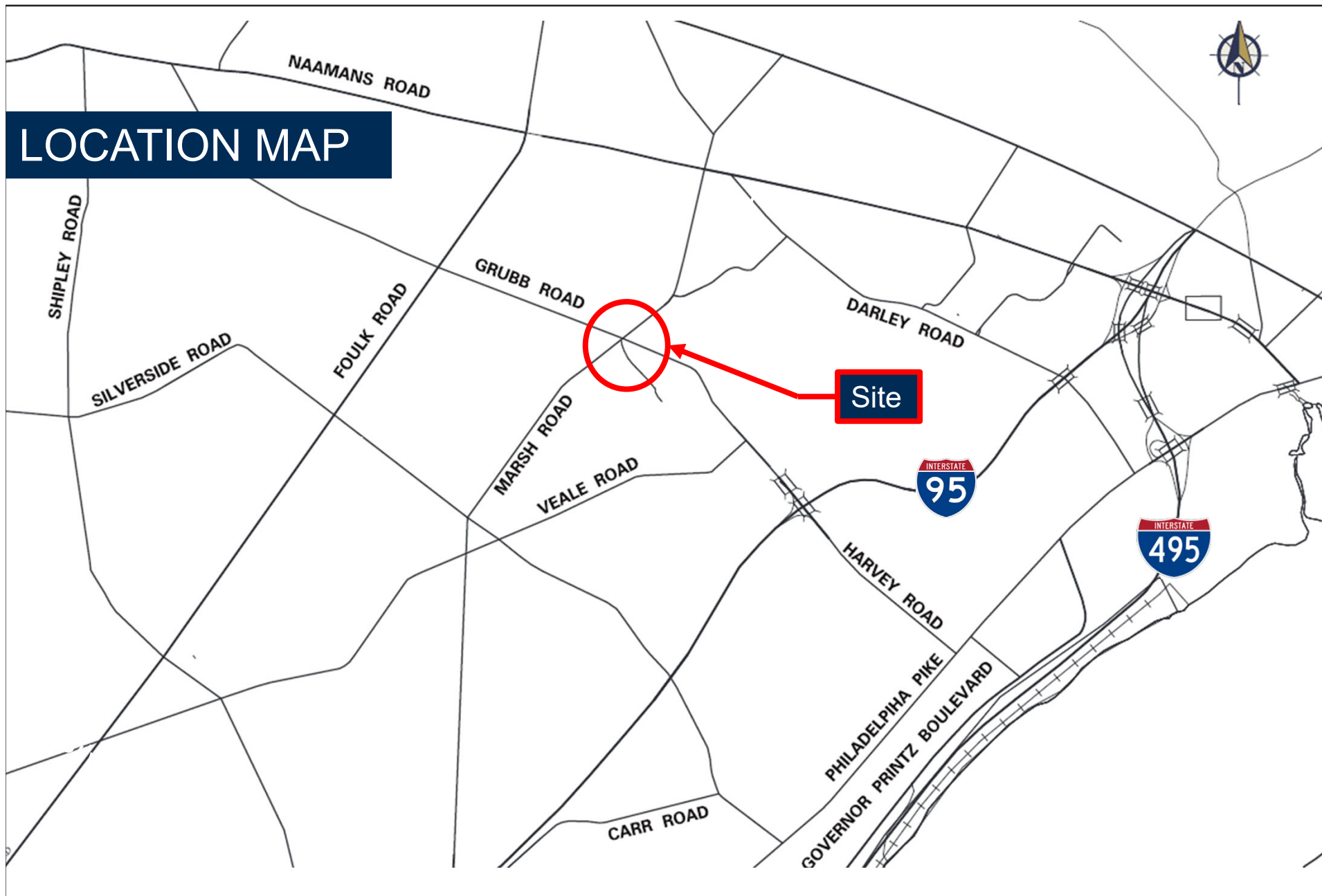


LOCATION MAP



CONCEPT PLAN

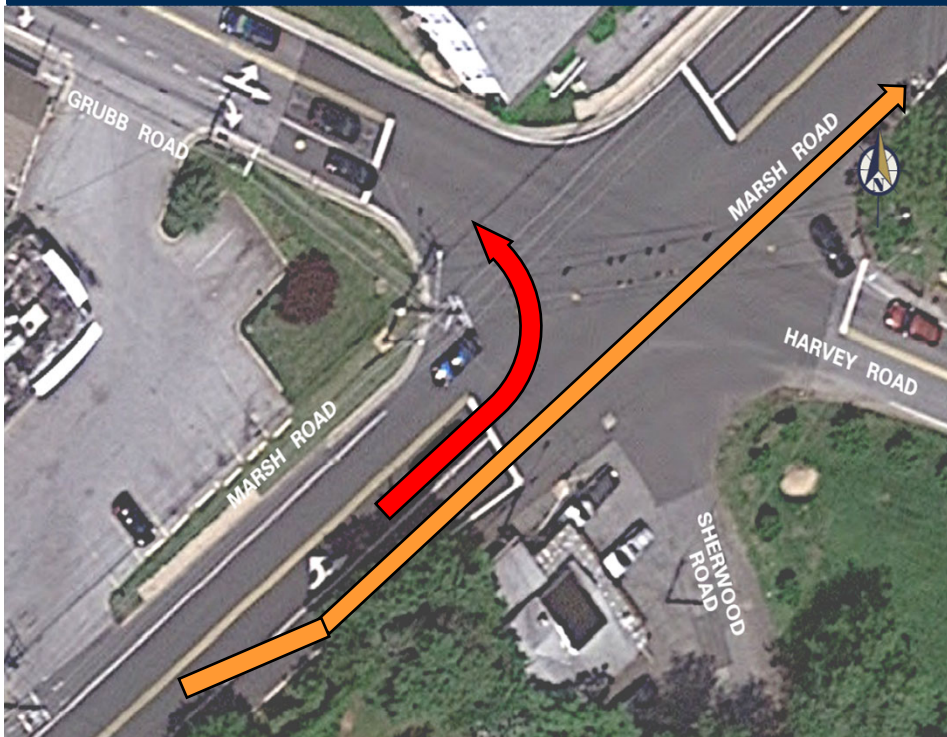


Note: Several options were considered but the preferred alternative is shown here.

