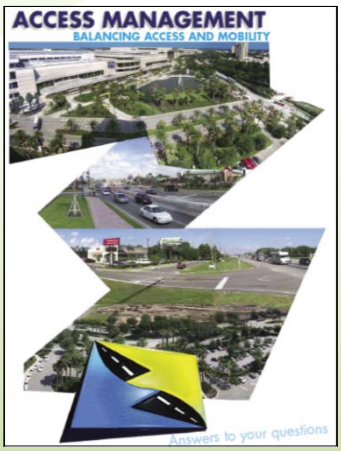
ACCESS MANAGEMENT

BALANCING ACCESS AND MOBILITY



STATE OF FLORIDA • DEPARTMENT OF TRANSPORTATION

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Our 3 minute video

[redacted]

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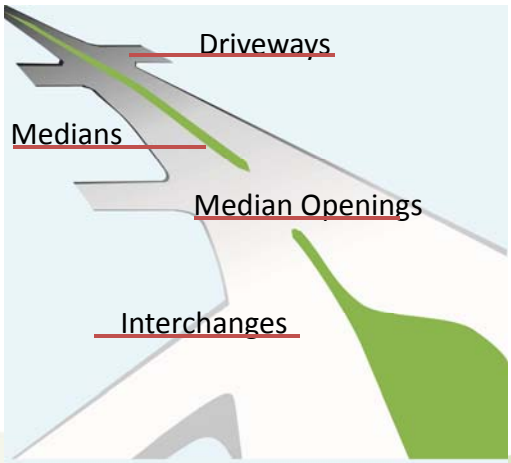
Defining Access Management

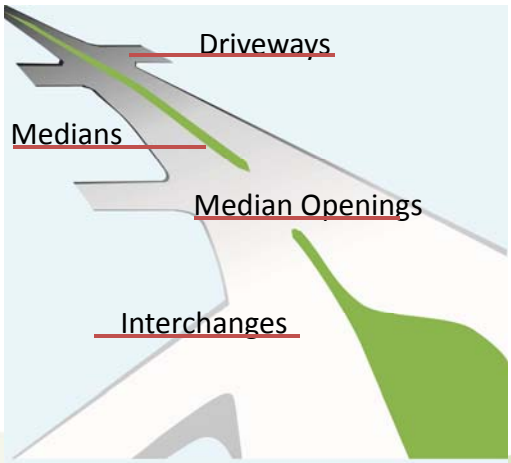
Access management is the careful planning of the location, type and design of access.



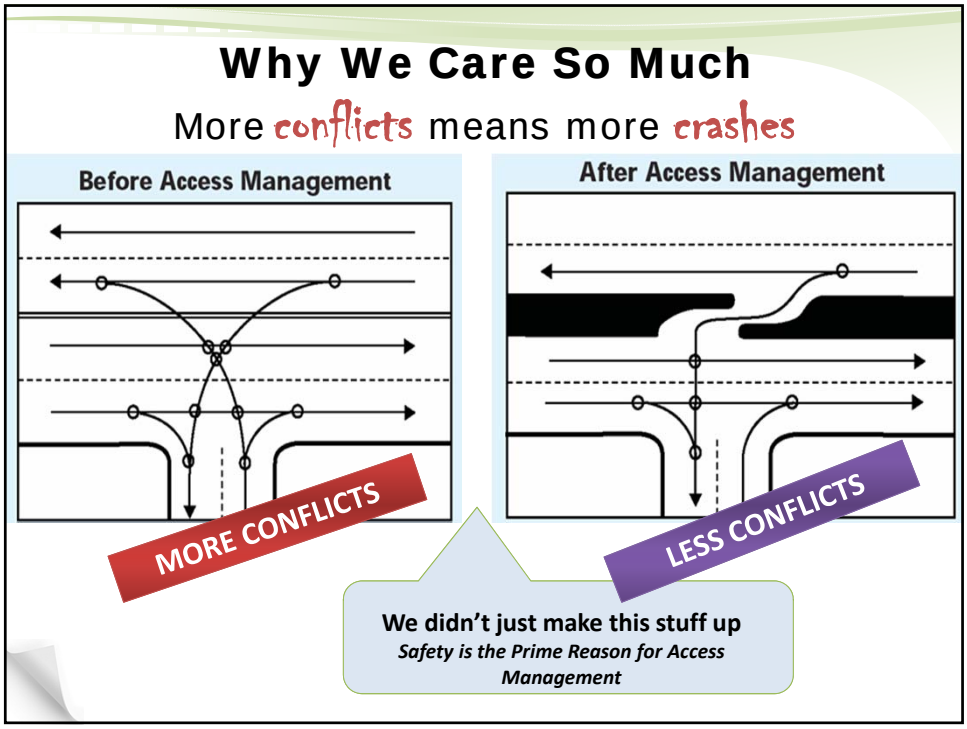
3

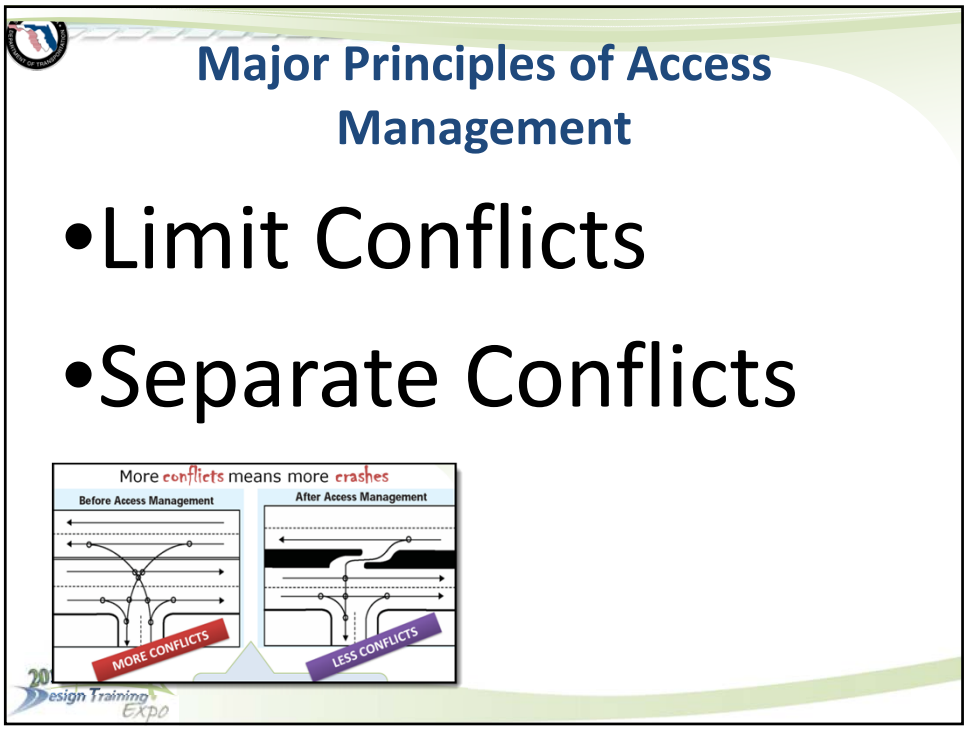
Defining Access Management

Becoming more multi-modal

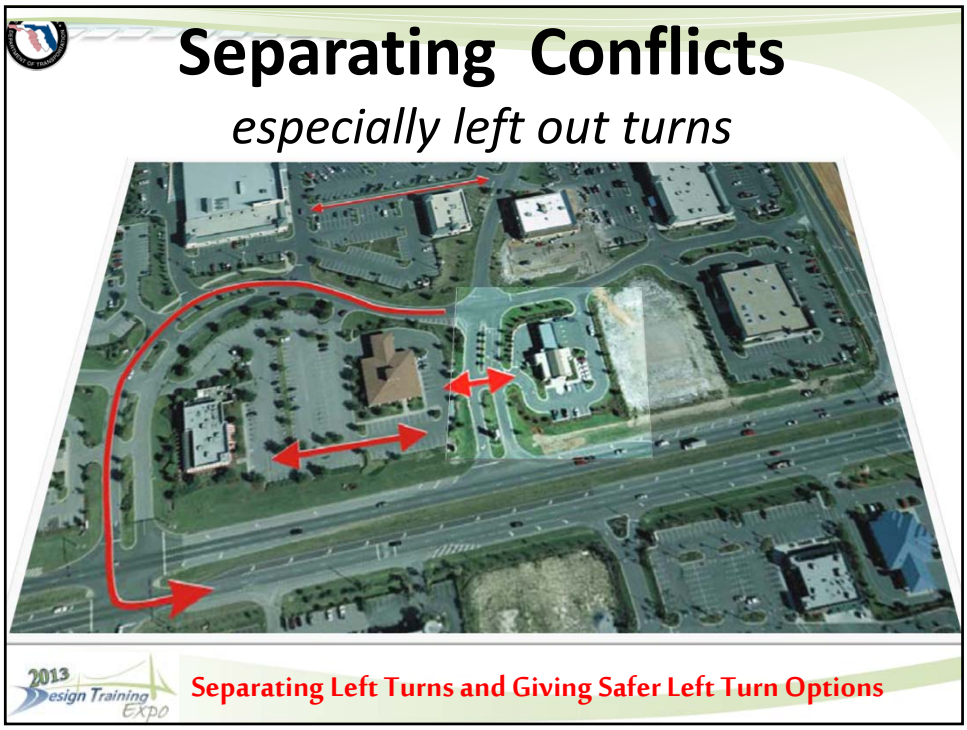


4


Why We Care So Much
More conflicts means more crashes
Before Access Management
After Access Management
MORE CONFLICTS
LESS CONFLICTS
We didn't just make this stuff up
Safety is the Prime Reason for Access Management


Major Principles of Access Management
•Limit Conflicts
•Separate Conflicts
More conflicts means more crashes
Before Access Management
After Access Management
MORE CONFLICTS
LESS CONFLICTS
Design Training Expo

Limiting Conflicts
Notice the wide median allows for the design of a well defined left turn only lane.
Also, note the overlapping concrete traffic separators discourage wrong way movement.
7


Separating Conflicts
especially left out turns
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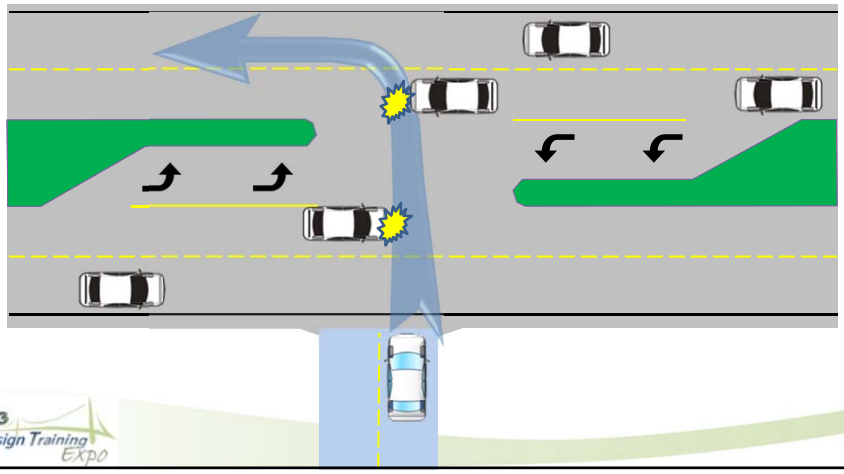
Separating Left Turns and Giving Safer Left Turn Options

Left turns out are the most dangerous low-speed driving maneuver you can make from an unsignalized driveway



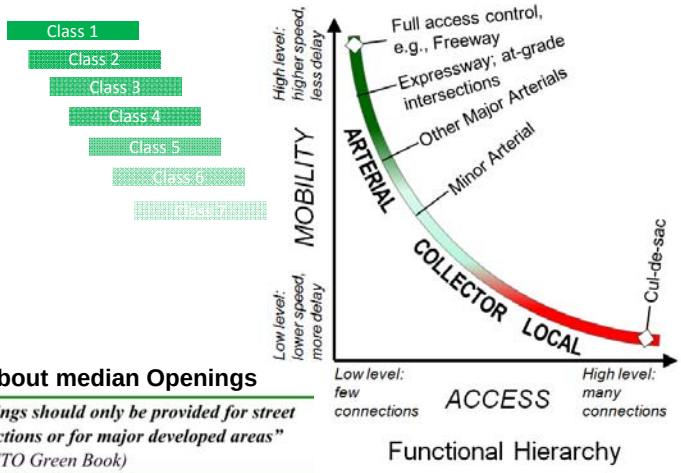
Left Turn Driver is in Most Danger

Lefts are not a right

"Nothing in this subsection limits the department's authority to restrict the operational characteristics of a particular means of access."

335.184(3)(d)FS

Roadway Functional Hierarchy



About median Openings

"Openings should only be provided for street intersections or for major developed areas"
(AASHTO Green Book)

Access from the Beginning

Access should be considered from the start of the process

Decisions made w/o access considerations may seem to save time and money at first,

but will eventually increase costs and slow the process down

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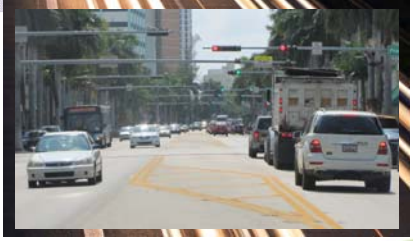
13

Traditional Goals of Access Management

- Enhance mobility with reduced conflict and improved safety **(Automobile focused)**



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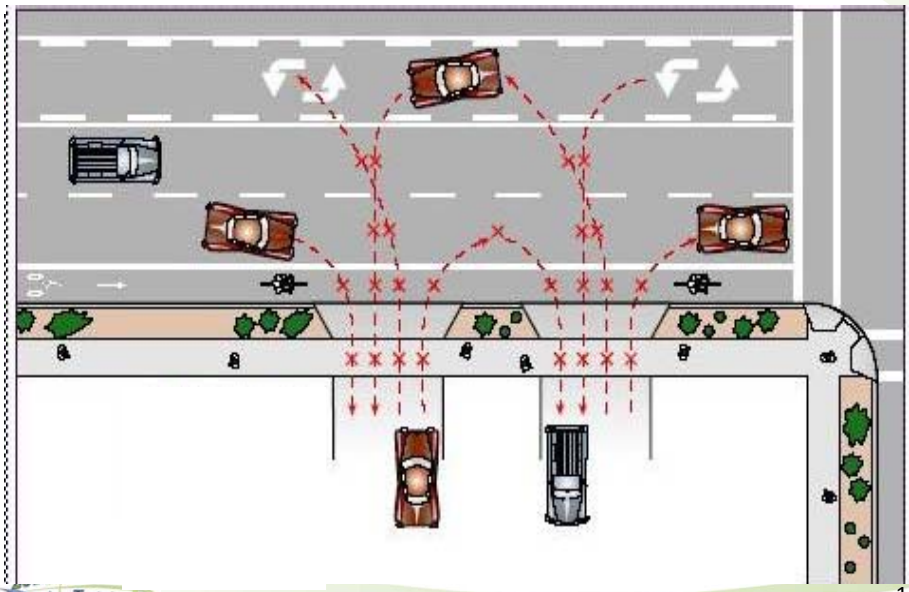
Separating Conflicts - Pedestrians



Source: Oregon DOT

15

16

Dangers of Pedestrians & Two-Way Left Turn Lanes

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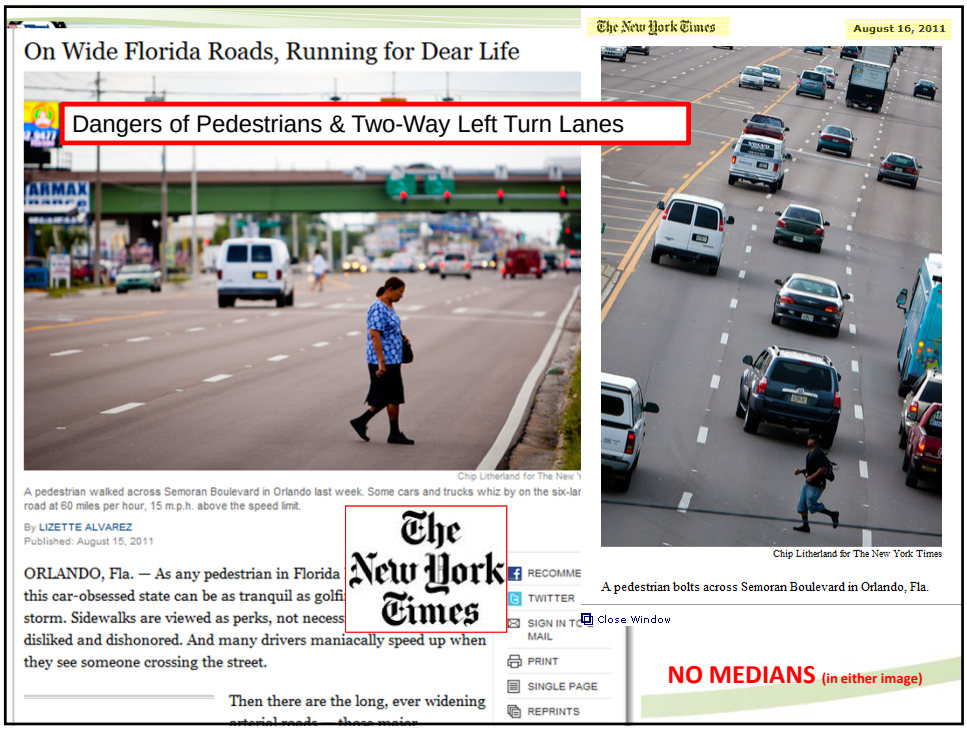


On Wide Florida Roads, Running for Dear Life

Dangers of Pedestrians & Two-Way Left Turn Lanes

A pedestrian walked across Semoran Boulevard in Orlando last week. Some cars and trucks whiz by on the six-lar road at 60 miles per hour, 15 m.p.h. above the speed limit.

