THE PRACTICAL APPROACH TO ROUNDABOUT DESIGN VS. TRADITIONAL INTERSECTION DESIGN

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Three Roundabout Projects

Urban Single-Lane Roundabout in Colorado Springs, CO

Rural Single-Lane Roundabout in Wyoming

I-25 Three Roundabout Interchange
**URBAN SINGLE-LANE ROUNDABOUT IN COLORADO SPRINGS, CO**

- Unsignalised intersection in urban area
- High rate of front to side crashes
- Existing sidewalk and bike lanes
- 60 ft wide medians on “A” Parkway and striped medians on “B” drive
- ROW at the back of the sidewalk
Features:

- Circulatory Vd = 25 mph
- Four legs
- Design vehicle City Bus and WB-50
- Inscribed central diameter 135 ft
- 15 ft circulatory lane width
- Traversable Island and mountable curb
- Bike/Pedestrian Facilities
- Road-dieting
RURAL SINGLE-LANE ROUNDABOUT IN WYOMING

- Intersection of Highway 89 (Vd=55 mph) and Gros Ventre/Sagebrush Dr. (45 mph and 35 mph)
- Shared-use path
- Recreational area
- Access from Town of Jackson to Grand Teton National Park
Features:

- Circulatory Vd min = 16 mph
- Four legs
- Design vehicle Intercity Bus, Motorhome with a boat, WB-67 and Snowplow
- Inscribed central diameter 130 ft
- 18 ft circulatory lane width
- Splitter Islands/Refugee Island
- Traversable island and mountable curb
- Three 10 ft shared-use paths
- Parking Lot
- Ditches
- Construction Bypass
I-25 Three Roundabout Interchange

- Diamond interchange
- Rural Area
- Historical Farm
- Bridge replacement
- I-25 realignment
- Two municipal areas
- Frontage Road
Multi-Lane Roundabout Interchange

- Two raindrop-shaped roundabouts and one full circle roundabout
- Circulatory Vd min = 20 mph
- Design vehicle Intercity WB-67
- Inscribed central diameter 130 ft
- Two 15 ft circulatory lanes
- Four Ramps and frontage road
- Ped./Bike Facilities (Shared-use path and widened shoulder)
Curb Return Detail and Entry and Exit Width Design

Exit and Approach Radius and Major Alignments
Eastern Roundabout Detail

- Turning movement of design vehicles
- Entry width ranges from 24 to 32 ft (30 ft in the drawing)
- Painted Gore area
- Right turn bypass lanes
- Pedestrian Facilities
- 16 ft Median
- Refugee Island
- Bike ramps and Bike Lanes
ROUNDABOUT PROFILE (SINGLE-LANE ROUNDABOUT)
NB SOUTH LEG (URBAN SINGLE-LANE ROUNDABOUT)
WB WEST LEG (URBAN SINGLE-LANE ROUNDABOUT)
GRADING PLAN

- Roundabout position and tilt
- High and Low Drainage spots
- Drainage analyses
Fastest Path & Intersection Sight Distance
Roundabout Esthetics
Thank you!