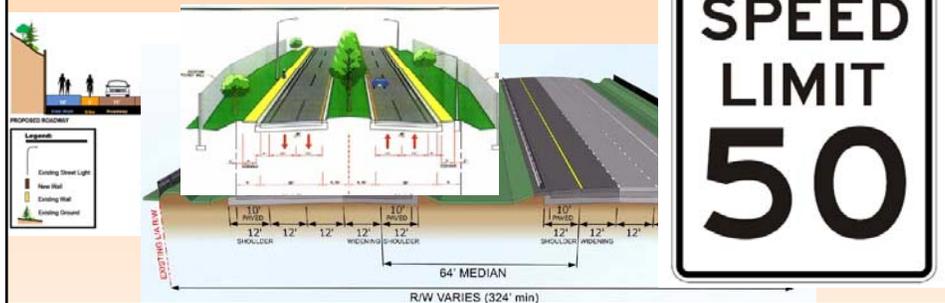


## DESIGN SPEED EXCEPTIONS AND VARIANCES FOR STRATEGIC INTERMODAL SYSTEMS (SIS) HIGHWAYS

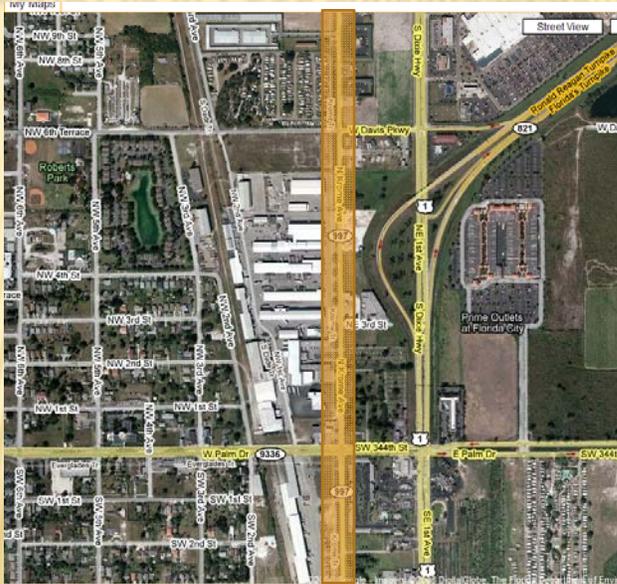


### WE RECOMMEND THIS!

- **Earlier coordination** During PD&E
  - By the time you are at 30% Design Submittal it is too late!
- Easy to understand reports
- **Specific justifications** –
  - Don't just say “not feasible”
  - Tell us **why** it's not feasible
- **Electronic files that help explain the desire for a variation** –
  - Not everyone reviewing request reads design plan sheets
  - Please explain how this segment in design fits into overall function of the facility

IF YOU GET A VARIANCE FOR DESIGN SPEED, WE EXPECT **EXTRA EFFORT IN ACCESS MANAGEMENT**

- Krome Avenue Example which you will see in later in this presentation



COMPONENTS OF THE STRATEGIC INTERMODAL SYSTEM (SIS)



- **Corridors** – Highway, rail, waterway
- **Hubs** – Ports and Terminals including airports, seaports, and freight Terminals
- **Intermodal Connectors** – facilities that connect Corridors and Hubs



# SYSTEM COMPONENTS

Online Sunshine  
Official Internet Site of the Florida Legislature

- (1) The Florida Intrastate Highway System established under s. [338.001](#).
- (2) The National Highway System.
- (3) Airport, seaport, and spaceport facilities.
- (4) Rail lines and rail facilities.
- (5) Selected intermodal facilities; passenger and freight terminals; and appropriate components of the State Highway System, county road system, **city street** system, inland waterways, and local public transit systems that serve as existing or planned connectors between the components listed in subsections (1)-(4).

for the Hearing Impaired

History--s. 47, ch. 2003-286.

**Local Roads**

# SIS STANDARDS

1/22/08: Pen & Ink to extend Directive without change.

Approved:

*S. Kopol*  
Stephanie Kopolousos  
Interim Secretary

Effective: February 7, 2007  
Office: Systems Planning  
Topic No: 525-030-251-a

**DIRECTIVE EXPIRES: February 7, 2008  
February 7, 2009**

## DEVELOPMENT OF THE STRATEGIC INTERMODAL SYSTEM (SIS) HIGHWAY COMPONENT

**PURPOSE:**

To relate the Strategic Intermodal System (SIS) Highway Component to the design standards, design criteria and the processes used by the Florida Department of Transportation for the Florida Intrastate Highway System (FIHS).

### 2.2 DESIGN STANDARDS FOR SIS AND EMERGING SIS HIGHWAYS CORRIDORS

SIS and Emerging SIS highway corridors shall follow FIHS standards established in *Procedure No. 525-030-250, Development of the Florida Intrastate Highway System* and the Department's *Plans Preparation Manual (Topic 625-000-007)*.

For current policies and procedures, see the Department's internet web site at <http://www.dot.state.fl.us/proceduraldocuments>

Development of the Florida Intrastate Highway System – (Topic No. 525-030-250)

Rules of the Department of Transportation, Chapters 14-94, (<http://fac.dos.state.fl.us/faconline/chapter14.pdf>)

Approval of New or Modified Access to Limited Access Highways on the Strategic Intermodal System (SIS) (Topic No. 000-525-015)

Plans Preparation Manual (PPM), Volume I (Topic No. 625-000-007)

Plans Preparation Manual (PPM), Volume II (Topic No. 625-000-008)

# THE **FIHS** PROCEDURE 525-060-250

## 2.2.1 Design Speed Standards and Geometric Design Criteria

### 2.2.1.1 Design Speed Standards

FIHS facilities shall be designed to safely accommodate high-volume travel at the highest practical speed. For all new facilities and for the reconstruction of existing facilities design speed standards shall be as follows:

#### (A) Limited Access Facilities

The design speed for limited access facilities shall be at least 70 MPH (110 km/h) in rural and urban areas and at least 60 MPH (100 km/h) in urbanized areas.

#### (B) Controlled Access Facilities

The design speed for controlled access facilities shall be at least 65 MPH (110 km/h) in rural areas and at least 50 MPH (80 km/h) in urban and urbanized areas.

Table 1.9.1 Design Speed  
State Highway System - Non-FIHS/SIS Facilities

Facility		Design Speed (mph)
Freeways	Rural	70
	Urban	50 - 70
Arterials	Rural	55 - 70
	Urban	40 - 60
Collectors	Rural	55 - 65
	Urban	35 - 50
TDLC		30 - 40

Table 1.9.2 Minimum Design Speed  
FIHS/SIS

Facility		Minimum Design Speed (mph)
Interstate and Freeways	Rural and Urban*	70
	Urbanized*	60
Arterials	Rural*	65
	Urban and Urbanized*	50

**Note:** For FIHS/SIS facilities (including SIS Highway Corridors, Emerging SIS Highway Corridors, SIS Highway Intermodal Connectors, and Emerging SIS Highway Intermodal Connectors), design speeds less than the above minimums shall be submitted to the Director, Office of Design and approved by the Chief Engineer, following a review by the State Transportation Development Administrator, in accordance with the **FIHS Procedure (Topic No. 525-030-250)**.

