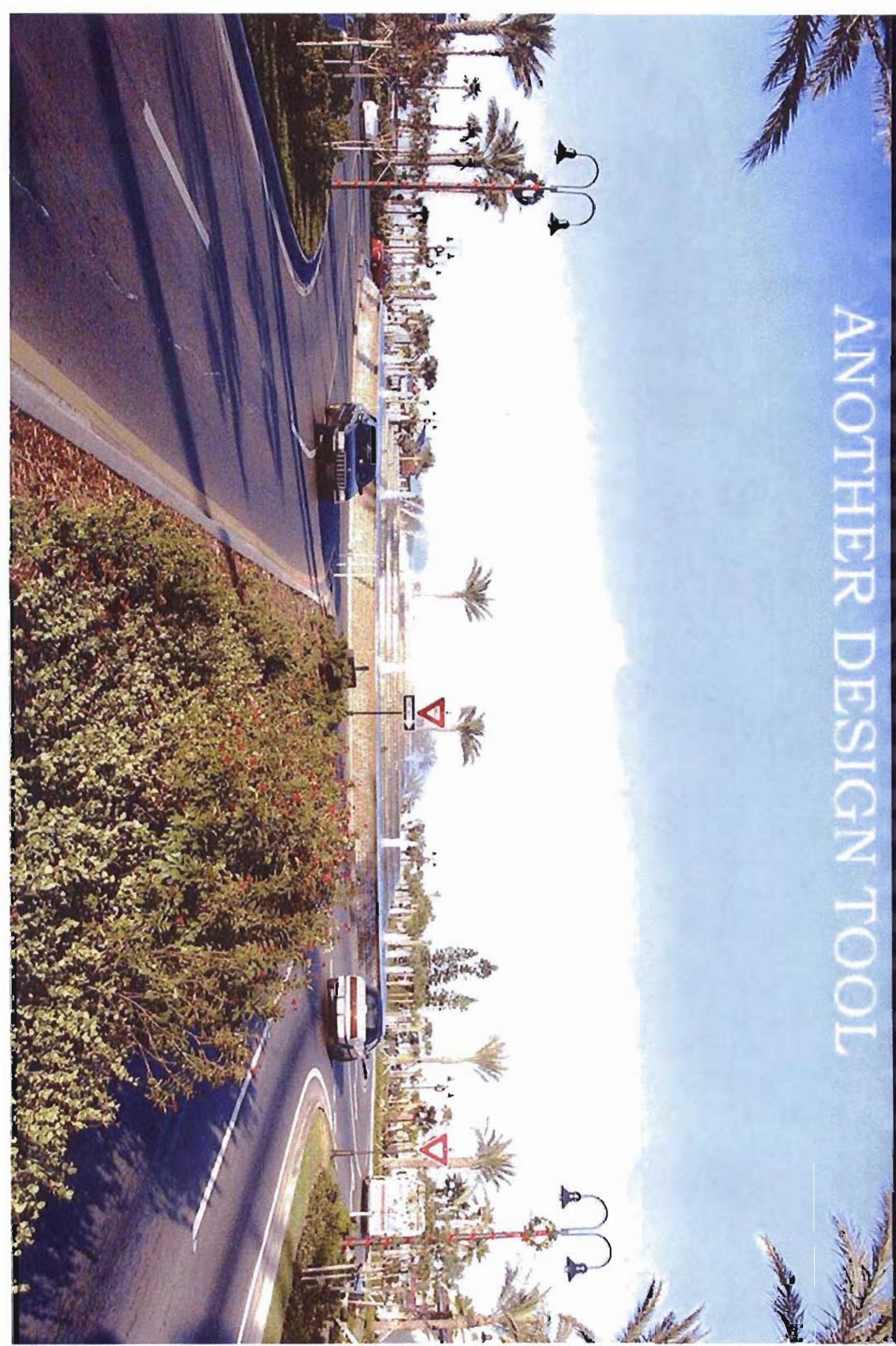


TAB 3

ROUNDABOUTS

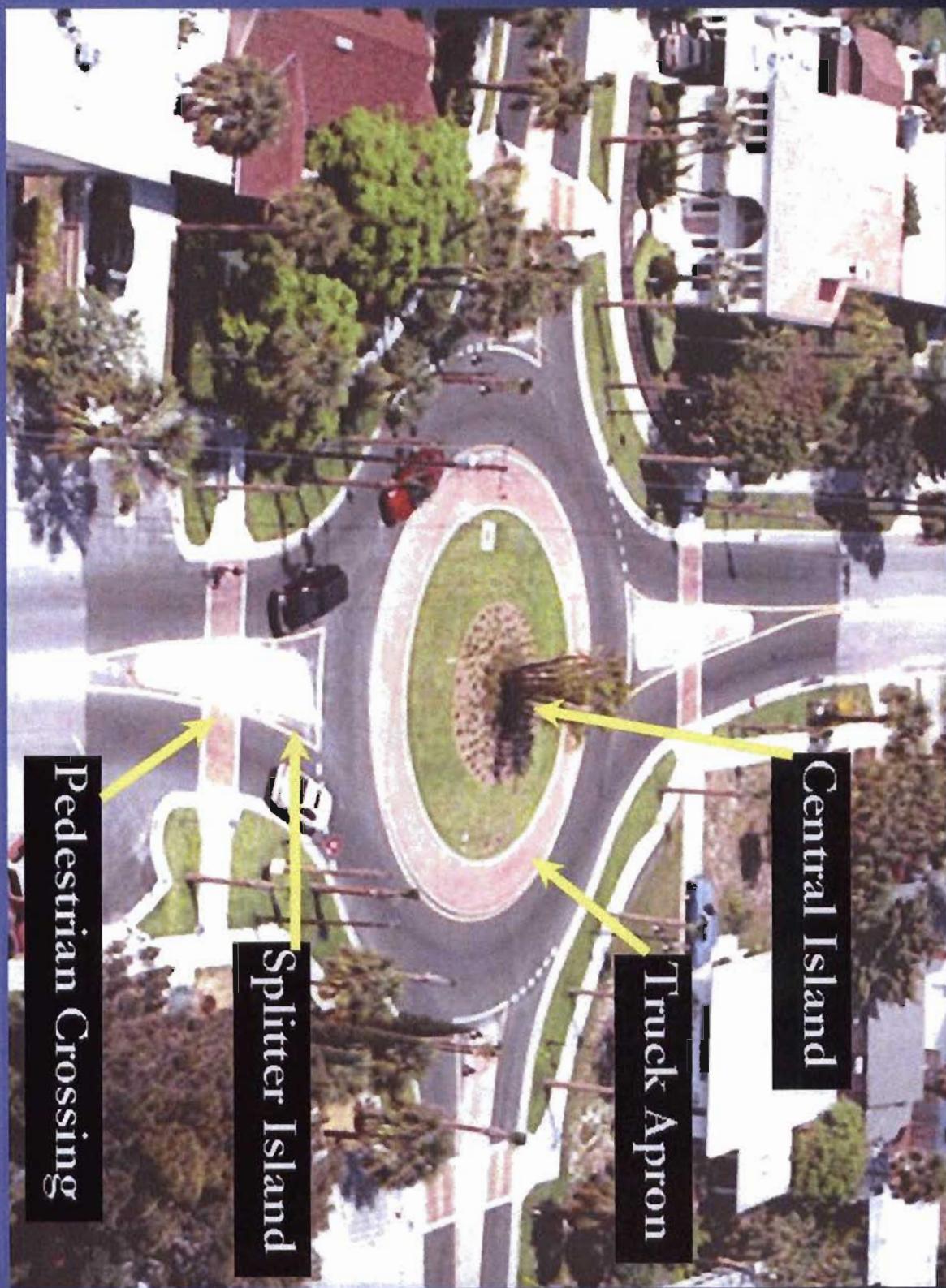
ANOTHER DESIGN TOOL



Why Use Roundabouts?

- Crash reduction
- Increase intersection capacity
- Reduce costs
- Beautify
- Reduce environment impact
- Speed control
- Fix bad or unusual intersections
- Reduce delay and travel time

