

DURHAM COUNTY

I-40 and Miami Blvd.



Date: April 4, 2017	County: Durham
Interchange: I-40 and Miami Blvd.	
Location (exit ramp): EB Exit Ramp	

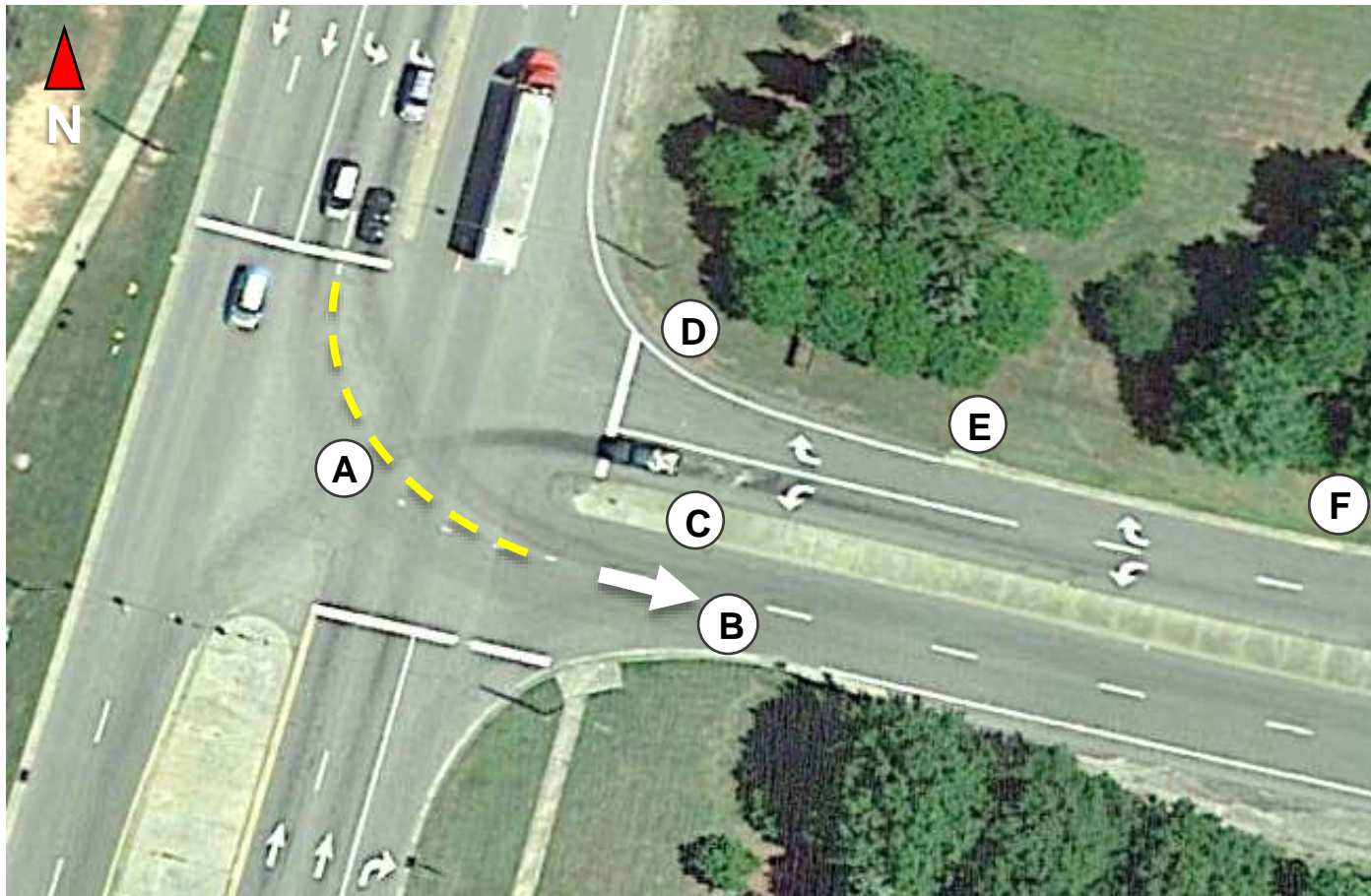
Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		Add sign
Wrong way arrows	N		Add arrow
Do not enter sign	Y	Poor visibility at night	Move closer to intersection
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		Add signs
Dashed turning guide lines	N	Completely faded	Re-paint guide lines
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y		
Splitter sign on median between	Y	Small and short sign	Increase height and size of sign
Barrier between	N		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	NA	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

I-40 EB Exit Ramp at Miami Blvd.



- A. Add dotted lane line extension through intersection**
- B. Add arrow indicating correct freeway entrance point**
- C. Install larger island splitter sign**
- D. Add Do Not Enter sign**
- E. Add Wrong Way sign**
- F. Add Wrong Way arrows**

I-40 EB Exit Ramp approach from N



Google Earth street view

I-40 EB Exit Ramp



I-40 EB Exit Ramp approach from S



Date: April 4, 2017	County: Durham
Interchange: I-40 and Miami Blvd.	
Location (exit ramp): WB Exit Ramp	

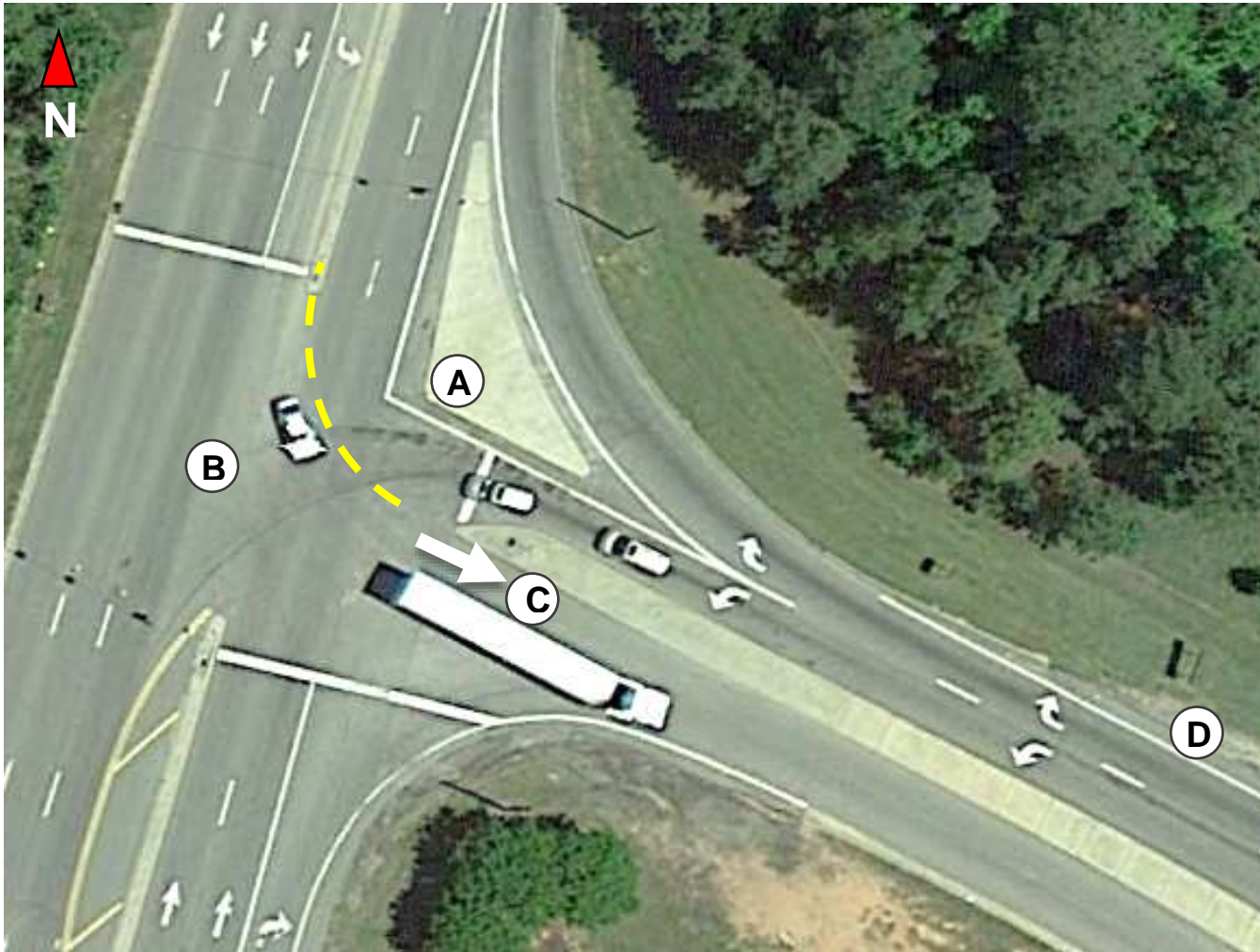
Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y		
Wrong way arrows	N		Add arrows
Do not enter sign	Y		Add sign at splitter island
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y		
Splitter sign on median between	Y		
Barrier between	N		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type:	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

I-40 WB Exit Ramp at Miami Blvd.