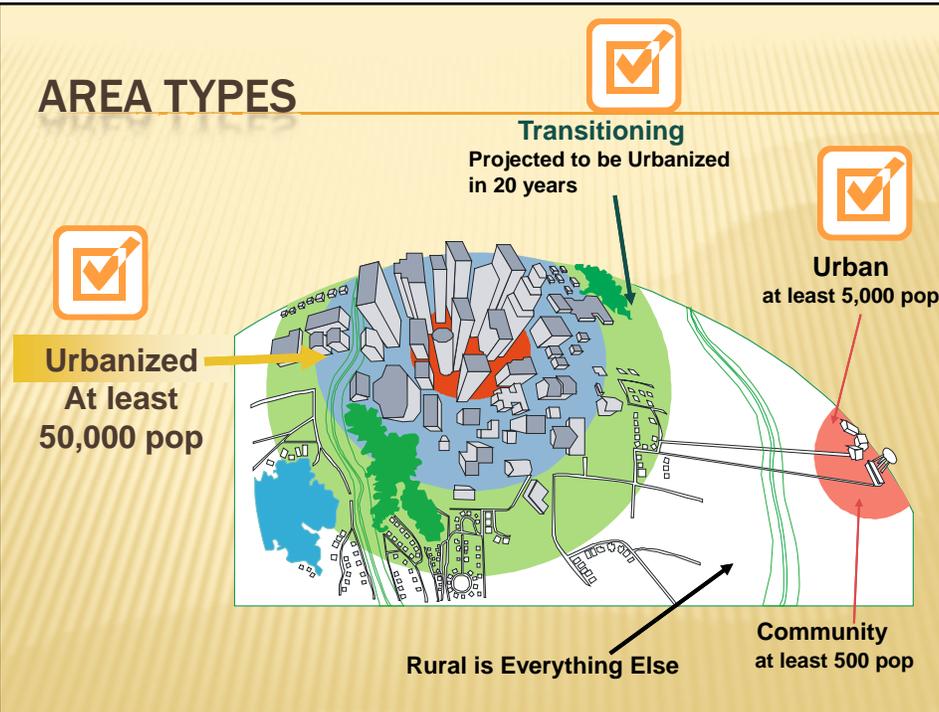
\*Terms based on definitions contained in **FIHS Procedure (Topic No. 525-030-250)**.

# URBAN, RURAL, URBANIZED, ???

- For Designers
  - Urban
    - is same as **urbanized** and =Curb & Gutter, closed drainage
    - Rural = Flush shoulder, open swale
- For SIS purposes:
  - It's all about Planning and is based upon population and census



## AREA TYPES



## WHY DOES SIS HAVE HIGHER MINIMUM DESIGN SPEED?

- Because the primary function to focus on the **through movement** of people and goods

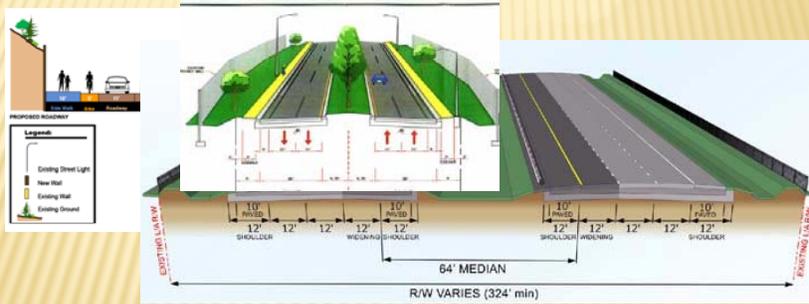


## DESIGN SPEED CRITERIA FOR SIS HIGHWAY COMPONENT

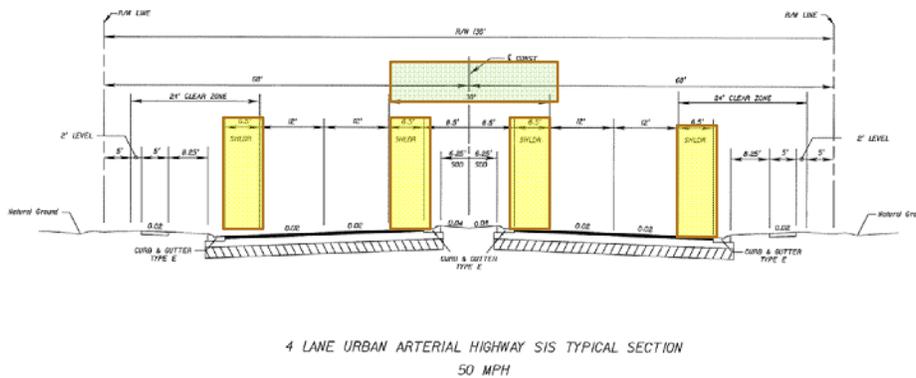
- Florida Statute 338.001
- FIHS Procedure – Topic No. 525-030-250
- Plans Preparation Manual –  
Volume 1, Chapters 1, 2 and 23
- Design Exceptions and Variations –  
Volume 1, Chapter 23

## DESIGN SPEED AND TYPICAL SECTIONS

- What does this mean to designers?