ADVANTAGE #1 - ELIMINATION OF ILLEGAL MOVEMENTS

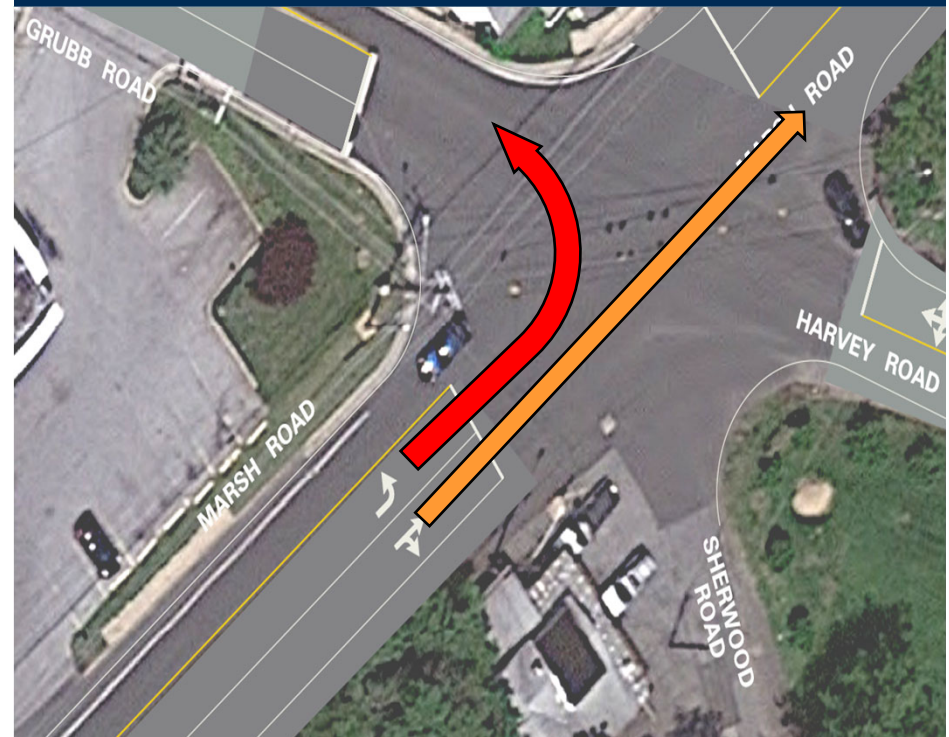
Existing Operations:

- Through movements currently bypass left-turning vehicles by using right turn lanes.

