

CONNECTIVITY STUDIO

[Environment and Health]

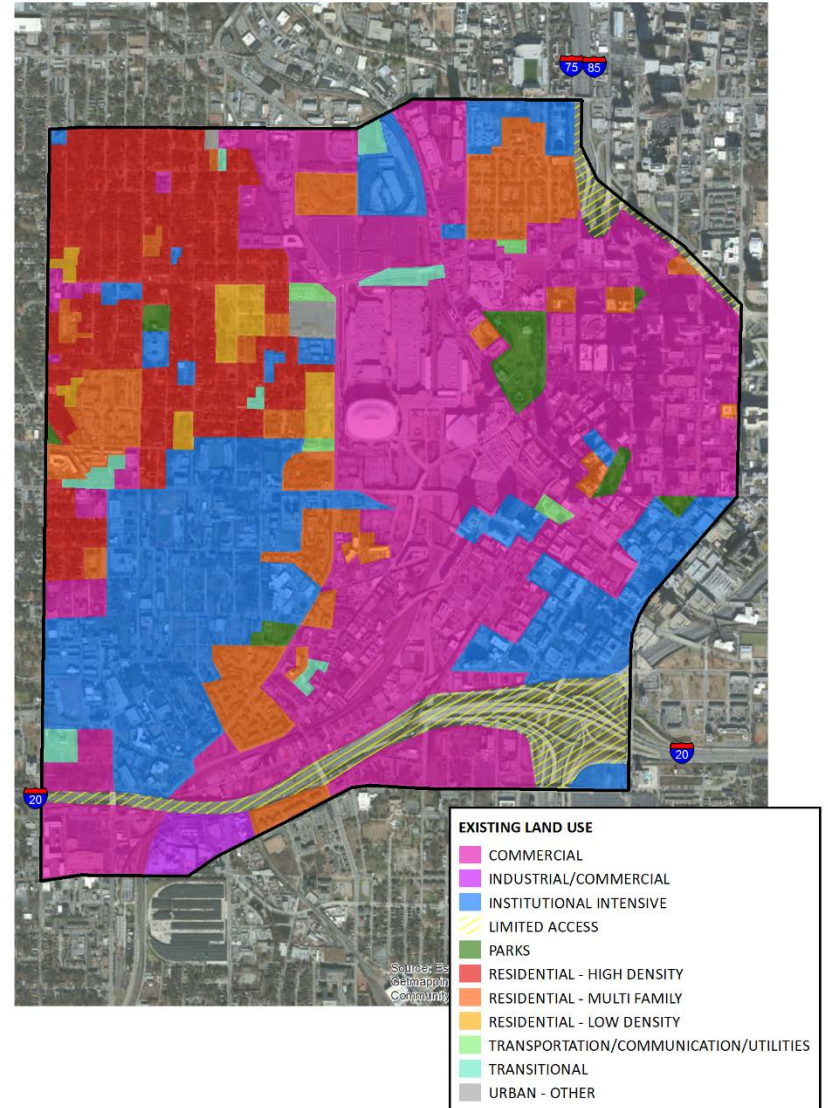
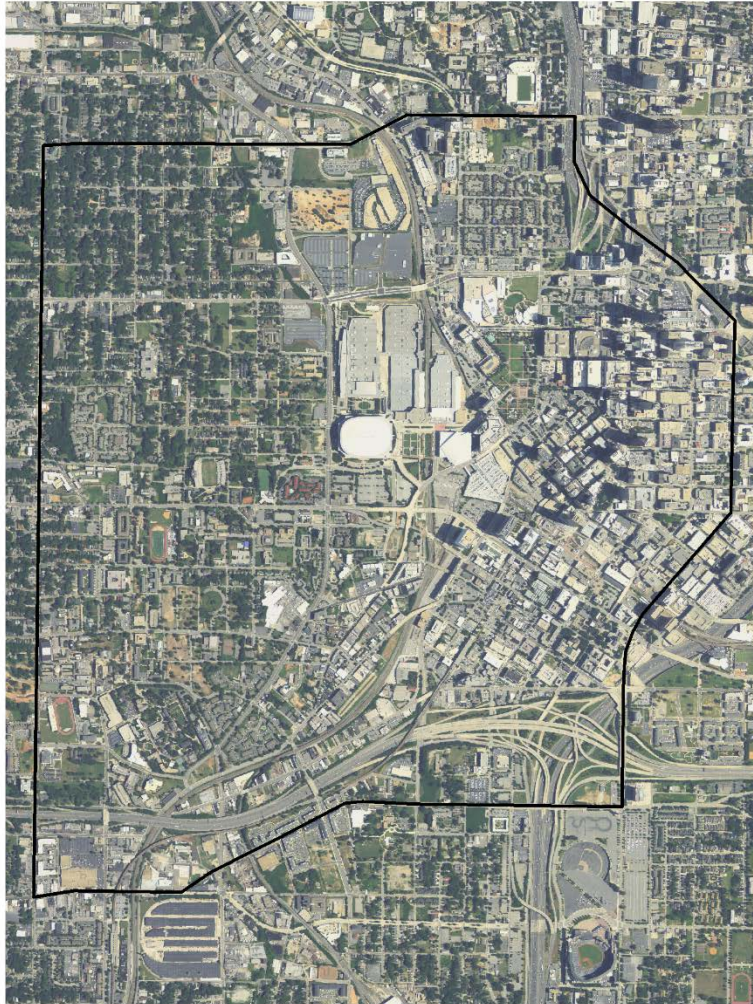


