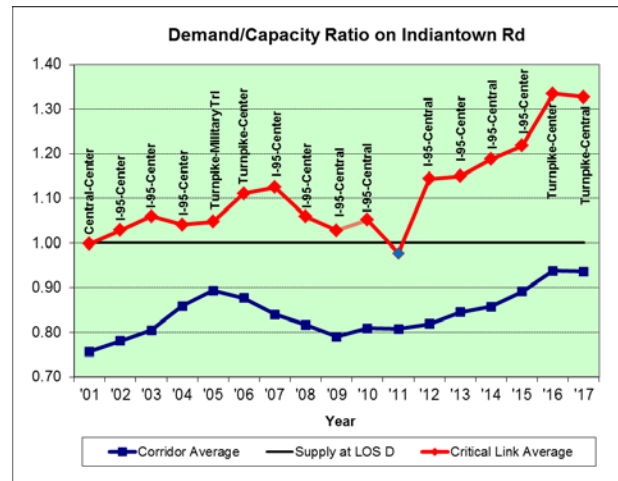


Section Summary

- A total of 306.4 million annual VMT (Vehicle Miles Travelled) is recorded on the entire arterial system within the Town in 2017, which accounts for 79.2% of LOS D service volume on the average, a slight decrease (0.9%) compared to 2016 but is still 3% higher than the past 3-year average.
- Traffic on Indiantown Rd *between Turnpike and Central Blvd* exceeds LOS E daily service volume. The volume-to-capacity ratios on this critical link (1.33) and the whole Indiantown Rd corridor (0.94) remain almost the same as 2016 which is a record high since the beginning of the 21st century.
- Indiantown Rd remains as the *busiest* six-lane arterial carrying over 66,000 daily and 5,900 two-way peak hour traffic in Palm Beach County (PBC). The traffic during both AM and PM peak periods in the most critical segment exceeds the physical capacity (LOS E) of arterial and creates temporary recurrent congestion on an almost daily basis.
- The signalized intersections are evaluated using the critical intersection volume-to-capacity ratio. A ratio of 0.85 or less corresponds to LOS D or better, and a ratio of 0.85 to 0.95 corresponds to LOS E.



Intersection		Total entering volume in peak hour (vph)	Critical intersection v/c* (LOS)
Major Rd	Cross Rd		
Indiantown Rd	Central Blvd	7,095 (PM)	0.95 (E)
Indiantown Rd	Center St	5,104 (PM)	0.84 (D)
Indiantown Rd	Island Way	6,043 (AM)	0.80 (D)
Indiantown Rd	Alt. A1A	5,721 (PM)	0.78 (D)

Note: *Sum of critical flow ratios (saturation flow rates=1710/1620 vphpl for through/left) divided by (1-L/C), where L=total lost time and C=cycle length. Peak hour factor is assumed 0.95.

Quick Facts on Town-wide Crashes in 2017

- A total of 1554 crashes occurred during the period from 10/01/2016 to 09/30/2017, which included 295 injury crashes and 4 fatal crashes.
- In addition to parking activity incidents (19%), the majority of crash types are rear-end (31%), off-road (10%), sideswipe (9.5%). See Table 1.
- The high-crash intersections in terms of crash frequency are Indiantown Rd/Central Blvd (59), Indiantown Rd/Alt. A1A (54), Indiantown Rd/Island Way (47), and Indiantown Rd/Military Trail (35).
- The majority of crashes (48%) occur within the influence area of intersections (see Figure 1). More than 45% of intersection crashes are rear-ends.
- To better understand the causal-effect relationship in intersection crashes, statistics and attributes from hundreds of signalized intersections in PBC during 2012 and 2016 are modeled, which resulted in an accurate crash predictor ($R^2 = 0.82$) as $C \cdot V_{ma}^{a_1} V_{mi}^{a_2} \exp(\sum_i b_i X_i)$ (see Table 2). Higher crash frequency is attributable to daily traffic volumes (both main and minor roads), measure of conflict, legs with grade, deficiency in sight distance and approach volume (per lane). Additional inter-green time adjusted after 2014 also adds to rear-end crashes. Intersections with more channelized right-turn lanes, driveway leg(s) and higher turn-lane ratio tend to have fewer crashes.

