

# Social Justice

as it Pertains to Safety on  
the American Tobacco Trail



NORTH CAROLINA  
RAIL-TRAILS

NC STATE UNIVERSITY



# Acknowledgements

We would like to thank the Z. Smith Reynolds Foundation for their generous funding of this study. We would like to acknowledge the many people, institutions, and participants that contributed to this study including:

Carrie Banks, Executive Director (former)  
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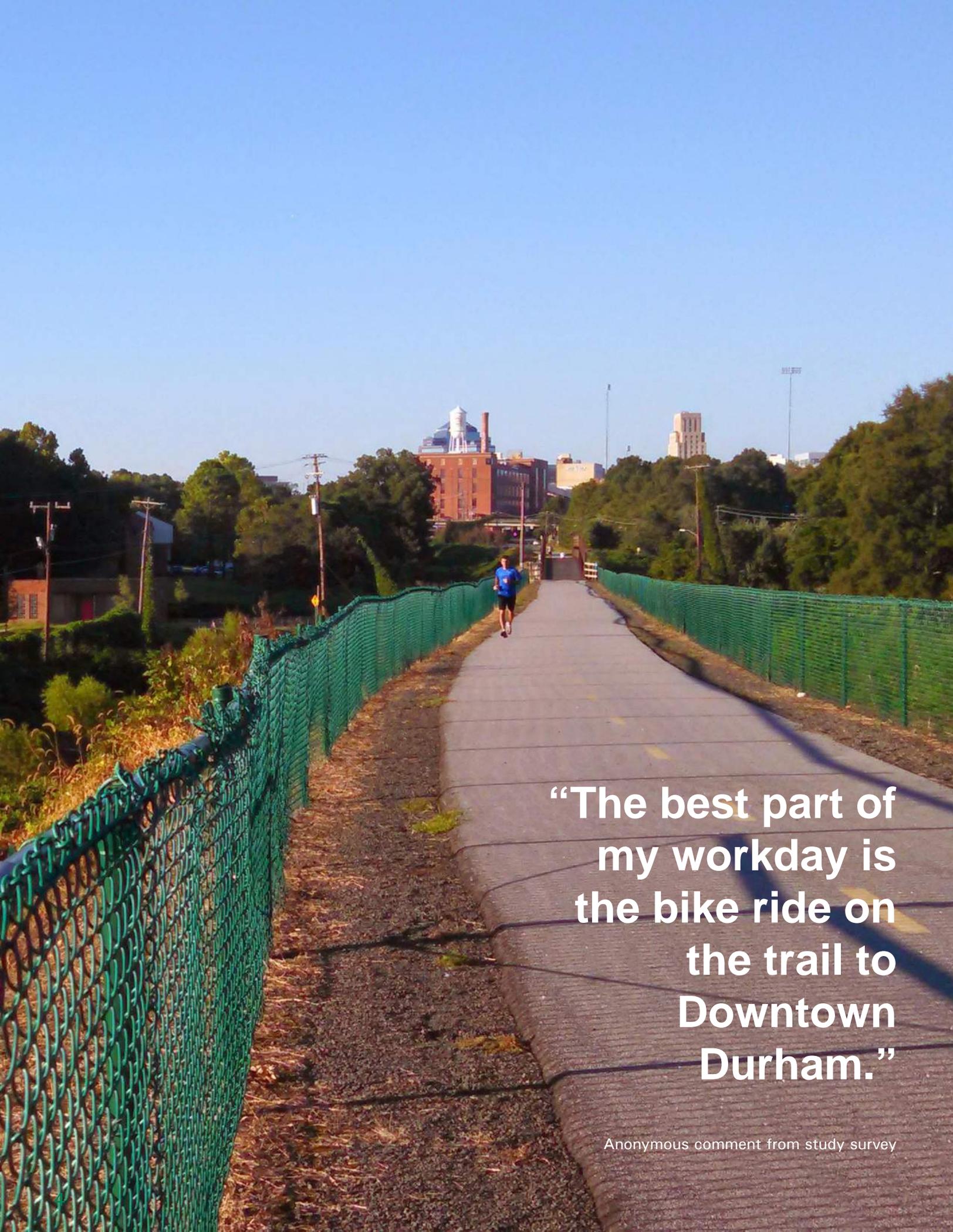
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Durham Police Department





**“The best part of  
my workday is  
the bike ride on  
the trail to  
Downtown  
Durham.”**

Anonymous comment from study survey

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# Executive Summary

The purpose of this study was to examine an area along the American Tobacco Trail (ATT) in Durham, North Carolina that experienced an increase in crime in 2011. The study analyzed the relationship between crime data, built environment characteristics in adjacent neighborhoods, and the perception of crime along the ATT. The study was initiated in response to the impact a 2011 crime increase on the ATT had on the overall perception of the trail and adjacent neighborhoods. Use of the ATT and the perceived safety of the study area is connected to the trail's ability to serve as an economic, social, and cultural resource and is a social justice issue. To date, ATT partners and residents from adjacent communities have had few opportunities to impact trail research and trail design decision-making. Engaging the community in the analysis of trail safety, as well as potential trail improvements, was a priority of this study.

## ***Is the ATT safe? Is it perceived to be safe?***

Researchers conducted a literature review focusing on the history of the study area, and factors impacting real and perceived crime in greenways, trails, and other urban open spaces. Findings informed the methods used to analyze the ATT. Researchers used three methods; 1) geospatial analysis, 2) surveys, and 3) interactive workshops. Geospatial analysis to compare reported crime incidents with a range of built environmental characteristics that impact trail use and perceptions of safety. Researchers developed a survey to elicit perceptions of safety of the ATT from trail users and neighbors living near the ATT. Researchers developed workshops to engage stakeholders and residents in activities to elicit their perceptions of safety on the trail, and their preferences for physical changes to improve safety on the trail.

Between 2012 and 2014, over 3550 violent crimes in 14 categories were committed within a 10 minute walk of the trail. However, only

14 crimes occurred on the trail. Less than a ½ percent of all area crimes occurred on the trail. The ATT is not crime free, but it is safe and much safer than the surrounding community.

Over 86% of survey respondents perceive the ATT as safe. The trail has few reported crimes (14 crimes committed between 2012 and 2014) and is safer than the adjacent community within the study area with one exception; the Fayetteville Street intersection. The highest number of reported crimes were in or near this intersection, the area was identified as a safety concern in community workshops, and survey results revealed that Fayetteville Street's built environment characteristics were perceived as the least comfortable of all environments in the study area. These characteristics included poorly defined boundaries between public and private spaces, spaces that lack "eyes on the street" and natural surveillance, and the perception of people on the street engaged in uncivil behaviors.

Workshop participants expressed an interest in modifying the built environment of the Fayetteville Street intersection to improve safety. Their recommendations included lighting, seating, and landscape elements to enhance the image of the area. Researchers translated these findings into visualizations that also incorporated research emphasizing the role of cultural landscape references as well as programming to improve the use and safety of the intersection. Study findings recommend continuing and extending community engaged strategies to enhance ATT use and safety. This includes leveraging partnerships with nearby institutions like NC Central University, local schools and churches, and local businesses. Additionally, coordinating trail improvements with the Downtown Durham Open Space Master Plan, and transportation planning can engage local agency partners.

Over: This diagram shows the project study area in the context of the I-40 bridge, and the entire trail.

The  
**American  
 Tobacco  
 Trail**  
 and  
 Area Trail System

TRIANGLE

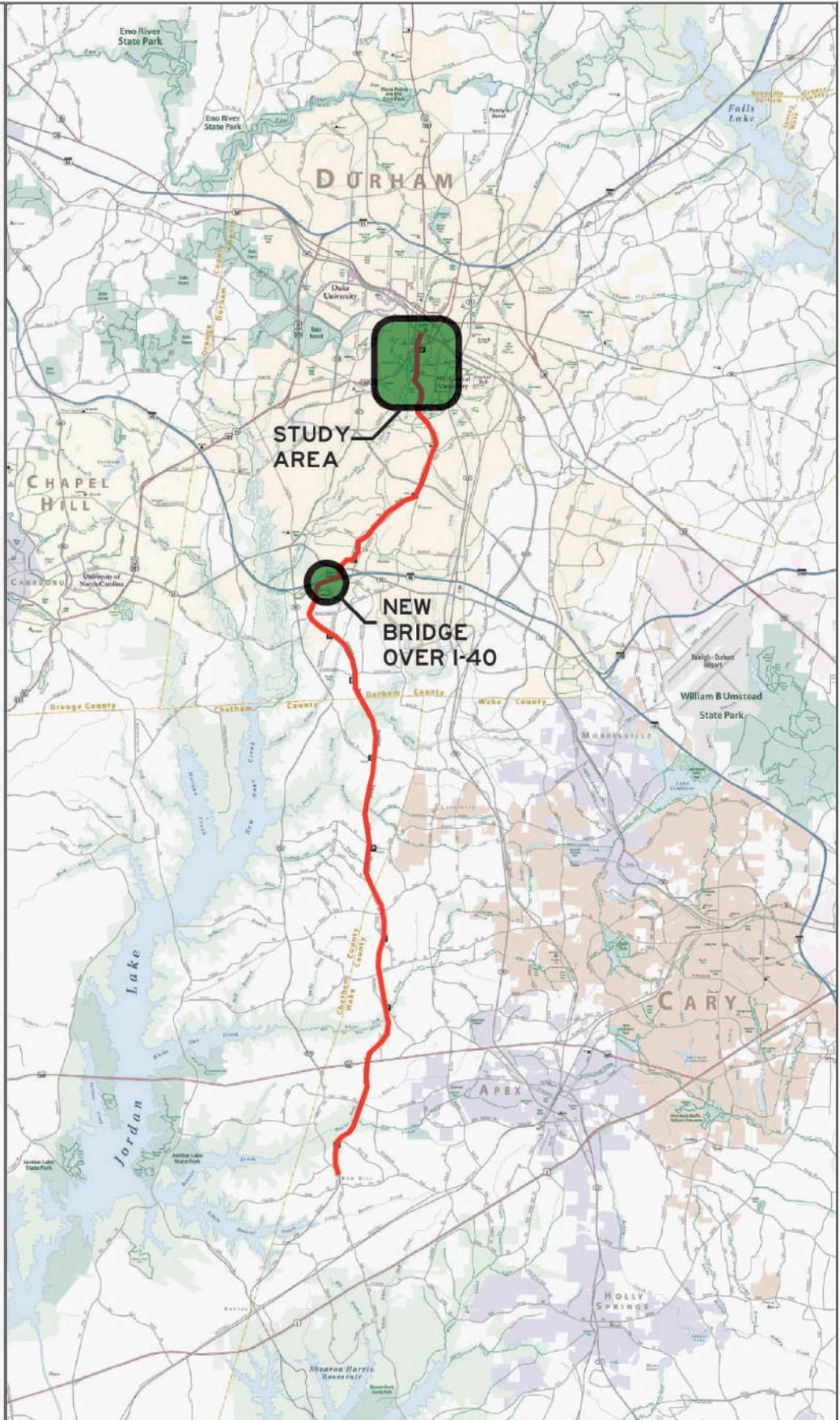


RAILS TO TRAILS  
 CONSERVANCY



**Legend**

- American Tobacco Trail
- Existing Trail
- Planned Trail
- Proposed Trail
- ATT Trailhead Parking
- Parks
- Open Space
- Municipalities
- High Schools
- Middle Schools
- Elementary Schools

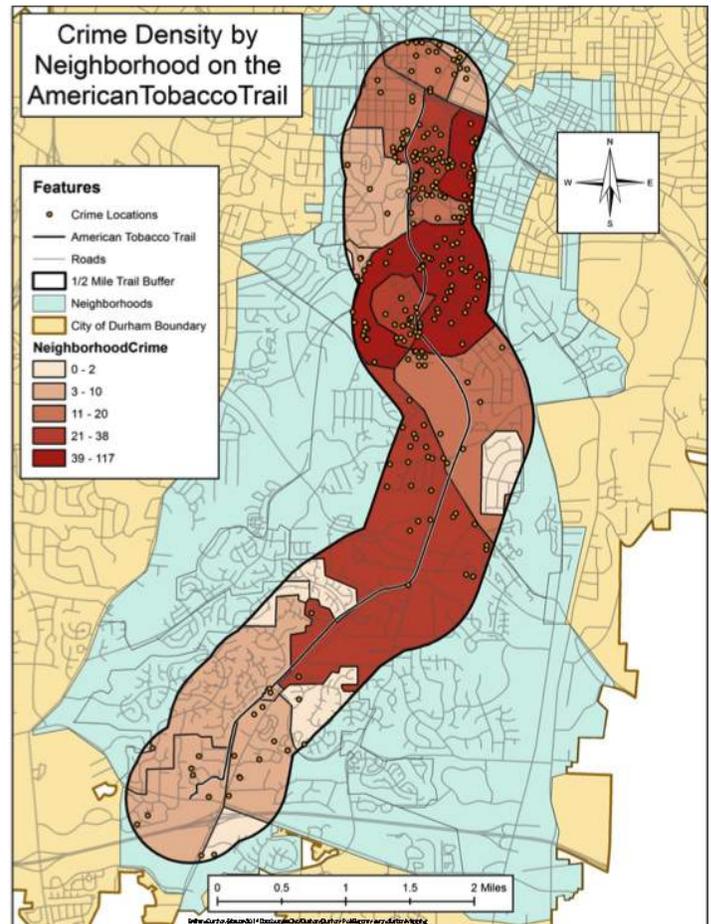


# Introduction

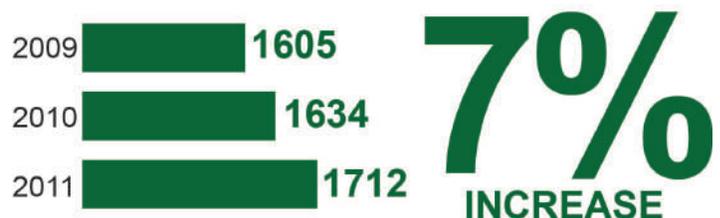
The American Tobacco Trail (ATT) is the result of a master plan created in 1992 by the Triangle Rails to Trails Conservancy (TRTC). The 22 mile long multi-use trail runs through Durham, Wake and Chatham Counties in North Carolina and occupies a right of way created by the American Tobacco Company. The corridor that houses the ATT is rail-banked by the NC Department of Transportation and leased to local governments. The ATT is North Carolina's flagship rail-trail and is unique in the state. The ATT connects a wide array of regional destinations, community services, and daily needs. Via the trail, people can shop, worship, go to school, go to work, and recreate. The opening of a new bridge in 2014 over Interstate 40 connected two trail segments formerly separated by the freeway and greatly expanded its connectivity and use.

However, beginning in the summer of 2011, highly publicized crime incidents along segments of the trail negatively impacted public perception of the overall trail. Previously, few crimes were reported on the ATT. During a brief period that summer, a number of trail users were victims of crimes ranging from assault to robbery. The majority of these crime incidents occurred in southern Durham near middle class and predominately White communities. However, the alleged perpetrators were predominately African American and people of color. Newspaper editorials and comments to online message boards provided overwhelmingly negative feedback on the safety of the overall American Tobacco Trail, and blamed nearby predominately African American communities with being the source of crime and alleged criminals.

Durham, North Carolina remains geographically segregated by race. The former railroad corridor that is now the ATT serves as a demographic divide; Downtown and areas west are predominately white, and areas east of downtown are predominately black. Public



This map shows all crimes committed within a 10 minute walk from the American Tobacco Trail in Durham from 2012 to 2014.



Violent crimes citywide in Durham increased every year from 2009-2011 reaching a peak of 1712. Crimes on the American Tobacco Trail were a part of a citywide trend.

commentary in and mainstream and social media increased and included critiques of the construction of a pedestrian bridge that would connect the northern and southern ends of the ATT over I-40. Some expressed concern that the bridge would make it easier for criminals to access neighborhoods and commit more crimes.

Was the spike in crime reported in the summer of 2011 indicative of a broader trend of increased crime along the American Tobacco Trail? Was crime similar to or different from that of its surrounding communities? Is there any evidence to suggest that the ATT would serve as a conduit enabling criminals to move more easily into lower crime areas? And were comments directed at African Americans and African American communities as sources of trail safety concerns unwarranted?

With the rise of online sources and social media, comments made through social networks can have a tremendous impact on the perception of places. Negative perceptions can impact the use of places. The perception of crime and a lack of safety is a powerful determinant discouraging people from using public places. Gathering data that can confirm or deny negative perceptions of safety, and engaging people to present that data as a means of addressing perceptions, have been successful strategies in changing perceptions about safety in public places.