- A. Add Do Not Enter sign to splitter island
- B. Add dotted lane line extension through intersection
- C. Add arrow indicating correct freeway entrance point
- D. Add wrong way arrows

I-40 WB Exit Ramp approach from N



I-40 WB Exit Ramp



I-40 WB Exit Ramp approach from S



I-85 and Duke St



Date: March 31 2017	County: Durham
Interchange: I-85 and Duke St.	
Location (exit ramp): NB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	2 signs - Good	
Wrong way arrows	N		
Do not enter sign	Y	2 signs - Good	
One way	N		Add signs
No right turn	Y		
No left turn	Y		Recommend larger sign
Freeway entrance signs	N		
Dashed turning guide lines	NA		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	N	Painted median	Recommend raised median

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	Y	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Possibly from North side. Flared ramp.
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

I-85 NB Exit Ramp at Duke St.



- A. Install raised median**
- B. Install larger overhead No Left Turn sign**
- C. Add One-Way sign**

I-85 NB Exit Ramp approach from S



Google Earth street view

I-85 NB Exit Ramp



Google Earth street view

I-85 NB Exit Ramp approach from N



I-85 and E. Club Blvd.



Date: April 4, 2017	County: Durham
Interchange: I-85 and E. Club Blvd.	
Location (exit ramp): NB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y		
Wrong way arrows	N		Add wrong way arrows
Do not enter sign	NA	Entry is allowed in WW direction	
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	NA		
Dashed turning guide lines	N		
Stop bar at end of exit ramp	Y		

If entrance and exit ramps are directly adjacent to each other:

Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics

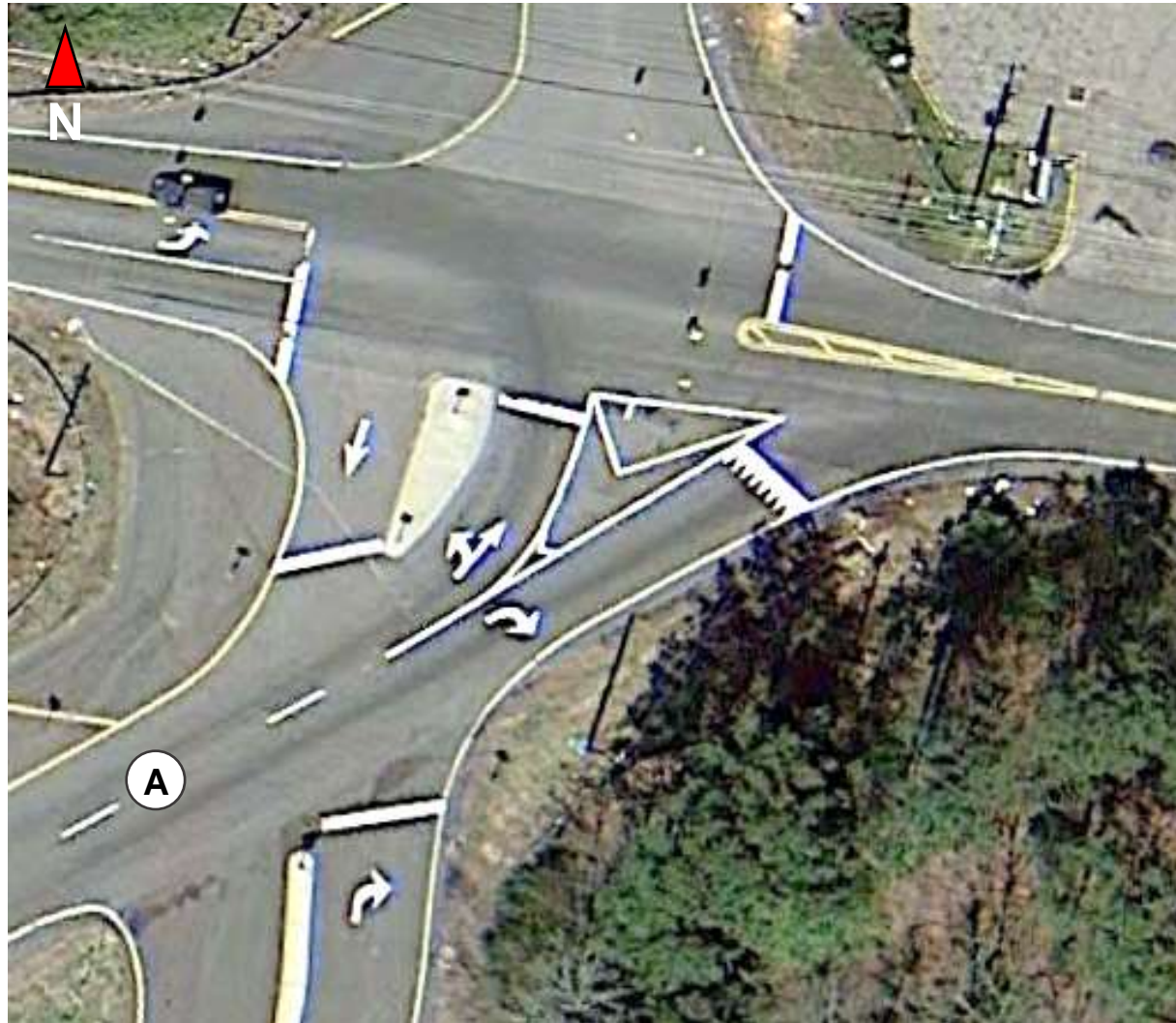
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Painted (for same direction) Raised (bi-directional movement)	
Raised median on crossroad	N		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	Entry to private drive (?) is allowed, but encourages wrong-way movement down ramp
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	Y	Stop sign at wrong-way entry emphasizes that this movement is allowed

Other Notes:

This exit ramp terminal is strangely and potentially dangerously configured, in that it allows a movement onto the ramp that is counterflow to most of the ramp. This movement is apparently to provide access to the private driveway that accesses the ramp. This counterflow movement is accentuated by the placement of a pavement arrow which seemingly directs drivers to enter the exit ramp.

I-85 NB Exit Ramp at E. Club Blvd.



A. Add Wrong Way arrows

I-85 NB Exit Ramp approach from E



Google Earth street view

I-85 NB Exit Ramp



I-85 NB Exit Ramp approach from W



Date: April 4, 2017	County: Durham
Interchange: I-85 and E. Club Blvd.	
Location (exit ramp): SB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		
Wrong way arrows	N		Add wrong way arrows
Do not enter sign	Y		
One way	Y		
No right turn	N		
No left turn	N		
Freeway entrance signs	N		
Dashed turning guide lines	N		
Stop bar at end of exit ramp	Y	Poor – almost faded	Repaint
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y	Service road is adjacent to ramp	
Splitter sign on median between	Y		
Barrier between	N		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Raised	
Raised median on crossroad	N		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	N	Wrong-way entry is allowed
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	Y	Service road entrance adjacent to exit ramp
Other distractors or confusing elements?	N	

Other Notes:

I-85 SB Exit Ramp at E. Club Blvd.



A. Add wrong-way arrow

B. Add arrow indicating correct entrance point to service road

I-85 SB Exit Ramp approach from E



I-85 SB Exit Ramp



I-85 SB Exit Ramp approach from W



US 70 and Cheek Rd.



Date: April 4, 2017	County: Durham
Interchange: US 70 and Cheek Rd.	
Location (exit ramp): EB Exit Ramp	