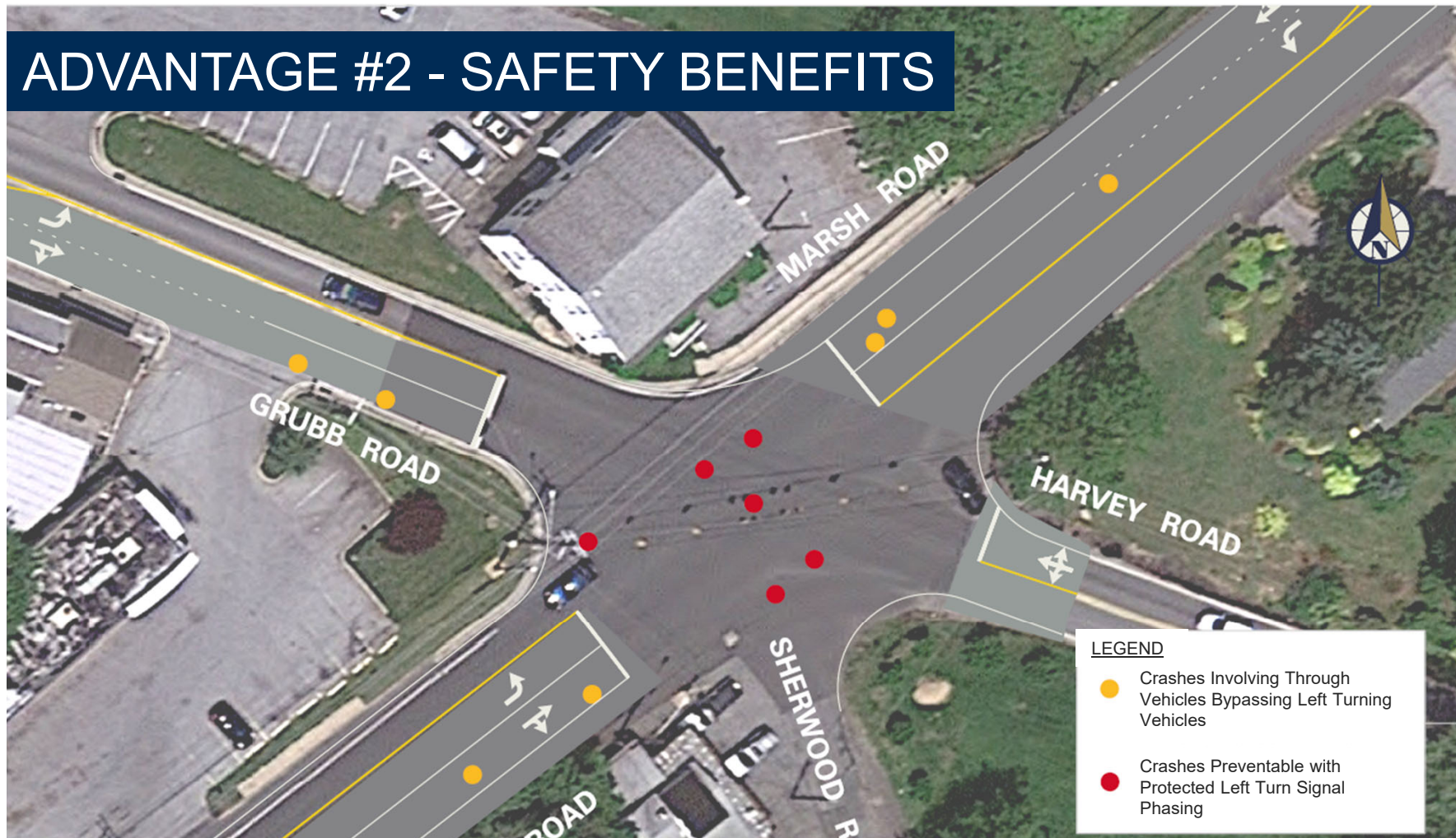


Proposed Operations:

- Left turns are separated from through movements. Through movements will no longer bypass left-turning vehicles by using right turn lanes.



ADVANTAGE #2 - SAFETY BENEFITS



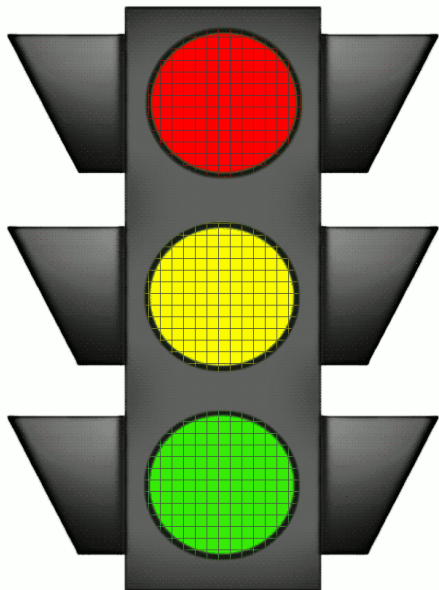
- 7 crashes in 3 years occurred from through traffic using the right-turn lanes to bypass left turning traffic along northbound and southbound Marsh Road as well as Grubb Road. Restriping will eliminate these illegal movements and will reduce these crash occurrences (pictured in yellow).
- 6 crashes in 3 years occurred at the intersection along northbound Marsh Road as well as Grubb Road which are mitigable with protected left turn signal phases (pictured in red). See next slide for an example of protected left turn signal phases.
- In addition, there were many near misses observed at the intersection that could be mitigated with implementation of these improvements.

Marsh Road & Harvey Road/Grubb Road Virtual Workshop

ADVANTAGE #2 - SAFETY BENEFITS CONTINUED

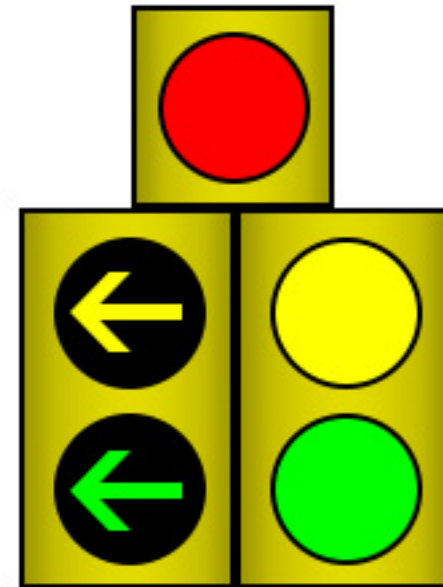
Existing Signal Heads:

- Left-turning vehicles must wait for a gap in opposing traffic to complete a turn.

