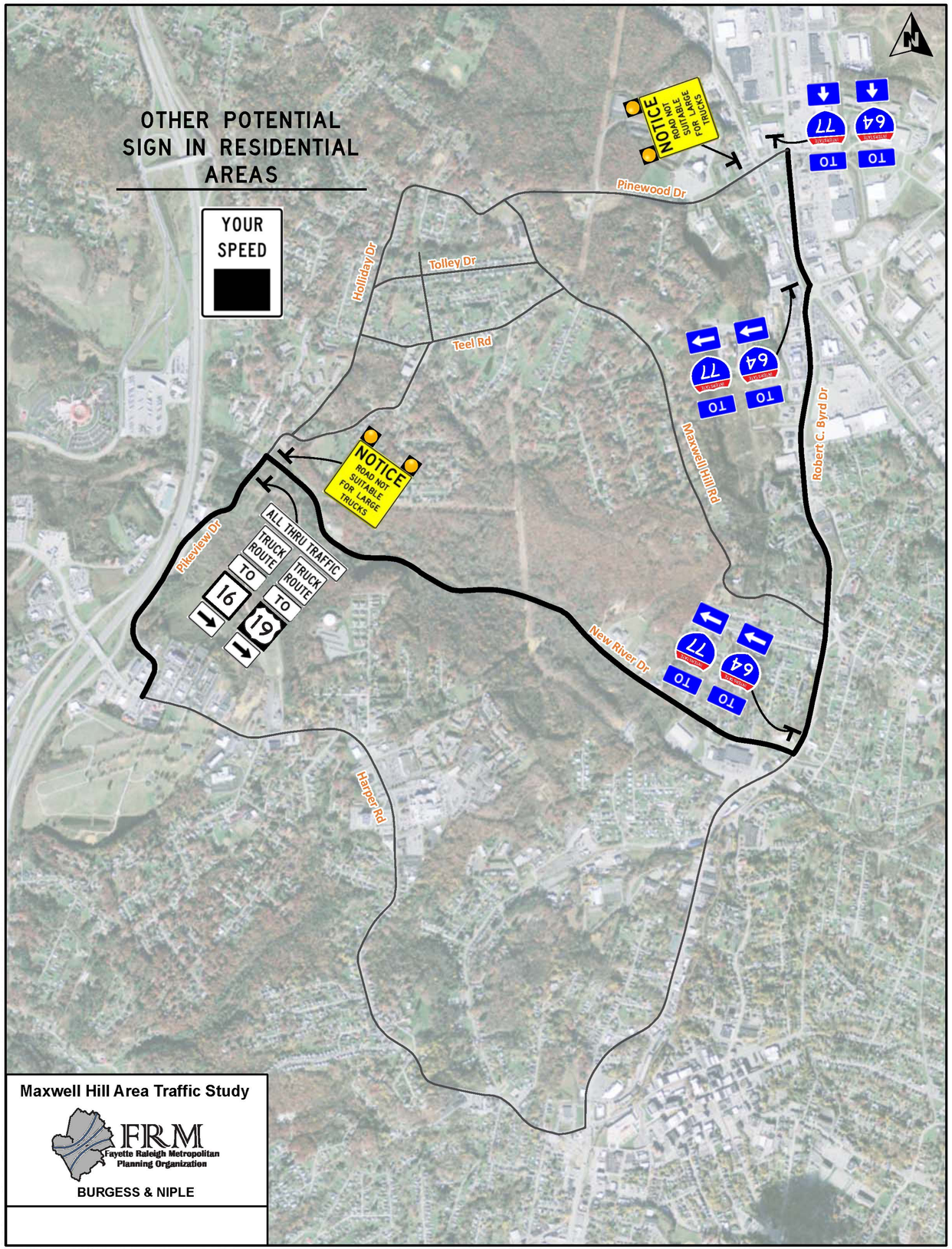
