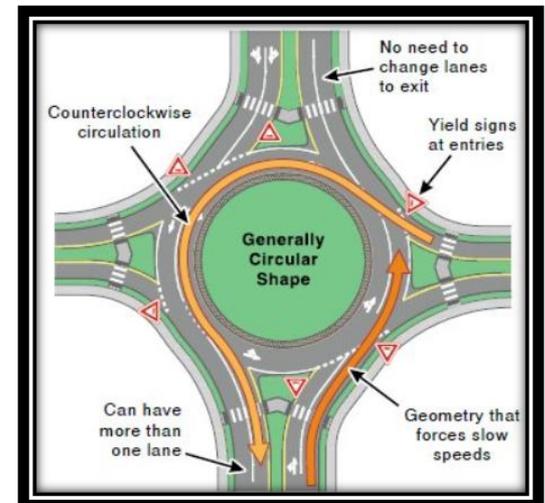




# Roundabouts in Florida

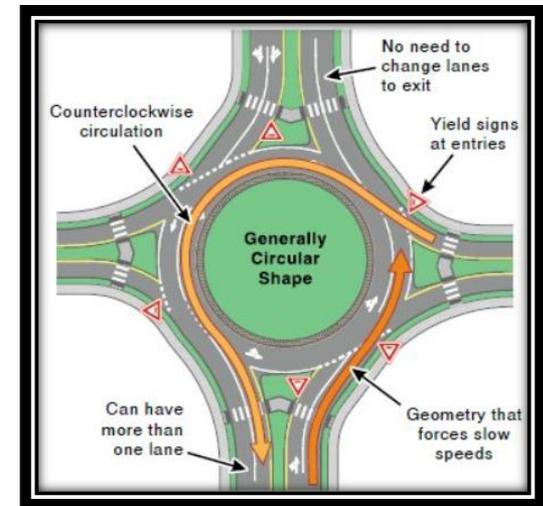
Part 1 – Lesson's Learned

Part 2 – Critical Features



# Part 2 Topics

- Central Office Review
  - Process and Common Errors
  - Design Requirements on SHS
- When Things Go Wrong
- Critical Features
  - Signing
  - Landscaping
  - Lighting
  - Aprons and Splitter Islands
  - Design Vehicle
  - Path Overlap
- Driver Mistakes



# Central Office Peer Review

- For Roundabouts on SHS only
- Focus is on Geometrics
- ~~45%~~ Review Package (PPM Vol. 2 article 2.3.3)
- Submittals through ERC Preferred
- Work with Designer to Resolve Issues
- Requires State Roadway Design Engineer Approval

