

# FDOT Bicycle/Pedestrian Focused Initiative & Complete Streets



**Billy L. Hattaway, PE**  
District One Secretary



# Secretary's Pedestrian Safety Initiative



- Dangerous by Design (2011)
- Orlando, Tampa, Jacksonville, Miami-Ft. Lauderdale
- Secretary Ananth Prasad... “Being #1 in pedestrian fatalities and serious injuries is NOT where Florida wants to be.”



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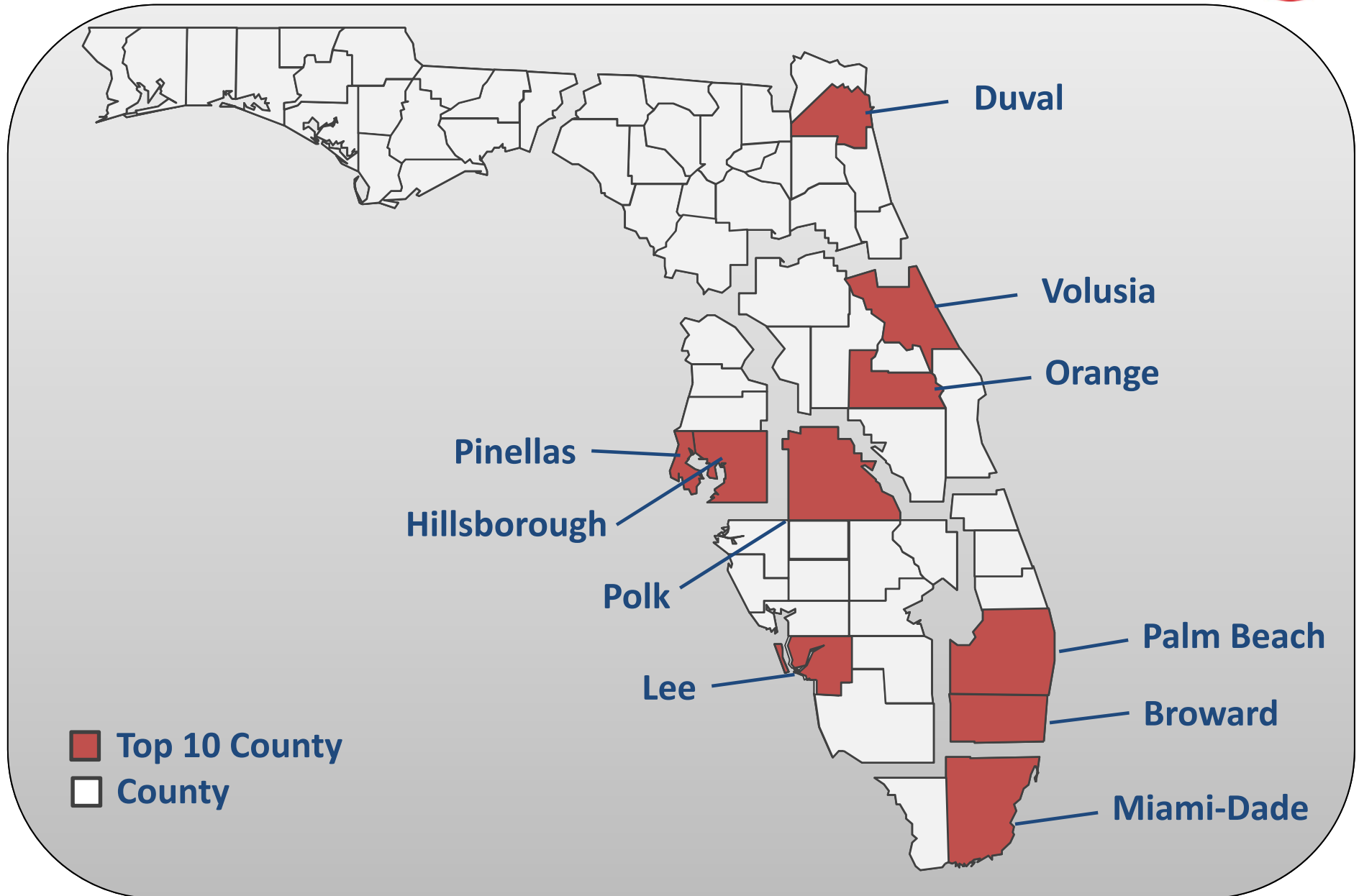
# Pedestrian Statistics



