

Lecture 6:

Street Design Policies

What is a Complete Street?



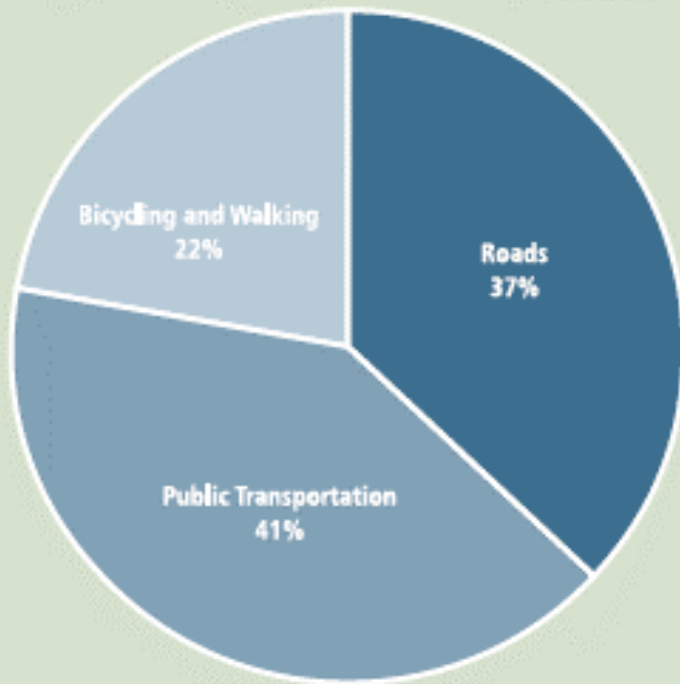
A Complete Street is safe, comfortable & convenient for travel via automobile, foot, bicycle, & transit

Complete Streets policies provide for all users



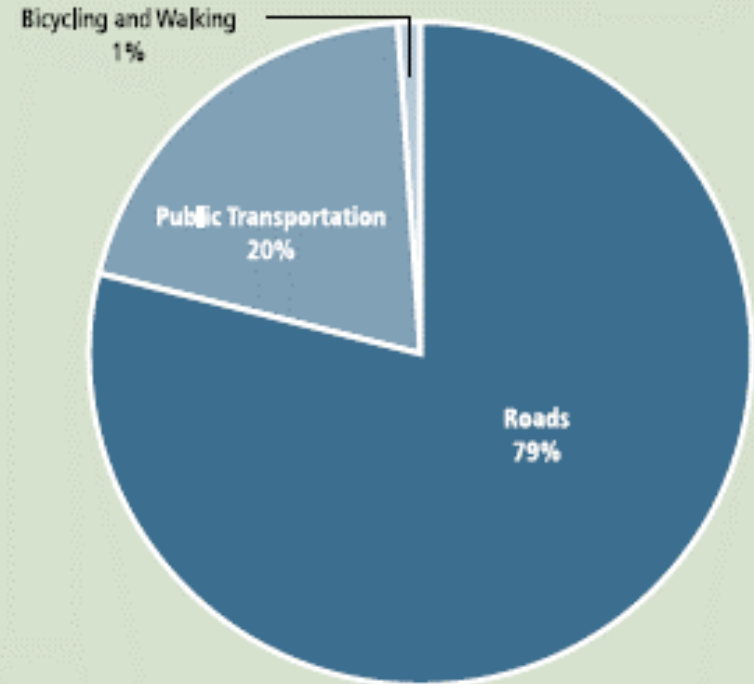
Americans want complete streets

How Respondents Would Allocate Transportation Funding



Roads 37%
Public Trans 41%
Bike/walk 22%

How Transportation Funding is Currently Allocated



Roads 79%
Public Trans 20%
Bike/walk 1%

From Active Transportation for America: the case for Increased federal investment in bicycling and walking. RTC 2008

How CS changes the built environment



CS changes intersection design



CS changes intersection design



CS changes bicycling



CS changes bicycling



CS changes transit



CS changes transit



CS changes accessibility



CS changes accessibility

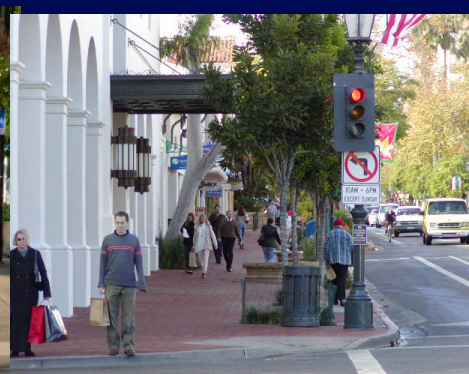


An ideal complete streets policy

1. Sets a **vision**
2. Includes **all modes**
3. Emphasizes **connectivity**
4. Applies to **all transportation projects & phases**
5. Adoptable by **all agencies** to cover **all roads**
6. Specifies and limits **exceptions**, with **management approval** required
7. Uses latest design standards & **is flexible**
8. Is **context-sensitive**
9. Sets **performance standards**
10. Includes **implementation** steps