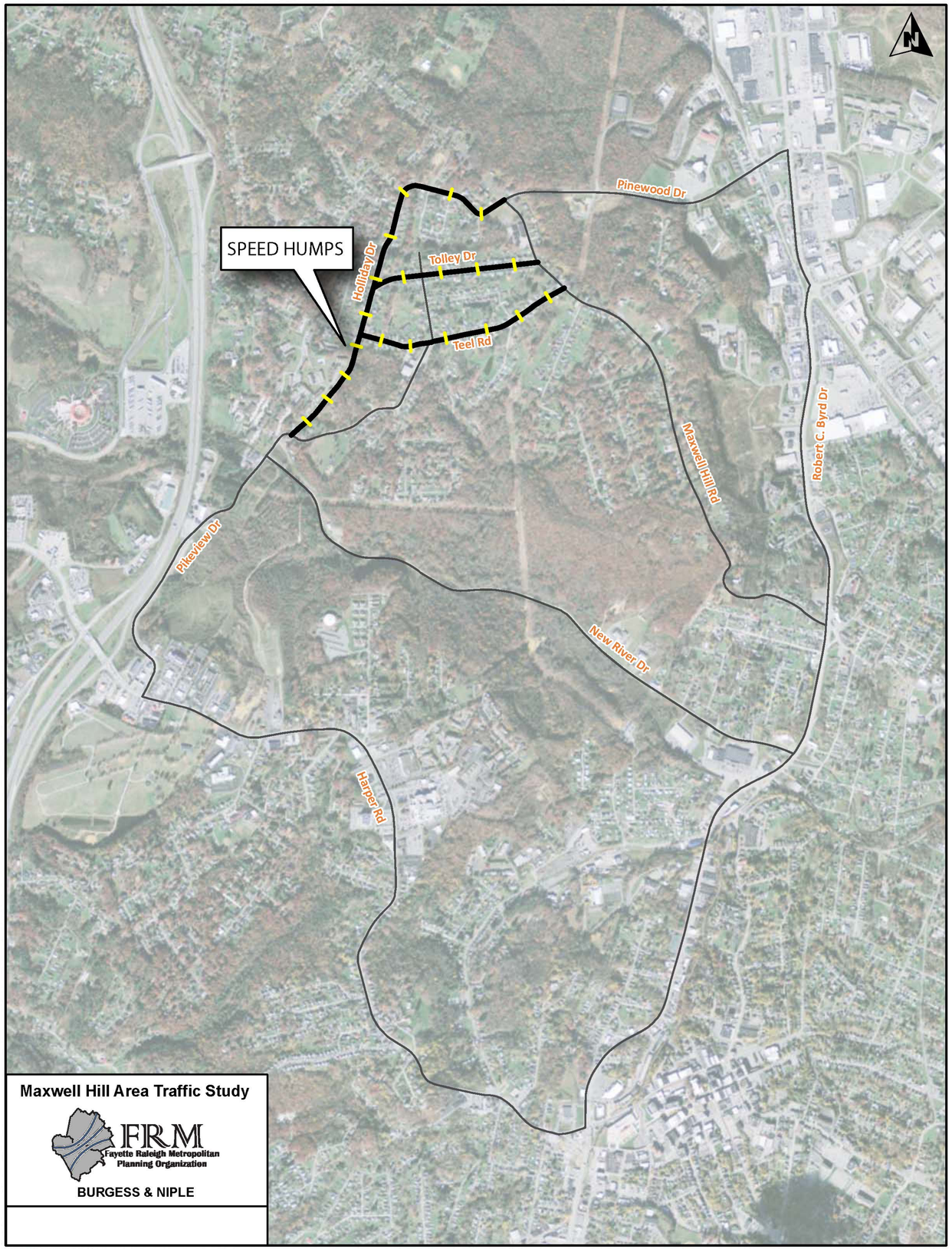