## FEATURES OF THE URBAN ARTERIAL 50 MPH

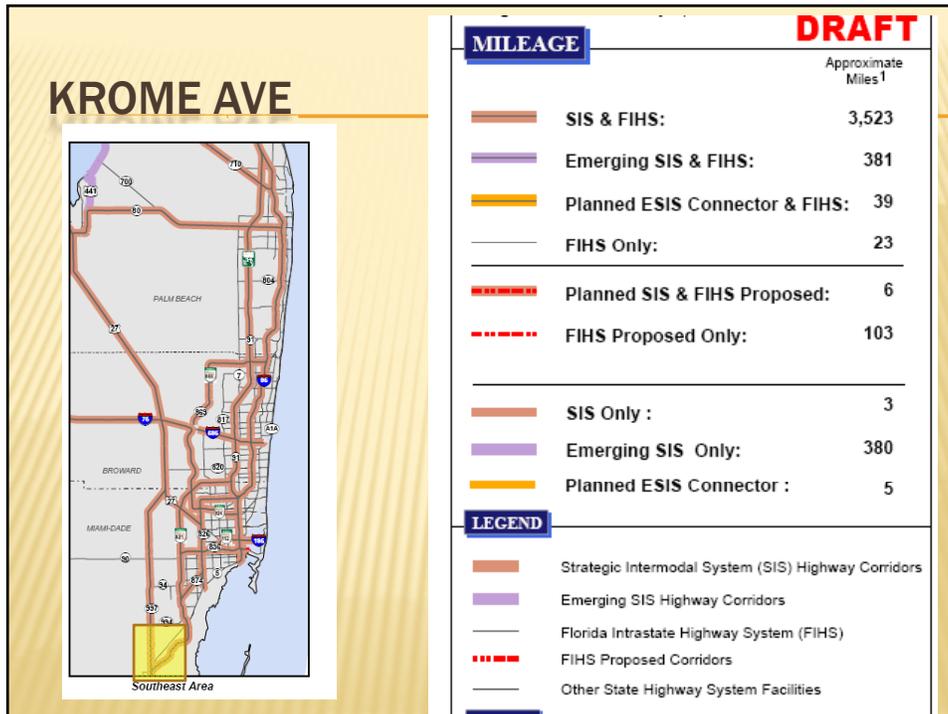




# Design Speed Variance

From US 1/SR 5 to SW 328<sup>th</sup> Street/Lucy Street

## KROME AVE.

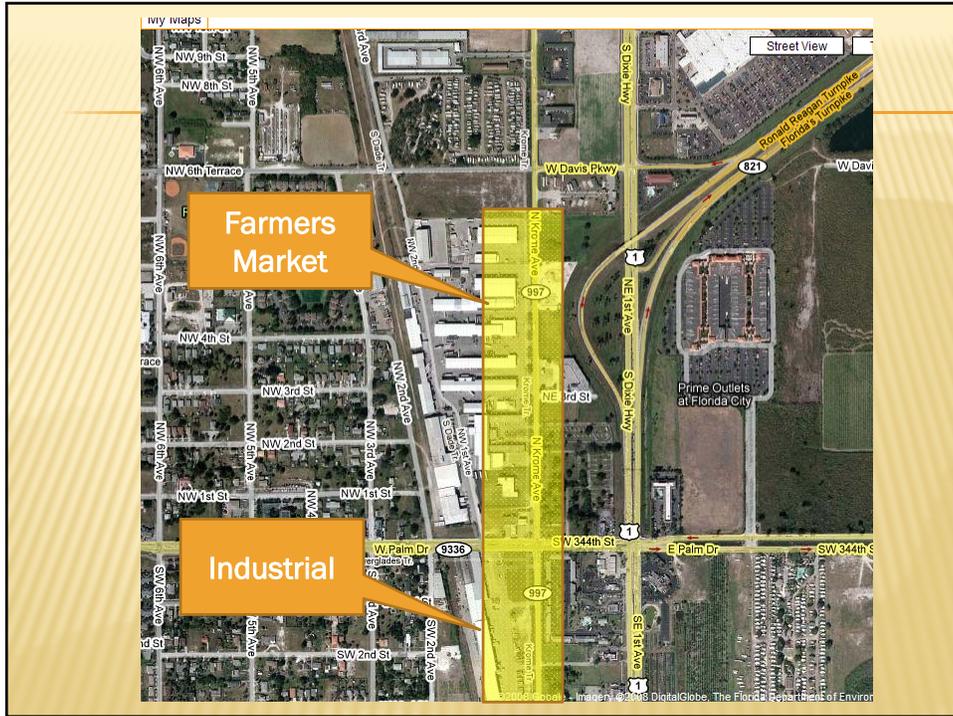


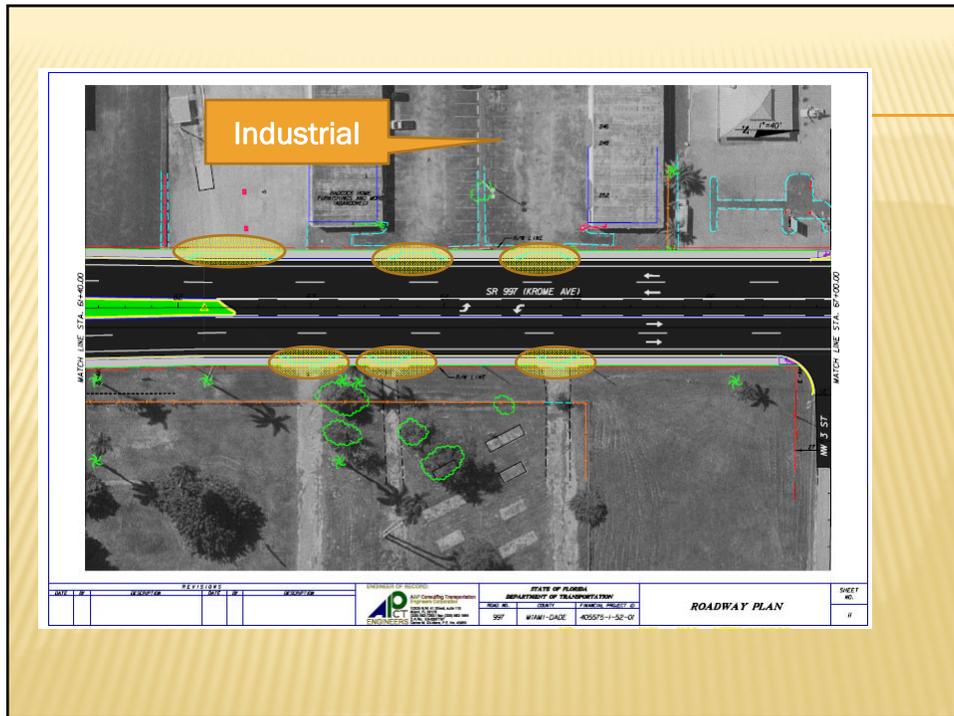
- Existing Two lane urban principal arterial
- SIS/FIHS designation
- 1.81 miles in length
- Widen to a four lane divided urban arterial
- Design Speed required PPM Table 1.9.2 is 50 mph
- Requesting to drop the design speed to 45 mph

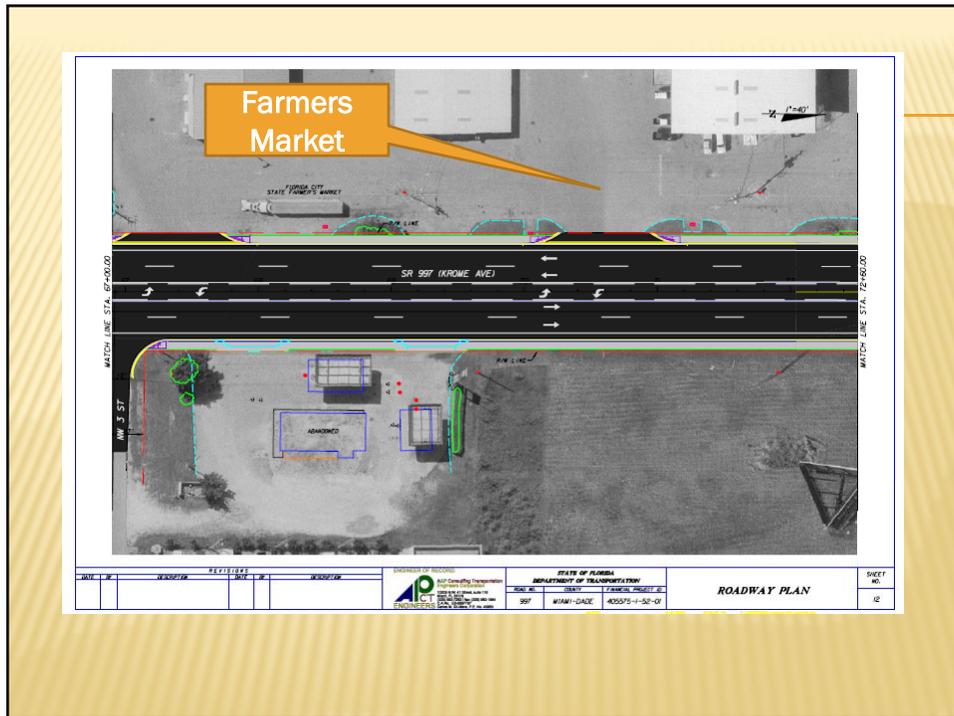
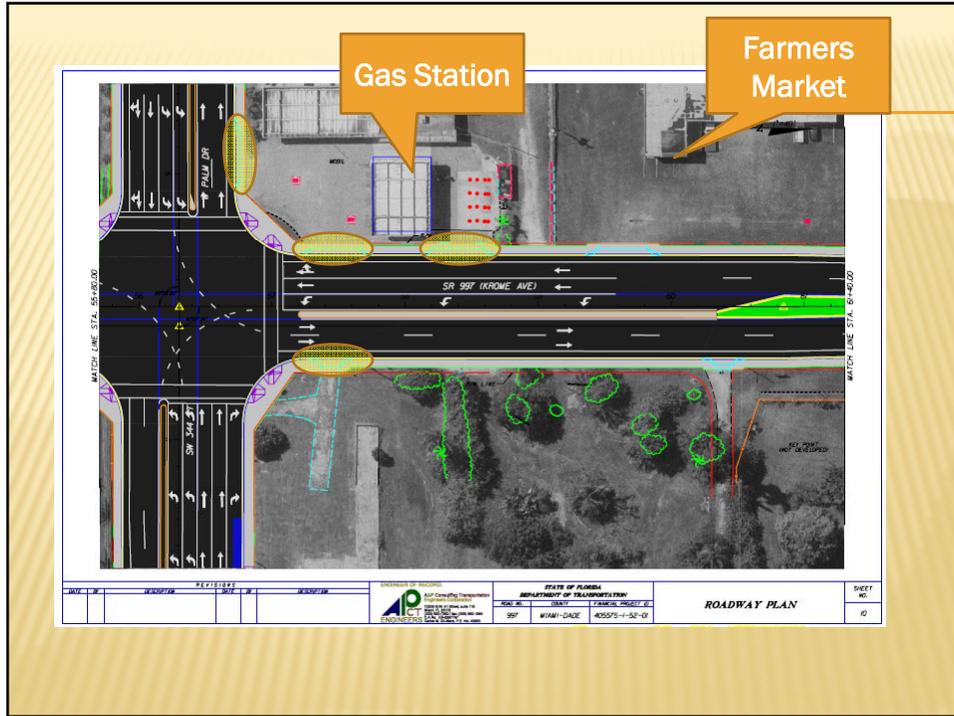
Begin Krome Ave Widening