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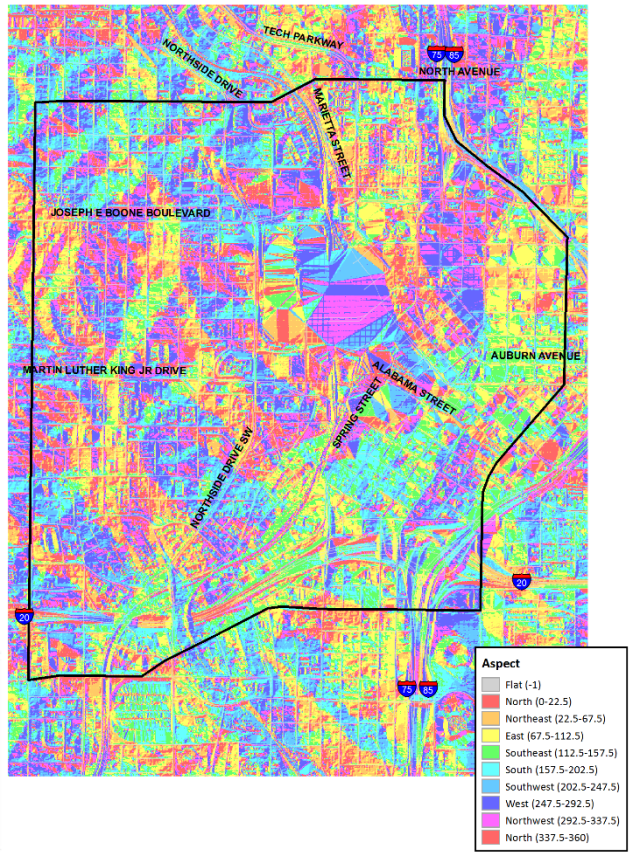
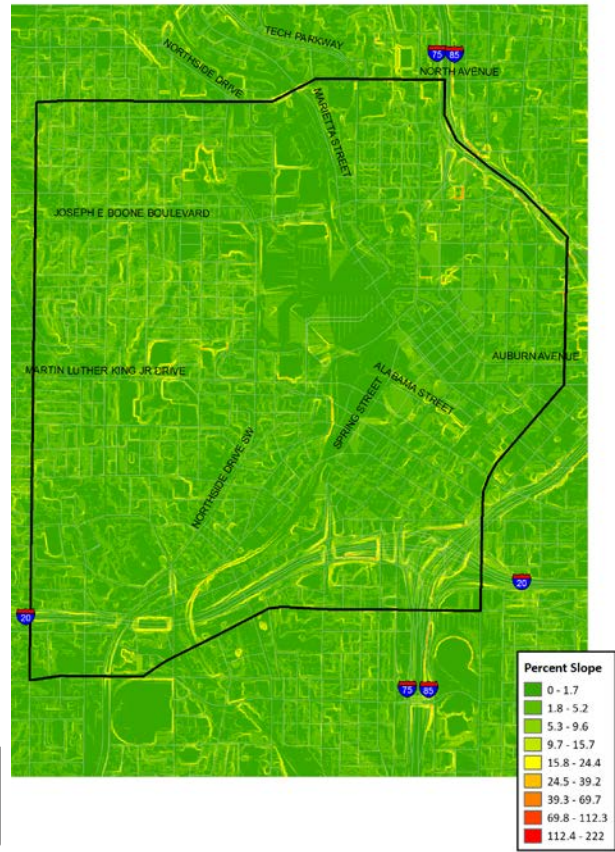
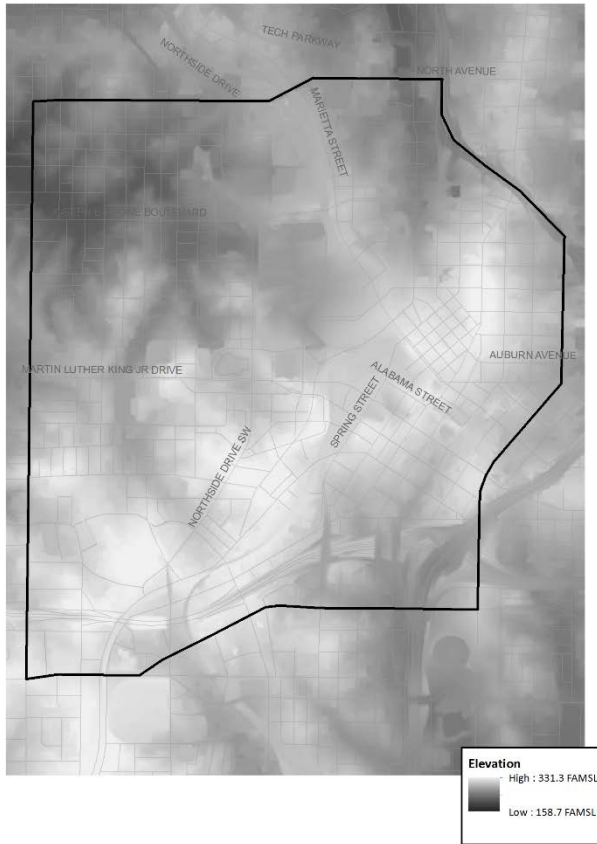
Professor Michael Dobbins

Student Team: Taylor Tyger, Bruce Battle, Kait Morano, Jesse Zaro-Moore

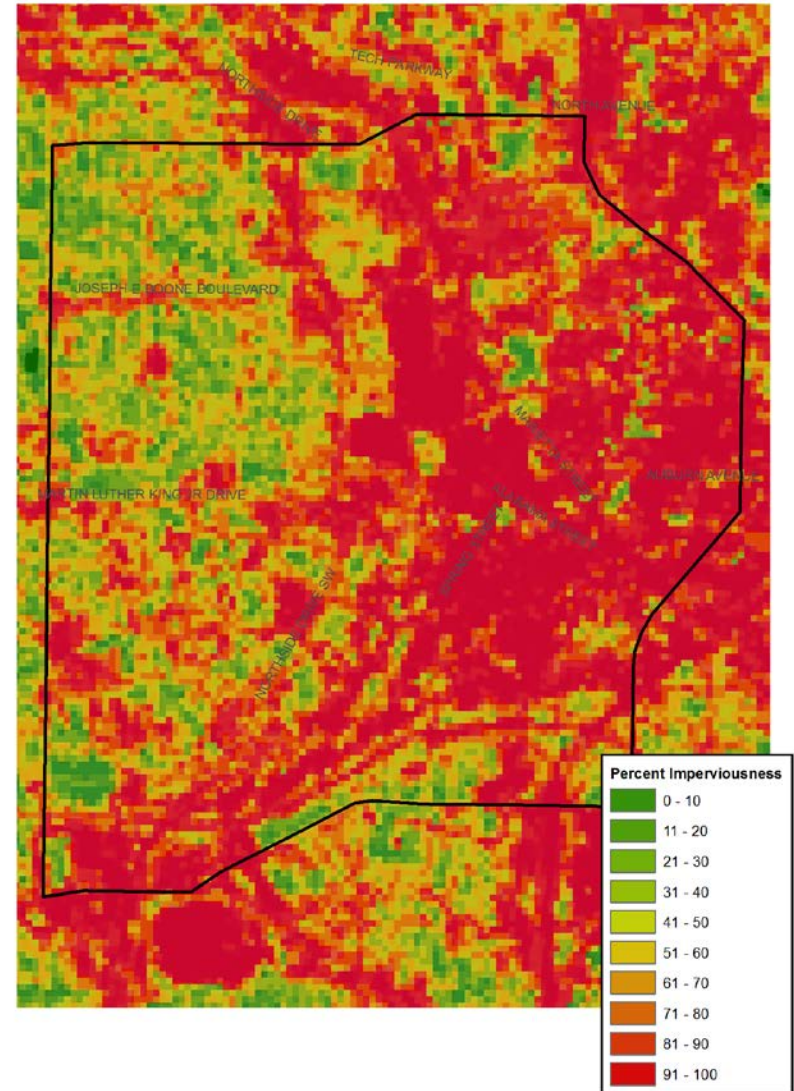
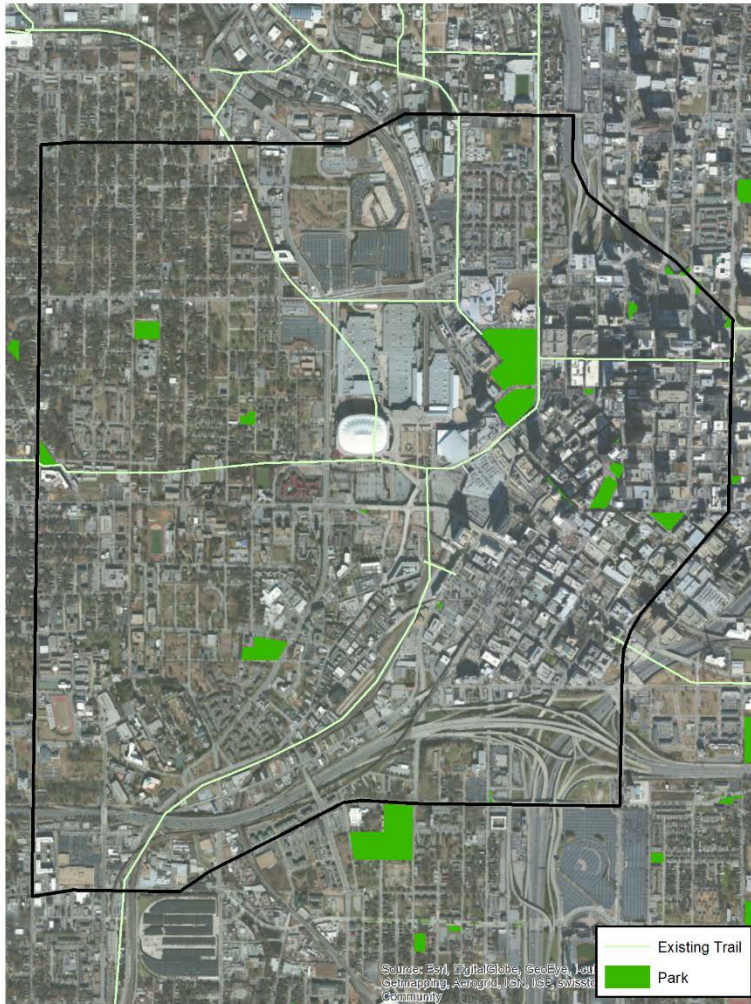
Basemaps—Orthophoto & Existing Land Use