Concept A: Modified Signage

Goal	Evaluation
CONSTRUCTION COSTS Low cost to install new static signs. Flashing lights and other dynamic message signs are more costly.	DISADVANTAGE — ADVANTAGE NO CHANGE
LIKELIHOOD TO DETER CUT-THROUGH TRAFFIC While signing is likely to encourage more traffic to use New River Drive, especially those drivers not familiar with the area, signage alone will not deter people who frequently use those routes. Without an improvement to the intersection of New River Drive and Robert C. Byrd Drive, it will be difficult to encourage any traffic to use New River Drive even with modified signage.	DISADVANTAGE — ADVANTAGE NO CHANGE
LEVEL OF INCONVENIENCE TO NEIGHBORHOOD RESIDENTS Signing will not have any affect on residents.	DISADVANTAGE — ADVANTAGE NO CHANGE
DECREASE IN TRAVEL SPEEDS Based on a study conducted by the Texas Transportation Institute, dynamic speed display signs (DSDS) that detect and display a vehicle's current speed back to the driver have been shown to reduce travel speeds by as much as 5 mph[1]. However, the effectiveness of DSDS have been shown to decrease over time as drivers become familiar with the sign.	DISADVANTAGE — ADVANTAGE NO CHANGE
REDUCTION IN TRUCK TRAFFIC With improved truck route signs including flashers and guide signage, a smaller number of trucks, especially large trucks, will use the residential area. However, without a physical deterrent from using that route, it is believed that many trucks, especially those drivers familiar with the area will not use the signed routes.	DISADVANTAGE — ADVANTAGE NO CHANGE

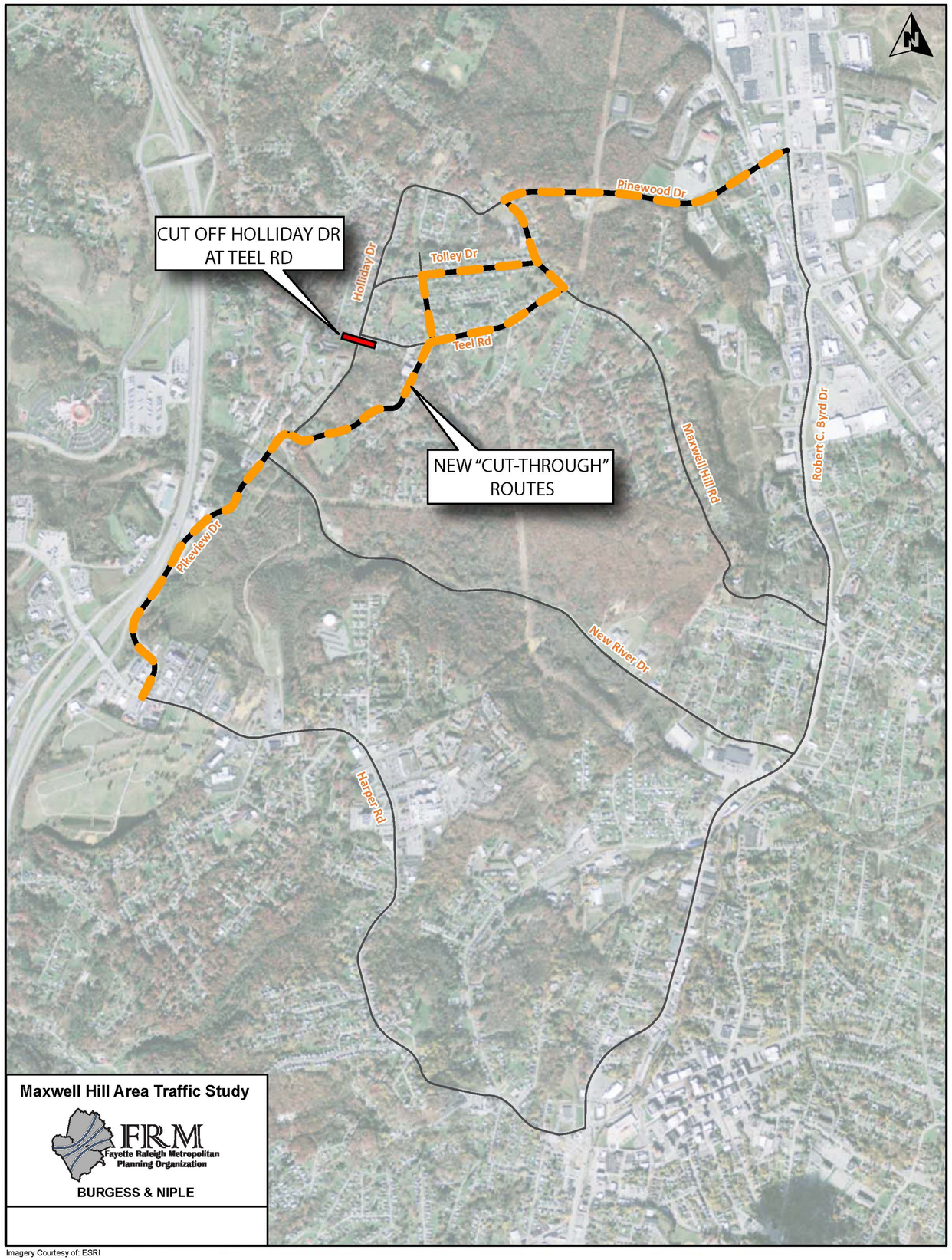
[1] http://tti.tamu.edu/documents/0-4475-1.pdf