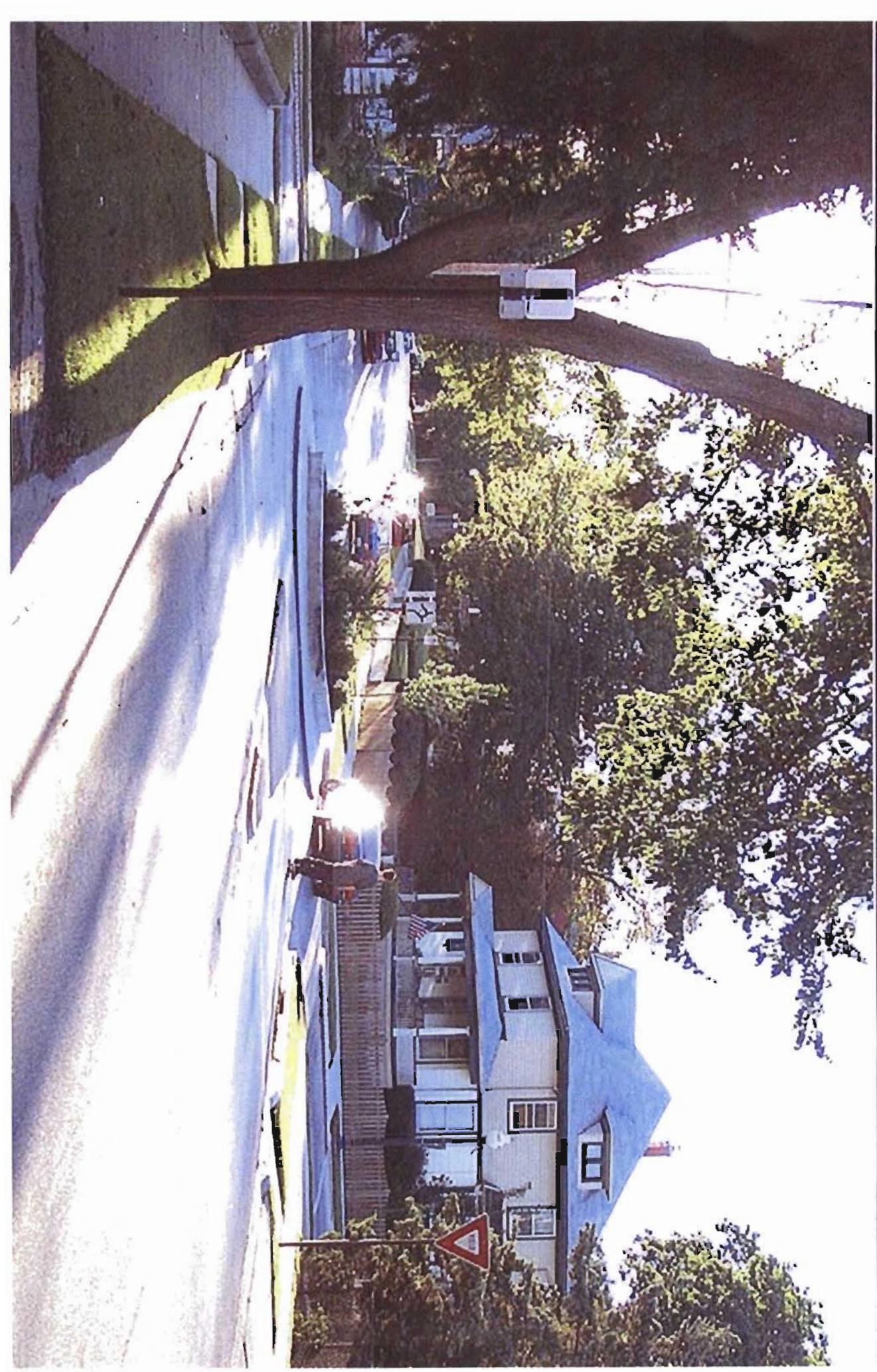
Roundabout Elements



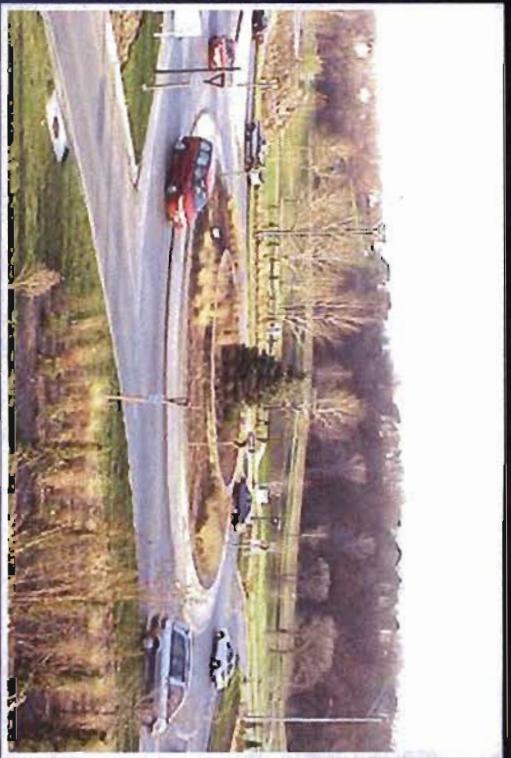
Very Small



Small
towns



Standard

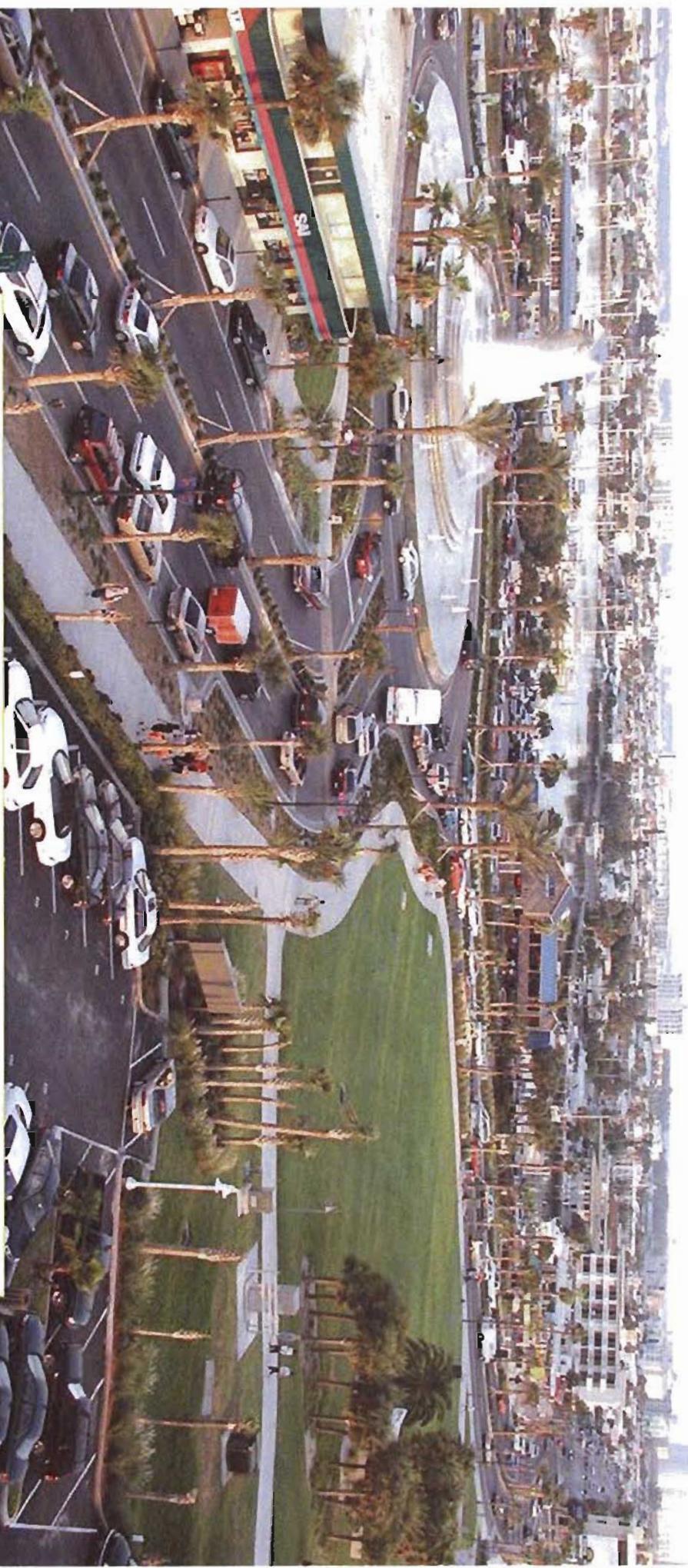


Mid-Sized



Large

58,000 vehicles and 6,000 pedestrians
per day



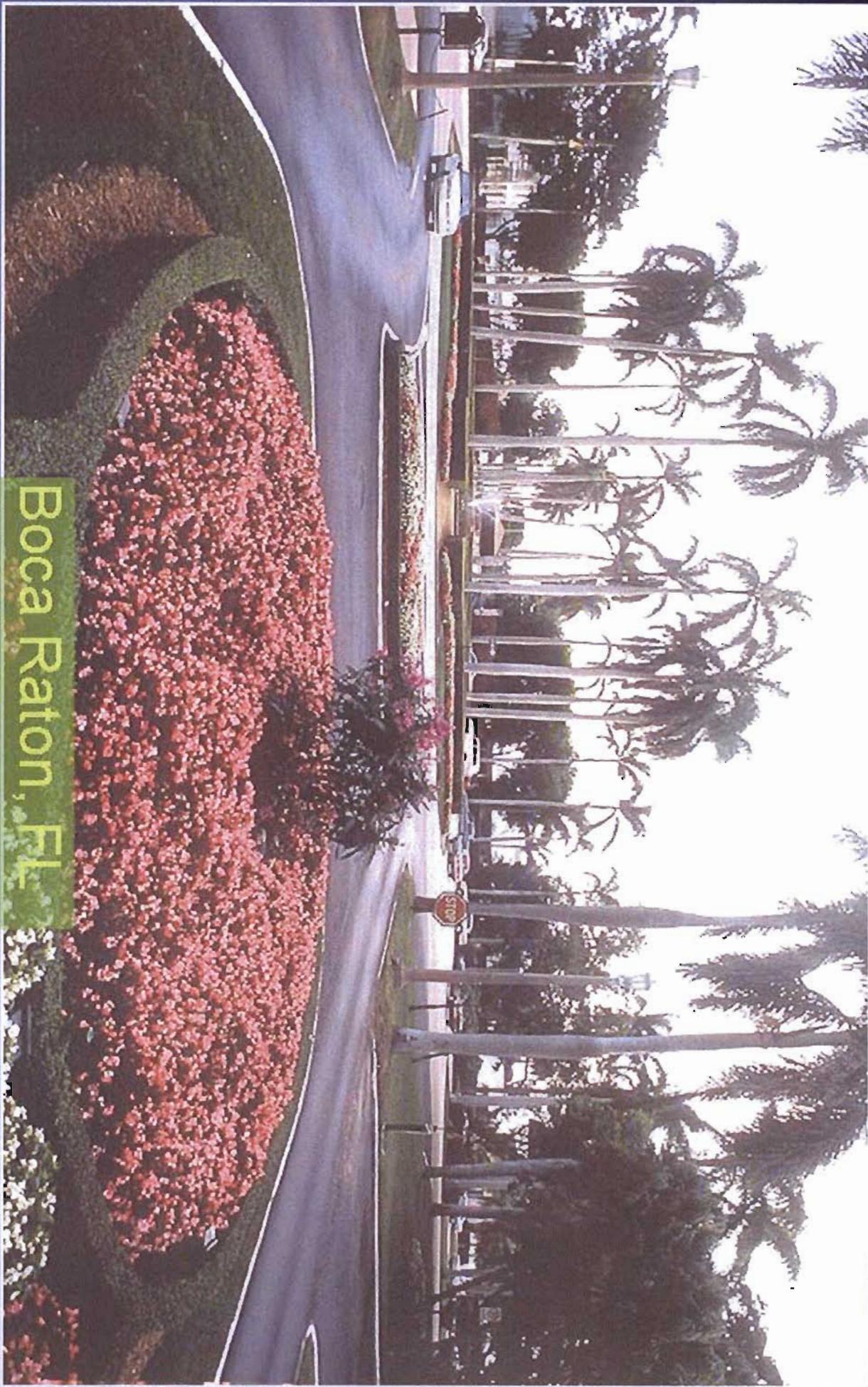
Plain

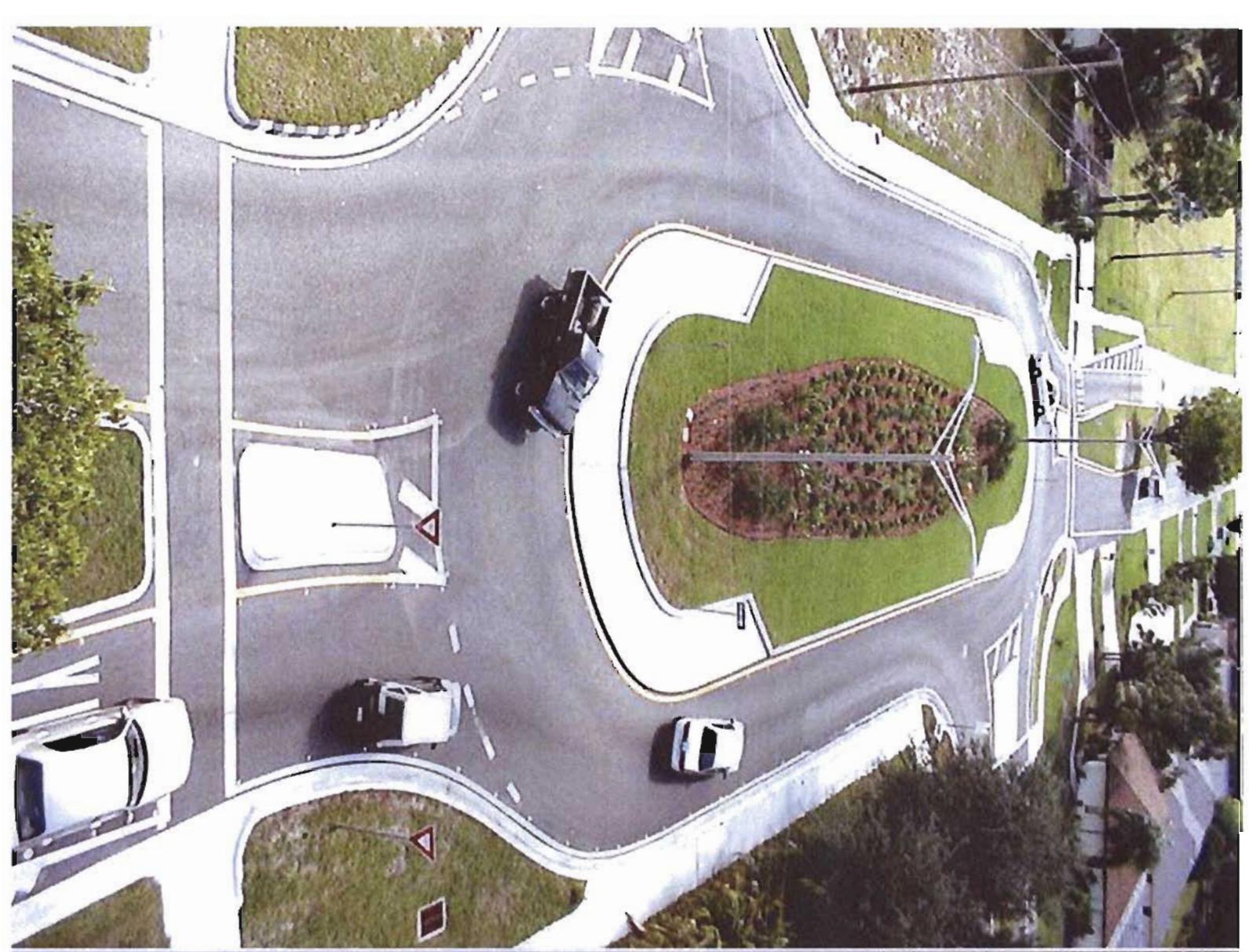
Interchange - Columbia, MO



Pretty

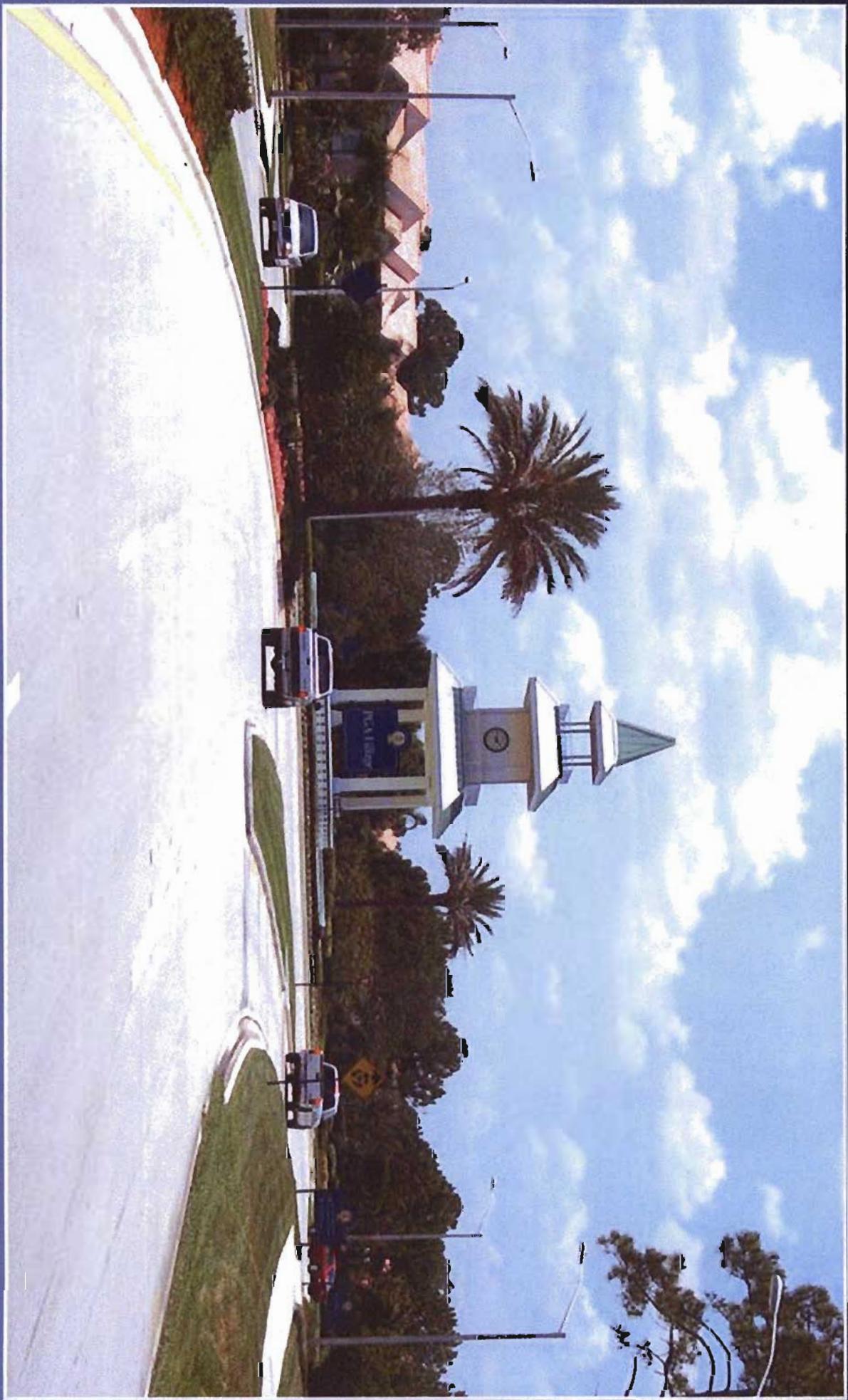
Boca Raton, FL





Unusual
-
Cape
Coral, FL

Outstanding



