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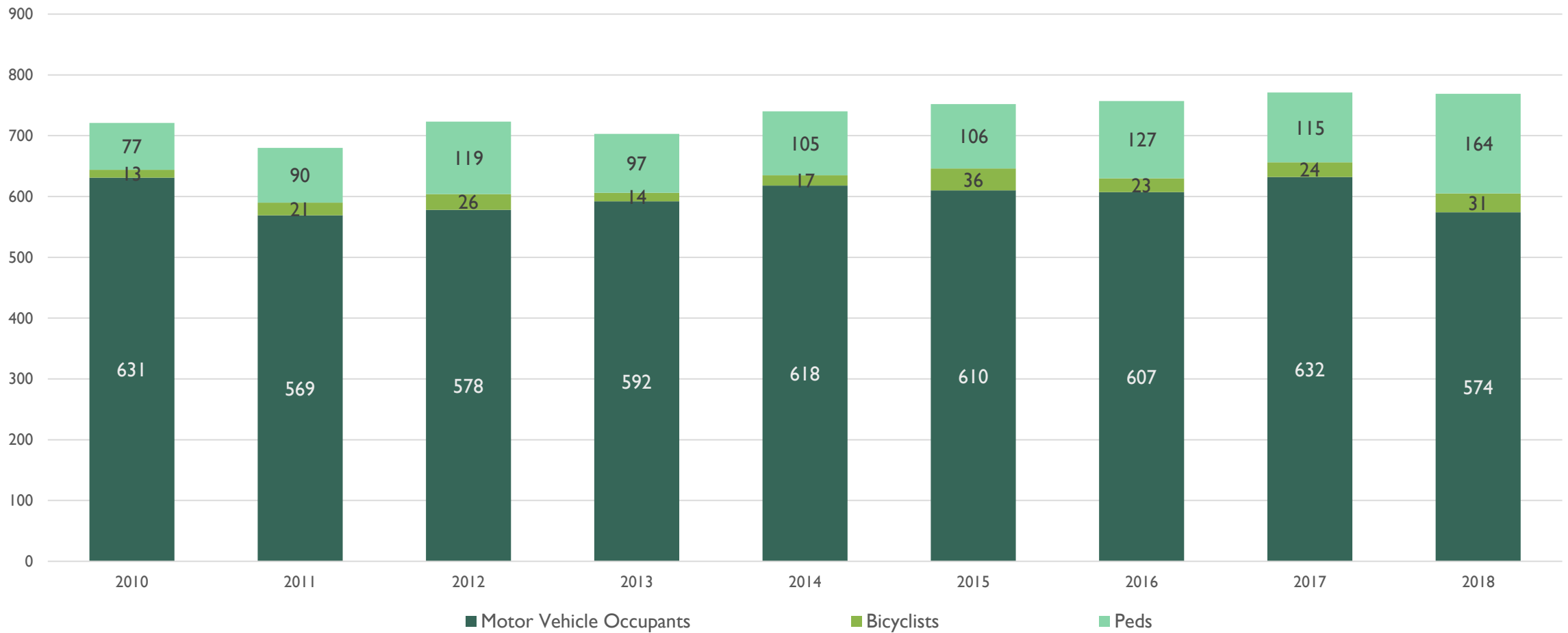
# NON-MOTORIZED USER CRASH ASSESSMENT OVERVIEW