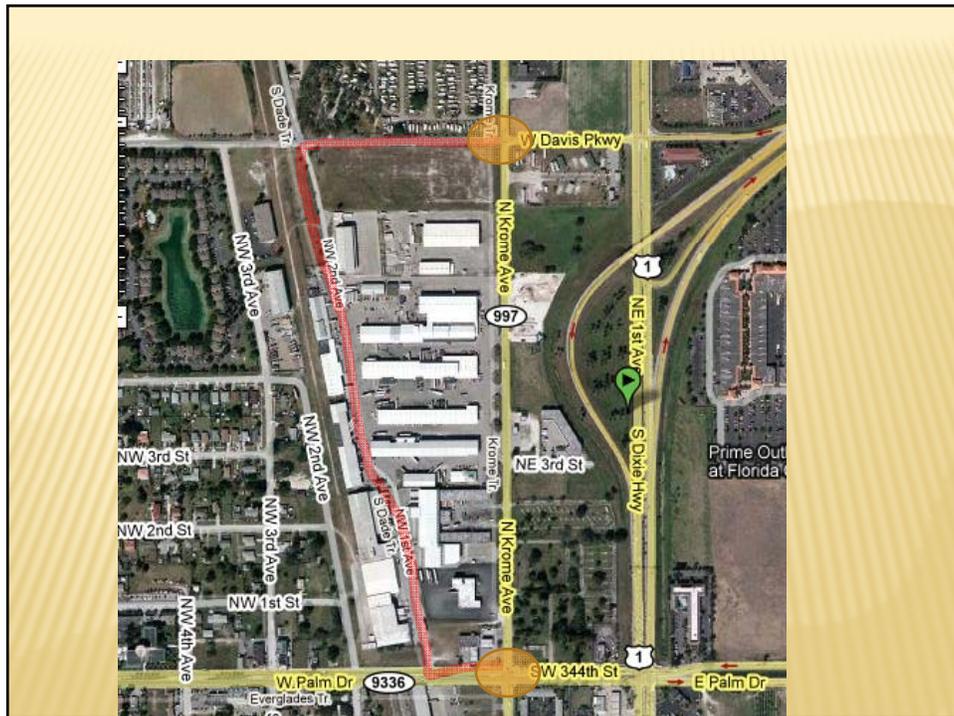
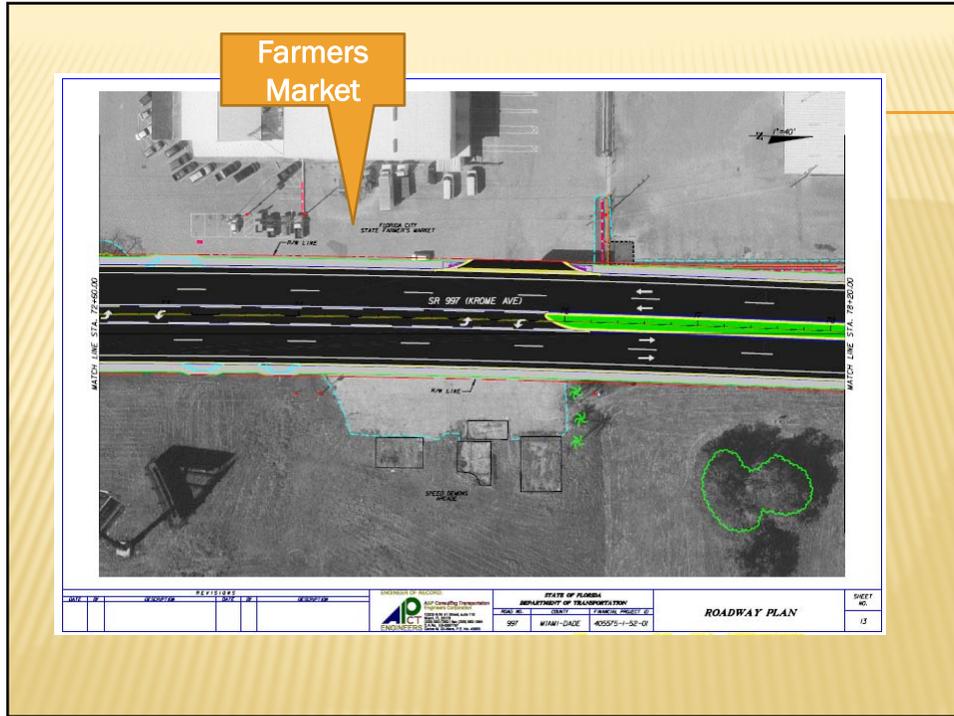
- Land Use is mostly commercial and industrial
- Redevelopment is occurring along the existing two lane segment
- Action Plan created in 1999 called for joint and cross access whenever possible to reduce number of access points on Krome Avenue

End Krome Ave Widening









Why Access Management?

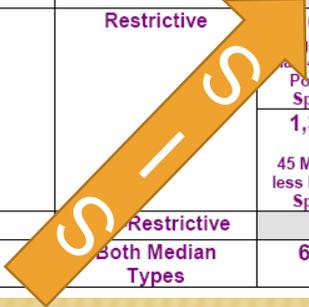
**WHEN 50 MPH URBAN DESIGN SPEED CAN NOT BE ACHIEVED, IT IS TIME TO AMP UP ACCESS MANAGEMENT**

**ACCESS MANAGEMENT STANDARDS**

The diagram illustrates the relationship between road function and mobility. On the left, a vertical arrow points upwards, labeled 'Increasing Mobility'. To the right of this arrow, a series of road types are listed from top to bottom: Freeway, Major Arterial, Minor Arterial, Major Collector, and Minor Collector. A curved line connects these road types, showing that as the road function decreases (from Freeway to Minor Collector), the mobility also decreases. To the right of the text is a cross-sectional illustration of a road with a sidewalk, trees, and a road sign. A large orange diagonal banner across the diagram reads 'Design Follows Function'.