Coral Gables - Before

LOS F Signalized intersection



Coral Gables - After

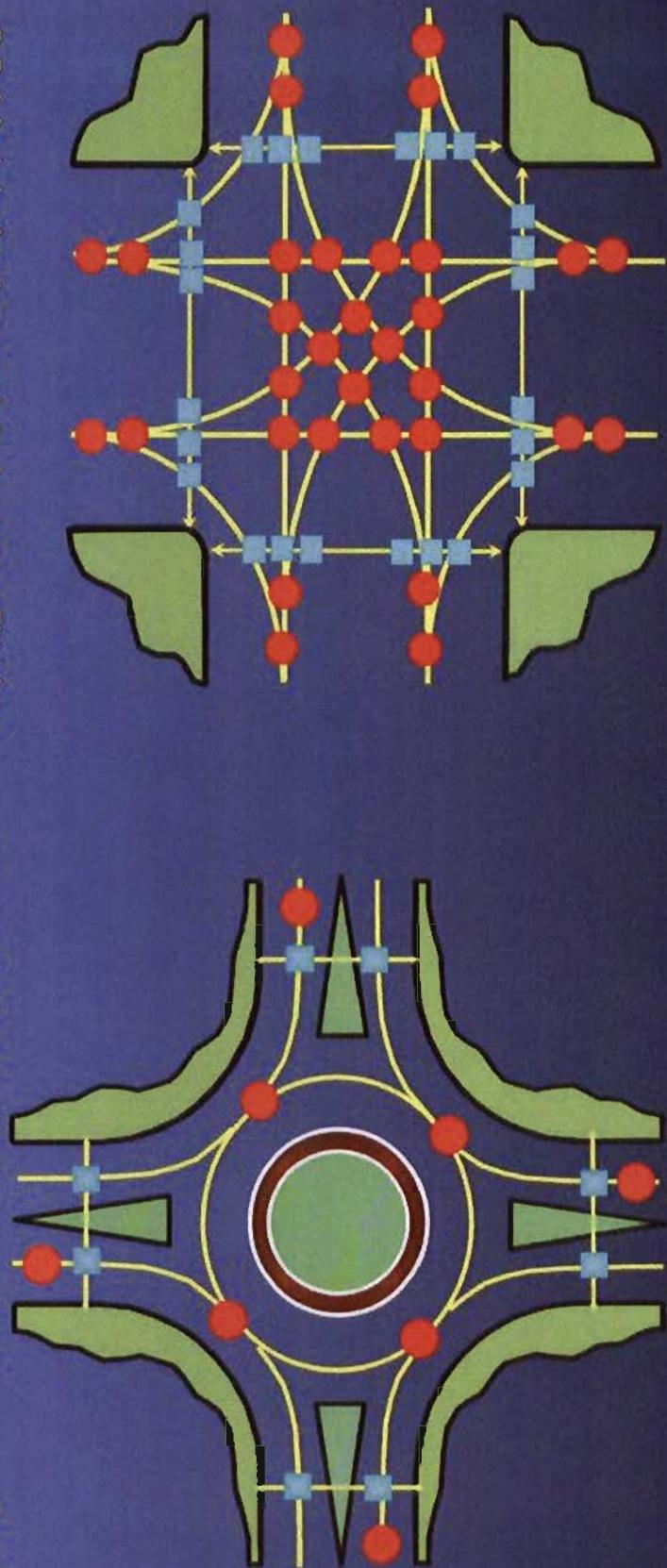
to LOS B Roundabout



Ground Level



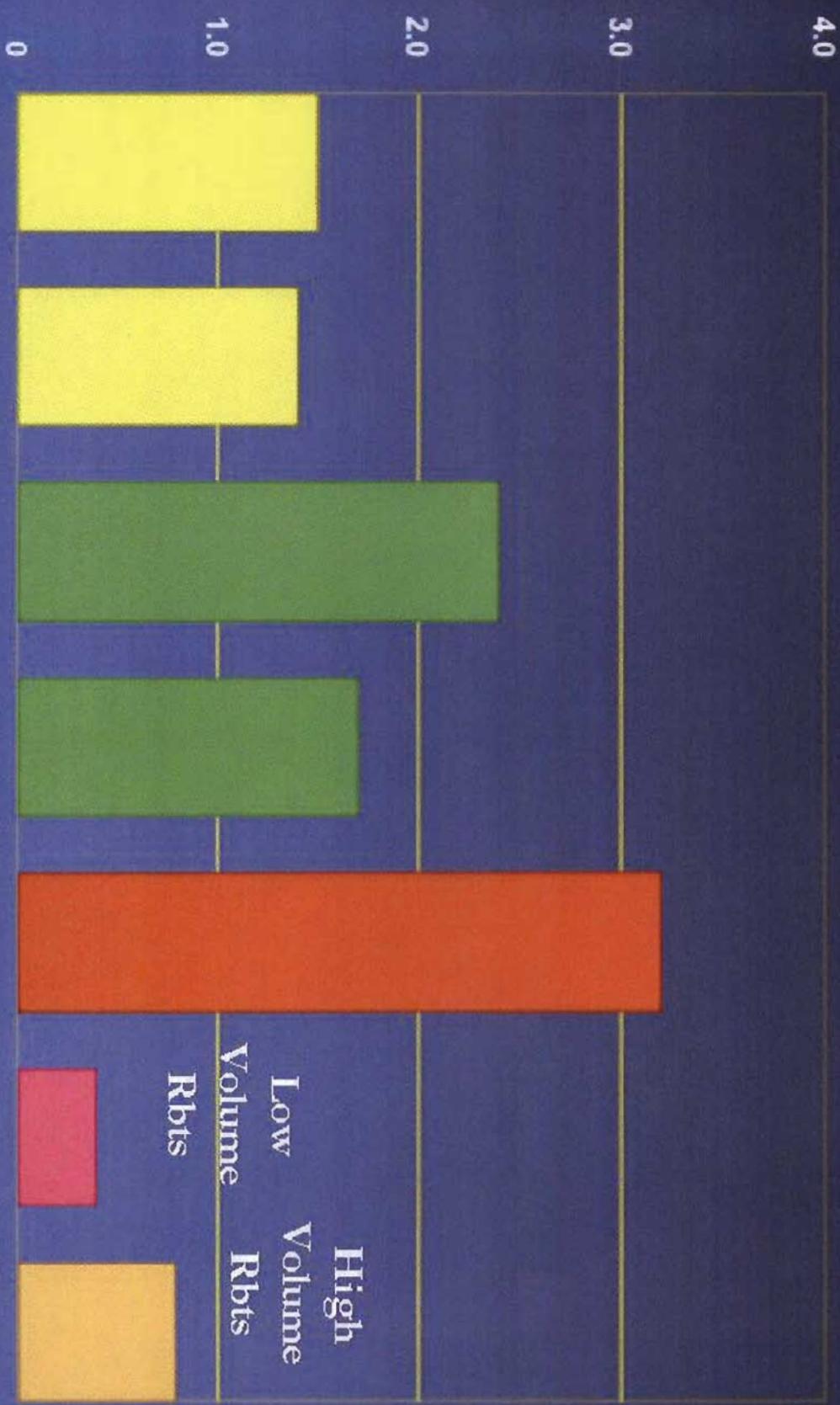
Fewer Conflicts



- 32 Vehicle to vehicle conflicts
- 24 Vehicle to pedestrian conflicts
- 8 Vehicle to vehicle conflicts
- 8 Vehicle to pedestrian conflicts

If we compare crash rates

Crashes per Million Vehicles



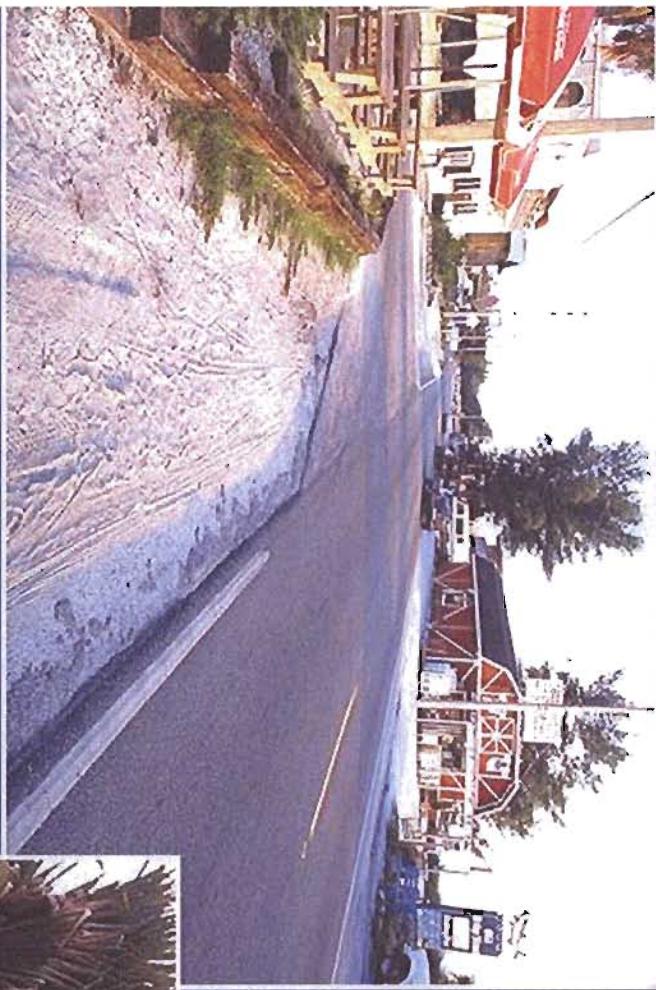
Roundabout Safety United States

- Decrease in Crashes:
■ Overall: 39%
■ Injury-producing: 76%
■ Fatal or incapacitating: 90%

- "Crash Reductions Following Installation of Roundabouts in the United States"
B. Persaud et al., Insurance Institute for Highway Safety, March 2000

Bradenton Beach, FL - 17,000 vpd

Before Crashes



- 3 years
- 5 crashes
- 0 injury crashes

After Crashes

- 5.25 years
- 0 crashes
- 0 injury crashes



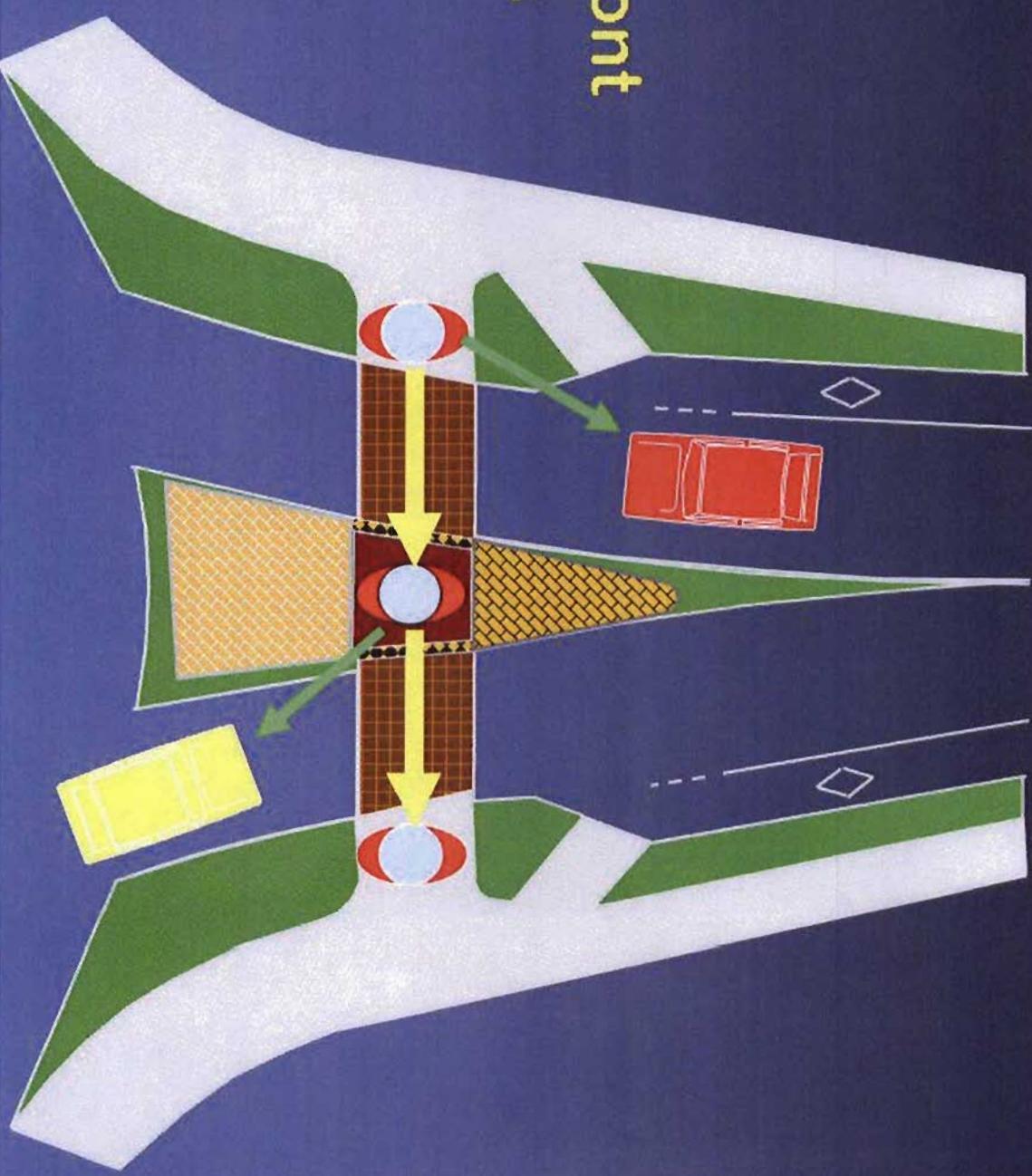
Pedestrians area safer - cross from curb
to island, island to curb