# Common Errors

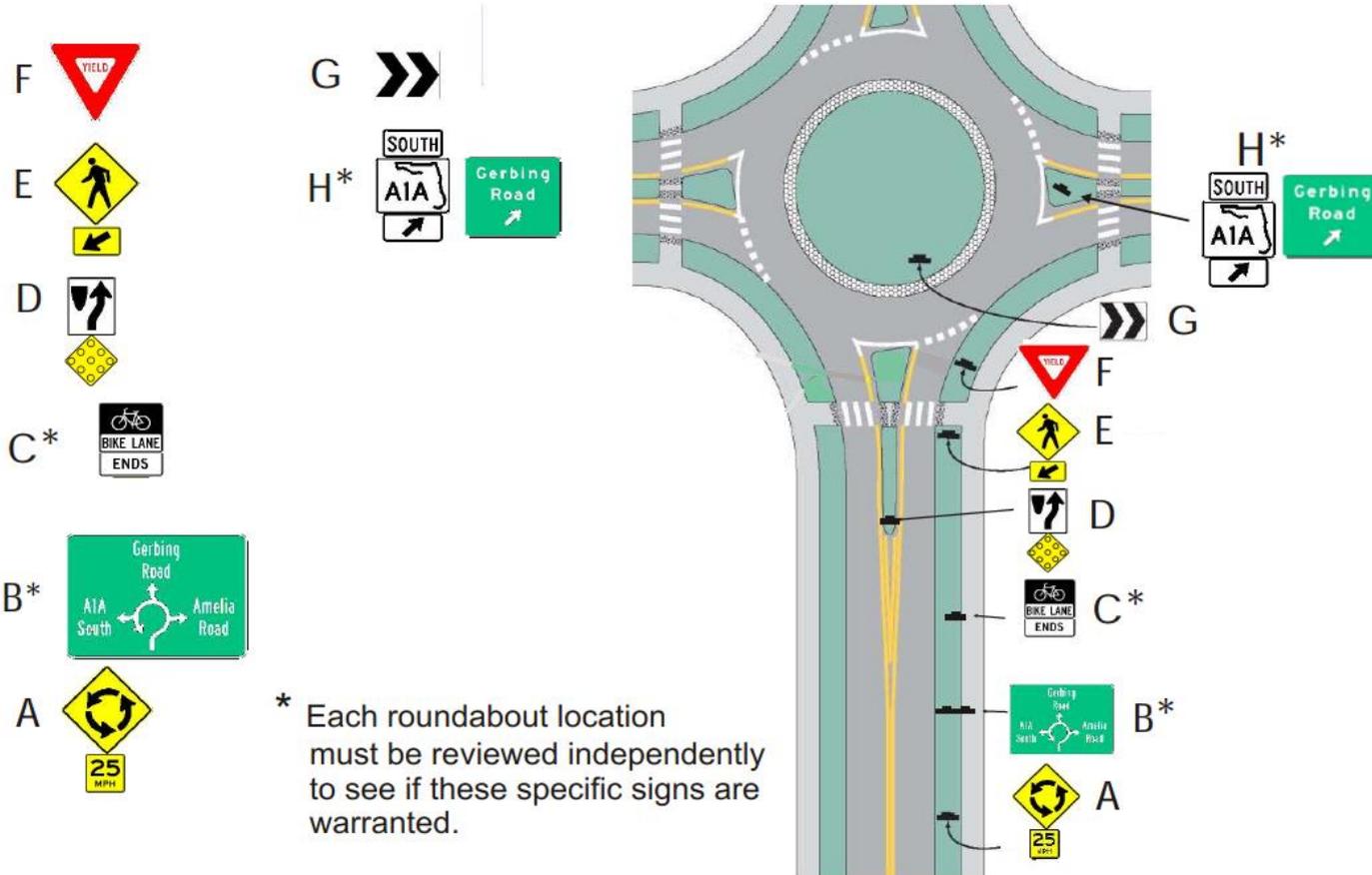
- Entry or Exit Speeds are too High
  - Control with hard geometry
  - >30 mph significantly more crashes
- Design Vehicle WB-67FL not Accommodated
  - Consider smaller vehicle for turning movements
  - Consider larger permitted trucks
- No Landscaping / Visual Screening
- No Bicycle Bale-out Ramp w/ 8-10 ft Sidewalk
- Separation Between Curb and Sidewalk

# When Things Go Wrong

- TRB Conference – “Implement Mitigation Strategies for Roundabout Crashes”
  - Lack of driver recognition
  - Excessive entry speeds
- Effective Counter Measures
  - Screening across center island (landscaping)
  - Advanced signing scheme
  - Lighting