- Approximately 500 killed each year
- Approximately 1,600 seriously injured each year
- 3% of all traffic crashes, yet 1 in 5 fatalities



# Top Ten Focus Counties



# Alert Today Alive Tomorrow



- Marketing (Miami-Dade, Hillsborough)
- District Champions
- Road Safety Audit training
- Bike/Pedestrian Coalition (DOH, DHSMV, FHP, etc.)
- Corridor/Site specific problem identification



**WHETHER YOU'RE DRIVING OR WALKING—  
PAY ATTENTION. READ THE SIGNS.  
LEARN THE RULES.**

**ALWAYS USE THE CROSSWALK.  
STOP BEFORE TURNING RIGHT ON RED.  
LOOK BEFORE CROSSING.  
YIELD TO PEDESTRIANS.**

Funded by the Florida Department of Transportation



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# Where We're Going



- Training
  - Developing a Pedestrian Safety Action Plan
  - Designing for Pedestrian Safety
- Targeted engineering solutions
- Focused media campaign
- Focused law enforcement





# Policy Initiatives

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- Complete Streets Policy & Implementation
- Promotion of Modern Roundabouts
- Guidance for Road Diets on State System
- Context Based Bicycle/Pedestrian Facilities
- U.S. Bike Routes
- Update Traffic Laws