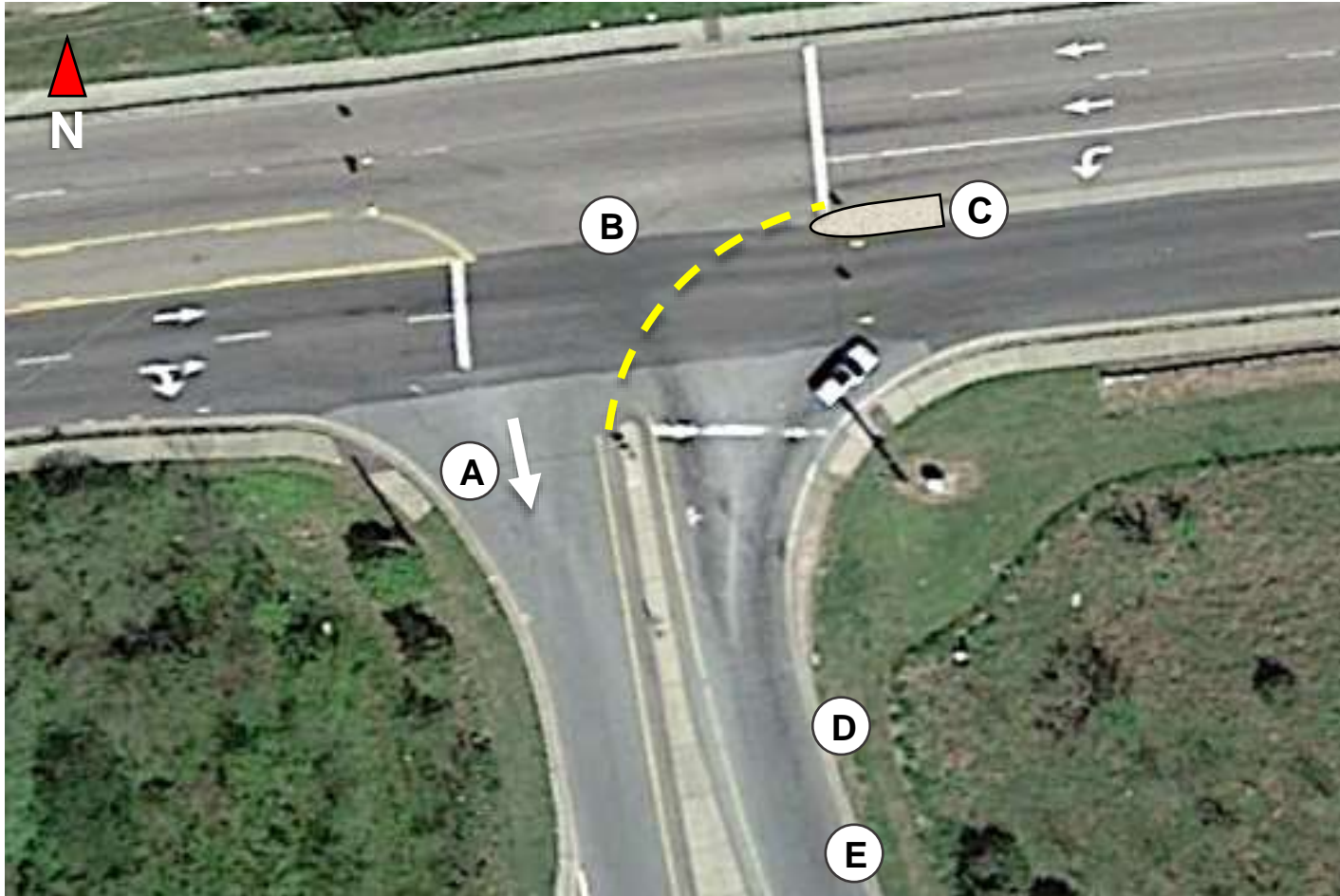
Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		Add sign
Wrong way arrows	N		Add arrows
Do not enter sign	Y		
One way	Y		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y		
Splitter sign on median between	Y		
Barrier between	N		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	Y		Extend raised median

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Possibly
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

US 70 EB Exit Ramp at Cheek Rd.



- A. Add arrow indicating correct freeway entrance point
- B. Add dotted lane line extension through intersection
- C. Extend raised median
- D. Add Wrong Way sign
- E. Add Wrong Way arrow

US 70 EB Exit Ramp approach from E



US 70 EB Exit Ramp



Google Earth street view

US 70 EB Exit Ramp approach from W



Date: April 4, 2017	County: Durham
Interchange: US 70 and Cheek Rd.	
Location (exit ramp): WB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		
Wrong way arrows	N		Add arrows
Do not enter sign	Y		
One way	Y		
No right turn	N		
No left turn	N		
Freeway entrance signs	NA		
Dashed turning guide lines	N		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	N		Add median

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	Y	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Wrong way left turn is easy
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

US 70 WB Exit Ramp at Cheek Rd.



- A. Add No Left Turn sign at signal**
- B. Add No Right Turn sign**
- C. Add hashed or raised median**
- D. Add Wrong Way arrows**

US 70 WB Exit Ramp approach from E



US 70 WB Exit Ramp



US 70 WB Exit Ramp approach from W



US 70 and Holloway St.



Date: March 31, 2017	County: Durham
Interchange: US 70 and Holloway St.	
Location (exit ramp): EB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		
Wrong way arrows	N		Add arrows
Do not enter sign	Y		Move sign closer to corner
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y	Poor	Repaint stop bar

If entrance and exit ramps are directly adjacent to each other:

Median between	Y	Poor – no reflective strips, no yellow paint on curb. Blends in with road.	Improve visibility
Splitter sign on median between	Y		
Barrier between	N		

Geometrics

Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	N		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	Y	Several interstate signs and overpass sign nearby.
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	N	
Wide/flared exit ramp terminal contributing to left turn WW entry?	NA	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

US 70 EB Exit Ramp at Holloway St.



- A. Add arrow indicating correct freeway entrance point
- B. Improve median visibility
- C. Add dotted lane line extension through intersection
- D. Move Do Not Enter sign closer to corner
- E. Add Wrong Way arrows

US 70 EB Exit Ramp approach from W



US 70 EB Exit Ramp



US 70 EB Exit Ramp approach from E



Date: March 31, 2017	County: Durham
Interchange: I-70 and Holloway	
Location (exit ramp): WB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		
Wrong way arrows	N		Add arrows
Do not enter sign	Y		Move sign closer to corner
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y	Poor	Improve median visibility
Splitter sign on median between	N	Appears that a sign was present previously	Add sign
Barrier between	N		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	N		

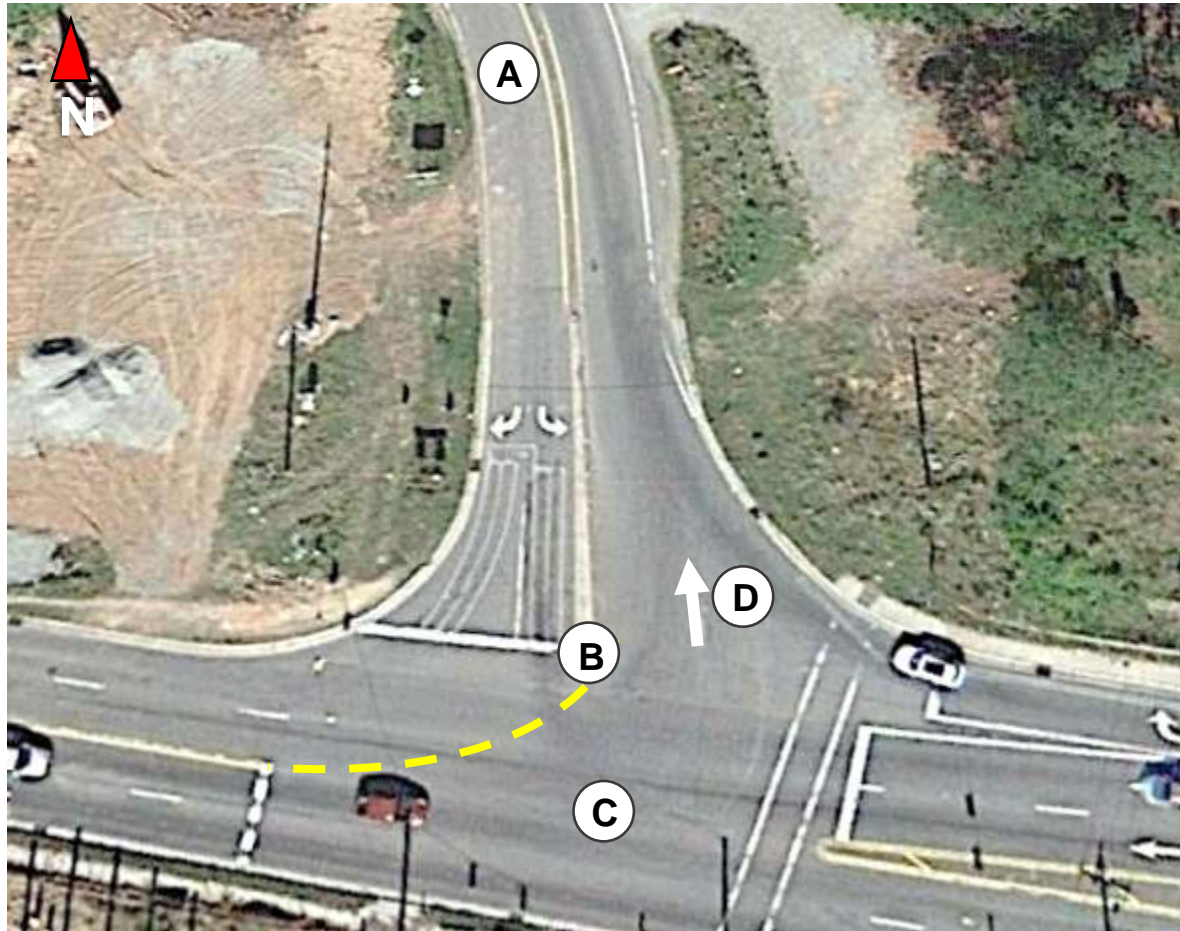
Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	Y	Several interstate signs and overpass sign nearby
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

Sight line clutter – buildings, overpass, and signs converge, creating heavy visual stimuli

Improve visibility of the median on the exit/entrance ramp

US 70 WB Exit Ramp at Holloway St.