# SHS Advance Signing

## Standard Roundabout Signing



# Signing

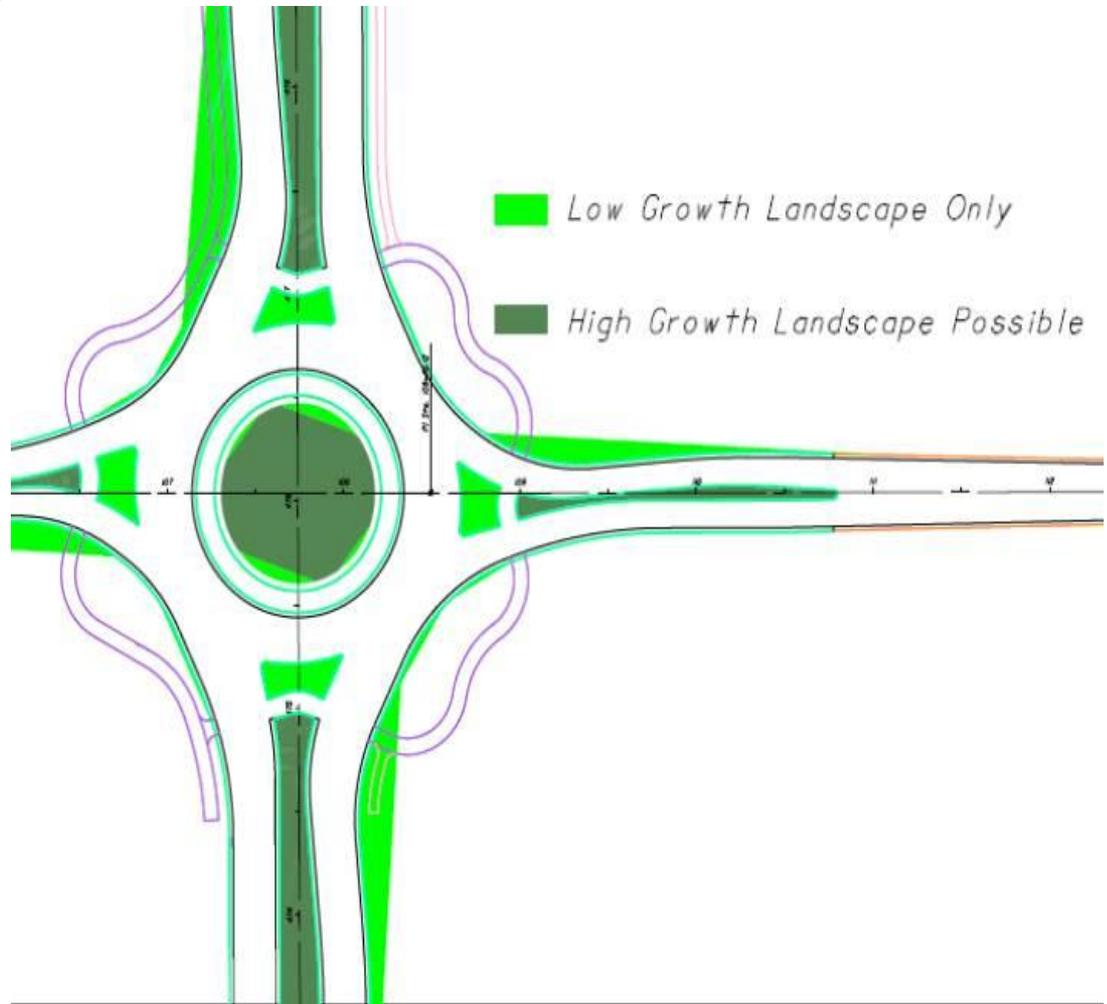


# Signing



# Landscaping

- Reduce “visual noise”
- Don’t block critical sight distances
- Use landscaping to make roundabout apparent
- **Required in Florida**



# Landscaping



SR 13 & River Town Blvd,  
St. Johns County, Florida

# Landscaping



SR 13 & River Town Blvd,  
St. Johns County, Florida

# Lighting

- Illuminate pedestrians and bicyclists
- Illuminate curbs and vehicle path
- Make driver aware of approaching roundabouts
- **Same Lighting Criteria as Signalized Intersections**



# Aprons and Splitter Islands

- Aprons needed on central island
- **Requires Contrasting Color**
- May be needed on outside quadrants
- **Florida has developed the roundabout curb**



