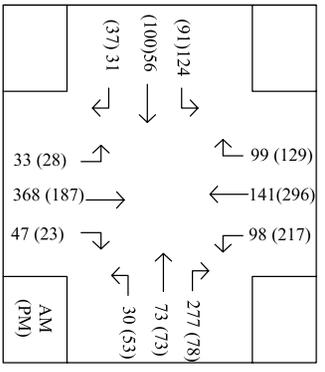
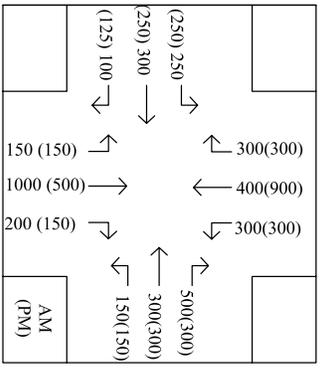


Existing peak hour traffic volumes



2025 peak hour traffic volumes



LEGEND



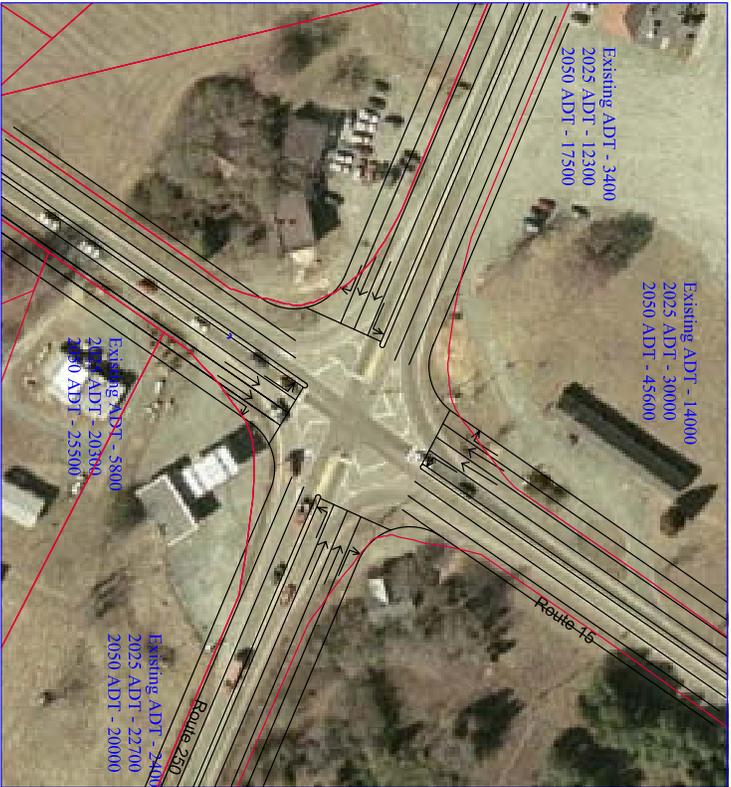
NW Fluvanna / SW Louisa
Multi-modal Corridor Study

SHEET C

Route 250 & Route 15

WORKING DRAFT 6-14-07

Route 250 at Route 15



LOCATION DESCRIPTION

US Route 250 is an arterial roadway providing access through Louisa, Fluvanna, and the Region. In the vicinity of the study intersection, Route 250 is posted 45 mph and has 12' lanes on each approach. Route 15 is an arterial roadway providing north/south access through Fluvanna, Louisa, and the Region. Route 15 is posted 45 mph and has 12' lanes on the approaches to the intersection. The intersection is controlled by signalization.

DATA COLLECTION & OBSERVATIONS

AM/PM peak hour turning movement counts were taken from the Zion Town Center traffic study performed in 2006. The peak hour volumes and current geometry are summarized within the adjacent graphics. The available aerial imagery is dated so CADD linework was added to depict the current intersection geometry.

EXISTING CONDITIONS ANALYSIS

Intersection capacity analyses using the Highway Capacity Software indicate that the intersection currently functions at Level of Service (LOS) A in both the AM and PM peak hours. Field observations confirm that there is adequate capacity in the intersection.