- A. Add wrong way arrows**
- B. Improve median visibility, add splitter sign**
- C. Add dotted lane line extension through intersection**
- D. Add arrow indicating correct freeway entrance point**

US 70 WB Exit Ramp approach from E



US 70 WB Exit Ramp

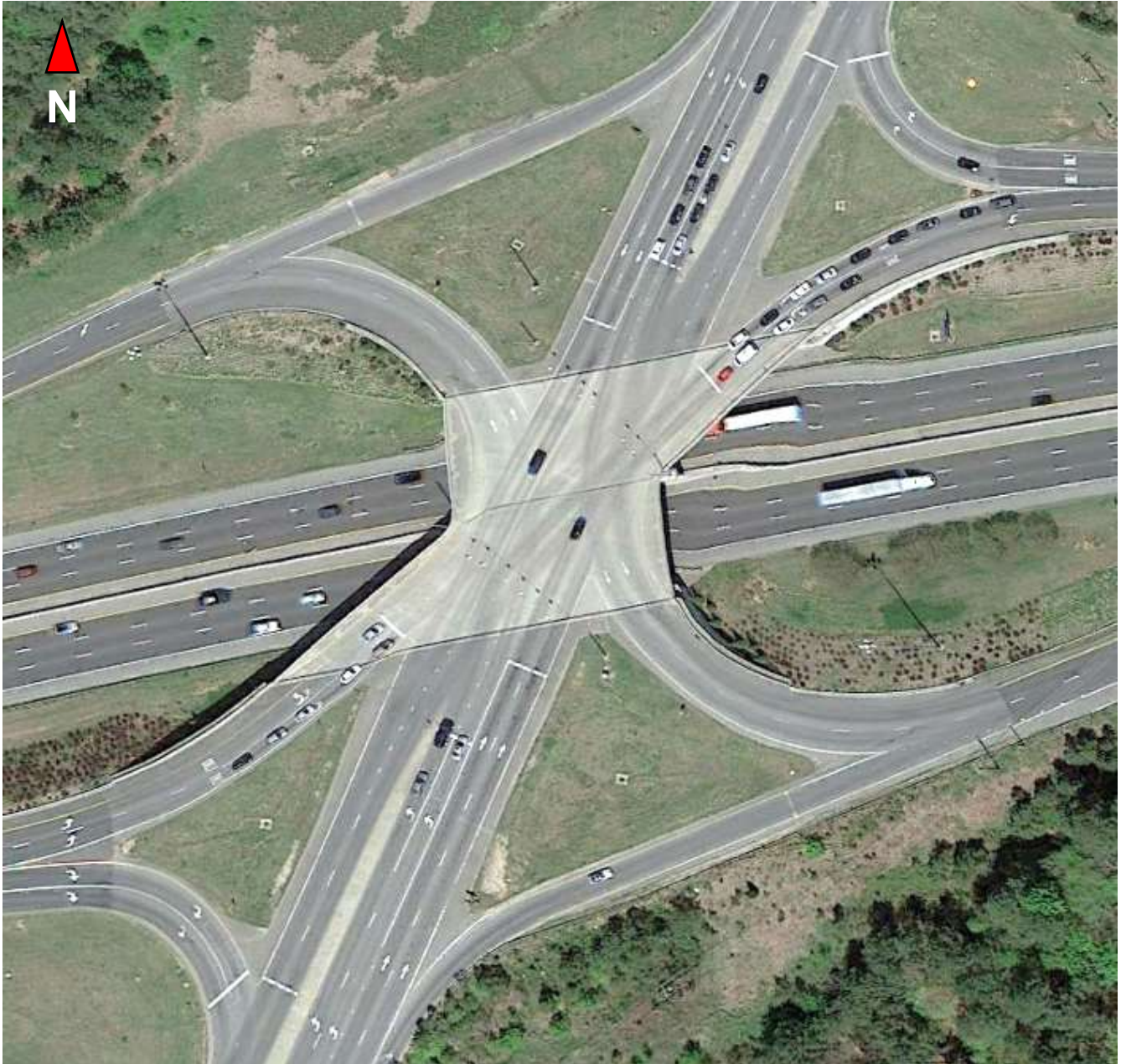


US 70 WB Exit Ramp approach from W



I-40 and Fayetteville Rd.

The research team recognizes that this single point interchange design creates many avenues for wrong way movements. The field visit and recommendations focused on the I-40 eastbound exit ramp, as that was the ramp potentially associated with a wrong way crash.



Date: April 4, 2017	County: Durham
Interchange: I-40 and Fayetteville Rd.	
Location (exit ramp): EB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	N		Add WW sign on exit ramp
Wrong way arrows	N		Add arrows
Do not enter sign	Y		
One way	N		
No right turn	N		
No left turn	N		
Freeway entrance signs	N		
Dashed turning guide lines	Y		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

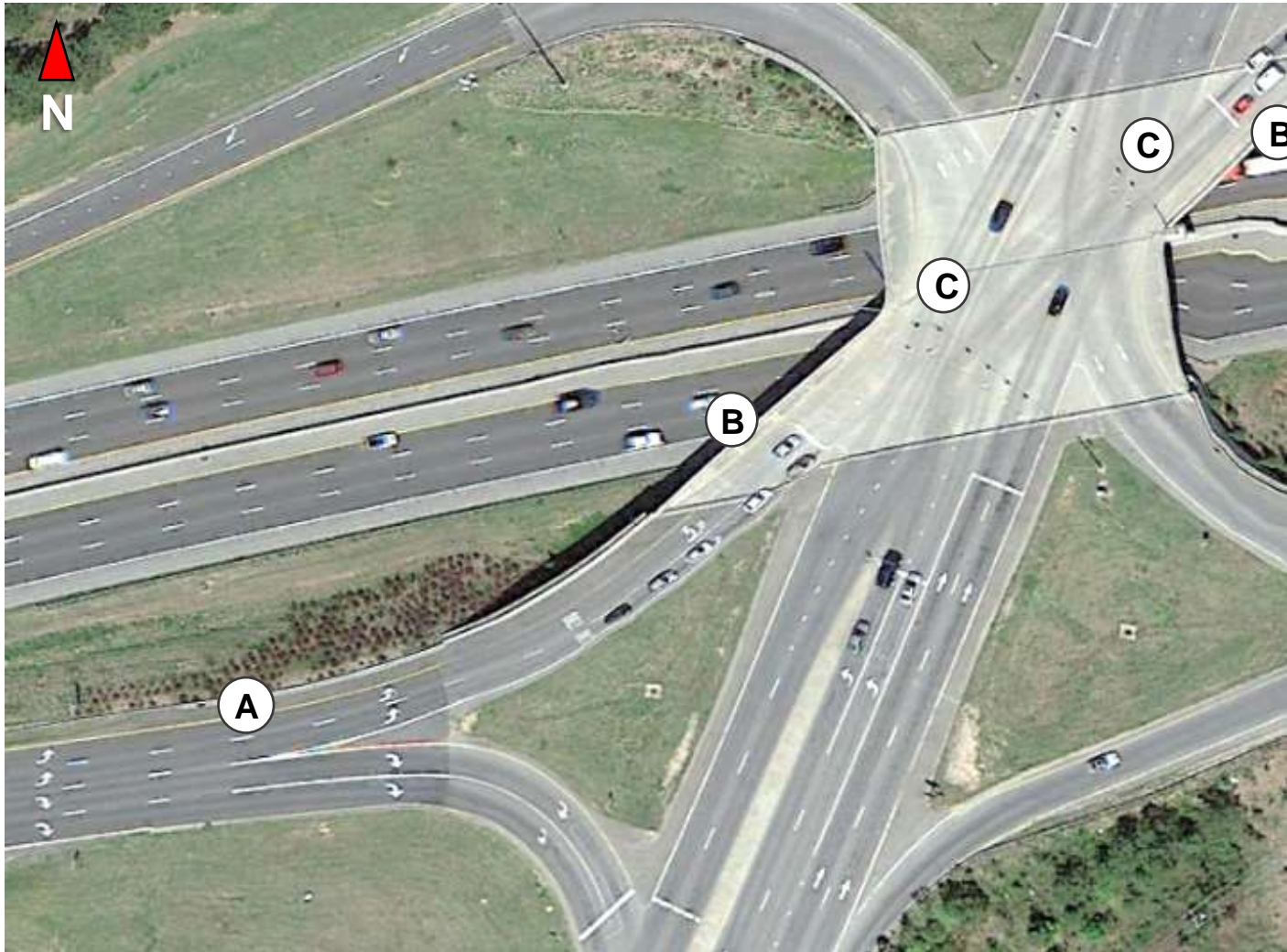
Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	NA	Type:	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	NA	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	Y	Wayfinding through interchange is difficult due to its size

Other Notes:

Some form of overhead 'Do Not Enter' sign may be appropriate above the directional lanes of the exit ramp. These could be similar to the static metal signs (i.e., circular with the words "Do Not Enter"), or could be configured as red X's, similar to the type of signs used on roads with changeable direction lanes.

I-40 EB Exit Ramp at Fayetteville Rd.



- A. Add Wrong Way arrows
- B. Add Wrong Way signs
- C. Add overhead signs to indicate 'No Entry'

I-40 EB Exit Ramp approach from N



I-40 EB Exit Ramp



FORSYTH COUNTY

I-40 Bus. and Cloverdale Ave.



