

GEOMETRIC DESIGN CRITERIA FOR SINGLE-LANE AND MULTI-LANE ROUNDABOUTS

- Central Island, **shall be raised** (non-mountable) and sloped outward away from the center. The island is typically landscaped for aesthetic reasons and to enhance driver recognition for the roundabout upon approach. The truck apron is also considered to be a portion of the central island, but is traversable.
- Truck Aprons shall be designed such that they are traversable to trucks but discourage passenger vehicles from using them. Truck apron width shall be determined by the tracking of the appropriate project design vehicle using AutoTurn. They shall be 4 feet to 15 feet wide and have a cross slope of 1% to 2% outward away from the central island. All roundabout shall be analyzed using AutoTurn to verify that S-BUS-36 school buses, (and for roundabouts on transit routes, CITY-BUS) will be able to traverse the circulatory roadway without the rear wheels tracking over the truck apron.*

If the percentage of trucks anticipated to use the road exceeds 5%, that radius should be sufficient to serve those vehicles. The outer edge of the truck apron shall include a CG-3 Modified Curb (See Figure 2-15 Roundabout Truck Apron Curb Detail), to vertically separate the truck apron from circulatory roadway surface. The truck apron shall also be constructed of a different material to differentiate it from the circulatory roadway. The truck apron shall also be a different color and texture.

- Circulatory Roadway shall be sloped 2% outward away from the central island. The outward cross-slope design means drivers making through and left-turn movements must negotiate the roundabout at negative superelevation. Sloping the circulatory roadway outward away from the central island is required for the following reasons:
 - It promotes safety by raising the elevation of the central island and improves visibility,
 - It promotes lower circulating speeds due to the adverse superelevation,
 - It minimizes breaks in the cross slopes of the entrance and exit lanes, and
 - It allows surface water to drain to the outside of the roundabout.
- Curb and/ or Curb and Gutter shall be provided on the outside of the circulatory roadway and on all approaches a minimum distance equal to the length of the splitter island to help approaching drivers recognize the need to reduce their speed, prevent corner-cutting, and to confine vehicles to the intended design path.
- Inscribed Circle diameter is the distance measured across the circle inscribed by the face of the outer curb or front edge of the gutter pan of the circulatory roadway. See Figure A-3-1.

* Rev. 1/19