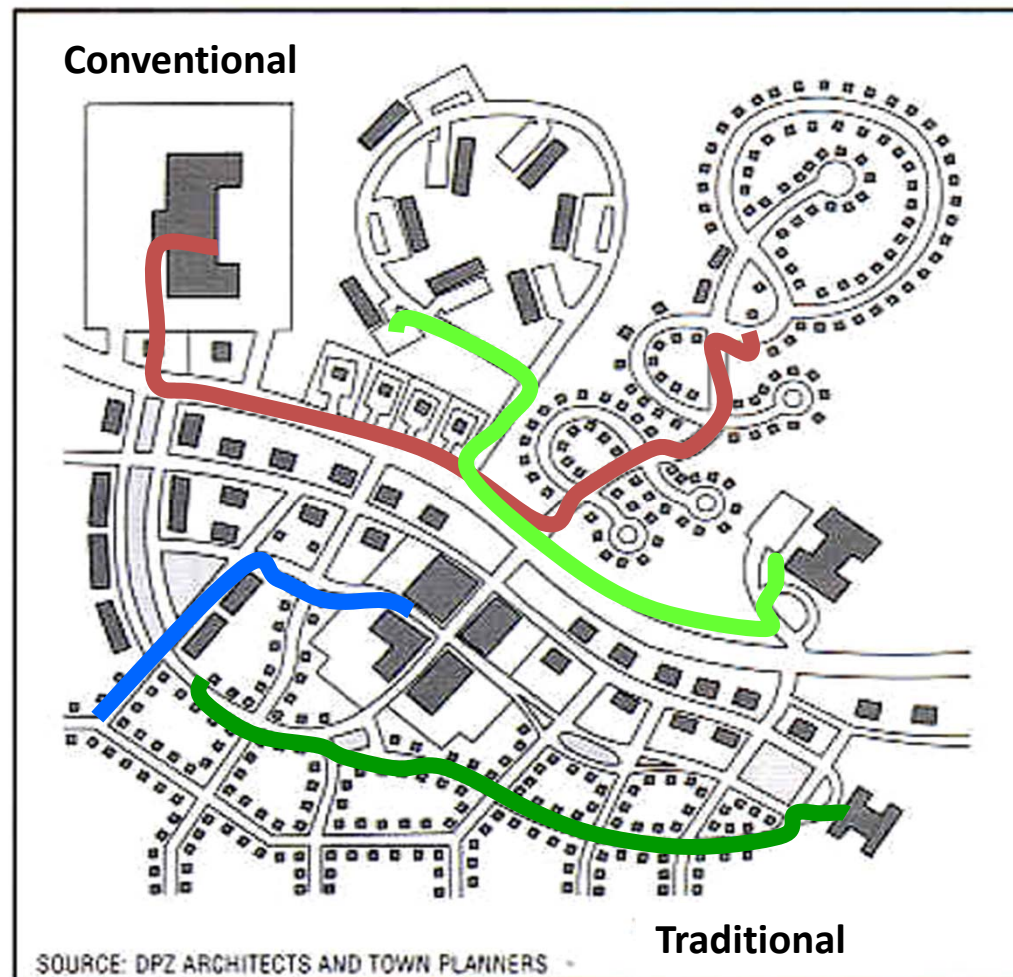
# Contributing Factors



**Fowler Ave, Tampa**



# Land Development Patterns



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# Separated Land Use





# School Board Policy



Orange County  
Elementary  
Schools ~  
1,000 Students

- 1969 - 48% of students walk or bike to school
- 2009 - less than 13% walk or bike to school
- Since 1945, the number of schools declined 70% while average school size grew from 127 to 653 students
- Most Effective Elementary School Size = 300-400 students



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# Land Development Regulations