Date: May 26, 2017	County: Forsythe
Interchange: I-40 Bus. and Cloverdale Ave.	
Location (exit ramp): EB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	N		Add arrows
Do not enter sign	Y	One sign	
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y		Improve visibility – add reflectors
Splitter sign on median between	Y		
Barrier between	N		

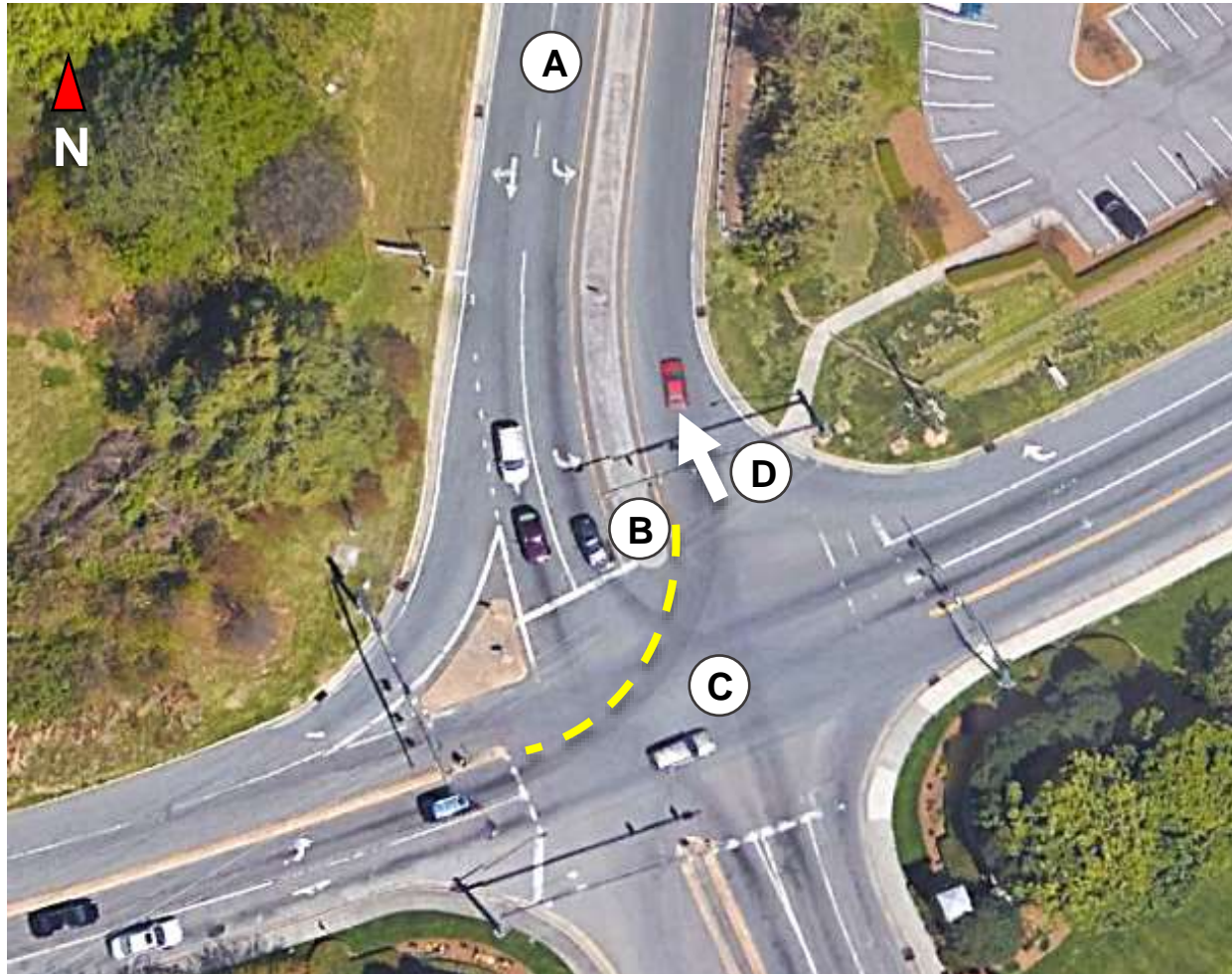
Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type: Raised	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	Y	Hospital, multiple routes
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Median mitigates left turn
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

Low potential for right turn wrong-way movement. Left turn wrong-way movement has some potential.

I-40 Bus. EB Exit Ramp at Cloverdale Ave.



- A. Add Wrong Way arrows
- B. Add reflectors and improve visibility of median
- C. Add dotted lane line extension through intersection
- D. Add arrow indicating correct freeway entrance point

I-40 Bus. EB Exit Ramp approach from E



I-40 Bus. EB Exit Ramp from W



Date: May 26, 2017	County: Forsythe
Interchange: I-40 Bus. and Cloverdale Ave.	
Location (exit ramp): WB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	N	None visible	Add arrows
Do not enter sign	Y	Four signs	
One way	Y		
No right turn	N		
No left turn	N		
Freeway entrance signs	N		
Dashed turning guide lines	NA		
Stop bar at end of exit ramp	N	Totally worn away	Repaint
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y	Big	
Splitter sign on median between	N	Not needed	
Barrier between	N		

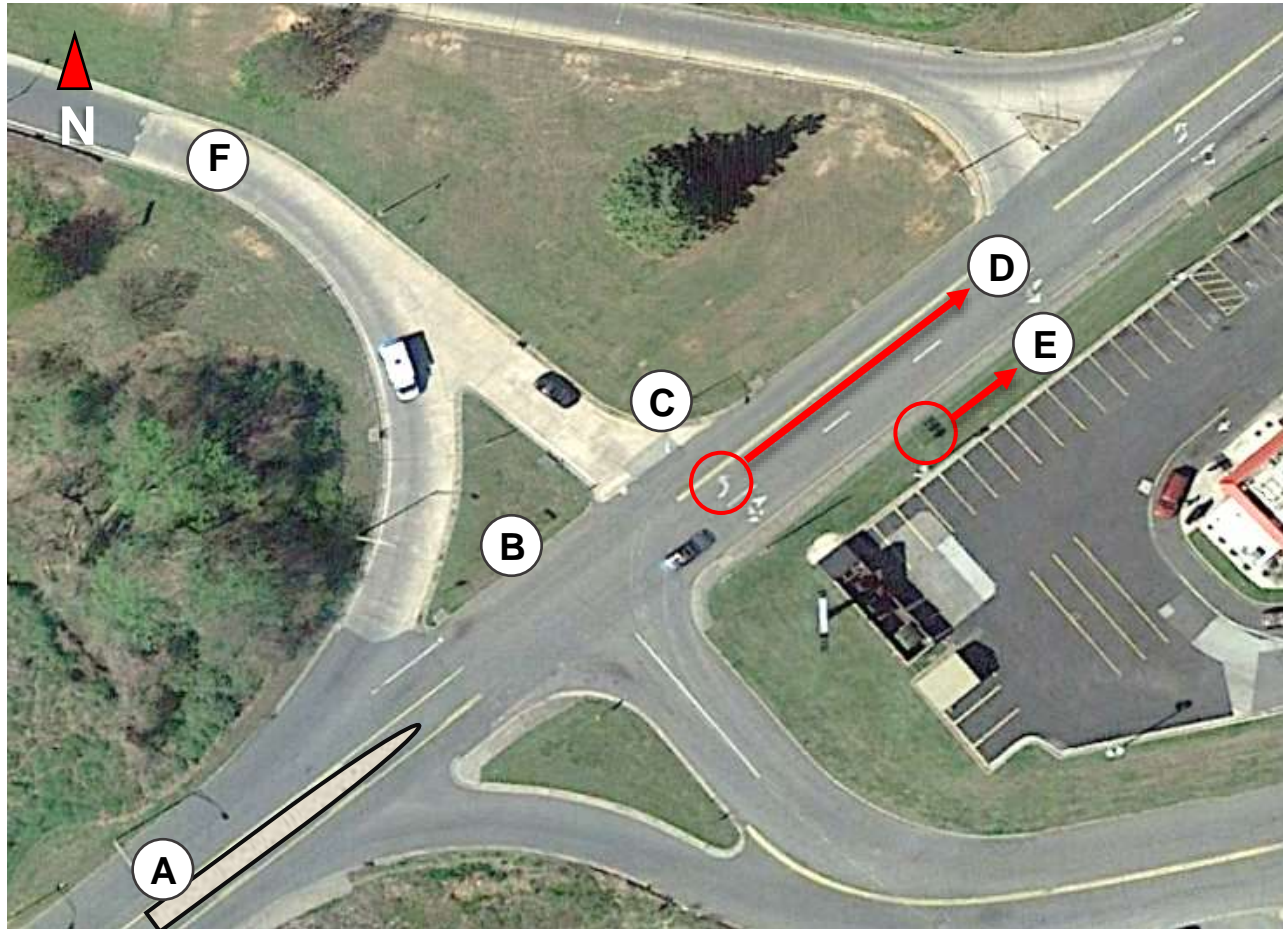
Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Raised – good visibility in day	Improve night visibility
Raised median on crossroad	N		Difficult to recommend due to side street exit on opposite side of road

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	Y	See map notes – move route signs
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	N	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	Y	
Other distractors or confusing elements?	Y	Left-turn pavement arrows misleading (see map)

Other Notes:

When approaching Northbound on Cloverdale, a driver may not see that the entrance ramp is up ahead (i.e., they only see the exit ramp). Route sign placement does not help (i.e., too close to the exit ramp).

