

Local Safety Peer Exchange

A Municipal Perspective



Deanna Stockton, P.E., C.M.E., Municipal Engineer

General Statistics

COUNTY	JURISDICTION						TOTAL
	NJDOT	Authority	County	Municipal	Park (State,Local)	Federal Agency FWS, NPS, Military	
Atlantic	145	57	371	1,395	9	8	1,986
Bergen	106	40	440	2,412	0	0	2,998
Burlington	156	38	501	1,930	219	61	2,904
Camden	102	28	389	1,535	7	0	2,062
Cape May	74	31	201	731	26	0	1,063
Cumberland	89	0	540	679	0	0	1,308
Essex	61	19	213	1,375	10	0	1,679
Gloucester	154	20	400	1,143	0	0	1,717
Hudson	35	21	53	515	2	0	626
Hunterdon	115	1	237	1,078	15	0	1,446
Mercer	119	14	173	1,213	10	1	1,530
Middlesex	139	40	295	2,094	9	1	2,578
Monmouth	205	27	365	2,770	26	131	3,523
Morris	162	0	296	2,107	19	10	2,594
Ocean	141	39	608	2,174	110	37	3,108
Passaic	55	5	235	1,029	10	0	1,333
Salem	86	9	353	430	5	1	884
Somerset	106	0	230	1,398	0	0	1,735
Sussex	111	0	314	907	87	13	1,433
Union	68	20	176	1,160	6	0	1,430
Warren	103	5	256	697	31	44	1,136
TOTAL	2,331	413	6647	28,772	599	308	39,071
STATEWIDE TOTAL							39,071

► NJDOT has jurisdiction on just 7% of roads in New Jersey / 66% volume

► In Mercer: 11% County, 79% Municipal, 7% NJDOT

► In Cumberland: 41% County, 52% Municipal, 7% NJDOT

Princeton Statistics

- ▶ Prior to 2013, Princeton was two communities: Borough of Princeton and Township of Princeton
- ▶ Borough was more urban
- ▶ Township was more suburban / rural

	Borough	Township
Road miles	20	100
Speed limits	25 and less	25 - 45
Population	12,000+	16,000+
Size	1.8 sq. mi.	16.5 sq. mi.
Density	6,679 / sq. mi.	1,010 / sq. mi.

Former Borough Traffic Calming Examples



Hodge Road AADT and Speed (Avg / 85th Percentile)



Former Township Policy on Traffic Calming

- ▶ Township Policy created in 2002 prohibiting speed humps (vertical deflections)

Sgt. Michael Henderson, Traffic Safety Officer, said that a significant number of people would die due to delayed response of emergency vehicles from the humps in the roadways. Sgt. Henderson also said that the police would be opposed to planting trees in the center of roads.

Greg Paulson, Princeton First Aid and Rescue Squad, said that the humps cause great concern about impediments to response time. He also said that going over the humps was a hazard to both the patients and passengers in the emergency vehicles.

Municipal Traffic Safety Concerns

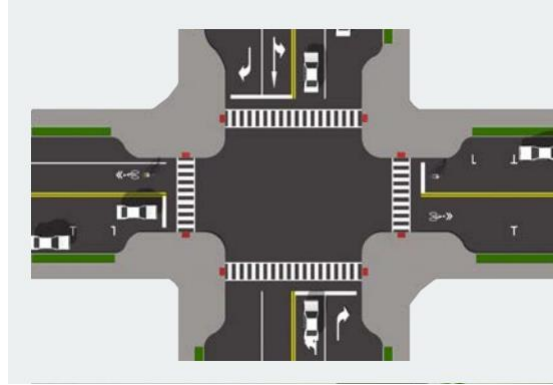
- ▶ Vehicle speeds
- ▶ Volume
- ▶ Public rights of way are valuable and have many competing needs in a livable community
- ▶ Road users don't always follow the rules
- ▶ Distracted driving is increasing
- ▶ Curbing, striping, tree plantings, radar speed signs, and police enforcement are not enough
- ▶ A walkable and bikeable town is often less friendly to drivers, especially for parking
- ▶ Bumpouts are undesirable to bicyclists and Public Works - but they have advantages for pedestrians