Additionally, research suggests that implicit racial bias has a tremendous impact on perceptions of crime and safety. White Americans often associate African American men and more broadly African American communities with higher crime rates and a lack of safety. The consequences of implicit racial bias are far reaching and constitute a significant social justice issue. The drivers of implicit bias are diverse and often indirect. However, the

use of data describing actual crime and safety can impact the perceptions of safety in public places.

This study was designed to explore the relationship between crime data and the perception of crime on the ATT. Specifically this study was interested in answering the following questions:

- What crimes have occurred on the ATT and where did they occur?
- Are there physical characteristics along the ATT that correlate with crime locations?
- Are there socio-economic characteristics in communities along the ATT that correlate with crime locations?
- How do crime rates on the ATT relate to overall crime rates in adjacent neighborhoods?

Additionally, this study developed methods of engaging people with crime data in the pursuit of answers to the following questions:

- How do residents of neighborhoods adjacent to the ATT perceive safety on the trail?
- How do users of the ATT perceive safety on the trail?
- Are there any differences between resident and user perceptions?

Finally, this study used methods of engaging people in order to empower them, to suggest changes to the ATT, that would improve the perception of safety.

# Historic Hayti

The study area was selected due to its broader perception as an unsafe portion of the American Tobacco Trail (ATT), and also social media postings claiming that the (then) proposed bridge over I-40 would enable criminals residing near downtown to commit crimes in Southern Durham. Embedded in these perceptions are components of implicit racial bias; the wide array of prejudices ascribing social characteristics to people based on their race. The ATT exists in a socio-cultural context, not just a physical one. The legacy of racial segregation and the disproportionate impacts of urban renewal on Durham's black community grounds current safety perceptions in the real world of social equity. And in the case of the study area, the impacts of mid-century design and planning decisions facilitated the decline of the study area.

The study area is within the Hayti District. Founded in the late 19th century by freedmen working in Durham's growing tobacco industry, the community formed around several prominent churches and what would eventually become NC Central University, Hayti was Durham's most prominent African American community. During segregation, Durham's African Americans irrespective of income level lived within close proximity to the community's significant institutions and in racially isolated settings. The founding of Mechanics and Farmers Bank, as well as North Carolina Mutual Life Insurance Company (at one time the largest black-owned business in the country) gave rise to Black Wall Street in Downtown Durham. Black Wall Street earned a national reputation of black wealth, entrepreneurship, and an example of moderate racial tolerance in the segregated south. In Hayti, where these prominent businessmen lived, the streets were dense and active. However, research suggests that the Hayti Neighborhood, as early as the late 1950's was in decline. Across North Carolina, communities were suffering from shifting global markets in tobacco and textiles. Durham



Fayetteville Street in the Hayti Neighborhood in the early 20th century was home to a dense mix of homes, institutions, and businesses (photo credit: Open Durham).



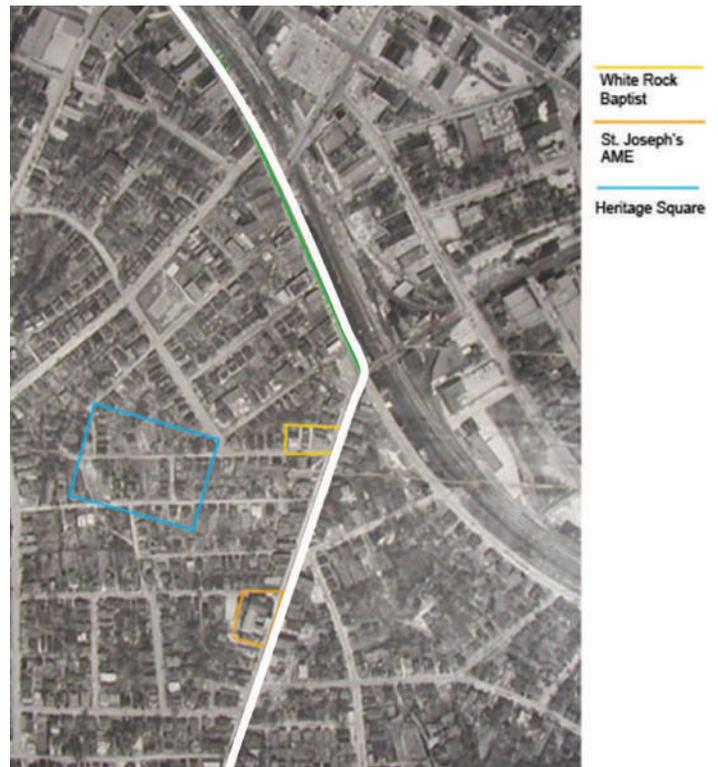
Fayetteville Street in the Hayti Neighborhood today is still in the process of implementing urban renewal-era redevelopment; work began over 60 years ago (photo credit: Google).

was no different. In the 1960's, resources were being diverted away from the center city and to newly formed suburban development. Hayti in particular experienced rapidly rising unemployment and sharp decreases in population.

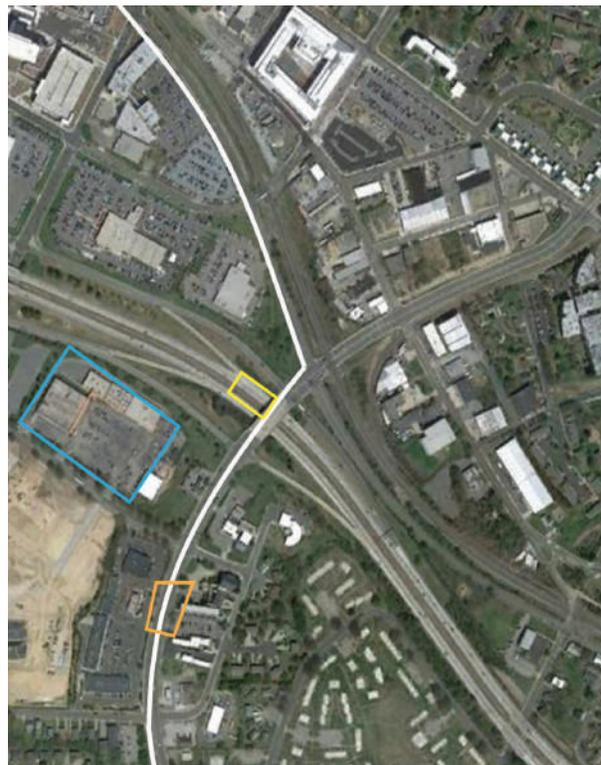
The Redevelopment Commission of the City of Durham commissioned an urban renewal plan that included extensive land clearance in Hayti, realignment of Fayetteville Street (Hayti's main street), and the creation of what is now known as the Durham Freeway. The Freeway, connecting Northern Durham and Duke University to Research Triangle Park, resulted in the loss of numerous street connections linking Hayti to Downtown Durham. Many buildings, including White Rock Church (one of the historic institutions around which Hayti formed) were relocated. Redevelopment occurred slowly, and the slow progress led to many business closures. There is a precipitous fall in many socio-economic indicators following urban renewal and the creation of the Durham Freeway including decreased property values, higher unemployment rates, and lower household incomes.

An indicator of the area's decline is a comparison of average household income before and after urban renewal land clearance. In 1960, prior to the construction of the Durham Freeway, household income was \$13,531 (in 1999 dollars) or roughly half of the average income of Durham County at the time. In 1970, income fell 3.2% and did not rebound until 1980 to \$15,661 (then almost one third of average income in the county). A recent demographic analysis of census tracts adjacent to the trail in the study area revealed similar disparities between the neighborhood and the county in unemployment, educational attainment, and income. Hayti was not the most economically stable community prior to urban renewal. However, urban renewal and the radical transformation of the community's urban fabric had a direct negative impact on its socio-economic health.

The recent growth of NC Central University and the development of Southside (a new community on the northern edge of Hayti) have increased development in the area. Recent development has also brought renewed City and institutional attention and resources



The Hayti neighborhood was the heart of Durham's African American community. (Image: circa 1955)

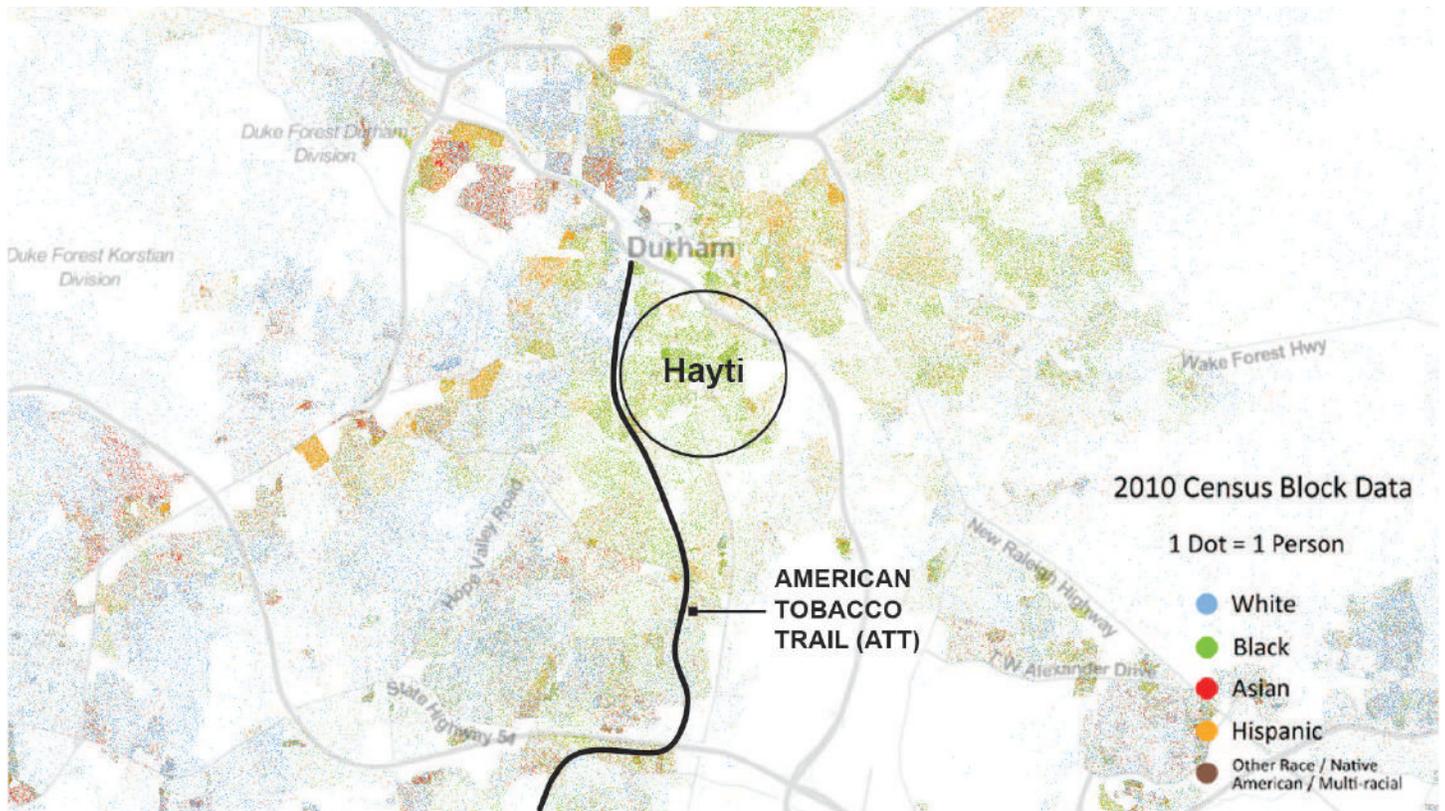


The Redevelopment Commission of the City of Durham's urban renewal plan destabilized the community. (Image circa 2014)

to address issues of crime and safety. However, Hayti still exhibits lower socio economic indicators than much of the City of Durham and the State of North Carolina. Durham remains a relatively segregated city, with a long standing dividing line between wealthy and lower income households, as well as between white and black, paralleling a rail line along a Northwest/Southeast divide. The ATT, the trail that now occupies this former rail line, continues to skirt this boundary. This report focuses on physical features of the trail and human perceptions of safety. But in the broader context of social equity the century long legacy of segregation and the post war impact of urban renewal policies continue to reveal persistent inequality.



This image shows poverty rates in census block groups in the ATT study area. The trail is the green dotted line. The highest poverty rates (darkest colors) are generally aggregated on the eastern and southern parts of the study area (source: US CENSUS).



Durham, North Carolina remains a segregated city. Historically, African Americans lived to the south and east of downtown, and Whites lived north and west. A rail line, now the right of way of the American Tobacco Trail, approximates the dividing line separating African American and White communities. The socio-economic conditions of the Hayti Neighborhood are symbolic of broader inequities. African Americans struggle with lower household incomes, higher unemployment, and lower educational attainment than White communities. These disparities contribute to the overall social climate and the perceptions of safety while straddling two very different communities along the trail (photo credit: Racial Dot Map).

# Literature Review

## Perception of safety in urban environments

### *Human Ecology*

The perception of safety of the American Tobacco Trail (ATT) is a part of an ongoing dialogue about human ecology, activities, and environments. In Crime and Planning, Paulsen suggests that in the case of safety and crime in the built environment research falls into two broad categories; compositional (demographics) and ecological (spatial and environmental) (Paulsen, 2013). This literature review focuses on the ecological influences on human perception including safety and crime. Human ecology, the interaction between sociological factors and environmental factors that collectively shape the built environment, suggests that humans engage in behaviors not unlike other animals do in their habitats. The "habitat model", rooted in the assumption that individuals behave in ways that optimize their life

outcomes, impacts our ideas about environmental perception (Stenier and Nauser, 1993; Park, 1936). Underlying human perceptions of the built environment are deeply set behavioral patterns.

### *Prospect and Refuge*

Appleton's landmark research established the concepts of "prospect and refuge" describing human behavior in the built environment (Appleton, 1975). Expanding on concepts of human ecology, Appleton provided evidence that human beings associate landscape preferences with deeply set behaviors evolved to assess survival outcomes (Appleton, 1975). Namely, the idea of prospect describes places with physical characteristics that comfort people by affording views from places of comfort. Refuge is the idea of "hiding for protection" and describes places that afford safe removal from activity and threats.

Authors	Key Concepts	Application to trail safety
Paulsen (2013)	Literature describing safety in the urban environment falls into two broad categories; spatial and environmental	Spatial features include physical aspects of the built environment (streets, buildings, etc.). Environmental features include demographic, social, and economic aspects of an urban setting.
Appleton (1972)	Habitat model applied to the urban environment; "Prospect and Refuge" concept describing human behavior in the urban environment	User comfort connected to perceptions of safety in the urban environment. "Prospect" relates to sight lines and visibility, "Refuge" relates to secure places out of direct visual contact.
Jacobs (1961)	Encounter model focussed on the roles of public spaces like sidewalks in enabling social controls and "natural surveillance" in the urban environment	Safety is a component of effective social controls, also includes the ability to passively monitor street activity from adjacent buildings
Newman (1972)	Enclosure model relating the ability to socially control access to territories to their relative safety	Social control erodes with increased movement through unsafe areas, social control can increase by limiting unregulated movement through urban space.
Hillier (1989)	Space Syntax model relating safety to amount of internal and regional connectivity of an urban area	High connectivity within urban areas (streets) and high connectivity to regional systems (major streets, etc.) translate into the potential for active and safe areas.

## Factors impacting safety in urban areas

Prospect is related to a litany of visual preference concepts and has parallels in built environmental safety approaches. Informally, Jacobs emerged as a leading voice for a human centered urbanism emphasizing public spaces, especially sidewalk characteristics that favored high use, visibility, and interaction. Jacobs argued that sidewalks were essential for order and safety, and that meant paying attention to the relationships between the views from adjacent buildings to the sidewalk, or what would later be known as “natural surveillance”, as a component of overall safety in public space (Jacobs, 1961).

### *Territoriality*

Newman expanded on the urban design vocabulary needed to enable safe public spaces through his concept of “defensible space”. Newman’s research produced evidence that the informal notion of “natural surveillance” introduced by Jacobs was associated with actual crime and safety. The less proximate people were from being able to see and influence the activities from their homes on adjacent public spaces, the more crime occurred (Newman, 1972). Newman introduced the relationship between social control and crime prevention. Territoriality, the primary theory driving defensible space, assumes the need for people to treat and defend their home places as sacred spaces (not unlike Appleton’s refuge concept). Urban design decisions to enhance safety would stem from this central theory to encompass natural surveillance, image (physical characteristics conveying a sense of security), milieu (context), and safe adjoining areas. Newman’s theories have directly informed numerous safety guidelines including Crime Prevention Through Environmental Design (CPTED). CPTED is currently used in policing the ATT.