I-40 Bus. WB Exit Ramp at Cloverdale Ave.



- A. Add raised median to prevent wrong-way entry
- B. Add No Left Turn sign
- C. Tighten corner radius, repaint stop bar, add No Right Turn sign
- D. Remove turn arrow (misleading), move closer to entrance ramp
- E. Move route sign closer to entrance ramp (misleading)
- F. Add Wrong Way arrows

I-40 Bus. WB Exit Ramp approach from N



I-40 Bus. WB Exit Ramp



Google Earth street view

I-40 Bus. WB Exit Ramp approach from S



I-40/US 421 and NC 66



Date: May 27, 2017	County: Forsythe
Interchange: I-40/US 421 and NC 66	
Location (exit ramp): EB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	N		Add wrong way arrows
Do not enter sign	Y	Two signs	
One way	N		
No right turn	Y	One sign	
No left turn	Y	Two signs	
Freeway entrance signs	NA		
Dashed turning guide lines	NA		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Painted, flush	Install raised splitter island
Raised median on crossroad	Y	Painted, flush	Add raised short median

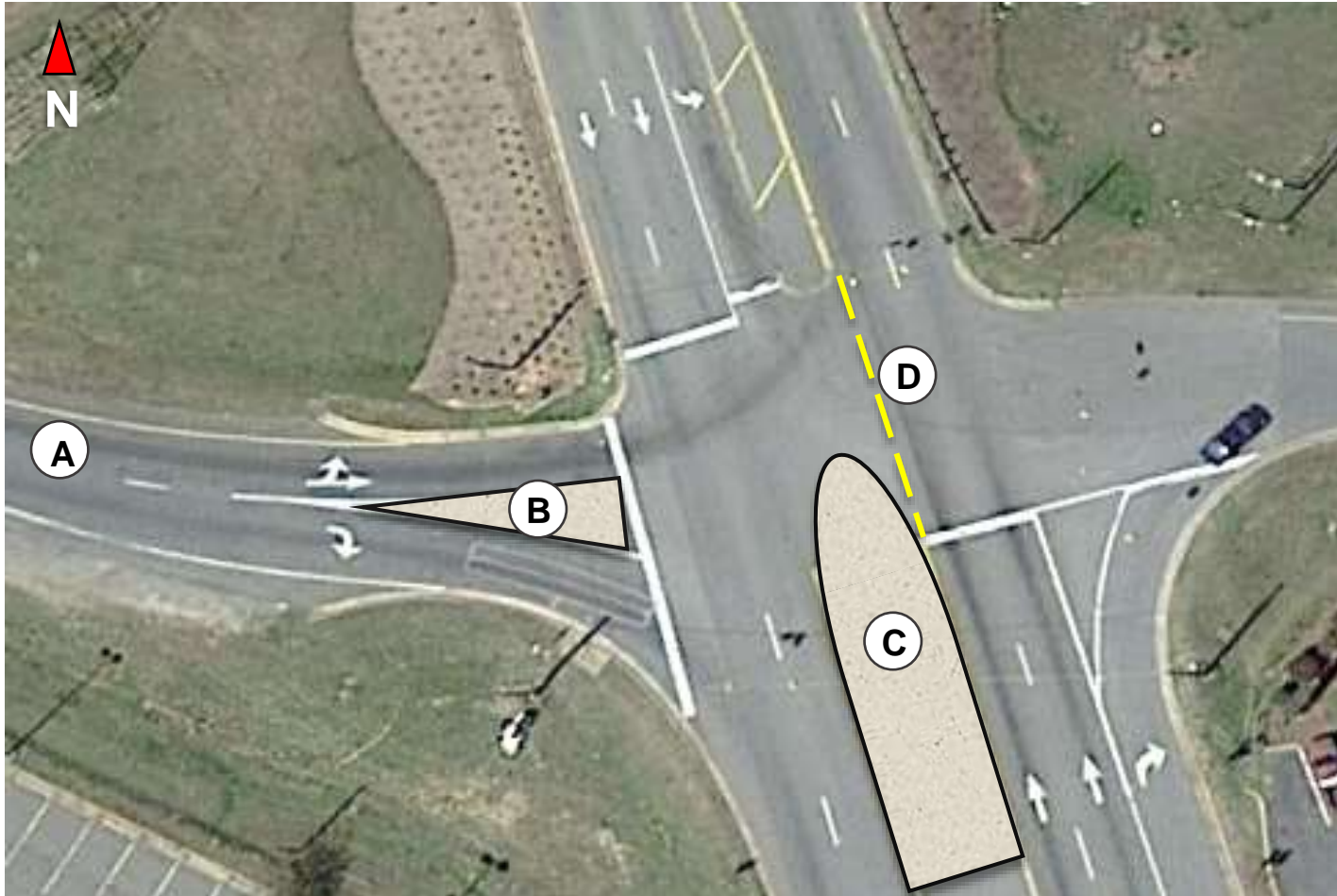
Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	Y	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Add short raised median to reduce WW left turn
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

The strongest recommendation at this site would be to incorporate a raised median on NC 66, extending out into the intersection to reduce the possibility of left turns into the exit ramp.

Installing dashed guide lines along the left lane of NC 66 through the intersection may help reduce wrong-way left turn movement.

I-40/US 421 EB Exit Ramp at NC 66



- A. Add Wrong Way arrows
- B. Add raised splitter island
- C. Add short raised median
- D. Add dashed guide lines

I-40/US 421 EB Exit Ramp approach from N



I-40/US 421 EB Exit Ramp



I-40/US 421 EB Exit Ramp approach from S



Google Earth street view

Date: May 27, 2017	County: Forsythe
Interchange: I-40/US 421 and NC 66	
Location (exit ramp): WB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	N		Add arrows
Do not enter sign	Y	One sign	
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	N		Add guide lines
Stop bar at end of exit ramp	Y		Move forward
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y	Decent visibility (has crosshatch)	
Splitter sign on median between	Y		
Barrier between	N		

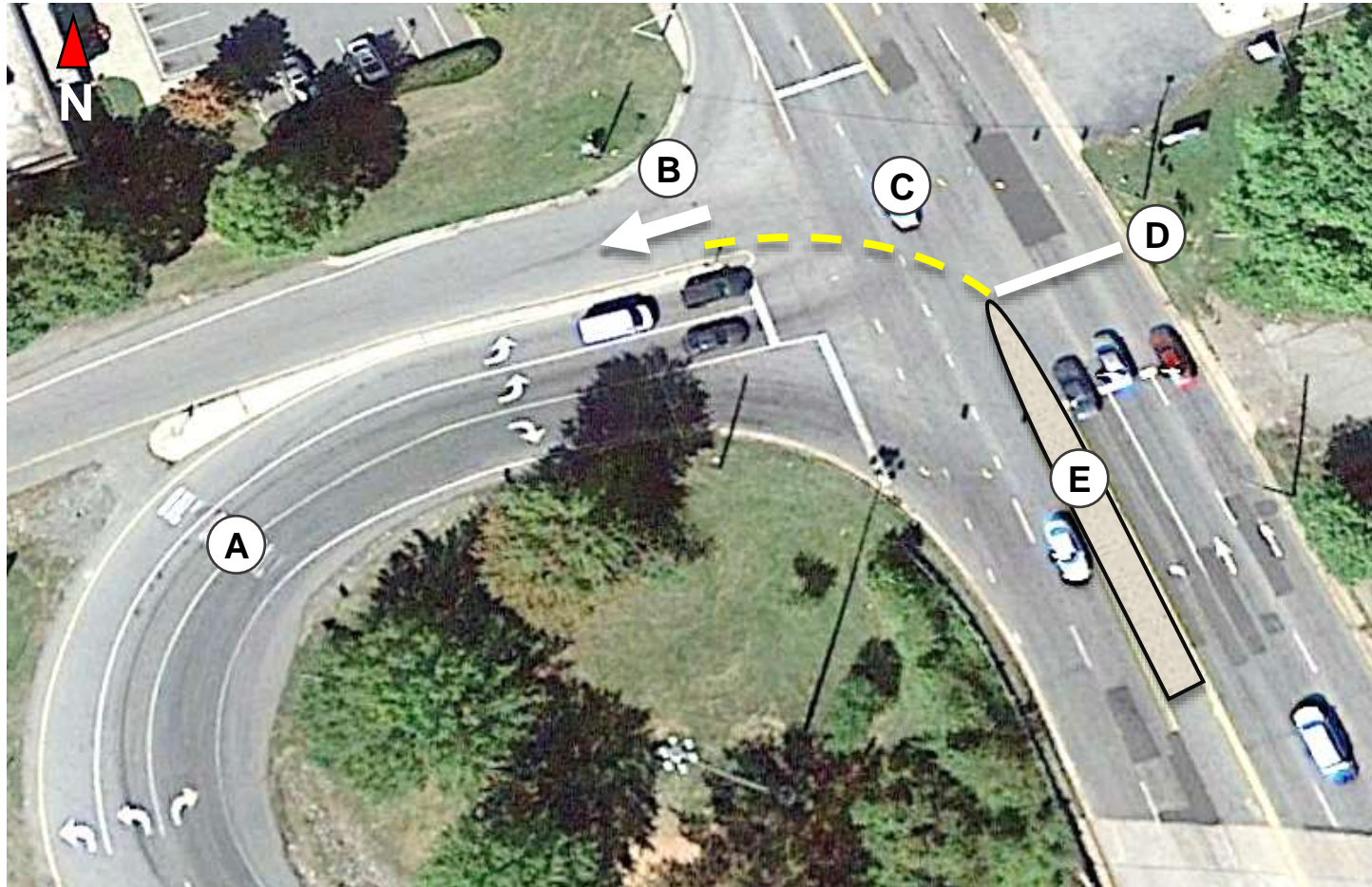
Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	Y	Painted, flush	Add short raised median

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	Many driveways
Other distractors or confusing elements?	Y	Dense access points

Other Notes:

See map for recommendations to move stopping location forward for NB 66 traffic.