Look one-way,

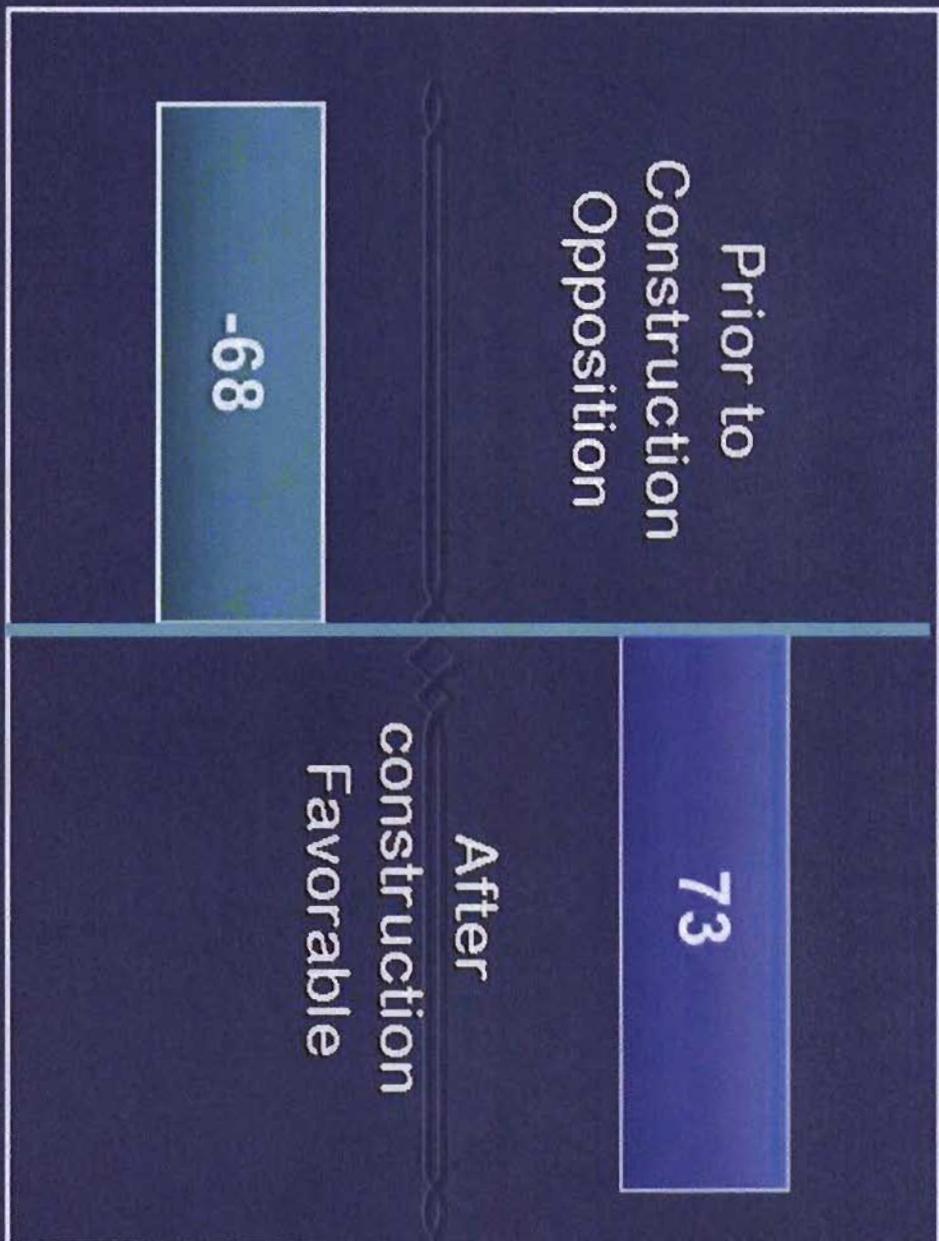
Slow cars

Walk behind
moving, or in front
of stopped cars

Do not walk in
front of moving
cars



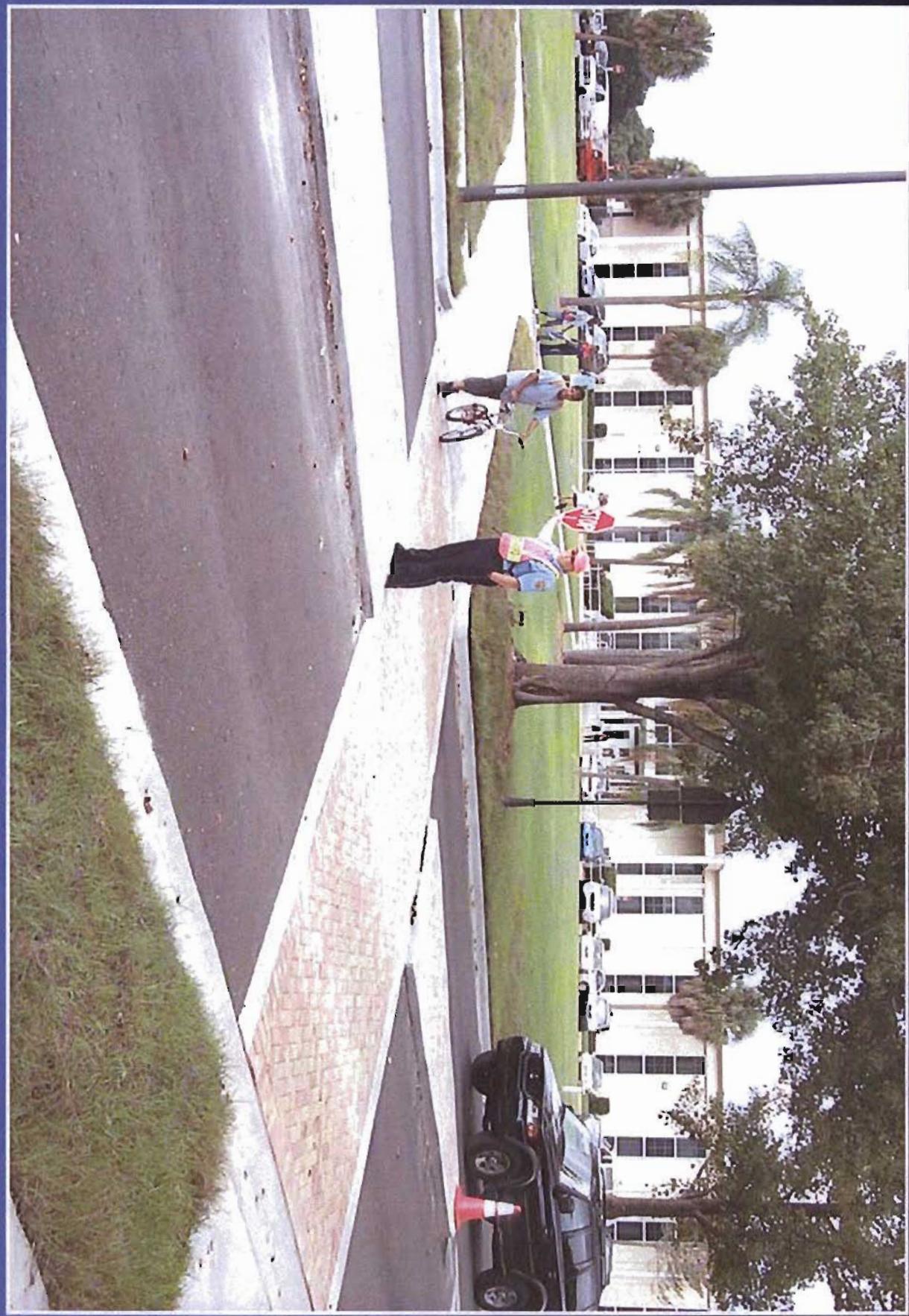
Acceptance



Public acceptance survey, US Roundabouts,

NCHRP 264

J.F. Kennedy Middle School Roundabout
