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## Reducing Accidents at Marshallton Thorndale Road

### Problem and Research Questions:

There have been many accidents concerning both cars and pedestrians at the intersection of Marshallton Thorndale Road, McIntosh Lane, and Rome Road, in West Chester, Pennsylvania, because cars speed through this intersection, which sits on top of a hill with blind spots on either side of the hill.

What can be done to reduce the number of accidents at this intersection?

How can drivers be informed of this intersection with major blind spots?

How can pedestrians be better protected from accidents at this intersection?

Who would be in charge of implementing solutions to the accident problem?

What are different solutions that can be implemented, and how do they compare in price?

### Background and Purpose:

Drivers at this intersection tend to speed over the hill on Marshallton Thorndale Road, which causes a problem for drivers driving on McIntosh Lane and Rome Road, as well as pedestrians crossing the road. Research found by the World Health Organization (WHO), has shown that speeding leads to an increase in accidents (“Road traffic injuries”). When the average

speed of a car increases by 1 km/h, or about 0.621 mph, there is a 3% more likely chance of a crash and 4-5% more likely chance of a fatal crash (“Road traffic injuries”). In addition, a pedestrian’s chance of dying from a crash is less than 20% if the car is going 50 km/h, about 31 mph, and about 60% if the car is going 80 km/h, about 50 mph (“Road traffic injuries”). Thus, a car speeding over a hill with blind spots poses a huge risk to lives.

In addition, intersections are dangerous places for accidents. They are more likely to have traffic accidents compared to anywhere else (Hill). Intersection accidents are one of the most common types of accidents (“Intersection and...”). Despite intersections taking up less than 40% of roadway area, almost 40% of crashes occur at intersections (Hill). Crashes at intersection can be caused by a lack of visibility, such as blind curves, high speeds when approaching the intersection, and pedestrians (“Intersection and...”). All these aspects are present at the Marshallton Thorndale Road, McIntosh Lane, and Rome Road intersection, causing it to be a dangerous intersection.

The problem of speeding drivers through this intersection is a problem which can be solved by adding road safety features. In order to reduce the speed of the vehicles, one can add signs for drivers to be aware of or make changes to the road (Fuscaldo). Fuscaldo’s article shows that there are many different solutions to this kind of problem, thus making this a reasonable problem to fix.

#### Potential Audiences:

- Dianne Herrin, the Mayor of West Chester
- Bill Scott, Don Braceland, and Michael Stefano, members of the Public Safety, Events & Quality of Life Committee of the Borough of West Chester

- Bernie Flynn, Michael Stefano, and William Scott, members of the Finance & Revenue Committee of the Borough of West Chester
- The Borough of West Chester Police Department, including Chief of Police, Scott L. Bohn
- Alan Hodge, the manager of Highland Orchards

Writer's Role:

This intersection is only three minutes from where I live, and my family and I drive to Highland Orchards very often. The intersection at Highland Orchards has two very blind hills in both directions, which scares me as a new driver. Since accidents happen often, I am terrified of a driver flying over the hill as I make a turn. In addition, we often go to Highland Orchards to hand pick our own fruit, which requires us to walk across the intersection to get to the fields. This also often scares me, since we can't really see if a car is coming. I don't think drivers and pedestrians should fear for their lives at this intersection, so something should be done about it.

Hypothesis:

Some solutions that can be implemented for this problem are as follows:

1. Adding four way stop signs to each way of the traffic, on Marshallton Thorndale Road, McIntosh Lane, and Rome Road, and adding a crosswalk for pedestrians. This forces all ways of traffic to stop and allows pedestrians the opportunity to safely walk across without fear. This would be the most expensive option, as one would have to pay for 4 stop signs and to paint a crosswalk.

2. Another option would be to add only 2 stop signs for both ways of traffic on Marshallton Thorndale Road, as this is where the blind spots occur. This allows traffic through McIntosh Lane and Rome Road to safely proceed without fear of other traffic speeding over the hill. It would also still give pedestrians the chance to cross safely. This would be more cost efficient as only 2 stop signs would need to be paid for.
3. Another effective method to help stop cars from flying over the hill would be to add speedbumps because this would force them to slow down. This may be more effective at preventing accidents because drivers may ignore signs, but they would not be able to ignore speed bumps.
4. The last option would be to add caution signs before the intersection on either side of the blind hill spots warning drivers to be aware of the intersection. This would not require any traffic to stop at the intersection but would maybe cause drivers to slow down before approaching the intersection. This would also be more cost efficient since only 2 signs would be needed.

## Works Cited

Fuscaldo, Donna. "Stop Drivers from Speeding in Your Neighborhood." *houselogic*, <https://www.houselogic.com/home-thoughts/stop-drivers-from-speeding-in-your-neighborhood/>. Accessed 25 February 2018.

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