

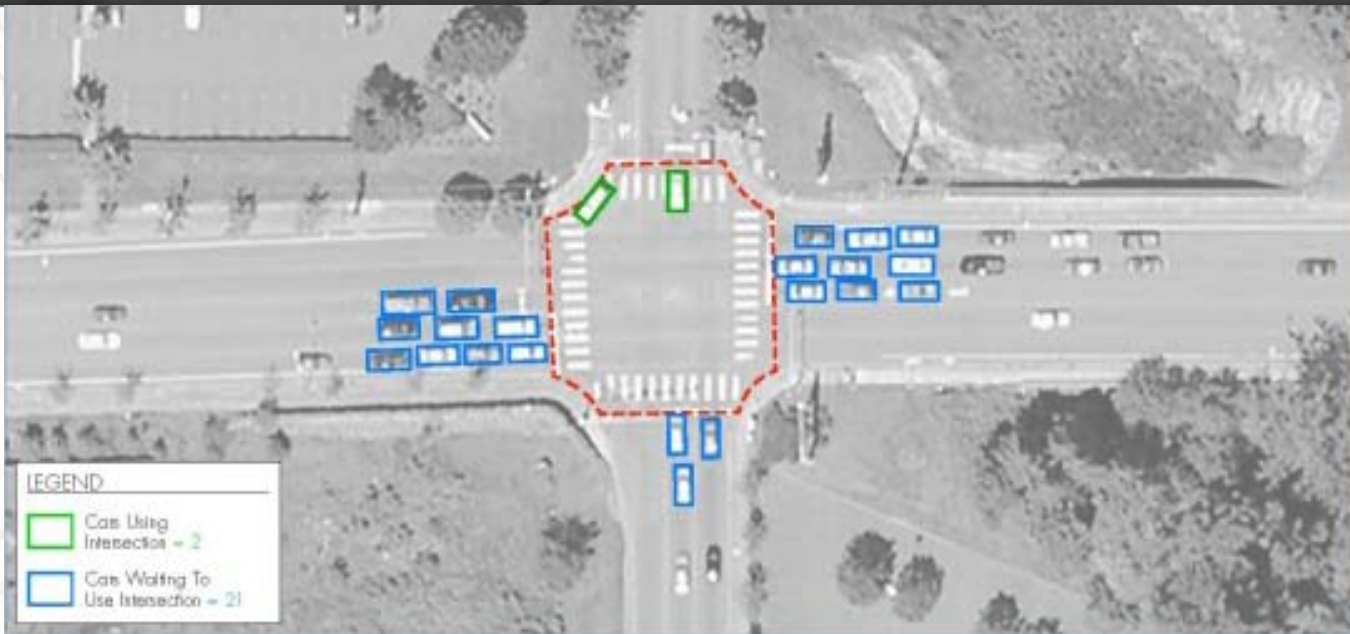
An aerial photograph of a large, multi-lane roundabout with several exits and entrances, surrounded by greenery and some buildings. The image is in grayscale with a light blue tint.

Does Your Roundabout Waltz?

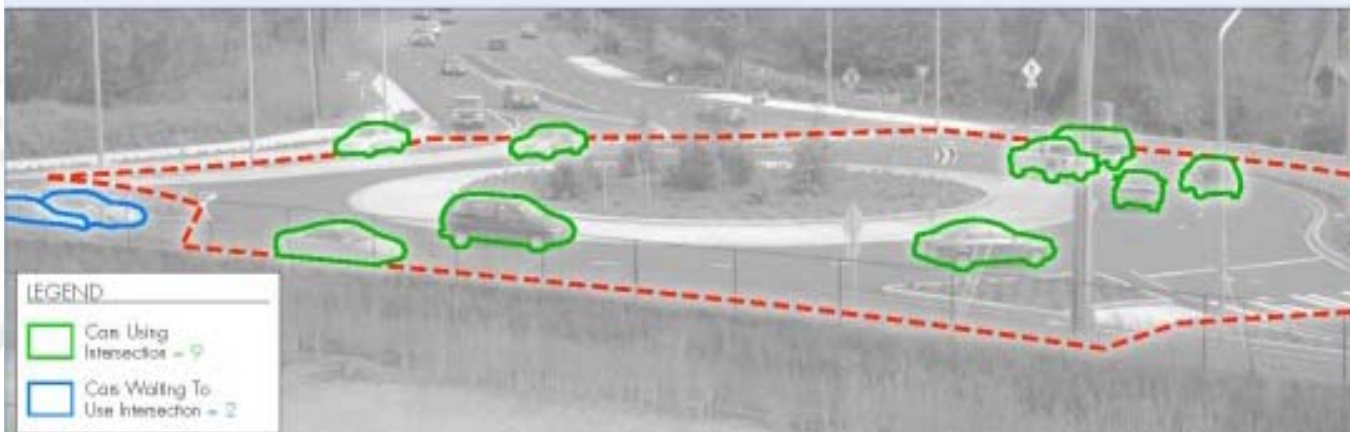
Fall 2011 TexITE
Garland, TX

*Patrick McGrady
Rachel Price*

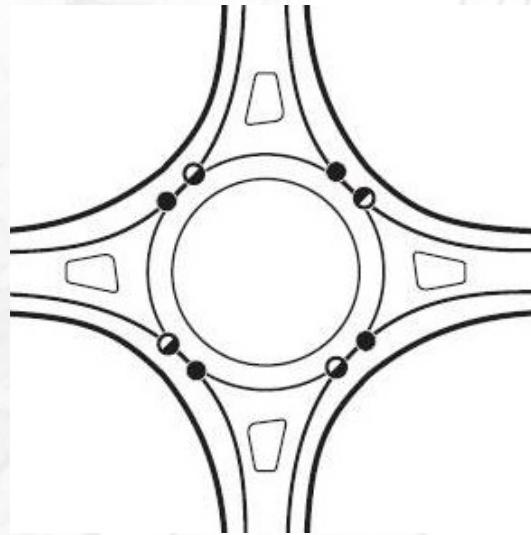
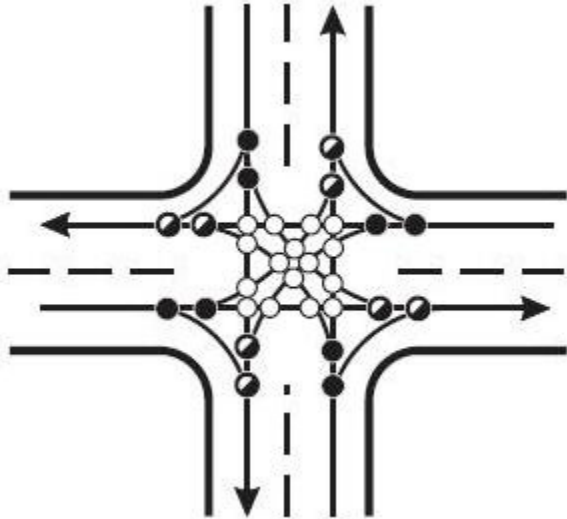
Roundabout Strengths - Efficiency