Concept B: Speed Humps

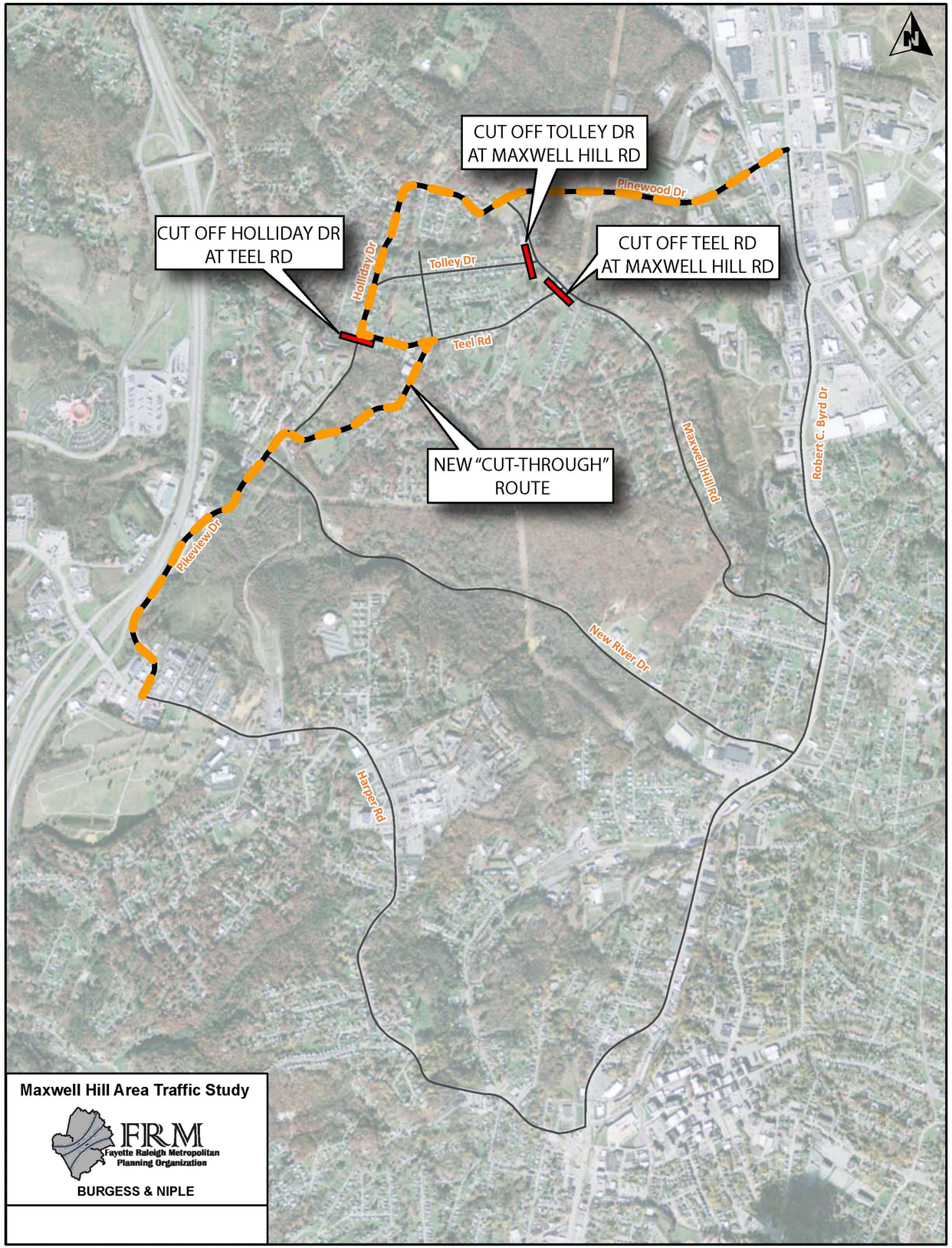
Goal	Evaluation
CONSTRUCTION COSTS Low cost to install (about $2,500 per speed hump[1]) but can be costly to maintain because of snow plows and complications with street resurfacing.	DISADVANTAGE — ADVANTAGE NO CHANGE
LIKELIHOOD TO DETER CUT-THROUGH TRAFFIC Speed humps would be an annoyance for through vehicles. An adverse effect of installing speed humps on these roadways is the diversion of traffic to other residential routes if speed humps are not installed on all residential roadways in the area. *Cut-through time change with Concept B:* ***+15 to 45 seconds***	DISADVANTAGE — ADVANTAGE NO CHANGE
LEVEL OF INCONVENIENCE TO NEIGHBORHOOD RESIDENTS While residents can still access their homes, the speed humps may become a nuisance for them to drive and as a result of the added road noise created by them. Another adverse effect of the speed humps is delayed emergency response times. Research provided by the Institute of Transportation Engineers (ITE) shows an approximate delay of between 3 and 5 seconds per hump for fire trucks and up to 10 seconds for ambulances with a patient on board[2].	DISADVANTAGE — ADVANTAGE NO CHANGE
DECREASE IN TRAVEL SPEEDS Research conducted by the Center for Transportation Research and Education (CTRE) indicates that speed humps, when designed and installed properly, reduce vehicle speeds to 15-20 mph when traversing speed humps and 25-30 mph in between properly spaced speed humps[3].	DISADVANTAGE — ADVANTAGE NO CHANGE
REDUCTION IN TRUCK TRAFFIC Speed humps will significantly slow down trucks which is likely to deter trucks from using these roadways; however, they may divert to other residential routes if speed humps are not installed on all residential roadways in the area.	DISADVANTAGE — ADVANTAGE NO CHANGE

[1] http://guide.saferoutesinfo.org/engineering/speed_humps.cfm
[2] http://www.ite.org/traffic/hump.asp
[3] http://www.ctre.iastate.edu/research/roadhump/



