**Crime Scene #3**

**Road Rage**

**The Crime:**

Evelyn Horton, a 22-year old university student at the College of Fabrication and Imagination, is driving home at 1:25 AM when her car runs off a bridge located on I-95 over the Schuylkill River. Evelyn escapes without serious injury thanks to her seatbelt, air bags and crumple zones in her car. Evelyn claims she was run off the road by an enraged and intoxicated motorist.

**Relevant Information:**

Evelyn testifies that she was traveling exactly 110 km/hr across the bridge when the assailant’s vehicle forced her over the edge. Upon first sighting the assailant, Evelyn claims she engaged her brakes for at least one full second before leaving solid ground. Evelyn’s car plowed through the guardrail and fell off the 10-m high bridge landing in a shallow part of the river. After she exited her car, she was able to flag down a motorcyclist.

**The Investigation**:

The Police are investigating the scene and they turn to you to assist them. Based on the time of day, it is possible that Evelyn fell asleep at the wheel and is making up a story to avoid embarrassment.

The civil engineers have confirmed that the guard rails along the side of the bridge were in good shape have been tested and shown to reduce the velocity of any car impacting them by approximately 10 m/s, regardless of incoming velocity.

The braking ability of Evelyn’s car, given the road conditions and state of tires is -8.83 m/s2.

**Your Role:**

As consulting physicist to the Pennsylvania State Police you are asked to review both the scene of the accident and relevant information from the accident report. The State Police need to know whether this was an accident or a malicious act from an enraged driver, as they will dedicate a large percentage of their investigative resources toward finding Evelyn’s attacker if this is indeed a crime scene. Her insurance company is also interested, as her policy doesn’t cover damages due to driving while over-tired. By the way. Evelyn is the daughter of a prominent Philadelphia City Council Member so the stakes are high

**Potential Scenarios:**

1. Evelyn was forced off the bridge by an enraged motorist.
2. Evelyn fell asleep at the wheel and drove through the guard rail and off the bridge.