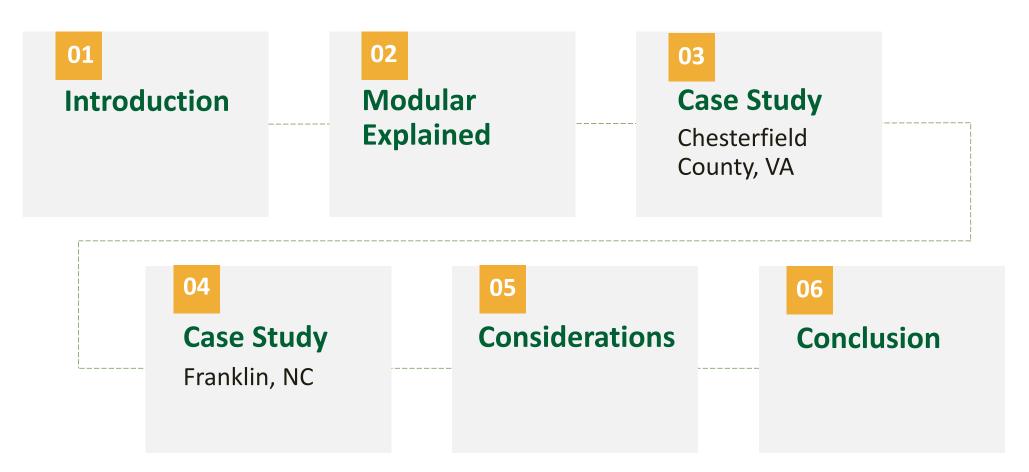
Modular Roundabouts

Jim Mertz, GISP – Bolton & Menk, Inc.





Modular Roundabouts





Introduction - Roundabouts

- Improved safety and mobility
- Long-term cost benefits
- Issues
 - Construction costs
 - Construction schedules
 - Right-of-way acquisition
 - Utility relocation





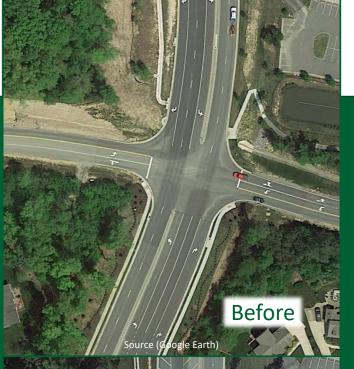
Modular <u>Roundabouts</u>

- Constructed on top of existing intersections, use existing pavement
- Materials can include striping, flexible posts, custom blocks, or conventional asphalt/concrete

"Installation may take place in a manner of weeks, if not days"







Case Study

Chesterfield County, VA



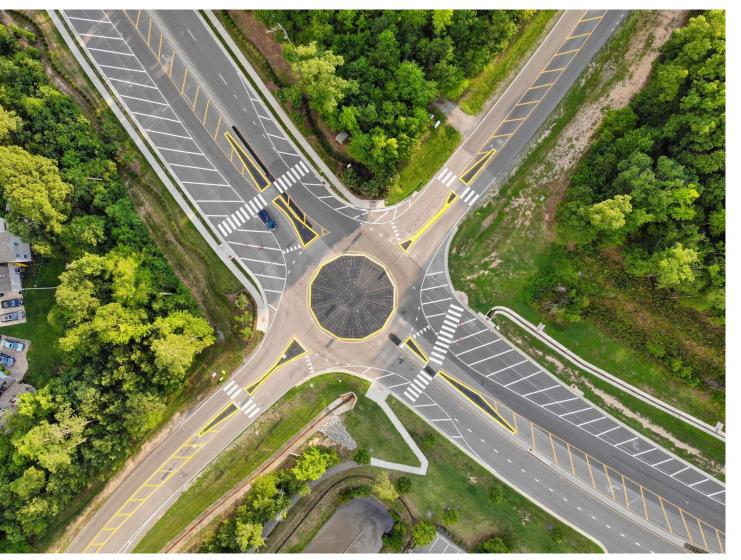
- Constructed using small custom-made blocks bolted to pavement
- 2 Traffic maintained during construction, installed by VDOT staff

Total construction cost of \$291,005

3



Case Study – Chesterfield County, VA



Performance

- Safety
 - Before 18 crashes in 3 years (7 injury)
 - After 3 crashes in 1 year (all PDO)
- Durability
 - Winter maintenance
 - Heavy vehicle impacts
- Aesthetics



Case Study – NCDOT Division 14, Franklin

- Located at Wells Grove Road and Bellview Road in Franklin, NC
- Critical intersection between Mountain View Intermediate School and Macon County Middle School
- Previously side street stop-controlled intersection with law enforcement for peak hours

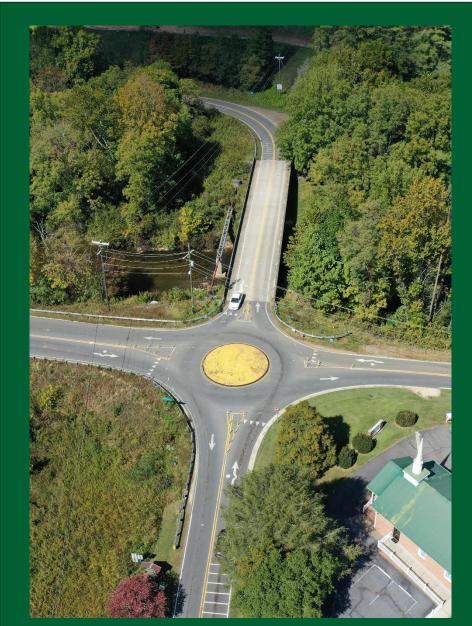


Case Study – NCDOT Division 14, Franklin

- 75' outer diameter, 15' width of circulating roadway
- Division 14 received trial approval for use of rubberized curb
- Filled with aggregate and topped with asphalt
- Constructed over 3 days
- Flexible posts for splitter islands and updated pavement markings
- Total cost roughly \$30,000







Considerations

1 Intersection Size

2 Drainage

3 Traffic Operations

Community Considerations

4





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Modular Roundabouts

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