I-40/US 421 WB Exit Ramp at NC 66



- A. Add Wrong Way arrows
- B. Add arrow indicating correct freeway entrance point
- C. Add dotted lane line extension through intersection
- D. Move stop bar forward
- E. Install raised median

I-40/US 421 WB Exit Ramp approach from S



I-40/US 421 WB Exit Ramp



I-40/US 421 WB Exit Ramp approach from N



US 421 and Lewisville Clemmons Rd.



Date: May 26, 2017	County: Forsythe
Interchange: US 421 and Lewisville Clemmons Rd.	
Location (exit ramp): EB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y		
Wrong way arrows	UNK		Add arrows
Do not enter sign	Y	Two signs	
One way	Y	Two signs	
No right turn	Y	One sign	
No left turn	Y	One sign	
Freeway entrance signs	NA		
Dashed turning guide lines	NA		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	NA	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	Y	
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

US 421 EB Exit Ramp at Lewisville Clemmons Rd.



A. Add Wrong Way arrows

US 421 EB Exit Ramp approach from N



Google Earth street view

US 421 EB Exit Ramp



US 421 EB Exit Ramp approach from S



Date: May 26, 2017	County: Forsythe
Interchange: US 421 and Lewisville Clemmons Rd.	
Location (exit ramp): WB Exit Ramp	

Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	N		Add arrows
Do not enter sign	Y	One sign	
One way	Y	One sign	
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	Y		
Stop bar at end of exit ramp	Y		
If entrance and exit ramps are directly adjacent to each other:			
Median between	Y		Extend raised median
Splitter sign on median between	N		
Barrier between	N		

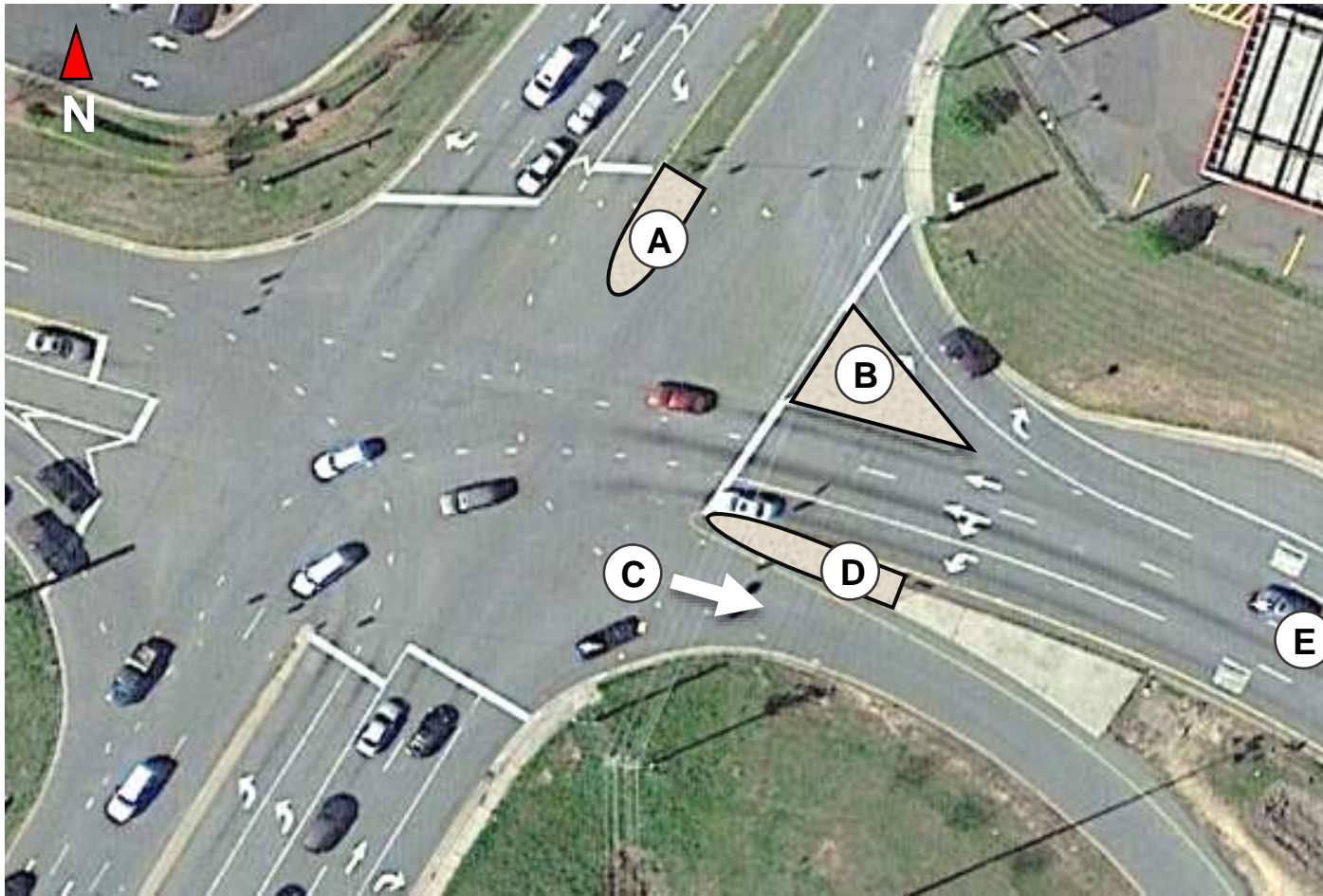
Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Painted, flush	Convert to raised median to increase visibility
Raised median on crossroad	Y		Possibly extend median

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Crossroad median mitigates
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

Significant street lighting (4-bulb tall pole) present over entrance ramp area, so additional lighting probably will not help.

US 421 WB Exit Ramp at Lewisville Clemmons Rd.



- A. Extend median
- B. Convert paint splitter island to raised median
- C. Add arrow indicating correct freeway entrance point
- D. Extend raised median
- E. Add Wrong Way arrows

US 421 WB Exit Ramp approach from S



Google Earth street view

US 421 WB Exit Ramp



US 421 WB Exit Ramp approach from N



US 52 and Moore-RJR Rd.



Date: May 27, 2017	County: Forsythe
Interchange: US 52 and Moore-RJR Rd.	
Location (exit ramp): SB Exit Ramp	