# Design Vehicle



**Good design**

**Trucks begin to tip  
at only 12 MPH!**

**Poor design**



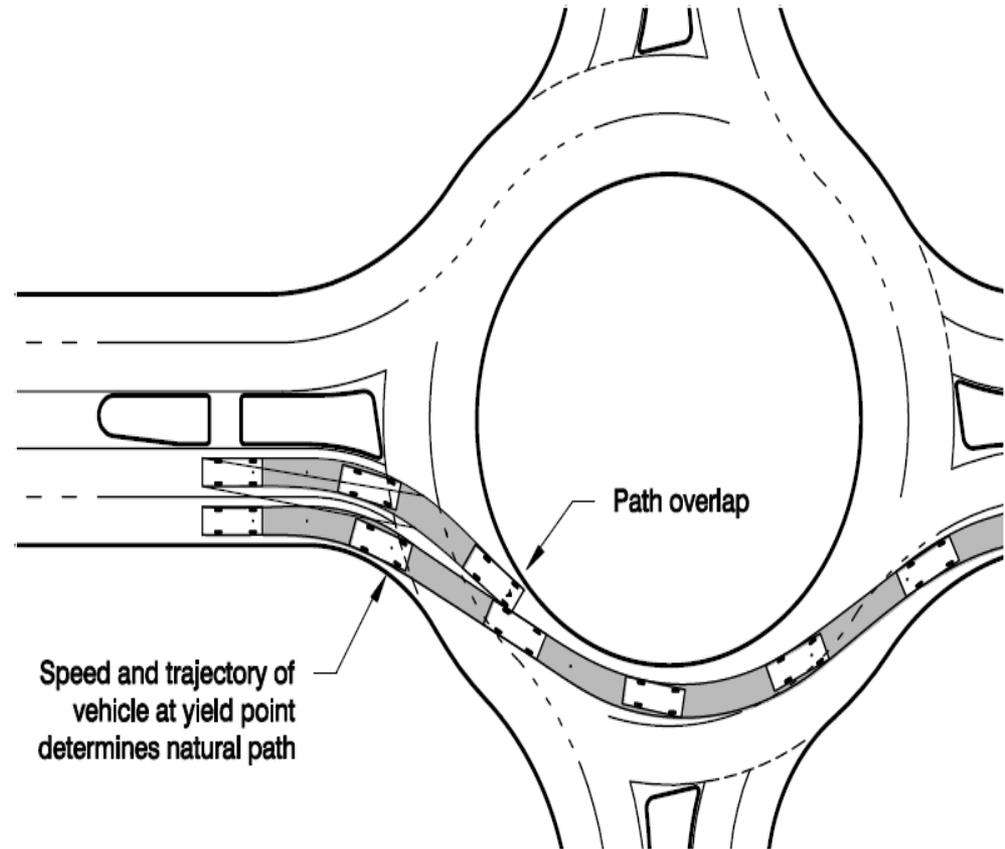
# Multi-Lane Roundabouts

- Differences from single lane roundabout
  - Truck Design
  - Speed Profiles
  - Path Overlap
  - Right Turn Bypasses
- **Florida restricts roundabouts to two lanes.**

