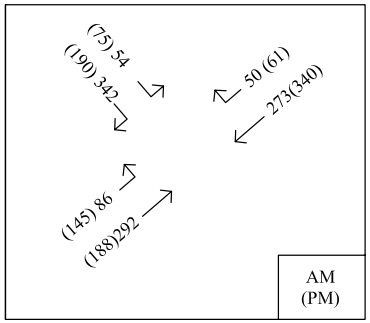
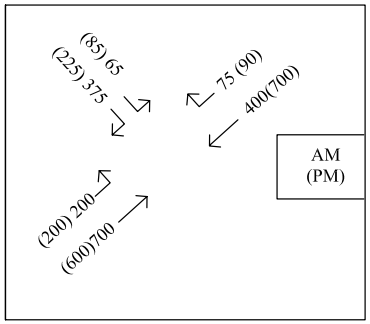
Route 15 at Route 53

Existing peak hour traffic volumes

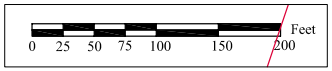


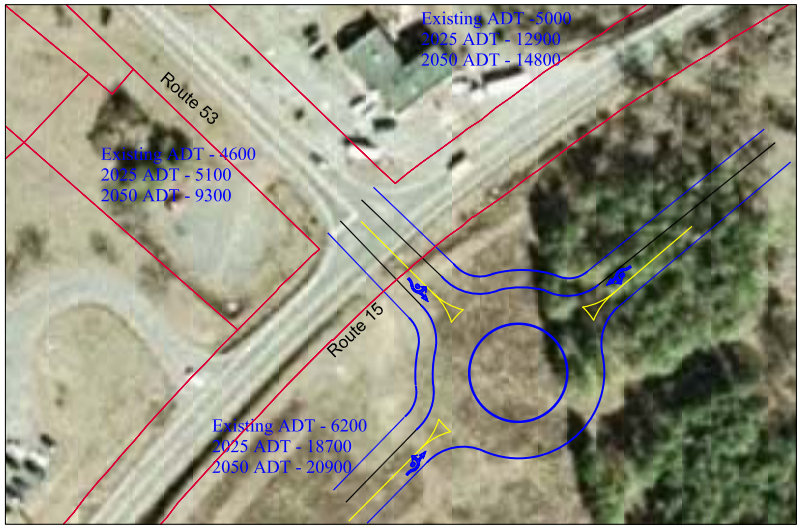
2025 peak hour traffic volumes



LEGEND

— — — Right of way lines





WORKING DRAFT 6-14-07

LOCATION DESCRIPTION

Route 15 is an arterial roadway providing north/south access through Fluvanna County and the Region. Route 15 is posted 35 mph and has 12' lanes on the approaches to the intersection. Route 53 is a rural collector facility providing access from Route 15 west to Route 20 in Albemarle County. Route 53 is posted for 55 mph and has 11' lanes on both approaches to the intersection. The Route 15/53 intersection is stop controlled for the Route 53 approach. Route 15 is being realigned per a new bridge over the Rivanna River that is being constructed to the east of the existing bridge. In the future, the Route 15/53 intersection will be located further to the east on the new Route 15 alignment.

DATA COLLECTION & OBSERVATIONS

AM/PM peak hour turning movement counts were conducted on May 9th, 2007. The peak hour volumes and current geometry are summarized within the adjacent graphics. It appears the the intersection traffic is a mix of local and through / commuter traffic. The morning peak hour volumes reflect the affect of the school traffic in the area for which the reciprocal movement occurs prior to the evening peak hour. Overall, there is not a capacity problem at this intersection presently.

EXISTING CONDITIONS ANALYSIS

Intersection capacity analyses using the Highway Capacity Software indicate that the eastbound left turn movement is at LOS C in the AM peak hour and LOS D in the PM peak hour. The VDOT criteria for a right turn taper is currently met for the southbound approach and the warrant for a left turn lane is minimally met for the northbound approach.

FUTURE CONDITIONS ANALYSIS

Under the future year scenario, this location will require signalization. Both the AM and PM peak hour volumes meet the federal criteria for installing a signal. Also, the intersection will have a failing level of service if under stop sign control. Exlcusive turn lanes for the eastbound approach, a southbound right turn lane, and a northbound left turn lane will be warranted. As an alternative, a roundabout could be constructed versus the turn lane and signalization improvements.

RECOMMENDATION & ENGINEER'S COST ESTIMATE

Near Term:
Construct the required turn lanes on Route 15 and widen the Route 53 eastbound approach to provide both a left and right turn lane.

Longer Term:
Signalize the intersection, or construct a roundabout.

Near Term Cost: $450,000 Longer Term Cost: $175,000 for signalization (alternatively - construct roundabout for $600,000) OR construct roudabout with current project under construction.

NW Fluvanna / SW Louisa Multi-modal Corridor Study	SHEET B	Route 15 & Route 53	Fluvanna County Virginia