



# National Transportation Safety Board

Washington, DC 20594

## Highway Accident Brief

### Fatal Pedestrian Collision with Car Riverdale Park, Maryland, April 24, 2016

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<b>Accident Number:</b>	HWY16SH009
<b>Accident Type:</b>	Fatal pedestrian collision with car
<b>Location:</b>	Kenilworth Avenue (State Route 201) at Tuckerman Street, Riverdale Park, Maryland
<b>Date and Time:</b>	April 24, 2016, about 9:16 p.m. eastern daylight time
<b>Vehicle:</b>	1998 Toyota Corolla
<b>Driver:</b>	50-year-old female
<b>Pedestrian:</b>	55-year-old male
<b>Fatalities:</b>	1

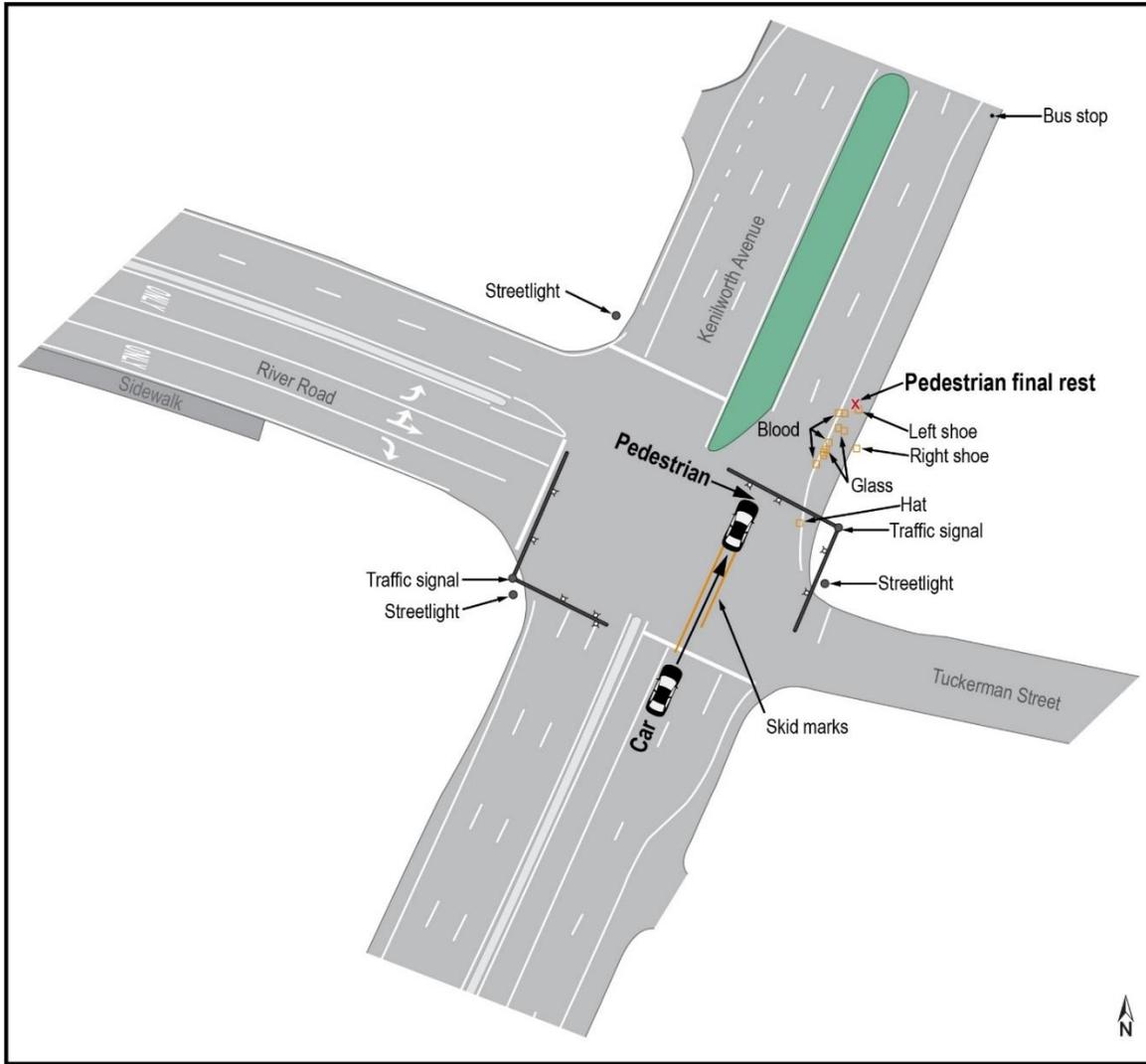
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#### Crash Description