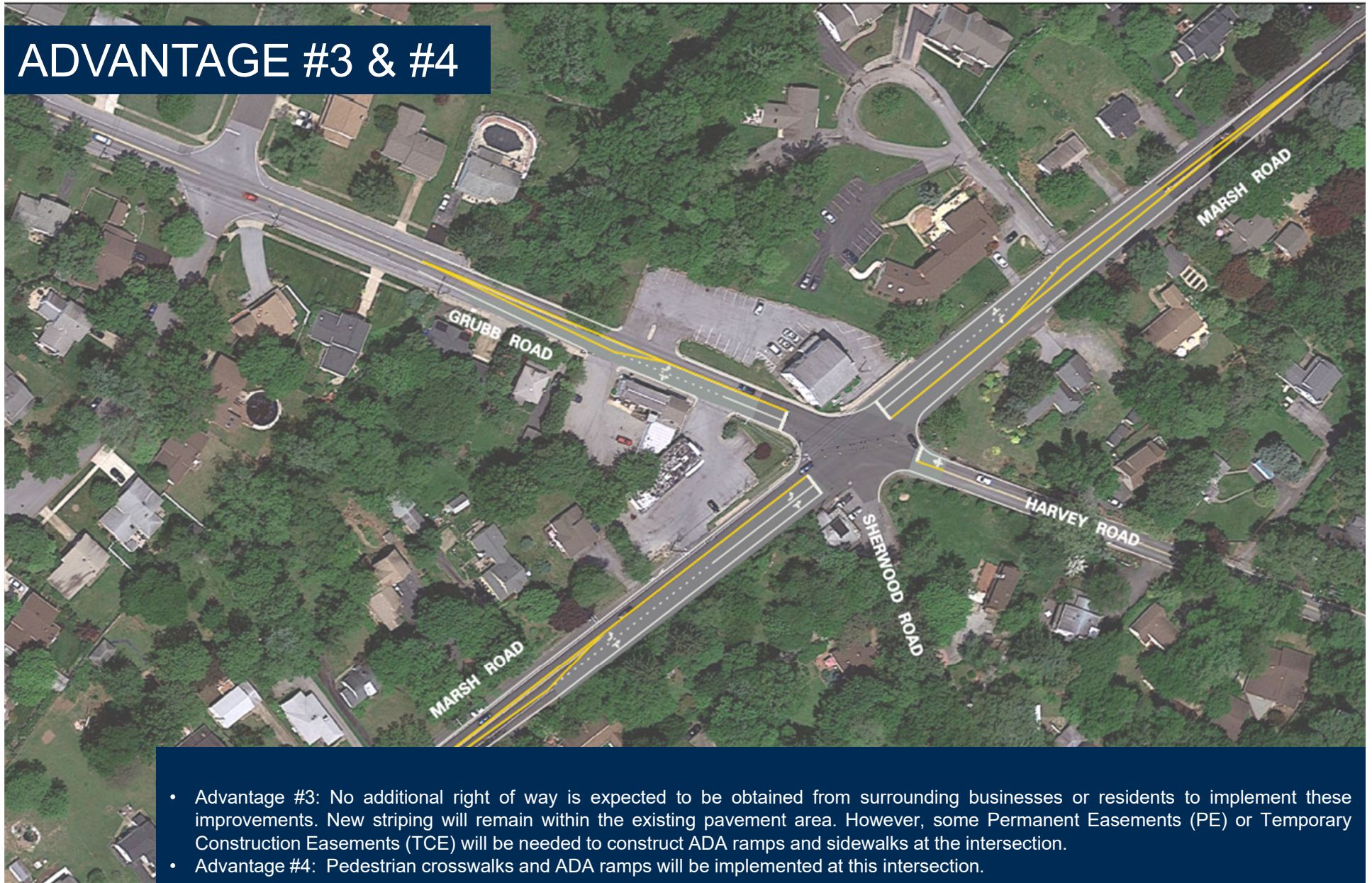


Proposed Signal Heads:

- Left-turning vehicles have a protected signal phase where a left turn can be completed without any conflicts.