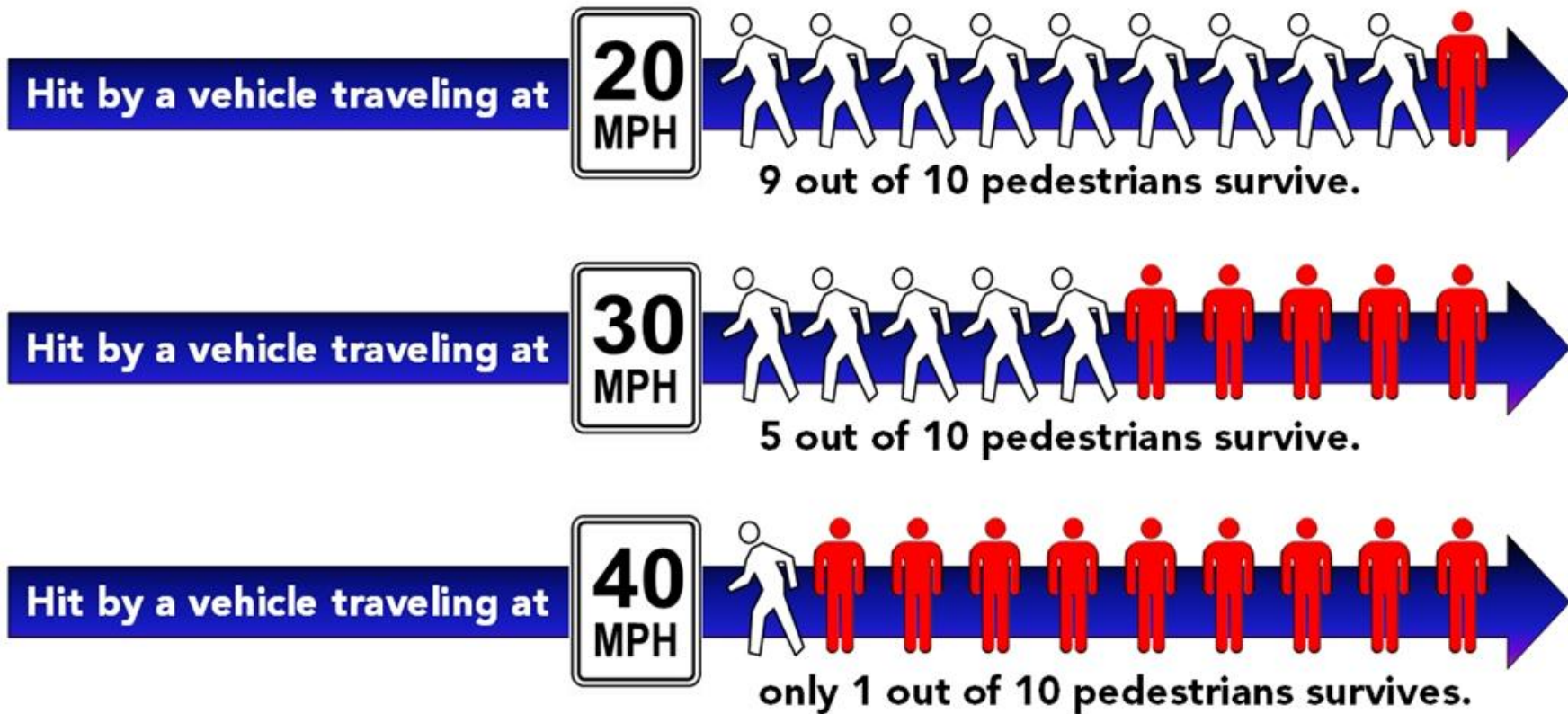


# What Influences Driver Speed?

- Time of Day Purpose of trip
- Ambient light
- Familiarity of driver with the road
- Condition of vehicle
- Urgency of trip
- Emotional condition of driver
- Driver skill
- Personality of driver
- Speed of other vehicles
- Drive late or on time
- Presence and/or history of enforcement
- Pavement wetness
- Weather
- Type of vehicle
- Vehicle parking
- Road Width
- Lane width
- Traffic volume
- Adjacent land use and development
- Pavement roughness
- Shoulder width and condition
- Pavement type and condition
- Road Geometrics



# Speed and Pedestrian Fatalities



# Driver Expectation



**Thomasville Rd, Tallahassee, FL**



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# Driver Expectation



# FHWA Proven Countermeasures



Roundabouts



Corridor Access Management



Backplates with Retroreflective Borders



Longitudinal Rumble Strips and Stripes on Two-Lane Roads



Enhanced Delineation and Friction for Horizontal Curves



Safety Edges<sup>SM</sup>



Medians and Pedestrian Crossing Islands in Urban and Suburban Areas



Pedestrian Hybrid Beacon



Road Diet





# Modern Roundabouts



**Asheville, NC**



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# Refuge Islands/Raised Medians



**Carmel, CA**

# Additional/Improved Treatments



**Pedestrian Hybrid Beacon**



**Rectangular Rapid Flashing Beacon**



**St. Petersburg, FL**



# Traffic Calming/Road Diets



**Long Beach, CA**

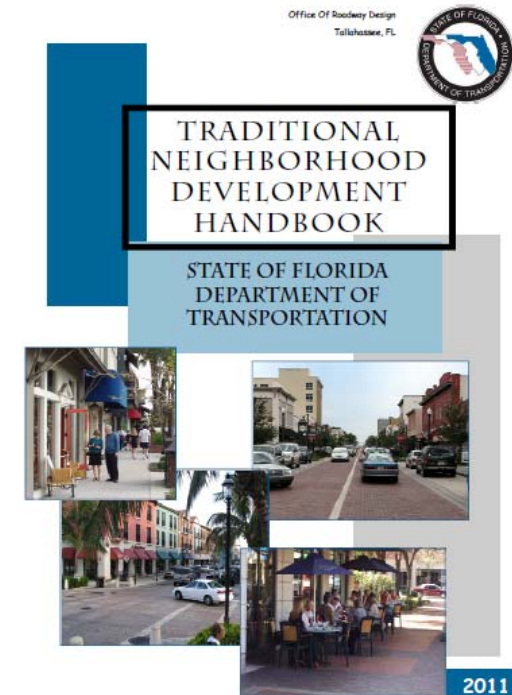


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# TND Chapter, Florida Greenbook



- Established through Florida rulemaking process
- For local streets
- Includes a TND Handbook
  - Best Practices
  - Educational