## SPACING STANDARDS

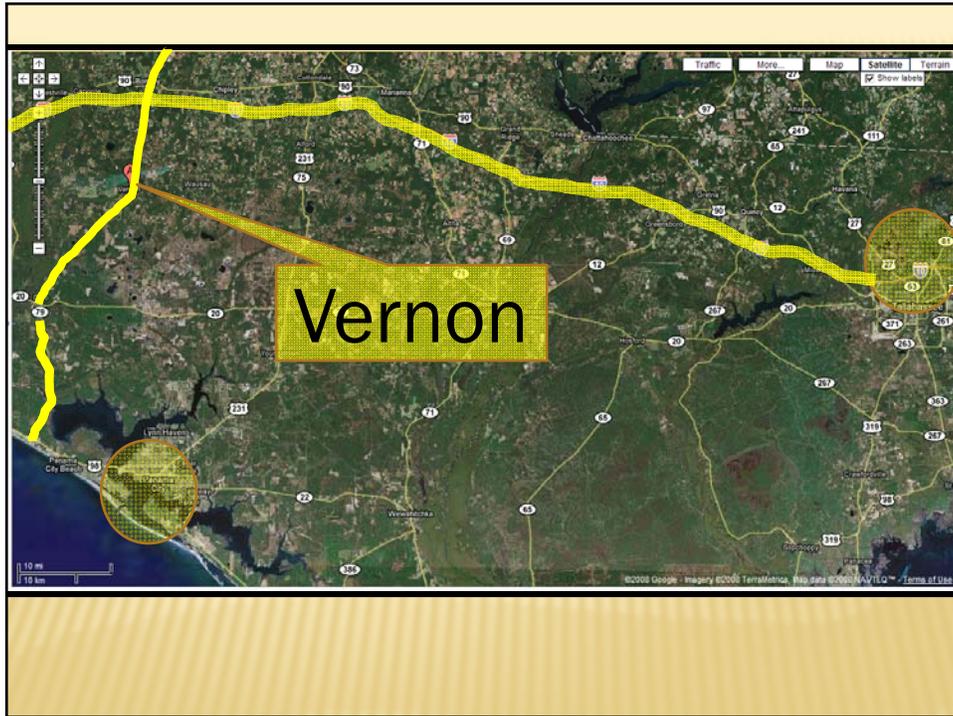
Class	Medians	Median Openings		Signal	Connection	
		Full	Directional		More than 45 MPH Posted Speed	45 MPH and less Posted Speed
2	Restrictive w/Service Roads	2,640	1,320	2,640	1,320	660
3	Restrictive	2,640	1,320	2,640	660	440
4	Non-Restrictive			2,640	660	440
5	Restrictive	660 at greater than 45 MPH Posted Speed	660	2,640 at greater than 45 MPH Posted Speed	440	245
		1,320 at 45 MPH or less Posted Speed		1,320 at 45 MPH or less Posted Speed		
6	Restrictive			1,320	440	245
7	Both Median Types	660	330	1,320	125	125

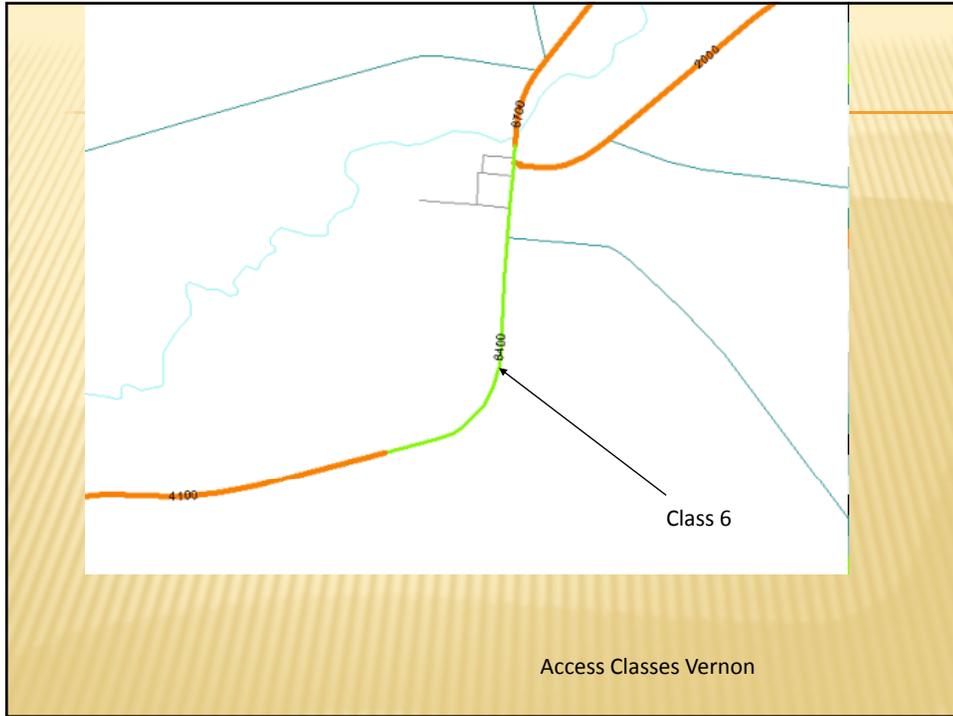


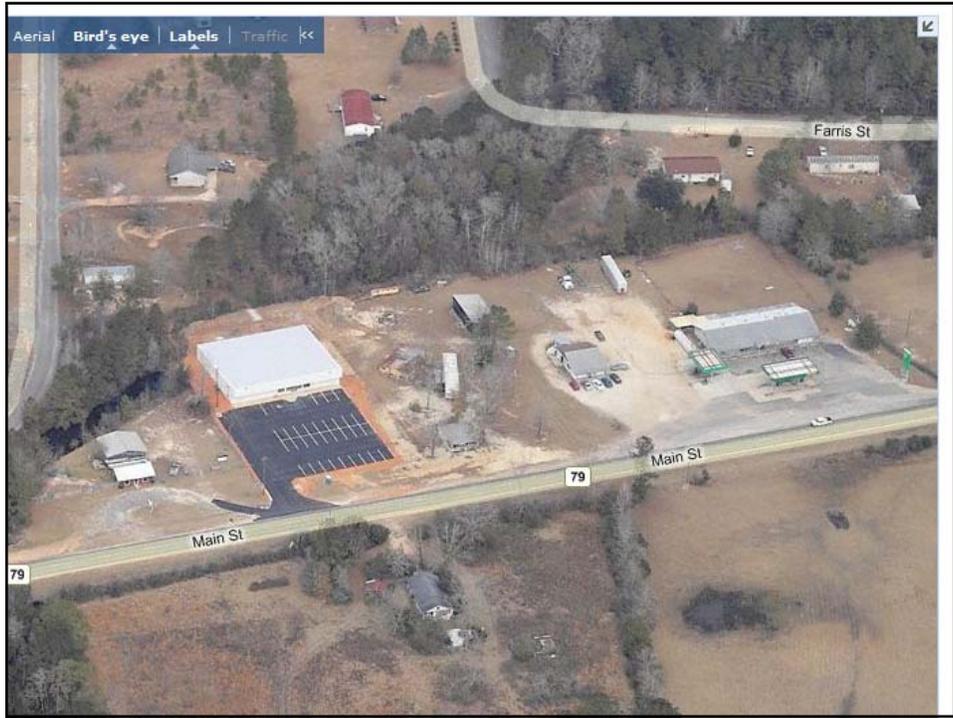
Google Aerials and  
 MP 18.45 - MP 19.855  
 Photo Log North Bound