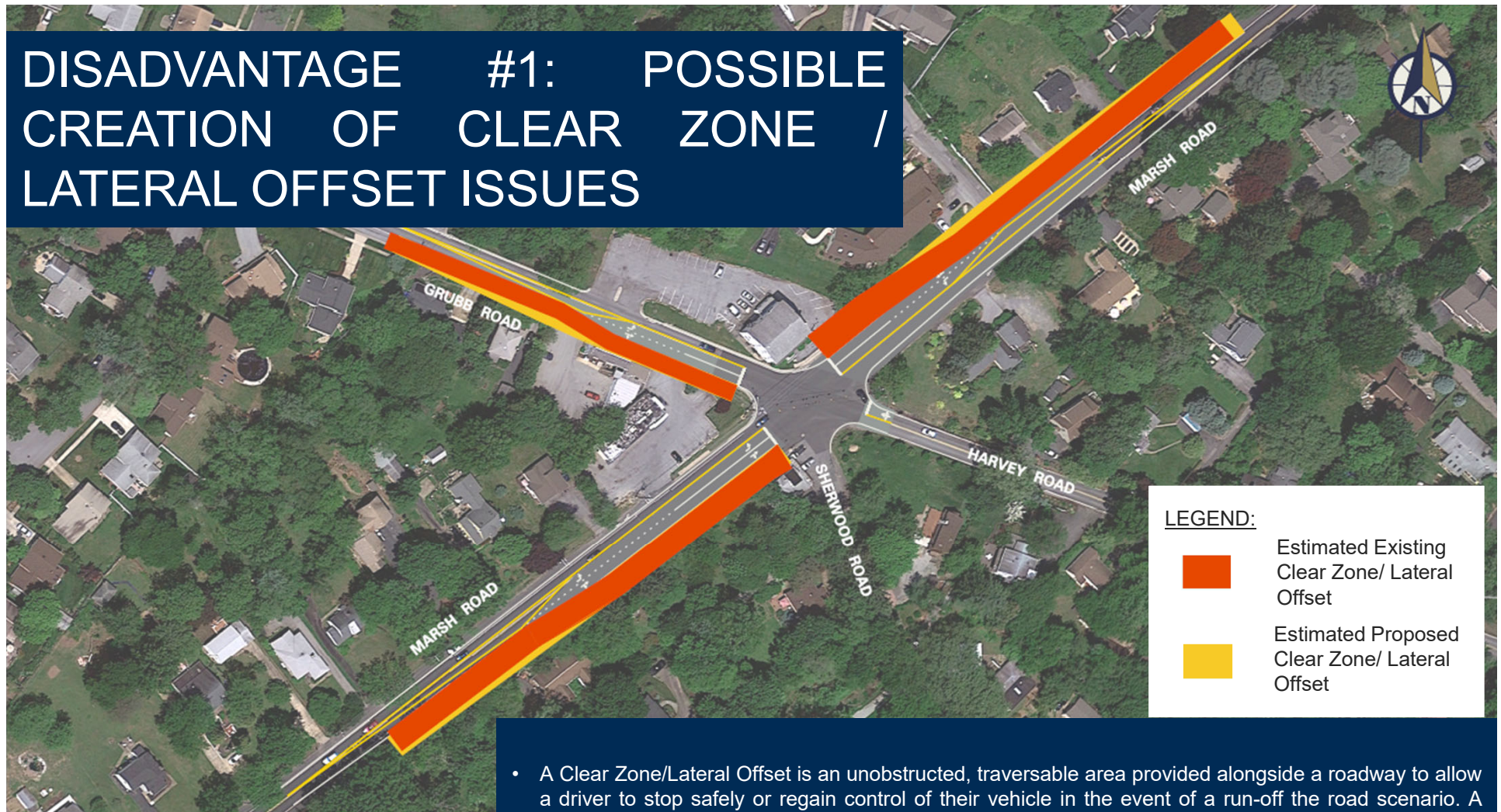


ADVANTAGE #3 & #4



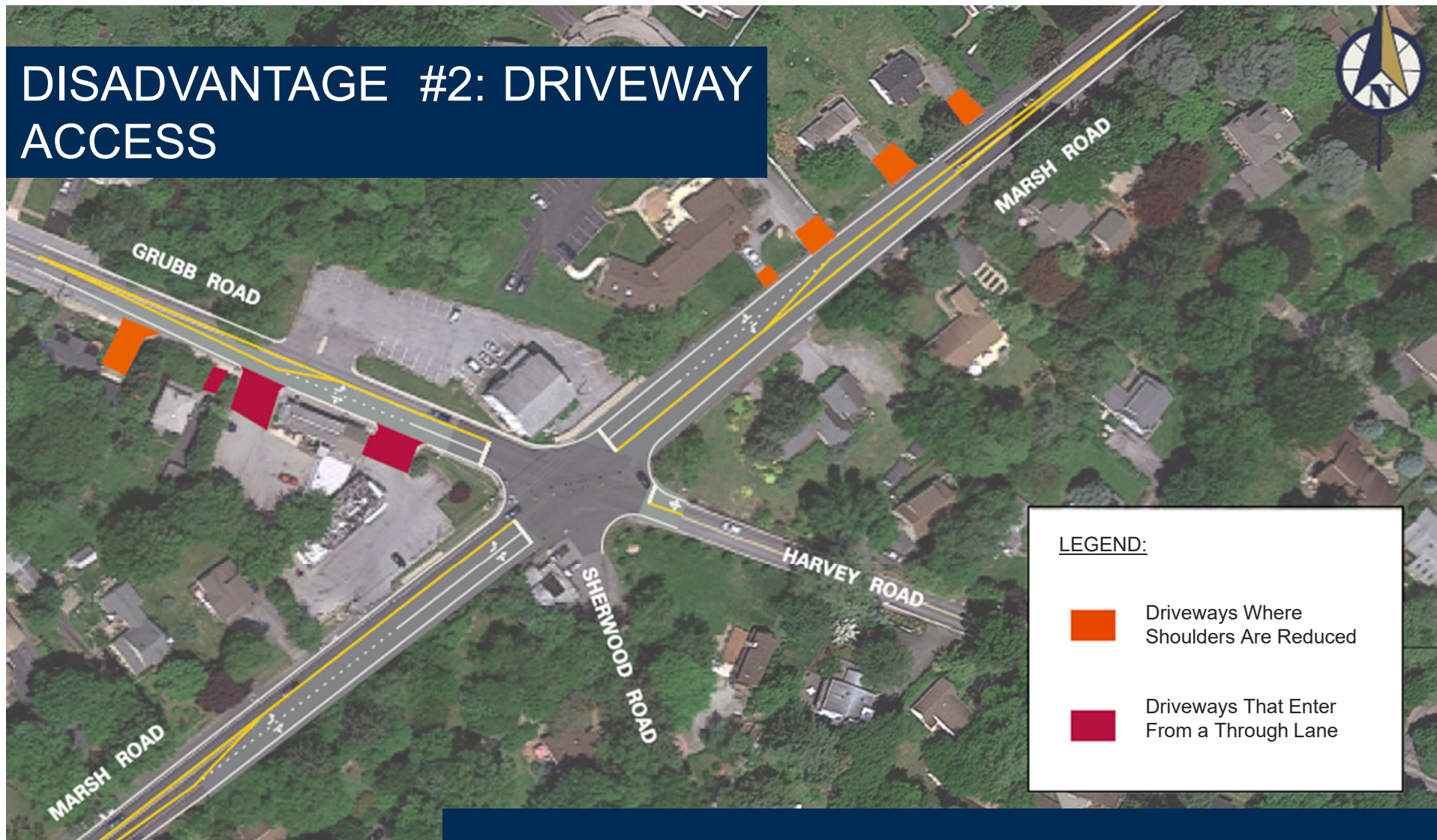
- Advantage #3: No additional right of way is expected to be obtained from surrounding businesses or residents to implement these improvements. New striping will remain within the existing pavement area. However, some Permanent Easements (PE) or Temporary Construction Easements (TCE) will be needed to construct ADA ramps and sidewalks at the intersection.
- Advantage #4: Pedestrian crosswalks and ADA ramps will be implemented at this intersection.