Typical Signal Operation

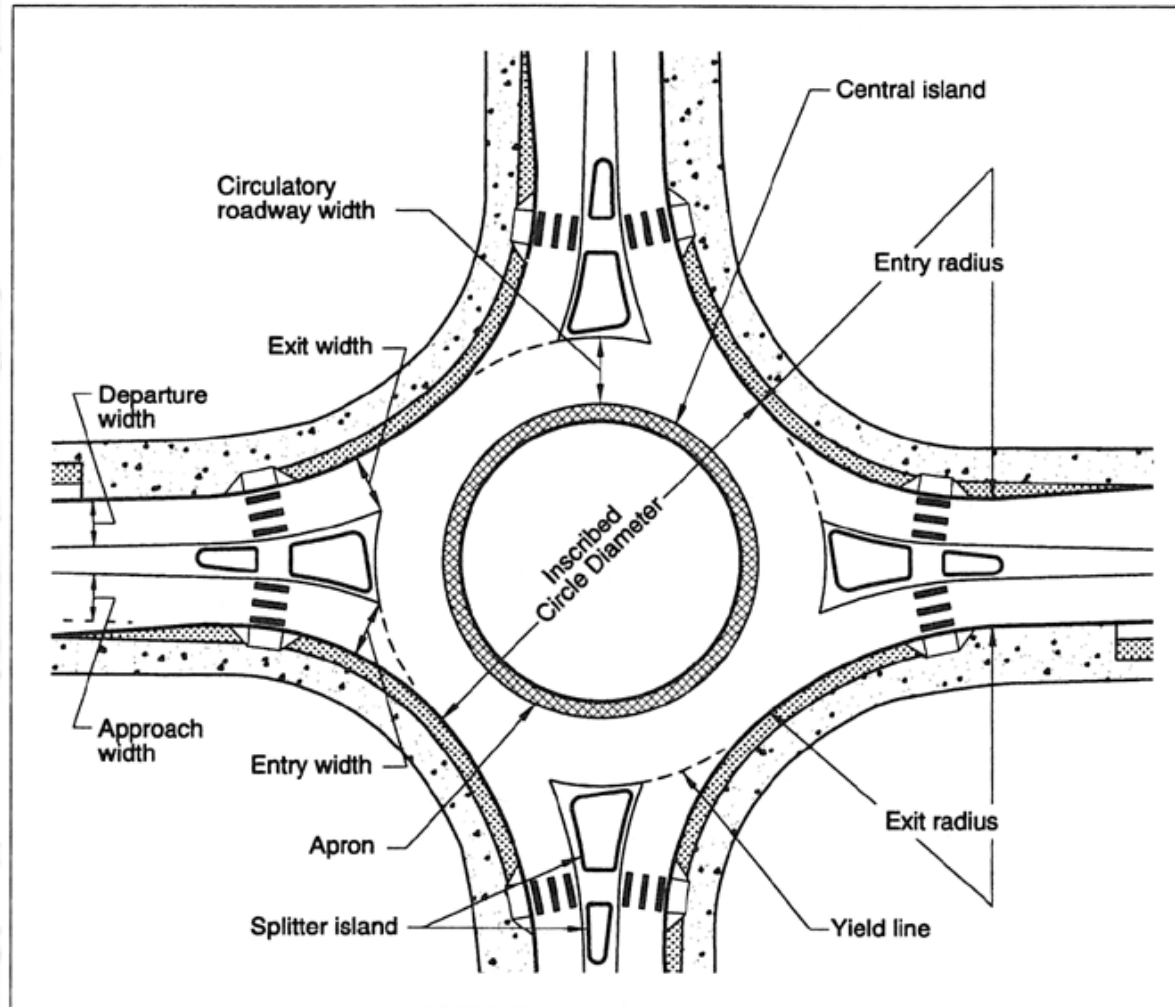


Roundabout Strengths - Safety



Data courtesy of NCHRP 572 - Slide courtesy of ACHD

Geometric Elements For Practical Design



Roundabouts: An Informational Guide, FHWA

Blending Elements For Fluid Design



THE DANCERS



AUTOS



TRUCKS



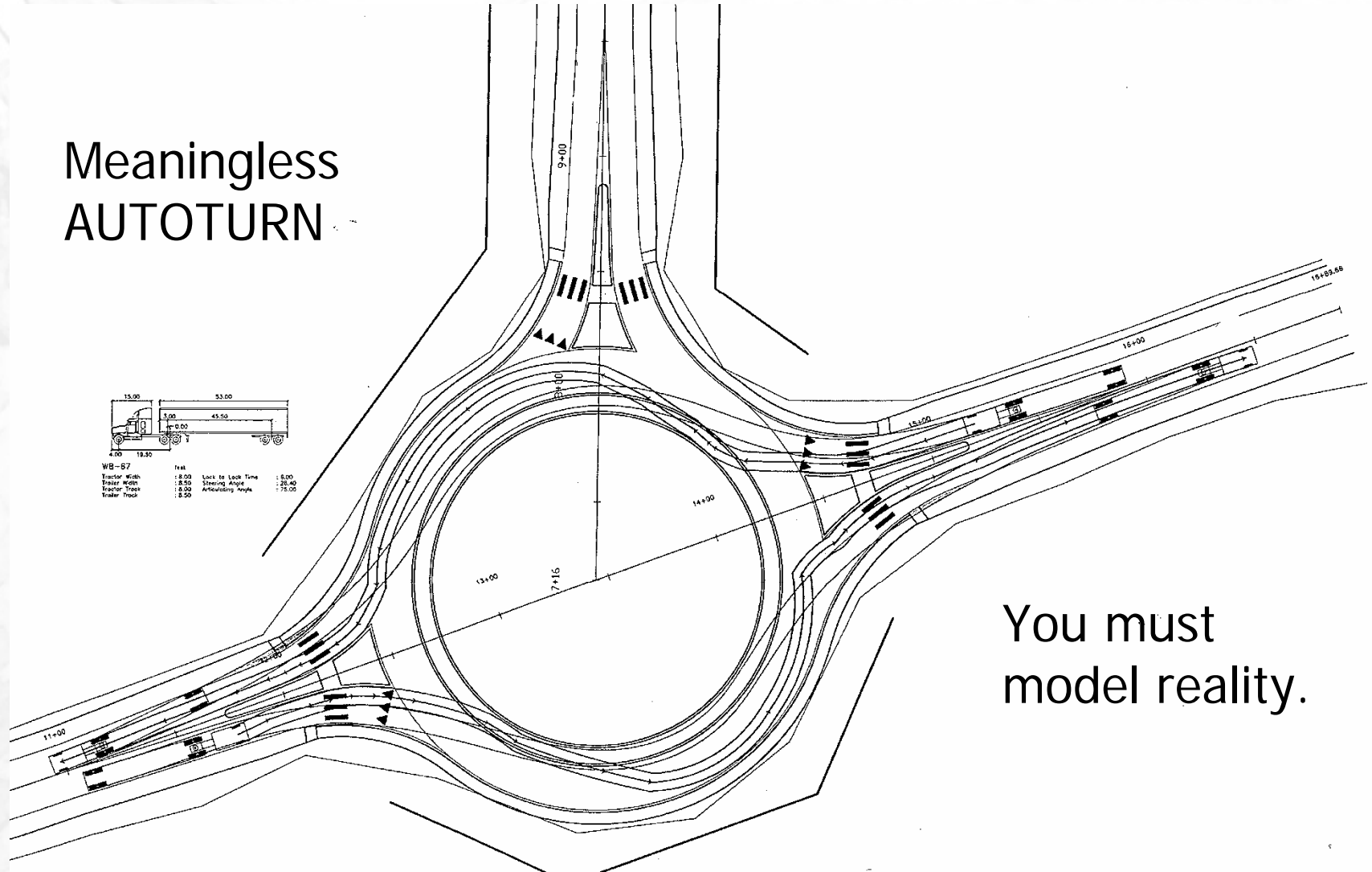
PEDESTRIANS



BICYCLES

Getting Tangled Up: Design Vehicles

Meaningless
AUTOTURN



You must