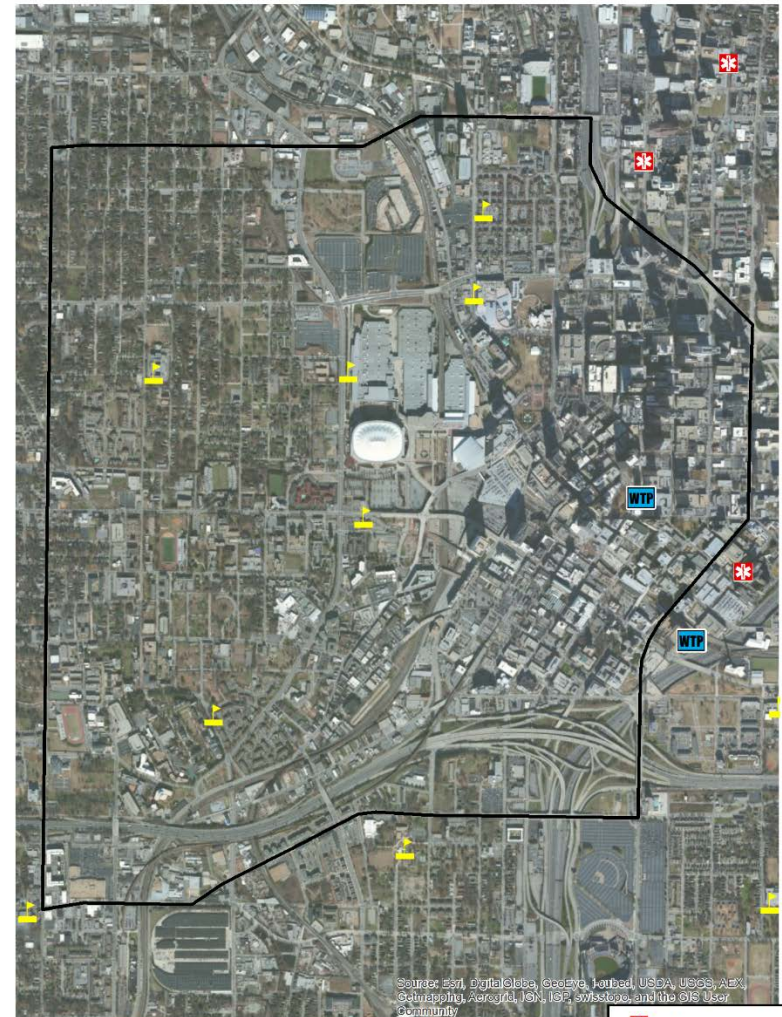
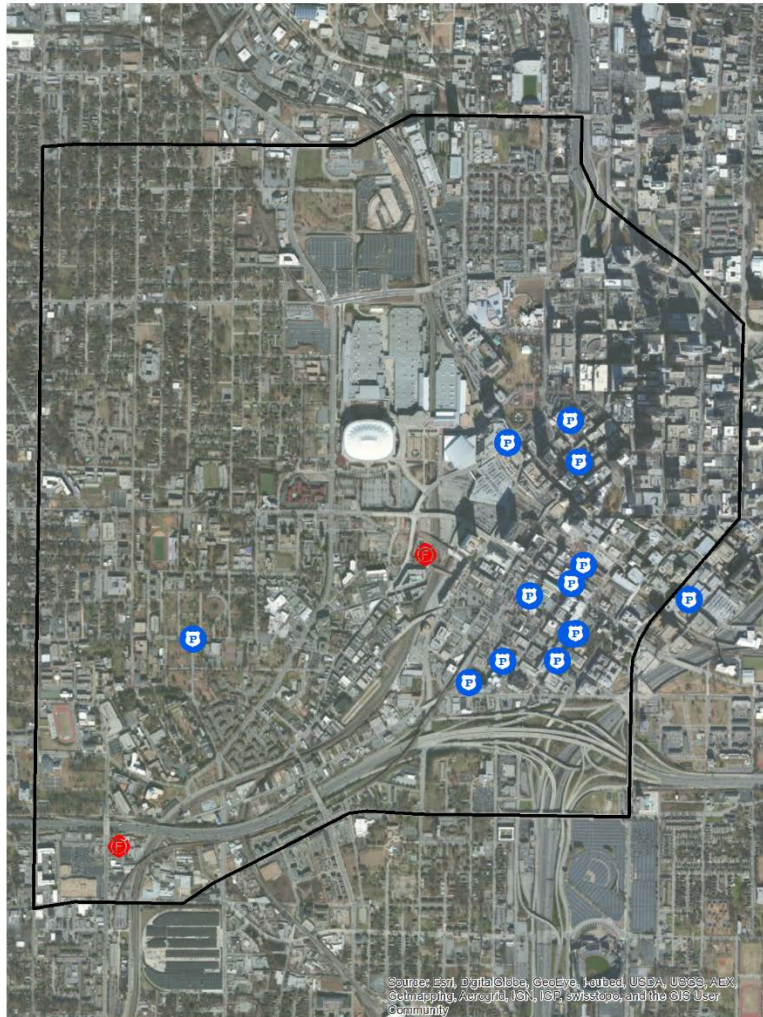
Basemaps—Elevation, Slope, Aspect



