NCITE Geometric Design Committee
9/21/2017 Meeting Minutes
8:30 AM – 10:00 AM

Location: Stantec
2335 Highway 36 West
St. Paul, MN 55113

Committee Chair:
Tom Jantscher, HR Green, Inc.
651-695-7769
tjantscher@hrgreen.com

Committee Co-Chair:
(vacant)

Meeting Minutes:

I. Presentation by Will Stein, FHWA Minnesota Division:

- 8 mini-roundabouts have been built so far in Minnesota, and 1 other is programmed for construction in 2020 (at Edgerton and Fairview in Maplewood)
- Rough definition of mini-roundabout:
  - Single-lane with an inscribed diameter of 50’ to 90’, with traversable center islands and splitter islands
  - Approaches are generally two- to three-lane high volume collectors with speeds of 35 mph or less, but this varies
- (Reviewed the 8 mini-roundabout that have been built and discussed them)
  - ELK RIVER
  - SHAKOPEE
  - Construction cost was $277,000, but it was bid in late spring and there were only two bidders, plus this project included some approach work, lighting, and utility work
  - Funded partially by MN Safety Money
  - Capacity was measured afterward and reached about 1150 veh/hr, and the volume at which it stops functioning is still unclear
  - It was important to have notable deflection for the higher speed approach
  - Discussed impacts to cost and how to decrease
• Consider if approach work can be minimized, such as leaving most of the existing curb and use something else for deflection
• A more simple mini-roundabout in Maryland was built for $185,000
• Choose a smaller design vehicle if possible

  o WINONA
  o SAVAGE
  o ST. JAMES (2 mini-roundabouts)
    ▪ Live camera at https://app.oxblue.com/open/srf/signaltoconversion
    ▪ Lots of grain trucks present that will test the design and construction over the coming years
    ▪ Mini-roundabouts were part of the Complete Streets concept applied here, which was well-implemented and in particular it reduced pedestrian crossing distances significantly
    ▪ This project included $864,000 of FHWA AID money, which is for “kick-starting” innovative concepts and applications
    ▪ Now open to traffic

  o ANOKA
    ▪ Notable as a 5-legged mini-roundabout with low speeds

  ➢ Discussion on performance-based design as applied to mini-roundabouts
    ▪ There is a roundabout in Mendota Heights near Visitation High School that could have probably functioned well as a mini-roundabout and saved cost
    ▪ It’s important to use the “right size design” concept with roundabouts, perhaps mini-roundabouts should be considered more as a first alternative than they are
    ▪ The revised Chapter 12 of the MnDOT Design Manual will use a design life of 10 years to encourage this.
    ▪ Multi-lane roundabouts function acceptable with higher volumes but actually function worse with lower volumes
    ▪ FHWA has good videos of semi-trucks, ambulances, buses, etc. maneuvering through roundabouts if anyone needs any for public education purposes

  ➢ Other notes:
    ▪ MnDOT State Aid has stopped counting roundabouts in the state, although FHWA requires reporting the intersection type
    ▪ MnDOT shared that the Detail 7102 with Type “R” curb & gutter is now published with consideration for the threshold of the truck apron.
    ▪ MnDOT also just released guidance on DDI’s and RCUT’s.

II. Next Meeting: TBD.