

# **Preliminary Assessment of Crime Risk along Greenways in Charlotte, North Carolina 1994-2004**

**Walter Martin, Tom Ludden, Owen Furuseth, and Shane Nixon<sup>1</sup>**  
**Department of Geography and Earth Sciences**  
**University of North Carolina at Charlotte**

Do properties adjacent to greenways suffer higher crime risk than nearby non-greenway properties? The purpose of this paper is to compare the incidence of crime along greenways with neighborhood incidence rates. Only property crimes were assessed because the number of violent crimes along greenways and within greenway neighborhoods is too small to support a meaningful analysis. An initial investigation was conducted in 1997 and compared the incidence of crime along the Mallard Creek Greenway in North Charlotte with that of its police district and that of the city at large. The study area included properties adjacent to the Mallard Creek Greenway as they existed in 1997. The Mallard Creek Greenway then linked Saint Audrey Place with Mallard Creek Road passing through or adjacent to Winchester, Colvard Park, Mallard Creek Elementary School, Radbourne, and Mallard Trace. At the time of that study the Greenway was approximately 1.5 miles in length and was not lighted. Data for the project were obtained from Mecklenburg County Parks and Recreation Department (Mallard Creek Phase One Master Plan), Mecklenburg County Tax Office (plat maps and detail reports), and Charlotte-Mecklenburg Crime Analysis and Strategic Planning Bureau (incidence of crime and location data). Crime risk along the Greenway was assessed for a three year period between 1994 and 1996.

Crimes reported to have occurred within the Greenway proper and those reported on properties adjacent to the Greenway (also considered here to be greenway crimes) were compiled and compared with crime rates within the surrounding Charlie One Police District. All properties adjacent to the Greenway were included in the study. There were a total of eight greenway crimes during the three year period. One crime was reported in 1994, four in 1995, and three in 1996. Taking the more conservative perspective, an average of greenway crime during the two worst years is calculated to be 3.5 crimes per year or 13.0 crimes per square mile per year. During the same years the average annual incidence of crime throughout the Charlie One district including the greenway crimes was 4,701 or 24.6 crimes per square mile. Mecklenburg County as a whole saw 53,947 crimes per year or 102.3 crimes per square mile.

The incidence of crime along the Mallard Creek Greenway and adjacent properties was nearly half that of the surrounding Charlie One Police District and only 12.7% of the countywide crime rate. These early data suggest that greenways do not attract crime. Greenways are as safe as the urban landscape that surrounds them.

Since 1997 the Clark's Creek Greenway (CCG)(public) has increased several miles in length and extends into more than four additional single and multifamily communities. CCG

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*<sup>1</sup> The 1997 study was researched and written by Shane Nixon in 1997 to partially fulfill the requirements for Earth Science 3170, Environmental Quality Management. Because Shane graduated from UNC Charlotte in 1998, Walter Martin, who directed the original research serves as correspondent (wemartin@uncc.edu).*

now links these neighborhoods with approximately 600 multifamily units in several neighborhoods and with the University Research Park Greenway (Private). As expansion and connectivity of the greenway system continues a more systematic appraisal of crime risk is appropriate. Extension of the original study will update, expand, and more realistically reflect the mixed land use common along many greenways.

This extended study explores recent crime rates along all 14 greenways within Mecklenburg County between 2001 and 2003. Crime risk is assessed by using a difference of means test to identify any statistically significant differences between the crime rate on greenway-adjacent properties and crime rates within the surrounding neighborhood statistical area (NSA). This phase of the investigation uses the crime rate as a surrogate for crime risk and includes all 14 Mecklenburg County greenways in existence between 2000 and 2003. Each year is examined separately (Table 1).

In 2000 the mean crime rate among properties adjacent to greenways in Mecklenburg County was 0.023 and the crime rate within the corresponding neighborhood statistical areas averaged 0.026. Although the greenways appear to be safer than the parent neighborhood, the difference of means test suggest that the lower crime rate along greenways is due to random chance and is not statistically significant or meaningful. The pattern in 2001 was somewhat different. As in 2001 mean crime rates among properties adjacent to greenways was again less than neighborhoods rates, however this difference was statistically significant at the 0.05 alpha level. Again in 2002 crime rates were lower among greenway-adjacent properties, but the difference was not significant. During 2003 crime rates were higher along greenways than within the neighborhoods, but the difference was not significant.

These finding are based on a systematic and comprehensive analysis of property crime during a four year period within Mecklenburg County. No greenway segments, neighborhoods, or time periods were omitted. These data suggest that greenway-adjacent properties do not incur greater risk of crime than other properties within the same neighborhood statistical area. On the contrary greenway-adjacent properties had lower crime rates 75 percent of the time and in one year 2001, greenways actually appeared to be safer than the broader community.

Table 1  
Summary of Greenway Crime t-Tests for Mecklenburg County, 2001-2003

Year	Greenway	NSA	Difference	t-Test	DF	Prob>t
2000	0.023	0.026	0.003	0.385	26	0.703
<b>2001</b>	<b>0.015</b>	<b>0.024</b>	<b>0.009</b>	<b>2.376</b>	<b>26</b>	<b>0.025</b>
2002	0.017	0.026	0.009	1.898	26	0.069
2003	0.119	0.062	0.057	1.006	26	0.323