FOR TRAFFIC ENGINEERS' MEETING

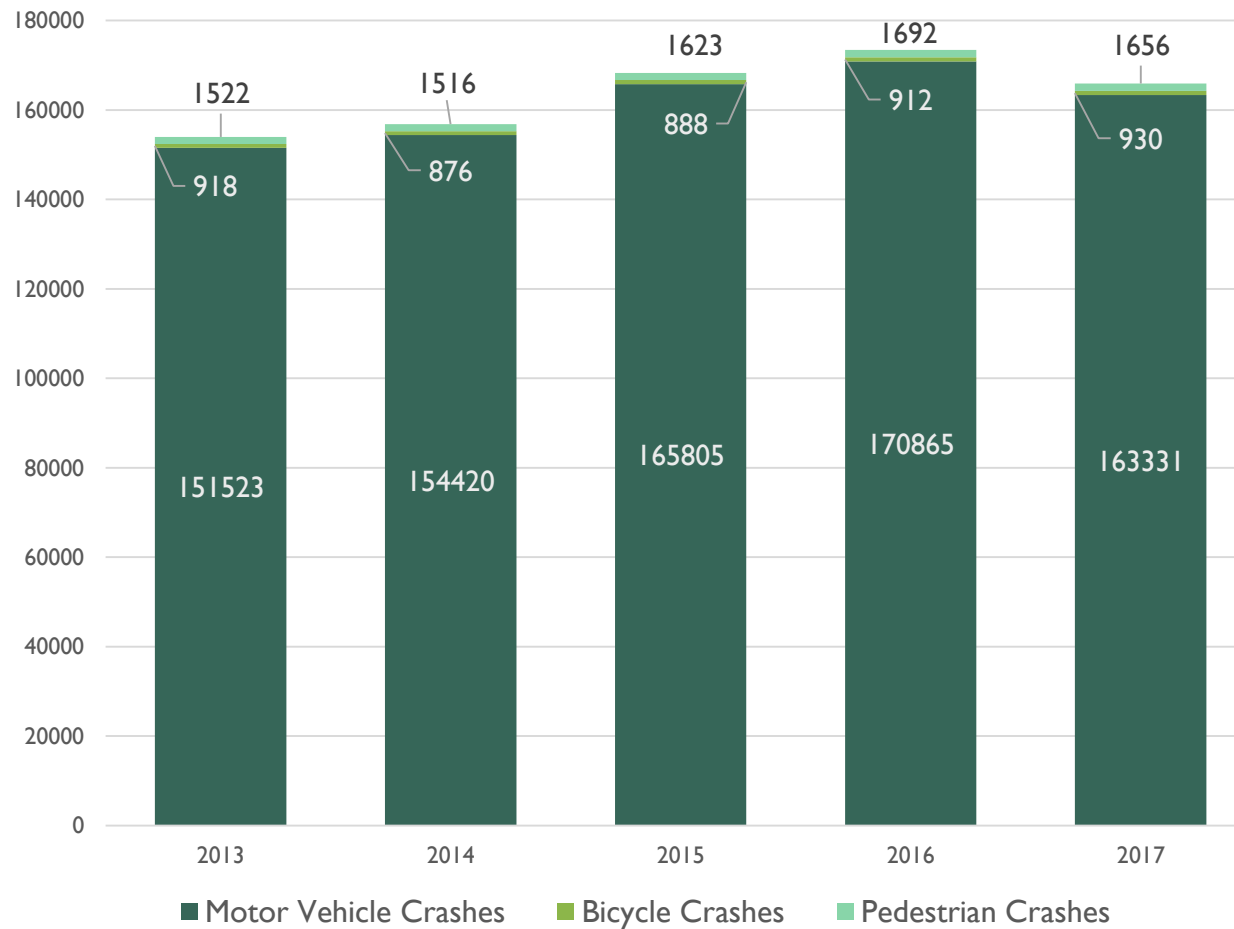
AUGUST 2019



# LOUISIANA HIGHWAY FATALITIES BY ROAD USER



# LOUISIANA HIGHWAY CRASHES BY ROAD USER



# FHWA FOCUS STATE

## 2015 Focus States



## PURPOSES AND POTENTIAL USES

- Assist in the upcoming update of the Uniform Motor Vehicle Traffic Crash Report by identifying deficiencies in non-motorized crash elements
- Identify training opportunities and needs for law enforcement agencies on current crash reporting technique
- Inform and prioritize education and enforcement strategies for non-motorized users eligible for 405(h) funding through the Highway Safety Commission
- Provide the necessary analysis to ensure program processes are data driven
- Support current and future initiatives of the FHWA Focus City approach
- Assist with prioritization of Complete Streets Implementation Action Plan items for future execution
- Determine requisite for specific EDC-STEP countermeasures and help prioritize for implementation
- Inform the Safe Routes to Public Places Program project criteria and evaluation form
- Support local entities efforts for improving non-motorized user safety through education, enforcement, engineering and planning strategies

# HIGH LEVEL ANALYSIS

2013 to 2017 Pedestrian Crashes			Category	Severity				
			Division	Fatal	Severe	Moderate	Complaint	No Injury
		<b>8,009</b>		553	751	3,004	2,833	868
Category	Division							
Highway Type	Interstate	273		80	37	73	59	24
	US HWY	837		129	95	285	254	74
	State	1,642		191	147	620	549	135
	Parish	1,084		47	85	376	484	92
	City\Local	4,054		106	367	1,604	1,454	523
	Toll Road	4		0	0	1	2	1
	Other	115		0	20	45	31	19

