FATAL CRASH REVIEW

Location:	Columbia Pike (US 29) and Industrial Parkway
Accident Date/Time:	Sunday, October 18, 2020 at approximately 1:09 AM
Local Case No.:	200041049
Police District:	District 3
Review Date:	Tuesday, October 20, 2020

Description of Crash:

The police preliminary investigation indicated that around 1:00 AM a 2018 Honda Accord, travelling northbound on Columbia Pike, struck a 2010 Toyota Corolla, turning left from Industrial Parkway to southbound Columbia Pike. The 72 y/o driver of the Toyota Corolla was pronounced deceased at the scene. The 31 y/o driver and 21 y/o passenger of the Honda Accord were transported to the hospital with serious, but non-life-threatening injuries. of vehicle was uninjured. Police did not immediately state whether alcohol could have been involved. The investigation is ongoing.

Location and Site Description:

Columbia Pike (US 29) is classified a principle arterial (other freeways and expressways) oriented north-south with a 50 MPH posted speed limit at the collision site. The intersection of Columbia Pike and Industrial Drive is a signal-controlled T-intersection. Columbia Pike, through the intersection, is a six-lane divided roadway with a double right-turn bay on the northbound approach and left-turn bay on the southbound approach. The approach from Industrial Parkway is a five-lane divided local road which becomes a two-way undivided local right away from the intersection. Of the three lanes entering the intersection two are left-turn only and one is right-turn only. There is an opening in the median, with a left-turn bay to allow access to southbound Old Columbia Pike. A crosswalk is located across the northern leg of Columbia Pike, with pedestrian refuge in the median with separate pushbuttons. Pedestrian ramps are present on both sides of Columbia Pike, though are not connected to any pedestrian facilities.

Site observations:

An on-site evaluation of the intersection was conducted on September 10, 2020 around 10:00 AM. The following was noted during the evaluation:

- **Road Geometry:** All approaches are tangent. Sight distance to the subject intersection is generally clear from all lanes for a significant distance on all approaches.

- **Pavement markings:** Pavement markings were found to be in good to fair condition and visible. Pass through markings are present for the double left-turn from Industrial Parkway to southbound Columbia Pike, the pass-through markings were found to be in poor condition.

- **Signage:** Existing signing was found to be good condition, visible, and placed properly.

- **Pedestrian Facilities:** As noted previously a crosswalk is present on the north leg of the subject intersection. The crosswalk markings are typical continental style with diagonal hashing. In the median of Columbia Pike there is a pedestrian refuge with pushbuttons. The crosswalk has ADA compliant pedestrian ramps, though there are no other pedestrian facilities connected to them. A worn path west of Columbia Pike, from Old Columbia Pike, shows that the crossing sees use, though no pedestrian crossings were observed during field review.

- **Transit:** There are no bus stops along Columbia Pike, though buses use the roadway to access several stops along Industrial Parkway. Buses were observed turning right from Columbia Pike onto Industrial Parkway, and from Industrial Parkway onto Columbia Pike.

- **Signals:** All signal heads at the intersection were observed to be functioning properly. The signals are clearly visible beyond the provided minimum sight distance outlines in the MDMUTCD. The number and placement of signal heads meets minimum requires per the MDMUTCD.

- **Lighting:** Typical intersection lighting is present around the intersection. Proper adequacy and operation could not be determined at the time of the field investigation. However, the MCDOT streetlight map indicated that all lights near the subject intersection are functional

- **Drainage:** Columbia Pike continues on a general downgrade to the south through the intersection. Industrial Parkway trends on a general downgrade to the west, towards Columbia Pike. No evidence of pooling or drainage issues was observed.

- **Other Hazards:** A review of the reported crash history found large numbers of crash types associated with signals along high-speed, high-volume roadways: rear end, sideswipe, and angle. These types of crashes occurred both at the intersection and up to almost a mile away. Additionally, six (6) pedestrian crashes have been reported, though no trend could be determined. During the field review a number the vehicles were observed to continue through the signal, at generally high speed, during the yellow transition phase and all-red phase. This occurred on both the Columbia Pike north and southbound through movements, as well as the Industrial Parkway left-turn movement to southbound Columbia Pike.

Conclusion and Recommendations:

Although the direct cause of the collision is unknown, it is likely related to driver inattention regarding the signal, leading to running a red-light condition. As University Boulevard is maintained by the Maryland Department of Transportation State Highway Administration (MDOT SHA), MCDOT recommends that MDOT SHA consider the following:

1. Generally increasing the visibility of the signal. Adding additional signal heads to have a signal head inline with each through lane on Columbia Pike, as recommended in the MDMUTCD, may make the signal more visible to drivers, particularly at night. Currently the north and southbound through movements on Columbia have the minimum required two signal heads for each three-lane approach.
2. Adding advance warning signing for the signal to improve drivers' awareness that the signal is present, particularly during the day. This may include a standard W3-3 signal ahead sign, possibly supplemented with flashing beacons. Installing a 'Signal Red When Flashing Prepare to Stop' advance sign with flashing beacons coordinated with the signal phase to warn drivers approaching the intersection of the need to pay attention and to slow down as needed.

Appendix A: Pictures

Picture 1: The signal head arrangement of northbound Columbia Pike: two signal heads for the three through lanes and two signal heads for the two right-turn lanes.

Picture 2: Looking across the west leg, showing the three-section and five-section signal heads for the Industrial Parkway approach and the two three-section ball and two three-section arrow signal heads for the northbound Columbia Pike approach.