The implications of the Enclosure Model  
Newman also proposed the “Enclosure Model” (Newman, 1972). Enclosure describes how

controlling access to communities (ex. adding gates to streets, etc.) reduces permeability (ways of entering communities without being visible to residents and avoiding social controls) and reduces crime. Enclosure, though influential, is controversial. Innumerable communities have initiated street closings, gated communities, and other strategies per the Enclosure model to reduce crime. However, the tradeoffs in some cases have been increased isolation from surrounding areas, and other social issues.

Hillier, creator of Space Syntax, has been openly critical of the Enclosure model, favoring increased and more regional connections between communities and their surroundings as ways of reducing crime and increasing safety (Hillier and Hanson, 1984; Hillier, 1999). Nasar and Jones go further to describe overly enclosed places as being more dangerous (Nasar and Jones, 1997). They correlated patterns of “Entrapment” (not seeing an obvious way out of a space) and “Concealment” (seeing places where it is easy for potential threats to hide) to patterns of use and preference for public space. This responds to broader theories of human habitat.

### **Perceptions of lack of maintenance and disrepair**

In addition to broader urban design decisions, research suggests that people make assumptions about places based on their relative level of maintenance and repair. Wilson and Kelling pioneered studies demonstrating how people dislike evidence of disorder and interpret them as breakdowns of social control (Wilson and Kelling, 1982). Visual cues including dilapidated buildings, graffiti, lack of maintenance, and litter serve as physical cues associating a place with broader notions of social disrepair. Wilson and Kelling’s “Broken Windows Theory” argues that people can perceive the incremental and cumulative elements in the built environment

Authors	Key Concepts	Application to trail safety
Nasar and Jones (1989)	People assess environmental safety based on the the potential for entrapment, and the amount places where people can potentially hide.	Perceptions of trail safety could relate to sight lines and visibility, as well as the perception of preventing clear views in unsafe areas.
Wilson and Kelling (1989)	"Broken Windows" theory, visible signs of lack of care and physical decline communicate lack of social control in an unsafe area.	The level of maintenance and repair of the trail environment and elements can impact the perception of the trail as a controlled and safety environment.
Kaplan, Kaplan, and Ryan (1989)	Perceptions of greenway environments, especially their "legibility" (ability to be viewed and understood quickly) impact trail use.	Physical characteristics can impact trail use. There are correlations between trail use and trail safety.
Lindsey et al. (2002, 2009)	"Openness", the level of unobstructed views, and "Greenness", the amount of vegetation in an area, are predictors of trail use.	Areas with more unobstructed views, and areas with high percentages of vegetation, could correlate to highest trail use locations. There are correlations between trail use and trail safety.
Luymes and Tumminga (1995)	Recommended applications of other urban safety theory into framework for increasing safety on urban greenways.	Levels of visibility and the potential for trail choice (offering a hierarchy of trail access) can contribute to trail safety.

**Factors impacting perceptions of urban safety and trail use.**

and use them to make assumptions about the functioning and safety of those places. Over time, Wilson and Kelling argued that the accumulation of these smaller increments creates a tolerance in communities for potentially larger and more substantial symbols of social disorder including major crimes. This theory has informed numerous safety and crime prevention strategies that target early stages of neglect and decay to prevent the accumulation that could lead to bigger problems.

**Perceptions of safety on urban greenways and rail-trails**

The literature on human ecology and the components of the built environment that can

trigger perceptions of safety is substantial in streets and other typical public spaces; what about greenways and trails? Although continuous linked parks have existed for centuries in cities, greenways and trails in urban settings as we know them in the United States emerged in the 1960's as a way to encourage recreation but also the preservation natural features (Fabos and Ahern, 1995; Flink and Searns, 1993; Flink and Searns, 2001). The earliest greenways paralleled waterways and served as conservation tools as well as recreation amenities. With the development of rail trails (like the ATT), greenways became more firmly situated in the broad circulation systems of urban areas, sometimes diverging from natural features. But in all, greenways are generally continuous,

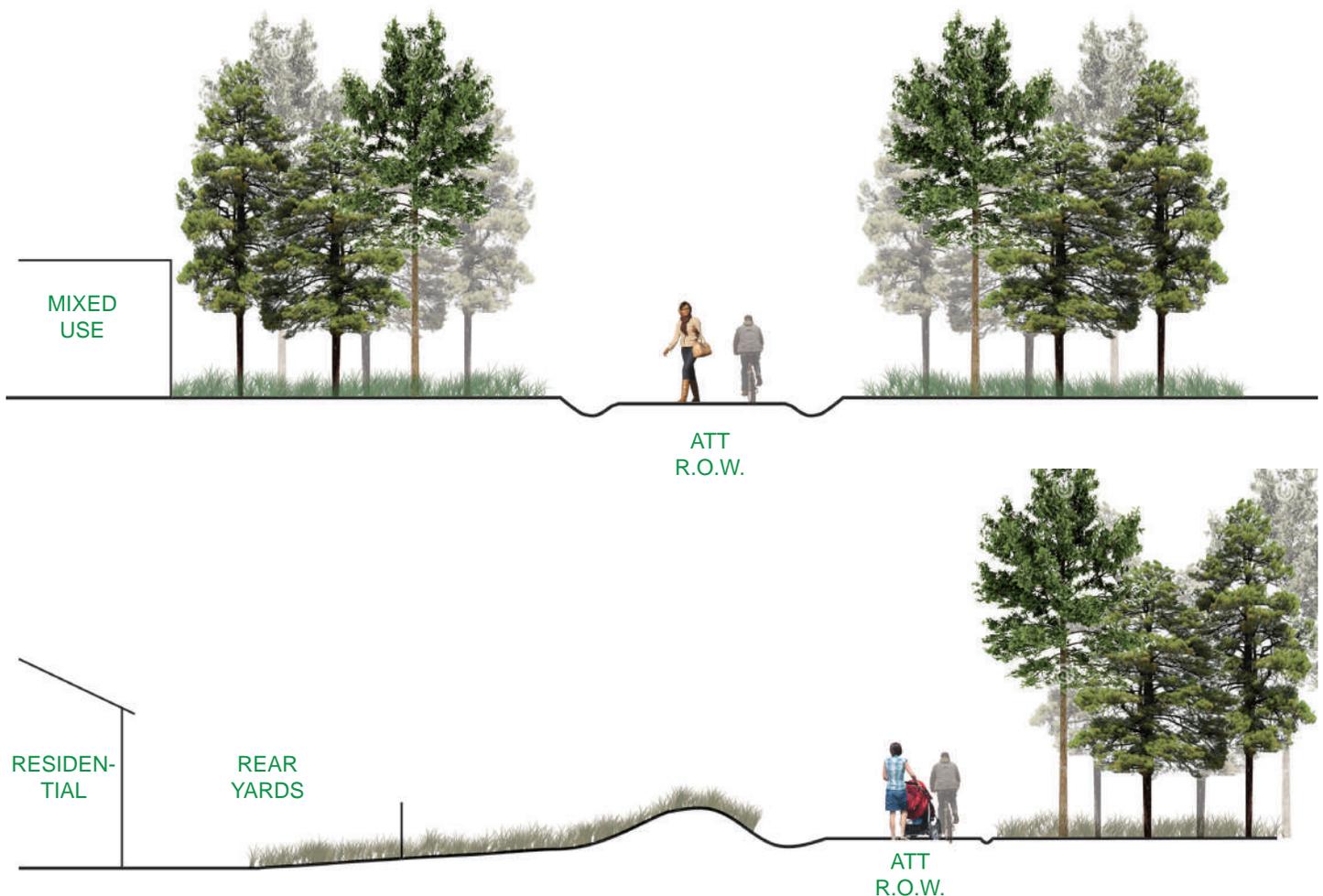
favor non-motorized transportation, and cater to users interested in traversing a range of distances.

Due to the locations of rail corridors in the context of cities, greenways located within these systems can have radically different urban relationships than the more familiar public spaces described above. Unlike a street, a greenway may go long distances without visual access to or from adjacent neighbors. Railroads were considered noxious uses historically, and were often located in the rear of dwellings and adjacent to non-residential uses. This land use pattern is the environmental legacy of rail-based industry and makes conforming greenway and trail contextual relationships to known human/

built environment relationships a challenge. How can a greenway in the rear of a neighborhood be a setting for examining the spatial practices impacting perceptions of safety in the built environment?

### Physical characteristics impacting use and indicating perceived safety

Lindsey et al. has conducted multiple studies of trails in Indianapolis looking at wide array of community and trail characteristics affecting greenway trail use (Lindsey et al., 2008). Lindsey offers a robust analysis of trail characteristics incorporating surveys, direct observation, and geospatial analysis in search of correlations between physical characteristics,



These images characterize different conditions on the American Tobacco Trail in the study area. Although the majority of the trail is flanked by vegetation, there are zones where mixed use and the rear yards of residential neighborhoods directly abut the trail. These areas, formerly hidden from view and home to noxious uses, are spaces where railroad infrastructure and city spaces collide producing a range of conditions that impact the perception of safety.

perceptions, and use levels. Lindsey's concept of "Openness", the level of unobstructed views while on a greenway, correlates to "Prospect" and other components of natural surveillance. Openness positively correlates with higher trail use. Additionally, A trail's "Greenness index" (measured as the amount of vegetative land-cover in an area) is positively correlated with greenway use. Greenway use in an urban area is positively correlated with the diversity of land uses within a 10 minute walk from the trail. In the case of Indianapolis, diverse land uses occurred in district instance on the trail including where the greenway crossed mixed use streets and went through neighborhood centers. Although perception of safety and crime were not variables in Lindsey's analysis, increased levels of trail use are an indirect indicator of user's desire to access the greenway and potential overcome uncomfortable perceptions.

#### *Towards application: Toronto example*

Lastly, Luymes and Tamminga attempted to distill much of the previous research into guidelines for the design of an urban greenway in Toronto, Canada. Directly addressing the issue of perceived safety and crime as a potential barrier to trail use, Luymes and Tamminga synthesized much of what was known about perceptions of safety in other urban places and applied them to a greenway setting. Their safety principles included:

- Visibility of others—minimally obstructed views along the greenway
- Visibility by others—minimally obstructed views by others of users
- Choice and control—integration of defensible spaces along the greenway, and secondary paths to avoid unwanted trail experiences
- Environmental awareness and legibility—evidence of well managed green spaces
- Solitude without isolation—secondary spaces to pause that are still accessible by the main greenway path

The success of the application of Luymes and Tamminga's principles is not known. However, the guidelines do effectively summarize the most prevalent research on greenway perception and safety. In human ecology terms, addressing greenways as an integral component of human habitats seems important for developing ways of evaluating and impacting perceptions of safety. This includes consideration of views by and of users on the path. An addition by Luymes and Tamminga is the idea of choice and control. The ATT and other greenways are commonly a single path with a single trail character connected to a broader network. The introduction of secondary path networks, as well as the creation of refuge, to maximize choices by the user and potentially avoid perceived unsafe places offers an unconventional approach to greenway design. The impact of environmental awareness on perceptions of safety is not clear. However, the need for legibility is clearly reinforced by numerous studies. Research identifies a range of concepts addressing the impacts of ecological features on perceptions of safety to test through study.

#### **Crime and the American Tobacco Trail in Durham, North Carolina**

Durham has the highest crime rate of the largest cities in the Triangle Region. However, overall crime rates in Durham have generally followed national trends and reduced over time. Since 2000, Durham has experienced a decrease in all categories of crime per 100,000 people with a few nearer term exceptions. Violent crimes spiked in 2010 and 2011, rising to over 5500 per 100,000 population (The Chronicle, April 2012). The City of Durham Police Department attributed some of these increases to gang activity and consider these spikes to be anomalies, not new trends. However, even with dramatic drops in murder (down 23%) and vehicle theft (down 15%), shootings in 2014 produced another spike in violent crimes, and the increase was highly publicized, impacting public perceptions of safety of as a city

(WRAL 2014). These perceptions have been communicated in newspaper editorials, social media, and online message boards

The study focused on a subset of violent crime categories within a 10 minute (1/2 mile) walk from the ATT. Different geospatial analysis studies were performed, but the most extensive examined the locations of 13 violent crime categories over a 6 mile section of the trail. Between 2012-2014, 3545 violent crimes were committed within a 1/2 mile of the ATT in the study area.

This study was conducted on a two-mile section (within the broader 6 mile section) of the American Tobacco Trail (ATT) in Durham, North Carolina. The study area was selected after conducting an exploratory study of crime rates in neighborhoods adjacent to the ATT. The study area (from Downtown Durham on the north to Fayetteville Street on the south) has the highest crime rates of any neighborhood adjacent to the ATT. The study area is generally in the Hayti and near downtown near north neighborhoods. Hayti is a historically African American neighborhood that emerged in the early 20th century around North Carolina Central University (also in the study area). Southside does not have a defined boundary but emerged as a place name surrounding a major redevelopment project near downtown. The area is home to several destinations including a shopping center near Fayetteville Street, mixed use, schools, and Forest Hills Park. All of these destinations are connected by the trail. The majority of the area consists of early 20th century single-family homes.

The trail throughout the study area has a similar layout. The trail is in a 50' wide right of way and consists of a 10' wide asphalt path with drainage swales on both sides. Generally, the area between the path and the right of way is vegetated, often with mature trees. There are several conditions on the trail; 1) a trail

with mature trees on both sides, 2) a trail with mixed use edges visible and accessible from the trail 3) a trail with visual access to residential rear yards, and 4) a trail with grade change and slopes on both sides. The trail has signage, occasional seating, and fencing in areas with steep slopes.

The Fayetteville Street crossing is a unique setting in the ATT study area. The trail opens up and allows access from an adjacent property (formerly the Hip Hop Shop), an office supply store and a children's day care. The crossing is flanked by two bus shelters, both facing Fayetteville Street, and commonly occupied. Active businesses are nearby, including a Food Lion grocery store. A gas station parking lot adjacent to the trail serves as an impromptu market area with seasonal fruit sales, "fish fries", and other local activities. A block away is a Food Lion grocery store and a local commercial street.

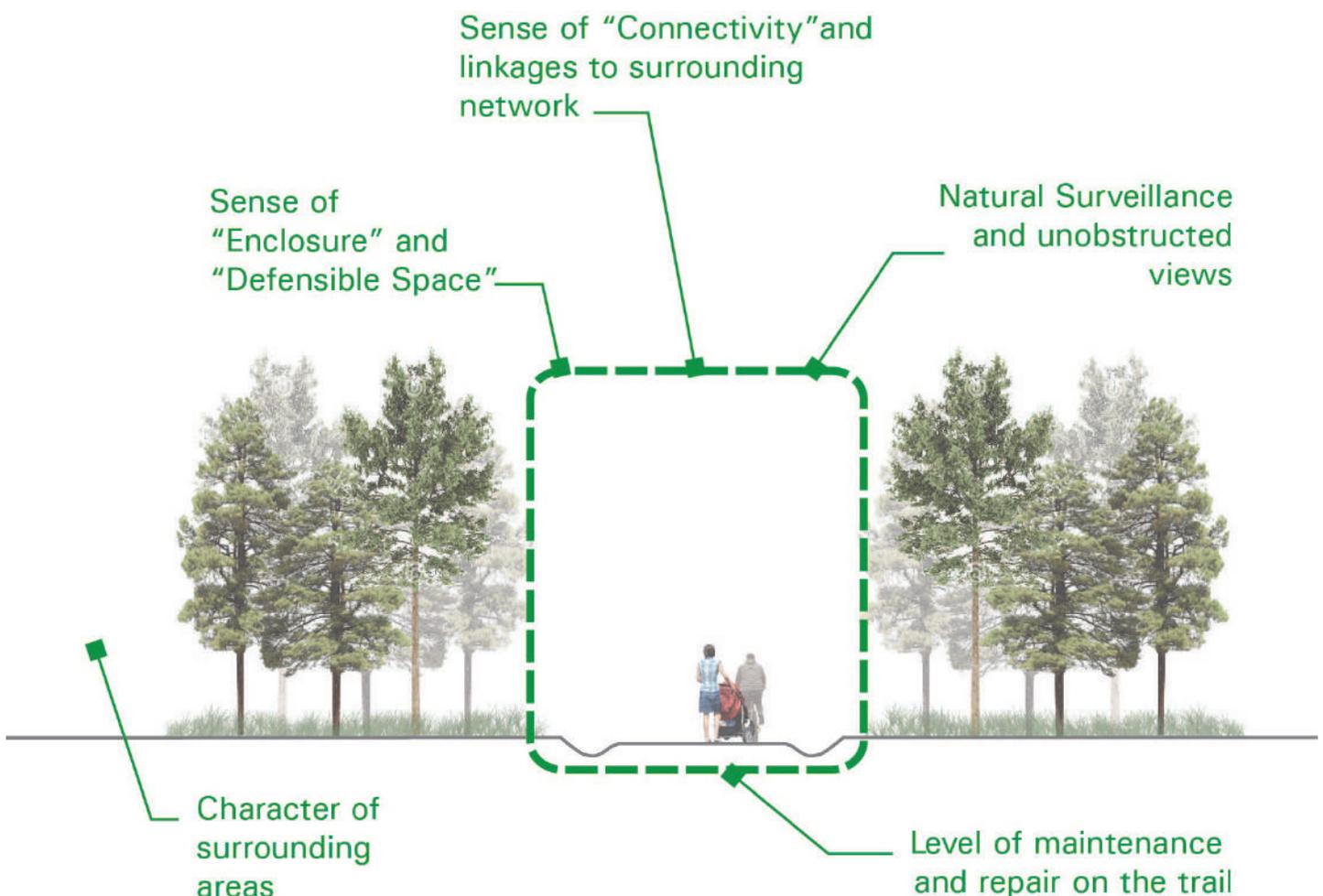
Although the majority of the study area passes through residential areas, the segment north of West Enterprise Street transitions to mixed use and commercial edges on one side. This area is where a user sees the downtown Durham skyline and there are no at grade street crossings from there until American Tobacco Campus (the northern limit of the study). American Tobacco Campus is a dynamic retail, commercial and mixed redevelopment in a former tobacco warehouse complex. It is across the street from Durham Athletic Park, and is one of the most popular destinations in the city. There is a trailhead and some amenities near this location.