DISADVANTAGE #1: POSSIBLE CREATION OF CLEAR ZONE / LATERAL OFFSET ISSUES



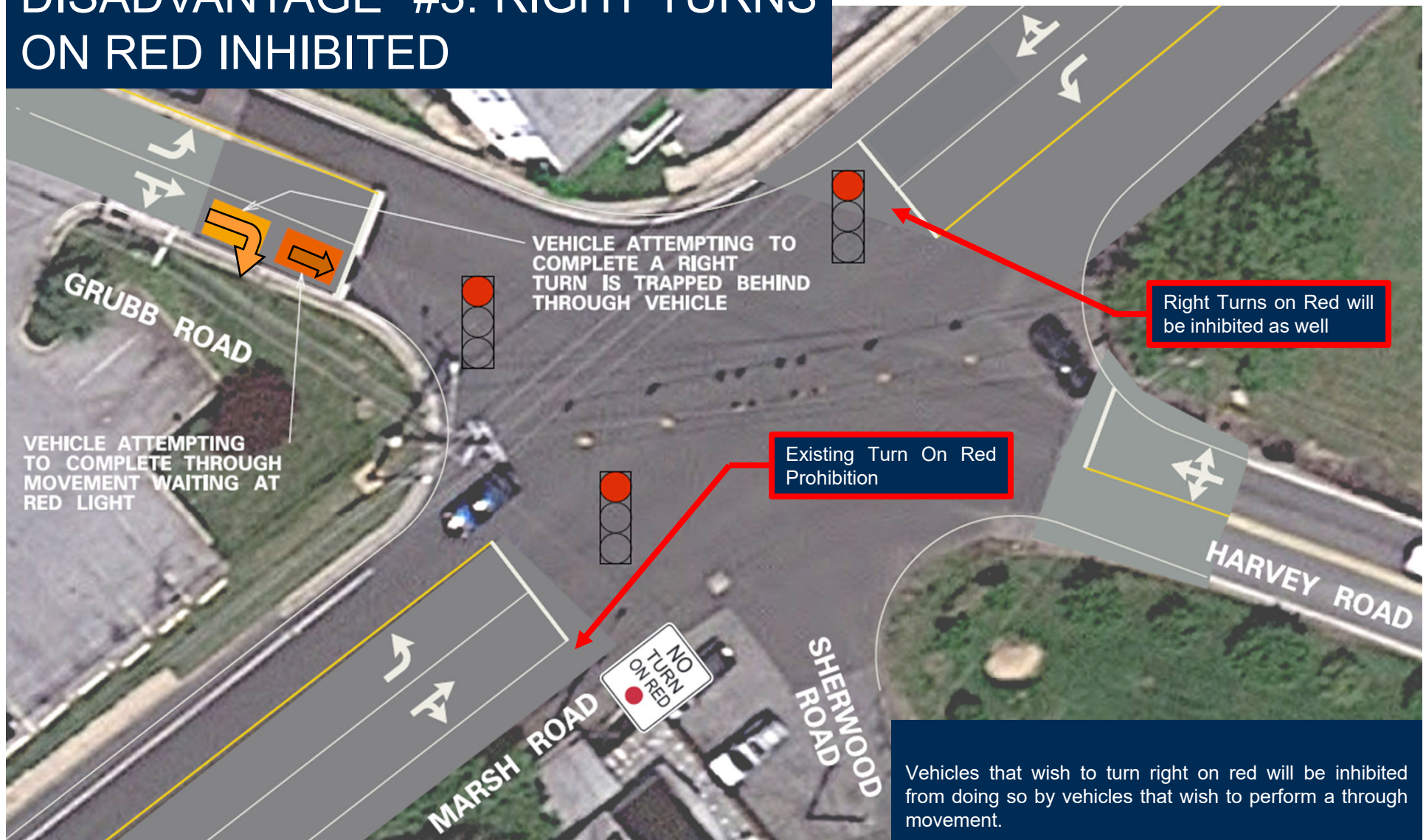
- A Clear Zone/Lateral Offset is an unobstructed, traversable area provided alongside a roadway to allow a driver to stop safely or regain control of their vehicle in the event of a run-off the road scenario. A desirable Clear Zone/Lateral Offset is void of hazards such as utility poles or trees. The Clear Zone/Lateral Offset is measured as an offset from the edge of the travel lane.
- Shifting the through lane closer to the edge of pavement will increase the possibility of run-off the road scenarios and vehicles entering somebody's yard. The estimated existing Clear Zone/Lateral Offset is highlighted in orange and the estimated proposed Clear Zone/Lateral Offset is highlighted in yellow above. The actual Clear Zones/Lateral Offset will be determined during the design phase.