Dismissal Observation 8/27/03

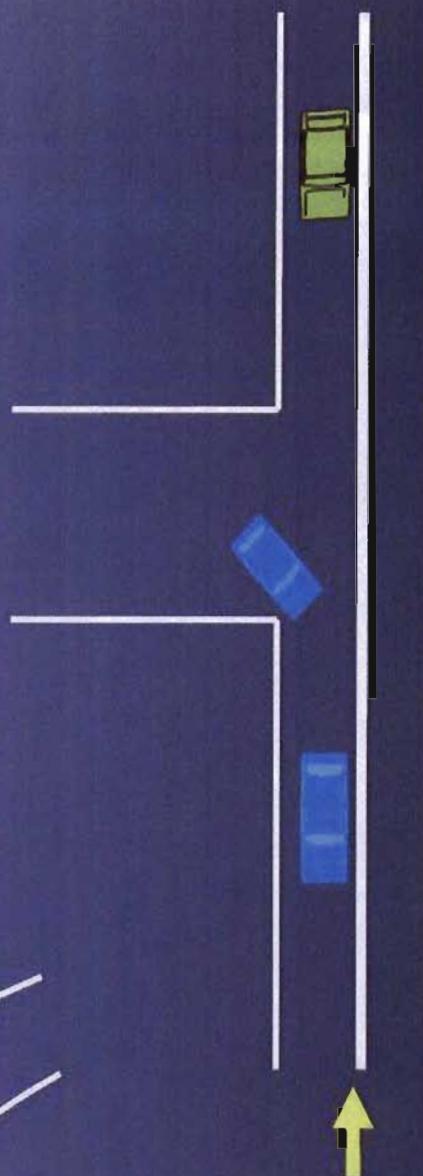


Elementary School Sacramento, CA

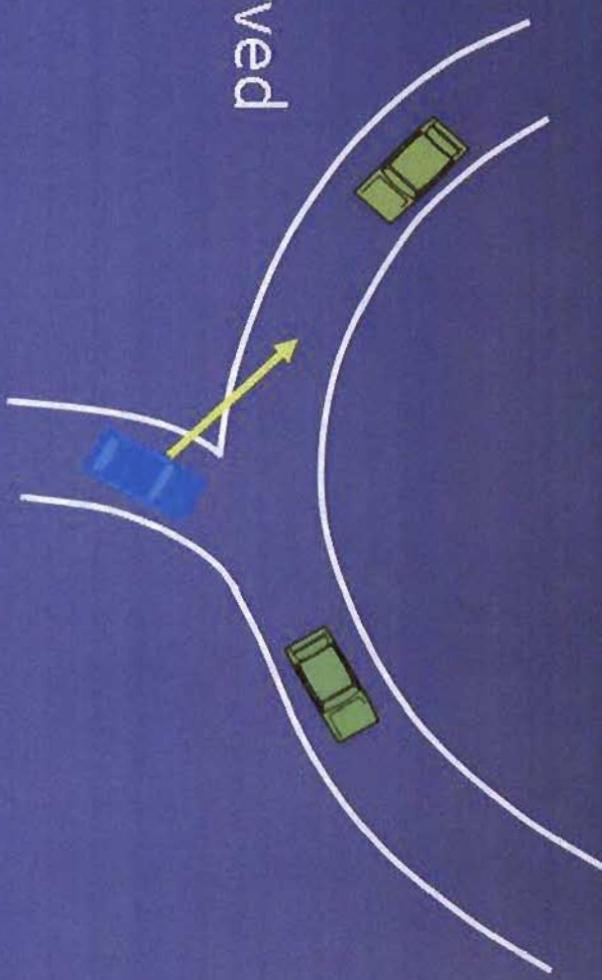


Driving a roundabout - same as turning right from a driveway

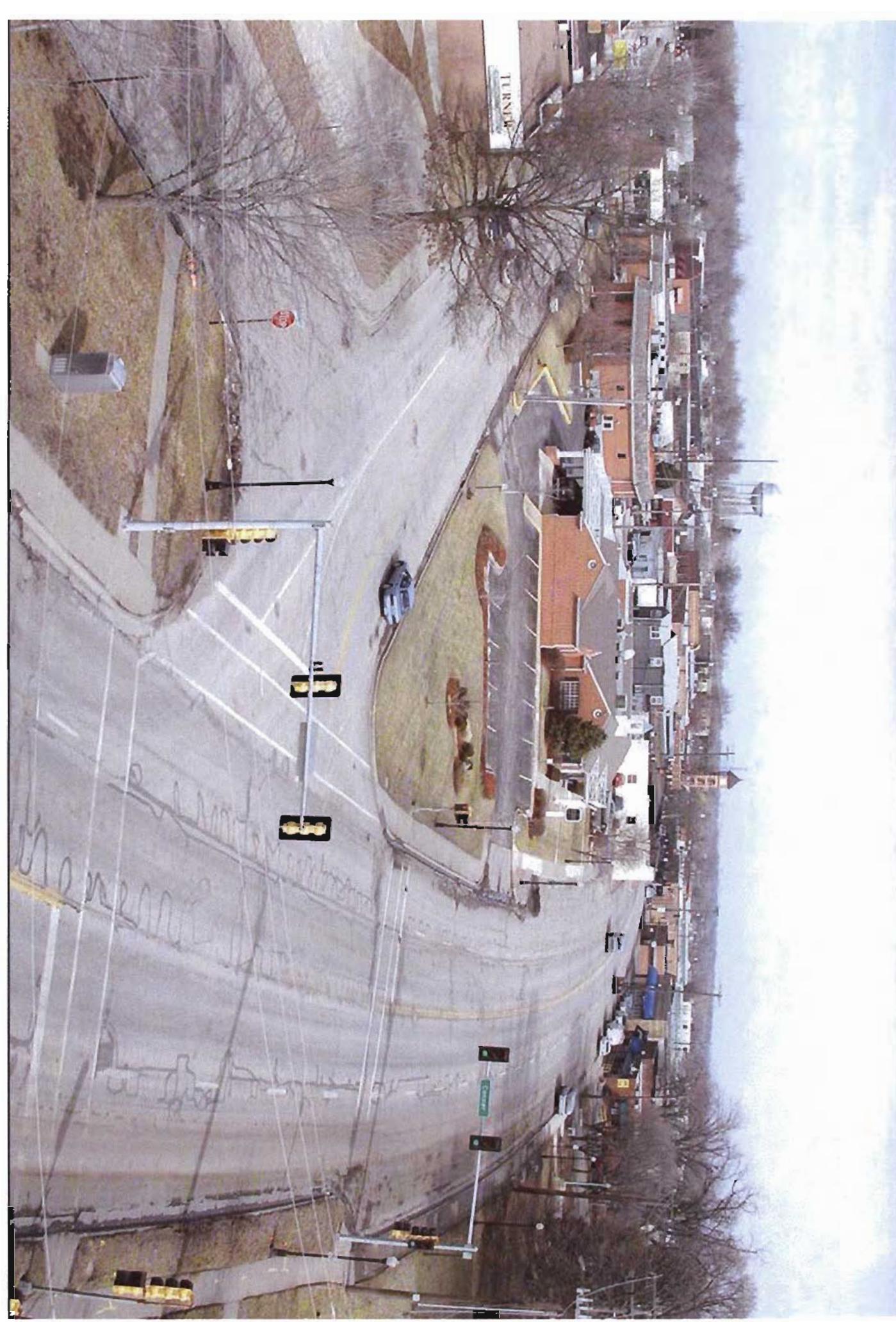
If we bend this road we get a roundabout