About 9:16 p.m. on Sunday, April 24, 2016, a 1998 Toyota Corolla four-door sedan was traveling north on Kenilworth Avenue (State Route 201) in Riverdale Park, Prince George's County, Maryland. As the 50-year-old female driver approached the intersection of Kenilworth Avenue and Tuckerman Street, the traffic signal for northbound vehicles was green. The driver observed a male pedestrian walking east in the middle of the intersection, trying to cross Kenilworth Avenue. The driver applied the brakes and attempted to steer left, away from the pedestrian, but the car struck him in the left northbound through lane of the intersection (figure 1). Because of the impact, the 55-year-old pedestrian rode up onto the vehicle's hood and collided with the passenger side of the car's windshield before rolling off the right side of the vehicle. After sliding along the pavement, the pedestrian came to rest 52 feet from the point of impact.

The driver stopped at the scene, then left the area to seek assistance, calling 911 at 9:21 p.m. After the driver left the scene, a Riverdale Park police officer, on routine patrol, encountered the pedestrian lying facedown on the right shoulder of the road. The officer requested medical assistance for the pedestrian. The pedestrian was transported to Prince George's Hospital Center, where he died of his injuries.

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**Figure 1.** Diagram of crash scene showing path of car along Kenilworth Avenue and pedestrian's path in front of automobile, which continued forward an unspecified distance after impact. Also shown are pedestrian's final rest position as well as locations of blood and pedestrian's belongings on roadway, traffic signals, streetlights, and nearby bus stop.

The temperature at the time of the crash was 53.6°F, winds were calm, and skies were clear. Civil twilight was at 8:22 p.m. The moon was a waning gibbous, 95 percent illuminated.<sup>1</sup>