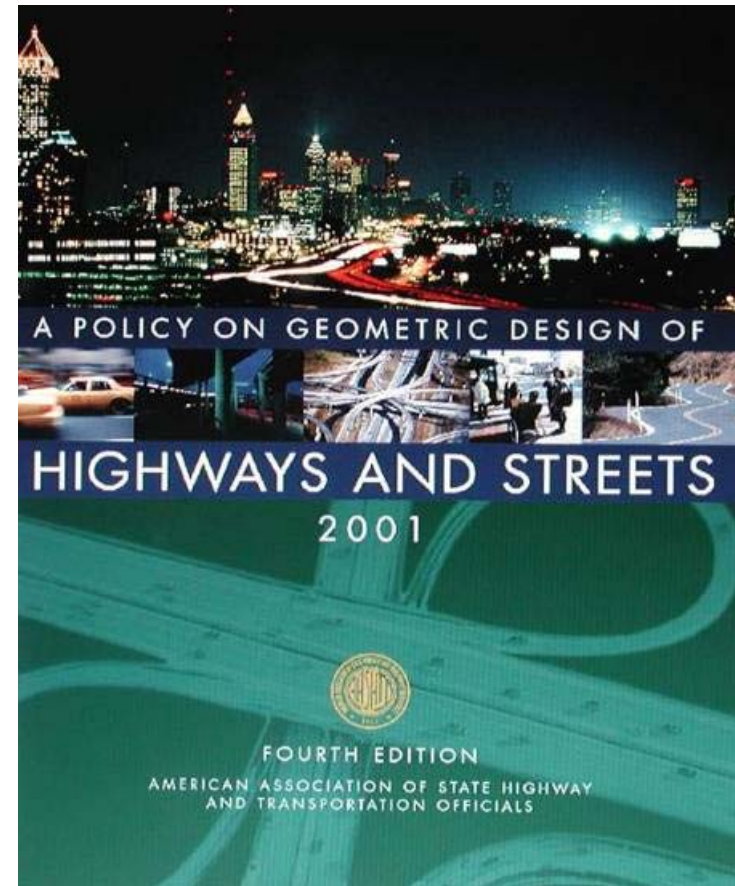
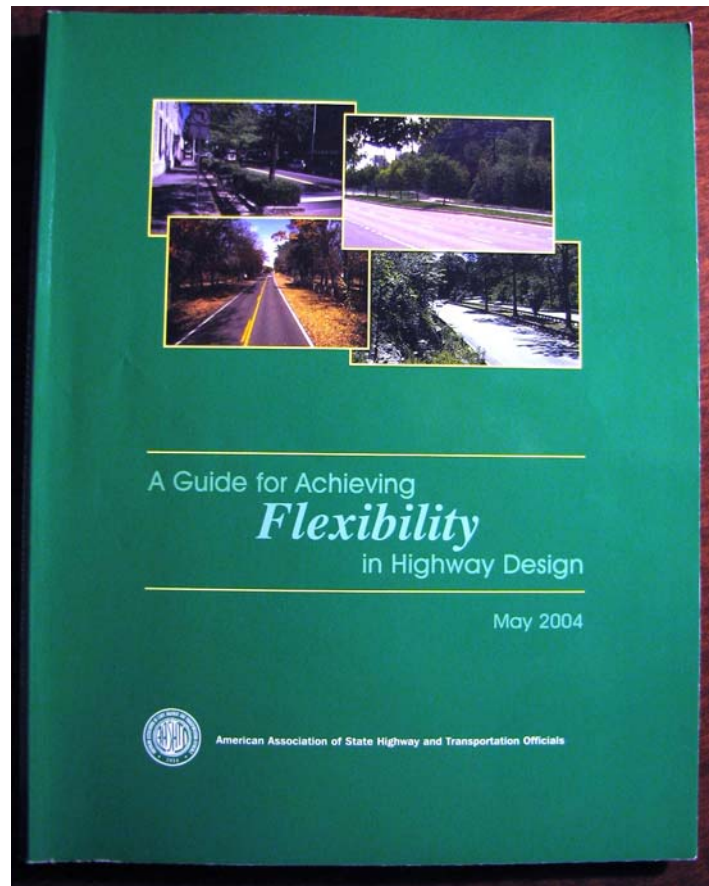
<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/FloridaGreenbook.pdf>

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/TND-Handbook.pdf>



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# AASHTO Design Guidance



## A Guide for Achieving Flexibility in Highway Design



# Design Speed

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“Every effort should be made to use as high a design speed as practical to attain a desired degree of safety, mobility and efficiency.”

AASHTO

VS.

Picking a desired speed based on the built environment (compact urban, suburban, rural)



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# Lane Width



**Charleston, SC**



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# Lane Width

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- The normal range of design lane width is 9-12'.
- Lane widths substantially less than 12 feet are considered adequate for a wide range of volume, speed and other conditions.
- There is less direct evidence of a safety benefit associated with wider lanes in urban areas.