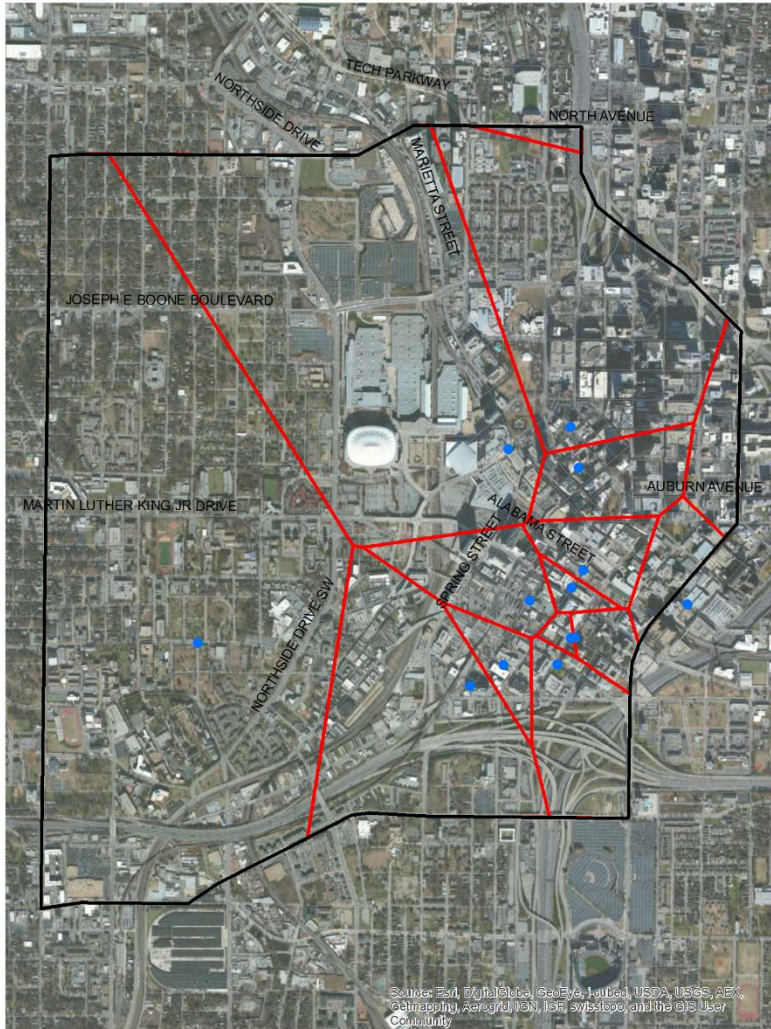
Basemaps—Parks/Trails & Impervious Surface



Basemaps—Fire/Police Stations & Facilities



Basemaps

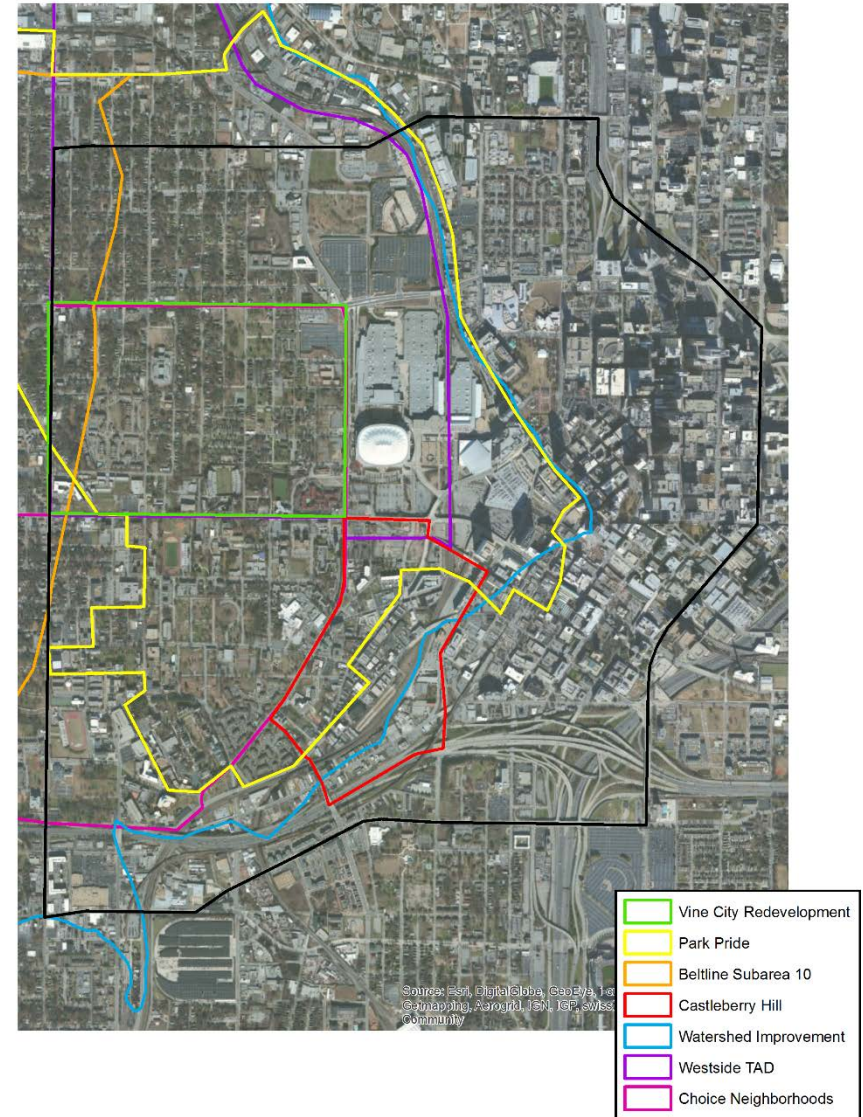
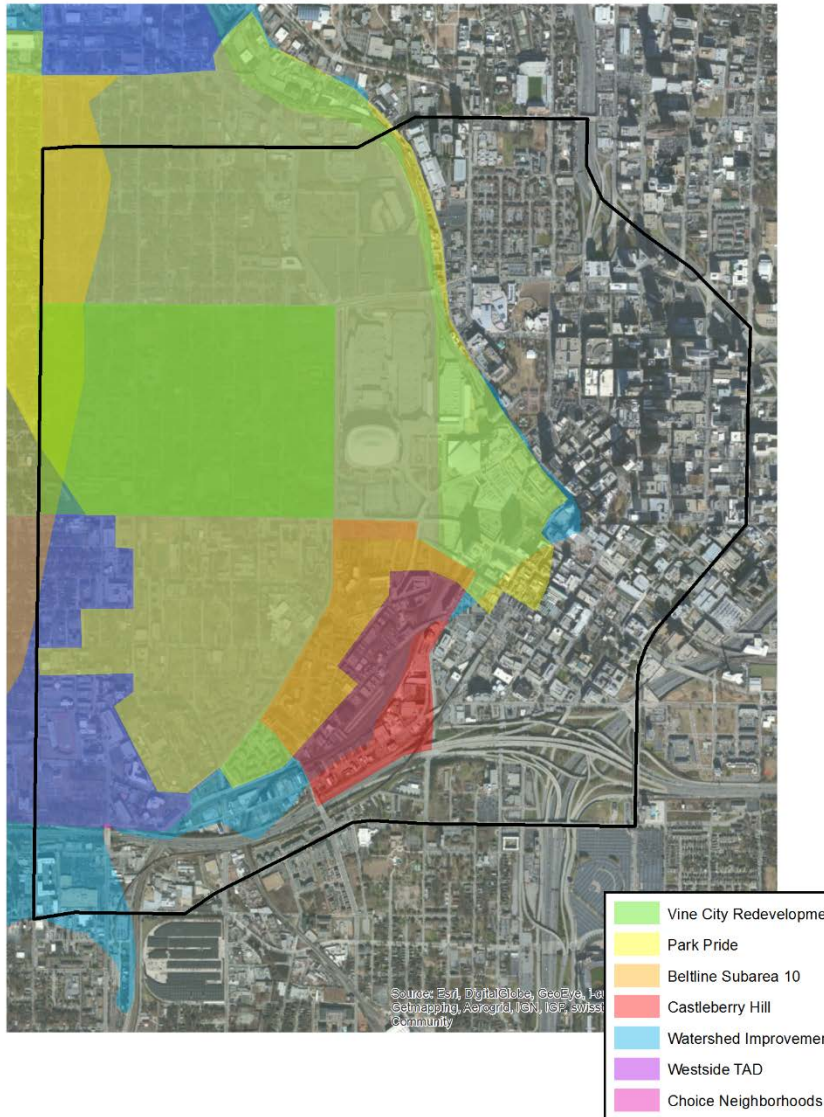