Top 5 Parishes	Total Freq	% Statewide	License Drivers	% of Statewide
Orleans	1,969	24.58%	194,810	6.58%
East Baton Rouge	862	10.76%	267,270	9.03%
Jefferson	768	9.59%	285,024	9.63%
Caddo	616	7.69%	155,530	5.26%
Lafayette	358	4.47%	158,886	5.37%

# HIGH LEVEL ANALYSIS

2013 to 2017 Pedestrians			Pedestrian Action													
			Entering at Intersection	Entering at Non-Intersection	Getting on/off Vehicle	Not in Roadway	Not Reported	Other	Other Working Roadway	Playing in Roadway	Pushing Working on Vehicle	Sleeping in Roadway	Standing in Roadway	Unknown	Walking Against Traffic	Walking With Traffic
		8,590	2,007	1,963	88	705	479	877	182	232	74	24	426	288	356	889
Category	Division															
Injury	Fatal	560	50	170	3	36	26	54	7	3	5	9	40	52	33	72
	SSI	779	141	221	8	60	44	59	16	23	11	5	35	34	32	90
	SMI	3,106	787	790	29	234	146	255	61	96	26	8	137	92	125	320
	PI	3,051	803	589	34	279	140	367	73	83	19	1	151	72	125	315
	NAI	1,094	226	193	14	96	123	142	25	27	13	1	63	38	41	92

Area	Intersection	2,007
	Non-Intersection	1,963

# HIGH LEVEL ANALYSIS

2013 to 2017 Bike Crashes			Category	Severity				
			Division	Fatal	Severe	Moderate	Complaint	No Injury
		<b>4,524</b>		106	192	1,377	1,869	980
Category	Division							
Highway Type	Interstate	37	1	2	9	18	7	
	US HWY	454	21	20	125	193	95	
	State	831	42	36	230	389	134	
	Parish	520	12	27	130	242	109	
	City\Local	2,623	30	104	861	1,011	617	
	Other	59	0	3	22	16	18	

Top 5 Parishes	Total Freq	% Statewide	License Drivers	% Statewide
Orleans	1,543	34.11%	194,810	6.58%
Jefferson	560	12.38%	267,270	9.03%
East Baton Rouge	485	10.72%	285,024	9.63%
Lafayette	284	6.28%	155,530	5.26%
Calcasieu	216	4.77%	158,886	5.37%



# HIGH LEVEL ANALYSIS

## 2013 to 2017 Bike Crashes on Local Roadways

		Category	Severity				
			Division	Fatal	Severe	Moderate	Complaint
Int	Intersection	1,921	23	78	599	774	447
	Non-Intersection	1,222	19	53	392	479	279
Crash Posted Speed	0-24	900	10	32	252	392	214
	25-34	1,567	14	63	496	608	386
	35-44	1,191	21	54	386	469	261
	45-54	128	5	18	42	65	38
	55-64	7	0	2	2	1	2
Weather	Clear	2,573	32	108	825	1006	602
	Adverse	546	10	22	159	239	116
	Other	1	0	0	0	1	0
	Unknown	23	0	1	7	7	8

## 2013 to 2017 Bike Crashes on State Roadways

		Category	Severity				
			Division	Fatal	Severe	Moderate	Complaint
Int	Intersection	531	16	15	160	226	114
	Non-Intersection	754	47	41	195	356	115
Crash Posted Speed	0-24	213	7	8	54	106	38
	25-34	234	5	6	57	111	55
	35-44	567	14	22	149	269	113
	45-54	400	29	21	107	177	66
	55-64	188	20	12	57	80	19
	65+	10	1	2	3	2	2
Weather	Clear	1,004	49	42	269	464	180
	Adverse	277	14	14	85	115	49
	Unknown	4	0	0	1	3	0

# GEOMETRIC CHARACTERISTICS

- Functional Classification (e.g. major arterial, local road)
- Facility Name (e.g. U.S. HWY. 90)
- Traffic control (e.g. signalized, non-signalized, yield, none)
- Presence of bus stop (Y/N)
- Presence of raised median (Y/N)
- Pavement width (units)
- Number of lanes (number)
- Distance to control (units)
- Presence of bike lane (Y/N)
- One way street (Y/N)
- Median (e.g. painted, raised or missing)
- Light poles (Y/N)
- Crosswalk (e.g. marked, unmarked, or none)
- Sidewalk (Y/N)
- Sidewalk width (units)
- Intersection (Y/N)
- Median width (units)