AASHTO - A Guide for Achieving Flexibility In Highway Design



# Recommended Lane Width



Movement Type	Design Speed	Travel Lane Width
Yield	Less than 20 mph	N/A*
Slow	20-25 mph	9-10 feet
Low	30-35 mph	10-11 feet

## TND Chapter, Florida Greenbook

\*Yield street width is 24' curb face to curb face.





# Speed Management



**Robinson St, Orlando, FL**



# Speed Management



**Robinson St, Orlando, FL**



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# Speed Management



**Central Ave, Orlando, FL**



# Speed Management



**Common Way, Baldwin Park, Orlando, FL**



# Speed Management



**New Broad St, Baldwin Park, Orlando, FL**

# Development Patterns



**Small Blocks**



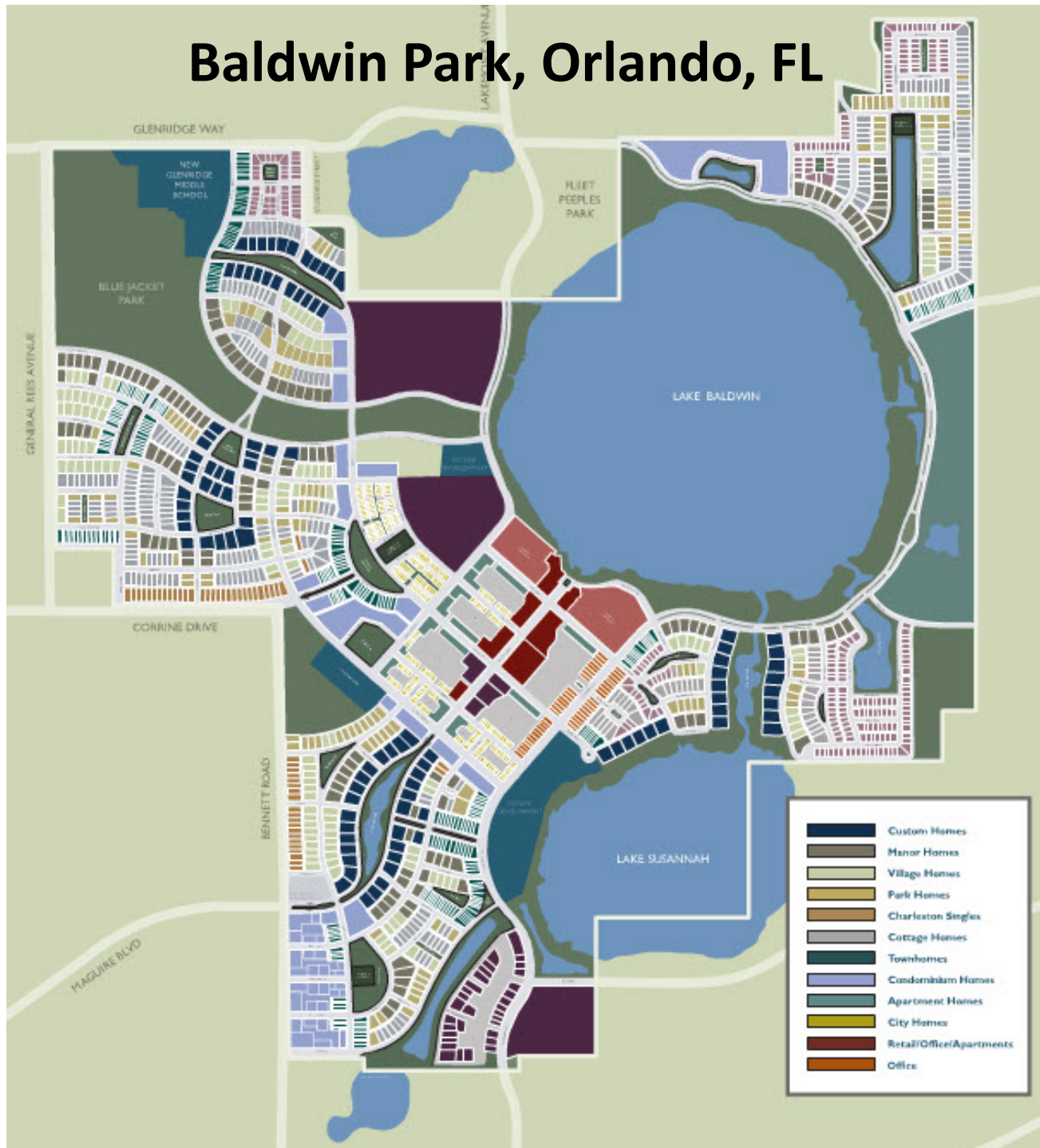
**Buildings at Street**



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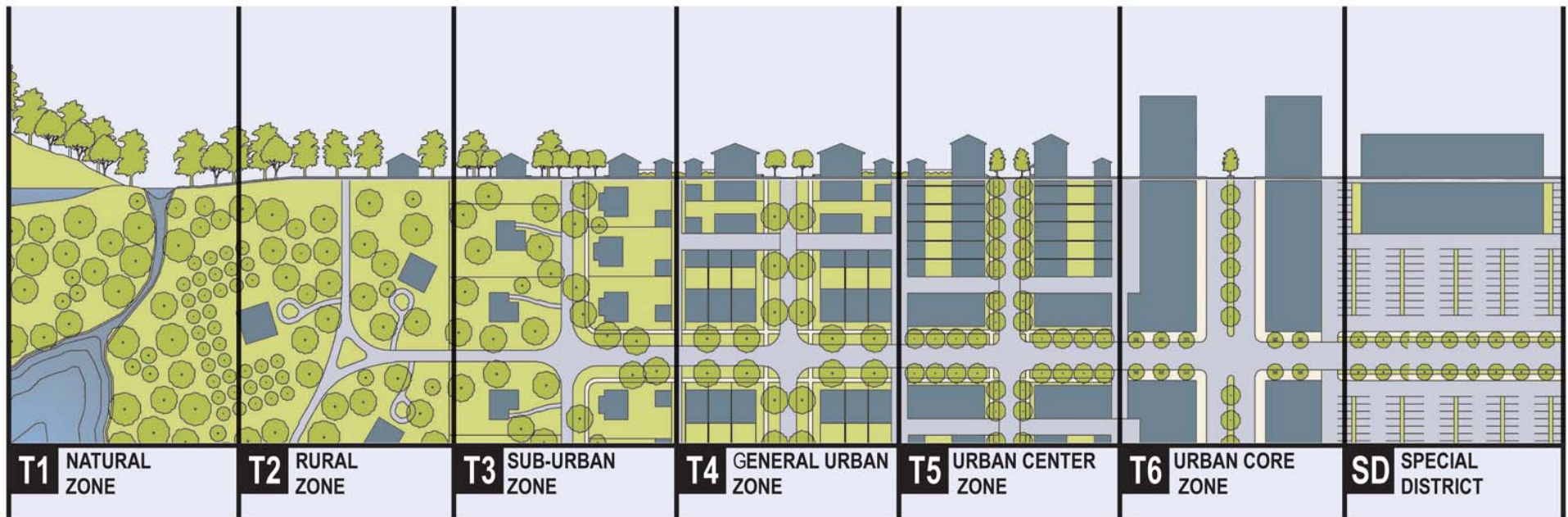
# Baldwin Park, Orlando, FL



- 1,100 Acres
- 250 Acres of Lakes
- 32 Street Connections
- 14,000 Residents
- 125 Businesses
- Mixed Use
- Publix, CVS
- 20 Neighborhood Parks
- “A” Rated Schools
- 50 miles of Trails
- Single Family
- Town Homes
- Apartments
- Condominiums
- Live/Work



# Define the Context



## Transect Zones, Smart Code



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# T-3 Suburban





# T-4 General Urban





# T-5 Urban Center





# T-6 Urban Core



# Neighborhood Scale



**Highly Connected Street Network**



# Mixed Use Development



**New York Ave., Winter Park, FL**



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# Neighborhood Stores



**Central Ave, Orlando, FL**



# Neighborhood Schools



**Theodore Roosevelt Elementary, Tampa, FL**



# Neighborhood Parks



**Children's Playground, Orlando, FL**



# Making a Street Complete



**Woodville Hwy, Woodville, FL**



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# Johnnie Dodds Blvd, Mt. Pleasant, SC