## VERNON SR 79

NORTH WEST FLORIDA











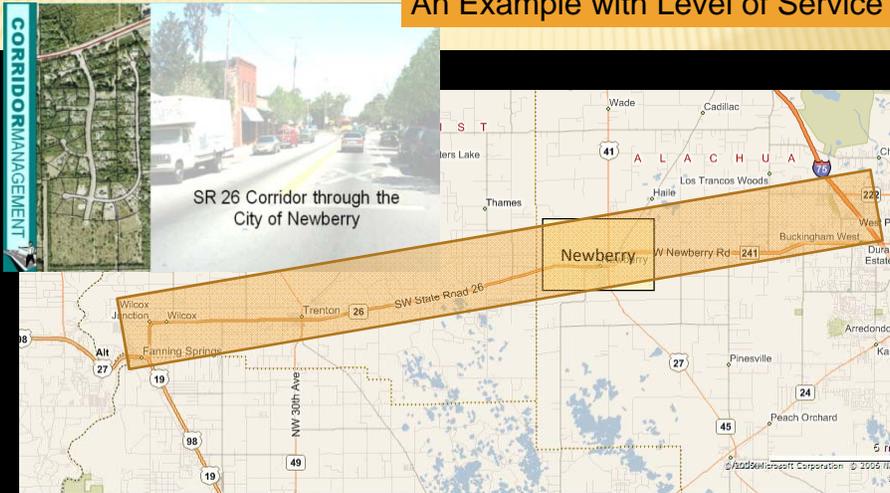
## SPACING STANDARDS

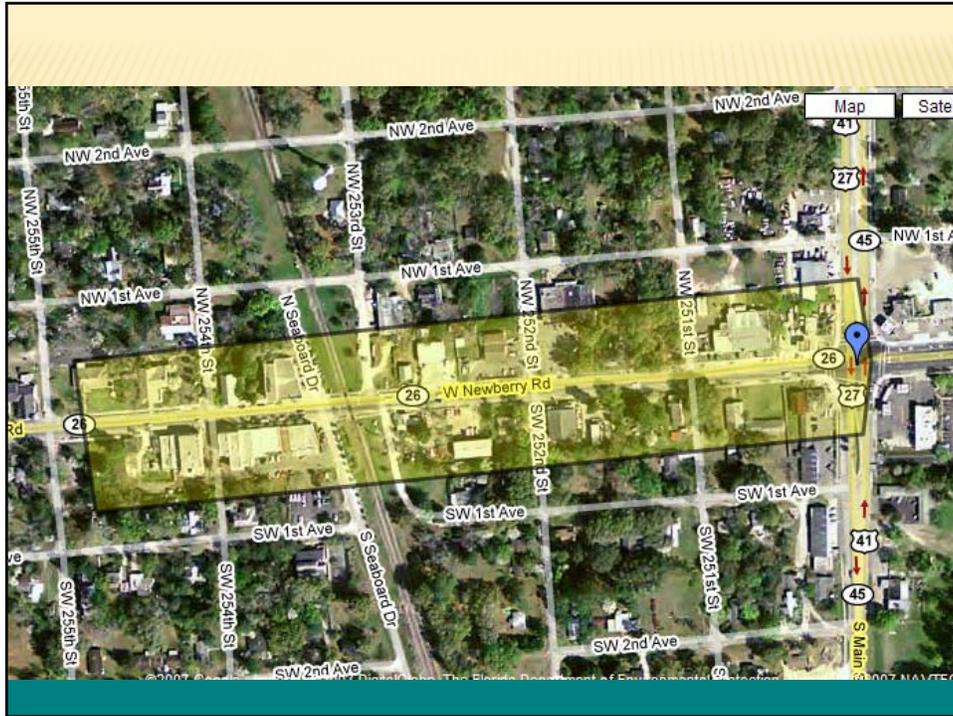
Class	Medians	Median Openings		Signal	Connection	
		Full	Directional		More than 45 MPH Posted Speed	45 MPH and less Posted Speed
2	Restrictive w/Service Roads	2,640	1,320	2,640	1,320	660
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		1,320 at 45 MPH or less Posted Speed		1,320 at 45 MPH or less Posted Speed		
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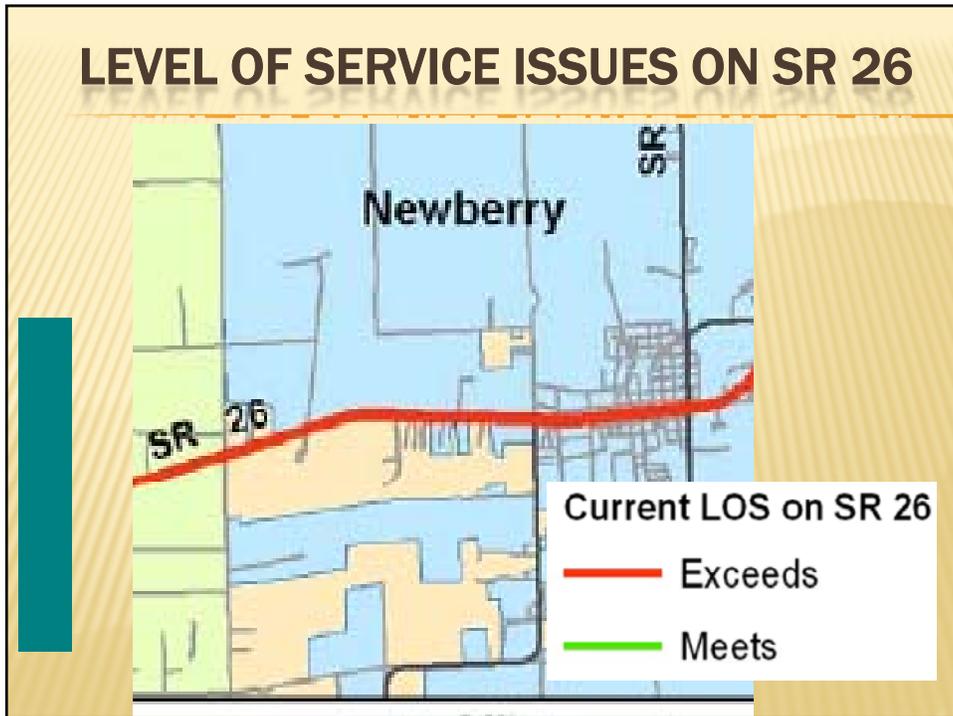
# BUT IT'S NOT ALWAYS ABOUT MOVING TRAFFIC FASTER