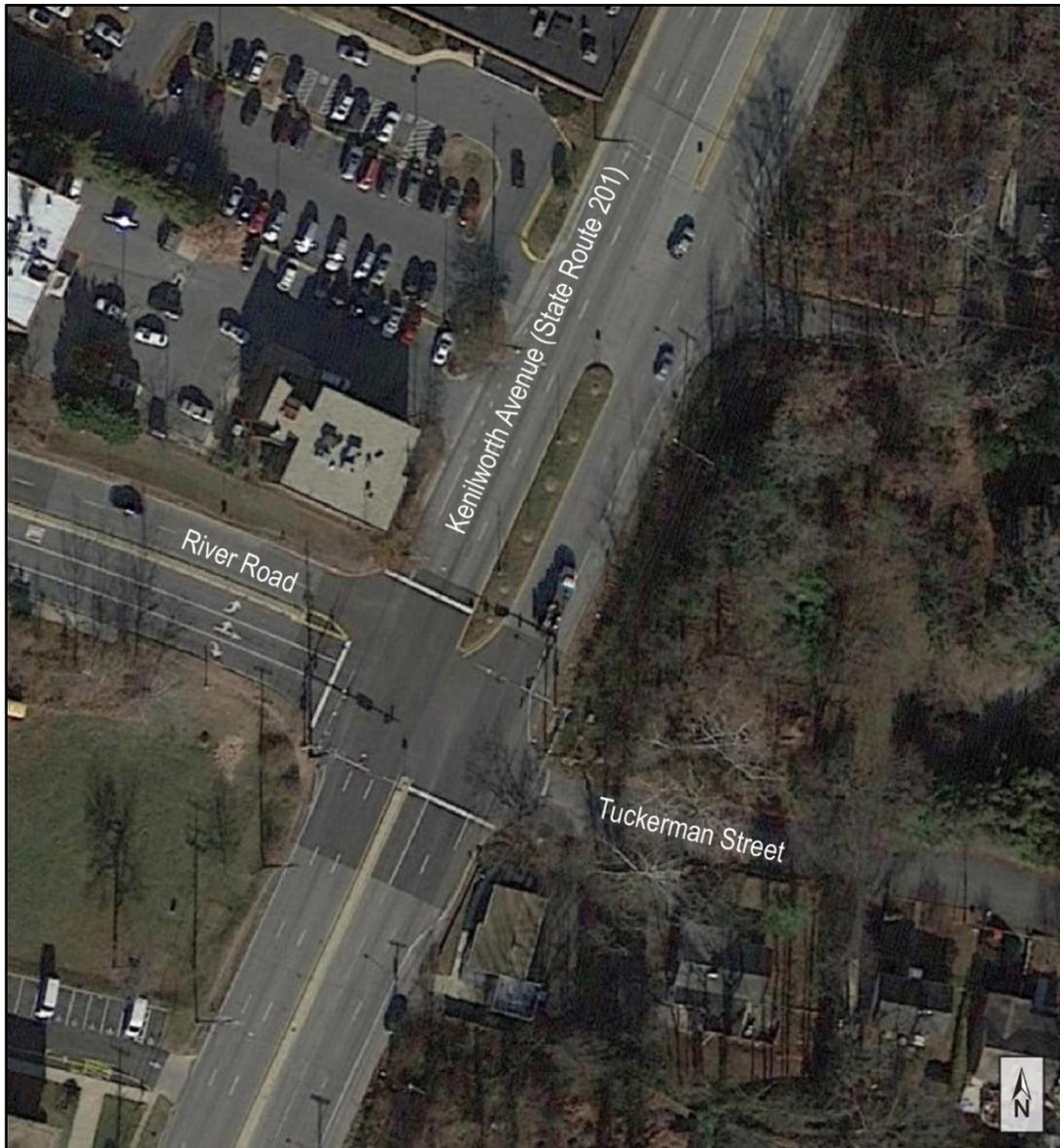
### Crash Location

The area around the crash intersection is residential and wooded, with small businesses located along Kenilworth Avenue (figure 2). On the northeast corner of the intersection is a medical

<sup>1</sup> Weather data from <https://www.wunderground.com/history/>.

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center. Kenilworth Avenue in this area is an urban arterial roadway consisting of seven lanes on the south side of the intersection and six lanes on the north side. The roadway runs northeast to southwest, with the opposing lanes divided by a concrete median on the south side of the intersection and a grassy median on the north side. On the approach to the intersection with Tuckerman Street (a dead-end road), the northbound lanes of Kenilworth Avenue consist of two through lanes, a left-turn-only lane, and a parking lane. Along the southwestbound approach, the lanes consist of three through lanes and a right-turn-only lane. The posted speed limit for the roadway is 35 mph.



**Figure 2.** Aerial view of crash location showing where Tuckerman Street intersects with Kenilworth Avenue. (Base photo by Google Earth)

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Streetlights are located on the northeast, northwest, and southeast corners of the intersection. The area around the intersection does not incorporate sidewalks. The intersection is not marked with pedestrian crosswalks, and the timing sequence of the traffic lights does not incorporate pedestrian walk phases.