By LIZETTE ALVAREZ
Published: August 15, 2011

ORLANDO, Fla. — As any pedestrian in Florida this car-obsessed state can be as tranquil as golfi storm. Sidewalks are viewed as perks, not necess disliked and dishonored. And many drivers maniacally speed up when they see someone crossing the street.

Then there are the long, ever widening

The New York Times

RECOMME
TWITTER
SIGN IN TO MAIL
PRINT
SINGLE PAGE
REPRINTS

The New York Times August 16, 2011

Chip Litherland for The New York Times

A pedestrian bolts across Semoran Boulevard in Orlando, Fla.

Close Window

NO MEDIANS (in either image)

Apalachee Parkway

Before and After Study 2012

BEFORE

Source : Debbie Dantin

Apalachee Parkway

Before and After Study 2012

BEFORE

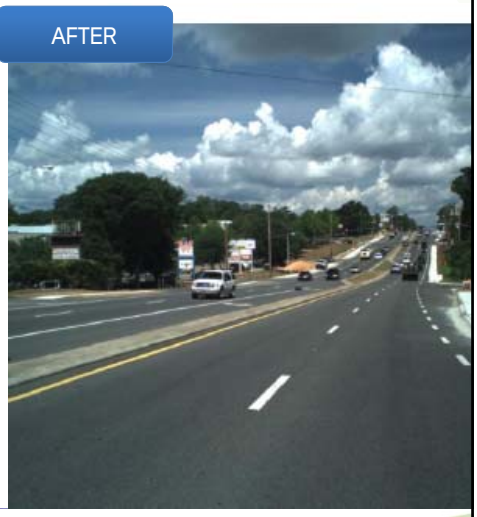
Source : Debbie Dantin

Apalachee Parkway

Before and After Study 2012

BEFORE

AFTER



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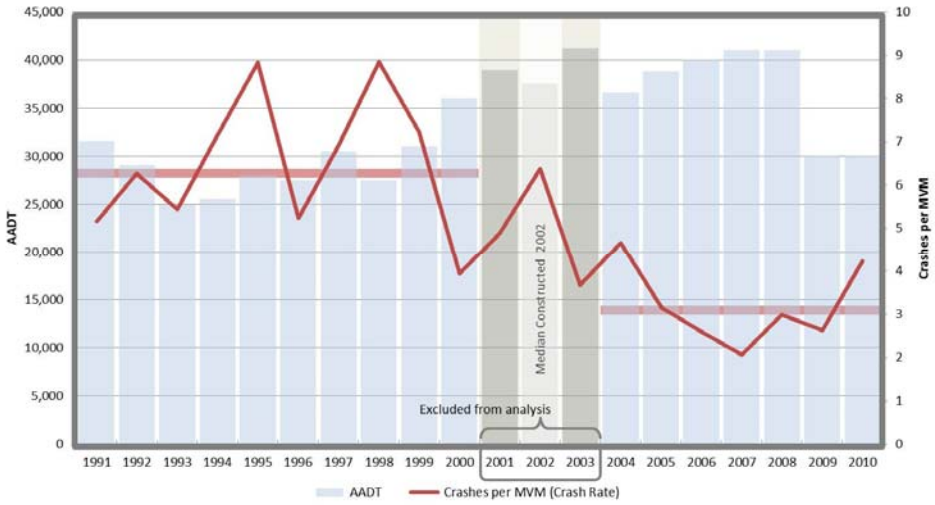
Apalachee Parkway Safety Study



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Highway Safety Manual Support

Chapter 13.4.2.6: Raised Median

- Provide raised median where no median exists
  - Urban (Two-lane and Multilane) and Rural (Multilane)
  - Shows crash reduction with raised median

Chapter 13.14: Access Management and Driveways

Example Problem

- *HSM* sample problem – You have been asked to evaluate the safety impacts of changing from a 5 lane with two-way left turn lane roadway to a 4 lane divided roadway with a raised median. Using Part C of the *HSM*, you can make predictions based on the following information:
  - AADT is 30,000 vehicles/day
  - Roadway length is 1 mile

Urban Highway Five Lane with Two-Way Left Turn Lane Roadway Segments

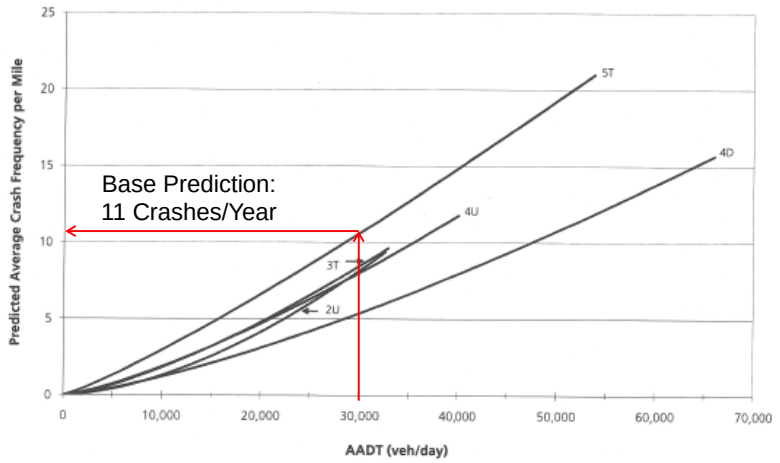

Figure 12-3. Graphical Form of the SPF for Multiple Vehicle Nondriveway collisions (from Equation 12-10 and Table 12-3)

Urban Highway Four-Lane Divided Roadway Segments

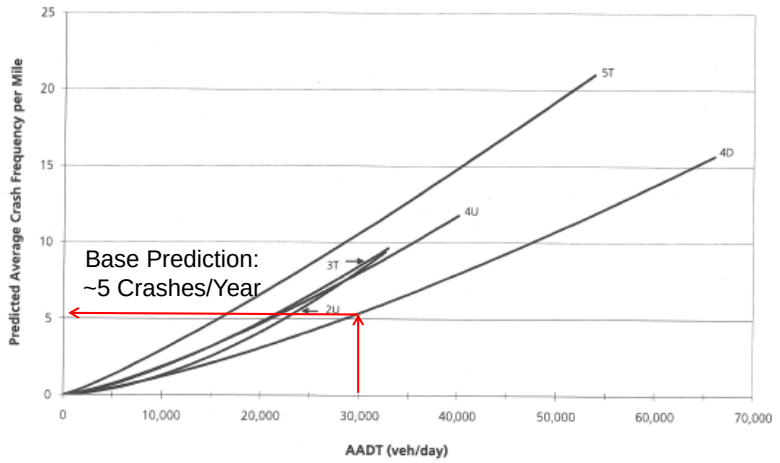

Figure 12-3. Graphical Form of the SPF for Multiple Vehicle Nondriveway collisions (from Equation 12-10 and Table 12-3)

HSM
Highway Safety Manual

HSM
Highway Safety Manual

Draft Highway Safety Manual Case Study: Implementing the Predictive Method in Florida for SR 574

HSM Reference

The American Association of State Highway and Transportation Officials' (AASHTO's) *Highway Safety Manual* (HSM) Part C (Chapters 10-12) Predictive Method can be used to estimate crash frequency and severity. The predictive method uses equations known as Safety Performance Functions (SPFs) to estimate the expected average crash frequency as a function of traffic volume and roadway characteristics (e.g., number of lanes, median width, intersection

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From Benefit Cost Spreadsheet

	Multi-Vehicle Driveway Crashes								
AADT	N(majority)	N(minority)	N(other)	N(total)	FI(SV)	PDO(SV)	Ficost	PDOcost	Present Value
26800	0.326	0.523	3.168	4.017	1.081	2.937	$170,953	$29,727	$192,962
27342.05	0.333	0.536	3.243	4.113	1.106	3.006	$175,013	$30,433	$189,946
27895.06	0.341	0.548	3.320	4.210	1.133	3.078	$179,169	$31,156	$186,977
28459.26	0.350	0.561	3.399	4.310	1.159	3.151	$183,423	$31,895	$184,055
29034.87	0.358	0.575	3.480	4.413	1.187	3.226	$187,778	$32,653	$181,178
29622.12	0.366	0.588	3.563	4.517	1.215	3.302	$192,237	$33,428	$178,347
30221.24	0.375	0.602	3.647	4.625	1.244	3.381	$196,802	$34,222	$175,559
30832.49	0.384	0.617	3.734	4.734	1.274	3.461	$201,475	$35,034	$172,815
31456.1	0.393	0.631	3.823	4.847	1.304	3.543	$206,259	$35,866	$170,114
32092.32	0.402	0.646	3.913	4.962	1.335	3.627	$211,157	$36,718	$167,456
32741.41	0.412	0.662	4.006	5.080	1.366	3.713	$216,171	$37,590	$164,838
33403.63	0.422	0.677	4.101	5.200	1.399	3.801	$221,304	$38,482	$162,262
34079.24	0.432	0.693	4.199	5.324	1.432	3.892	$226,559	$39,396	$159,726
34768.52	0.442	0.710	4.298	5.450	1.466	3.984	$231,939	$40,332	$157,230
35471.73	0.452	0.727	4.401	5.580	1.501	4.079	$237,447	$41,289	$154,772
36189.18	0.463	0.744	4.505	5.712	1.537	4.176	$243,085	$42,270	$152,353
36921.13	0.474	0.762	4.612	5.848	1.573	4.275	$248,857	$43,274	$149,972
37667.88	0.485	0.780	4.722	5.987	1.610	4.376	$254,766	$44,301	$147,628
38429.74	0.497	0.798	4.834	6.129	1.649	4.480	$260,816	$45,353	$145,321
39207.01	0.509	0.817	4.948	6.274	1.688	4.587	$267,009	$46,430	$143,050
40000									$3,336,562

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converted to a present value using a four percent discount rate. The resulting values for the two design alternatives are provided in the following table.

CRASH TYPE	4 LANE, DIVIDED	5 LANE WITH TWLTL
Multi-Vehicle	$1,492,000	$2,856,000
Single Vehicle	$155,000	$235,000
Driveways	$561,000	$3,337,000
Total	**$2,208,000**	**$6,428,000**

Based on these results, the four-lane divided alternative was predicted to have a crash cost savings of approximately $4.2 million compared to the five-lane with two-way left-turn lane alternative. A benefit-cost ratio was calculated by dividing the crash cost savings by the difference in ROW costs[2]. The resulting benefit-cost ratio was equal to 2.64, illustrating that the benefit obtained through improvement in crash costs more than offset the differential in ROW

Final Benefit Cost

BENEFIT-COST RATIO: 4-LANE DIVIDED TO 5-LANE

4-LANE CRASH COST = $2,208,397
5-LANE CRASH COSTS = $6,427,529

4-LANE RIGHT OF WAY COSTS = $2,200,000
5-LANE RIGHT OF WAY COSTS = $600,000

B/C = 2.64

Benefit/Cost Ratio:

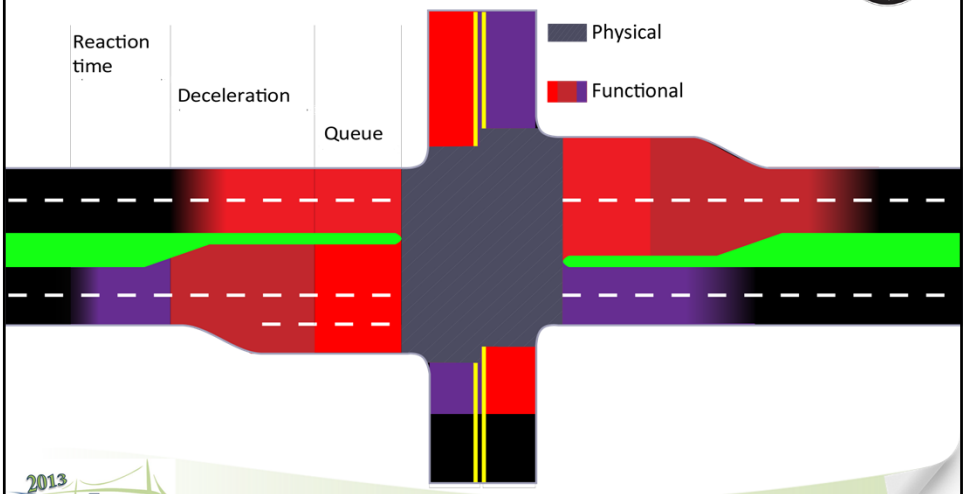
Societal Costs (due to crashes)
$6,427,529 (5 lane)
- $2,208,397 (4 lane)
= $4,219,132 (cost difference)

Additional Cost to Build 4-Lane (ROW)
$2,200,000 (4 lane)
- $600,000 (5 lane)
= $1,600,000 (cost difference)

$4.2M (benefit) / $1.6M (cost)
= 2.6

WHAT IS GOOD ACCESS?

Keep Access Away from the Functional Area



Old Definition of Good Access
STANDARD OIL COMPANY
ATLAS TIRES
solube MOTOR OIL
U.S. HIGHWAY 90
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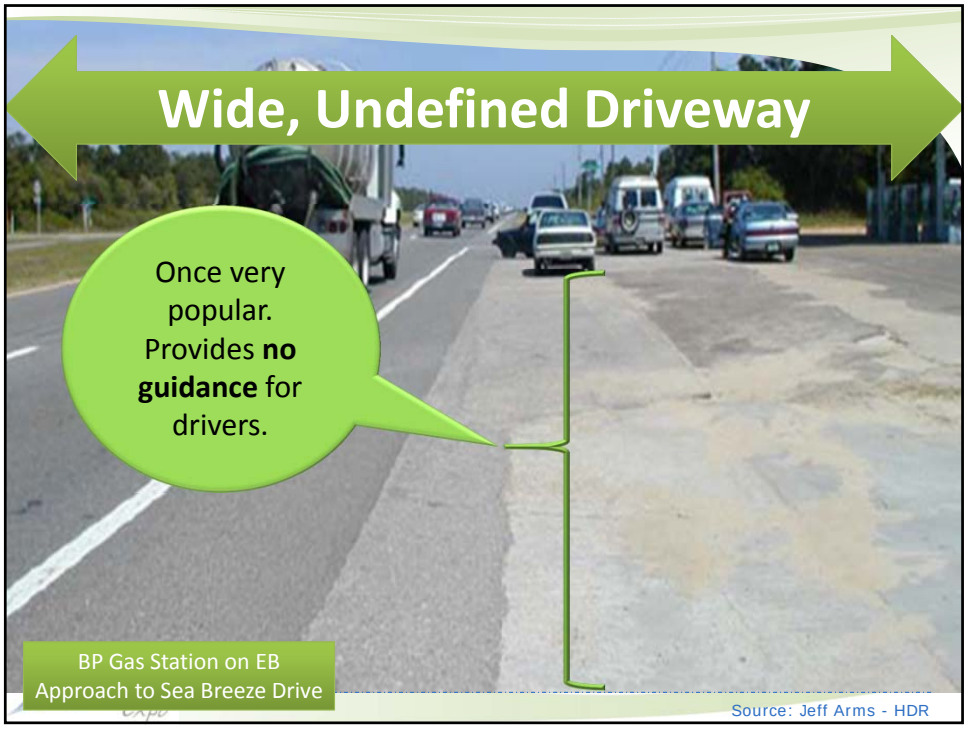
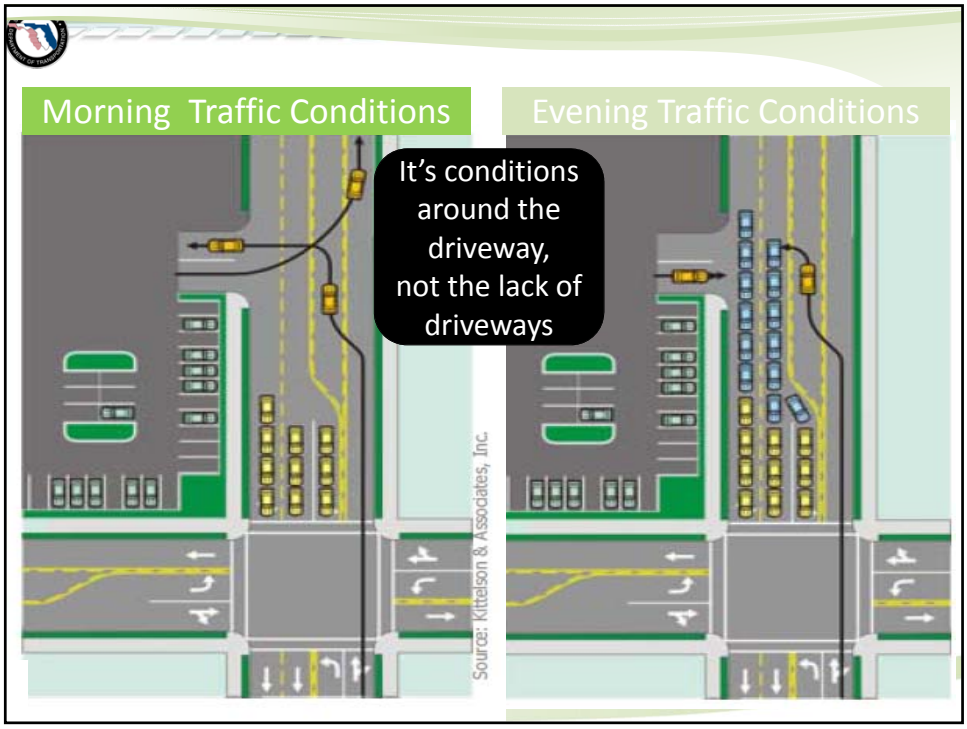

Wide, Undefined Driveway
Once very popular. Provides **no guidance** for drivers.
BP Gas Station on EB Approach to Sea Breeze Drive
Source: Jeff Arms - HDR

One of the Dangers of Wide Open Frontages...
DONUTLAND
www.rotten.com


Morning Traffic Conditions
Evening Traffic Conditions
It's conditions around the driveway, not the lack of driveways
Source: Kittelson & Associates, Inc.