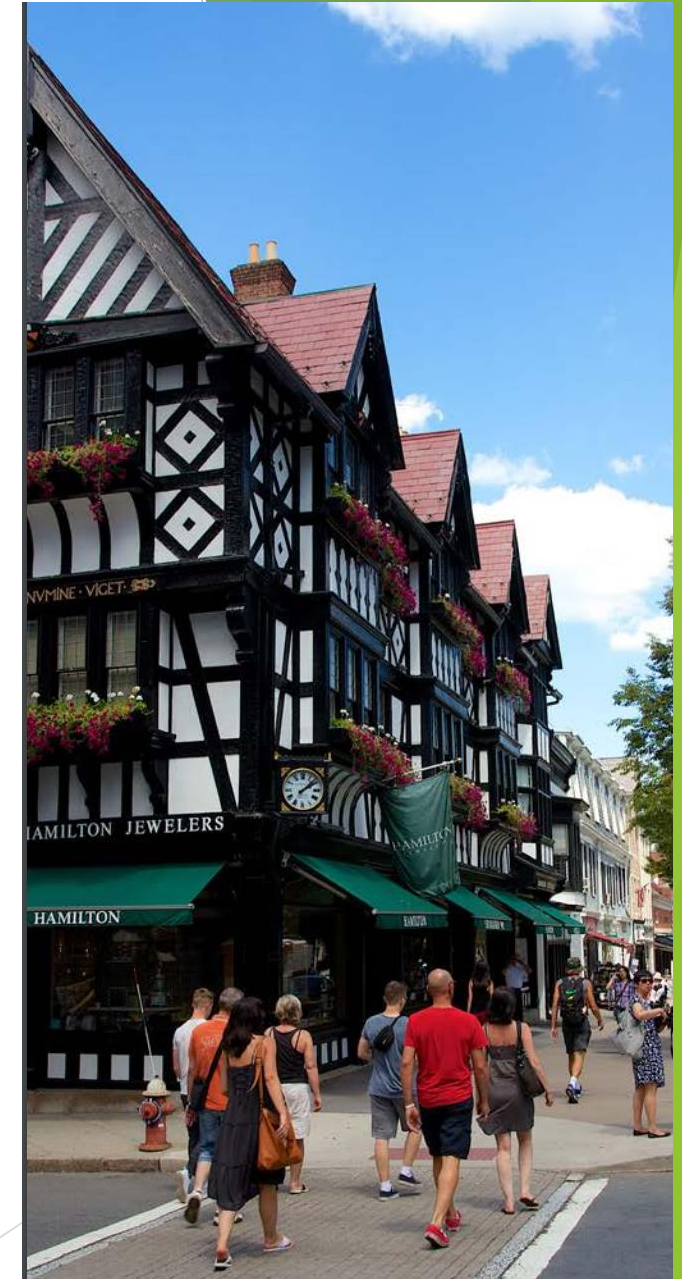
Princeton's Safety Design Process

- ▶ Review crash reports, speed data, and meet with police
- ▶ Gather road AADT data
- ▶ Complete the Complete Streets checklist
- ▶ Review the Master Plan for bicycle mobility, pedestrian, and other prescribed improvements
- ▶ Conduct a site visit
- ▶ Discuss findings with Traffic Safety Committee (staff-led committee with Engineering, Police, and Public Works representatives)
- ▶ Prepare a conceptual plan
- ▶ Conduct a design neighborhood meeting and gain neighborhood perspective
- ▶ Adapt conceptual plan
- ▶ Review conceptual plan with Complete Streets Committee (Council-appointed committee including bike, transit and other advocates)