model reality.

Special Vehicles (GFAR)



Two Left Feet: Pedestrian Complications



Two Left Feet: Pedestrian Complications



Ungraceful: Bike Ramp



Bike Ramps

(Ocean Shores, WA)



Vehicle Steps to Avoid: Angle Points



Vehicle Steps to Avoid: Tiny Arc Lengths



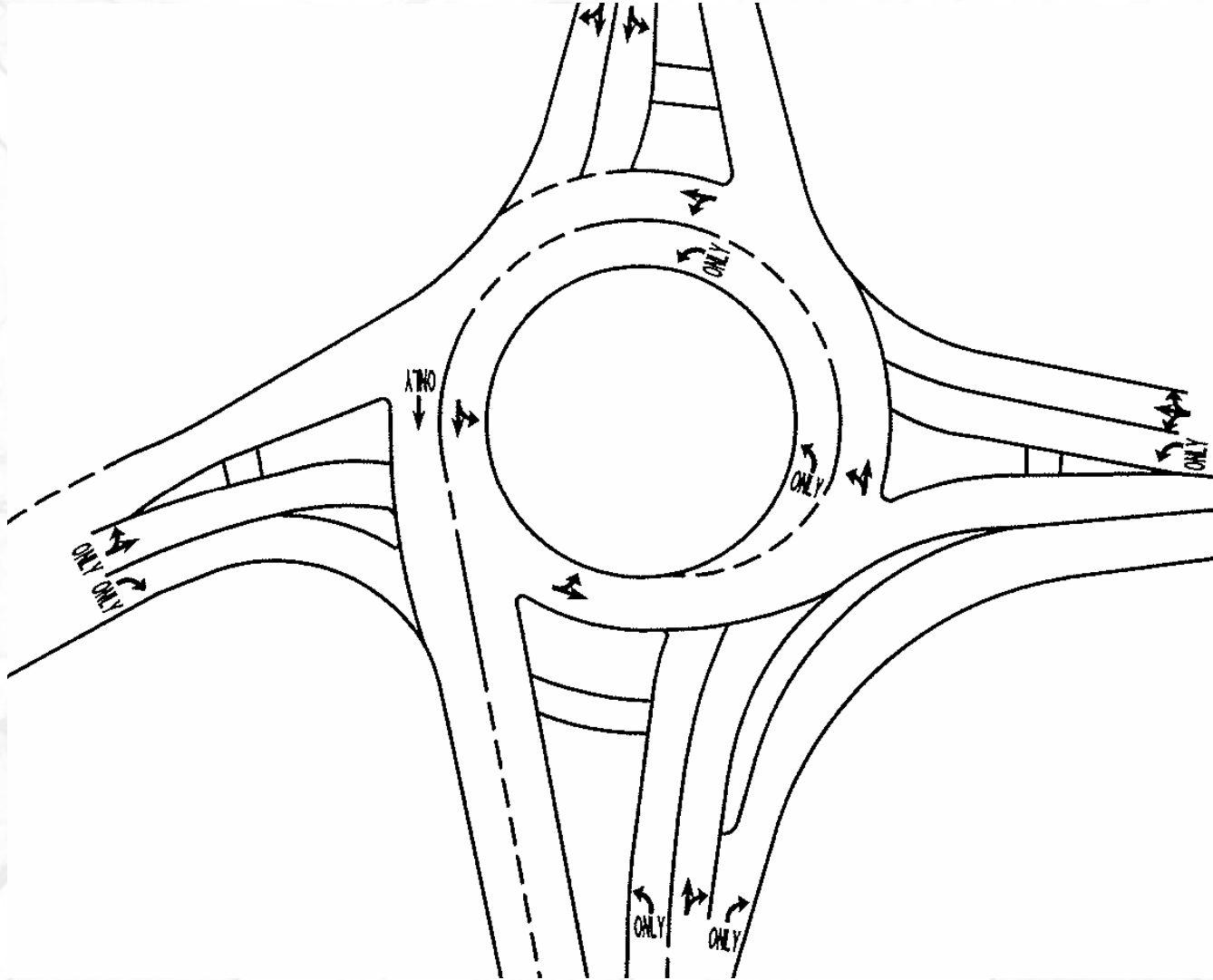
Steps to Avoid: Camelbacks (Single Lane RB)



Steps to Avoid: Path Overlap



Steps to Avoid: Weaving in RB



Steps to Avoid: Roadway Surprises!