An Example with Level of Service





## LEVEL OF SERVICE ISSUES ON SR 26



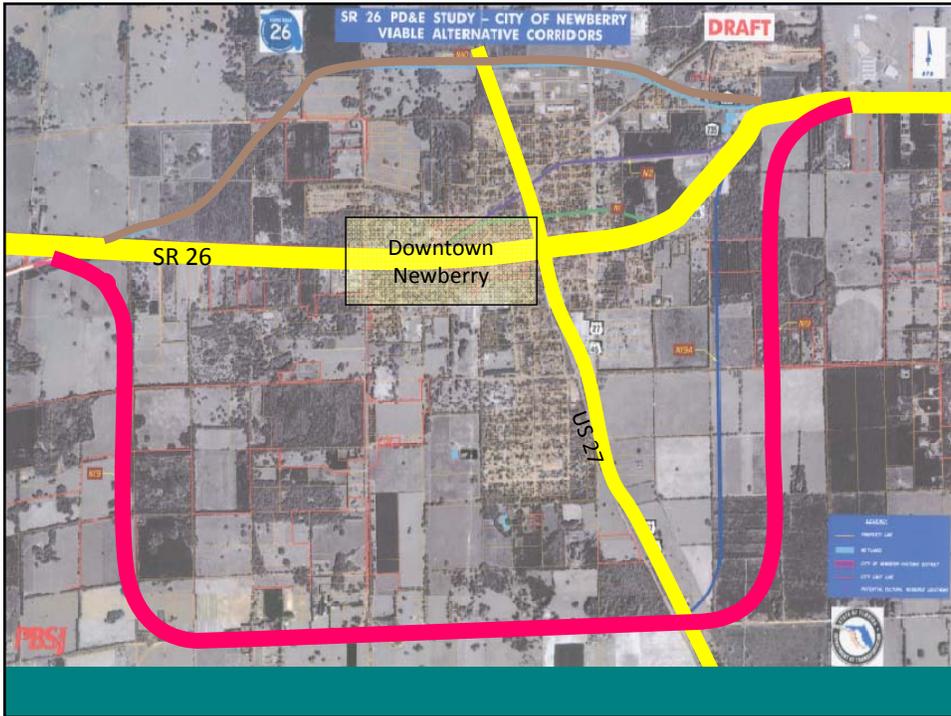
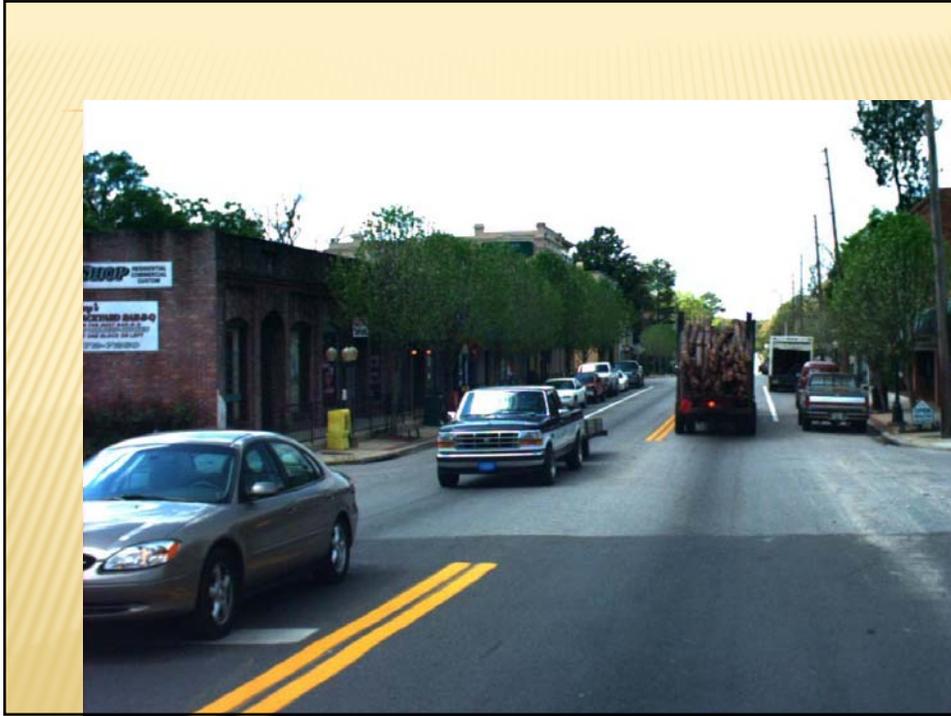
## Simplified LOS Standards

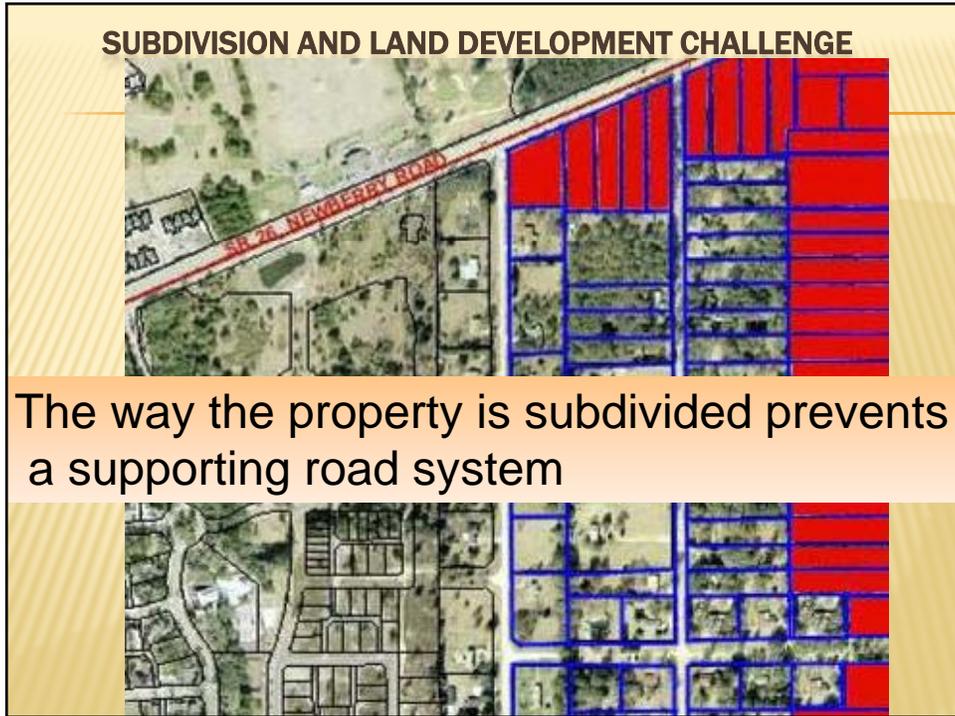
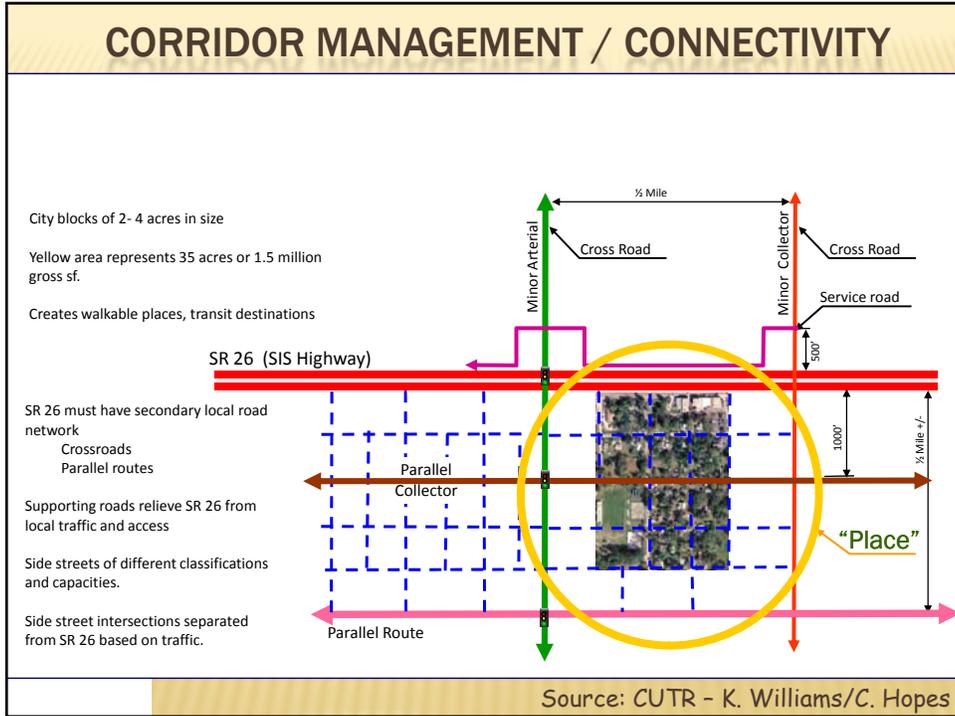
	SIS AND FIHS FACILITIES		OTHER STATE ROADS
	Limited Access (freeway)	Controlled Access (arterial)	Other Multilane (arterial)
Rural Areas	<b>B</b>	<b>B</b>	<b>B</b>
Transitioning Urbanized Areas, Urban Areas, or Communities	<b>C</b>	<b>C</b>	<b>C</b>
Urbanized Areas Over 500,000	<b>D</b>	<b>D</b>	<b>D</b>