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- Are there socio economic characteristics in communities along the ATT that correlate with crime locations?
- How do crime rates on the ATT relate to overall crime rates in adjacent neighborhoods?

Additionally, this study developed methods of engaging people with crime data in the pursuit of answers to the following questions:

- How do residents of neighborhoods adjacent to the ATT perceive safety on the trail?
- How do users of the ATT perceive safety on the trail?
- Are there any differences between resident and user perceptions?



Summary of physical characteristics impacting perceptions of safety on trails and greenways

# Methodology



This diagram describes the relationship between methodologies used in this study. Field observations initiated the process and were used to inform other related techniques.

This study used several methodologies to pursue the research questions. The methods included:

## 1) *Field observations of trail conditions and on-site characteristics*

Researchers visited the site on three occasions. In each visit, researchers noted trail characteristics especially trail condition, trash and disrepair, vegetation characteristics along the trail, trail access points including “volunteer”/informal trail access, trail furnishings, and adjacent land uses. Researchers used photography and videography to document key trail characteristics.

## 2) *Geospatial analysis (after Lindsey et al. 2008) of trail and community characteristics*

Researchers conducted several geospatial analyses attempting to correlate physical charac-

teristics of the trail with crime locations on the trail. Geospatial data was provided by the City of Durham, and crime data covering 2011-2013 was provided by the City of Durham Police Department. LIDAR data (for landform physical trail analysis) and land cover was provided via the State of North Carolina and national databases. Per Lindsey et al. (2008), key physical trail characteristics were identified to calculate levels of “Openness” and “Greenness” on the ATT. “Openness” is the unobstructed views of trail users and a high degree of openness has been positively correlated with higher levels of trail use. “Greenness”, or the greenness index, identifies the relative percentage of landcover that is green space/planting in a trail area. Like “Openness”, “Greenness” has been positively correlated with trail use. Both trail characteristics were analyzed on the ATT and were overlaid with crime data (over a two year

period) to identify any patterns in the distribution of trail characteristics and crime incidents.

An assumption was made that the perception of safety and fear of crime would negatively impact use on the trail. A second assumption was that high levels of “Openness” and “Greenness” would correlate to higher levels of use. Based on these assumptions, a hypothesis was developed that these two trail characteristics would negatively correlate with crime locations. In other words, the more open and green the area, the less crime would be reported in that area.

Geospatial analysis correlating crime with physical trail characteristics was performed twice. The first analysis focused on the 2 mile study area and included data mapping 11 crimes per The City of Durham’s violent crime categories. The second analysis was conducted on a larger area (roughly from the American Tobacco Campus to I-40 or around 6 miles) and with an expanded list of crimes (14 violent crime types).

Researchers conducted a geospatial analysis attempting to correlate adjacent land uses and demographics of areas surrounding the trail in the study area with crime locations on the ATT. This analysis worked from the hypothesis that crime locations along the ATT were correlated with crime locations immediately surrounding the trail and within a 10-minute walk buffer. In other words, the higher the rate of nearby crimes, the higher the rate of crimes on the trail.

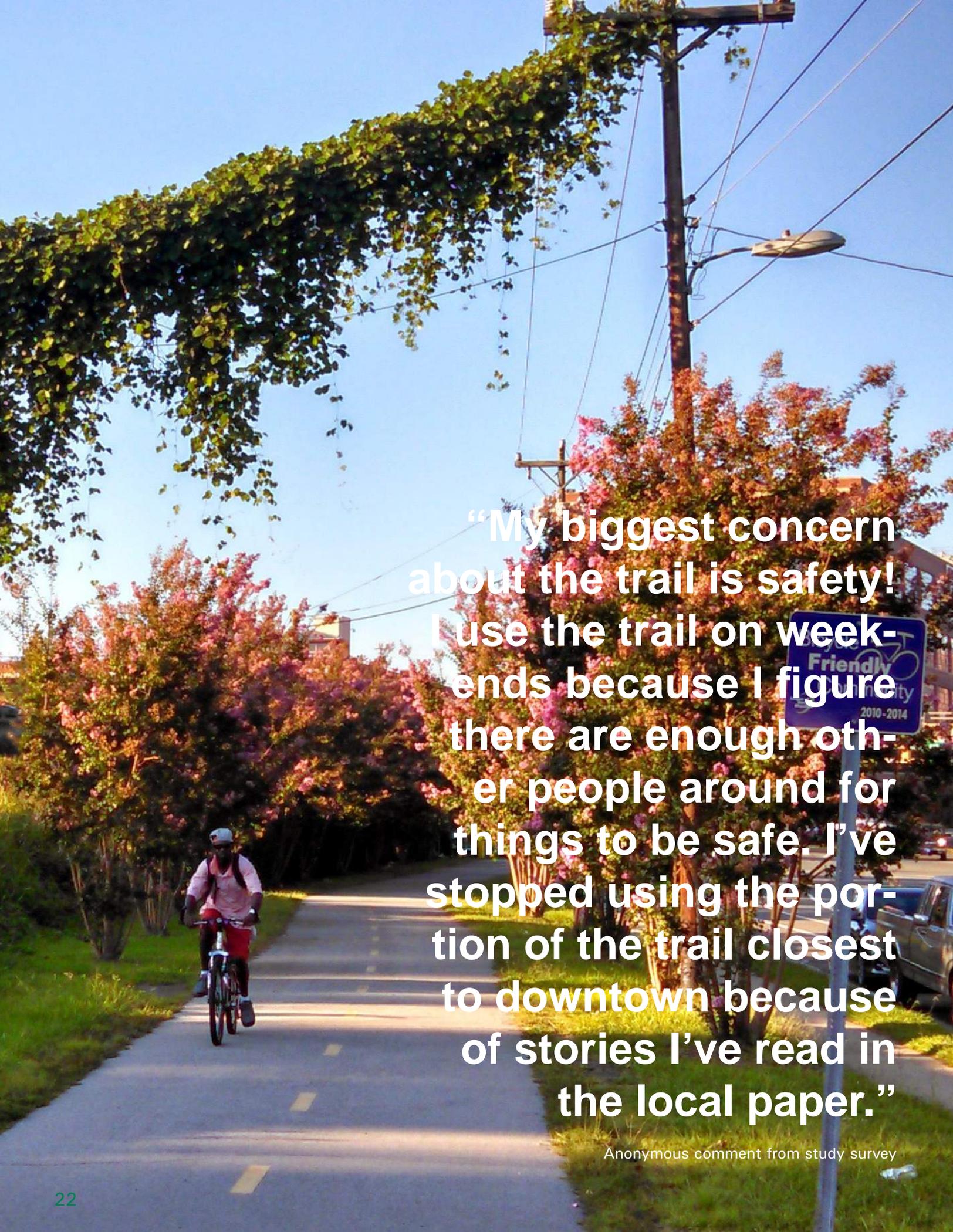
### *3) Community workshops engaging local partners*

Three community workshops were conducted engaging participants recruited from various stakeholder groups. These included police officers, trail advocates, representatives from different government agencies, representatives from local institutions, and concerned citizens.

The first workshop introduced the study, its components and invited community input on issues and opportunities for exploration. The second workshop was held on site and at the Fayetteville street intersection with the trail. The workshop used participatory activities and design games to engage passersby in documenting their perceptions of safety as well as recommendations for improving safety the third workshop presented study findings to the same group as the first workshop. The workshop also solicited feedback and recommendations about potential next steps.

### *4) Surveys of trail users and adjacent residents*

The researchers developed two surveys. The first was for ATT users. It documented demographic information, use patterns, perceptions of safety on the trail, and preferences for different trail settings. This survey was posted online via [www.surveymonkey.com](http://www.surveymonkey.com) and the NC RailTrails website, and was printed and made available at the second community workshop. The second survey was for people who lived in areas codes nearest the study area. The second survey modified the first survey and asked specific questions about perception of safety and preferences based on living in proximity to the ATT. Researchers explored patterns in the perception of safety on the trail based on survey respondent characteristics (demographics, patterns of use, etc.). Also, researchers explored patterns in the perception of safety between users and nearby residents.

A photograph of a paved bicycle trail. A person wearing a pink shirt and a white cap is riding a bicycle away from the camera on the left side of the path. The path is lined with lush green trees on the left and flowering trees with pink and orange blossoms on the right. A utility pole with power lines stands on the right side of the path. In the background, a blue sign with a bicycle icon and the text "Friendly Community 2010-2014" is visible. The sky is clear and blue.

**“My biggest concern about the trail is safety! I use the trail on weekends because I figure there are enough other people around for things to be safe. I’ve stopped using the portion of the trail closest to downtown because of stories I’ve read in the local paper.”**

Anonymous comment from study survey

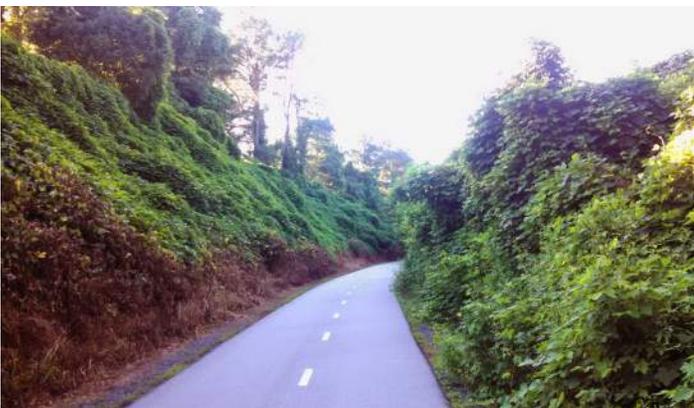
# Field Observations



This is an image of an undocumented “volunteer path” connecting to the American Tobacco Trail near Fayetteville street. These paths were communicate a desire for increased trail access, but also enable unsurveyed access to the trail and impact perceived safety.

The ATT was generally well maintained and free of litter and vandalism in the study area. The trail surface was smooth and signage, seating, and fencing was in good condition. Vegetation maintenance was good for grass and mown areas. However, there was some variability in the maintenance of shrubs, smaller trees, and other vegetation below the tree canopy. In some areas invasive species like Kudzu had completely overgrown the study site, obstructing eye level views along the trail. Obstructions at eye level could impact “Openness” and contribute decreased natural surveillance along the trail as well as impact perceptions of safety.

Additionally, researchers found a number of undocumented trail access points that were footpaths connecting the ATT to adjacent yards. The majority of these self-made paths were around the Fayetteville Street intersection. This is also where the most informal sidewalk pedestrian activity was observed. The paths connected two apartment complexes flanking the ATT; both paths accessed through openings in fences. After overlaying crime data, a concentration of reported crimes on the ATT in the study area occurred here.



This image shows an area of the American Tobacco Trail overgrown with Kudzu. The vegetation and lower (than adjacent land uses) elevation may impact perceived safety by obscuring views at eye level, and promoting a sense of isolation.



This is an image of the Fayetteville street/Pilot street intersection of the American Tobacco Trail. This is a busy mixed use area with the highest volumes of pedestrian and street activity near the trail in the study area.

# Geospatial Analysis

The results of the geospatial analysis provided a range of findings in need of further exploration.