Table 1. Crash type vs. severity

Injury type Crash type	PDO	Injury	Fatality
Right Angle	48	20	1
Head on	99	9	
Rear end	380	100	
Left turn	67	34	
Right turn	20	5	
Roll over	7	7	1
Sideswipe	132	15	
Off road	113	42	2
Single vehicle	39	18	
Bicycle	3	16	
Pedestrian	1	14	
Backed into	140	2	
Parked vehicle	156	3	
Other/unknown	50	10	
Total	1255	295	4

Table 2. Intersection crash prediction model

Prediction Variables	Coefficient		t-value*
C, constant	-	0.2259	9.1
V_{ma} (major road volume)	a_1	0.8866	19.1
V_{mi} (minor road volume)	a_2	0.3866	16.5
X_1 (conflict measure)	b_1	0.0416	9.2
X_2 (driveway existence)	b_2	-0.1914	-6.9
X_3 (channelized right-turn)	b_3	-0.23	-3.5
X_4 (legs with grade)	b_4	0.2715	5.6
X_5 (ISD* deficiency)	b_5	0.6203	8.8
X_6 (turn lane ratio)	b_6	-1.279	-7.9
X_7 (volume per lane)	b_7	0.0885	6.6
X_8 (inter-green time ext.)	b_8	0.1068	5.3

* Variable is statistically significant if t-value exceeds 1.96
ISD – Intersection Sight Distance

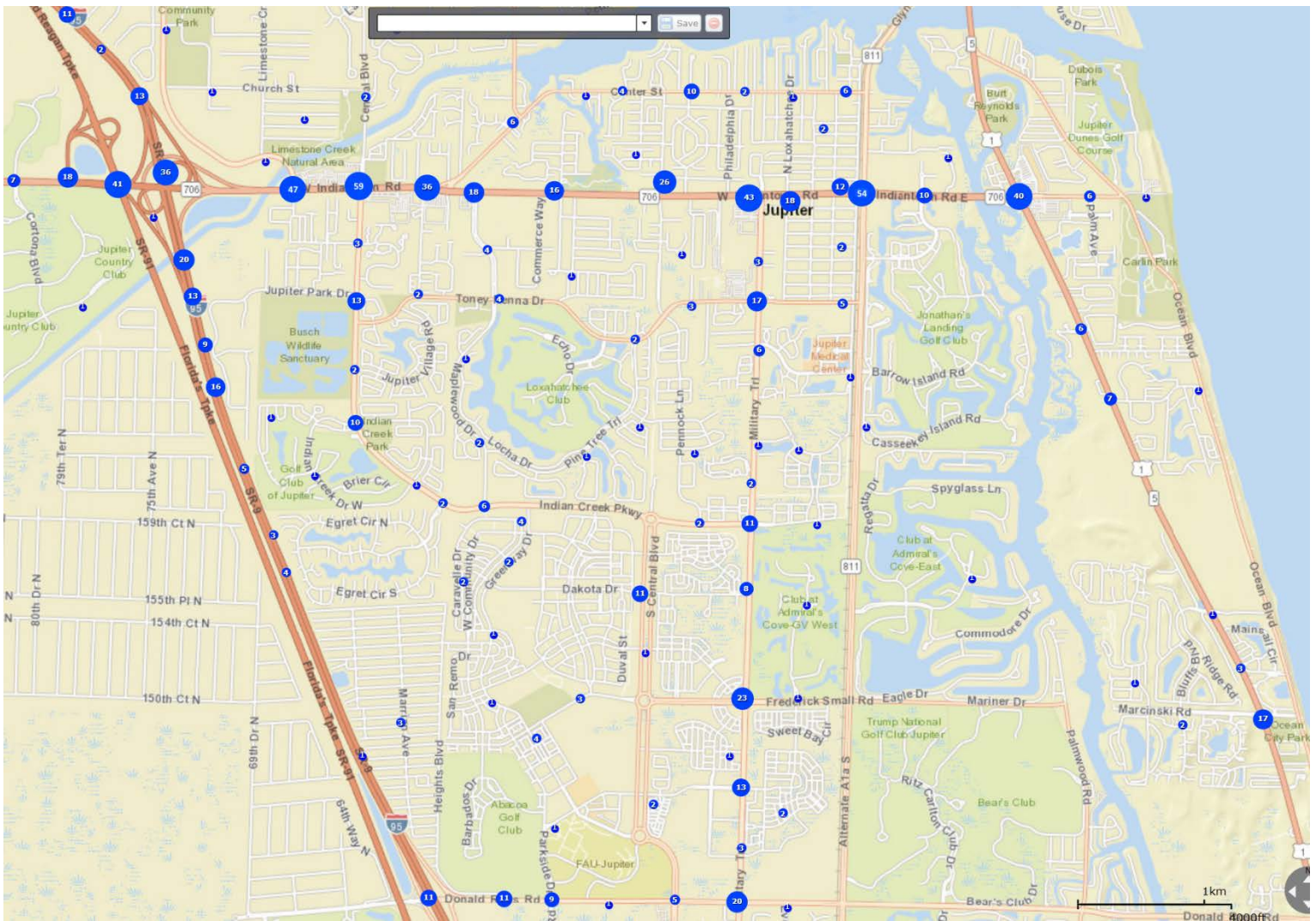


Figure 1. Geographical locations of crashes