● Police Station



● Medical Care Facility

Basemaps—Overlap of Existing Plans



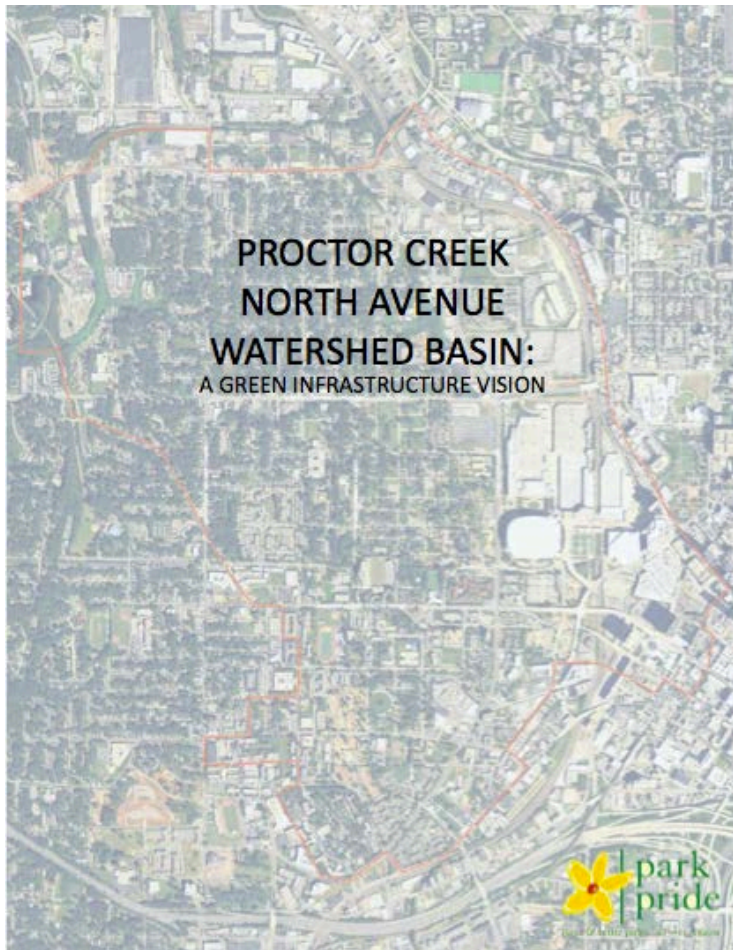
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[Environment and Health]
Review of existing plans

Park Pride Green Infrastructure Study: Background

Park Pride PNA Watershed Green Infrastructure Plan:

- 2010-11: 18-mos planning/visioning Process to address major economic and environmental problems caused by flooding in Vine City, English Ave, and AUC Neighborhoods



- Proposes a mixture of green space, parks, greenway trails, community gardens, constructed streams, and stormwater ponds to:
 - increase storage capacity during storm events
 - Provide badly needed green space in n'hoods
 - Emphasis is on a CONNECTED series of greenspaces, green infrastructure, and green street improvements

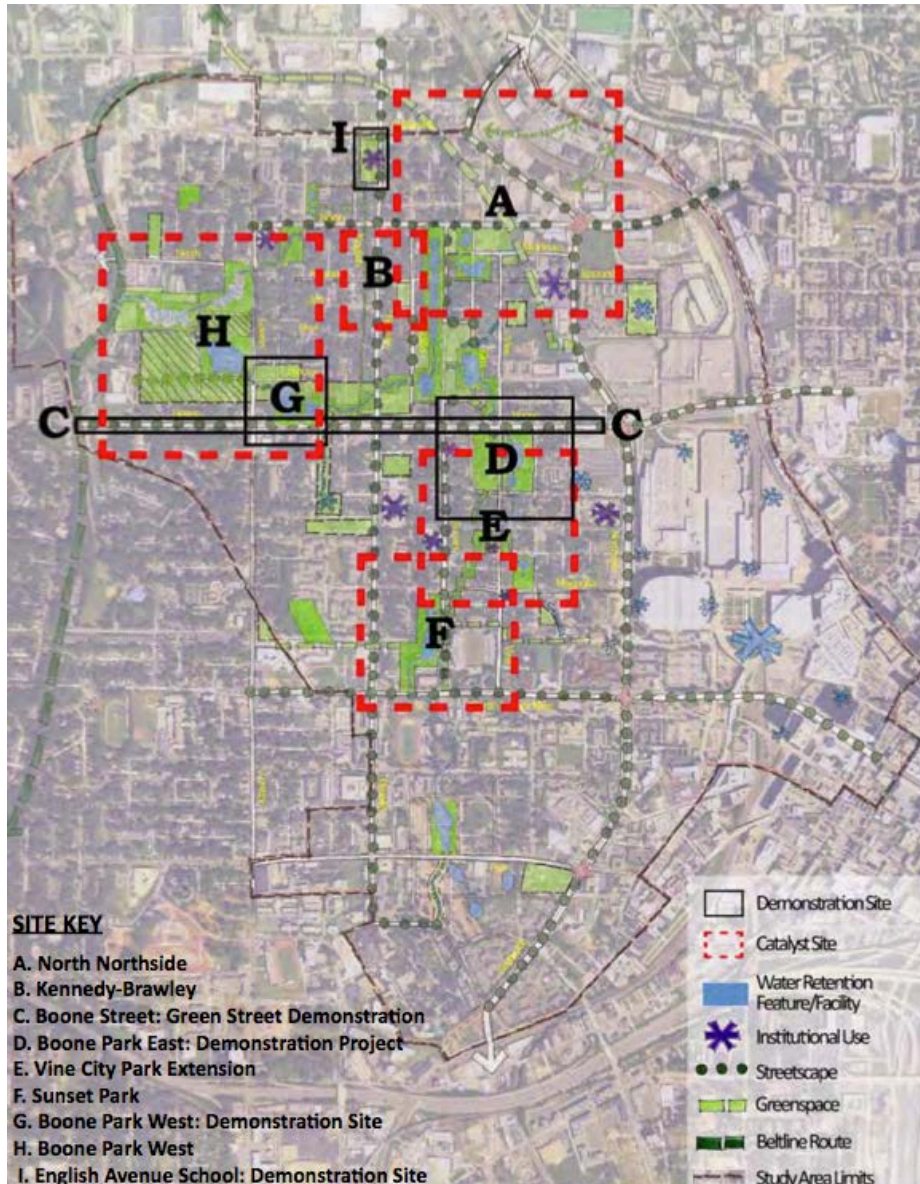
Park Pride Green Infrastructure Study: Background

DEFINITION:

“Green infrastructure” refers to the practice of planning and managing a system of parks and green spaces, greenways, and green streets that feature a variety of stormwater/rainwater catchment facilities which offer the benefits of water absorption and filtration. These systems are designed to mimic natural functions such as evapotranspiration and infiltration. These approaches reduce the amount of runoff discharging to surface waters and keep rainwater out of sewer systems so it cannot contribute to sewer overflows

--Adapted from Park Pride study

Park Pride Green Infrastructure Study: Background



Catalyst and demonstration sites proposed that will:

- Make immediate env. Improvements
- Address community aesthetics
- Demonstrate benefits of wider implementation of vision

Addresses:

- Parks, open space, and greenways
 - Ex: Trail system to connect to a proposed mixed use activity node along Boone Blvd
- Stormwater management
 - Green infrastructure (see next slide)
- Health Factors
 - Community gardens, improving water and environmental quality