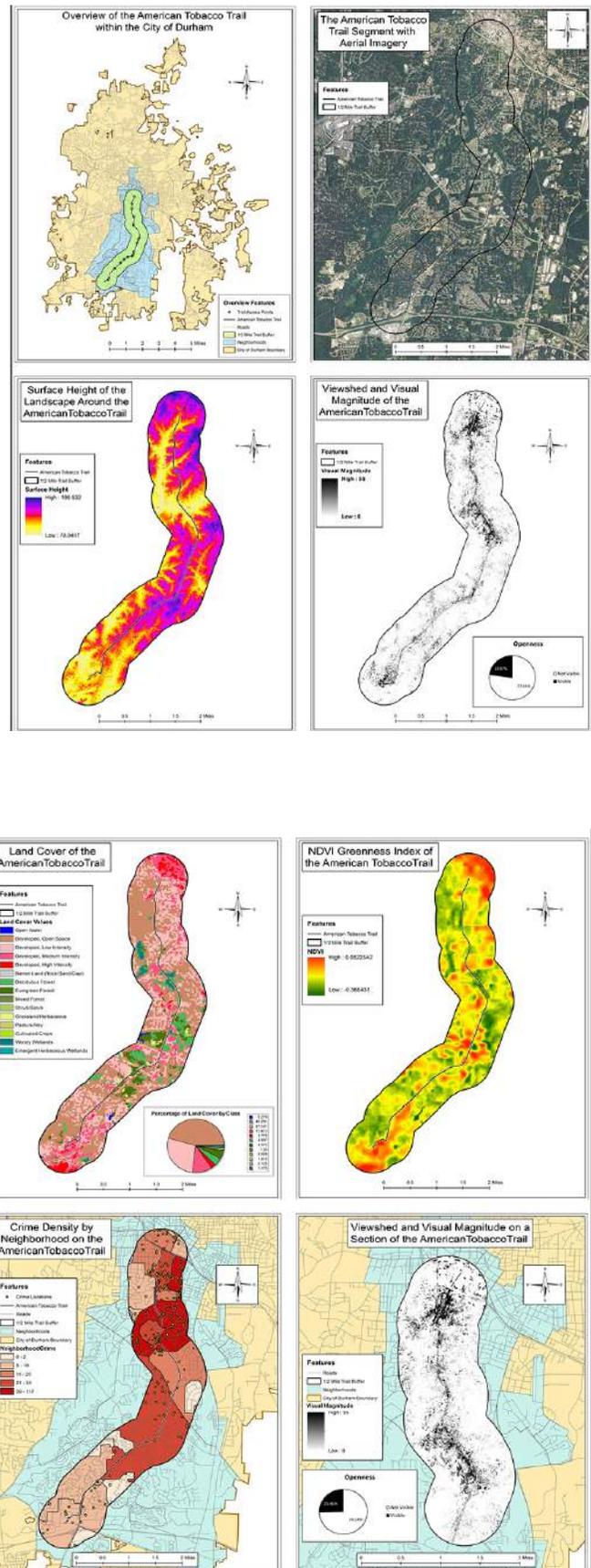
## Physical trail characteristics

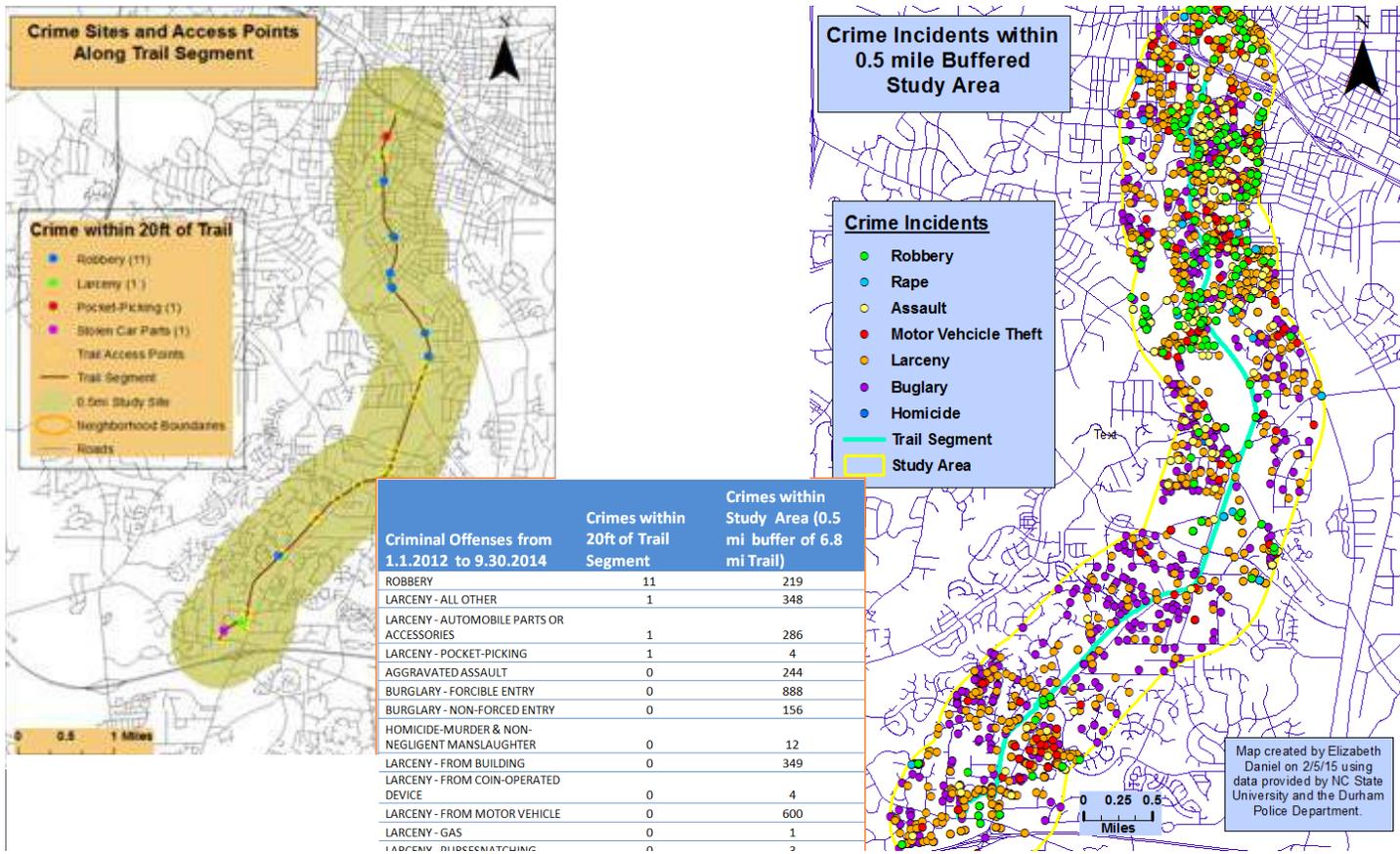
There was a negative correlation between “Greenness” and crime locations. This means that the greener the trail, the less crime locations were found. Additionally, the less green the trail, the more crime locations were found. Durham’s geospatial data codes different types of urban built land. These urban land categories were the places where crime occurred. Although field observations confirmed some vegetation obscuring natural surveillance, these locations did not correlate with reported crime incidents.

However, there was a positive correlation between “Openness” and reported crime locations. Most crimes did not occur in places obscured by vegetation, they occurred in urban land and in areas highly visible from the trail. Lindsey et al. correlate higher levels of “Openness” with increased trail use, and this study attempted to correlate high levels of use with high perceptions of safety. However, actual crime locations in the study area counter this assumption.

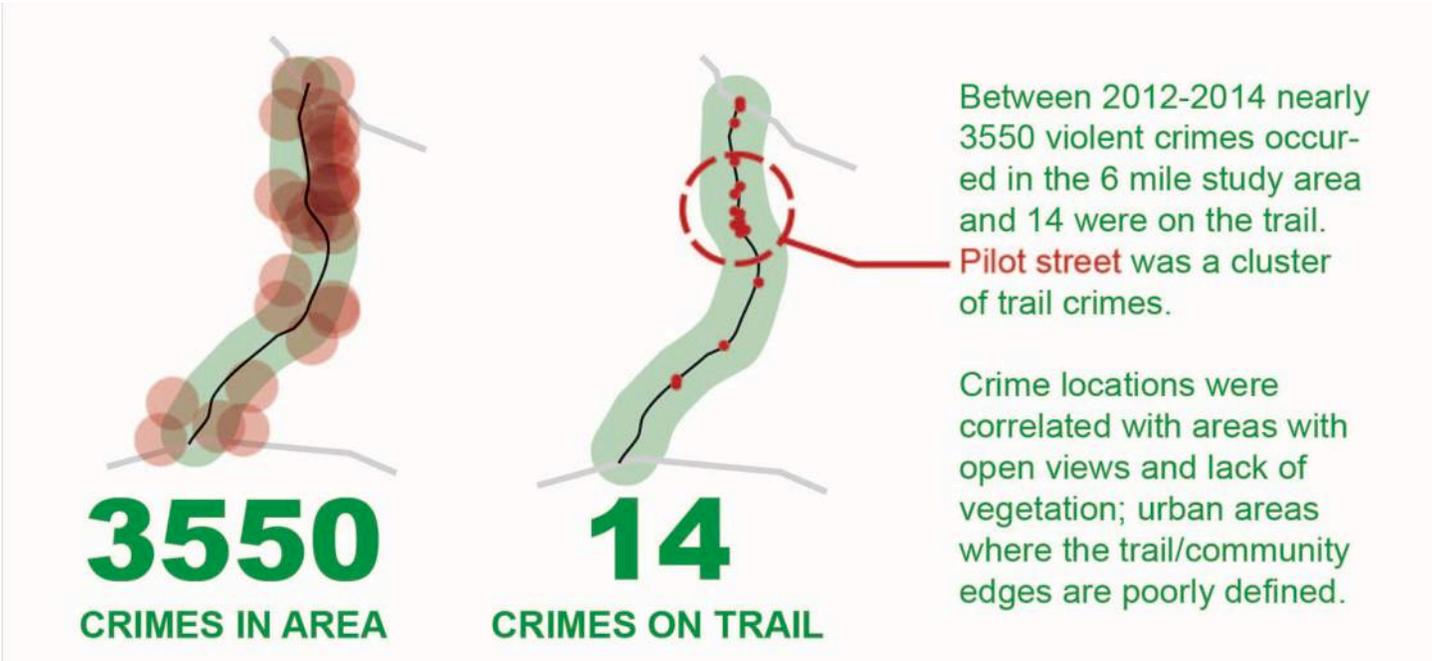
## Socio-economic factors

The results of the analysis were inconclusive. Of the nearly 3550 violent crimes committed within a 10-minute walk from the ATT, only 14 (less than 1%) occurred on the actual trail. Reported crime locations were not correlated with land use or demographics. The framing of this part of the analysis was not well defined. The scale of data sources (census block groups and City of Durham land use maps) were too broad to compare with the specific locations of crime date. The data did not show a correlation.





Left: Samples of the spatial analysis performed attempting to correlate violent crime locations with a variety of physical and socio-economic factors in adjacent areas. Two correlations were found; 1) areas with high "greenness"/vegetation had the lowest correlation with violent crime locations, and 2) areas with high "openness" and low "greenness" had the highest correlation with violent crime locations. Violent crimes occurred in built areas with low amounts of vegetation. This supported initial stakeholder anecdotal observations of the Fayetteville/Pilot Street intersection (Below).

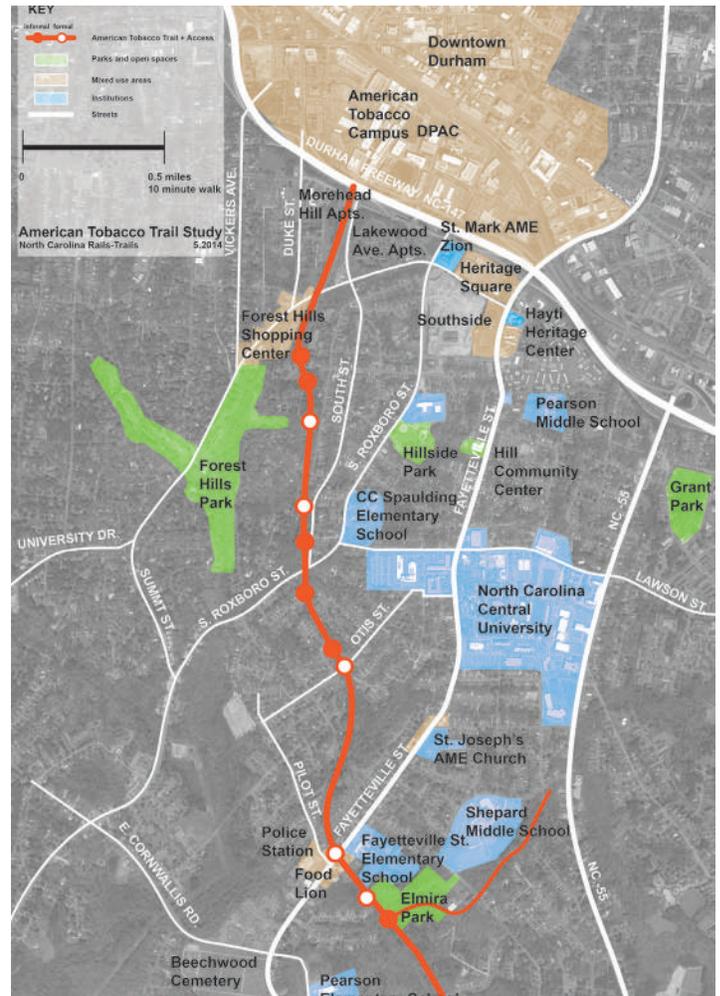


# Community Workshop One

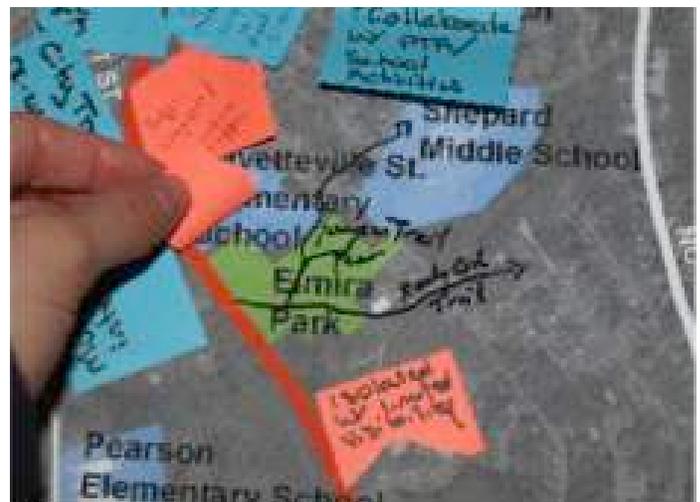
Workshop one was held in Spring 2014 at NC Central University. The goals of the workshop included: 1) Introduce the study and a timeline of project activities, 2) convene an advisory committee to review study process and findings, and 3) recruit stakeholders and potential participants in study events. The principal investigators facilitated the workshop and shared an introductory presentation of study goals (see appendix).

The workshop participants represented several agencies, institutions, and trail advocacy groups. The workshop also included a number of Durham Police officers; many who patrol the American Tobacco Trail and the surrounding community. The officers offered their anecdotes of crime on the trail, mentioning that they did not see it as a “big problem” compared to overall neighborhood safety issues. They also highlighted property crimes and specifically car break ins in parking areas while trail users were using the trail, as a preventable, but typical crime in the area.

Members of the American Tobacco Trail Church (who worship outdoors in different trail locations) were vocal about their experiences on the trail. They have suffered from assault while on the trail, and due to their repeated appearances on the trail, they had an intimate knowledge of areas where crimes including littering occur. They also mentioned their perception of tension between some area residents and some trail users. In their opinion, users with very expensive bikes and clothing in the same space as residents with modest means was a blatant display of wealth disparities which may lead to frustration and anger, and lead to assaults on the trail.



This image shows the base map generated for community feedback. The redline is the ATT and white dots are official trail heads (red dots are informal access points). Area landmarks, including NC Central University, were shown for context.

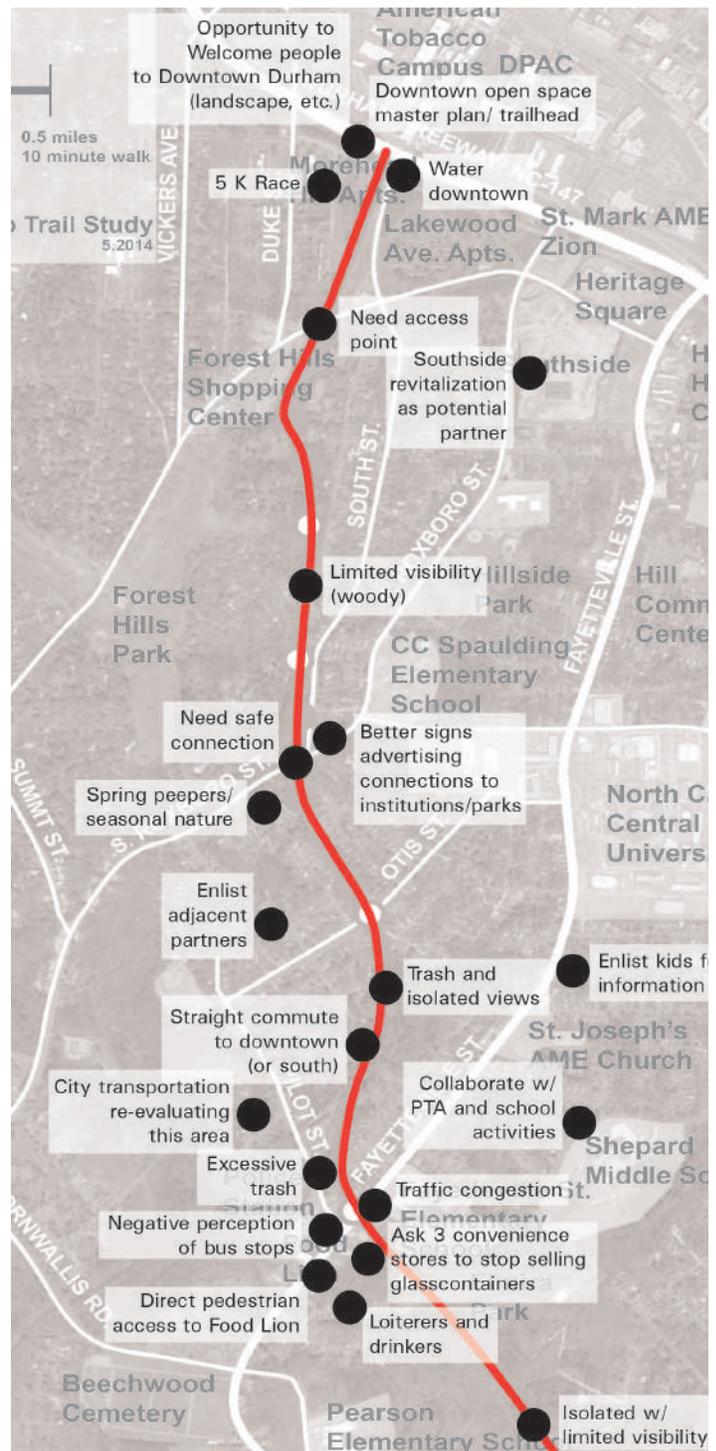


This image shows an area of the American Tobacco Trail overgrown with Kudzu. The vegetation and lower (than adjacent land uses) elevation may impact perceived safety by obscuring views at eye level, and promoting a sense of isolation.

Representatives from the City of Durham mentioned the (now completed) Downtown Open Space Master Plan and their interest in creating a more substantial trailhead near the American Tobacco Campus. City of Durham Parks and Recreation representatives advocated for the inclusion of Reedy Creek Trail (a secondary trail connecting to this study area south of Fayetteville Street) as that section was also suffering from perceived crime and safety issues.

After the discussion, the workshop was divided into two groups, and each group was asked to locate trail issues and opportunities on illustrative maps of the study area. These issues and opportunities served as a first step in connecting issues to specific locations. In addition to overall comments, the groups identified numerous unmapped informal trail access points (noted on the map shown), areas where potential community partnerships, and locations of emphasis for perceived and real crime and safety considerations. The resultant map reflects the workshop findings and highlights the Fayetteville Street intersection as an area of focus. Workshop participants identified that intersection as a problem area for everything from littering and loitering, to vehicular/pedestrian conflicts and other safety concerns.

This workshop was covered by WUNC, a local public radio station (link to the story <http://wunc.org/post/how-dangerous-american-tobacco-trail-really> ).