The "Take-away"?
Long queues
Peak hour spread
More trouble getting out of business
Small unconnected properties are now at a disadvantage for customer access
This queue is blocking street traffic and additional customers
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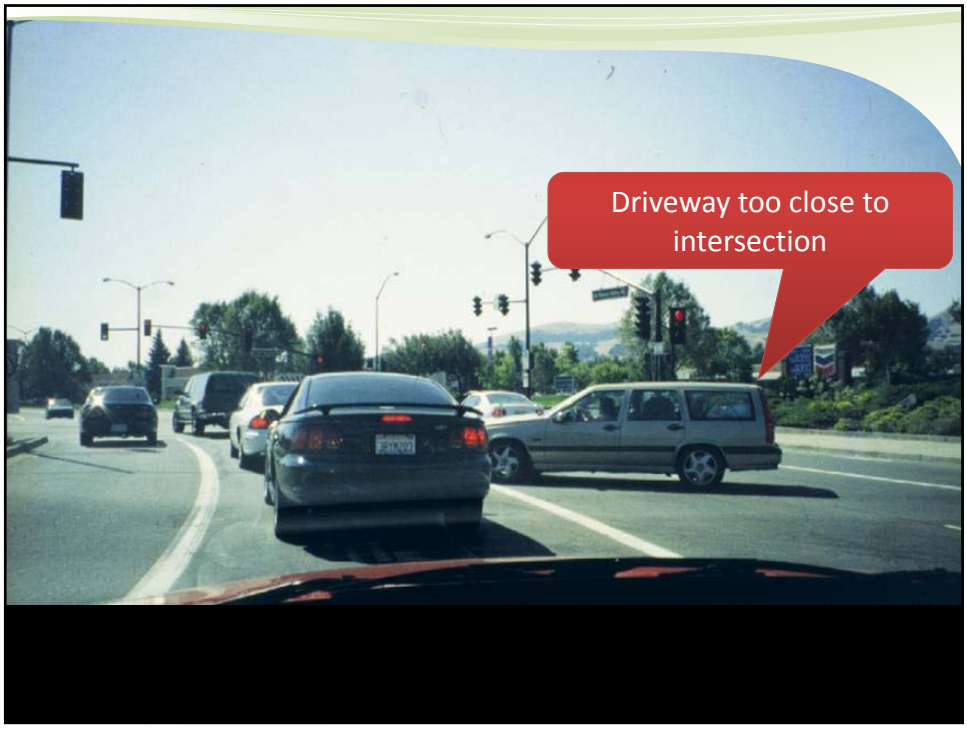
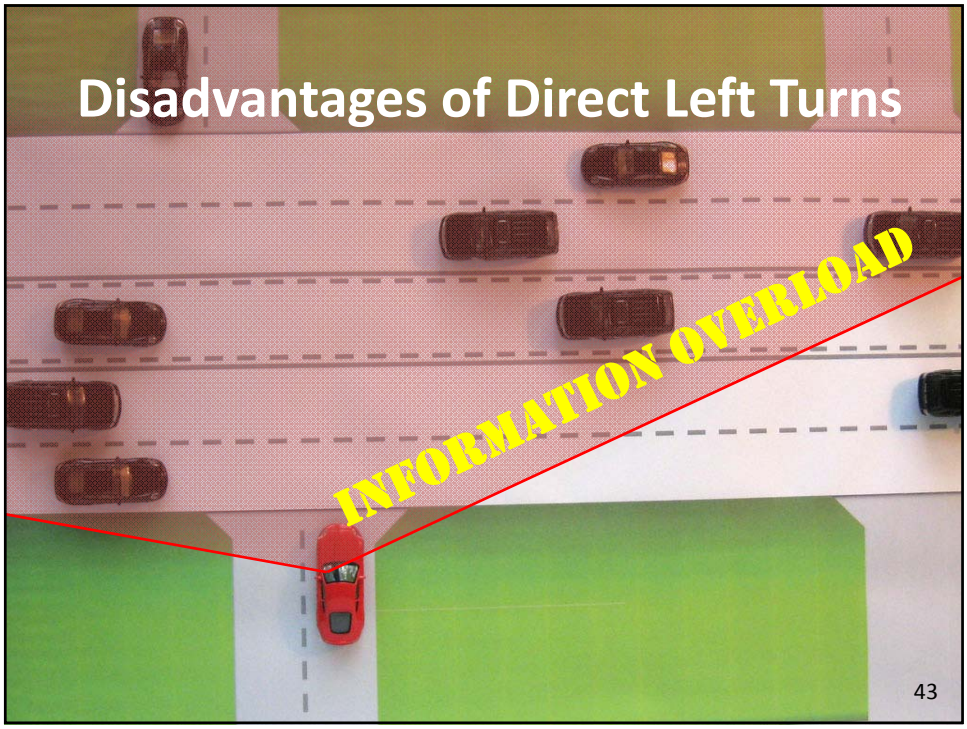
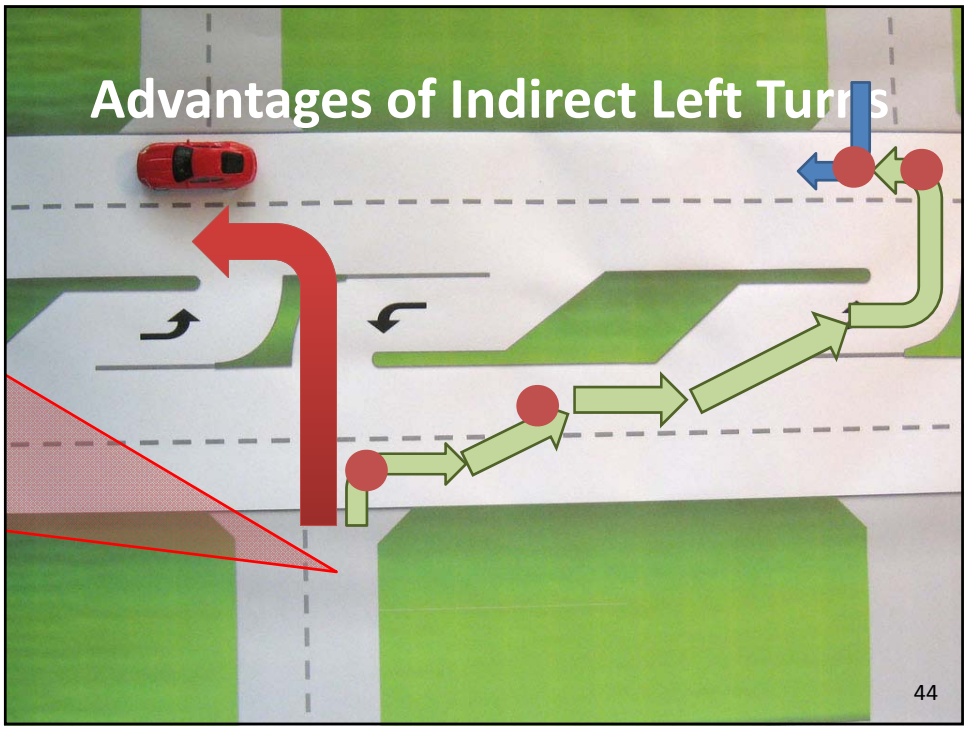

Driveway too close to intersection

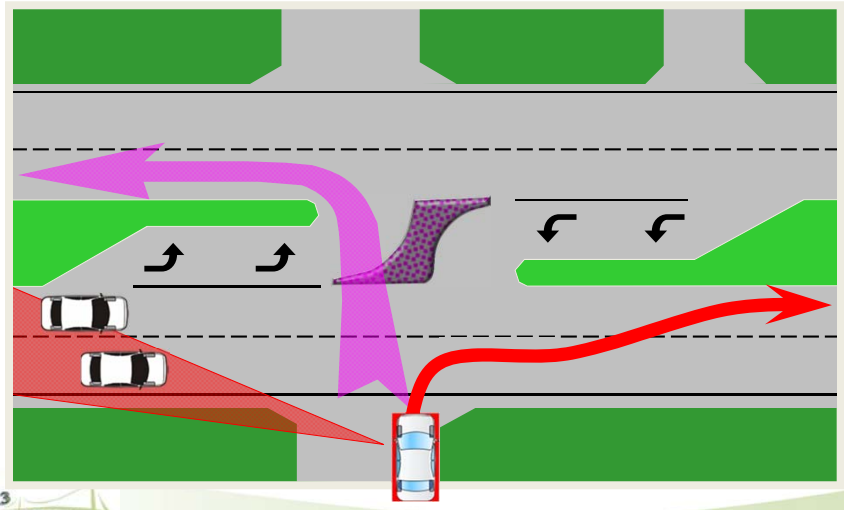
One driveway serves Walgreens, McDonalds, and **two** service stations
Walgreens
McDonald's
Mobil
Mobil Lube Express
Hancock Bridge Pkwy

U-turns are controversial at public meetings ...

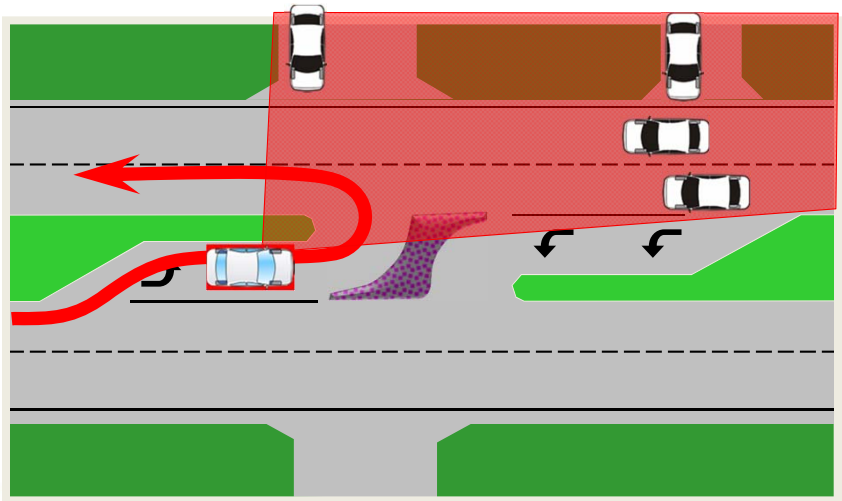

Disadvantages of Direct Left Turns
INFORMATION OVERLOAD
43


Advantages of Indirect Left Turns
44

Advantage of Indirect Left Turns (U-turns)

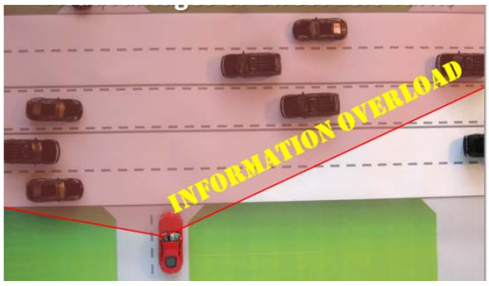


Advantage of Indirect Left Turns (U-turns)

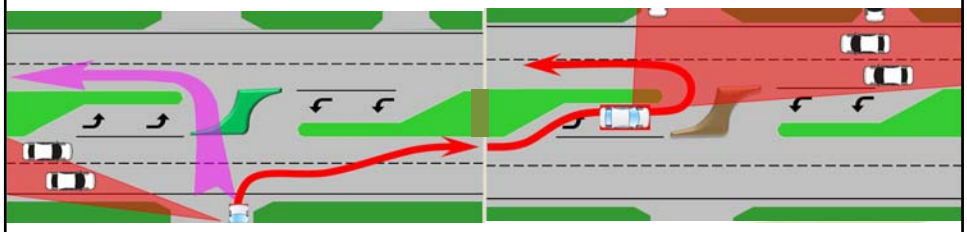


Advantage of Indirect Left Turns

Separates the 'Paths of Conflict'



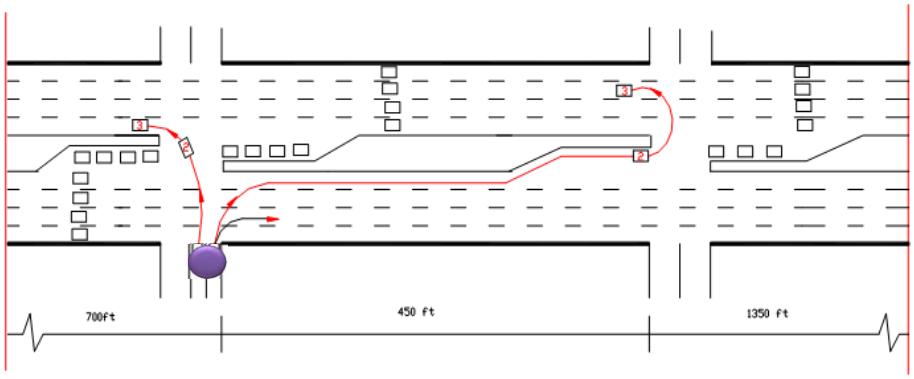
Into 2 or 3 separate, more manageable maneuvers