Zack Matley, W-Trans

Steps to Avoid: Unexpected Braking



Dance Rules: Curbs Lead



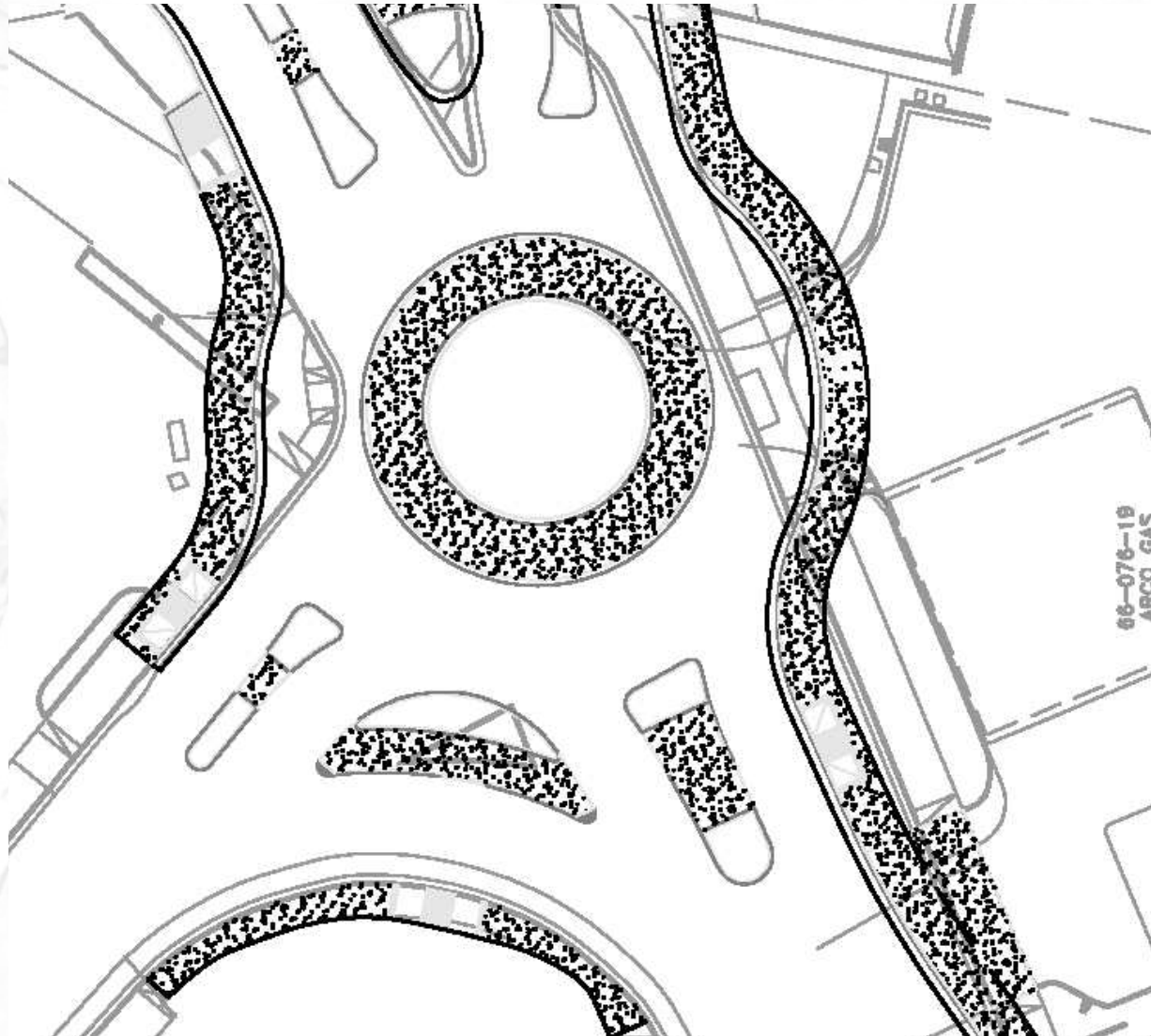
Graceful: Entry Radius & Arc Length



Case Study #1



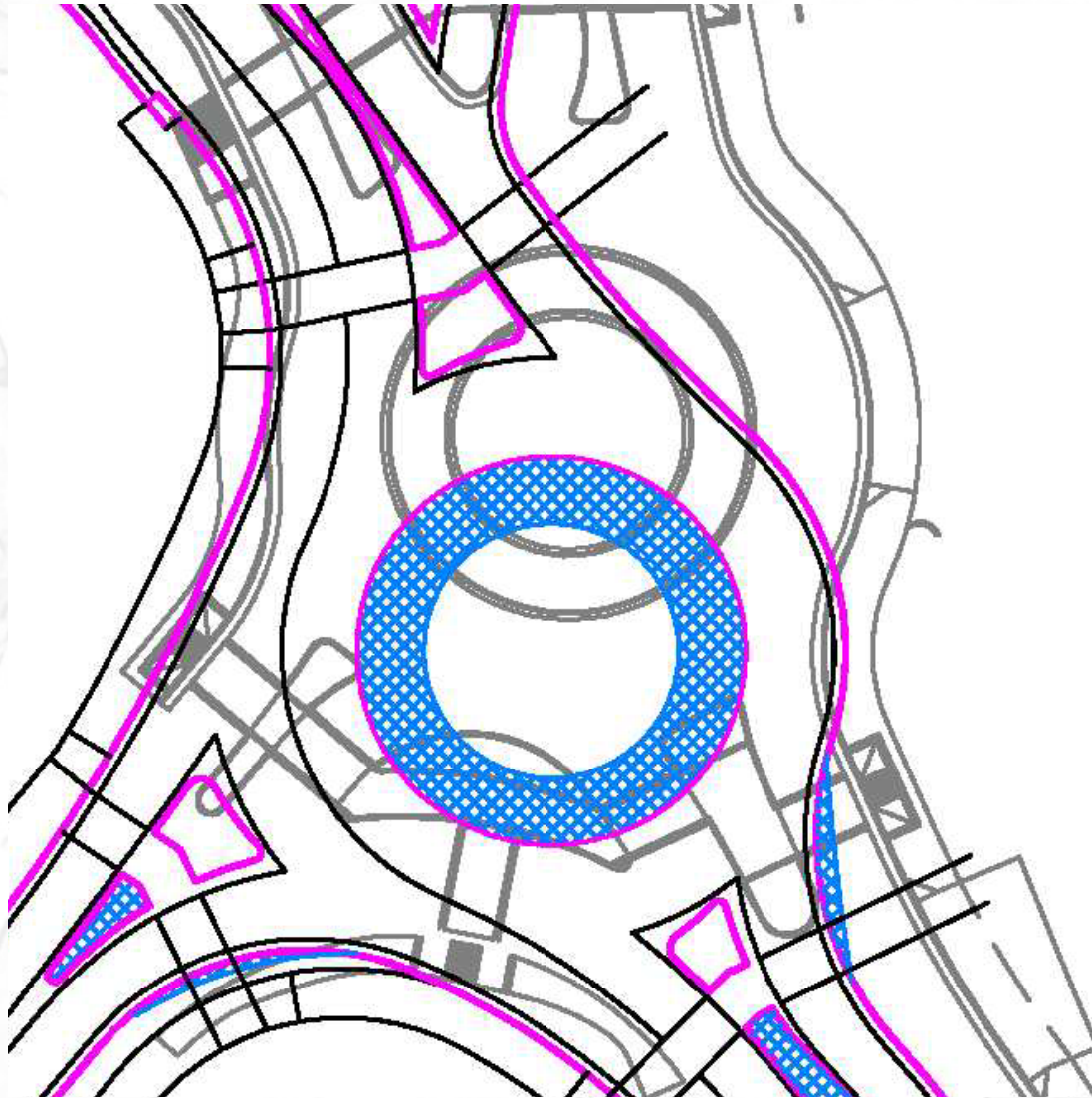