Planning Living Streets



Living Streets Prioritize People, Not Cars



Historic Richmond, VA



Same Street Today



10 Principles of Living Streets



Living Streets integrate income equity into their design and function



For People of all Ages and Abilities



Ped-oriented design



Living streets connect people through everyday interaction and shared responsibility to street design and planning.

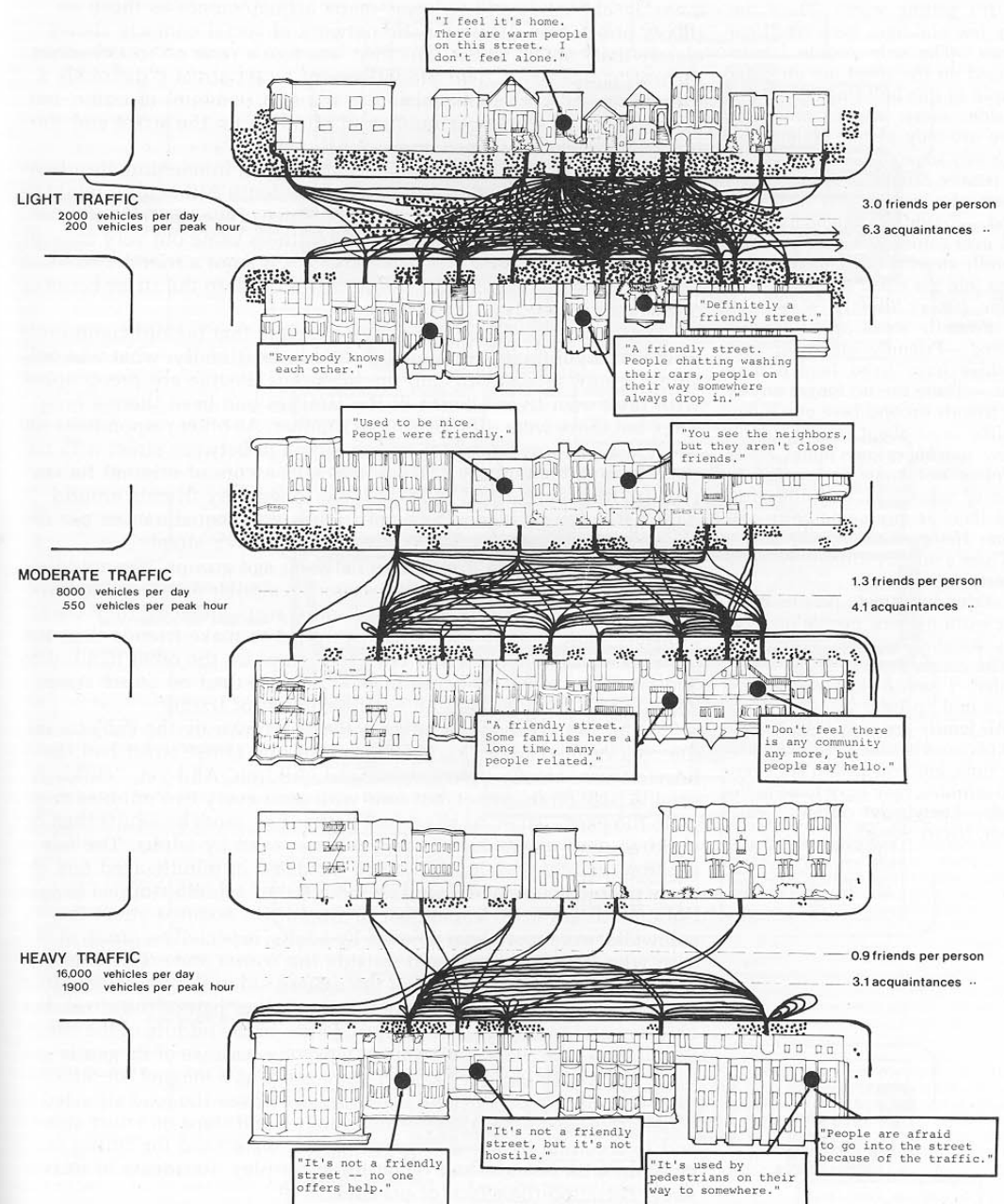


FIGURE 3.
San Francisco. Neighboring and visiting on three streets: lines show where people said they had friends or acquaintances. Dots show where people are said to gather