This image shows the coded base map that translated stick notes into a layer of community comments. The largest cluster of comments reference the Fayetteville street/Fayetteville street intersection as an area to for further study.

# Community Workshop Two



Workshop two was held in Summer 2014 near the Fayetteville Street intersection of the ATT. This site was selected based on geospatial analysis identifying this intersection as the highest crime location. More crimes were committed within 500 feet of this intersection than in any other part of the ATT. The goals of the workshop included: 1) Solicit neighborhood and trail user input on perceptions of safety on the ATT, 2) present neighborhood residents and trail users with the reported crime data and document the impact of that data on their perception of safety on the ATT, and 3) illicit recommendations that would make the ATT safer (see appendix). The weather was good, there were many people using the trail and in the surrounding neighborhood.

The workshop used a series of activities to gather input, and moved through tables, each with a different activity. An aerial map of the

study area was presented, and people were asked to place icons on the map identifying safe and unsafe areas on the trail. Workshop participants filled out the survey (see survey section). Then people were shown an aerial map of the study area with crime locations marked and asked to respond to the following question, "Is this more, less, or about the same amount of crime you were expecting to see in the study area?". Participants were asked to arrange icons to redesign site elements on a drawing of the trail. Finally, people were asked to use dots to identify their most preferred trail character (responding to photographs representing a range of existing trail conditions). There was a range of reactions to the blank aerial map. In some cases, people dismissed the issue of safety and didn't see the reason for marking specific locations. In others, people wither used the icons to mark the entire section as safe, or unsafe. Generally, trail bike



These images show workshop two activities. *Far left:* Young area residents participate in a game redesigning the Fayetteville street/ Pilot street intersection. *Left:* Senior area residents use icons to locate “safe” and “unsafe” areas on a map. *Top:* An area resident shows respect for a funeral procession of a prominent community resident. *Bottom right:* the workshop was conducted under a tent directly at the Fayetteville street/ Pilot street intersection. Approximately 54 people filled out surveys, and an additional 24 people participated in workshop activities.



users saw the trail as safe within an urban context where people should be aware of their surroundings. People not using the trail but walking on adjacent streets saw the study area as unsafe and in some cases shared personal anecdotes and stories of crimes that occurred. Several people reported the use of the trail as a short cut between neighborhoods and behind private yards, especially at night, to be unsafe. This was true north and south of our immediate location.

45.8% of participants were expecting less actual crime locations than what was shown on the map. 62.5% of participants were not expecting actual violent crimes to be in the locations they occurred. Crimes on the trail were clustered in several locations, including the location of the workshop.

People used the icons available to redesign the trail. Most placed pedestrian-scaled lighting, trees, seating as their recommended improvements.

The most preferred photograph of trail character was a trail in the woods with no urban context. This preference was corroborated by survey findings.

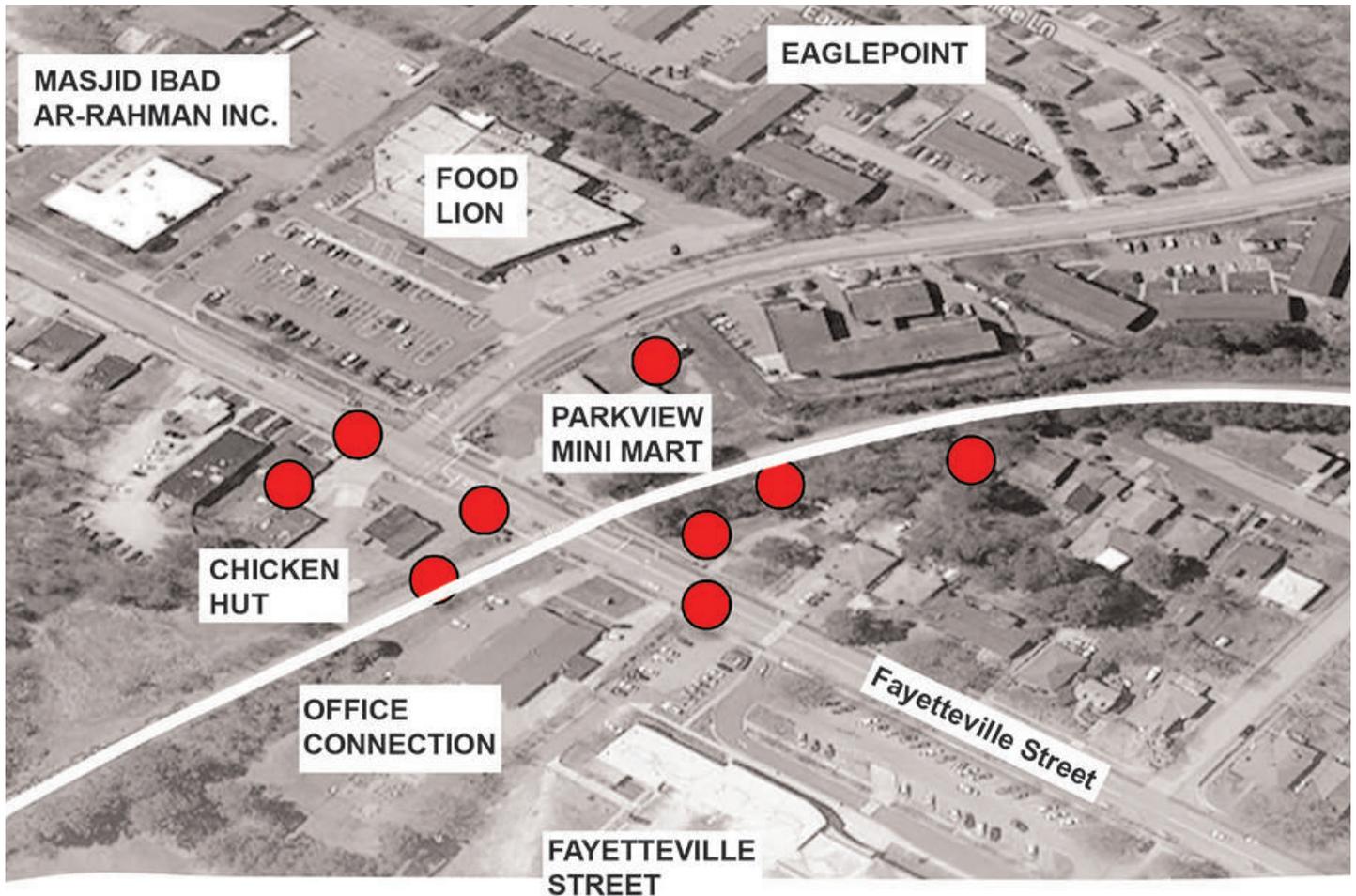
Conducting the workshop on the trail also allowed investigators to directly observe trail and neighborhood activity. In addition to a steady stream of bicycle users, the nearby bus stops were heavily used. The workshop was there for three hours, and over that time, 3 people never left the bus stops. They were talking and yelling at people they knew walking by, conducting business (unknown), and watching street life. One man was using the structure of the bus stop for chin ups and other exercise. A nearby

parking lot became the setting for a fish fry, fundraiser, and political campaigning, receiving a steady stream of people throughout the day. Several groups of children and young adults were coming from private property adjacent the trail, through fence openings and other open spaces, and across the trail to other neighborhood destinations. On a busy day, things were safe and active in the area.

Of note is the observed neighborhood behavior in reaction to a funeral procession on Fayetteville Street. One of the men who remained at the bus stop all day mentioned that the procession was for JC "Skippy" Scarborough, a funeral home director and apart of the locally influential Scarborough family. A recent video of a ceremony where Mr. Scarborough was honored revealed that his family was one of the first affluent Black families in Durham, dating back



Top: Participant uses icons to mark areas perceived as unsafe  
Bottom: Base map showing crime locations in the study area.





to the founding of the Hayti Community and Durham's "Black Wall Street". It is unknown whether or not the funeral was in fact for Mr. Scarborough.

But the procession caused all of the people on the street to stop their activities and stand in silence, some saluting, until the procession went by. This experience called attention to the enduring power of local culture and history, and the relative absence of any references to the locally significant people, events, and places connected by the ATT. This observation, and the potential to combine safety improvements with elements that reinforce place meaning, informed the proposed design strategies outlined in this report.

Top: Icons used in design game to recommend changes to the intersection Bottom: Aerial perspective used for design game.



# Surveys

There were 642 total survey responses. There was a low response rate of return on mailed surveys. However, due to study area demographics, the small respondent number impacted the overall demographics of the study.

Around 86% of respondents were White, 8% were African American, 3% were Asian, and 2% were Latino. 54% of respondents were female, and most respondents were between the ages of 26 and 55 years old.

Most respondents reported that they used trail sections south of the study area most often, but 41% did use the ATT in the study area. 29% of respondents reported using the ATT several times a week, mostly on weekends, and mostly for over an hour for walking, biking, or running. Most respondents said they use the trail alone or with a friend. Most respondents (37%) accessed the ATT from designated trailheads followed by main streets (23%), neighborhoods (18%), parking areas in commercial areas (14%), and informal access points (8%).

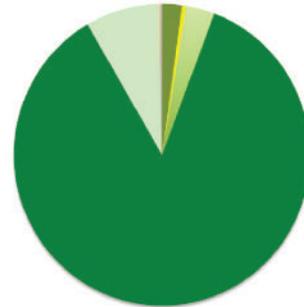
88% of respondents prefer to see woods and vegetation and 63% prefer to see parks and open space on the trail. Additionally, 82% of survey respondents preferred to see other users on the trail, and 58% preferred seeing people using adjacent parks/open spaces. 52% preferred seeing people in active and vibrant places. However, the least preferred view along the trail was of people using commercial areas and streets (18%).

There was a low response rate when respondents were asked if there were any areas on the ATT where trail users felt uncomfortable being seen. 65% of respondent said none of the above. However, 17% (the second largest number) reported that they felt uncomfortable being seen from commercial areas and streets.

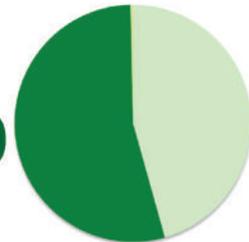
Overall, 86% of respondents said that they felt safe on the ATT. And 98% of respondents re-

ported that they felt that the trail benefits the surrounding community.

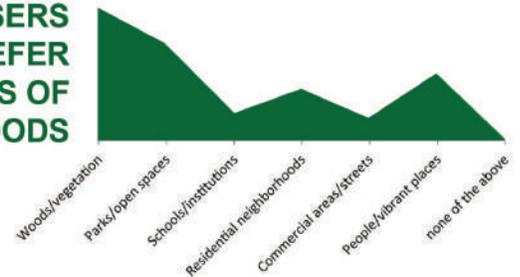
**86% WHITE**  
**8% BLACK**  
**3% ASIAN**  
**2% LATINO**



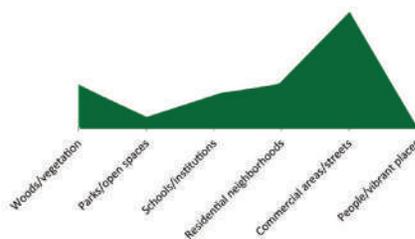
**53%**  
**FEMALE**

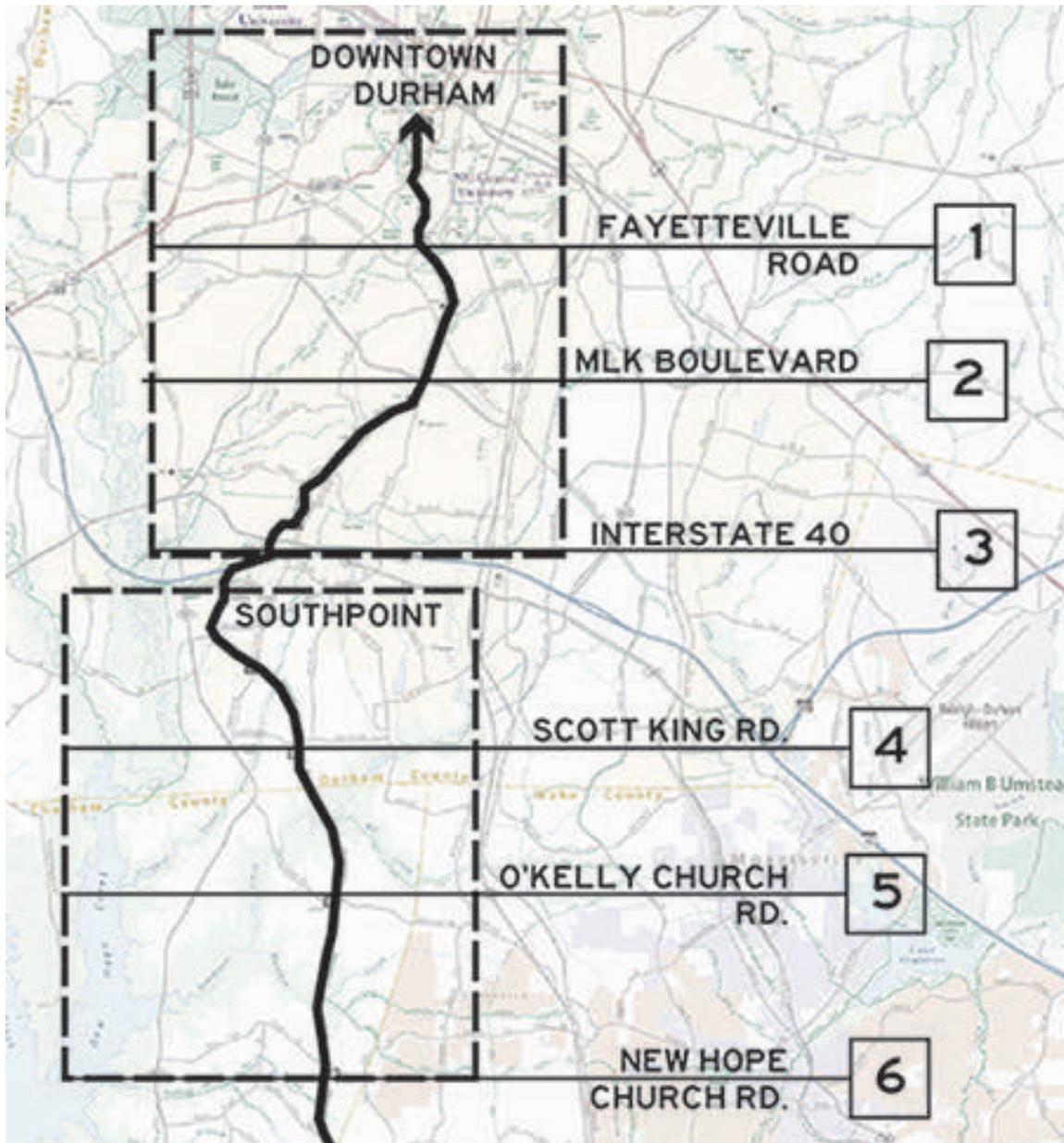


**MOST USERS PREFER VIEWS OF THE WOODS**



**MOST USERS FEEL UNCOMFORTABLE NEAR COMMERCIAL AREAS**





*This diagram is a map used with both user and resident surveys. When asked what section you use the most, 55% of respondents said they used sections 3 and 4 (roughly I-40 to Scott King Road) the most, followed by section 5 (45%). This project's study area was the second lowest at 41%.*

This survey was designed to elicit feedback on factors contribution to the perception of safety on the trail with an emphasis on physical characteristics. However, as mentioned in the introduction of this report, demographic characteristics of users were a factor in perceptions of safety. Additionally, the role of social media portrayals of safety on the trail impacted those surveyed. Below are some of the narrative responses from survey respondents.

*“My biggest concern about the trail is safety! I use the trail on weekends because I figure there are enough other people around for things to be safe. I’ve stopped using the portion of the trail closest to downtown because of stories I’ve read in the local paper.”*

*“Fayetteville Street has a cohort of street folks.”*

*“I only feel uncomfortable if there are teenagers milling around, or if there are drunks in the parks.”*

*“the area where the trail crosses Fayetteville St is uncomfortable for groups with boys harassing trail users and brown-bag drunks at the convenience store.”*

These responses, and many more, reflect the need to address the trail as a public space as well as a media campaign to support perceived safety with actual crime reports.

Overall, several interesting findings emerged from survey work. First, the majority of respondents were white women that often used the trail alone or with a friend. Gender is an important factor in perceptions of safety in public spaces and women are generally more risk averse than men in public spaces. Additional analysis is required to explore this on the ATT, but the fact that women feel safe on the trail is significant.

Second, trail users overwhelmingly preferred woods, vegetation, and open spaces as trail settings and did not prefer commercial areas and streets. Fayetteville street/ Fayetteville street represents the only commercial area the ATT moves through in the study area and correlates with information gathered in other methods, including geospatial analysis, that identified some commercial areas as crime locations.