Five-year crash statistics for the intersection from the Maryland State Highway Administration list one previous pedestrian collision. On June 9, 2011, at 9:08 p.m., a male pedestrian was struck by a vehicle while attempting to cross Kenilworth Avenue about 25 feet south of the intersection. The pedestrian was walking east against a red traffic signal, and the vehicle was traveling south. The pedestrian was seriously injured.<sup>2</sup>

### Pedestrian

The pedestrian lived and worked in the area. His family told investigators that the pedestrian often walked in the area and was familiar with the intersection where the crash occurred. According to the family, the pedestrian's overall health was excellent, and he was not under a doctor's care. He had no significant medical history and did not take medication.

On the night of the crash, the pedestrian wore a red shirt, blue jeans, a black baseball cap, and red tennis shoes. He also carried a white plastic bag containing groceries. The pedestrian's cell phone records showed no evidence that he was talking or texting at the time of the crash.

An examination of the pedestrian at the Prince George's Hospital Center morgue found massive blunt impact injury to the head, a compound fracture of the right arm, and a possible fracture of the right clavicle. The pedestrian sustained abrasions on his right leg associated with sliding on the pavement.

The Office of the Chief Medical Examiner in Baltimore, Maryland, performed an autopsy on the pedestrian. The autopsy report listed the pedestrian's height as 5 feet 6 inches and his weight as 171 pounds.<sup>3</sup> The cause of death was determined to be blunt force trauma to the head. Toxicological tests showed that the pedestrian had a blood alcohol concentration of 0.30. Results were negative for other drugs. Research has shown that even low levels of alcohol can affect cognitive performance.<sup>4</sup> At blood alcohol levels above 0.10, individuals suffer impaired motor coordination, vision, hearing, and balance. Their reaction times are slower, and judgment and perception are impaired.

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<sup>2</sup> The crash statistics and the police report from the referenced crash can be found in the public docket for this investigation.

<sup>3</sup> Pedestrian characteristics, such as height and weight, were documented to aid crash reconstruction and evaluate pedestrian injuries.

<sup>4</sup> Linda Dultz and Spiros Frangos, "The Impact of Alcohol in Pedestrian Trauma," *Journal of Injury, Infection, Trauma and Critical Care* (2012): 1252–1257.

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### Driver

The driver of the striking vehicle held a class C (noncommercial) driver's license issued by Maryland. The driver had no restrictions on her driving privilege. About 2 hours after the crash, a trained drug recognition expert from the Prince George's County Police Department interviewed the driver. The officer found no signs of impairment, and no tests for alcohol or other drugs were conducted. The driver's cell phone record showed that she was not talking or texting at the time of the collision.

### Vehicle

The vehicle involved in the crash was a 1998 Toyota Corolla four-door sedan (figure 3). The vehicle was equipped with air bags for the driver and the front passenger. The air bags did not deploy in the crash. Examination of the vehicle at the scene revealed several areas of damage. The damage included scratches on the right front bumper next to the license plate. The scratch marks extended up from the bumper toward the right side of the hood. A swipe mark, or disturbance of dust and dirt on the hood, extended up from left to right and off the right side of the vehicle. Both the A-pillar and the passenger side of the windshield were damaged by the pedestrian's body.



**Figure 3.** Photograph of crash car taken at scene showing damage to bumper, hood, and windshield from impact with pedestrian.

Biological material (blood and skin) was observed in fragments of the windshield glass. The driver reported that the vehicle was in working order before the crash.

## Roadway Design and Environmental Factors

The area around the intersection of Kenilworth Avenue and Tuckerman Street contains residential housing, a medical office complex, a church, several large industrial/office parks, and a shopping center south of the crash site. A bus stop is located on the right shoulder of Kenilworth Avenue, beside where the pedestrian came to rest. The bus stop has no shelter or other structures, and no barriers or other protections to separate vehicle traffic from pedestrians waiting at the bus stop. Local merchants and police agencies told a National Transportation Safety Board (NTSB) investigator that pedestrian traffic in the area is heavy.