USF UNIVERSITY OF SOUTH FLORIDA

Center for Urban Transportation Research

Safety Evaluation of Left Turns vs. Right Turn Plus U-turns

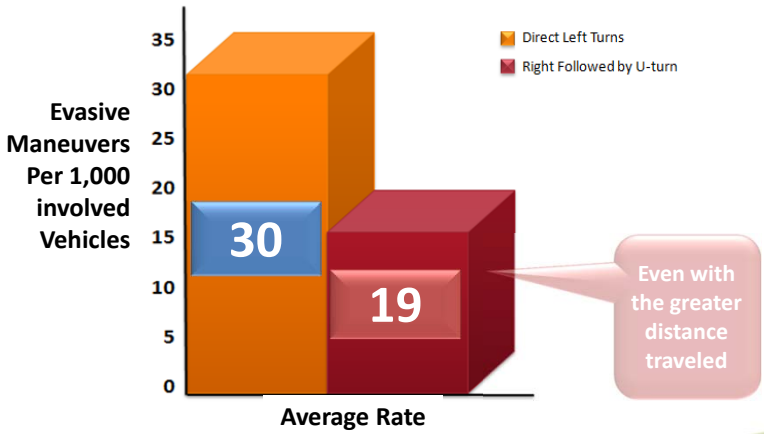


Operational Study

Data Collection Equipment

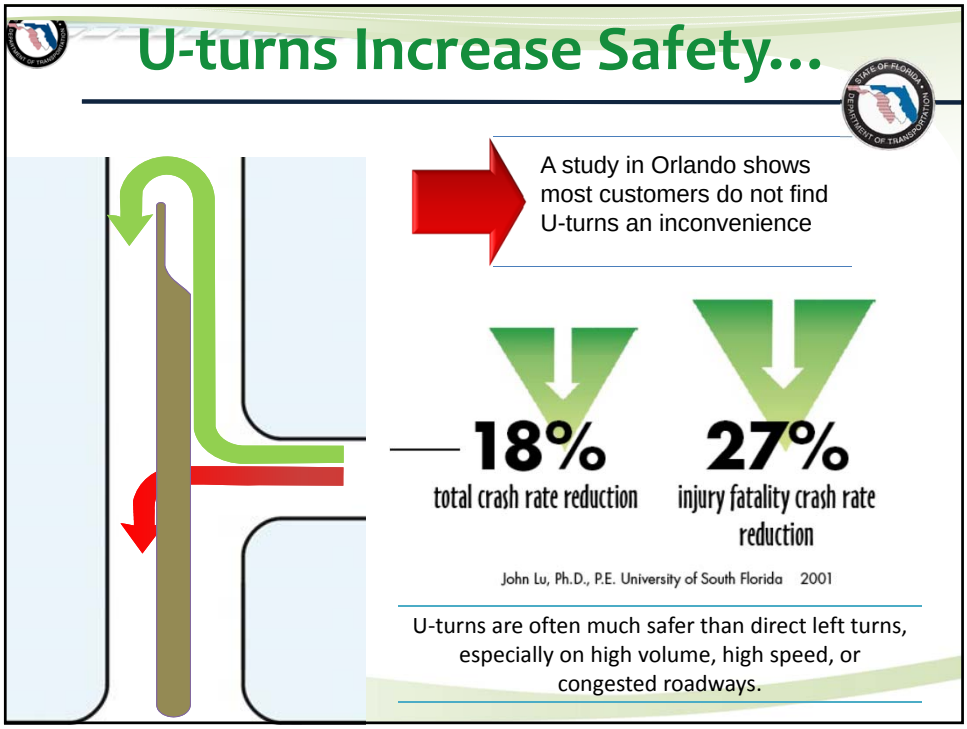
Over 300 hours of video → Eight sites in Tampa Bay area → Actual analysis of evasive maneuvers (Conflicts)

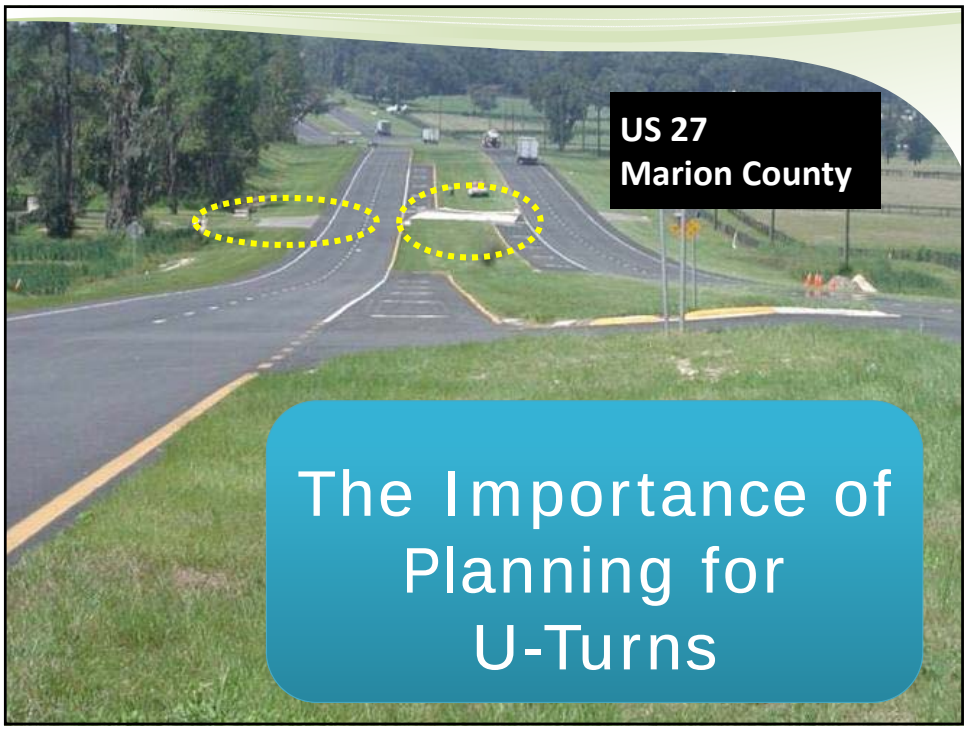
Evasive Maneuvers Comparing Direct Lefts vs. Right Turn followed by U Turn

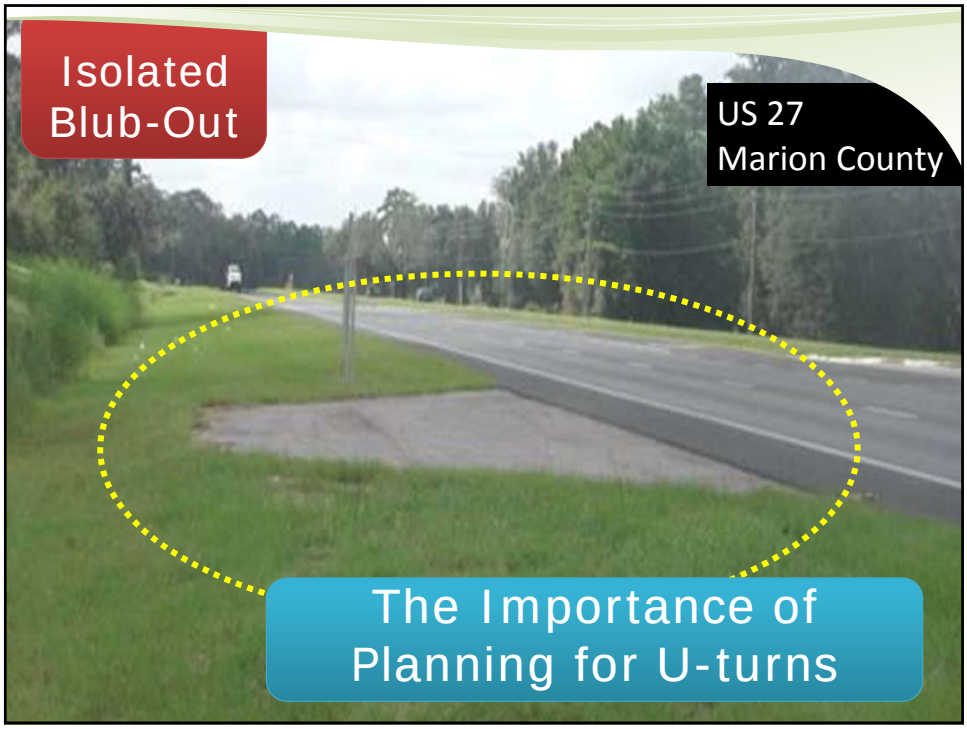


Even with the greater distance traveled

University of South Florida - 2001

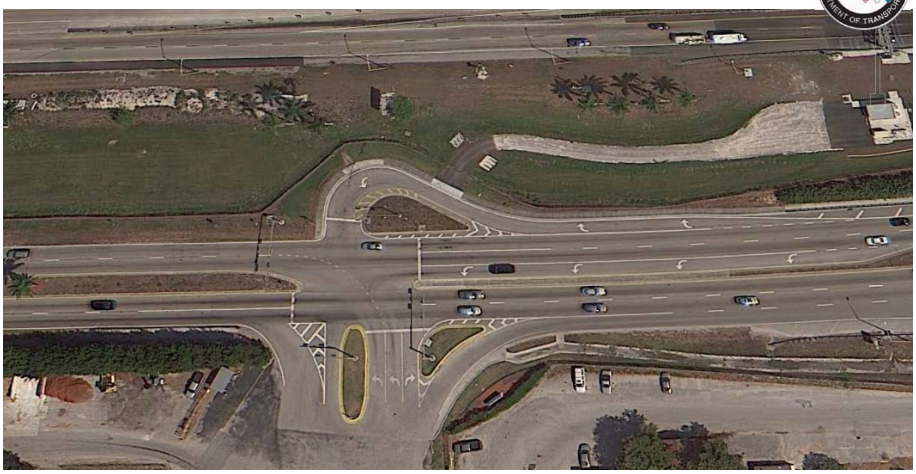

U-turns Increase Safety…
A study in Orlando shows most customers do not find U-turns an inconvenience
18%
total crash rate reduction
27%
injury fatality crash rate reduction
John Lu, Ph.D., P.E. University of South Florida 2001
U-turns are often much safer than direct left turns, especially on high volume, high speed, or congested roadways.


US 27
Marion County
The Importance of Planning for U-Turns


Isolated
Blub-Out
US 27
Marion County
The Importance of
Planning for U-turns

BayMeadows Rd.
Median and "bulb-out" mid-block
2012
Design Training
Expo

Jug Handle in Miami, FL – Access for Horse Trailers



Bulb-outs for Large Vehicle U-turn US 27 in Marion County

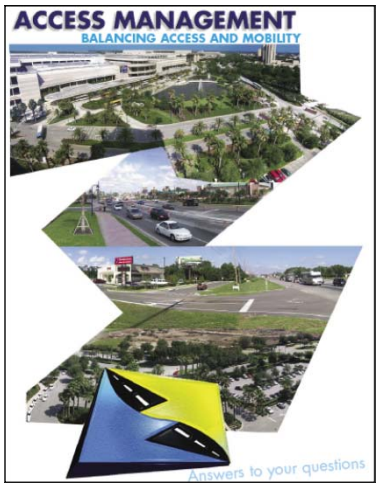
Jug Handle/Bulb-out in Sarasota, Get Your Paper Too!

We (FDOT) took this out a few years ago

Jug Handle/Bulb-out in Sarasota, Get Your Paper Too!

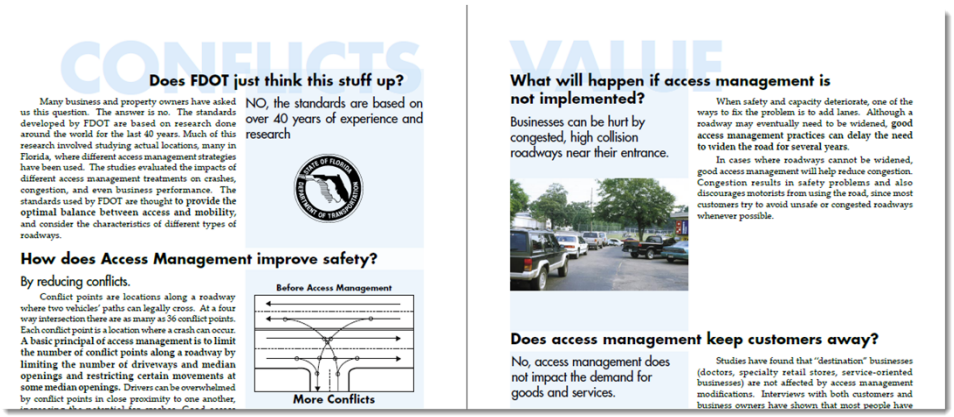
We (FDOT) took this out a few years ago

Brochures for our Work with Public



http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/am2006brochure.pdf

Question and Answer Format



CONFLICTS

Does FDOT just think this stuff up?

Many business and property owners have asked us this question. The answer is no. The standards developed by FDOT are based on research done around the world for the last 40 years. Much of this research involved studying actual locations, many in Florida, where different access management strategies have been used. The studies evaluated the impacts of different access management treatments on crashes, congestion, and even business performance. The standards used by FDOT are thought to provide the optimal balance between access and mobility, and consider the characteristics of different types of roadways.

NO, the standards are based on over 40 years of experience and research

How does Access Management improve safety?

By reducing conflicts.

Conflict points are locations along a roadway where two vehicles' paths can legally cross. At a four way intersection there are as many as 36 conflict points. Each conflict point is a location where a crash can occur. **A basic principal of access management is to limit the number of conflict points along a roadway by limiting the number of driveways and median openings and restricting certain movements at some median openings.** Drivers can be overwhelmed by conflict points in close proximity to one another,

Before Access Management

More Conflicts

VALUE

What will happen if access management is not implemented?

Businesses can be hurt by congested, high collision roadways near their entrance.

When safety and capacity deteriorate, one of the ways to fix the problem is to add lanes. Although a roadway may eventually need to be widened, **good access management practices can delay the need to widen the road for several years.**

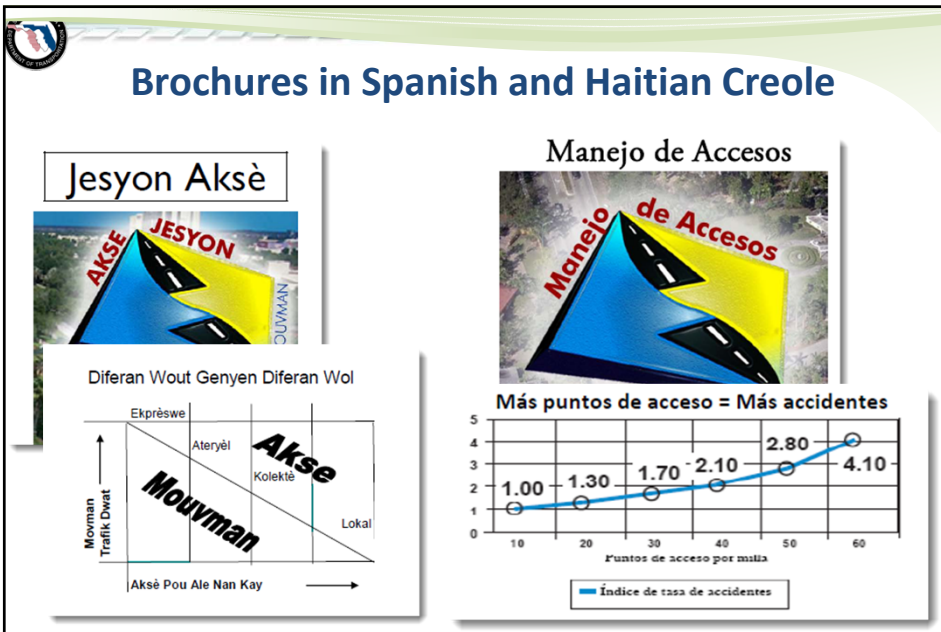
In cases where roadways cannot be widened, good access management will help reduce congestion. Congestion results in safety problems and also discourages motorists from using the road, since most customers try to avoid unsafe or congested roadways whenever possible.

Does access management keep customers away?

No, access management does not impact the demand for goods and services.

Studies have found that "destination" businesses (doctors, specialty retail stores, service-oriented businesses) are not affected by access management modifications. Interviews with both customers and business owners have shown that most people have

Brochures in Spanish and Haitian Creole



Jesyon Aksè

Manejo de Accesos

Translation by: ***Jacques Defrant***

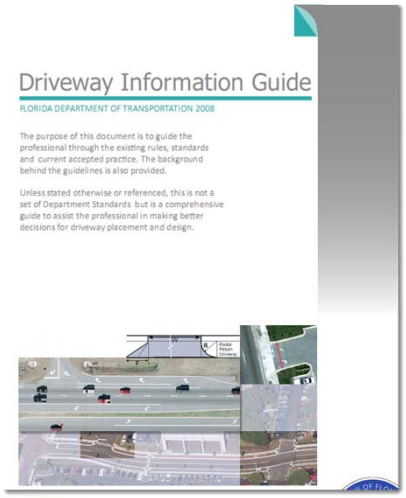
Translation by: ***Cesar A. Toro***

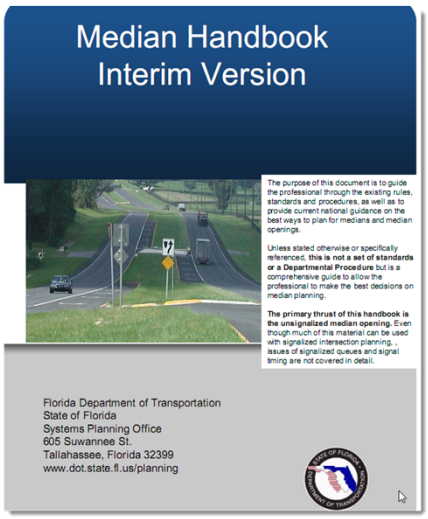
For these: Contact gary.sokolow@dot.state.fl.us

Poor Access Management
HOP IN FOR HOLIDAY NEEDS
No Median
•Lots of Asphalt
•No guidance
•Pedestrian hostile
NO driveway definition

Good Access Management
✓Safety
✓Aesthetics
✓Efficiency
✓Pedestrian/Transit friendly
US 192