Enhance neighborhoods



Active life styles



Green management





Inviting Places



Support Healthy Commerce



Varied in Character



Traffic Calming

- Vertical deflection
- Horizontal deflection
- Horizontal narrowing
- Other techniques

Traffic Calming

Vertical Deflection

- Speed humps
- Raised crosswalks
- Speed tables
- Raised intersections
- Texture or rumble bars

Horizontal Deflection

- Median barriers
- Medians or center islands
- Chicanes
- Neighborhood traffic circles
- Roundabouts
- Realigned intersections
- Combined measures

Horizontal Narrowing

- Chokers
- Gateways
- Road diets

Other

- Tree canopy
- Speed-sensitive signals
- Partial diverters
- Shared streets
- Street closures

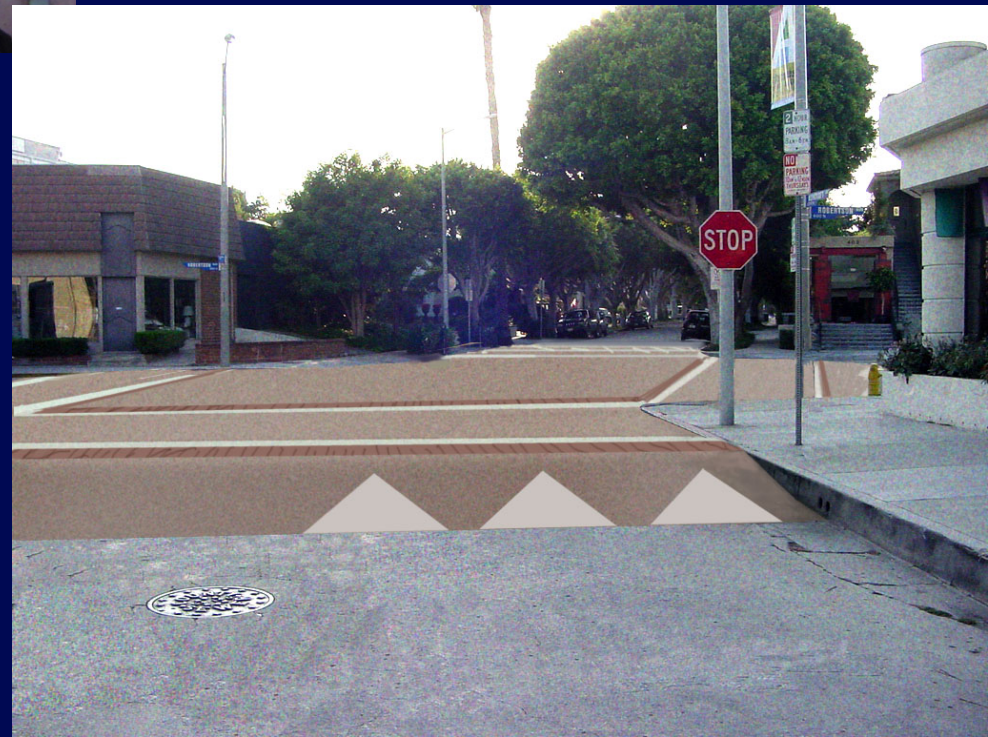
Traffic Calming

- Cross-section measures calm traffic with uniform linear treatment; Reduction in lanes, widths, bike lanes, medians, etc.
- Periodic measures calm with interspersed features; roundabouts, circles, curb extensions, chicanes, raised crosswalks, etc.