# Community Workshop Three

Community Workshop Three featured a report of the results of the project work to American Tobacco Trail stakeholders. The workshop was held at the Main Branch of the Durham Public Library.

## Is the American Tobacco Trail (ATT) safe?

Between 2012 and 2014, over 3550 violent crimes in 14 categories were committed within a 10 minute walk of the trail. However, only 14 crimes occurred on the trail. Less than 1/2 percent of all area crimes occurred on the trail. The ATT is not crime free, but it is safe and much safer than the surrounding community.

## Is the ATT perceived as safe?

86% of survey respondents perceive the ATT as safe. The trail has few reported crimes (14 violent crimes committed between 2012 and 2014) and is safer than the adjacent community within the study area with one exception;

the Fayetteville Street intersection. The highest number of reported crimes were in or near this intersection, the area was identified as a safety concern in community workshops, and survey results revealed that Fayetteville Street's built environment characteristics were perceived as the least comfortable of all environments in the study area. These characteristics included poorly defined boundaries between public and private spaces, spaces that lack "eyes on the street" and natural surveillance, and the perception of people on the street engaged in uncivil behaviors.

Workshop participants expressed an interest in modifying the built environment of the Fayetteville Street intersection to improve safety. Their recommendations included lighting, seating, and landscape elements to enhance the image of the area.

Researchers translated these findings into visualizations that also incorporated research emphasizing the role of cultural landscape references as well as programming to improve the use and safety of the intersection. Study findings recommend continuing and extending community engaged strategies to enhance ATT use and safety. This includes leveraging partnerships with nearby institutions like NC Central University, local schools and churches, and local businesses. Additionally, coordinating trail improvements with the Downtown Durham Open Space Master Plan, and transportation planning can engage local agency partners.

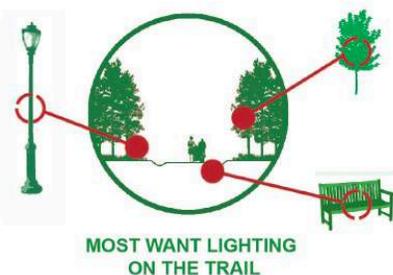


Between 2012-2014 nearly 3550 violent crimes occurred in the 6 mile study area and 14 were on the trail. Pilot street was a cluster of trail crimes.

Crime locations were correlated with areas with open views and lack of vegetation; urban areas where the trail/community edges are poorly defined.



There were 642 survey responses. Most were white women who used the trail alone or with a friend. 86 percent feel safe on the trail, 88 percent prefer to see woods and vegetation, and 17 percent (highest response) feel uncomfortable in commercial areas and near main streets.



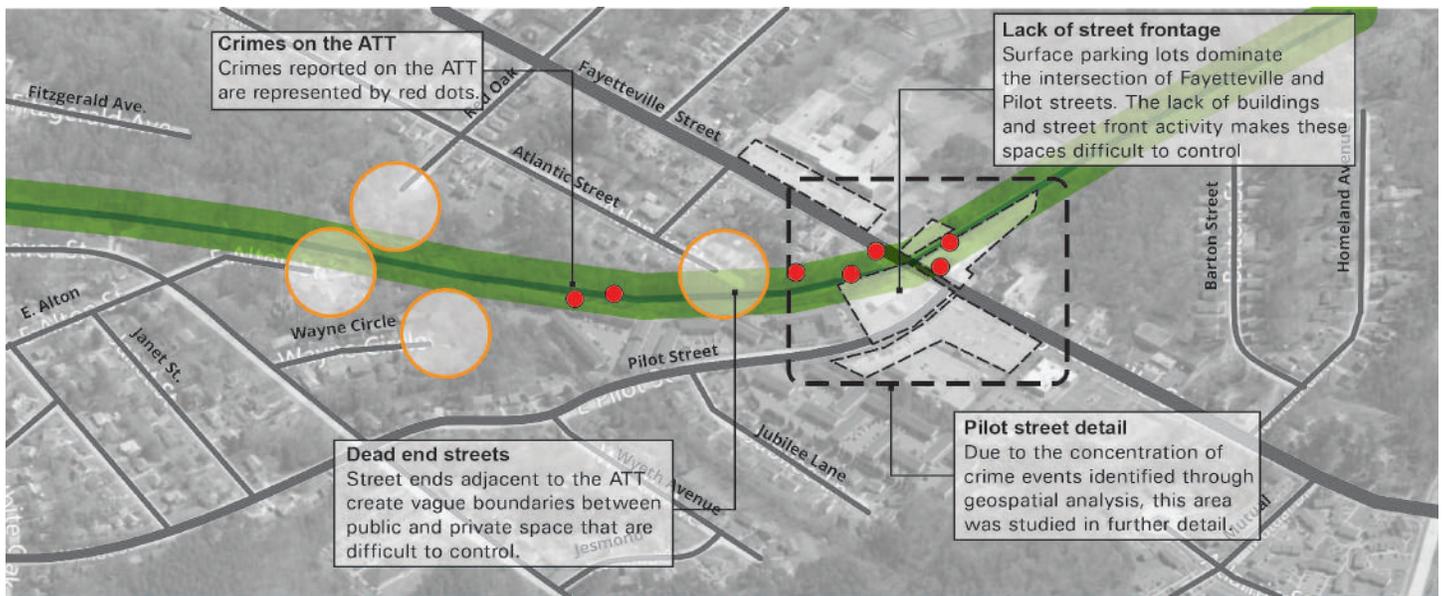
Workshop one participants identified numerous informal trail access points and the Pilot street intersection as an unsafe location. Workshop two was held at Pilot street. Participants perceived the trail as safe in daylight but desired lighting at night. Additional desires included seating, planting, and activities.



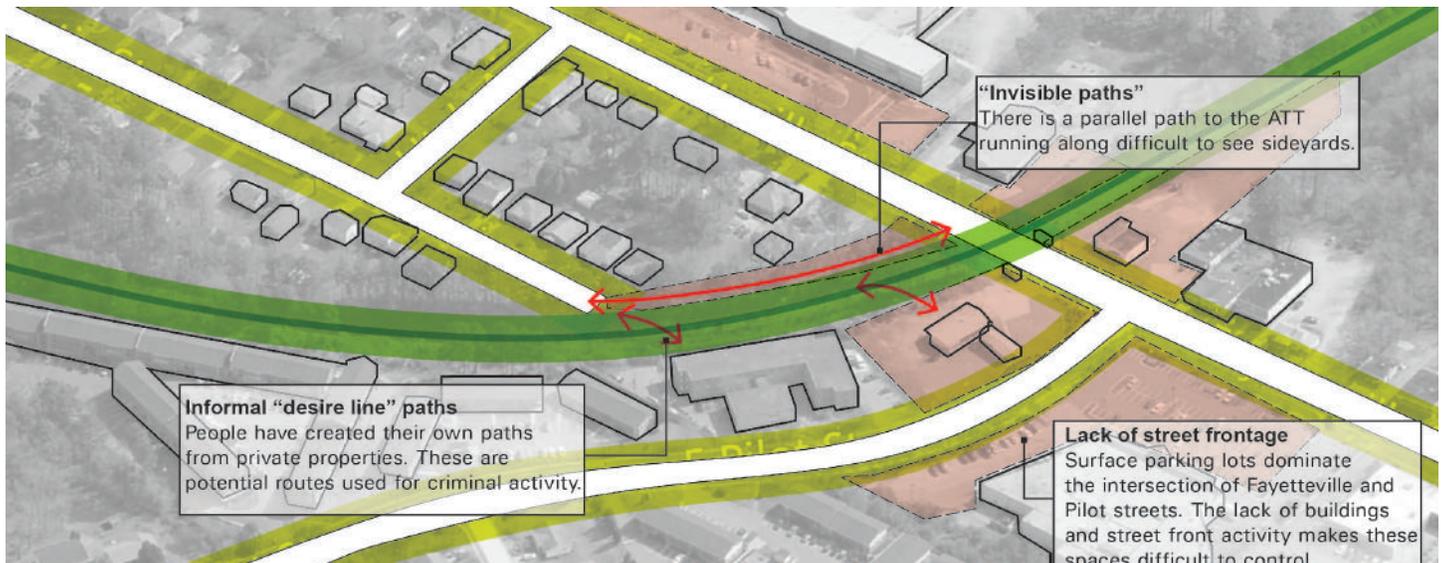
**“(I) hope that more people feel safe and comfortable enough to come out and enjoy such a great asset to Durham. We are lucky to have such a great and unique trail right here in our backyard!”**

Anonymous comment from study survey

# Recommendations



Through field observations, workshops, and surveys, the Fayetteville Street/Pilot Street intersection appeared as a point of concern with regards to perceptions of safety. There are several urban design factors enabling potential crime. Namely, dead end streets, lack of street frontage, and lack of the potential for natural surveillance are important characteristics to address through design.



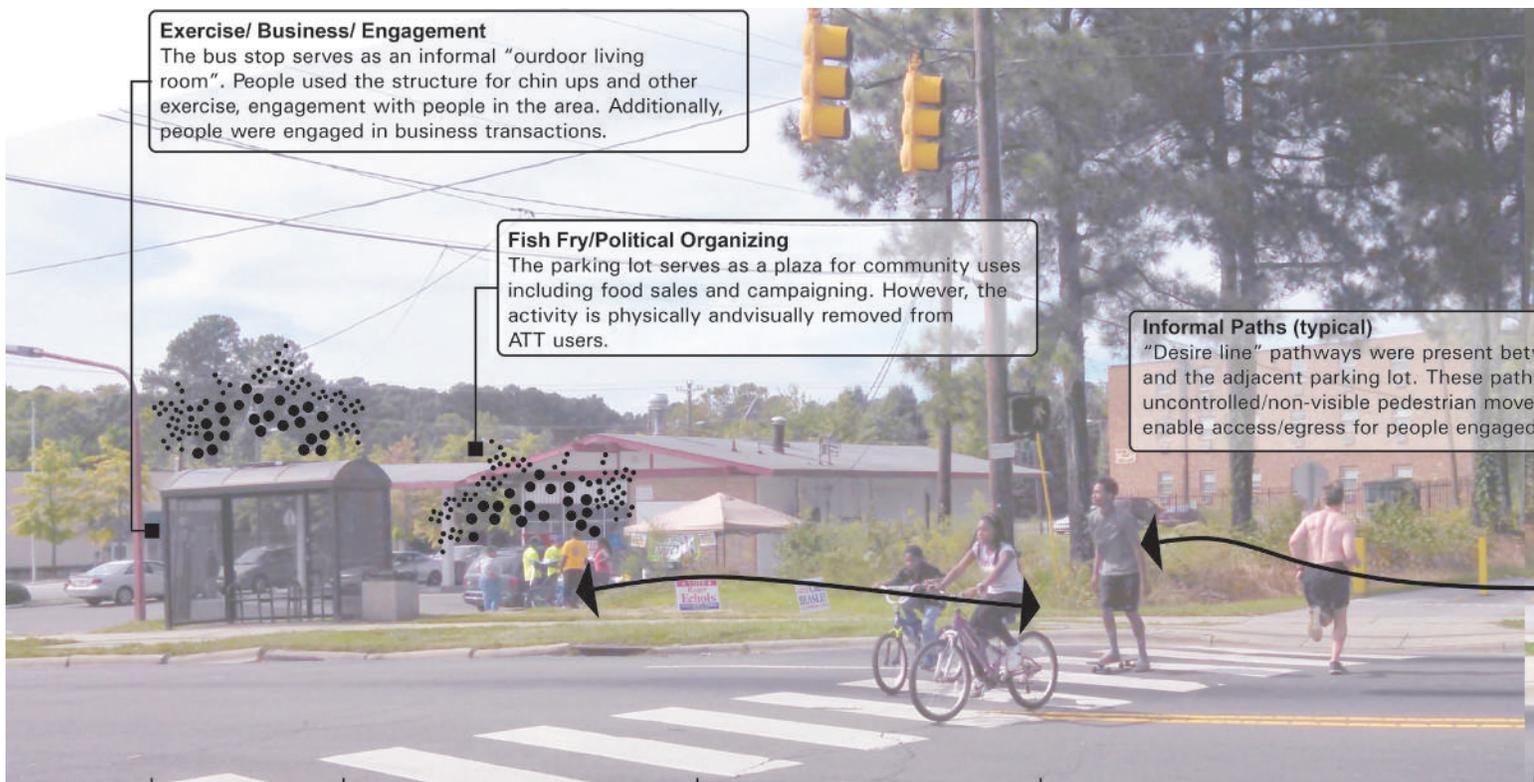
There is evidence of people making their own paths, often out of the sight of adjacent neighbors. "Desire line" paths cross and parallel the ATT. This indicates a desire for connectivity between fragmented neighborhood separated by the ATT. There are many potential responses ranging from opening up the area and making informal paths formal, to closing them off with fences.

## Urban design

Because the ATT reuses a former rail line, the trail occupies a challenging area of the City of Durham. On one hand, it is popular, well used and perceived to be safe by most users. On the other hand, the trail is largely invisible running along the rear yards of neighborhoods. More importantly, the trail intersects with commercial areas in idiosyncratic ways that may exacerbate crime. Geospatial analysis confirmed

that crimes in the study area occurred in areas with low vegetation but high visibility. Additionally, the Fayetteville street intersection was a cluster of crime events.

Since the rail line is now an active public space, reconsidering the design of the edges of the ATT, especially where it meets the busier parts of the city, might help the trail become safer. Traditional urban spaces are framed by

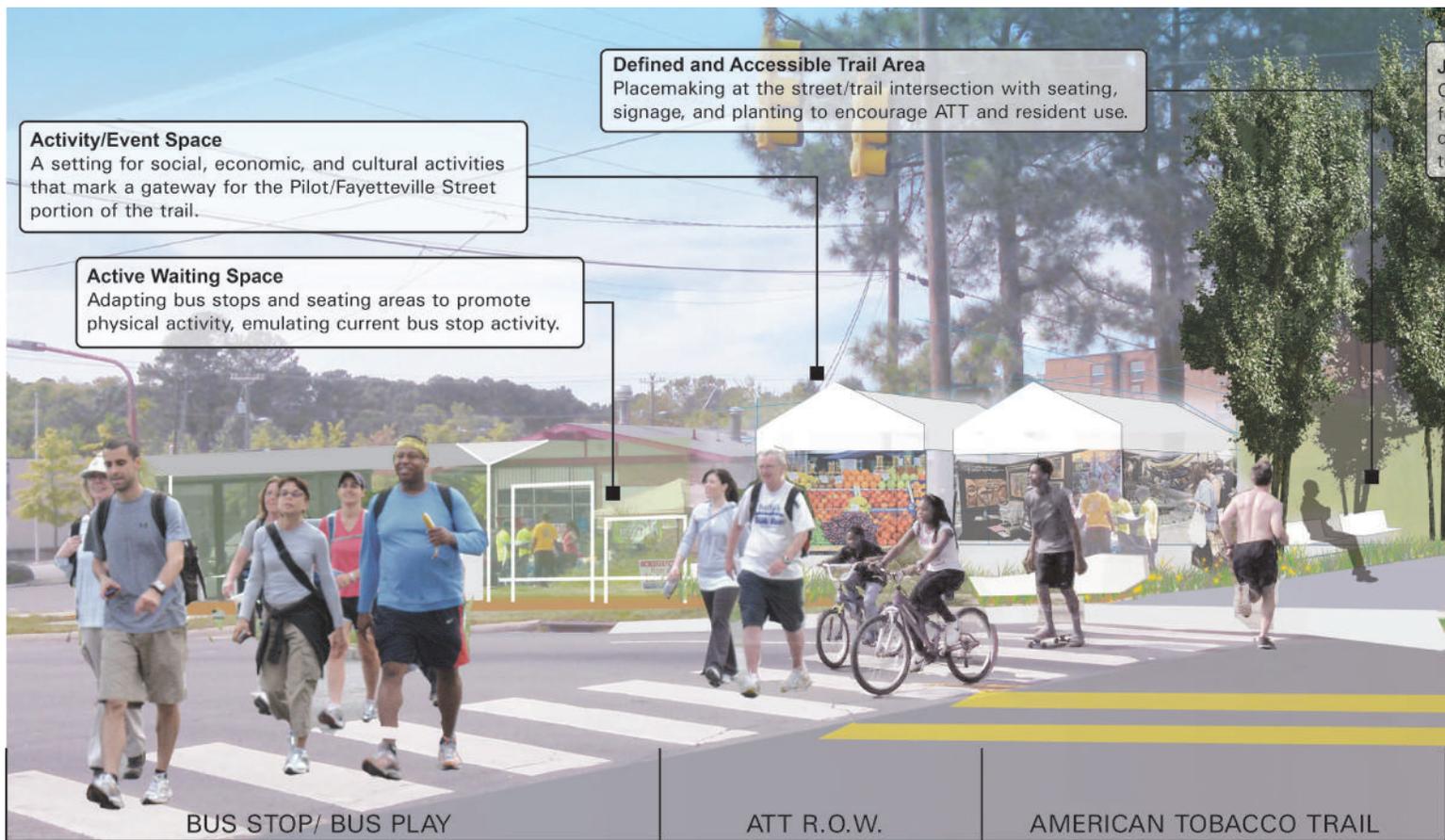


**Exercise/ Business/ Engagement**  
 The bus stop serves as an informal “outdoor living room”. People used the structure for chin ups and other exercise, engagement with people in the area. Additionally, people were engaged in business transactions.