- Citizen/Business Funded
- Created Counter Proposal
- 200' ROW
- Interchanges Proposed
- Two Way Frontage Roads
- Business Failing
- Road Divided Community
- Commuter Corridor
- Proposed Roundabout Intersections



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# Making a Street Complete



# Making a Street Complete



# Making a Street Complete



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# Making a Street Complete



# Making a Street Complete



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# Making a Street Complete



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# Making a Street Complete



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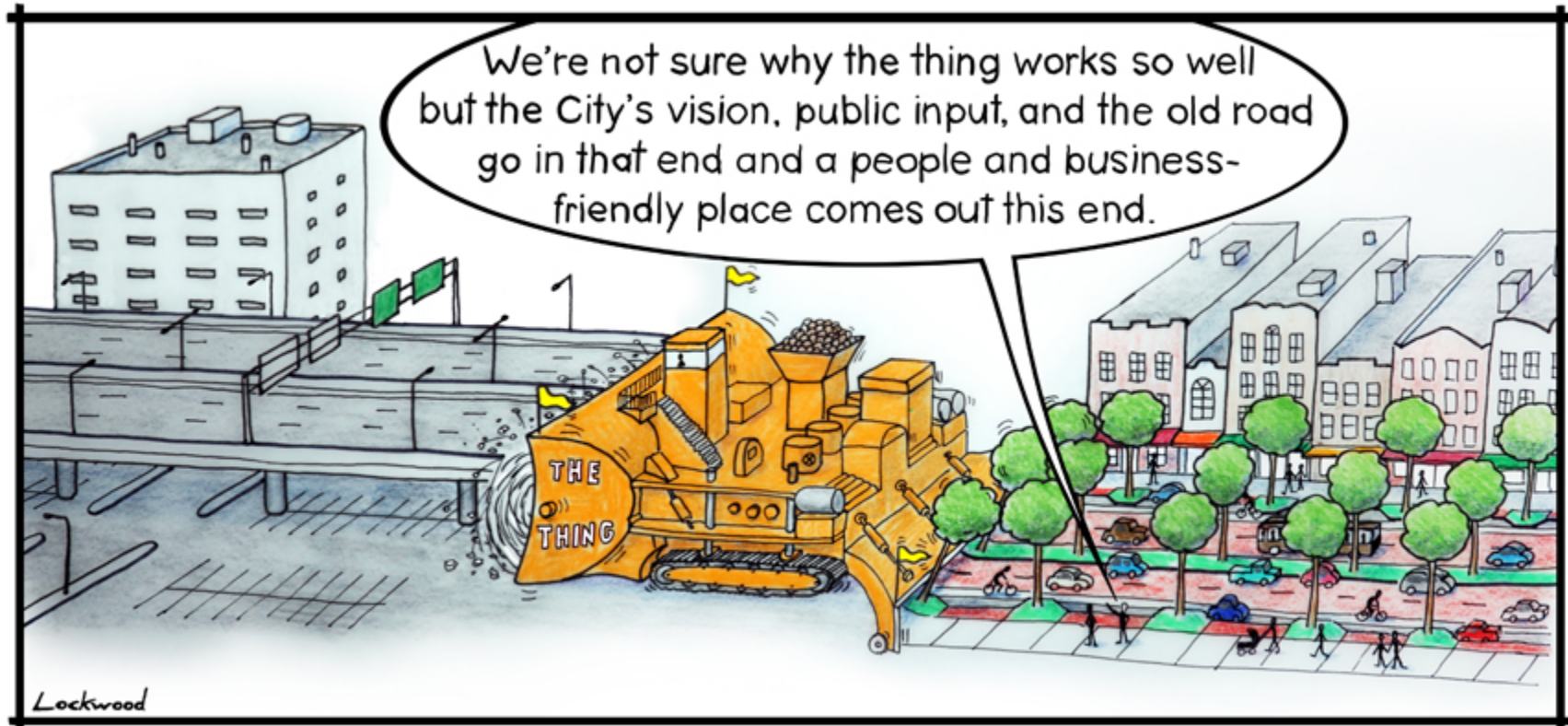


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The Thing Is ...

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