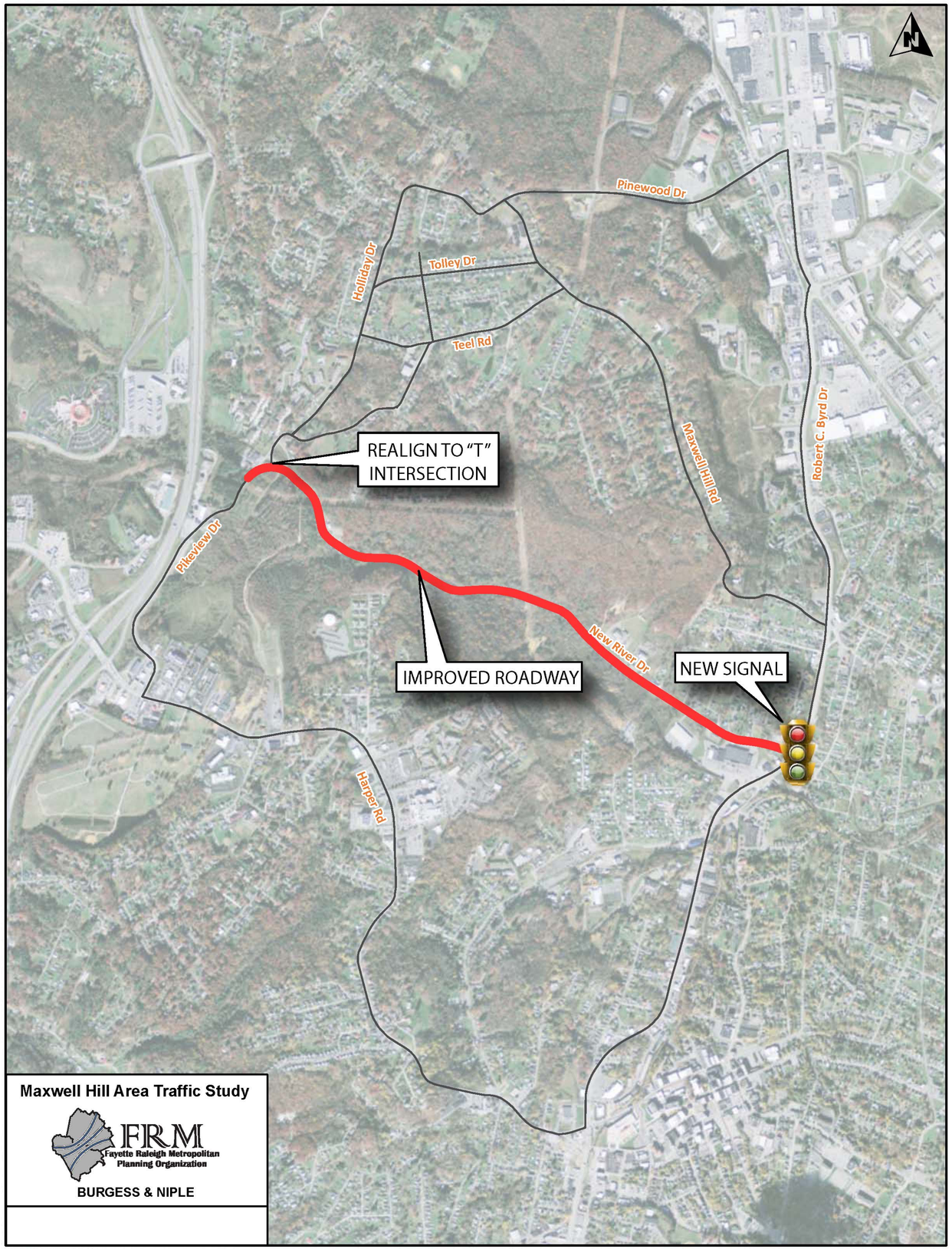
Concept C: Cut off Holliday Drive at Teel Road

Goal	Evaluation
CONSTRUCTION COSTS Relatively low costs when this concept is implemented through installation of guardrail, appropriate warning signage, and the removal of pavement. Adding a cul-de-sac would be more costly.	DISADVANTAGE — ADVANTAGE NO CHANGE
LIKELIHOOD TO DETER CUT-THROUGH TRAFFIC While some cut through traffic would be deterred from using Pinewood Drive east of Maxwell Hill Road, cut-through traffic would likely divert to Teel Road and Maxwell Hill Road. *Cut-through time change with Concept C:* ***+50 to 70 seconds***	DISADVANTAGE — ADVANTAGE NO CHANGE
LEVEL OF INCONVENIENCE TO NEIGHBORHOOD RESIDENTS With this concept, residents will also not be able to use the route from Pikeview Drive to Teel Road on Holliday Drive. While other routes are available to them, it may cause minor delays for daily activities.	DISADVANTAGE — ADVANTAGE NO CHANGE
DECREASE IN TRAVEL SPEEDS Travel speeds may be reduced slightly by adding more turning maneuvers to cut-through trips.	DISADVANTAGE — ADVANTAGE NO CHANGE
REDUCTION IN TRUCK TRAFFIC With the increased number of turning maneuvers required, delays for trucks will be increased more than for passenger cars. While this may deter some trucks, the estimated travel time may still be slightly faster than using other routes such as New River Drive in its current condition.	DISADVANTAGE — ADVANTAGE NO CHANGE