Highly simplified to show the principal behind the Level of Service Standards









## LOCAL JURISDICTIONS AND STATE DOTS HAVE DIFFERENT PERSPECTIVES

State DOT	Local Jurisdiction
<ul style="list-style-type: none"> <li>■ Access management</li> <li>■ Arterial Performance</li> <li>■ Maintaining State Standards</li> </ul>	<ul style="list-style-type: none"> <li>■ Economic Potential</li> <li>■ Aesthetics</li> <li>■ Local Access</li> <li>■ Territorial</li> <li>■ Concurrency</li> </ul>

Adapted from : John Taber, Tabermatics, Inc. 2000

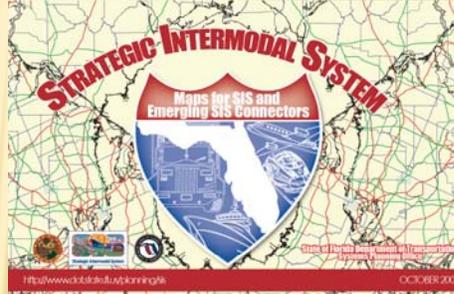
55

## DISCUSSION OF SIS INTERMODAL CONNECTORS

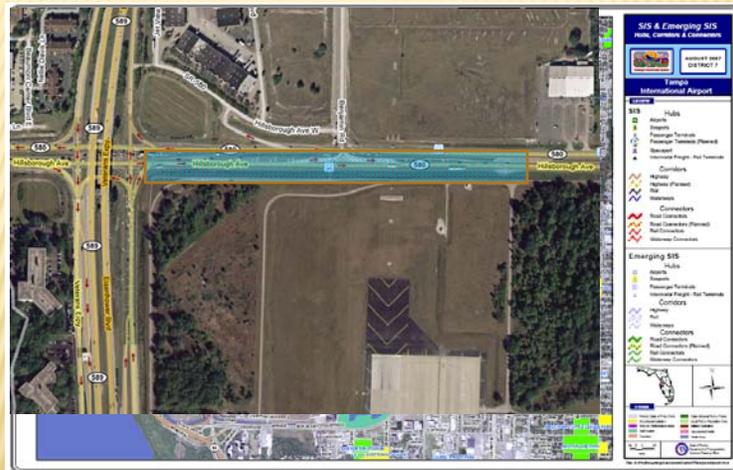


## SIS INTERMODAL CONNECTORS

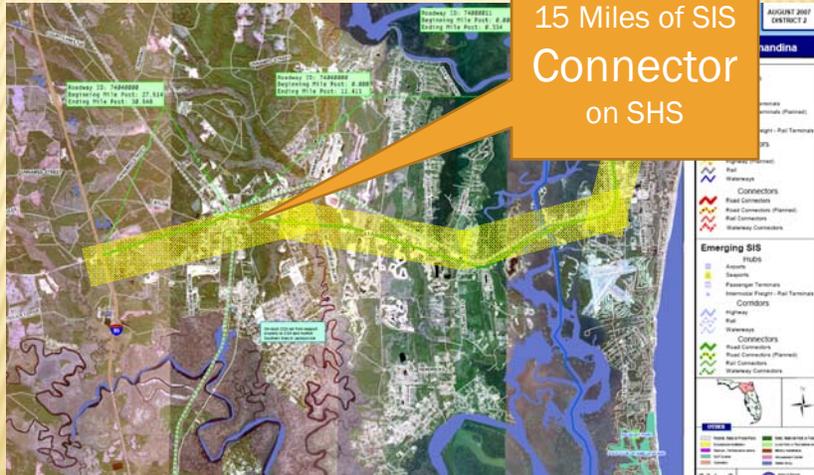
- Some are on State highway System
- Some are under a local jurisdiction= designated a SIS intermodal connector and is not part of the State Highway System



## SIS INTERMODAL CONNECTORS



## SIS INTERMODAL CONNECTOR ON SHS



## SIS INTERMODAL CONNECTORS



## SIS INTERMODAL CONNECTORS



Note under Table 1.9.2 page 1-17 of PPM page 39 of packet Mark up as follows.

**Note:** For FIHS/SIS facilities (including SIS Highway Corridors, ~~and Emerging SIS Highway Corridors, SIS Highway Intermodal Connectors, and Emerging SIS Highway Intermodal Connectors~~), design speeds less than the above minimums shall be submitted to the Director, Office of Design and approved by the Chief Engineer, following a review by the State Transportation Development Administrator, in accordance with the *FIHS Procedure (Topic No. 525-030-250)*.

For SIS and Emerging SIS Highway Intermodal Connectors not on the State Highway System, design speeds less than the above outlined minimums shall be approved by the District Design Engineer, following a review by the District Planning (Intermodal Systems Development) Manager. For SIS and Emerging SIS Highway Intermodal Connectors on the local system (non-SHS), Districts may allow the use of the **Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways** (commonly known as the "Florida Green Book"), **Topic No. 625-000-015**, depending on project specifics, with approval by the District Design Engineer, following a review by the District Planning (Intermodal Systems Development) Manager in accordance with the **Development of the SIS Highway Component Directive (Topic No. 525-030-251-a)**.

\*Terms based on definitions contained in *FIHS Procedure (Topic No. 525-030-250)*.

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## YOUR FRIENDLY CONTACTS

- Jennifer Fortunas
  - 850-414-4909
  - Jennifer.fortunas@dot.state.fl.us
- Gary Sokolow
  - 850-414-4912
  - Gary.sokolow@dot.state.fl.us