## LAND-USE CHARACTERISTICS

- Adjacent Land Uses (residential, employment zone, commercial office, non-residential, school zone, alcohol establishment)
- Population density (number)
- Income level (number)

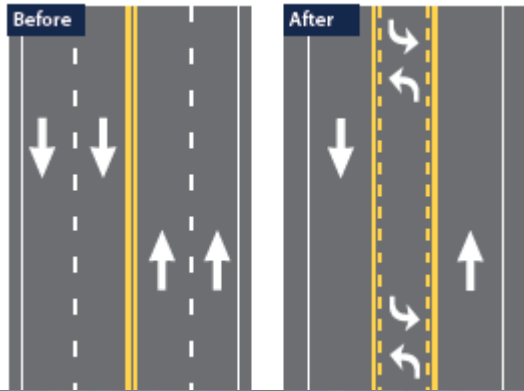
# PEDESTRIAN CHARACTERISTICS

- Pedestrian/driver age (number)
- Pedestrian/driver gender (M/F/NA)
- Driver distraction (e.g. cell phone, none)
- Pedestrian action(e.g. crossing, entering road at intersection)
- Driver vision obstruction (e.g. trees, building)
- Pedestrian/driver (condition) impairment (e.g. DUI, none)
- Posted speed (number)
- Time of day (Hour)
- Weather condition (dry, wet, etc.)
- Location (verified from drawing, latitude, longitude)
- Crash severity (fatal, severe, moderate, etc.)
- Lighting condition (e.g. streetlight, lit crosswalk, none)

# LOCATION MOVEMENT CLASSIFICATION METHOD

Main Crash Category	(W) First Part of Code	(X) Second Part of Code	(Y) Third Part of Code	(Z) Fourth Part of Code
Roadway intersection	General location I = roadway intersection	Side of intersection N = nearside, or where motorist enters intersection F = farside, or where motorist exits intersection	Motorist movement S = straight L = left-turn R = right-turn D = depart road	Pedestrian movement L = motorist's left approach O = opposite direction as motorist R = motorist's right approach S = same direction as motorist X = unknown direction Z = other
Roadway nonintersection	General location N = roadway intersection	Location on the roadway A = left-side sidewalk C = left-side shoulder or bike lane E = left-side roadway lane G = middle roadway J = right-side roadway lane L = right-side shoulder or bike lane N = right-side sidewalk	Motorist movement B = backing C = changing lanes D = depart road L = turn left P = parking maneuver R = turn right S = straight U = making u-turn W = wrong way travel Z = other	Pedestrian movement L = motorist's left approach O = opposite direction as motorist R = motorist's right approach S = same direction as motorist X = unknown direction Z = other
Driveway	General location D = driveway	Motorist movement F = forward B = backward	None	None
Other	General location O = other	Crash circumstance C = prior crash L = parking lot W = working on vehicle Z = other	None	None

# EDC-STEP COUNTERMEASURES

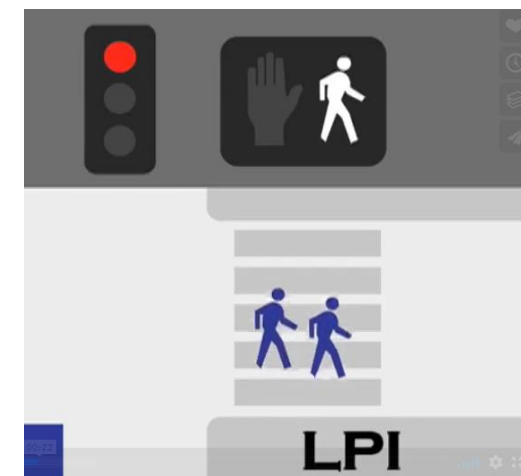


- Rectangular rapid flashing beacons (RRFB)
- Leading pedestrian intervals (LPIs)
- Crosswalk visibility enhancements
- Raised crosswalks
- Pedestrian crossing/refuge islands
- Pedestrian hybrid beacons (PHBs)
- Road Diets

