in the municipal jurisdiction of Atlanta, Georgia (Fulton County) and drains over 10,100 acres of primarily urban residential and commercial lands to the Chattahoochee River. Proctor Creek is one of the most impaired creeks in metro-Atlanta and has been placed on the impaired waters list, because it does not meet state water quality standards for fecal coliform. The topography, prevalence of impervious surfaces in the watershed, and a strained combined sewer system have contributed to pervasive flooding in the Proctor Creek community and created environmental, public health, economic, and redevelopment issues.

The flooding hazard is high for much of Proctor Creek, and the Proctor Creek Watershed overall is approximately 33% impervious. However, there is considerable development in the headwaters, making the headwaters area surrounding the Boone Boulevard Green Street Project 1.5 - 2.5 times more impervious.

## Community Profile

This HIA will examine impacts to the community within ½ mile of the Boone Boulevard Green Street Project (an approx. 1.25 sq-mile area). The community in this area is a low-income, minority population:

	Total Population	% African American	Per Capita Income (last 6 months)	Median Household Income (per year)	Poverty Level
HIA Study Area	13,914	82.3%	\$16,756	\$28,857	< 18 yrs – 62% > 65 yrs – 21%

Source: U.S. Census Bureau, Census 2010 Summary File 1

### Proctor Creek Community Needs

- flood reduction and stormwater management to provide capacity relief for the combined sewer system;
- cleaner surface and ground water;
- improved streets and sidewalks; and
- economic revitalization

## Green Infrastructure Basics

### What is Green Infrastructure?

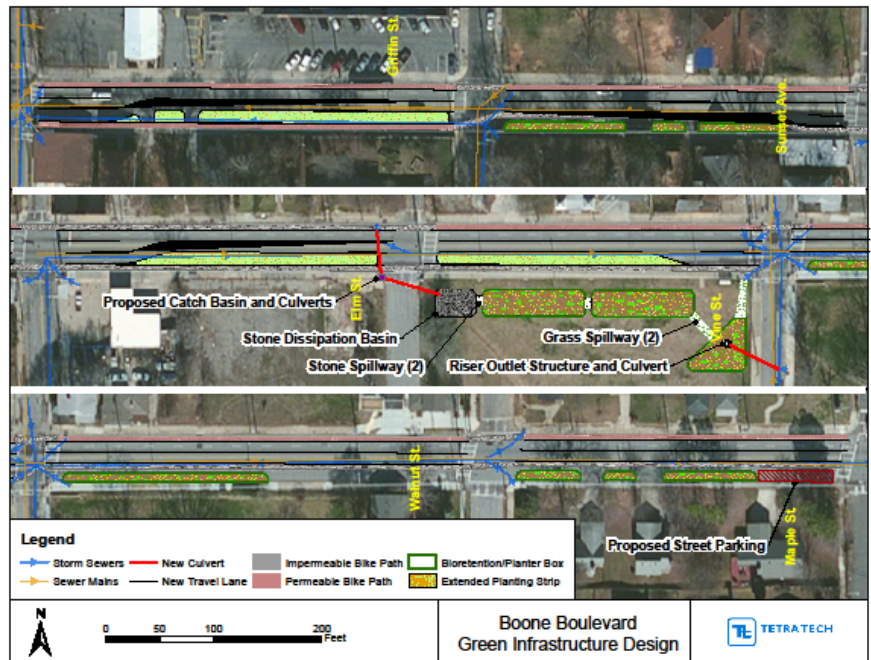
Unlike gray stormwater infrastructure, which uses pipes to dispose of rainwater, green infrastructure uses natural hydrologic features to manage water. By weaving natural processes into the built environment, green infrastructure provides not only stormwater management, but also flood mitigation, air quality management, and much more.

### What is a Green Street?

A Green Street integrates green infrastructure elements into the street design to manage stormwater and reduce stormwater runoff. Permeable pavement, bioretention areas, underdrains, planter boxes, and planting strips, are among the many green infrastructure features that may be woven into a green street design.

## Boone Boulevard Green Street Project

The City of Atlanta's Department of Watershed Management selected a green infrastructure project to implement in the Proctor Creek Watershed to address some of the community's needs. The overall vision for the Boone Boulevard Green Street Project involves implementing green infrastructure practices along Joseph E. Boone Boulevard between Northside Drive NW (to the east) and James P. Brawley NW (to the west) in collaboration with planned road diet improvements. The design and layout of the proposed green street was governed mostly by traffic and community needs, followed by water quality sizing criteria.



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## Conceptual Design

The proposed design includes a combination of planter box and permeable pavement features, in addition to several bioretention systems proposed outside of the road right-of-way in Mims Park. Several extended planting strips are also proposed along the roadway to reduce impervious area and take advantage of underutilized areas created by the road diet.