Some of Our Other Materials



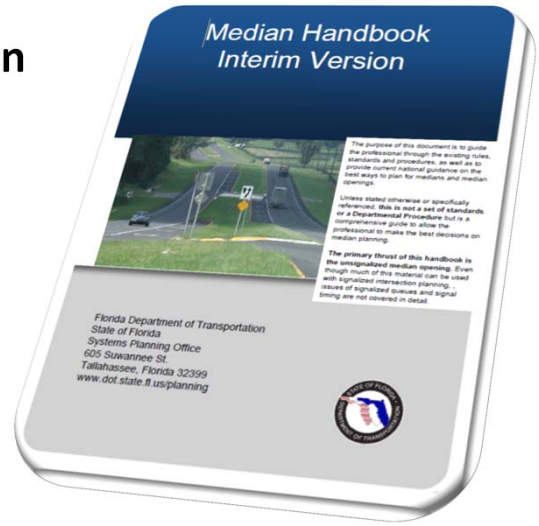


http://www.dot.state.fl.us/planning/systems/sm/accman/

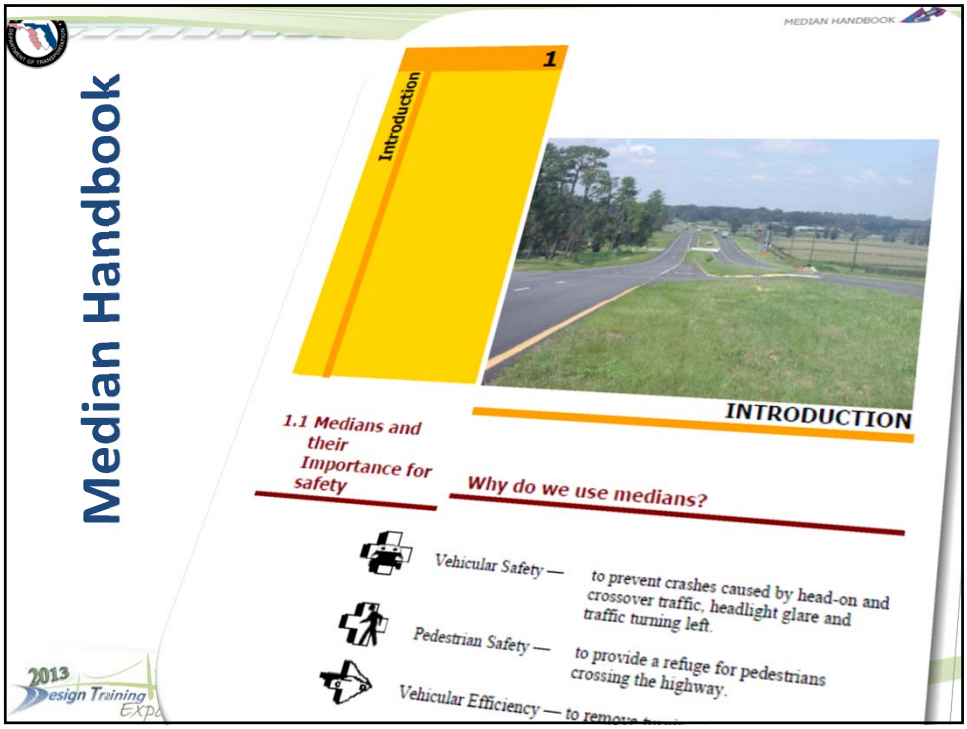
Interim Since 2006

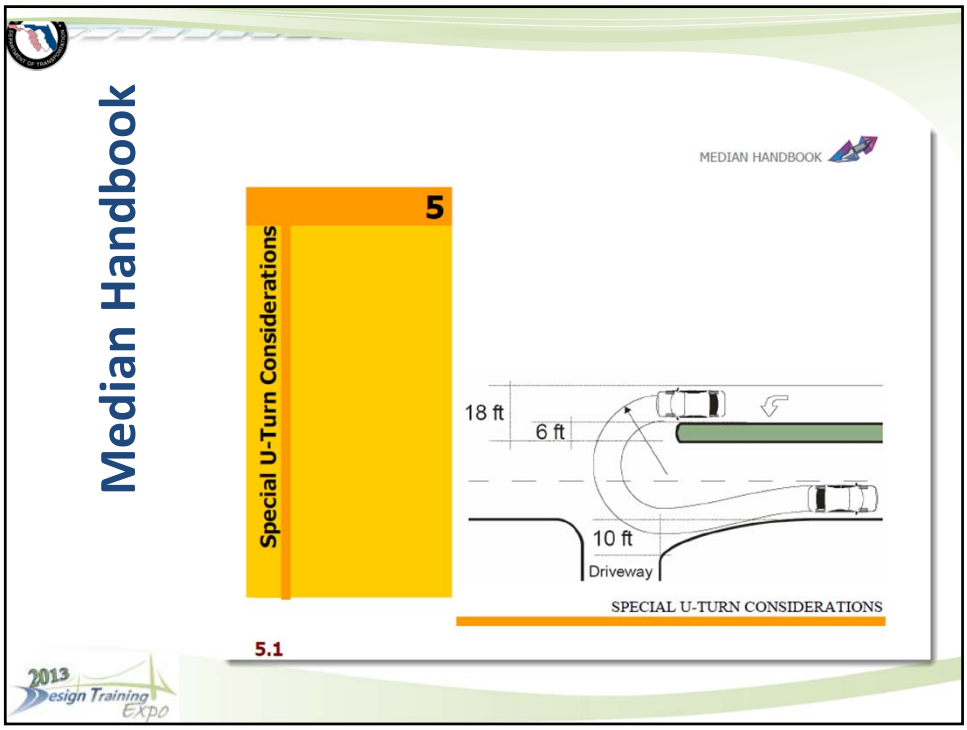
Guidance for Staff, Developers, and Consultants

- **Being re-written**
- **Simplified**
- **Updated references**
- **More Multi-modal**

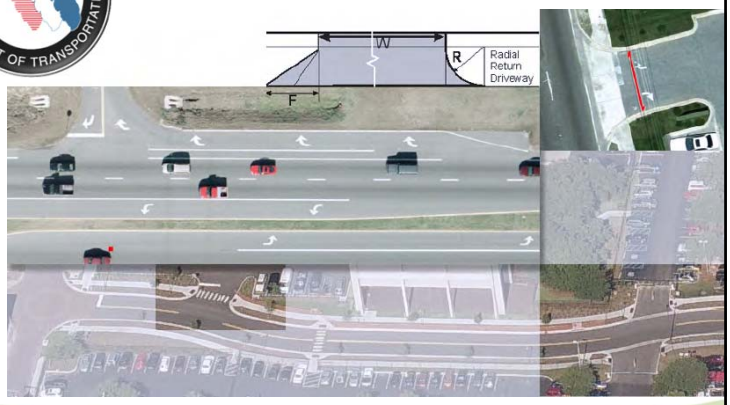


www.dot.state.fl.us/planning/systems/sm/accman/


Median Handbook
MEDIAN HANDBOOK
1
Introduction
INTRODUCTION
1.1 Medians and their Importance for safety
Why do we use medians?
Vehicular Safety — to prevent crashes caused by head-on and crossover traffic, headlight glare and traffic turning left.
Pedestrian Safety — to provide a refuge for pedestrians crossing the highway.
Vehicular Efficiency — to remove
2013 Design Training Expo


Median Handbook
MEDIAN HANDBOOK
5
Special U-Turn Considerations
18 ft
6 ft
10 ft
Driveway
SPECIAL U-TURN CONSIDERATIONS
5.1
2013 Design Training Expo

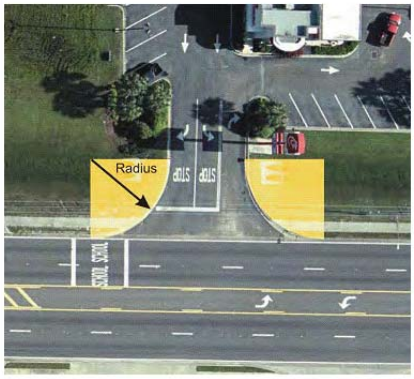
Driveway Information Guide



http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/driveway2008.pdf

2

Connection Radius and Flare



CONNECTION RADIUS AND FLARE

2.1 RADIAL RETURN (RADIUS)

The turn radius of a radial return driveway refers to the extent that the edge of a driveway is "rounded" to permit easier entry and exit by turning vehicles. A larger radius results in easier

10

Driveways and the Pedestrian Environment

DRIVEWAYS AND THE PEDESTRIAN ENVIRONMENT

10.1 THE PEDESTRIAN AND THE DRIVEWAY ENVIRONMENT

Almost all access management designs and operational strategies impact pedestrians and bicyclists. Where vehicles cross significant pedestrian traffic or bicycle facilities, the design should accommodate vehicles at lower speeds. The following strategies promote pedestrian and bicycle travel and safety.

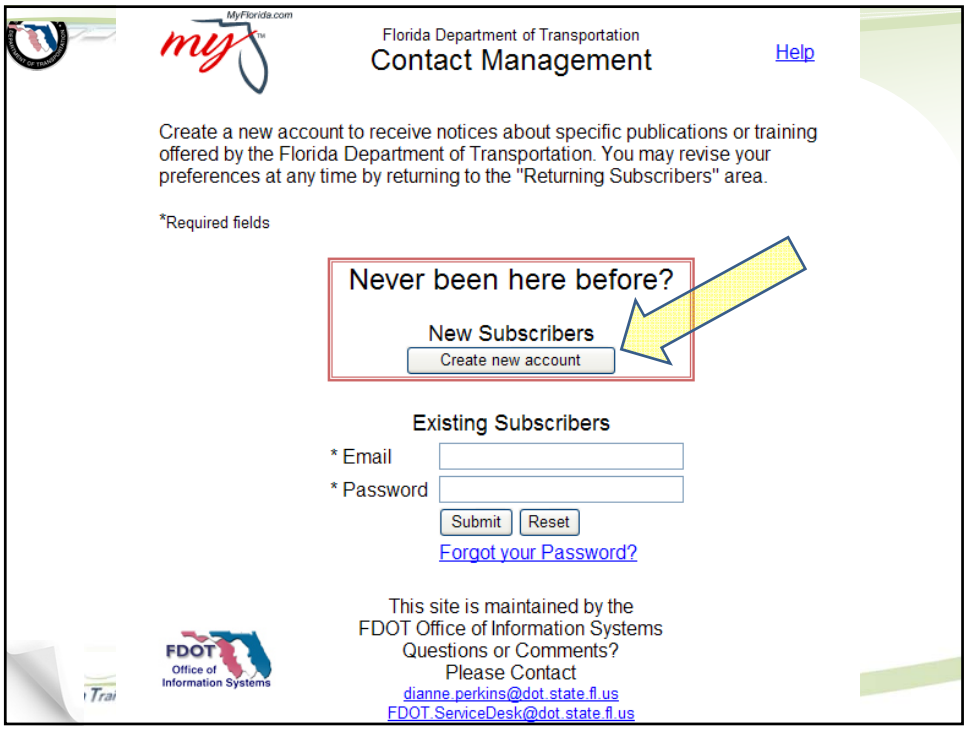
Some general principles of accommodating pedestrians and the driveway are:

- Minimizing higher speed vehicle/pedestrian conflicts
- Preventing driveway slopes from encroaching into the

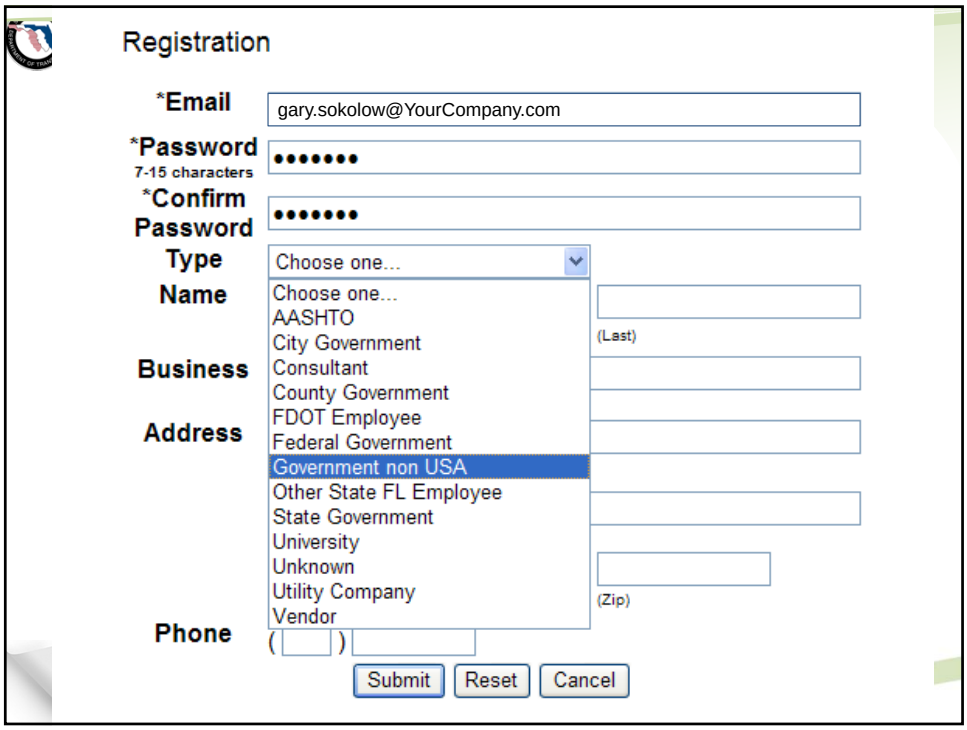
Driveways are for Pedestrians Too

How to Sign Up for the FDOT Contact Manager

http://www2.dot.state.fl.us/contactmanagement/



MyFlorida.com
Florida Department of Transportation
Contact Management
Help
Create a new account to receive notices about specific publications or training offered by the Florida Department of Transportation. You may revise your preferences at any time by returning to the "Returning Subscribers" area.
*Required fields
Registration
*Email
*Password
7-15 characters
*Confirm Password
Type
Choose one...
Name
(First)
(MI)
(Last)
Business
Address
(Line 1)
(Line 2)
(City)
(State)
(Zip)
Phone
Submit
Reset
Cancel