A Camera Detection System activates the traffic signal for east- and westbound traffic when a vehicle approaches the intersection of Kenilworth Avenue and Tuckerman Street from either direction. The Camera Detection System does not detect the presence of a pedestrian. As a result, pedestrians who want to cross Kenilworth Avenue must do so on a red traffic signal when no vehicles are traveling east or west.

In February 2012, the CountyStat office of Prince George's County published an issue brief titled *Pedestrian Fatalities on State Highways*.<sup>5</sup> The report addresses environmental issues leading to fatal pedestrian crashes. Issues include the absence of crosswalks and sidewalks on multilane arterial roadways near shopping centers or other points of interest where pedestrians could be present.

The report notes that few alternatives are available to pedestrians who want to cross multilane arterial roadways that do not have crosswalks. In those situations, pedestrians are forced to either walk a long way to a pedestrian-controlled intersection or risk crossing the roadway where no control is present. The report concludes that 83 percent of all pedestrian fatalities occur on state-owned roadways and that most occur on a roadway, not at a crosswalk or on the shoulder of a road. The report also concludes that the primary cause of pedestrian fatalities in Prince George's County is the lack of sidewalks, crosswalks, and street lighting along state-maintained roadways. State Route 201 is included in the report as one of the roadways that have pedestrian safety issues.

In response to NTSB inquiries about the pedestrian safety study by Prince George's County and the environmental issues at the crash location, the Director of the Office of Traffic and Safety for the Maryland State Highway Administration stated that an Interagency Bicycle-Pedestrian Working Group had been formed. The group, comprising representatives from local law enforcement, the Prince George's County Department of Public Works, other government agencies, and the Maryland State Highway Administration, meets monthly to discuss pedestrian and bicycle safety initiatives. The Maryland State Highway Administration performed a series of road safety audits and is reviewing the results. At the time of this report, there were no remediation plans for the crash intersection.

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<sup>5</sup> The CountyStat brief can be found in the public docket for this accident.

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### Applicable Traffic Laws

The Transportation Article of the Code of Maryland regulates the movement of pedestrians and vehicles on public roadways. Under Title 21 of the code, pedestrians are prohibited from entering a roadway on a steady red light (section 21-202[1]) and are subject to all traffic control signals at an intersection (section 21-501). Pedestrian rights and rules related to crosswalks include the following:

(Section 21-503[a]) If a pedestrian crosses a roadway at any point other than in a marked crosswalk or in an unmarked crosswalk at an intersection, the pedestrian shall yield the right of way to any vehicle approaching on the roadway.

(Section 21-503[c]) Between adjacent intersections at which a traffic control signal is in operation, a pedestrian may cross a roadway only in a marked crosswalk.

The Maryland transportation code requires drivers to “exercise due care to avoid colliding with any pedestrian,” including sounding a horn as a warning (section 21-504). Drivers are required to stop when a pedestrian crossing the roadway is on the half of the roadway on which the vehicle is traveling, or when a pedestrian is approaching from an adjacent lane on the other half of the roadway (section 21-502).

### Probable Cause

The National Transportation Safety Board determines that the probable cause of the crash in Riverdale Park, Maryland, was the pedestrian’s decision to cross a multilane arterial roadway in the middle of the intersection. Contributing to his poor decision-making was impairment from alcohol. Also contributing to the crash was the intersection design, which failed to consider pedestrian traffic.

## BY THE NATIONAL TRANSPORTATION SAFETY BOARD

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Member

**Adopted:** July 2, 2018

For more details about this accident, visit the [NTSB public docket](#) and search for NTSB accident ID HWY16SH009. The accident dockets include such information as police reports,

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photographs, driver and witness statements, data on previous crashes, highway engineering reports, and timing of traffic signals.

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” 49 *Code of Federal Regulations*, Section 831.4. Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. 49 *United States Code*, Section 1154(b).

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