Westside TAD Neighborhoods Strategic Implementation Report

- Goal 1: Create a sustainable vision for the Westside TAD neighborhoods to guide future redevelopment
 - Improve and increase walkability
 - Address watershed management issues
 - Reduce crime
 - Improve quality and mix of housing stock
- Goal 2: Build human capital and increase job creation
 - Integrate job creation opportunities into redevelopment scenarios
 - Identify opportunities for development of a Resource Center

Stabilization

- Public safety
 - Crime prevention through environmental design
- Property control through acquisition, land banking and property management
- Homeowner rehab programs
- Tax abatement to maintain affordability of housing



Before



After Restoration

Predevelopment

- Rezoning/zoning overlays
- Green design guidelines
- Construction management
- Tax abatement to maintain affordability of housing
- Housing program design
- Human capital program design

Execution

- 5 priority project areas based on decision making matrix
 - Mix of commercial, mixed use, tourism, and residential infill and development
- Housing components: 21 new residential, 17 rehabs, 84 townhomes, 280 new residential units (?), 171 apartments, 5 live/work units
- 1,300 jobs (retail, restaurant, construction, hotel)
- 2 parking decks

*North Ave and Northside Dr. (#3): connection to Beltline, new community center, additional urban design, transportation, and stormwater management recommendations

Background—NPU-L STWP Project List (2012)

- Proctor Creek Stewardship Council
 - Perform stream cleanups, monitoring, & assessments within PNA watershed
- Parks
 - Complete phase 2 of Vine City Park
 - Create 5 additional pocket parks in Vine City
 - PNA Lindsay Street/Proctor Creek Pocket Park
 - Provide funding to acquire and perform redevelopment
 - Vine City Promenade
- Security Improvement
 - Provide funding for Vine City neighborhood commercial area security cameras
- Community Stormwater Mitigation Planning
 - Fund development of a plan to mitigate excess stormwater and control pollution near Proctor Creek

Background- Atlanta Beltline Initiative

“Atlanta Beltline Southwest Corridor Design”
(April 2013)

“Tier I Final EIS” (May 2012)

“Subarea 10 Master Plan” (December 2010)

Appendix 4: Maddox Park

Master Plan

Appendix 5: Proctor Creek Streambank

Restoration Plan

Corridor Design

Context Conditions:

- Historical Context
- Social Context
- Development Context
- Natural Context

Design Drivers:

- Character
- Performance [sustainable approach to energy/water/light/materials]
- Phased Build-out [incremental and segmented phasing]

Subarea 10 Master Plan

Planning Goals: Parks and Open Space:

1. Enhance opportunities for safe community gathering & youth recreation
2. Provide a connected network of well-maintained park & green spaces
3. Preserve historic features & enhance public access
4. Reclaim & rehabilitate degraded environmentally sensitive areas such as streams & floodplains
5. Establish strong park edges (?)

*Greenway/Park development = 1st step
→ mixed-use development → transit

*Acquisition of properties within floodplains

*Health-related: urban farming & community gardening

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[Environment and Health]

Case studies

New Meadowlands Project – Metlife Stadium, NJ (2009)



- Air Quality
 - Problem: increased emissions during construction
 - Equipment with combustible engines to use emission control devices
 - Diesel emissions management: 35% reduction of PM for vehicles
 - Problem: generation of dust during construction
 - Soil erosion and sediment control plan (wetting road surfaces, low speed limit, covering of storage piles)
- Solid Waste
 - Modification of existing sewer lines and add new connections to an on-site pump station
 - Use of waterless urinals → 35% reduction in total flow for new stadium
 - Re-use as much on-site soil and recycled demolition debris from existing stadium as possible

New Meadowlands Project – Metlife Stadium, NJ (2009)

- Utilities, Stormwater Management, & Infrastructure
 - Stormwater Pollution Prevention Plan
 - Continued use of infrastructure, conveyance system
- “The replacement of existing paved parking areas with rooftop area will minimize contact between rainwater and pollutant sources currently found on the existing parking surfaces, thereby resulting in a minor improvement to water quality.”*
- Redevelopment will result in a decrease in impervious surface
 - Mixed-use building will allow for shared parking & infrastructure
 - Parks & Recreational Facilities
 - New outdoor plaza spaces for concerts, festivals, etc.
 - Noise?

Case Study: Stormwater and Stadiums--Maryland

- The Maryland Stadium Authority (MSA) implemented a green infrastructure plan to treat and mitigate stormwater runoff from Baltimore's M&T bank Stadium—an 85-acre site.
- Colorful, low-maintenance perennials replace grass in sensitive which:
 - Stem runoff on a from a steep bank
 - Absorb rainwater and prevent erosion of a wetland
 - Save money by reducing replacement costs
- A 7,000 gallon underground reservoir to collect rain from the warehouse roof and prevent runoff was installed. The device is pumped for irrigation and power washing, significantly reducing potable water use.
- Irises and other perennial rough grasses create an attractive barrier, which, with the help of additional rocks and boulders, slow the velocity of stormwater and debris washed from paved parking lots where it can infiltrate rather than flow with collected debris into the Middle Branch of the Patapsco River



Case Study: Farmers Field HIA - LA

- Displacement/affordability: impacts on mental health, chronic disease, income and education related health outcomes, and impairment of social cohesion
 - “No Net Loss” zone
 - Parking impact zone that prohibits conversion of housing to parking lots
 - Funding for dedicated personnel within the Los Angeles Housing Department to work with residents
 - Compensate any resident currently living within the three mile “Impact Zone” who has to move and/or is displaced
 - Fund Health Promoter, Community Organizer, and Legal Counsel teams
 - \$20 million to establish a Housing Trust Fund for affordable housing developments
 - Funding for an additional trust fund to support local investment in the carbon neutrality requirement for the proposed development, focused on the retrofitting of existing affordable housing

Case Study: Farmers Field HIA - LA

- Public safety and access to greenspace: mental health, chronic disease, injuries, and social cohesion
 - Decrease stadium footprint
 - Ensure the project design creates open and green space immediately outside the stadium
 - The open/green space shall include a designated space and coordinated times for local micro-businesses, artisans, social service organizations, and other vendors to vend their goods and provide direct service and outreach to the community, both on game days and non-game days
 - Provide funding to develop a green business incubator to help 20-30 low-income entrepreneurs to start local businesses
 - Create a community-based public safety task force.
 - No “quality of life” policing

Case Study: Farmers Field HIA - LA

- Jobs and employment: may increase jobs for some (low wage service jobs) and decrease jobs for others (local businesses)
 - Local low-income residents should be hired into 30%-35% of construction jobs and 40%-50% of permanent jobs
 - Qualifications for jobs shall relate directly to the job duties and responsibilities, and not include unrelated measures that tend to disqualify local residents (e.g., credit checks, arrest records)
 - Jobs shall pay a living wage as determined by the strongest regulatory language and provide full health benefits
 - Fund a program focused on training and hiring for jobs that are created as a result of the development that focuses on populations facing the most serious barriers to employment (day laborers, formerly incarcerated populations, single parents/heads of households, homeless residents)

Case Study: Maddox Park

Feedback from neighborhood meeting:

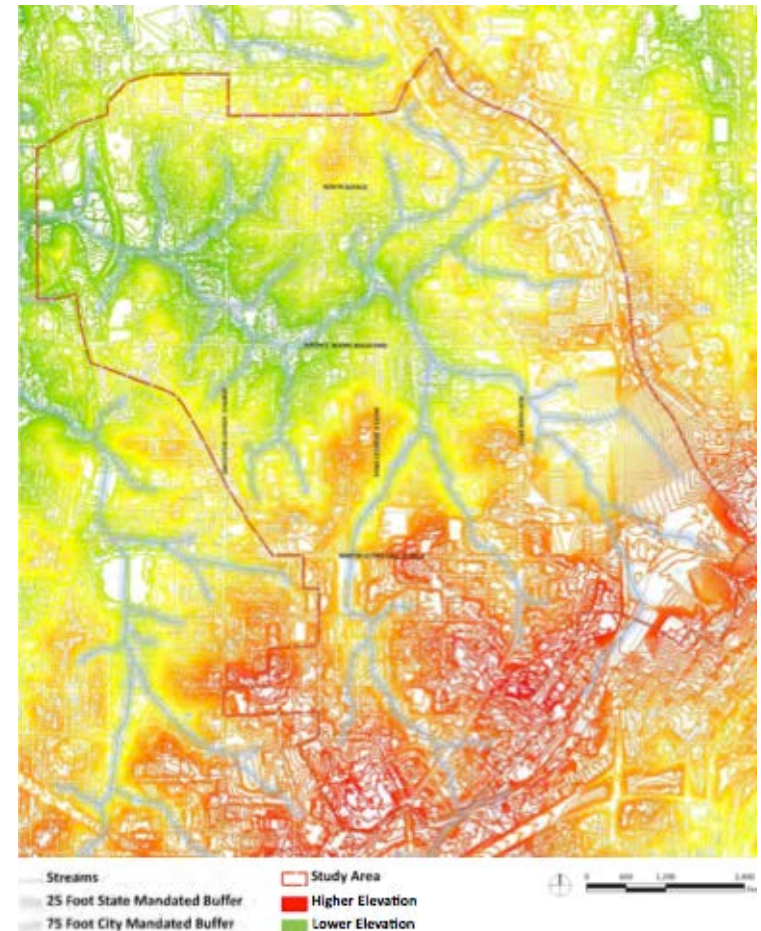
- Not family friendly after work (after 5pm)- getting vagrants out!
- Need community programs for children
- Retain community identity and character
- Educational programming w/ Proctor Creek
- Improving visibility & lighting for safety
- Existing “tailgating” activities should be maintained
- Access to adjacent neighborhoods: Paths
- Poor sidewalks nearby

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Issues and opportunities

Stormwater **Issues**: Topography

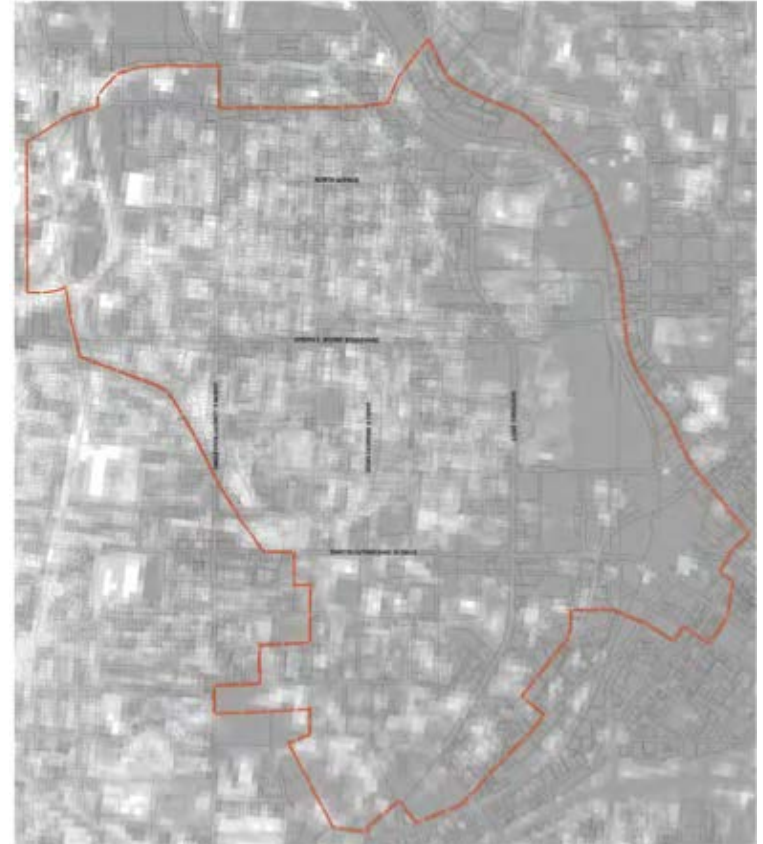
- Headwaters of the PNA watershed along the eastern boundary of study area
 - Gulch, WCC, GA Dome, Falcons (proposed) Stadium
- Water from these sites flows into VC/EA neighborhoods
- Major flooding in 2002 resulted in damage to 65 homes and the purchase of 12 acres by DWM. Houses were removed (demolished)



Source: Park Pride PNA Study

Stormwater **Issues**: Impervious Surfaces

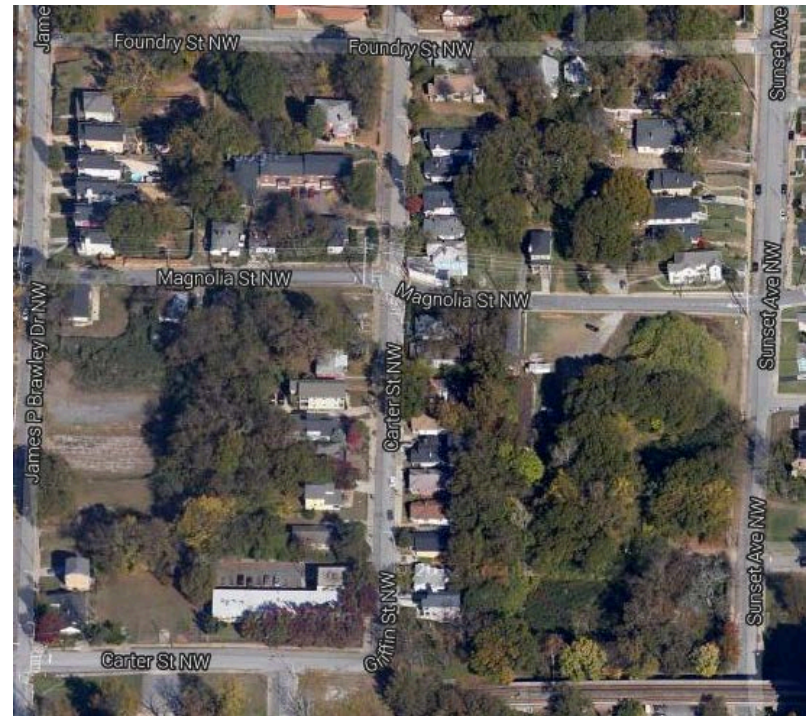
- Area developed before stormwater management (i.e., no on-site storage)
- Up to 80% of Gulch and surrounding area are impervious
- Overall watershed is about 33% Impervious



Source: Park Pride PNA Study

Stormwater **Issues**: Other Existing Conditions

- Contaminated Soils
 - Low-lying areas were filled with contaminated soil to make developable
 - Complicates possibility for infiltration ponds
 - Problem for proposed parks with water features
- Existing Infrastructure
 - Too expensive to daylight streams?