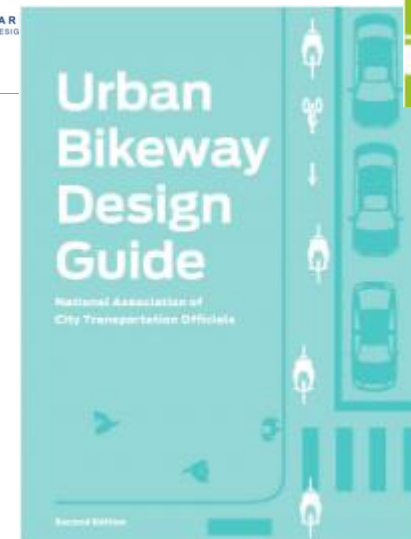
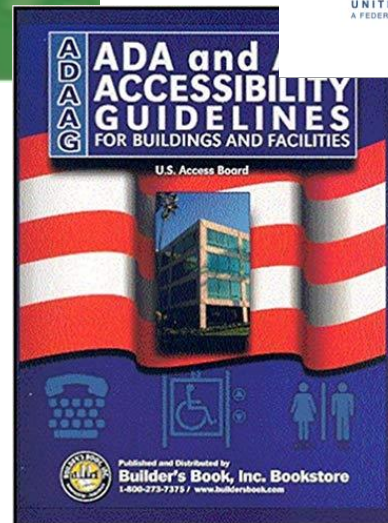
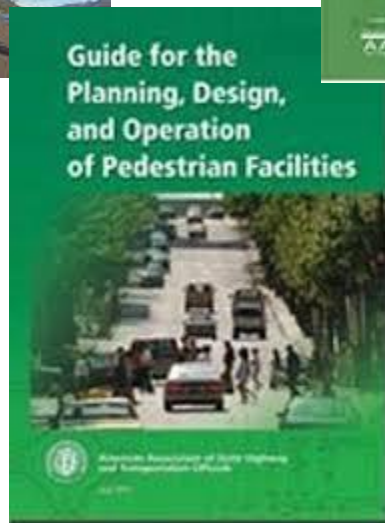
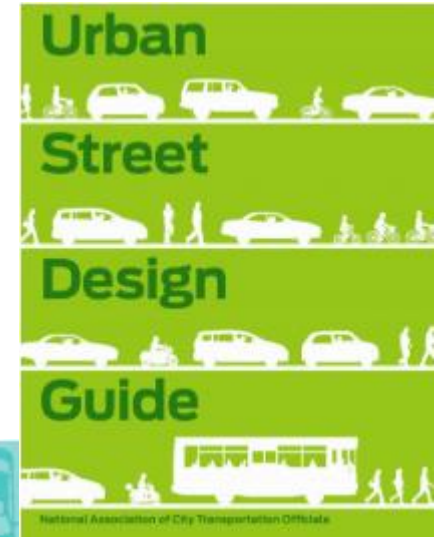
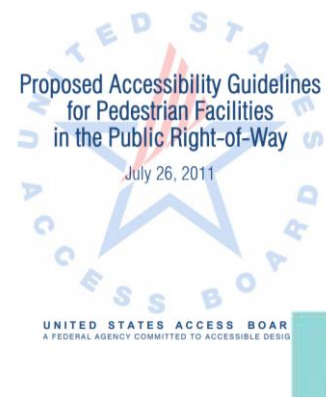
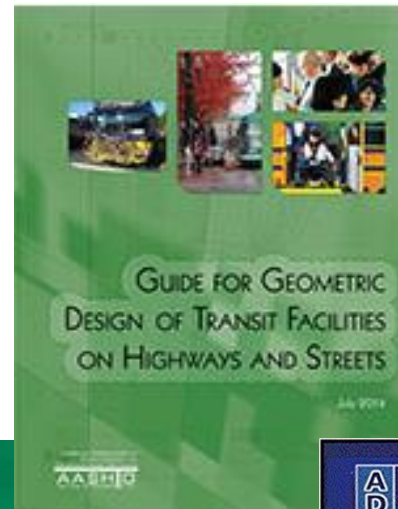
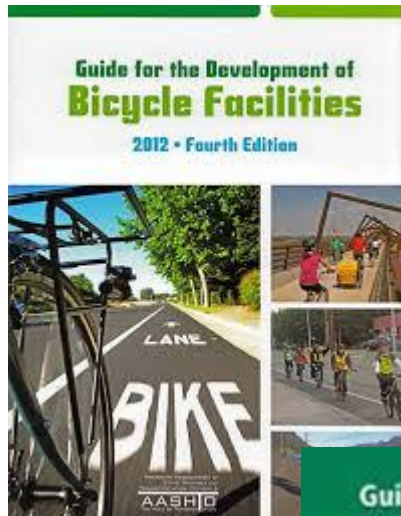