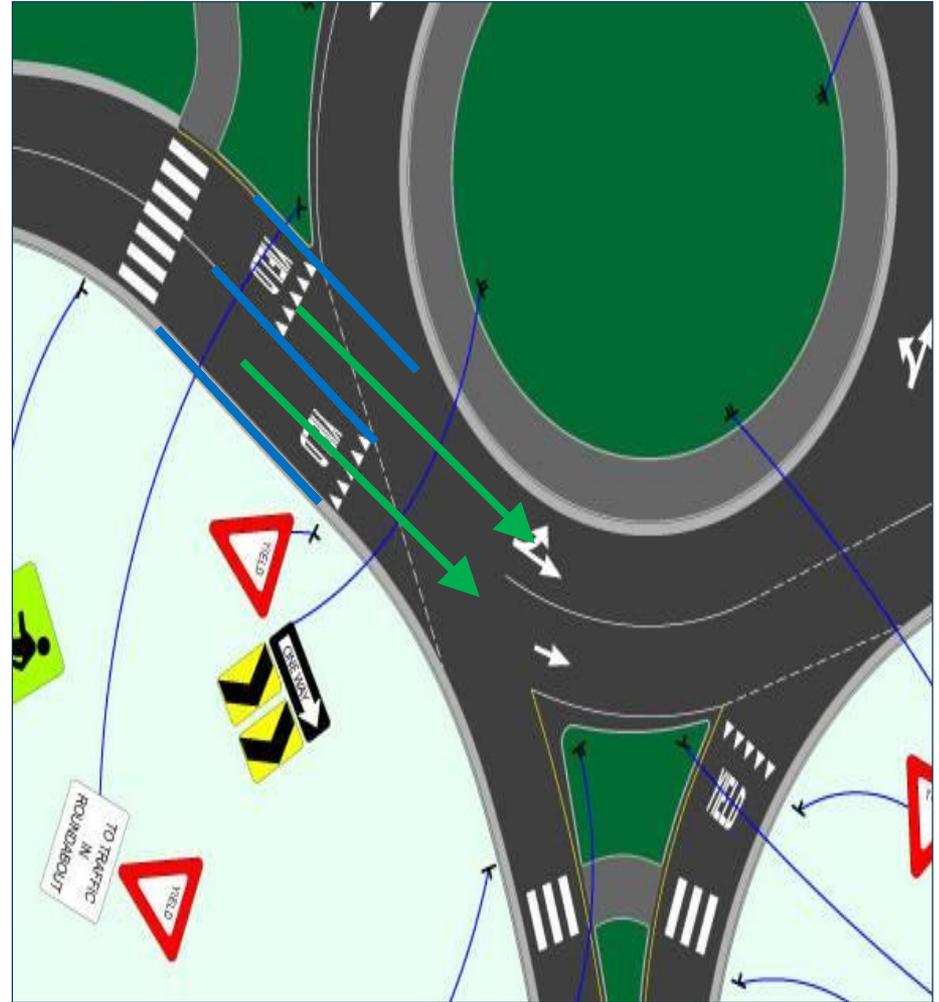


# Path Overlap

- Forces vehicles to stay in their designated lane while entering a roundabout
- Achieved by well designed entry geometry that is tangent to the circulatory roadway