DISADVANTAGE #2: DRIVEWAY ACCESS



The lane shifts will affect how driveways along southbound Marsh Road and Grubb Road will be accessed. As seen above, most driveways will be accessed from little to no shoulder than before (as shown in orange). The driveways shown in red along Grubb Road will be accessed from a higher volume through/right turn lane rather than the existing right turn only lane or shoulder.

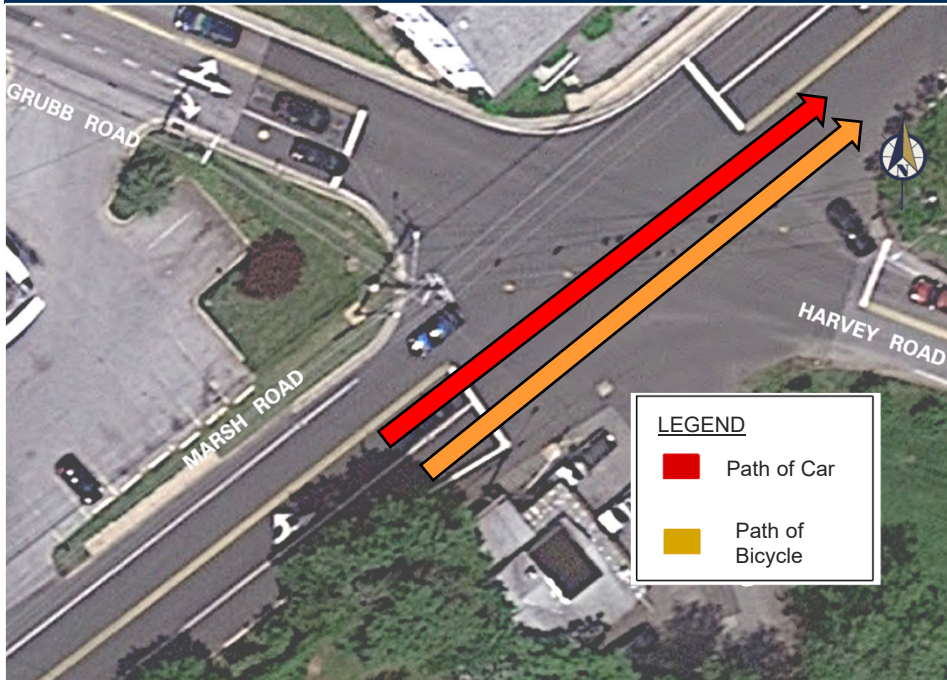
DISADVANTAGE #3: RIGHT TURNS ON RED INHIBITED



DISADVANTAGE #4: BICYCLE CONFLICTS

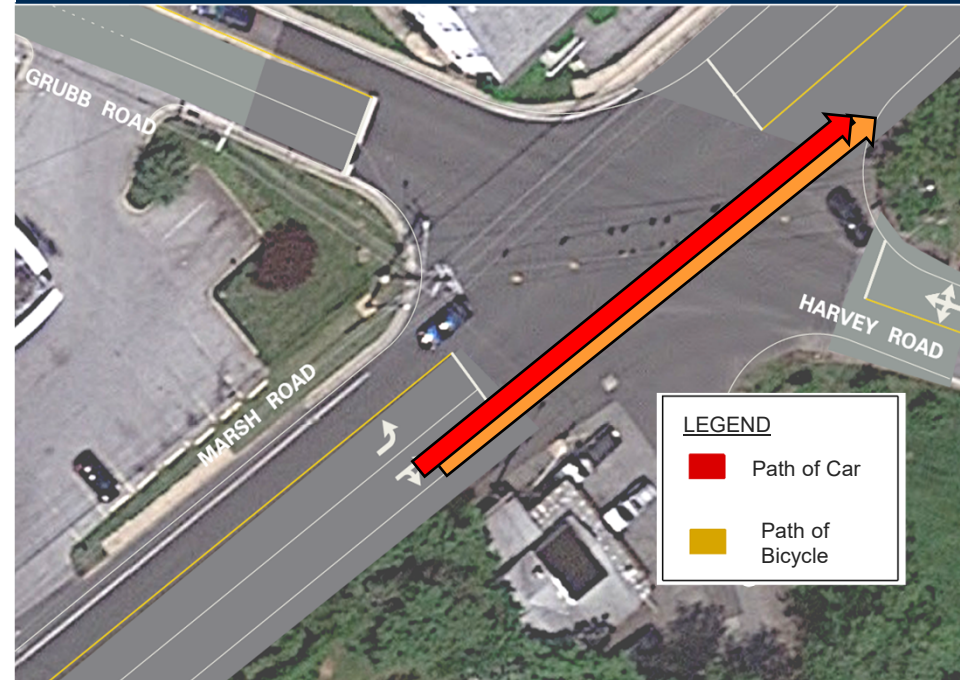
Existing:

- Bicycles utilize the right turn lane to complete a through maneuver and have no conflict with through moving vehicles.