# LEADING PEDESTRIAN INTERVAL (LPI)

- Increased visibility of crossing pedestrians
- Reduced conflicts between pedestrians and vehicles
- Increased likelihood of motorists yielding to pedestrians
- Enhanced safety for pedestrians who may be slower to start into intersection
- Beneficial at locations with high-left turn volumes and no dedicated turn phase
- 3 to 7 second head start for pedestrians before green light
- CMF = 0.87 for total crashes and vehicle/pedestrian crashes at urban and suburban locations



# NATIONAL RESOURCES

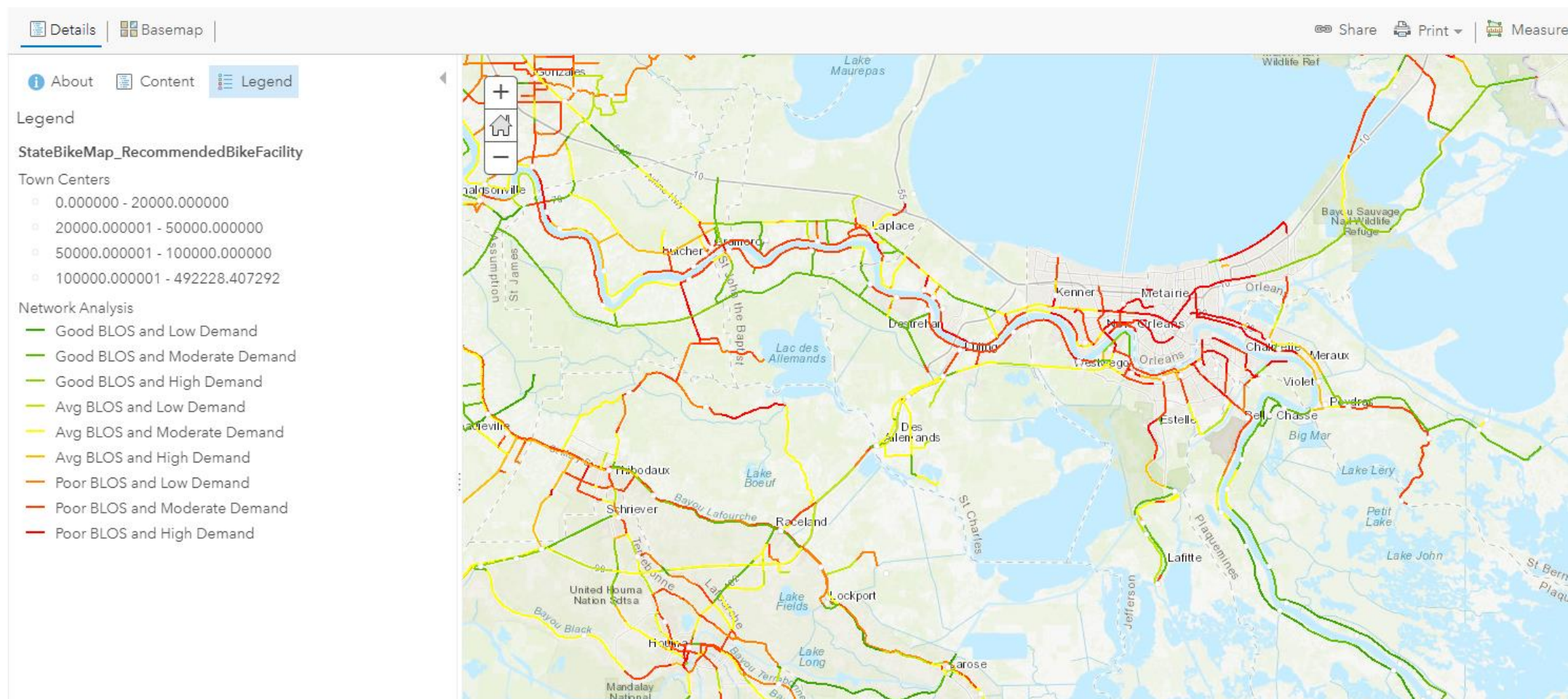




# BICYCLE PLANNING TOOL

g. In assessing the need for a particular facility, the DOTD shall give priority to the connection of pedestrian, transit and/or bicycle traffic generators (e.g., schools, shopping centers, parks and recreational areas, subdivisions). The DOTD shall utilize the Bicycle Planning Tool for bicycle facilities.

Home ▾ Bicycle Planning Tool



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