**Fish Fry/Political Organizing**  
 The parking lot serves as a plaza for community uses including food sales and campaigning. However, the activity is physically and visually removed from ATT users.

**Informal Paths (typical)**  
 “Desire line” pathways were present between the street and the adjacent parking lot. These paths enabled uncontrolled/non-visible pedestrian movement that enabled access/egress for people engaged in activities.

Top: This diagram illustrates the range of factors impacting safety at the Fayetteville Street/Pilot Street intersection. There are several physical characteristics of the area that impact safety including obstructed views and unsurveilled paths. There are other positive social characteristics including community activity and social interaction; but these activities do not interface with the trail.



**Activity/Event Space**  
 A setting for social, economic, and cultural activities that mark a gateway for the Pilot/Fayetteville Street portion of the trail.

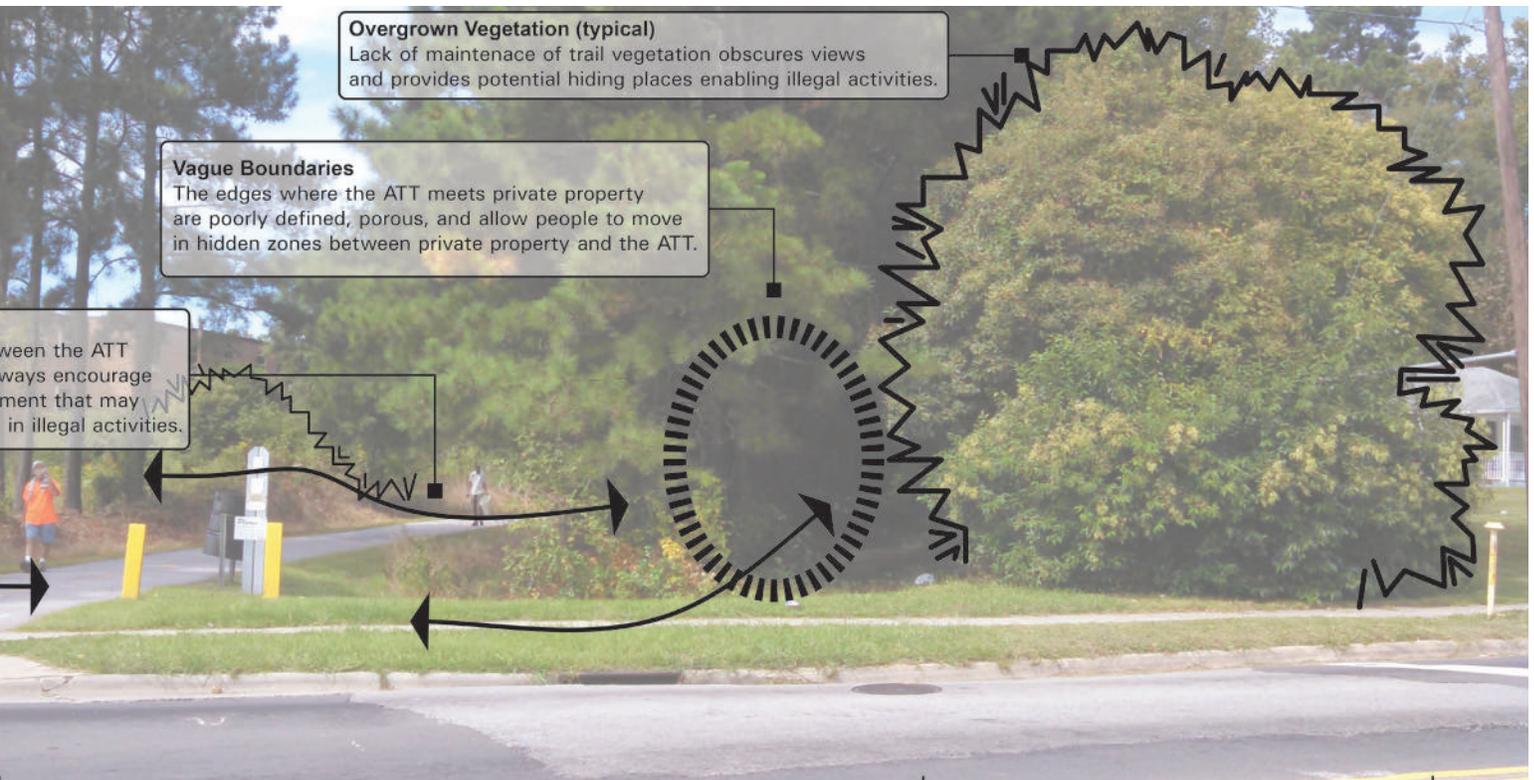
**Active Waiting Space**  
 Adapting bus stops and seating areas to promote physical activity, emulating current bus stop activity.

**Defined and Accessible Trail Area**  
 Placemaking at the street/trail intersection with seating, signage, and planting to encourage ATT and resident use.

BUS STOP/ BUS PLAY

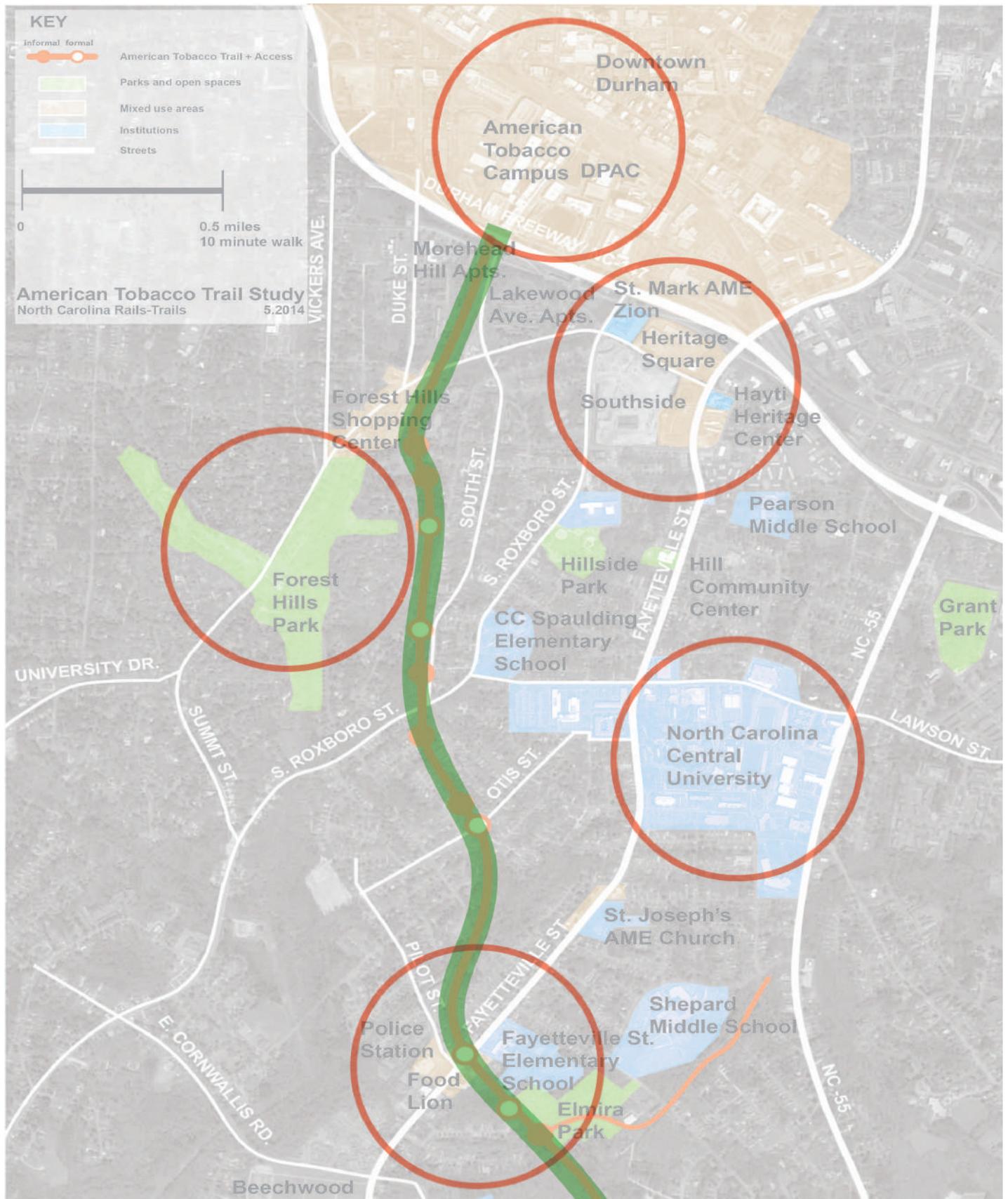
ATT R.O.W.

AMERICAN TOBACCO TRAIL

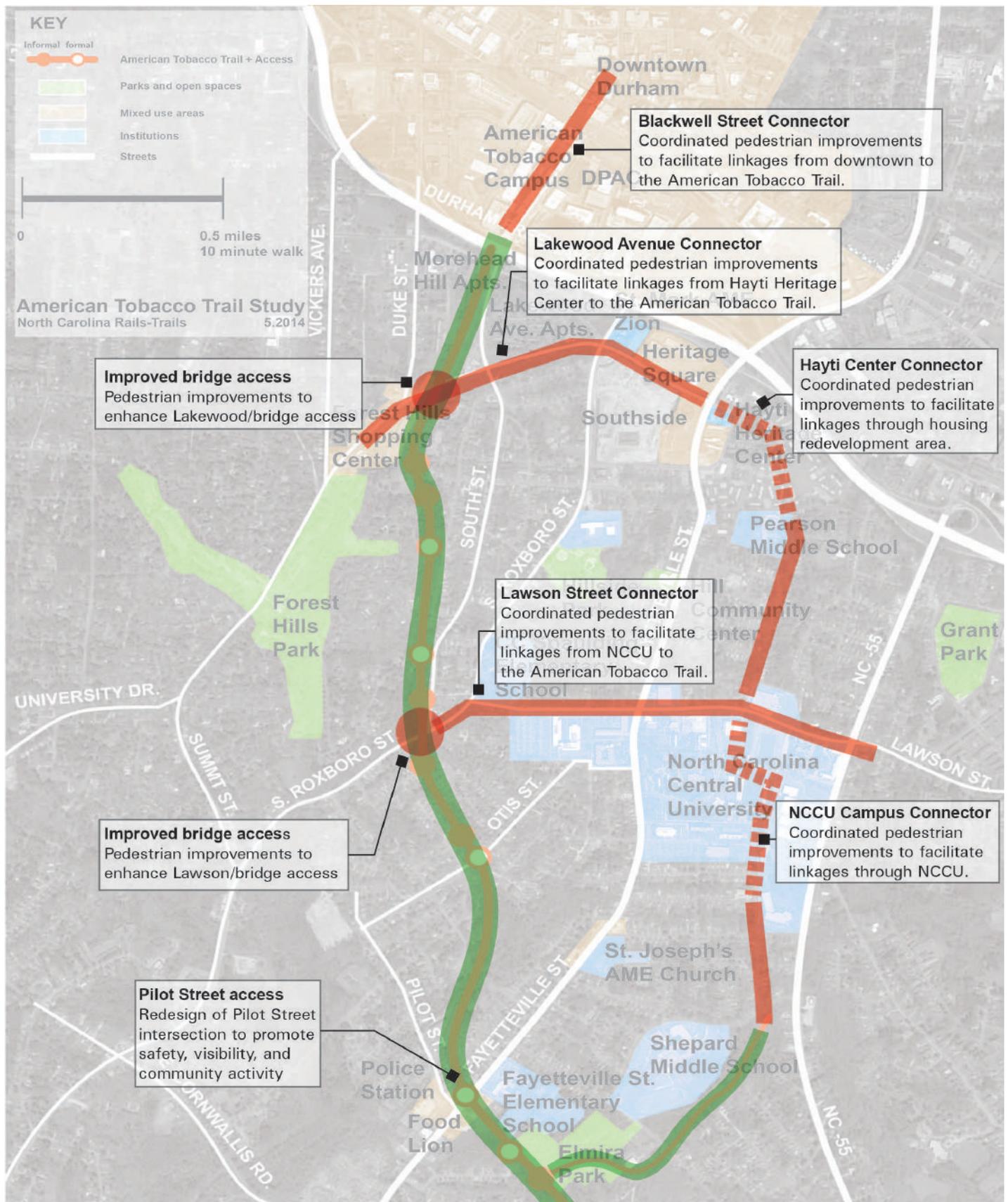


Bottom: This diagram illustrates concepts for addressing safety in the study area. Not unlike other former railroad corridors, they sometimes produced irregular urban spaces at street intersections. Redesigning how the street and adjacent land meets the trail to create public space could improve safety. Programming the space, including inviting current uses and users, could help as well.





This diagram shows the many significant community uses within a 10 minute walk of the American Tobacco Trail including NC Central University and the Southside Redevelopment Area. Currently, there are no clear ways to connect these users to the trail.



This diagram shows a proposed “Hayti Loop”; a series of bicycle and pedestrian improvements to streets connecting the areas major landmarks. This would include upgraded trail access points in strategic locations.

activities and natural surveillance is enabled through the thoughtful placement of adjacent uses. As an example, the Fayetteville street intersection is flanked on all sides by spaces obscured from view. Using walks and planting to better define edges, programming the space to attract positive human activity and enable natural surveillance, could all improve the space.

### *Connectivity*

The ATT connects large areas of the broader community but remains isolated from parts of its immediate context. Namely, large institutions like NC Central University are nearby but not strongly connected to the trail. Crime in neighborhoods south and west of the trail and between the trail is places like NCCU may discourage trail use. Existing streets could be redesigned to maximize pedestrian access to the trail. This includes clearly designated street crossings, extensions of ATT signage into nearby neighborhoods, physical design elements that encourage biking and walking, and improved policing and public safety.

The study area is within the Hayti Community and an expanded trail that includes on-street connections, could also communicate the cultural heritage of the area. A “Hayti Loop” could not only improve trail safety and address safety in adjacent neighborhoods, but also strongly connect important cultural landmarks in the system including The Hayti Heritage Center, The Stanford Warren Library, and NC Central University.

### *Cultural space*

The reaction of the community to a funeral procession on Fayetteville street (see Workshop Two), and the research team’s unfamiliarity with the person being honored, reflected an opportunity to rethink opportunities to celebrate local heritage in public. There are not many locations on the ATT that recognize the local heritage of the communities it moves through. Research suggests that places reflecting local values and celebrating local heritage convey

more meaning, can inspire a higher levels of maintenance and resist vandalism. There is a great opportunity to work with the communities within the study to identify the people, places, and events that constitute a shared cultural heritage which could be reflected on the ATT.

### *Programming*

Attracting positive and community building activities to a place can diminish crime and undesirable uses. The ATT and its adjacent spaces provide a setting for a wide range of programs including urban gardening, public art, pop-up events, and other activities. Wellness and healthy lifestyle events are already underway in the study area and throughout the city. Working with local community groups to define the appropriate programs, locations, and program delivery can activate the trail and improve its safety.

### *Technology*

Numerous tools are available to improve safety on the trail and improve user access to public safety resources. There are many strategies for more rapidly reporting crime and decreasing response time to reported crimes. These include surveillance equipment, signage with one-touch and dial-in numbers to report crimes. With advances in smartphones and mobile technology.

### *Social Media*

Now that actual data exists accurately describing the crime and safety of the trail, a strong social media campaign would offer a counter-narrative to the one broadcast around the city, region, state, and nation. The impetus of this study was the proliferation of biased perceptions built from prejudices of Durham’s and the ATT’s socio-economic characteristics. To overcome these perceptions, sharing the positive news and evidence-based perceptions of the trail can attract new users and influence opinions elsewhere.

**“Love the trail!  
we're lucky in  
DURM!”**

Anonymous comment from study survey