Given the narrow footprint available for detention and treatment within the road corridor, planter boxes are generally limited to one side of the street. Since the existing road crest will be preserved during the planned street improvements, the planter boxes were

designed to treat the water quality volume from one half of the roadway. In areas where additional space is not available to treat the other half of the roadway with planter boxes, permeable pavement is proposed for the opposite bike lane to provide adequate treatment.

The stormwater control measures proposed for Boone Boulevard were designed to treat the runoff from 85% of storms in an average year and provide partial retention of larger storm events (e.g., a 1.2-inch rainfall) to reduce downstream flooding impacts.



Planter Box



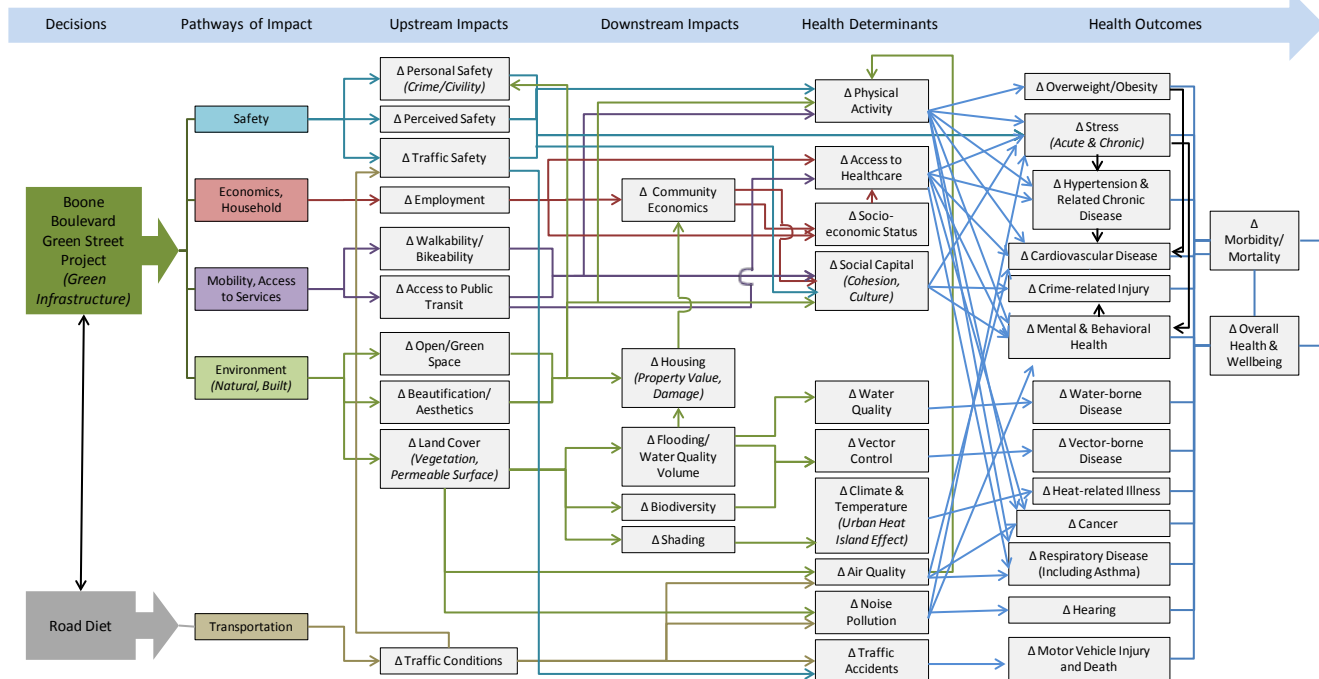
Bioretention Area



Permeable Pavement

## Causal Pathways – Boone Boulevard Green Street Project

The pathway diagram below shows various links between the proposed Boone Boulevard Green Street Project, road diet improvements, and health. The Green Street Project is expected to impact health through four major pathways (i.e., safety, household economics, mobility/access to services, and the environment), while the road diet improvements are expected to impact health through a single pathway (i.e., transportation).



## HIA Value Added

- Ensure health and equity in decision
- Engage impacted community members and stakeholders
- Assess community impacts and green infrastructure effectiveness
- Provide recommendations to mitigate negative impacts and promote positive impacts

## HIA Application and Future Direction

- Provide a model of interagency collaboration at the local, state, and federal levels
- Further enhance and test EPA's C-FERST HIA Roadmap under development
- Support future green infrastructure initiatives through documented benefits and impacts of the technology
- Gained experience in the use of HIAs can be applied to other environmental decision-making processes

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