




STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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SECRETARY

DATE: July 1, 2025

TO: Andrew Aiezza, P.E.  
Transportation Design Project Manager  
DRMP, Inc.

FROM: R.H. Darnell  
Assistant District Engineer 

SUBJECT: Upward Road Sheetz – Traffic Impact Analysis Addendum

The Upward Road Sheetz – Traffic Impact Analysis Addendum, dated May 19, 2025, has been reviewed and discussed with NCDOT's Congestion Management Section as well as the Blue Ridge Mountains Regional Traffic Office of the NCDOT Mobility and Safety Field Operations Section.

The NCDOT Policy On Street And Driveway Access to North Carolina Highways states: "All analyses shall include level of service determination for the entire network and **individual intersections** and roadway segments, as appropriate. Intersection analyses shall **include level of service determinations for all approaches and movements**. Intersection analyses shall include queue analysis." (emphasis added)

An evaluation of the data provided in the Addendum, specifically Page 2, Table 2, shows that signalizing the intersection provides an Overall Level of Service (LOS) B for AM Peak Hour with a 19-second delay. This places the AM Peak Hour LOS just one second of delay out of the LOS C range. The PM Peak Hour is shown as an Overall LOS B with a 16-second delay, which is mid-range LOS B.

In the signalized scenario, looking at the individual approaches, three of the four operate at a LOS C or better in both the AM and PM Peak Hour. The Northbound (NB) approach operates at a solid mid-range LOS D in both Peak Hours, with 45 and 41 seconds of delay respectively. It should be noted that the NB approach is the approach to be utilized by customers visiting the proposed business on opening day.

The overall intersection LOS improves to LOS A with the roundabout scenario in both Peak Hours. It also includes a decrease in delay of more than 50% in both Peak Hours.

Table 2 shows all approaches operate at a LOS A in both Peak Hours except for the Southbound (SB) approach in the AM Peak Hour, which is shown as a LOS B with a 10-second delay. It is

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noted that Addendum Table 1 on page 2 indicates that, in the Roundabout Scenario, a 10-second delay can be shown as either a low LOS A or a high LOS B. Table 2 also shows the Westbound approach at a LOS A with a 10-second delay.

Henderson County SR 1783, Upward Road, was constructed in its current configuration by STIP Project R-4430 and LET to contract in March 2010. That project was a widening project and provided access management along the corridor. With knowledge of the operations of NCDOT in the time that R-4430 was being developed and constructed, it is the opinion of this office that there was not enough traffic volume on SR 1791, Ballenger Rd., to justify spending the funds for improvements on that intersection at that time. All other intersections along that corridor were modified with the intent of providing access management for a safer and more efficient corridor. There is an existing bulb-out available approximately 750' east of this site.

This office must evaluate each proposed access for safety of all roadway users as well as the Governor's Executive Order for Carbon Reduction and the NC Vision Zero initiative.

As a result of NC Executive Orders 80, 246, and 271, NCDOT developed the NCDOT Carbon Reduction Strategy. One aspect of this strategy is to reduce carbon emissions by improving infrastructure to limit the idle time (delay) of motorists. This must be taken into consideration for any proposed development desiring access to the NCDOT state-maintained system.

Consideration must also be given for the NC Vision Zero initiative while evaluating any proposed development desiring access the NCDOT state-maintained system. The NC Vision Zero initiative is a traffic safety approach focused on eliminating traffic deaths and serious injuries, while improving access to safe, sustainable, and equitable mobility for everyone.

Published data shows the safety improvements achieved after roundabouts replaced traditional intersections across North Carolina:

- 46% reduction in Total crashes
- 76% reduction in Fatal and Injury crashes
- 75% reduction in Frontal Impact crashes

Additionally, a driver generally enters the roundabout more quickly than if waiting at a traffic signal. This movement improves travel time and decreases delay for less carbon impacts. The modern roundabout is much smaller than older traffic circles and requires vehicles to travel at lower speeds (15–20mph), making them safer than older traffic circles with a smaller footprint. These lower speeds generate less impactful crashes with greatly decreased fatal or serious injuries.

The Addendum makes reference to the full-access drive QT has existing on SR 1791, closest to the intersection with SR 1783. That drive will be converted to right-in/right-out, as it has become problematic to the intersection and the left-turn lane on SR 1791. QT was notified during the permit process it would have to be adjusted if it became a problem.

This office opposes the installation of the proposed signal at the intersection of Henderson County SR 1783, Upward Rd., and SR 1791, Ballenger Rd., as part of the Sheetz project. A new signalized intersection does not comply with the intent of R-4430, nor does it conform to the current climate toward safety and carbon reduction.

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A 2x1 Roundabout is the preferred method for modification of the intersection. It will ultimately provide full access to all users of the corridor in a safer and more efficient manner. A roundabout does stay with the intent of R-4430.

If the developer chooses not to pursue the preferred roundabout, NCDOT is willing to consider other types of Reduced Conflict Intersections (RCIs) for potential use at this location.

We look forward to continuing this conversation to find an equitable solution that works.