Delivering Big Results with Smaller Roundabouts

Mark H. McCulloch, P.E.
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Washtenaw County, Michigan

- County seat: Ann Arbor
- Population: 367,000
- WCRC - 1,649 centerline miles / MDOT - 598 lane miles
- 28 total roundabouts
Why Smaller Roundabouts?

Can We Afford Status Quo?

- Taxpayer Relief Act of 1997
- 23 years of revenue not adjusted for inflation.
- Price increase of 60.25% (Bureau of Labor Statistics consumer price index)
How to Reduce Cost but not Effectiveness?

- Less earthwork
- Less storm sewer infrastructure
- Less ‘non-production’ paving

How to Minimize Cost?
Textile / Hitchingham / Stony Creek (2015)

A New Era for Minis

Textile / Hitchingham / Stony Creek (2015)
- Wei Zhang (FHWA)
- AWSC
- Goal: increase capacity
- 45-55 MPH approach speeds
- ADT
  - Textile 6,600
  - Hitchingham 6,800
  - Stony Creek 4,200
- 4% trucks
Textile Mini Footprint

- ICD: 90 feet
- Total Cost: $800,000

Slivers, Not Chunks

Textile / Hitchingham
1,225 sft (0.03 acres)

Textile / Stony Creek
605 sft (0.01 acres)

92% area reduction compared to Pontiac Trail / Seven Mile

Total Land Cost:
$3,575 (2014 dollars)
Before v. After

Textile at Hitchingham; AM Peak

Raised Island

Raised Center Island’ 3” to 4”; Moon at Bemis (Washtenaw County Standard)
Textile Minis (Video)

Textile at Hitchingham / Stony Creek

Baker Road Roundabouts (2018) – A Model for State DOTs
• ADT: Baker Road – 14,000 vpd
  Shield Road – 3,200 vpd
  Dan Hoey Road – 5,800 vpd
• Design Speed: 35 – 55 MPH
• Truck Traffic: 3%
• ICD: 100 feet (Shield);
  105’ x 95’ (Dan Hoey)
• Total Cost $1.3 million
Summary

Recipe for ‘Mini’ Success

• Minimum ICD 90’ for high speed approaches
• 100’ – 110’ ICD is the ‘sweet spot’
• AWSC better than TWSC
• Use realistic growth factors
• Carefully choose your first location
• Buy-In critical
• Monitor results
THANK YOU!

Want to learn more?
Contact Mark McCulloch at mccullochm@wcrroads.org
734-327-6679