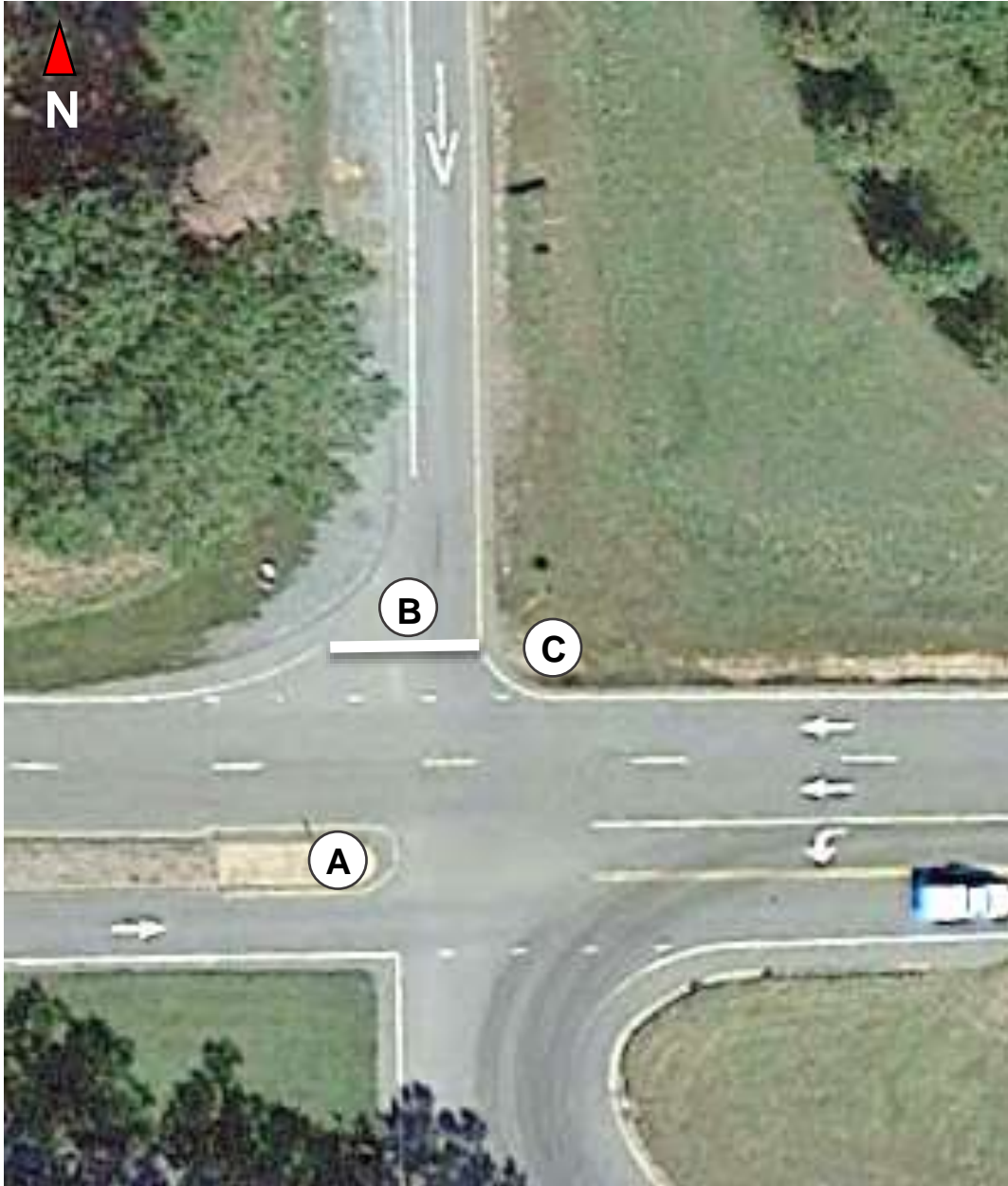
Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Two signs	
Wrong way arrows	Y		
Do not enter sign	Y	Two signs	
One way	N		
No right turn	N		Add sign
No left turn	N		Add sign
Freeway entrance signs	NA		
Dashed turning guide lines	NA		
Stop bar at end of exit ramp	N		Add stop bar
If entrance and exit ramps are directly adjacent to each other:			
Median between	NA		
Splitter sign on median between	NA		
Barrier between	NA		

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	N	Type:	
Raised median on crossroad	Y		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	Y	
Wide/flared exit ramp terminal contributing to left turn WW entry?	N	
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes: This junction is very well designed to reduce wrong way movements. Crossroad median has good length and placement.

US 52 SB Exit Ramp at Moore-RJR Rd.



- A. Add No Left Turn sign**
- B. Add stop bar**
- C. Add No Right Turn**

US 52 SB Exit Ramp approach from E



US 52 SB Exit Ramp



US 52 SB Exit Ramp approach from W



Date: May 27, 2017	County: Forsythe
Interchange: US 52 and Moore-RJR Rd.	
Location (exit ramp): NB Exit Ramp	

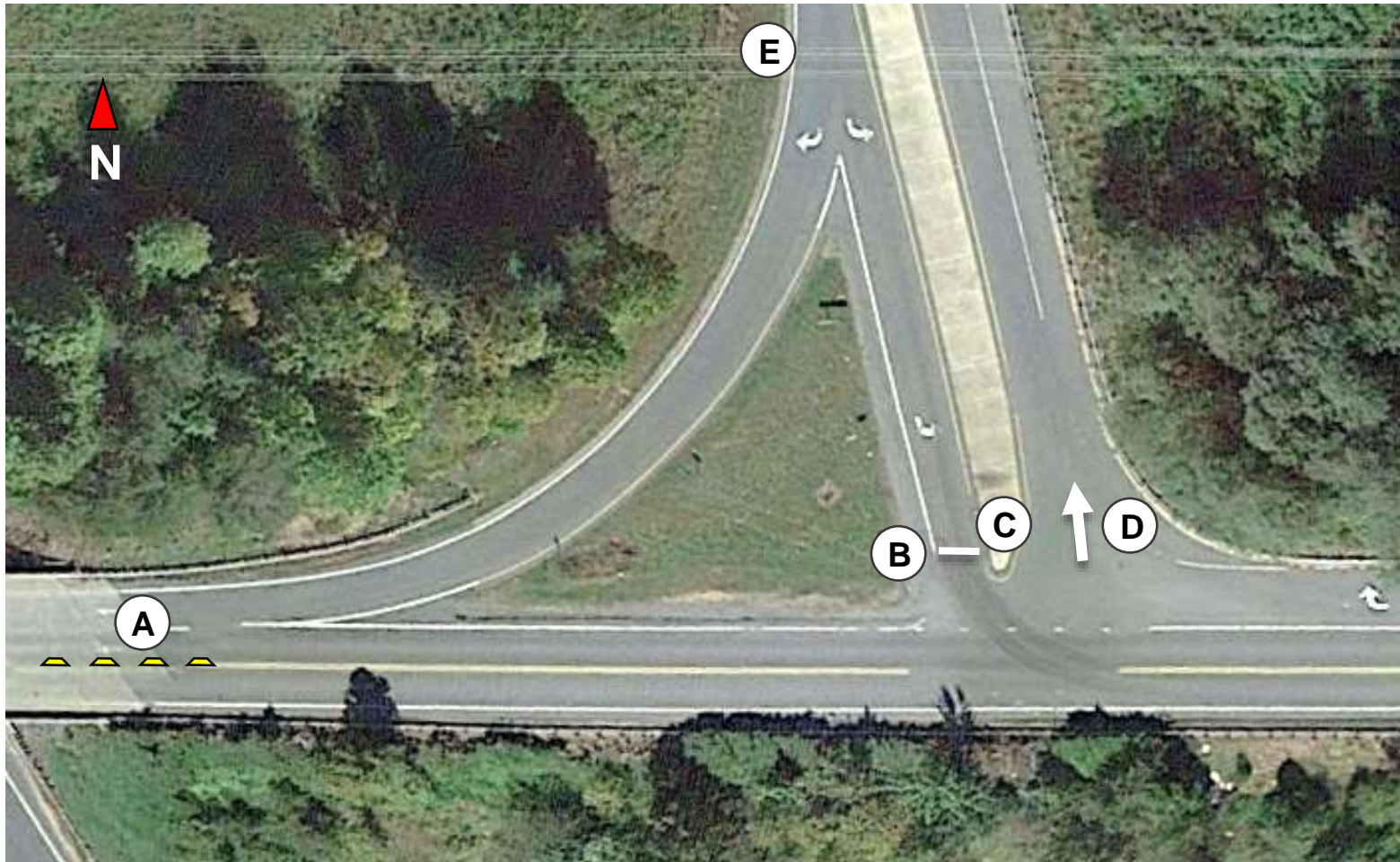
Feature	Presence	Visibility and Notes	Potential Modifications
Wrong way sign	Y	Three signs	
Wrong way arrows	Y	One with raised pavement markers	
Do not enter sign	Y	Two signs	
One way	N		
No right turn	NA		
No left turn	NA		
Freeway entrance signs	N		
Dashed turning guide lines	NA	No exclusive left turn lane	
Stop bar at end of exit ramp	N		Add stop bar
If entrance and exit ramps are directly adjacent to each other:			
Median between	N		Could improve visibility (reflectors, paint)
Splitter sign on median between	Y		
Barrier between	N		Could add yellow diamond to splitter sign

Geometrics			
Feature	Presence	Visibility and Notes	Potential Modifications
Splitter island between directions of exit ramp?	Y	Type: Grass	
Raised median on crossroad	N		

Other Questions	Yes/No	Notes
Sign clutter creates potential confusion?	N	
Barrier obscuring view of entrance ramp?	N	
Lighting possibly contributing to WW entry?	N	
Corner radii at exit ramp tight enough to prevent right turn WW entry?	NA	
Wide/flared exit ramp terminal contributing to left turn WW entry?	Y	Add flexible median dividers to prevent WW entry
Horizontal or vertical curvature obscures view of signs or entrance ramp?	N	
Nearby intersections (i.e., small roads, service roads)	N	
Other distractors or confusing elements?	N	

Other Notes:

US 52 NB Exit Ramp at Moore-RJR Rd.



- A. Add flexible median dividers**
- B. Add stop bar**
- C. Add yellow diamond beneath splitter sign and improve visibility of median**
- D. Add arrow indicating correct freeway entrance point**
- E. Add Wrong Way arrows**

US 52 NB Exit Ramp approach from E



Google Earth street view

US 52 NB Exit Ramp



Google Earth street view

US 52 NB Exit Ramp approach from W