FUTURE CONDITIONS ANALYSIS

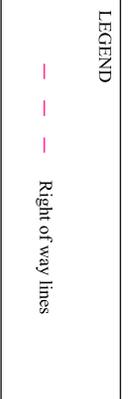
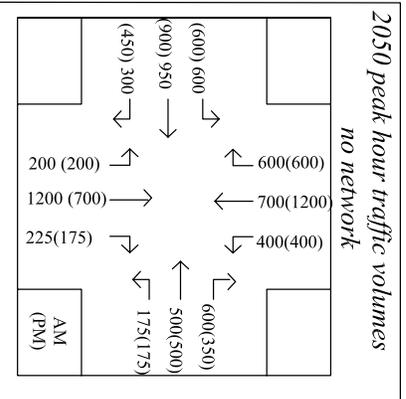
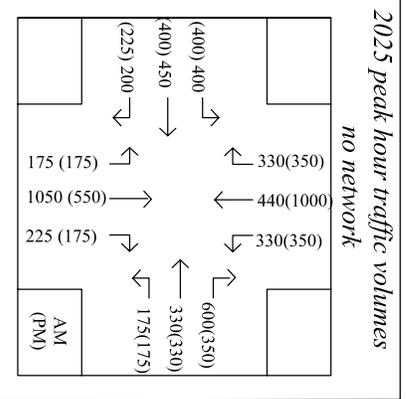
Under the future year 2025 scenario, this location would benefit from construction of dual left turn lanes on the eastbound and southbound approaches to provide LOS D or better for these approaches. However, the existing geometry provides adequate capacity for an overall intersection LOS C without the dual left turn lanes. In consideration with the future urban center context, it is recommended to not construct the additional laneage but instead obtain the needed right-of-way when opportunities arise in case future conditions and volumes change and dual turn lanes are desired at a later date.

RECOMMENDATION & ENGINEER'S COST ESTIMATE

Near Term: None required. However, obtain additional right-of-way when opportunities arise.
 Longer Term: Construct pedestrian features at the intersection with the future corridor improvements.
 Near Term Cost: \$0 Longer Term Cost: \$50,000



Route 250 at Route 15 No Network



WORKING DRAFT 6-14-07

NW Fluvanna / SW Louisa
Multi-modal Corridor Study

SHEET D

Route 250 & Route 15
No-network Analysis



LOCATION DESCRIPTION
US Route 250 is an arterial roadway providing access through Louisa, Fluvanna, and the Region. In the vicinity of the study intersection, Route 250 is posted 45 mph and has 12' lanes on each approach. Route 15 is an arterial roadway providing north/south access through Fluvanna, Louisa, and the Region. Route 15 is posted 45 mph and has 12' lanes on the approaches to the intersection. The intersection is controlled by signalization.

IMPACT OF NO-NETWORK SCENARIO
As shown on sheet C - Route 250 / 15 intersection with road network, the study intersection will have adequate capacity in the future. This additional analysis was conducted to compare the "with network" and "no network" scenarios. Without a network of local and collector roads to serve future development, traffic volumes at this intersection will be larger, thus requiring additional intersection capacity. Comparing the data on sheet C to this sheet, it is evident that the western leg of the intersection increases the most relative to the with network scenario, though all of the approaches increase significantly.

AT GRADE INTERSECTION
The year 2025 traffic volumes were modeled to test the intersection relative to level of service and capacity. The results of the analysis are that the AM and PM peak hours will function at an acceptable LOS, although some of the movements deteriorate in LOS to D and E. It is likely that dual left turn lanes and free flow right turn lanes could be required to accommodate future projected traffic.

The year 2050 traffic volumes were also tested for the at grade intersection scenario. The results of the analysis are that by year 2050 the at grade intersection has falling levels of service for several of the movements.

GRADE SEPARATED INTERSECTIONS
Given the projected volumes under the no-network scenario, grade separation via an urban interchange will be required at some point in the future. See the graphic for a representative footprint of this type of interchange facility. The footprint in this graphic assumes extensive use of retaining walls resulting in a minimal footprint. The blue lines represent the interchange footprint. In this concept, Route 250 is elevated over Route 15.

RECOMMENDATION & ENGINEER'S COST ESTIMATE
Longer Term:
Construct grade separated urban interchange.
Near Term Cost: \$0 Longer Term Cost: \$40,000,000