Raised crosswalk/
Speed Table

Raised intersection



Rumble Bars





Median and median barrier island

Choker



Realigned Intersections



Chicanes





Combined Measures



Gateway





SAN PEDRO

Cesar E. Chavez

HISTORIC
U.S.
66
ROUTE
1936-1978

Roundabout





A roundabout is a type of intersection control



A roundabout is not:

1. A New England style rotary, with large size & high speeds



A roundabout is not:
2. A Washington DC style circle, with traffic signal controls



A roundabout is not:
3. A traffic-calming mini circle



A roundabout is not: 4. Paris

Why roundabouts are safer for all users:

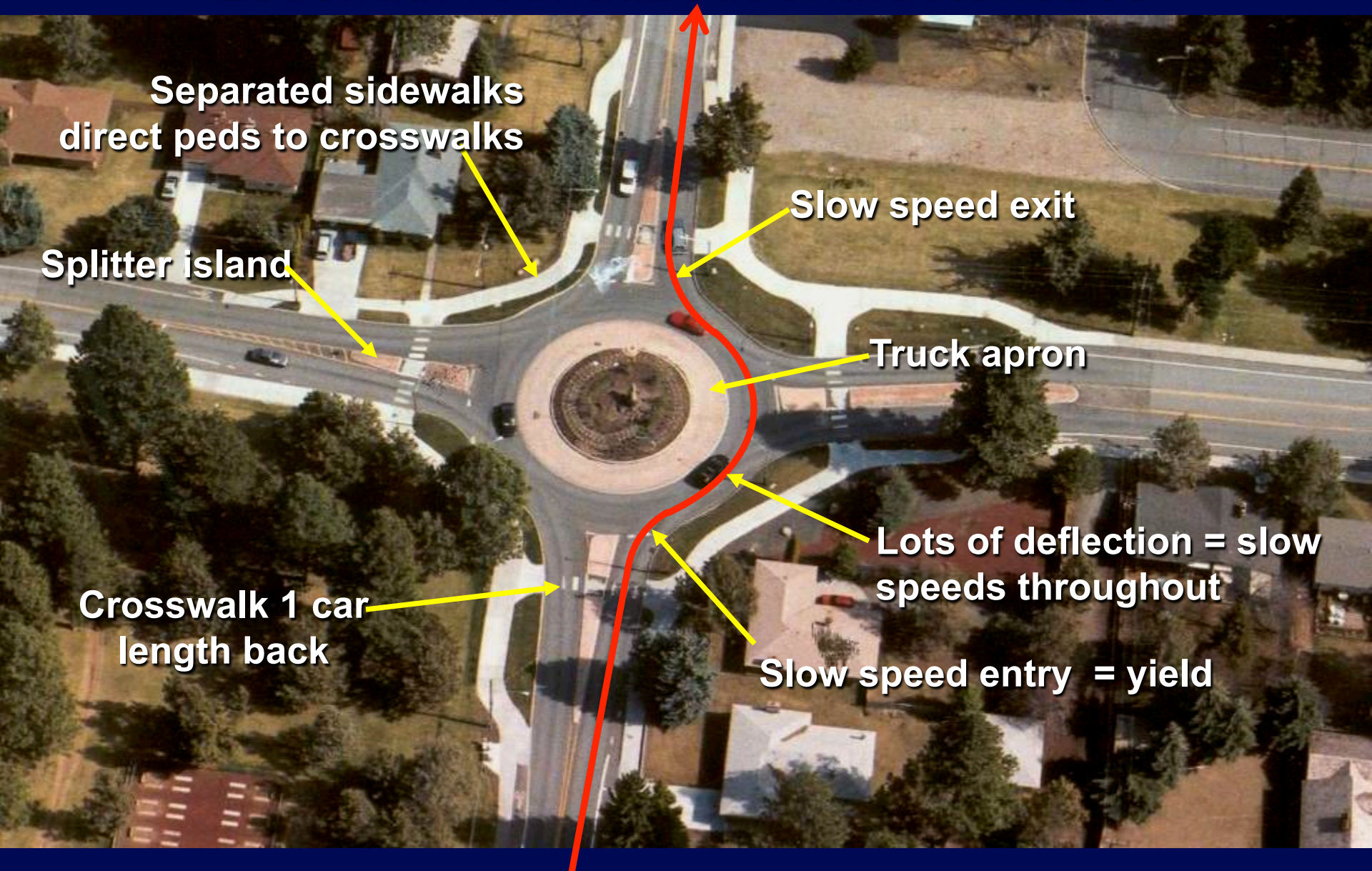
- Slow speed:
 - *Deflection, truck apron, splitter islands, “reverse super”*
- Reduced conflicts
- No left turns
- Yield on entry



CRF (all users):

- About 54% overall
- 27% pedestrian crashes
- Up to 76% fatalities and serious injuries