Concept D: Cut off Holliday Drive at Teel Road, Teel Road at Maxwell Hill Road, and Tolley Drive at Maxwell Hill Road

Goal	Evaluation
CONSTRUCTION COSTS Relatively low costs when this concept is implemented through installation of guardrail, appropriate warning signage, and the removal of pavement. Adding cul-de-sacs would be more costly.	DISADVANTAGE / ADVANTAGE NO CHANGE
LIKELIHOOD TO DETER CUT-THROUGH TRAFFIC With the easiest and most direct routes no longer providing connections to Maxwell Hill Road, it is likely that a large amount of cut-through traffic would be deterred. Traffic would be required to backtrack along most of the route and maneuver intersections with small turning radii. Additionally, cut-through traffic will travel through more stop-controlled intersections than on other routes, adding more delays. However, these routes may be slightly faster than New River Drive in its current condition. *Cut-through time change with Concept D:* ***+80 to 85 seconds***	DISADVANTAGE / ADVANTAGE NO CHANGE
LEVEL OF INCONVENIENCE TO NEIGHBORHOOD RESIDENTS Cutting off these routes is likely going to provide a significant inconvenience to residents in their daily travel activities. Additionally, emergency response times are expected to be delayed as a result of the lack of route connectivity.	DISADVANTAGE / ADVANTAGE NO CHANGE
DECREASE IN TRAVEL SPEEDS Travel speeds may reduced slightly by adding more turning maneuvers to cut-through trips.	DISADVANTAGE / ADVANTAGE NO CHANGE
REDUCTION IN TRUCK TRAFFIC With the increased number of turning maneuvers required, delays for trucks will be increased more than for passenger cars. While this may deter some trucks, the estimated travel time may still be slightly faster than using other routes such as New River Drive in its current condition.	DISADVANTAGE / ADVANTAGE NO CHANGE



Concept E: Improvements to New River Drive

(ROADWAY REALIGNMENT, ROADWAY WIDENING AND RECONSTRUCTION, AND NEW SIGNAL AT ROBERT C. BYRD DRIVE)

Goal	Evaluation
CONSTRUCTION COSTS Major construction costs compared to other concepts.	DISADVANTAGE — ADVANTAGE NO CHANGE
LIKELIHOOD TO DETER CUT-THROUGH TRAFFIC While an improved route is provided for traffic between Harper Road and the Beckley Shopping Center Plaza, these improvements alone are not expected to deter a significant amount of traffic. *Travel time change with Concept E: **-30 to 50 seconds***	DISADVANTAGE — ADVANTAGE NO CHANGE
LEVEL OF INCONVENIENCE TO NEIGHBORHOOD RESIDENTS Since no modifications are being made to the residential roadways, this concept adds no inconvenience to residents.	DISADVANTAGE — ADVANTAGE NO CHANGE
DECREASE IN TRAVEL SPEEDS No countermeasures are proposed along the residential roadways as part of this concept. Therefore, travel speeds will not be reduced in this area.	DISADVANTAGE — ADVANTAGE NO CHANGE
REDUCTION IN TRUCK TRAFFIC While trucks are more likely to use the wider, improved New River Drive, without other improvements to reduce the travel times through the residential area, trucks are still likely to use the route that allows them to arrive at their destination in the shortest time.	DISADVANTAGE — ADVANTAGE NO CHANGE