Registration
*Email
gary.sokolow@YourCompany.com
*Password
7-15 characters
*Confirm Password
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Choose one...
Name
(Last)
Business
Address
(Zip)
Phone
Choose one...
AASHTO
City Government
Consultant
County Government
FDOT Employee
Federal Government
Government non USA
Other State FL Employee
State Government
University
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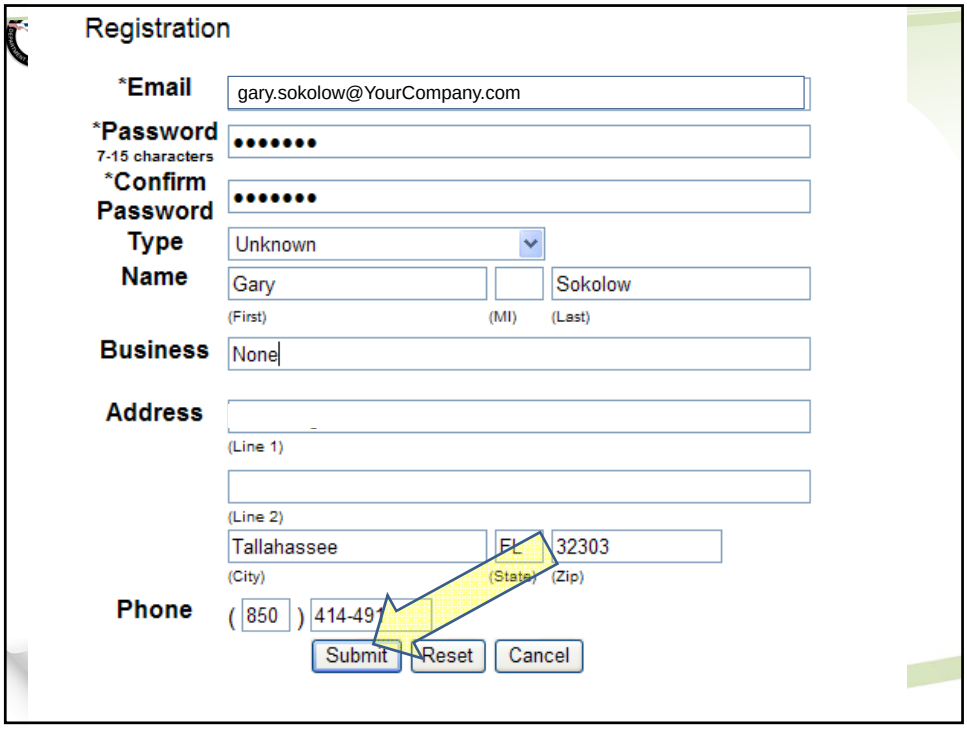
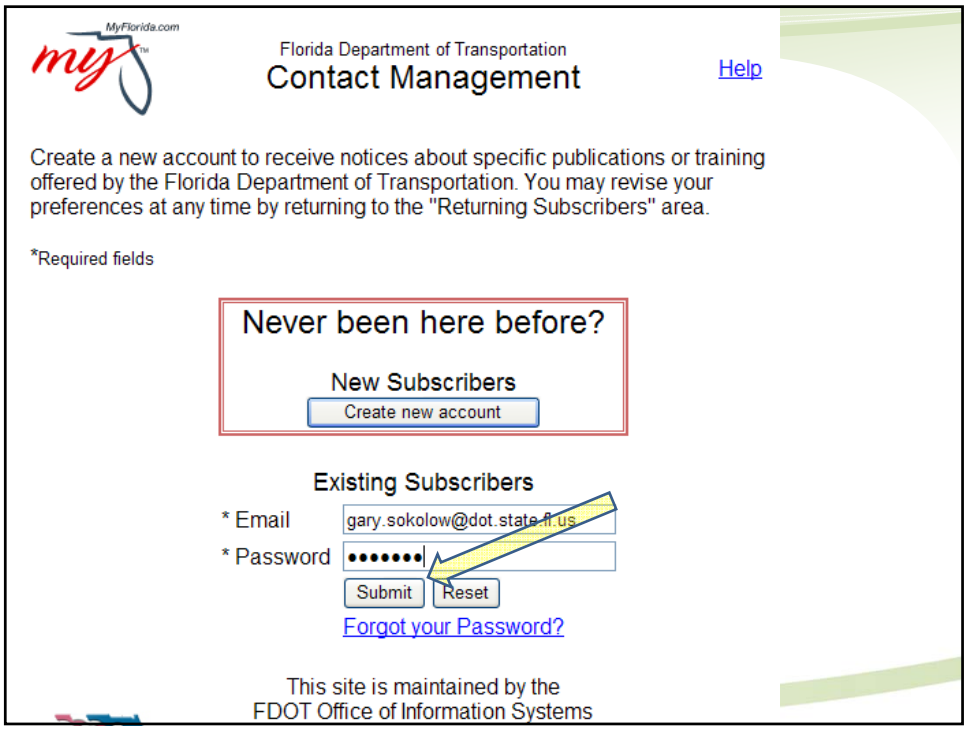
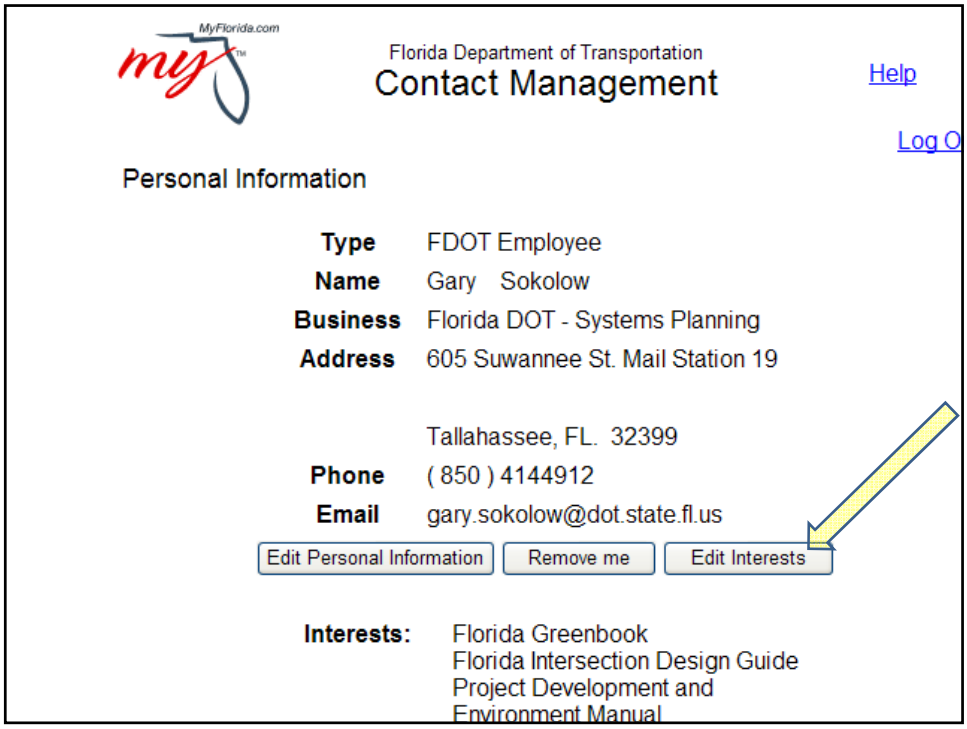
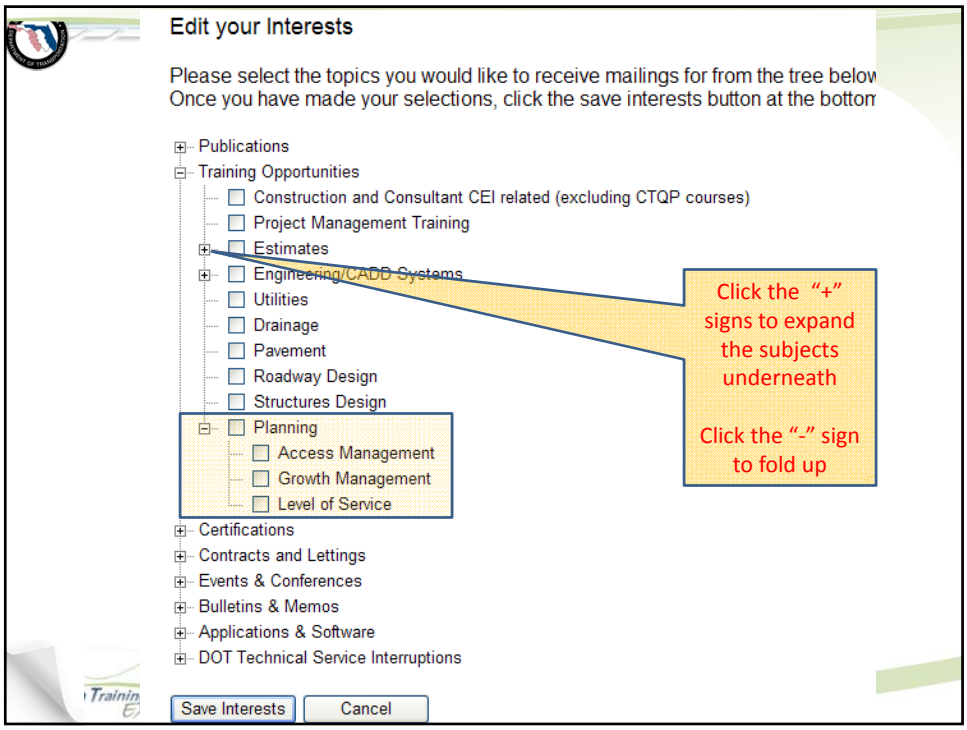
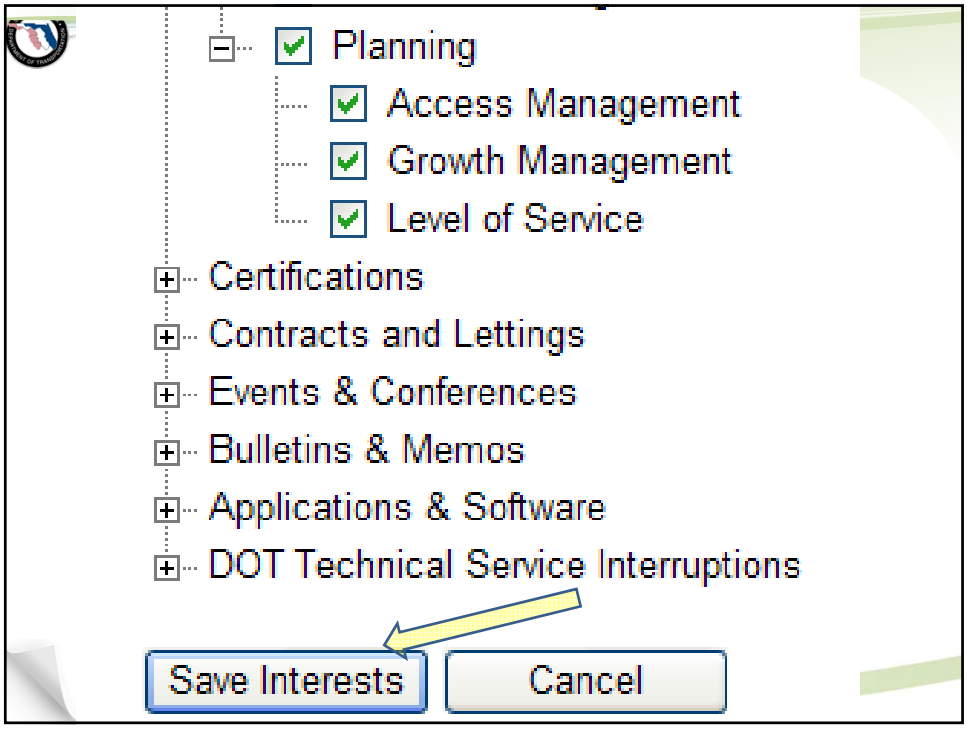

Registration
*Email
gary.sokolow@YourCompany.com
*Password
7-15 characters
*Confirm Password
Type
Unknown
Name
Gary
Sokolow
(First)
(MI)
(Last)
Business
None
Address
(Line 1)
(Line 2)
Tallahassee
FL
32303
(City)
(State)
(Zip)
Phone
(850) 414-491
Submit
Reset
Cancel


MyFlorida.com
Florida Department of Transportation
Contact Management
Help
Create a new account to receive notices about specific publications or training offered by the Florida Department of Transportation. You may revise your preferences at any time by returning to the "Returning Subscribers" area.
*Required fields
Never been here before?
New Subscribers
Create new account
Existing Subscribers
* Email
gary.sokolow@dot.state.fl.us
* Password
Submit
Reset
Forgot your Password?
This site is maintained by the
FDOT Office of Information Systems

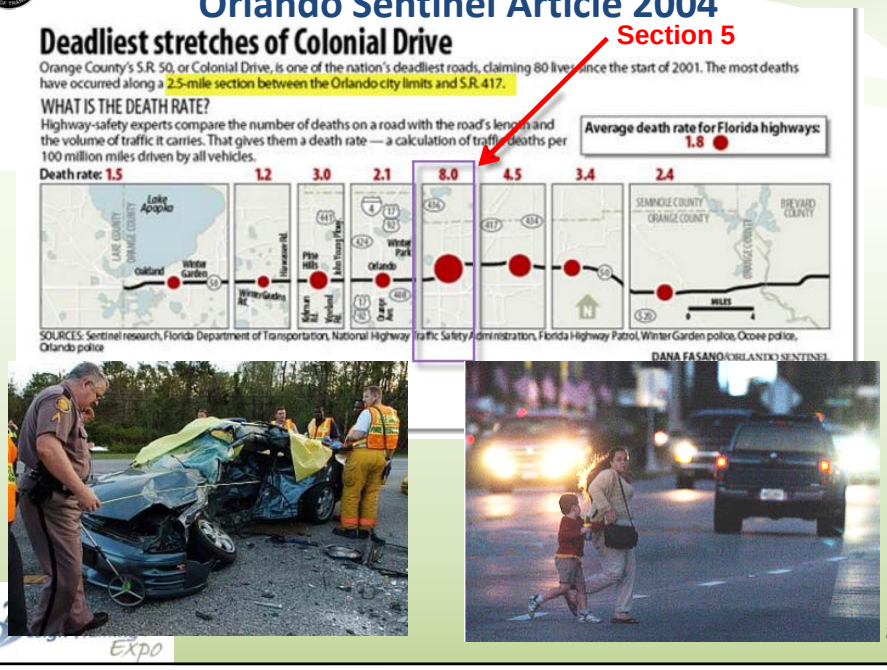

MyFlorida.com
Florida Department of Transportation
Contact Management
Help
Log O
Personal Information
Type FDOT Employee
Name Gary Sokolow
Business Florida DOT - Systems Planning
Address 605 Suwannee St. Mail Station 19
Tallahassee, FL. 32399
Phone (850) 4144912
Email gary.sokolow@dot.state.fl.us
Edit Personal Information
Remove me
Edit Interests
Interests:
Florida Greenbook
Florida Intersection Design Guide
Project Development and
Environment Manual


Edit your Interests
Please select the topics you would like to receive mailings for from the tree below
Once you have made your selections, click the save interests button at the bottom
Publications
Training Opportunities
Construction and Consultant CEI related (excluding CTQP courses)
Project Management Training
Estimates
Engineering/CADD Systems
Utilities
Drainage
Pavement
Roadway Design
Structures Design
Planning
Access Management
Growth Management
Level of Service
Certifications
Contracts and Lettings
Events & Conferences
Bulletins & Memos
Applications & Software
DOT Technical Service Interruptions
Save Interests
Cancel
Click the "+" signs to expand the subjects underneath
Click the "-" sign to fold up

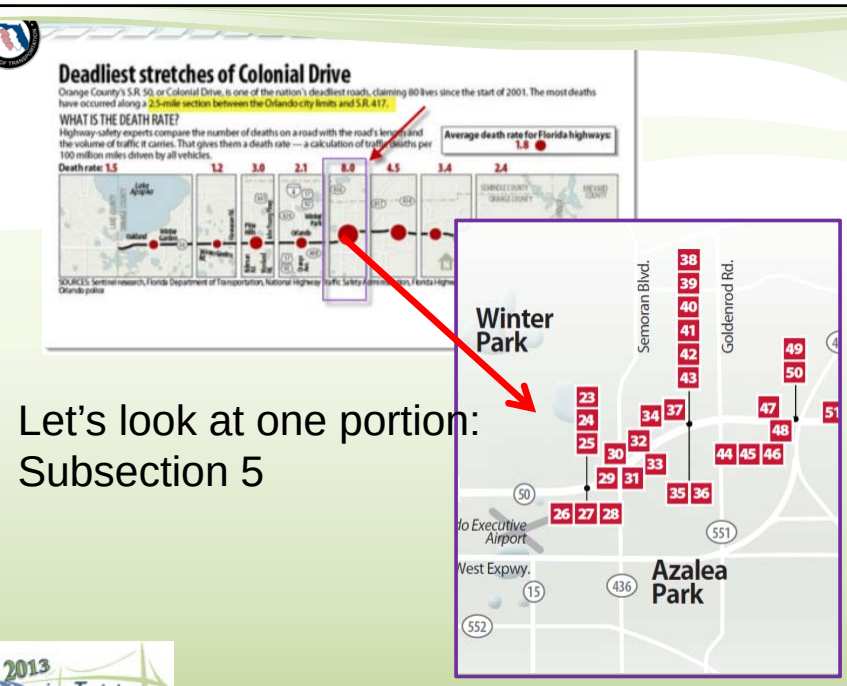

Planning
Access Management
Growth Management
Level of Service
Certifications
Contracts and Lettings
Events & Conferences
Bulletins & Memos
Applications & Software
DOT Technical Service Interruptions
Save Interests
Cancel

Florida Department of Transportation
Contact Management
Help
Log Out
Personal Information
Type FDOT Employee
Name Gary Sokolow
Business Florida DOT - Systems Planning
Address 605 Suwannee St. Mail Station 19
Tallahassee, FL. 32399
Phone (850) 4144912
Email gary.sokolow@dot.state.fl.us
Edit Personal Information
Remove me
Edit Interests
Interests:
Florida Greenbook
Florida Intersection Design Guide
Project Development and Environment Manual
Level of Service
Planning
Access Management
Growth Management

Orlando Sentinel Article 2004



83



Let's look at one portion:
Subsection 5

84

Medians Might Have helped Prevent Some of These Deaths by Protecting left turns and Pedestrians.