Case Study #1 – “Brake” Dance



Case Study #1 – Waltz



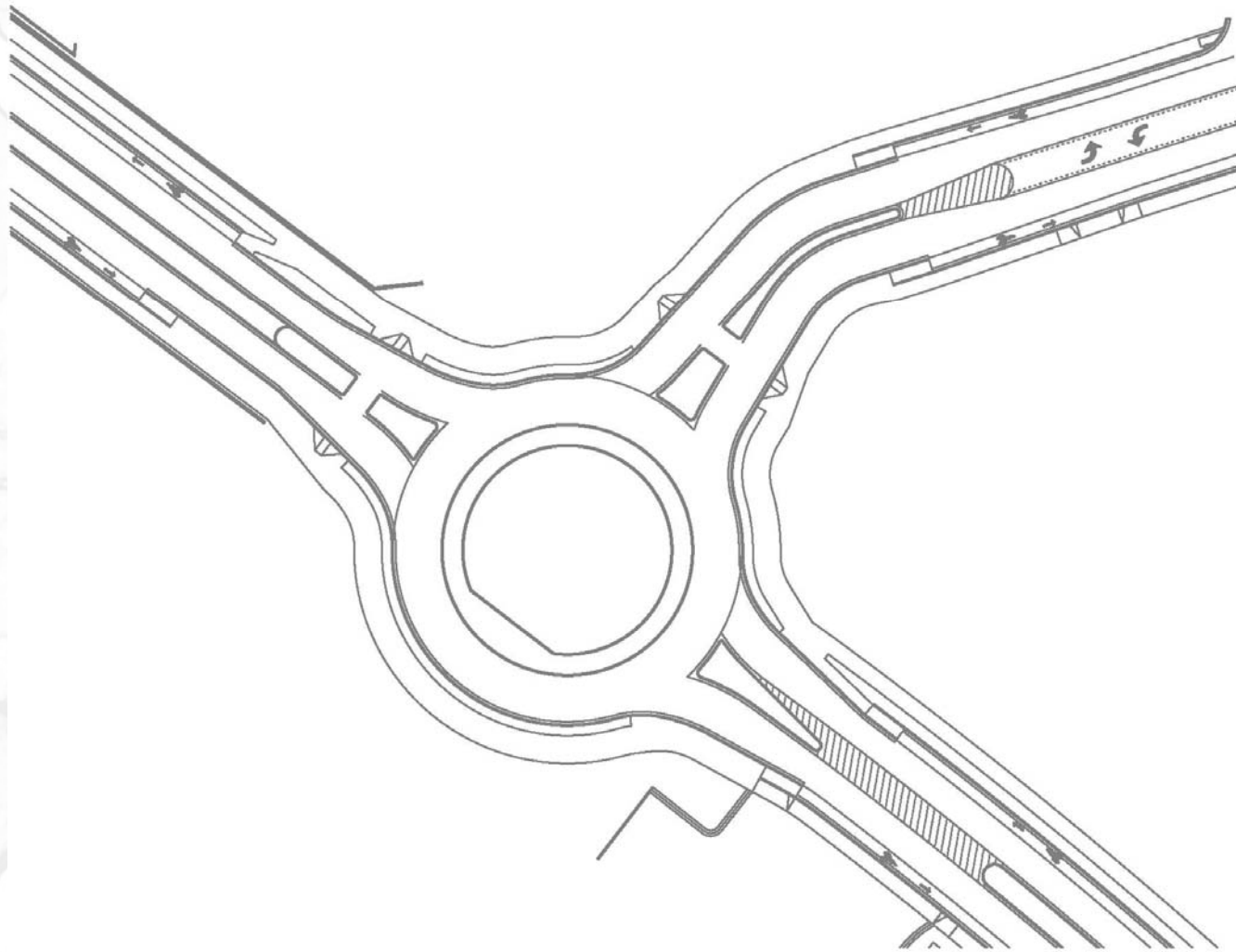
Case Study #1 – Waltz



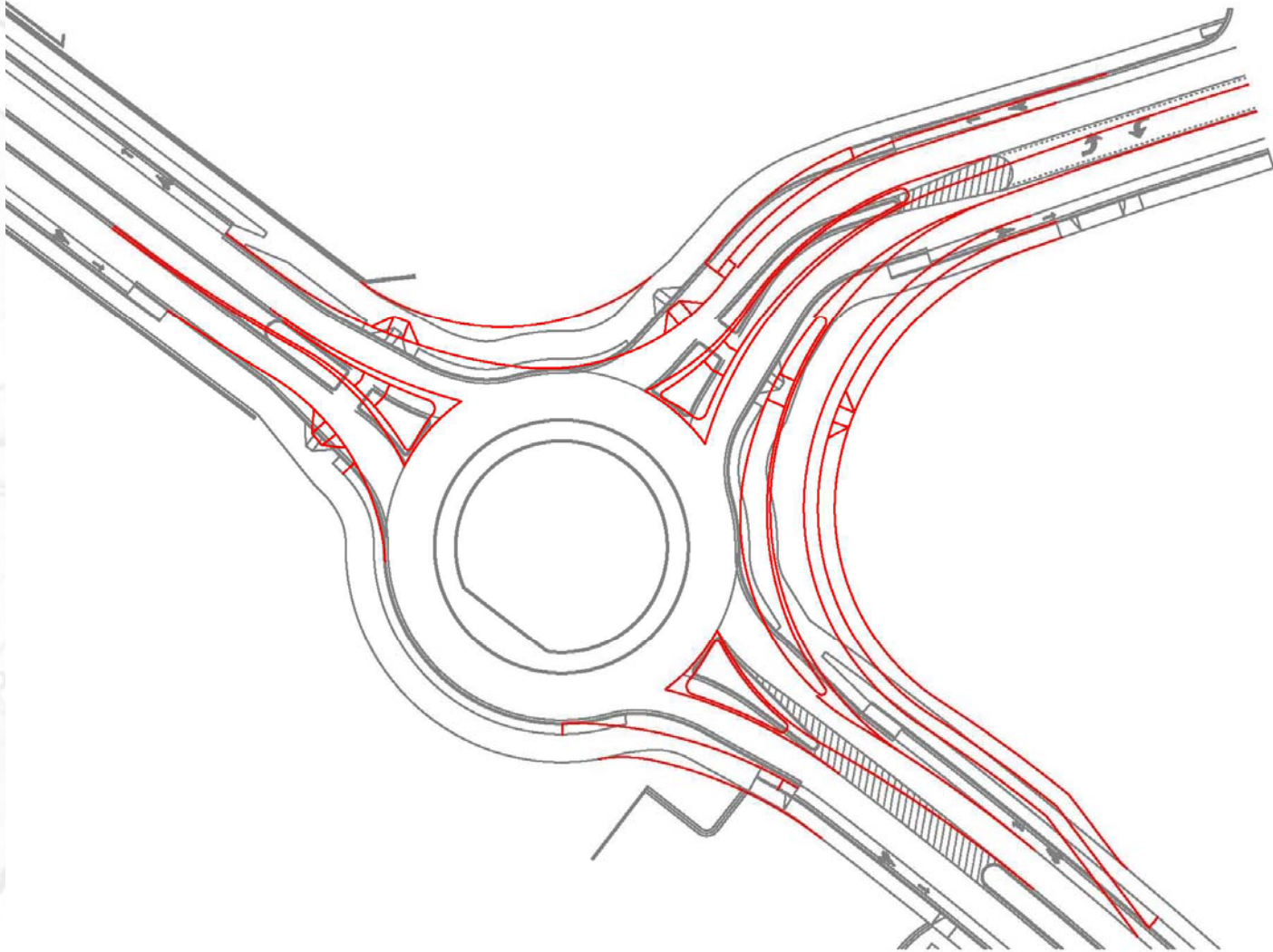
Case Study #2