Essential roundabout characteristics





Constrained entry slows drivers

Huntington NY

Designing for Pedestrian Safety
– Roundabouts



1. At entry lane

Well defined crossings & splitter islands



2. At exit lane

Well defined crossings & splitter islands

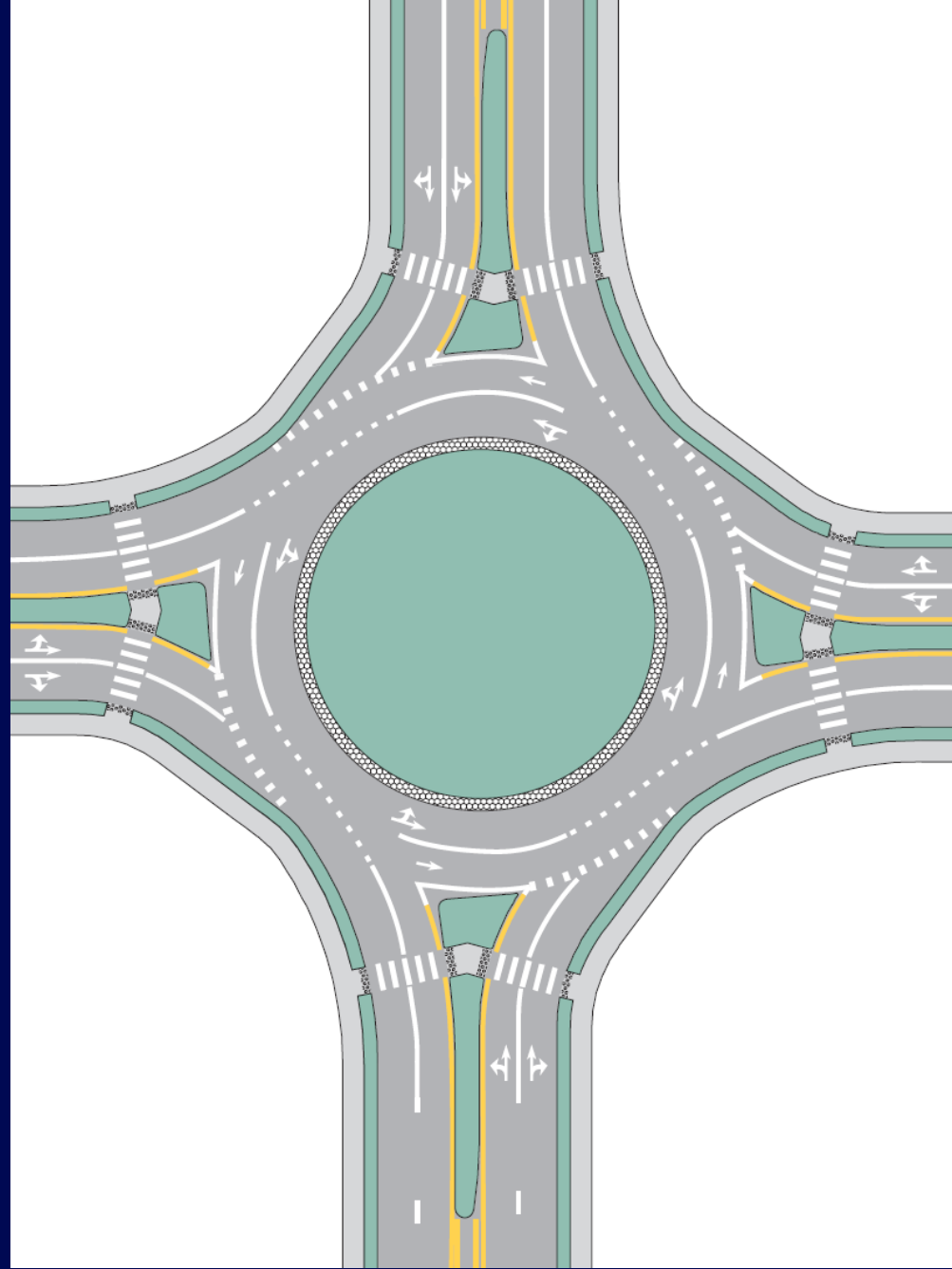


Truck apron keeps roadway narrower

Recommended striping for 2-lane roundabout

Lane striping
discourages “cheaters”

(Diagram from 2009 MUTCD)



Tree Canopy





SPEED
SENSITIVE
SIGNAL



FIELD LINE
PIONEER SUSPENSION