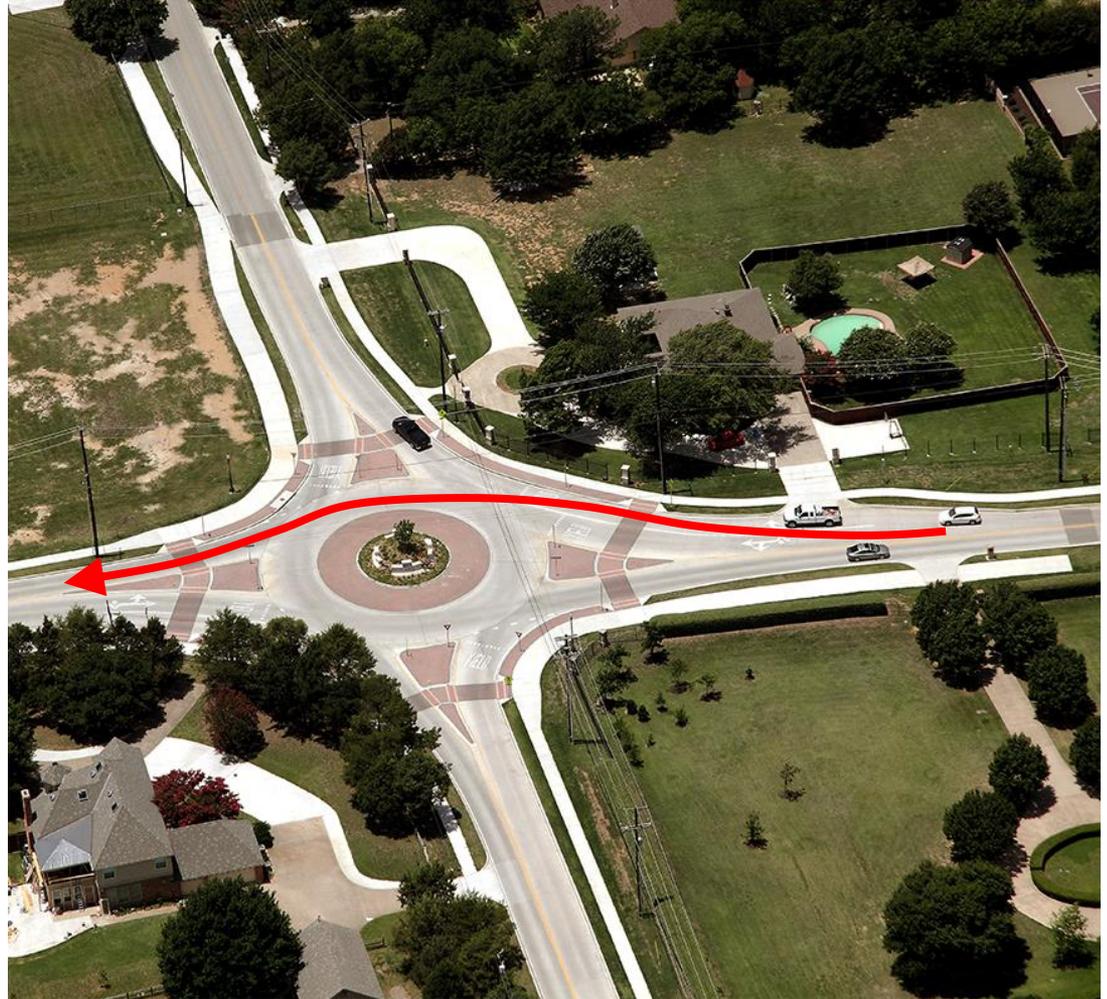


# Path Overlap



# Bypass Lanes

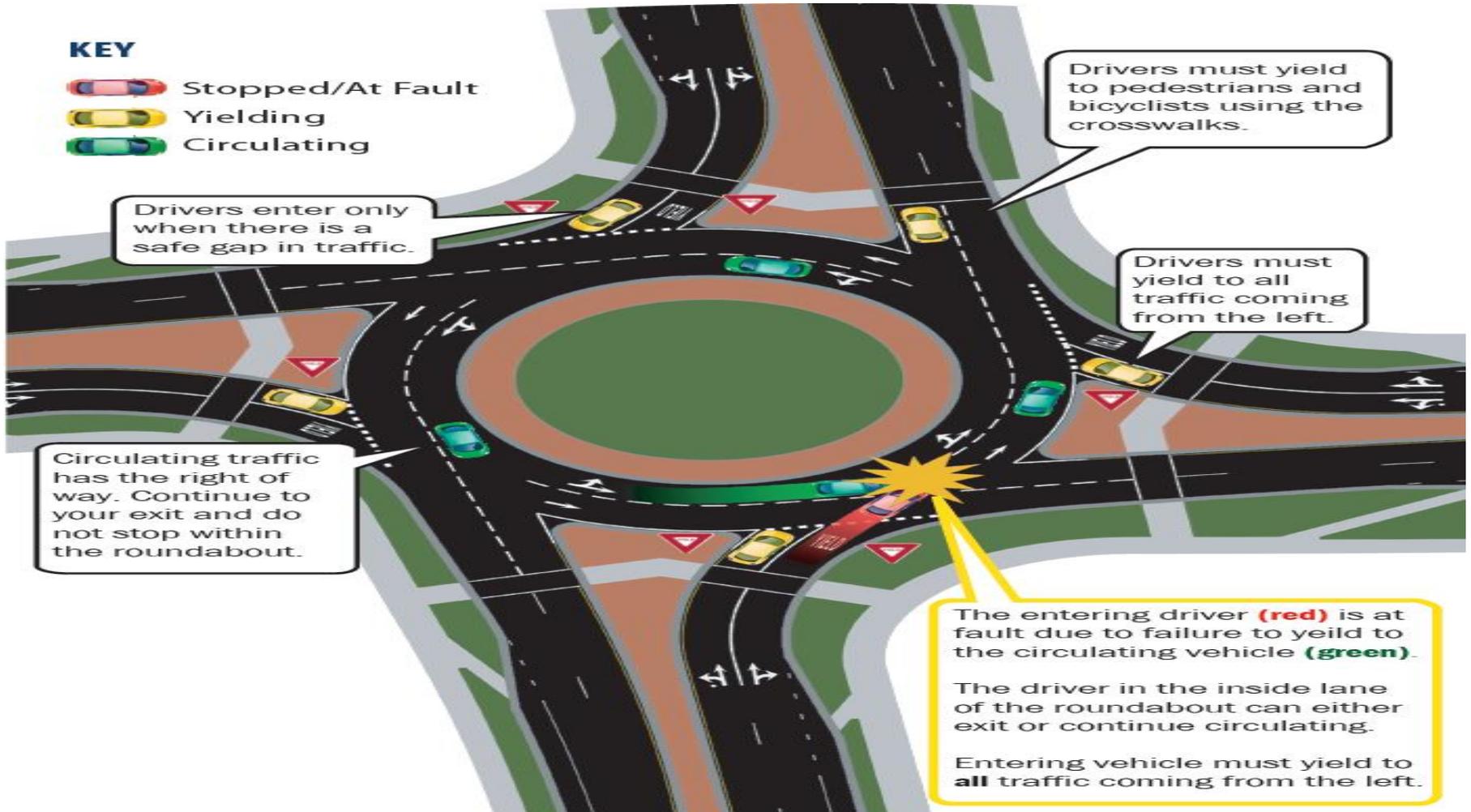
- Multiple types
  - Next to roundabout entry
  - Dedicated receiving lane
  - Separated with island
- Next to entry
  - Challenging to achieve entry speeds
  - Through motorists will use right turn lane