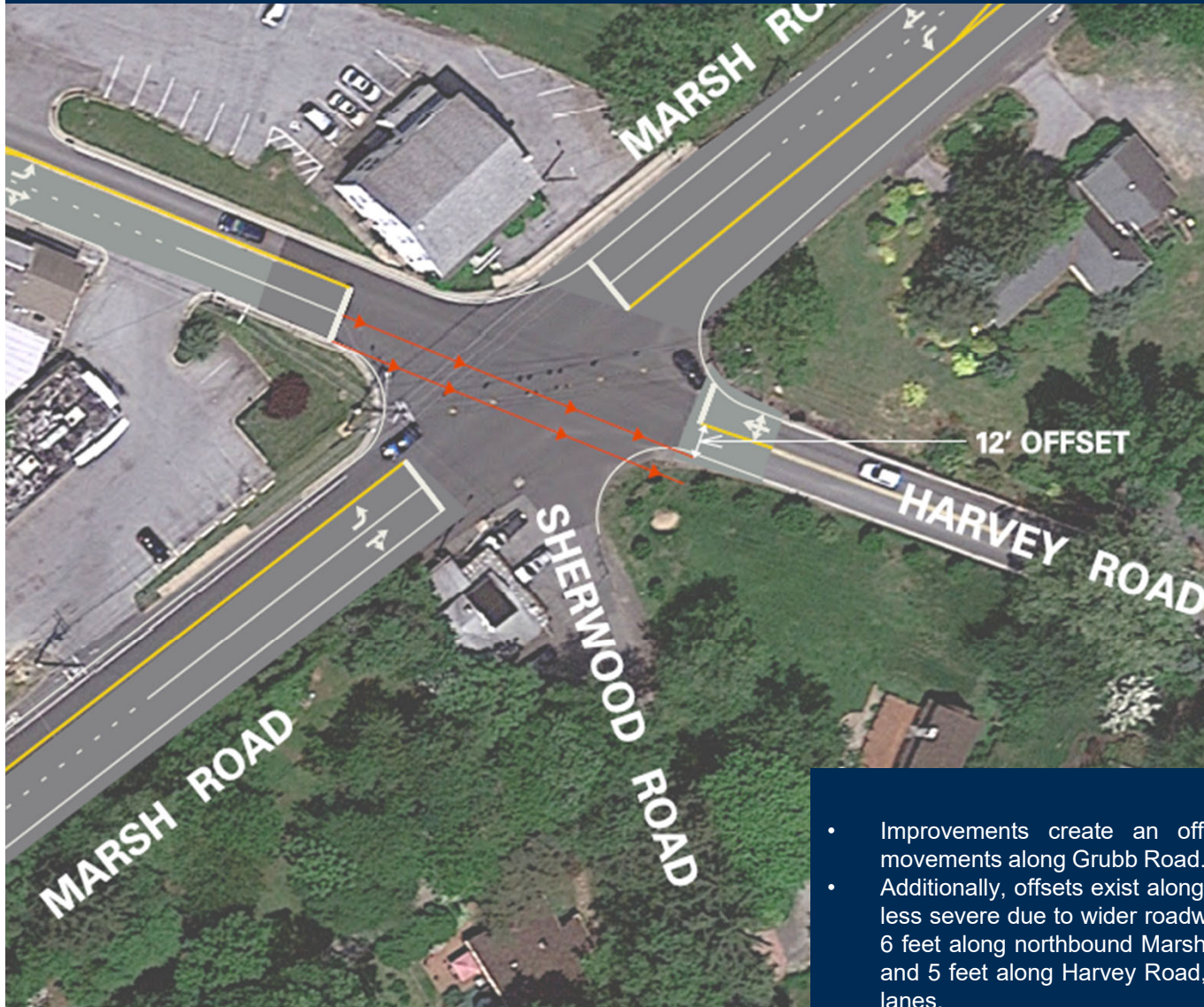


Proposed:

- Bicycles use the shared through/right turn lane to complete a through maneuver, potentially creating a conflict with through moving vehicles. There is a higher probability of vehicles rear-ending bicycles.



DISADVANTAGE #5: THROUGH MOVEMENT OFFSETS



- Improvements create an offset of approximately 12 feet for through movements along Grubb Road. This offset can be seen above.
- Additionally, offsets exist along Marsh Road and Harvey Road, but these are less severe due to wider roadway footprint. This alternative creates offsets of 6 feet along northbound Marsh Road, 3 feet along southbound Marsh Road, and 5 feet along Harvey Road, between the through lanes and the receiving lanes.

ADDITIONAL CONSIDERATIONS FOR IMPLEMENTATION: POTENTIAL SIGNAL UPGRADES

Signal infrastructure upgrades such as repositioning signal heads to line up with travel lanes, installation of new signal heads, and other upgrades may be needed to accommodate the intersection improvements.