A roundabout is simply a curved road with a driveway



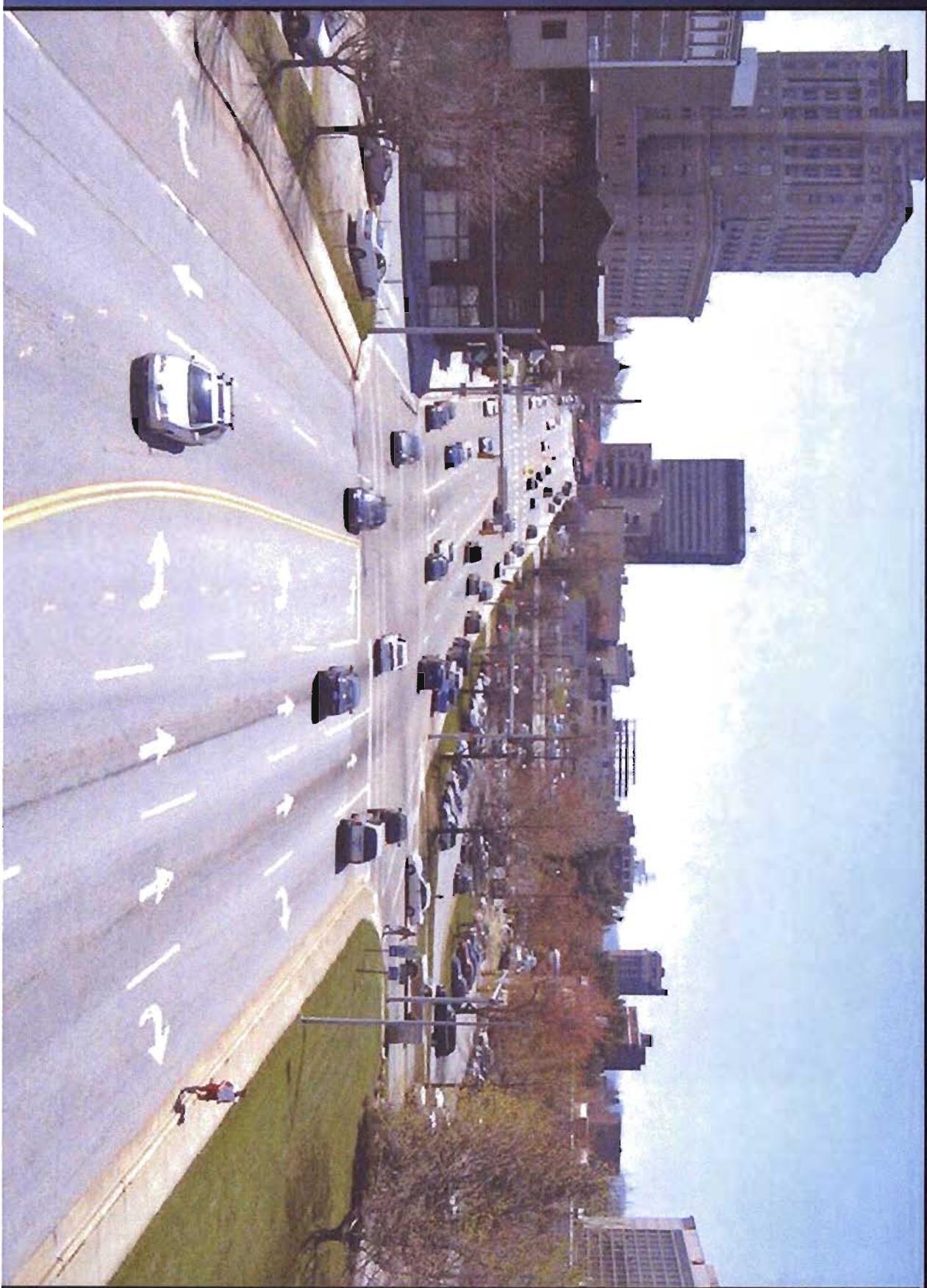
Before – Overland Park, KS



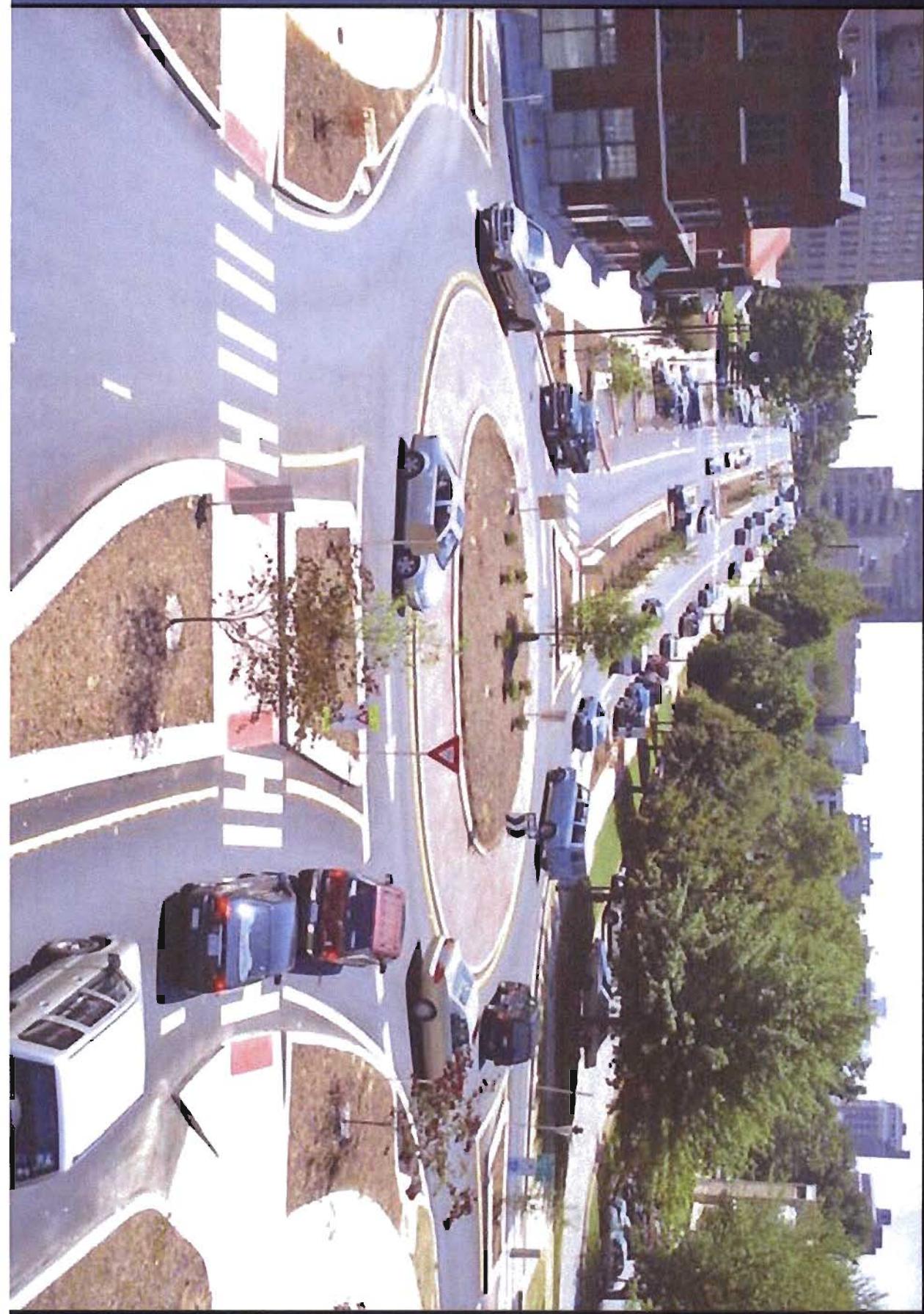
After - Overland Park, KS



Before - College Street
Asheville, NC



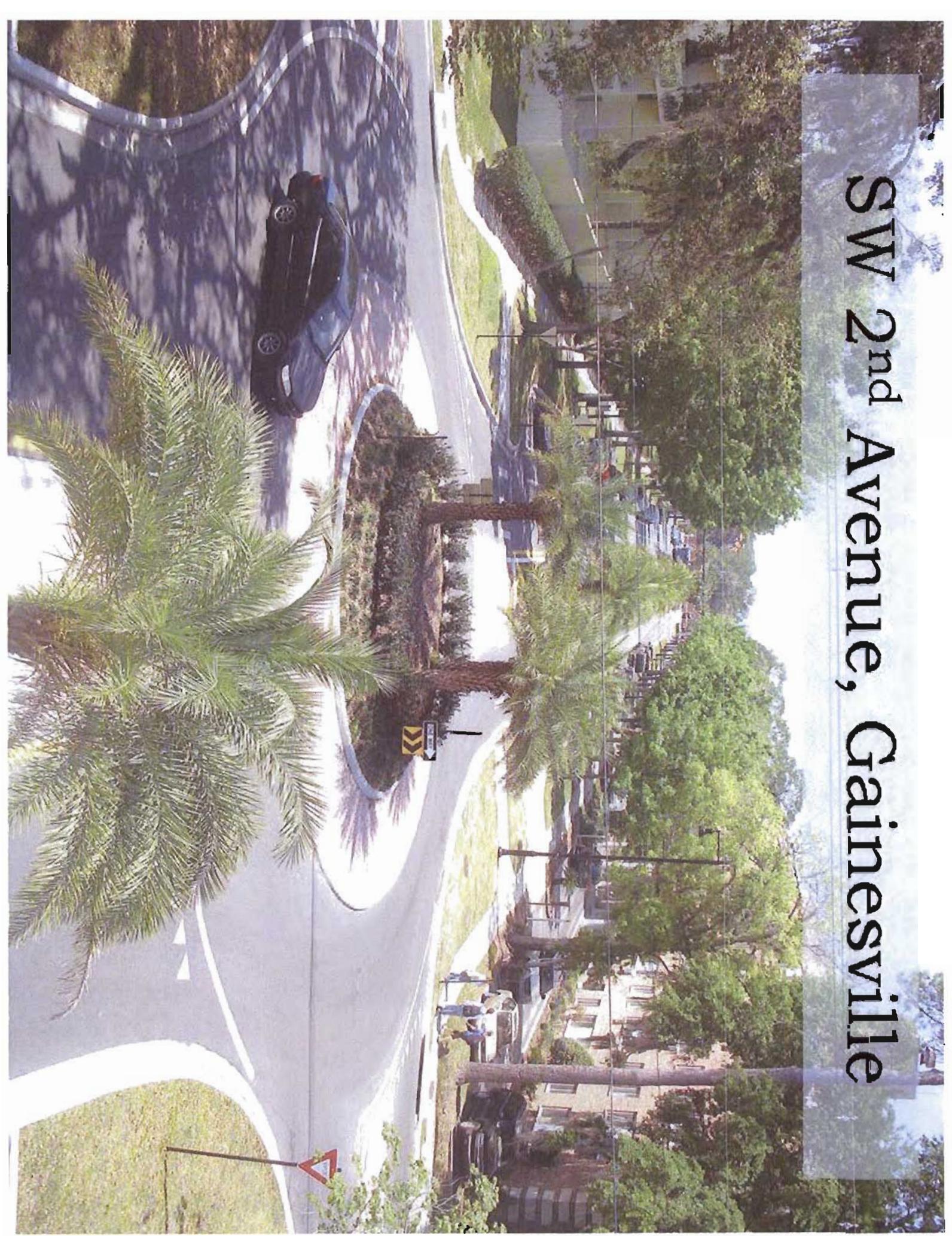
After - College Street
Asheville, NC



SW 2nd Avenue, Gainesville



SW 2nd Avenue, Gainesville

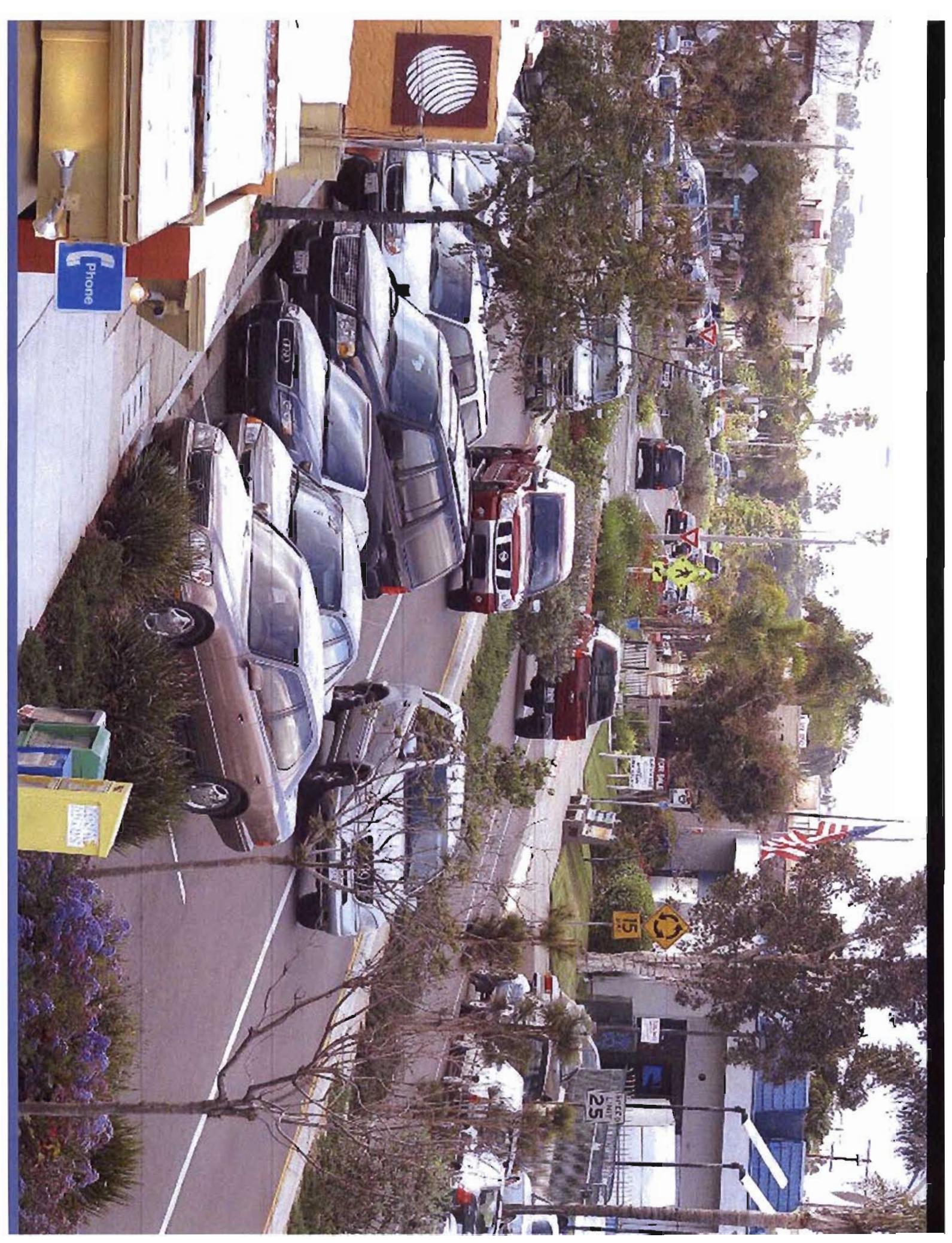


Before - La Jolla Boulevard
San Diego, CA

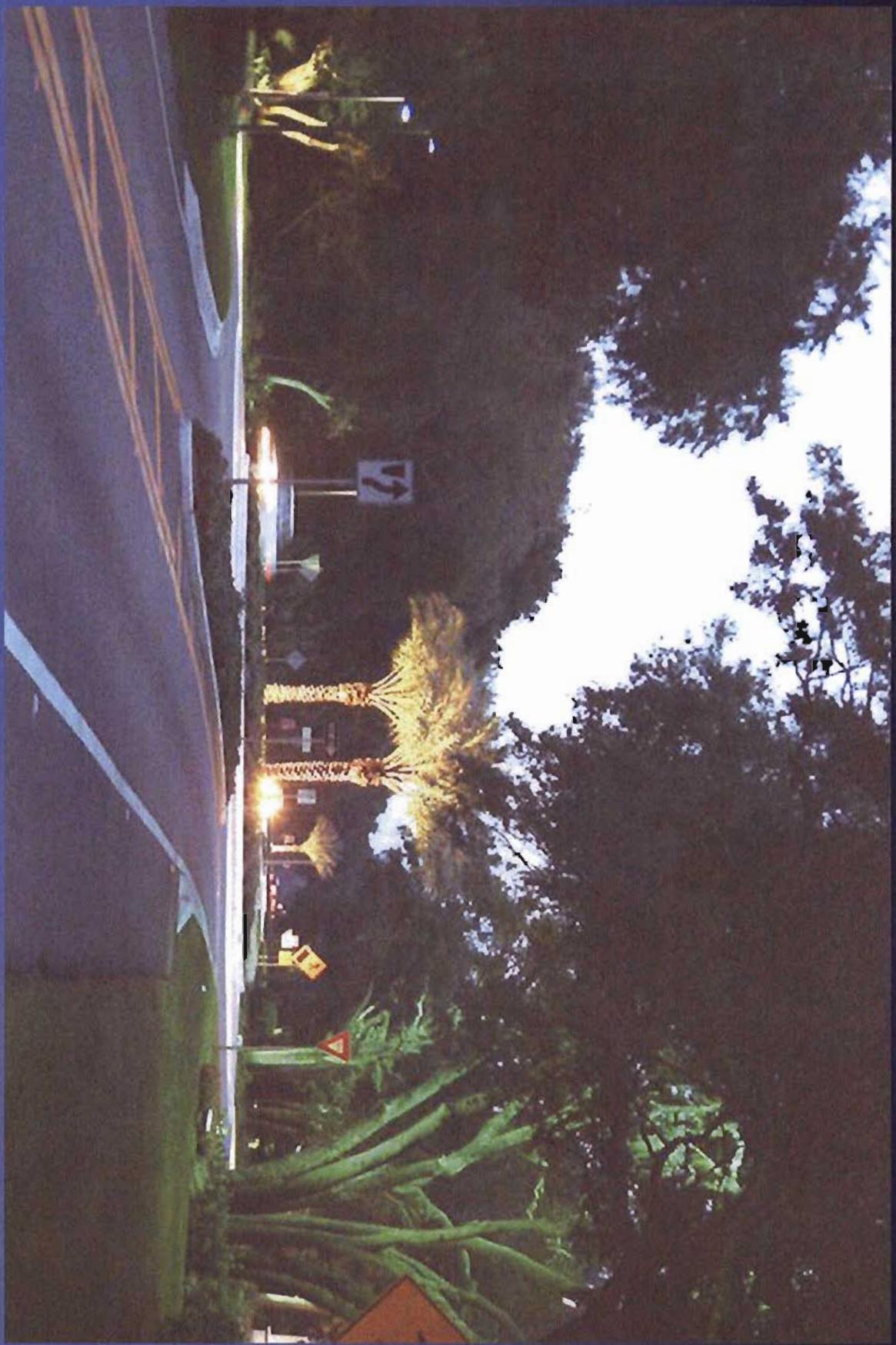


After - La Jolla Boulevard San Diego, CA
22,000 vehicles per day





