



Albemarle County

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Date	Ver.	Action By	Action	Result
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AGENDA DATE: 4/6/2022

TITLE:
Earlysville Road/Reas Ford Road Intersection Study

SUBJECT/PROPOSAL/REQUEST: Presentation on the results of the Earlysville Road/Reas Ford Road Intersection Study and discussion on next steps

ITEM TYPE: Regular Information Item

STAFF CONTACT(S): Richardson, Walker, Filardo, Rapp, Abplanalp, Stumbaugh, McDermott

PRESENTER (S): Kevin McDermott

LEGAL REVIEW: Not Required

REVIEWED BY: Jeffrey B. Richardson

BACKGROUND: Over the past seven years, safety concerns have been identified at the Reas Ford Rd/Earlysville Road Intersection in north-central Albemarle County. As a result, VDOT and Albemarle County have been evaluating this intersection for potential improvements that might address these concerns. In support of this effort, two studies were produced by VDOT and their on-call consultant, one in 2018 and another in 2019. Those studies reviewed the historical crash data, assessed the factors contributing to the crashes, and evaluated geometric, and volume information. Both studies offered recommendations for short and long-term improvements to address the safety issues.

Initial recommendations, including vegetation clearing, new/replacement signage, and new/improved pavement markings were all completed in 2019. In May through June 2020, Albemarle County worked with VDOT to install a flashing LED stop sign on Reas Ford Rd approaching the intersection from the south and radar speed detection and display signs that show drivers' their speed on Earlysville Rd approaching the intersection from both the east and west. These were funded through the Secondary Six Year Plan and are being maintained by VDOT.

In early 2021, the Board of Supervisors requested staff to engage a consultant to further evaluate potential issues and solutions at the intersection and to develop more detailed cost estimates for the potential solutions. Attachment A is the *Earlsville Road with Reas Ford Rd/Earlsville Forest Dr Intersection Traffic Study* completed to address that request. The findings are summarized below.

STRATEGIC PLAN: Infrastructure Investment - Prioritize, plan, and invest in critical infrastructure that responds to past and future changes and improves the capacity to serve community needs.

DISCUSSION: The intersection of Earlsville Road with Reas Ford Road and Earlsville Forest Drive is a four-legged crossroad intersection that is two-way stop controlled with free flow on Earlsville Road. Traffic counts were conducted at the intersection in the fall of 2021. The overall peak hour occurred between the hours of 4 PM to 5 PM, when 996 vehicles entered the intersection. This includes 543 vehicles on the Earlsville Road northbound approach, 307 vehicles on the Earlsville southbound approach, 95 vehicles on the Reas Ford Road eastbound approach, and 51 vehicles on the Earlsville Forest Drive westbound approach. Trucks and heavy vehicles constitute 1.2% of all vehicles entering the intersection, primarily to and from Reas Ford Road. Over the five-year period from July 1, 2016 to June 30, 2021, 15 crashes were reported within 300' of the intersection. Right angle crashes account for 53% of intersection crashes and is the most common crash type reported to occur. No fatal crashes occurred at the intersection during the study period.

The preliminary intersection alternatives developed as the basis for evaluation through this study included the "No Build" and five additional alternatives.

Alternative 1 includes construction of left-turn lanes on both Earlsville Road approaches and a right-turn lane on the Reas Ford Road eastbound approach without any modification to intersection control, with a planning-level cost estimate of approximately \$2 million.

Alternative 2 includes the installation of a traffic signal along with construction of left-turn lanes on both Earlsville Road approaches and a right-turn lane on the Reas Ford Road eastbound approach. Alternative 2 has a planning-level cost estimate of approximately \$2.5 Million. However, this alternative is likely not feasible because traffic signal warrants do not appear to be met.

Alternative 3 includes construction of a single-lane traditional size roundabout. The full roundabout has a preliminary cost estimate of approximately \$4.5 Million.

Alternative 3B includes a mini-roundabout. Due to the truck percentage and location of the Earlsville Business Park, a mini-roundabout is not recommended.

Alternative 4 is simply the installation of All Way Stop Control as a short-term (interim only) potential option to address the occurrence of angle crashes at the intersection. This would likely cost less than \$5,000 to install, but would require VDOT approval and would likely result in significant queuing issues for the Earlsville approaches and increased incidences of rear end accidents.

Based upon assessment of the entirety of the collected data, major intersection reconfiguration is not necessary at this time, and the No Build Alternative is appropriate. The intersection currently operates at adequate Level of Service (LOS) and the occurrence of crashes at the intersection has declined in the most recent 30-month period of the study, a trend that has continued since the study was completed.

BUDGET IMPACT: There is no budget impact related to the recommended next step of continued monitoring. If the Board decides to move forward with a different option presented in the study, then the next steps of engineering, right-of-way, and construction would come with the attendant costs associated with the selected alternative. Preliminary cost estimates are listed in the report by alternative. This study cost approximately \$55,000 of the \$350,000 the Board made available to address concerns at this intersection.

RECOMMENDATION:

Staff concurs with the study that continued monitoring is the recommended approach at this time. The intersection currently operates at adequate Level of Service (LOS) and the occurrence of crashes at the intersection has declined significantly in the most recent 30-month period of the study, a trend that has

continued since the data from the study was collected.

This work session is intended to give the Board the opportunity to provide staff with direction for follow-up.

ATTACHMENTS:

A - Earlysville Road with Reas Ford Rd/Earlysville Forest Dr Intersection Traffic Study