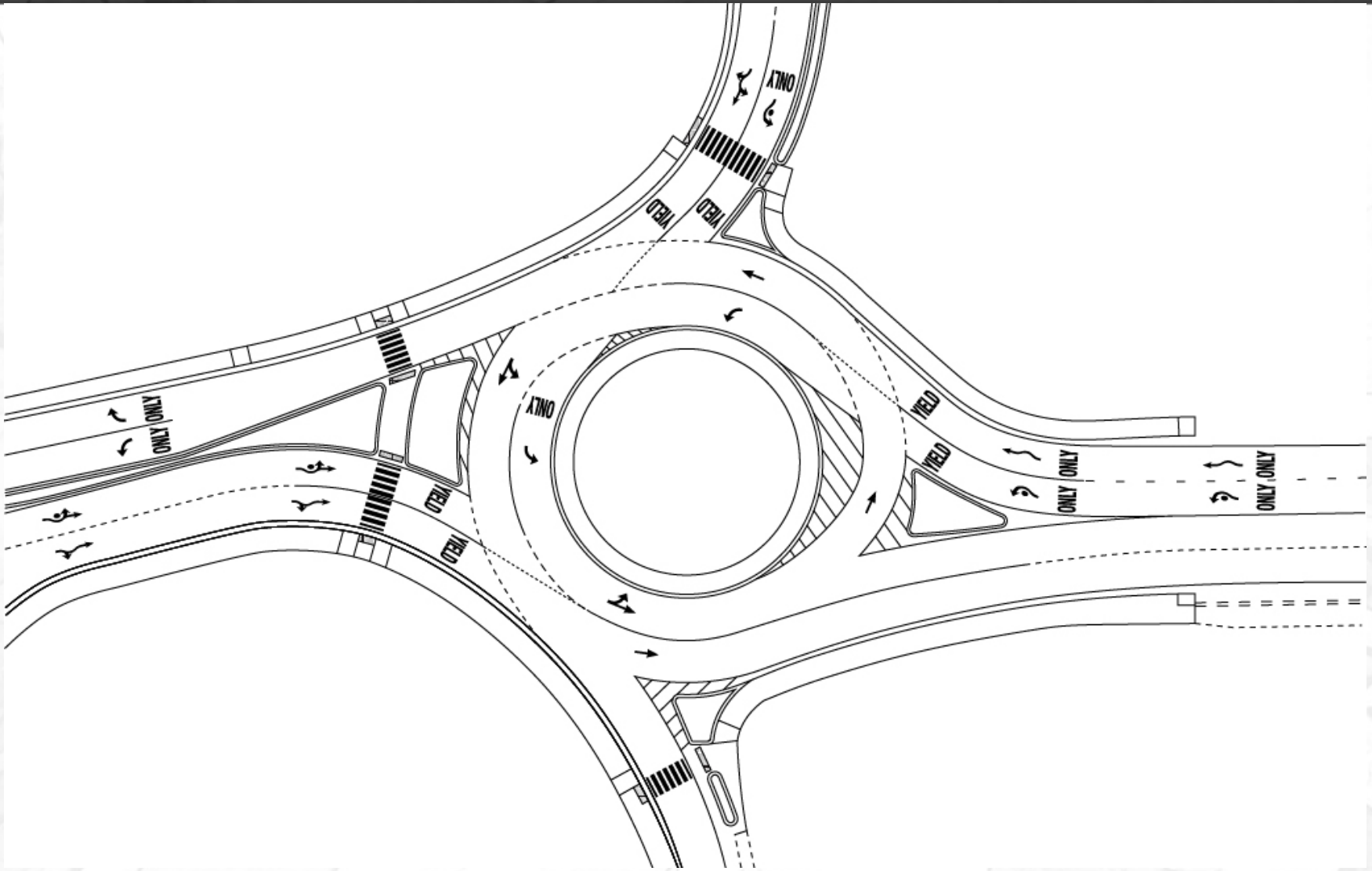
Case Study #2 – “Brake” Dance



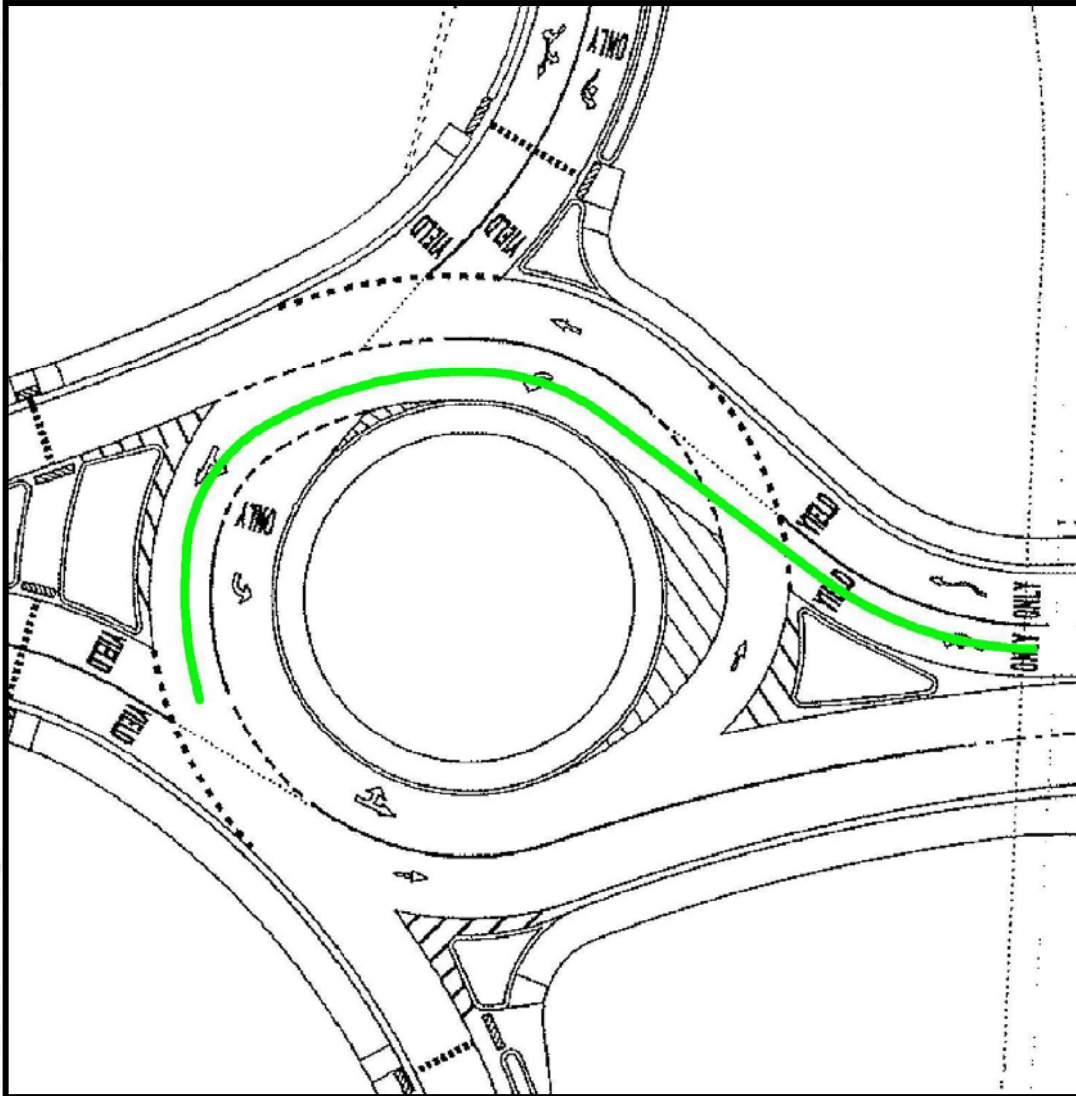
Case Study #2 – Waltz



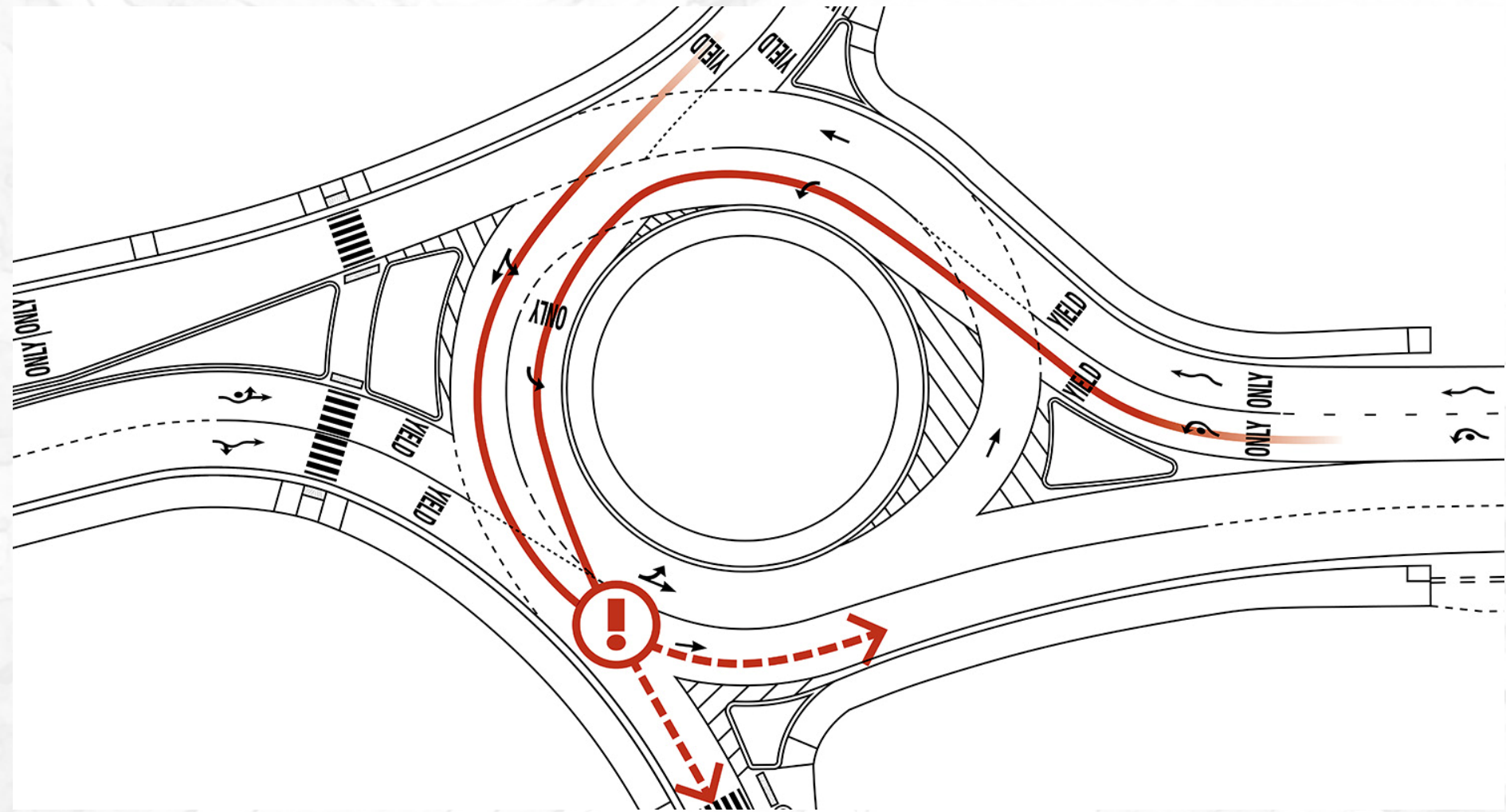
Case Study #3