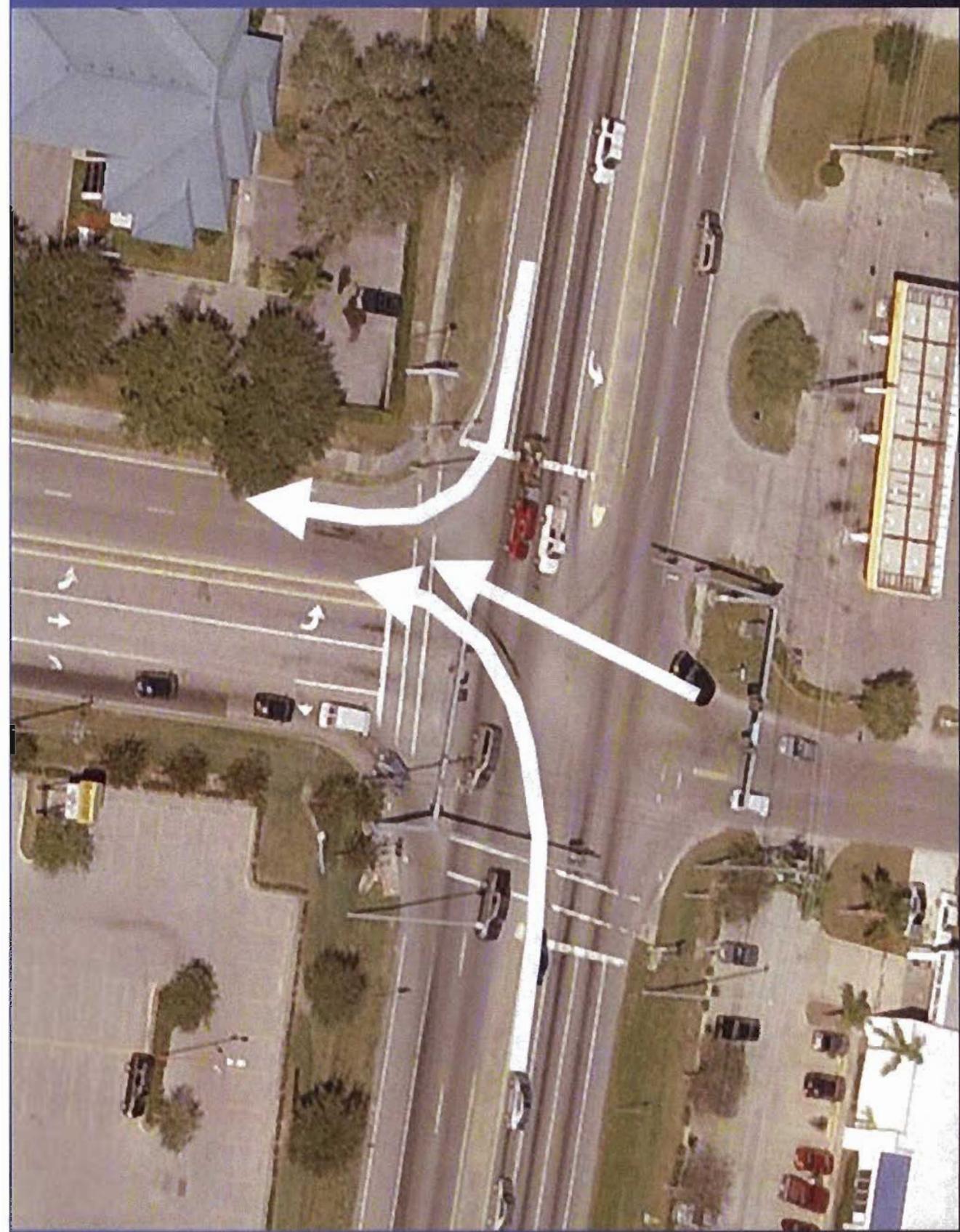
Vegetation/Uplighting



Capacity Analyses

| Option | Level- of- service | Average Delay (sec) | 95 th percentile queue (ft) | Average Queue (ft) |
|---------------------------------|--------------------------|---------------------------|--|-----------------------|
| One lane roundabout | B | 10.0 | 374 (W) | 131 (W) |
| Plus right turn lane west | B | 9.9 | 247 (W) | 85 (W) |
| Plus two right turn lanes | A | 9.5 | 240 (W) | 82 (W) |

US 301 into Haben Blvd



Concept 1
Right Turn Lane West Only



Option 2,
Two Right Turn Lanes