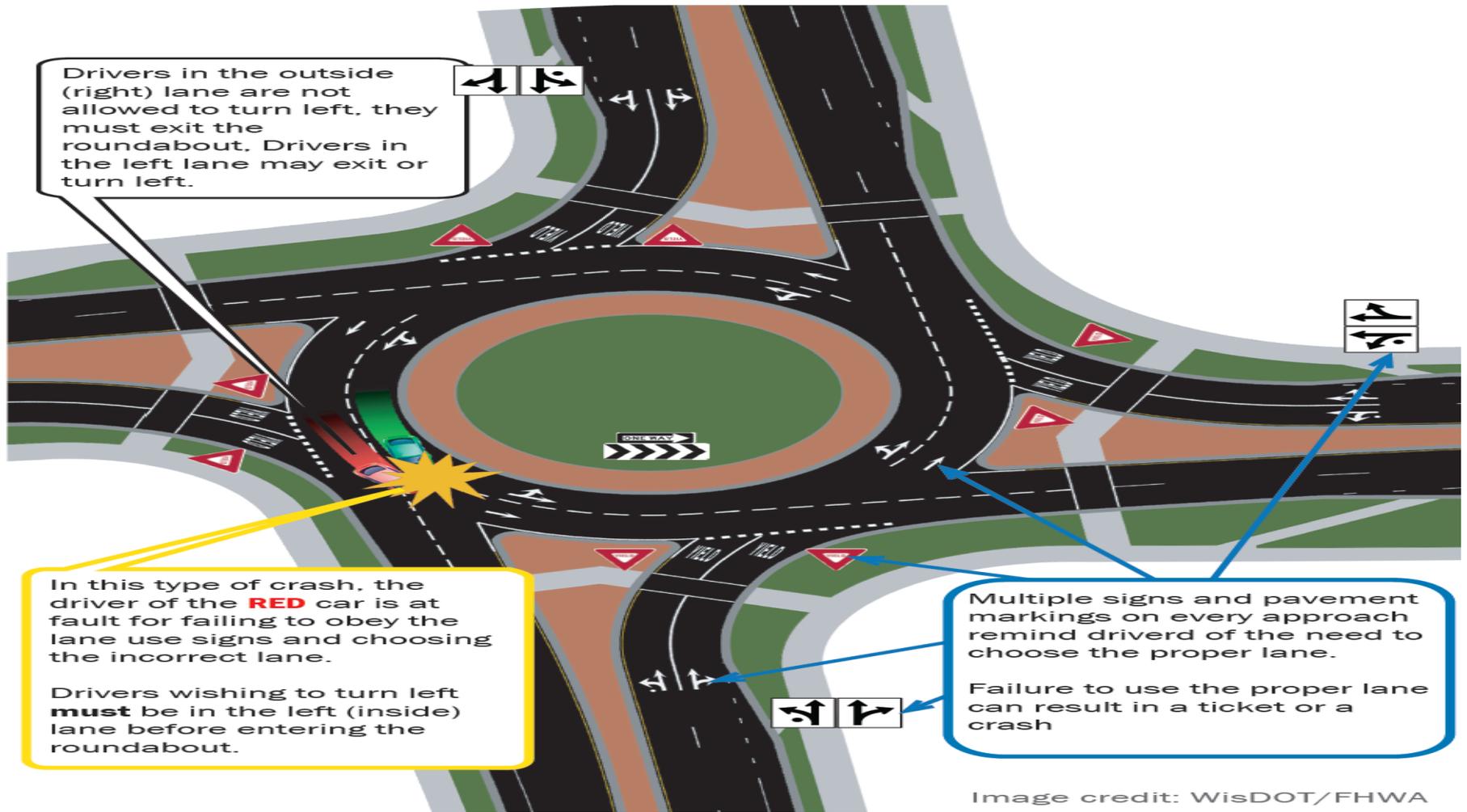
# Top Driver Mistakes

## KEY

-  Stopped/At Fault
-  Yielding
-  Circulating



# Mistake – “Double Double”



# Jacaranda Roundabout Improvements to Minimize Accidents

161 crashes in 3 year period

Sarasota county's most controversial roundabout is about to see some changes. The Jacaranda roundabout was approved for more than **\$1.5 million dollars** worth of improvements that the Florida Department of Transportation hopes will minimize accidents.

- Signing and Pavement Marking
- Redesign of Splitter Islands
- Lighting

# Questions



**B&N**

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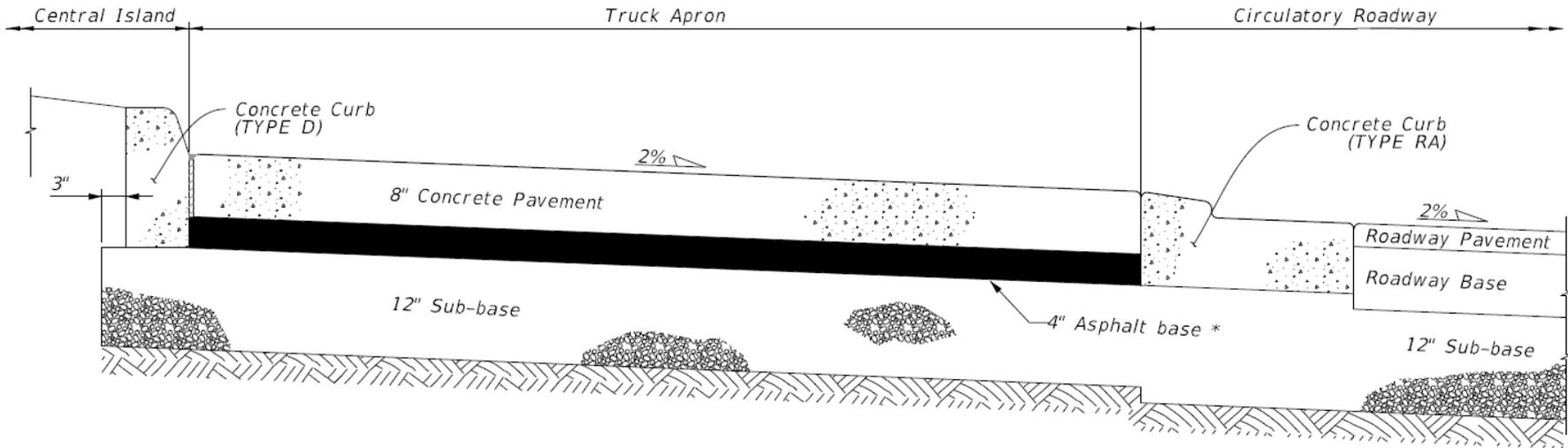


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# SHS Standard Truck Apron



*Standard Roundabout Truck Apron*