Existing infrastructure at site of proposed retention pond

Stormwater **Issues**: Other Existing Conditions (Cont'd)

VC/EA neighborhoods

- There is no more sanitary/stormwater sewer separation planned for the PNA watershed
- Flooding issues in the neighborhood are no longer related to capacity
- Litter, dumping and debris are the main contributors to flood events and don't have a ready solution
 - Hard to predict
 - hard to determine where problems will arise since debris washes into storm drains from wherever people litter
 - DWM will clean out a storm drain as clogs occur.
 - Hard to prevent—littering and dumping are major problems and difficult to solve where there is poverty and apathy

Stormwater Opportunities: Projects

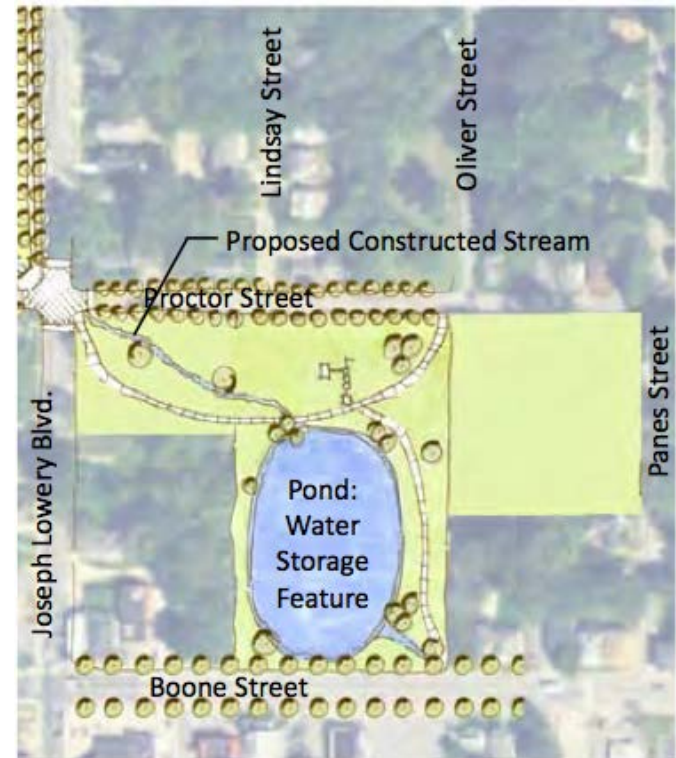
- Mims Park
 - Flooded properties to become a public park (timeframe?)
- Boone St Green Street/Infrastructure Pilot
 - Currently planned from Walnut to Chestnut (.4 miles/5 blocks)
 - Could be extended from Northside Dr. all the way to Beltline
 - Adding capacity (additional piping)
- MMPT: Green roof?



Oy Vey.

Stormwater Opportunities: Projects (Cont'd)

- New stadium: rain/stormwater recycling
 - Additional requirements from COA?
- General: Green Infrastructure everywhere!
 - Rain gardens, bioswales, pervious paving
- Boone Park West: The next H4W Park?
- Other Stormwater greenway opportunities?
 - Need to identify where retention/infiltration might be feasible
- BMPs (Full list: ARC's Proctor Creek Watershed Improvement Plan)



Park Pride proposed stormwater pond

Stormwater Opportunities: People

- Federal Watershed P'ship
 - Opportunity for enhanced assistance from EPA and other federal, state, and local agencies
 - RFP for master watershed plan (ARC to issue)
- Facilitate connections between AUC, N'hoods, Ga Tech
 - Proposed PNA Watershed bus tour?
- Synergy among many interested org's and individuals:
 - TPL
 - GA Conservancy
 - Atl DWM
 - WAWA
 - Upper Chattahoochee Riverkeeper
 - Park Pride
 - Etc, etc....

Stormwater Opportunities: Programs

- Community-based programs could address:
 - Litter control (adopt-a-stream, neighborhood cleanups, public outreach and education)
 - Beautification campaigns
- Outreach/Education
 - Homeowners (controlling stormwater at house-level)
 - Demonstration projects with educational signage (litter traps, GI demonstrations for school kids, etc)

Parks & Greenspace: **Issues**

1. Chronic **safety** concerns- illicit activities, vagrancy, urban setting
2. Lack of activity/recreational **opportunities & programs**
3. **Access**- both for neighborhood & larger community

Parks & Greenspace: **Opportunities**

1. Create stronger '**edges**' & encourage dense parkside development
2. Better visibility, lighting, etc.- creative **safety** solutions that don't prevent engagement of average patrons
3. New recreation-based **amenities & programs**
 - Facilities such as fields, courts, pavilions
 - Possible theming of amenities
 - Creative options that invoke local character
4. Multi-use trailways & greenways that **connect** the parks to each other and other community assets
5. General **streetscape & sidewalk improvements**- encourage pedestrian access
6. Generate an asset for entire City of Atlanta

Health **Issues**: Socioeconomic Index (NPUs L, M, and T)

	NPU L	NPU T	NPU M	All NPUs
SE Index	Low	Low	Medium	8 high, 6 medium, 11 low
Unemployment	21.10%	18.20%	11.20%	13%
Income	\$22,616	\$23,505	\$34,875	\$48,975
Poverty	43%	40.50%	35.40%	25.80%
Education	16.60%	20%	42.10%	37.10%

Health **Issues**: Neighborhood Quality of Life Index

	NPU L	NPU T	NPU M	NPU Average
QOL Index (out of 25)	20	10	4	
Parks & Recreation Access	43.7%	63.6%	82.3%	52.5%
Retail Access	43.7%	94.9%	100%	59.6%
Jobs to Labor Force Ratio	1.2	0.6	11.0	1.3
Vacancy Rate	42%	30.2%	25.8%	22.1%
Homeownership Affordability	2.5	3.1	4.9	5.6
Rent Affordability	0.2	0.2	0.2	0.2
Traffic Injuries/Fatalities	8.5	7.1	51.6	9.6
Violent Crime Rates	36.4	18.4	20.2	13.3
Property Crime Rates	101.7	102.9	135.8	72.3
Transit Access	96.2	99.3	98.8	78.2
Mean Travel Times	31.6	30.3	24.8	28.5

Health **Issues**: Neighborhood Health Index

	NPU L	NPU T	NPU M	NPU Average
NH Index (out of 25)	22	12	5	
Diabetes LQ (Fulton Co. reference)	1.9	1.5	1.7	1.1
Hypertensive Heart Disease LQ	56.5	64.2	55.0	58.1
Esophageal Cancer LQ	2.9	2.3	4.8	1.3
Uterine Cancer LQ	2.8	5.7	1.2	2.0
Kidney Cancer LQ	0.1	0.1	0.1	0.1
Food Access	0.24	0.01	0.01	0.07
Years of Potential Life Lost before age 75 LQ	2.1	1.6	1.0	1.5
Walkability	59.5	61	82.5	45.0

Health Opportunities

- Improve access to health facilities
- Socioeconomic factors
 - Provide employment opportunities
 - Improve schools, develop GED programs and workforce training centers
- Quality of life factors
 - Increase homeownership rates
 - Improve access to parks and recreation facilities
 - Improve public safety
 - Improve transit service
- Health factors
 - Improve walkability: ↑ physical activity ↓ environmental impact
 - Density, land use mix, safety, aesthetics, street connectivity
 - Improve community programming and social capital
 - ↓ Crime, obesity, cardiovascular problems
 - ↑ Mental health
 - Improve access to healthy foods
 - ↓ Obesity

Poor diet and physical activity is the #2 actual cause of death in the US
- Risk factor for heart disease, cancer, respiratory disease, diabetes...