30. Charles Alexander
31. Byron J. Williams
32. Charles F. Woods
33. Mary G. Cudd
34. Arthur Zamorano
35. Jayson Lee Echevarria
36. Yull Alejandro Toro
37. Ronald Lee Alford
38. William Ehart
39. Richard L. Williams
40. Michael Duane Larson
41. Bernice Falk
42. Unidentified
43. Paul Frank Wadman
44. Dany Toribio
45. Marissa Irene Herzer
46. Robert John Vale
47. Christopher D. Brown
48. Cathy A. Selje
49. Cathy Elaine Sproule
50. Roxane Whitemore

Subsection 5 Activity Leading to Death

Age	Crash date	Accident description
60	10/16/01	Driving east, tried to turn left, struck by westbound car.
21	1/20/03	Driving west, struck eastbound car that tried to turn left.
3	1/20/03	Passenger in eastbound car that tried to turn left, struck by westbound car.
30	1/20/03	Passenger in westbound car that struck eastbound car that tried to turn left.
15	1/20/03	Passenger in eastbound car that tried to turn left, struck by westbound car.
22	1/20/03	Passenger in eastbound car that tried to turn left, struck by westbound car.
37	7/24/02	Driving east, tried to turn right, left roadway, struck a tree.
15	10/1/02	Struck by car while walking across to south side.
24	10/19/03	Driving west, struck by eastbound truck that tried to turn left.
59	8/11/01	Struck by car while walking across to south side.
73	5/2/03	Driving east, struck by westbound car forced across median by truck turning left.
31	10/26/02	Driving motorcycle west, struck by southbound truck.
23	6/30/04	Driving motorcycle west, struck car that tried to turn left.
28	6/30/04	Driving motorcycle west, struck car that tried to turn left.
36	12/16/02	Struck by car while walking across to north side.
35	3/11/03	Struck by car while walking across to south side.
27	12/1/02	Struck by car while walking across to south side.
37	10/9/01	Struck by car while walking across to south side.
90	11/7/03	Struck by car while walking across to south side.
na	4/18/01	Struck by car while walking across to south side.
55	8/17/01	Struck by unknown vehicle while walking across to north side.
23	12/2/02	Stopped eastbound for red light, struck from behind by eastbound car.
21	1/25/03	Waiting for southbound red light, struck by eastbound car that left roadway.
21	1/25/03	Passenger at southbound red light, struck by eastbound car that left roadway.
21	6/16/02	Passenger on eastbound motorcycle, struck by westbound truck making U-turn.
45	10/23/02	Struck by car while walking across to north side.
21	4/28/01	Driving east, struck by westbound car that crossed median.
15	11/3/04	Passenger in eastbound car that turned left, struck by westbound car.

tried to turn left

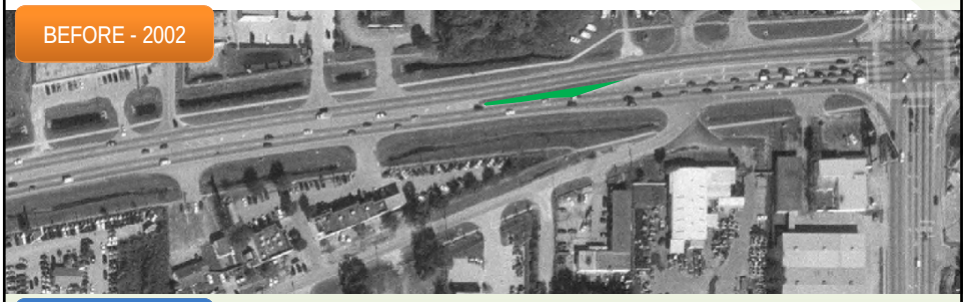
walking across

85

86

Section 5

BEFORE - 2002



AFTER - 2010

FDOT Systems Planning Office has now begun a comprehensive Before and After study of many corridors around the state. The study is being conducted by Florida International University and should be complete by

Need More Information? Questions or Comments?

FDOT Systems Planning Office's Access Management website:
http://www.dot.state.fl.us/planning/systems/sm/accman/default.shtm

Gina.Bonyani@dot.state.fl.us

Gary.Sokolow@dot.state.fl.us

Tanner.Martin@dot.state.fl.us

Just in Case Slides

Keeping People Informed

2010 Law 335.199 F.S.

Important even when not required by law

Big public hearings not always the way

Often called "Bennet Bill"

What are the Florida Statutes on Access?

Sections 335.181-335.188 the "State Highway System Access Management Act"

Rule 14-96 – Connection Permits

Rule 14-97 – Classification System and Access Management Standards

Driveway Info Guide pg 14, 72-74, 88

Median Handbook pg 15, 18, 20, 26

90

Does Everyone Get a Driveway?

" A property owner shall be granted a permit for an access connection to the abutting state highway, unless the permitting of such access connection ***would jeopardize the safety*** *of the public or have a negative impact upon operational characteristics of the highway."*

335.184(3)FS

SB 1842 – Created FS 335.199

"Whenever the Department of Transportation proposes any project on the State Highway System which will **divide a state highway**, erect **median barriers** modifying currently available vehicle turning movements, or have the effect of closing or **modifying an existing access** to an abutting property owner, the Department **shall notify** all affected property owners, municipalities, and counties at least 180 days before the design of the project is finalized."

Effective November 17, 2010

FS 335.199 Requirements

- Notify, in writing, the Chief Elected Official for the City and/or County as well as property owners
- Consult with local government
- Conduct one public hearing
- Review and consider all comments

2013 Design Training Expo

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Brian Blanchard's guidance on SB 1842 regarding changes to medians:

Senate Bill 1842 requires the Department to notify all affected property owners and local governments when it proposes projects on the State Highway System that will divide a state highway, erect median barriers modifying currently available vehicle turning movements, or have the effect of closing or modifying an existing access to an abutting property owner. The notification must occur at least 180 days before the project design is finalized. Related to these projects, the bill requires FDOT (a) to consult with applicable local government on its final design and allows the local government to present alternatives to relieve impacts to commercial business properties; (b) to hold at least one public hearing to determine how the project will affect access to businesses and the potential economic impact of the project on the local business community; and (c) to take all comments into consideration in final design of the project.

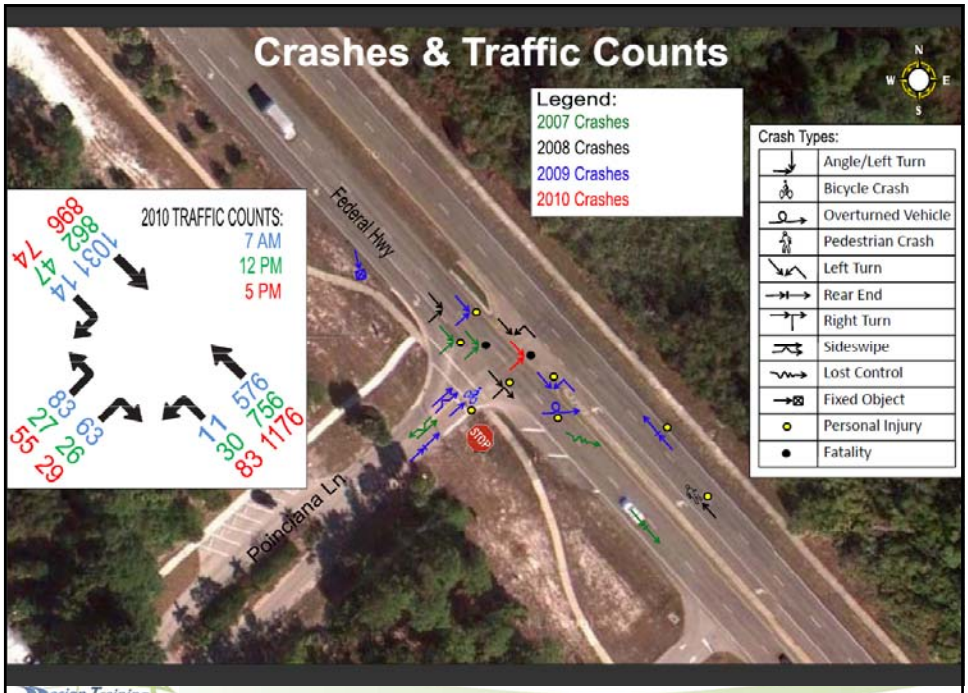
This bill applies to any proposed work program project beginning design on or after November 17, 2010. The language of the bill states "whenever the Department of Transportation proposes any project", so this language ***does not apply to permit applications. However, for permit applications that affect medians and median openings, the effected people and businesses should be informed and involved by the permittee as soon as possible.***

This provision requires at least one public hearing (advertised and recorded). As man know, the decision whether to construct a median is usually made during the Planning Efficient Transportation Decision Making (ETDM)/Project Development & Environment Phases of a project. During these phases of a project, the FDOT works with a commur an emphasis on their participation in the decision-making process concerning the projec and basic concepts. . These phases involve local government representatives, public in business interest input as well as other interested parties along the corridor and others c the corridor. The ETDM/PD&E phases document these activities for major projects thro

94

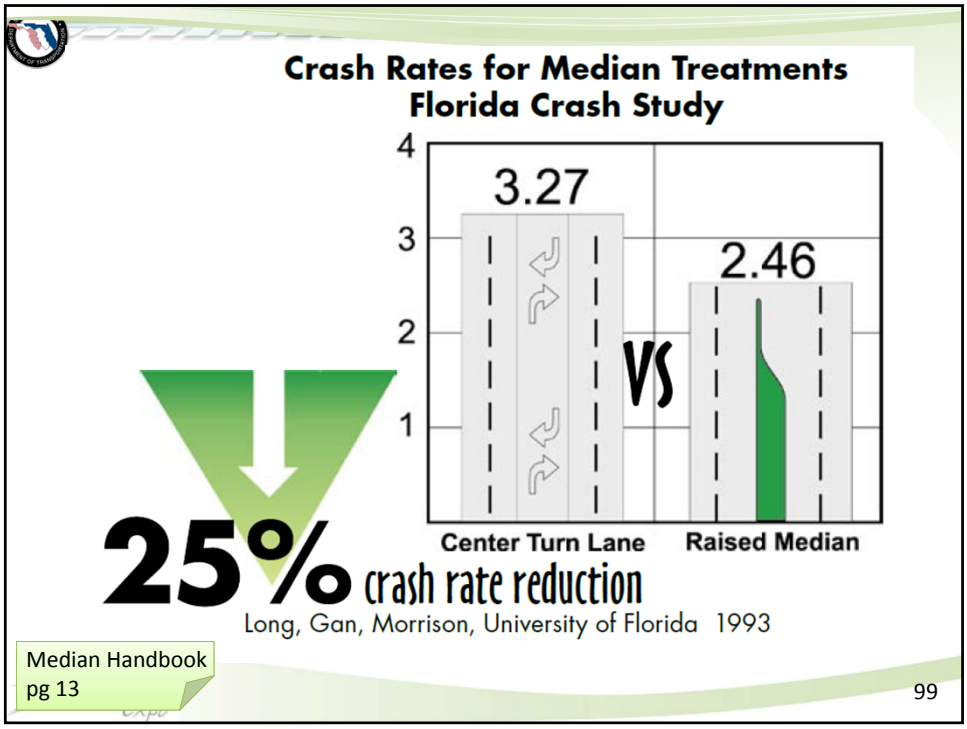
Recent District 4 Example Federal Highway and Poinciana Lane 95

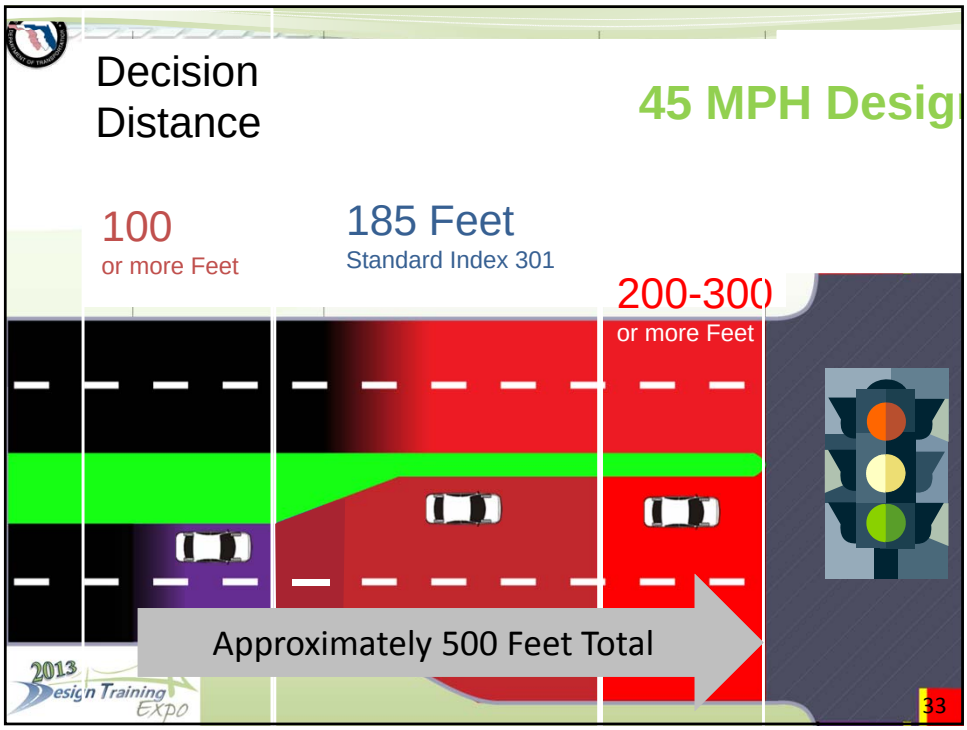
Recent District 4 Example Federal Highway and Poinciana Lane 96



Recent District 4 Example Federal Highway and Poinciana Lane 97

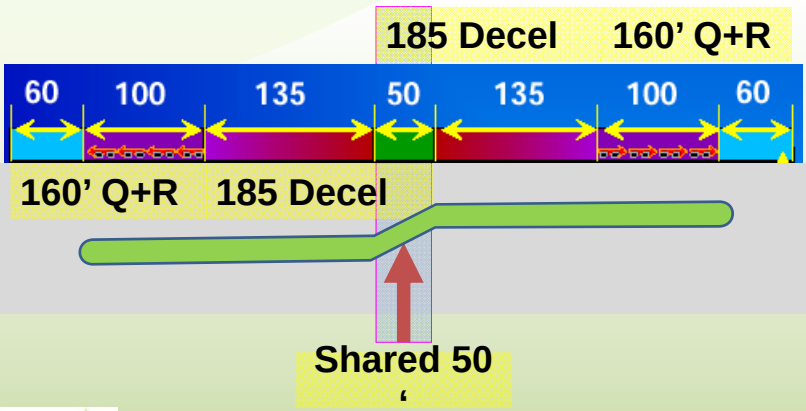
Recent District 4 Example Federal Highway and Poinciana Lane 98


Crash Rates for Median Treatments
Florida Crash Study
4
3
2
1
3.27
2.46
VS
Center Turn Lane
Raised Median
25% crash rate reduction
Long, Gan, Morrison, University of Florida 1993
Median Handbook
pg 13
99


Decision
Distance
45 MPH Desig
100
or more Feet
185 Feet
Standard Index 301
200-300
or more Feet
Approximately 500 Feet Total
2013
Design Training
Expo
33

One Very Tight Possible Scenario

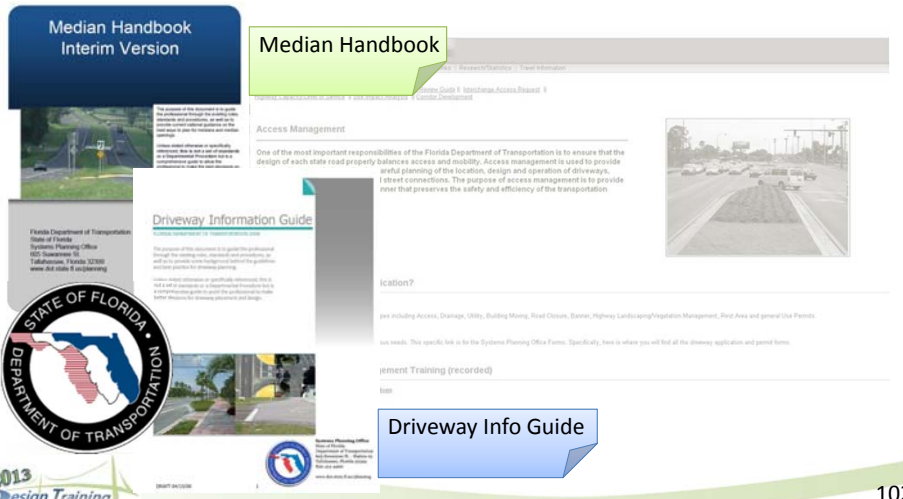
Urban conditions @ 45 mph design



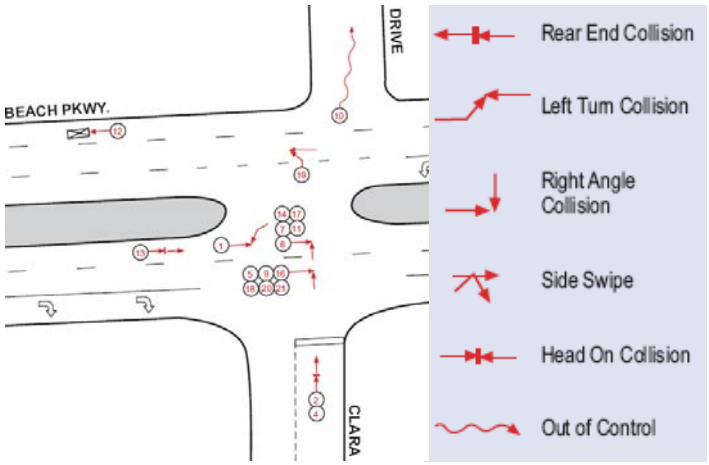
Q+R = Queue + Radius

FDOT Access Management Resources

http://www.dot.state.fl.us/planning/systems/sm/accman/



Crash Analysis



Other Online Tools

FHWA Video – *Safe Access is Good for Business*

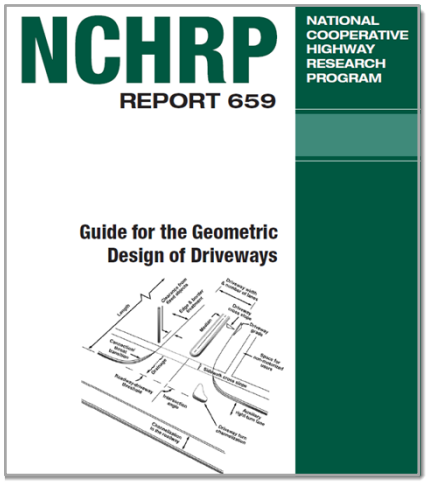
- http://www.youtube.com/watch?v=j58siSPT6S8