Case Study #3 – “Brake” Dance



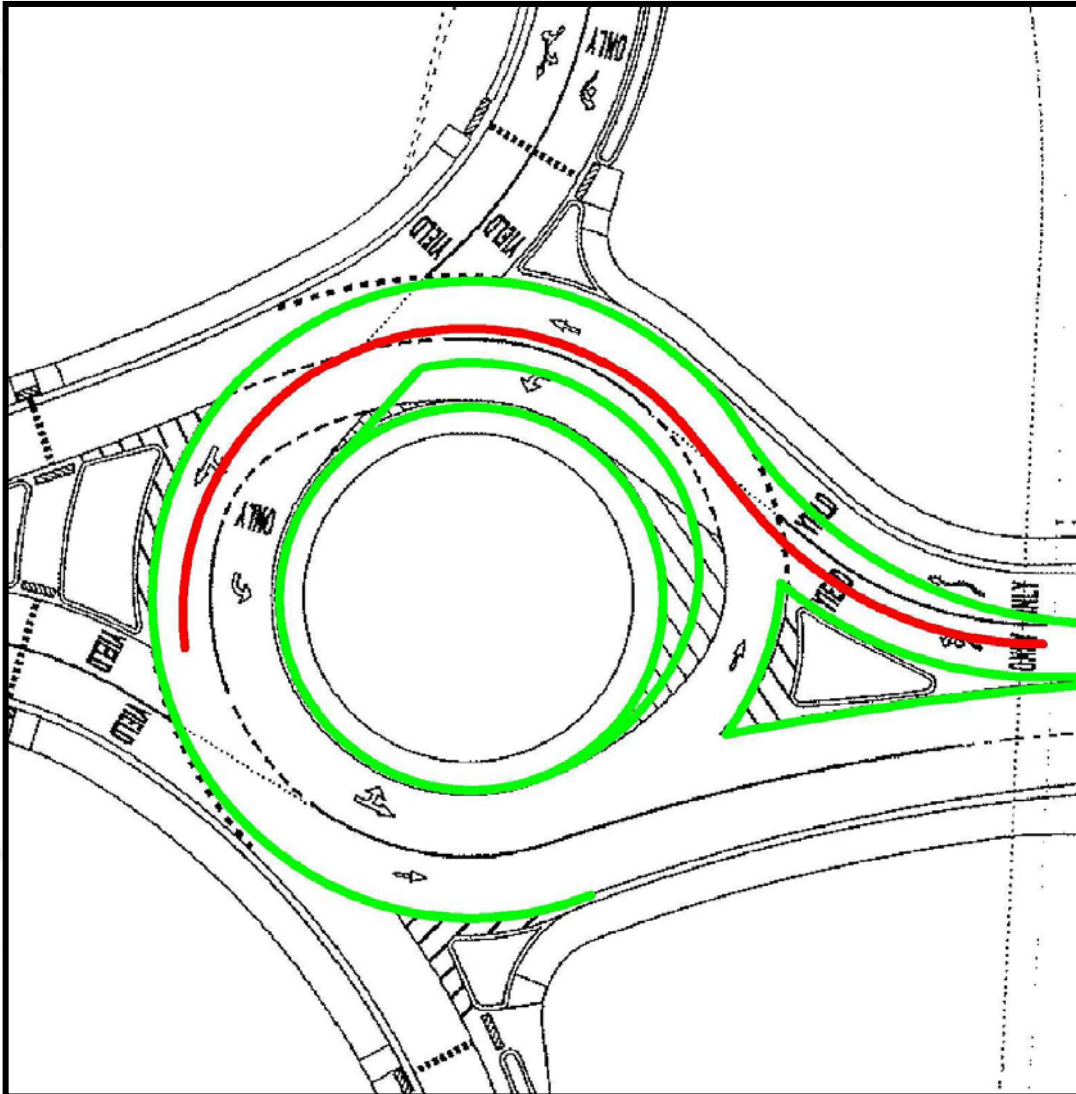
Case Study #3 – “Brake” Dance



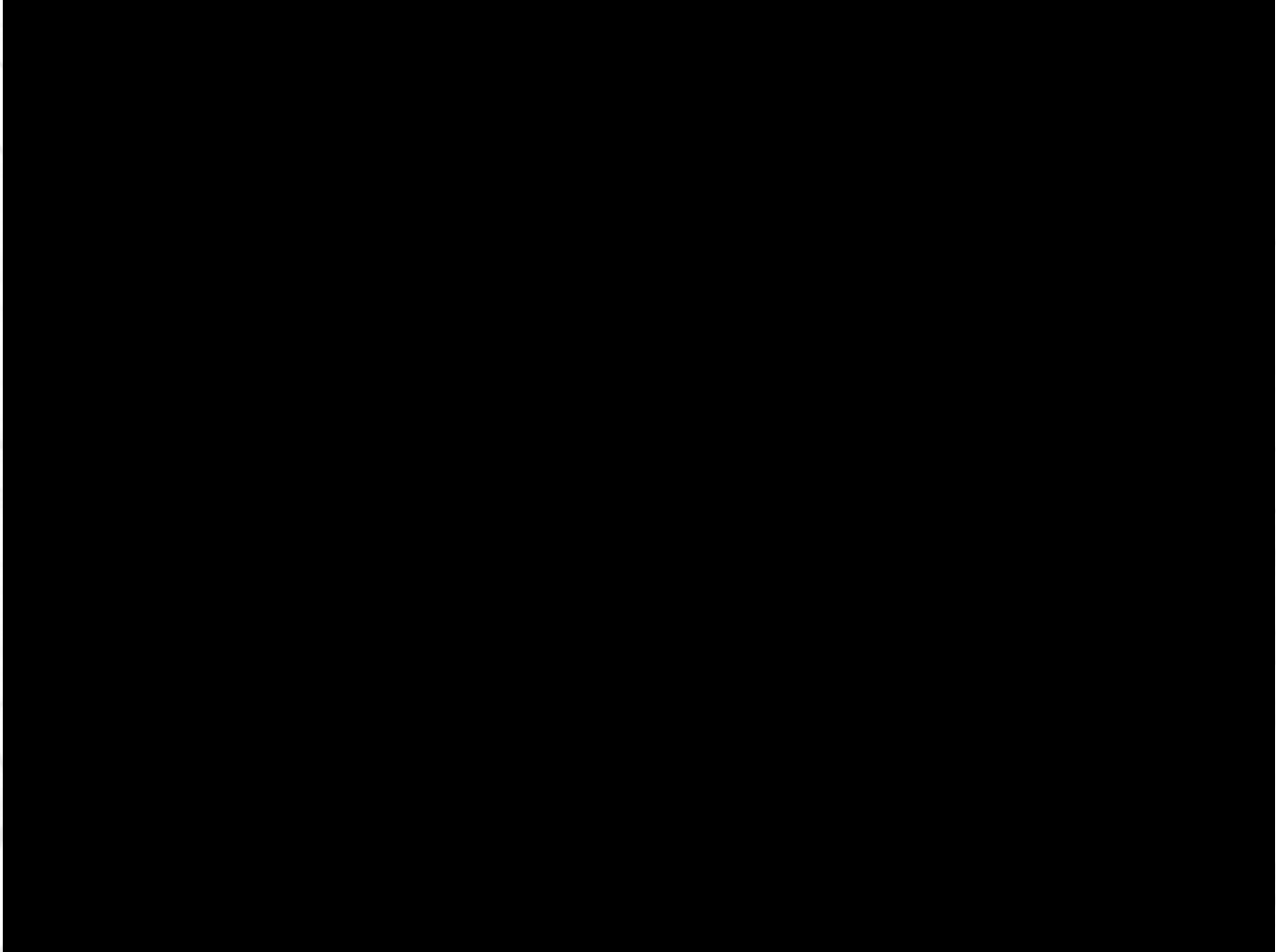
Case Study #3 – “Brake” Dance



Case Study #3 - Waltz



Case Study #3 - Waltz



Benefits of the Waltz

- Good Speed Control
- Proper Deflection
- Fluid Drive Paths

Produces a safe and efficient roundabout for all users (vehicles, bicycles, pedestrians).

QUESTIONS?????