Animated Access Management Principles

- http://www.accessmanagement.info/10principles.html

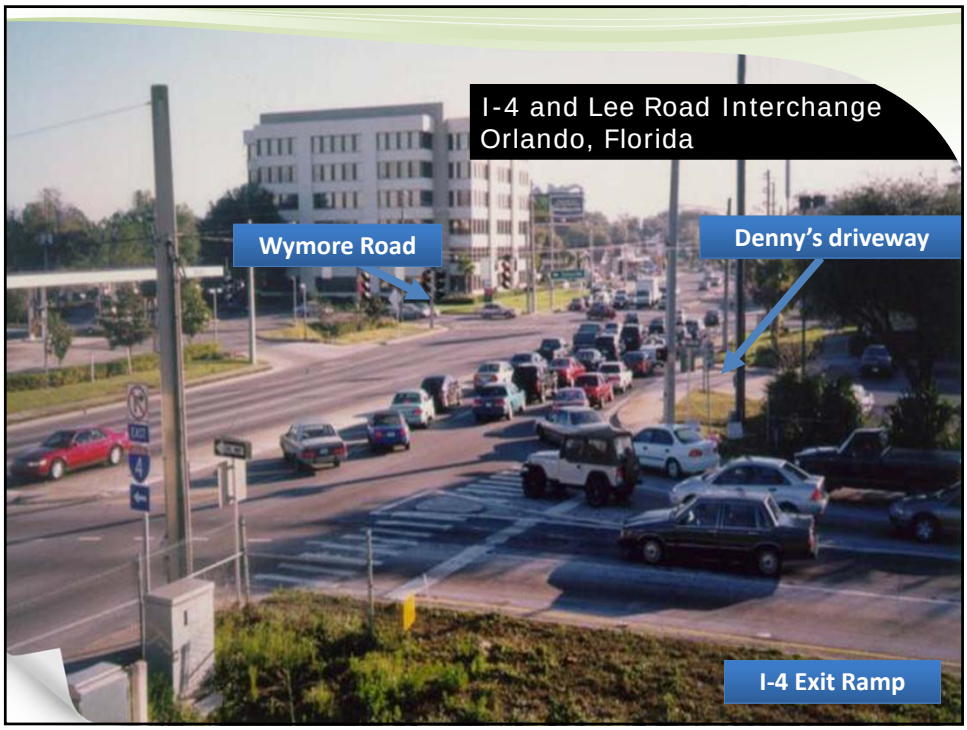
FDOT Access Management Brochure

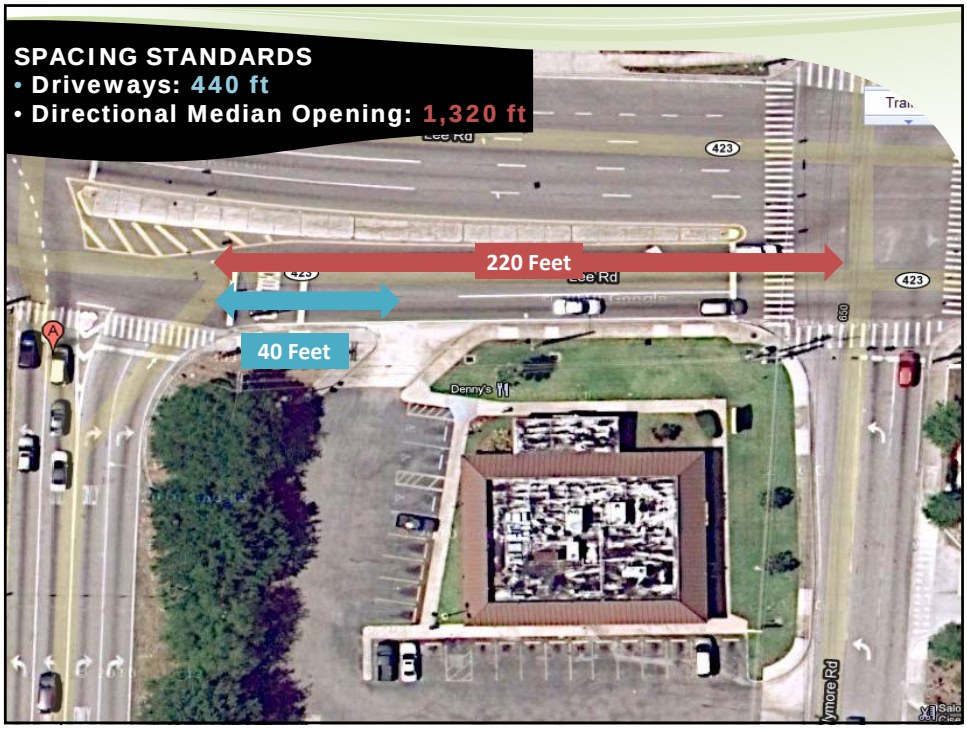
- http://www.accessmanagement.info/pdf/Q&A%20FL.pdf

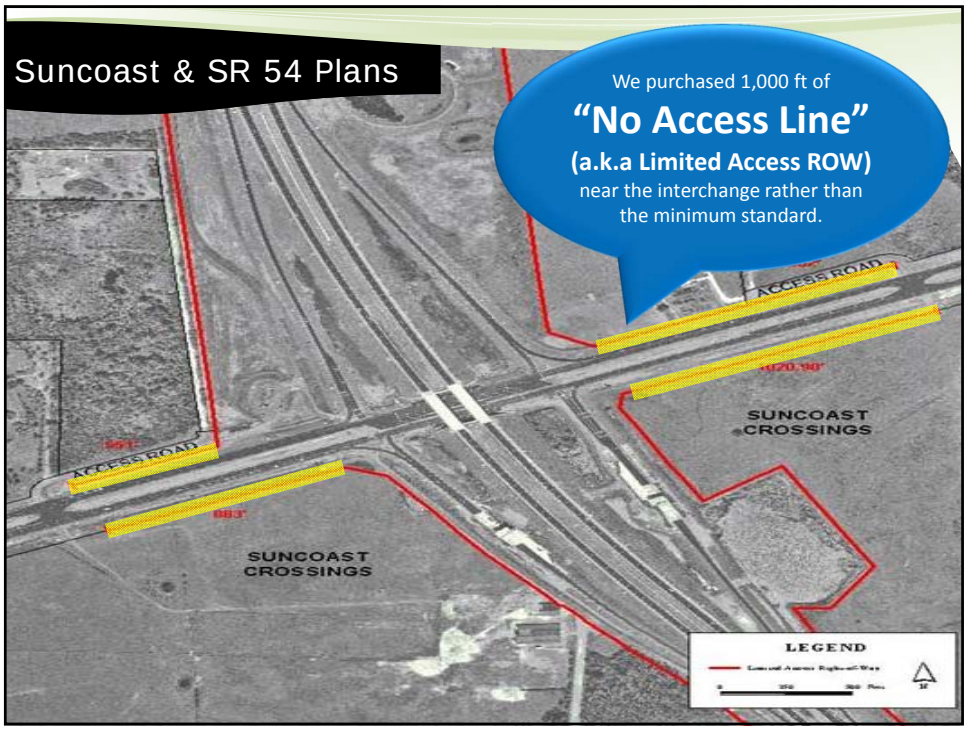


New Guidance on Driveway Design

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_659.pd




SPACING STANDARDS
• Driveways: 440 ft
• Directional Median Opening: 1,320 ft
220 Feet
40 Feet
Lee Rd
423
Denny's


Suncoast & SR 54 Plans
We purchased 1,000 ft of
"No Access Line"
(a.k.a Limited Access ROW)
near the interchange rather than
the minimum standard.
ACCESS ROAD
SUNCOAST CROSSINGS
LEGEND

Multilane Median Policy

Topic #625-000-007 January 1, 2013
Plans Preparation Manual, Volume 1 - English

2.2.2 Multilane Facility Median Policy

All multilane SIS facilities shall be designed with a raised or restrictive median. All other multilane facilities shall be designed with a raised or restrictive median except four-lane sections with design speeds of 40 mph or less. Facilities having design speeds of 40 mph or less are to include sections of raised or restrictive median for enhancing vehicular and pedestrian safety, improving traffic efficiency, and attainment of the standards of the Access Management Classification of that highway system.

Directs all Department multi-lane projects over 40 mph in design speed to have a restrictive median.

Directs designers to find ways to use restrictive medians in all multi-lane projects, even those below the 40 mph design speed.

In the Plans Prep Manual 2.2.2

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Why do we care?

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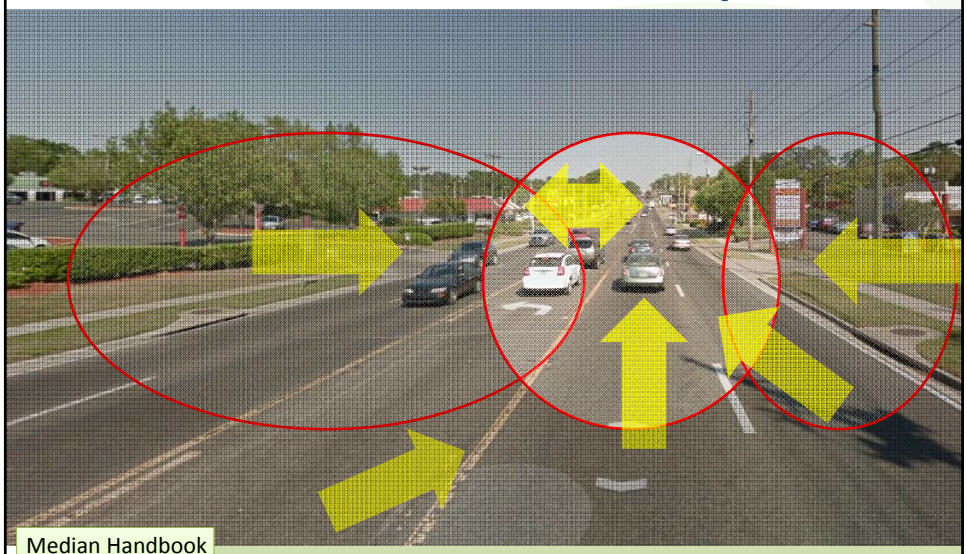
After
US 192
Kissimmee

After
US 192
Kissimmee

Center Turn Lane Driver Perspective



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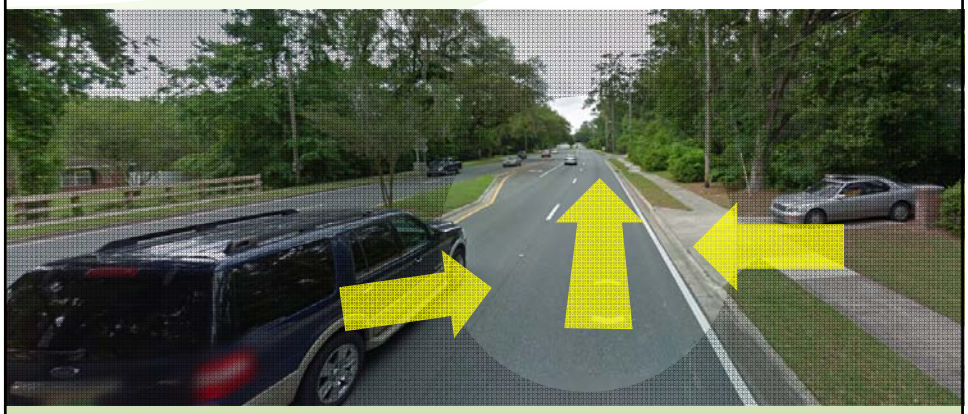
Median - Driver Perspective



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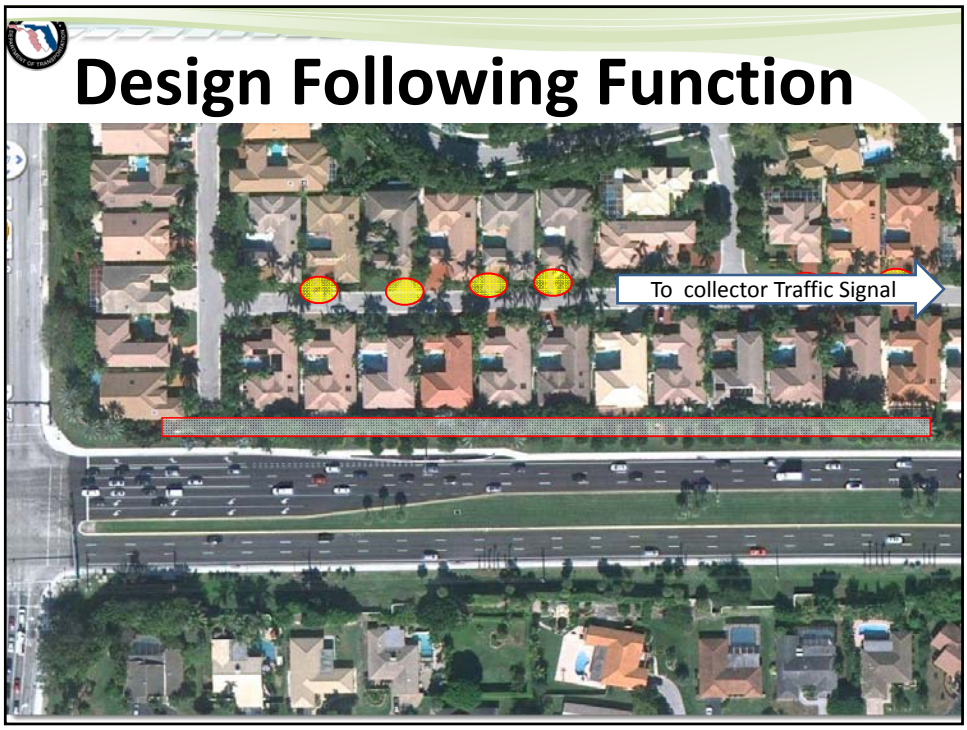
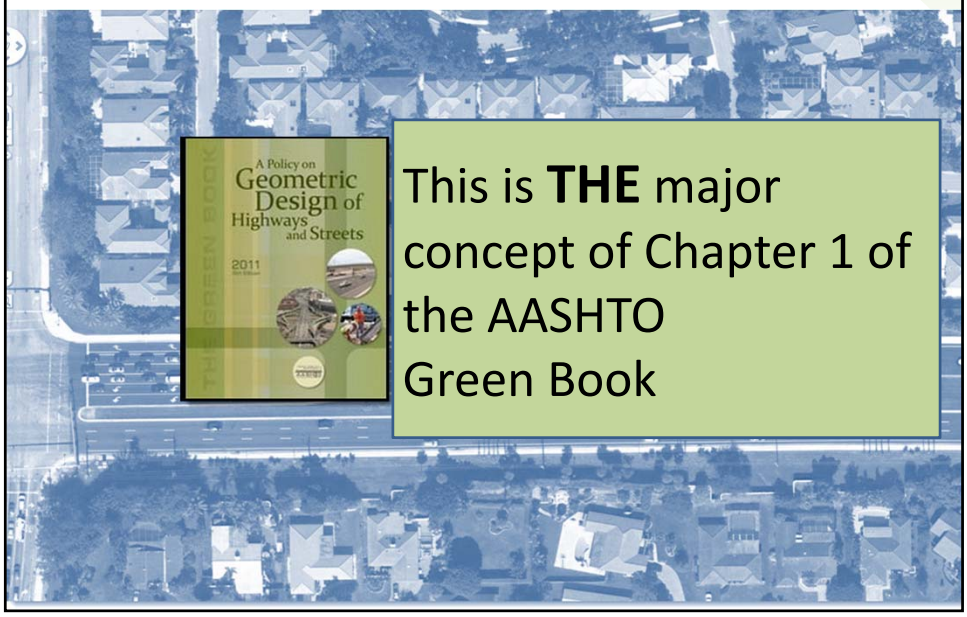
Do Access Management Projects Harm Business?
GOING OUT OF BUSINESS!
OPEN
Businesses fail at no higher rate on roadways with new access management improvements
Study of Business Turnover
Median reconstruction projects in Orlando metro area
2013 Design Training Expo
SOURCE: Ivey, Harris and Walls along with David Gwynn, PE, TEI Engineers & Planners


Design Following Function
To collector Traffic Signal



This is **THE** major concept of Chapter 1 of the AASHTO Green Book

Access Management is Not the Enemy

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