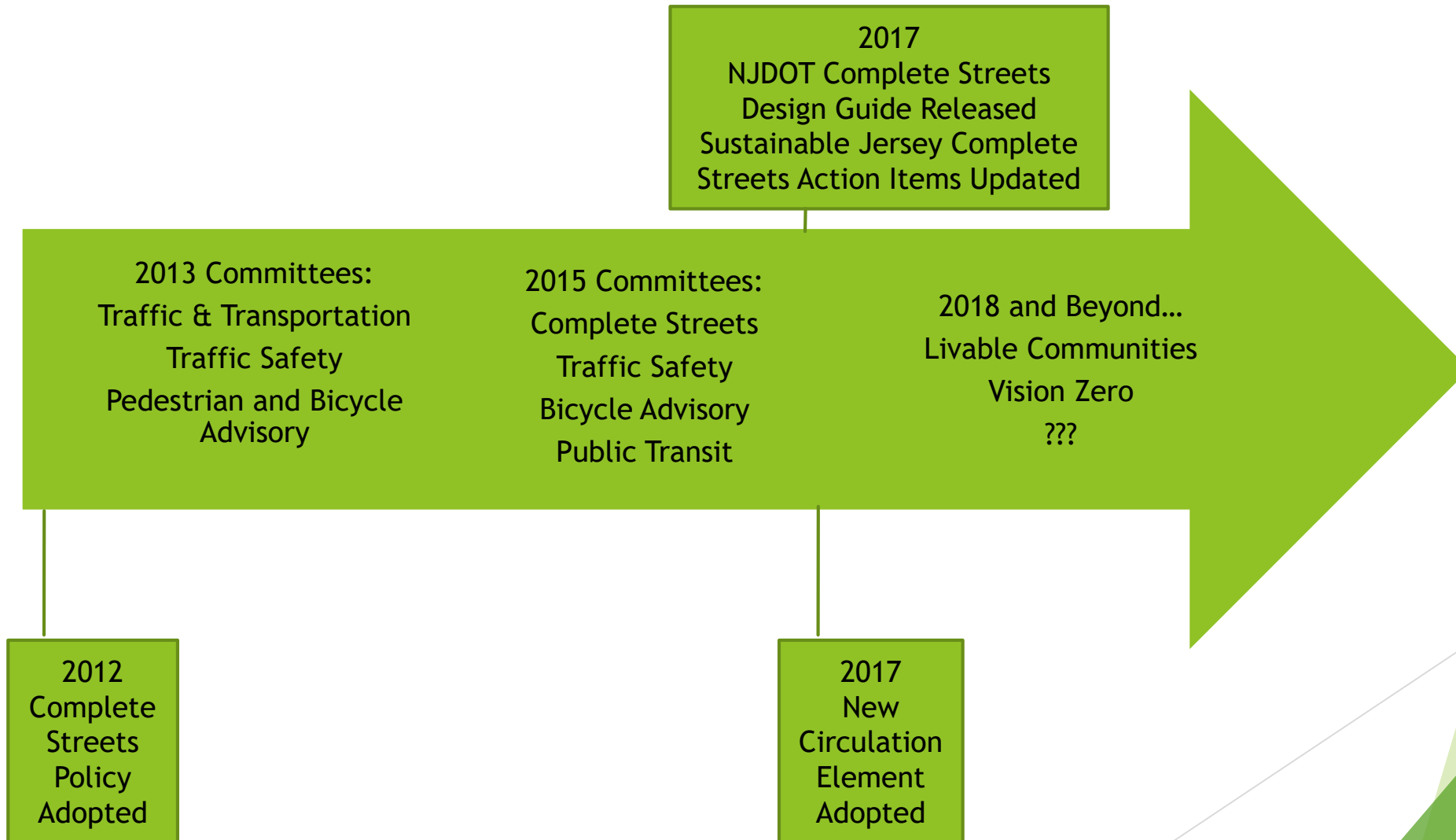
Roadblocks



- ▶ Historic
- ▶ Loss of parking
- ▶ Constricted space
- ▶ Perceived loss of property value
- ▶ Tree removals
- ▶ Road maintenance issues
- ▶ Priorities
- ▶ Conflicts between ped needs and bicyclist needs
- ▶ The Squeaky Wheel



Progression in Safety Design



The Future of Safety



2017 State of New Jersey Complete Streets Design Guide



FORGIVING DESIGN	FORGIVENESS OF SLOW SPEEDS
Increases safety at high speeds	Fosters the safety of slow speeds
Wide travel lanes	Narrow travel lanes
Broad, smooth curves	Short, tight curves
Clear zone free of fixed objects	Variety of fixed objects (light poles, trees, mail boxes, planter boxes, etc) directly adjacent to the travel way
Wide shoulders	Shoulders are used for parking, bike lanes, and loading zones
Feels comfortable to drive fast	Feels dangerous to drive fast

- ▶ Use Complete Streets Checklist and Road Safety Audits
- ▶ Use Safety Voyager to supplement police crash reports
- ▶ Compare USLimits2 versus 85th percentile for speed limit establishment
- ▶ Reference FHWA Proven Safety Countermeasures



Roadside Design Improvement at Curves



Reduced Left-Turn Conflict Intersections



Systemic Application of Multiple Low Cost Countermeasures at Stop-Controlled Intersections



Leading Pedestrian Interval



Local Road Safety Plan



USLIMITS2



Enhanced Delineation and Friction for Horizontal Curves



Longitudinal Rumble Strips and Stripes on Two-Lane Roads



Median Barrier



Safety Edge_{SM}



Backplates with Retroreflective Borders



Corridor Access Management



Dedicated Left- and Right-Turn Lanes at Intersections



Roundabouts



Yellow Change Intervals



Medians and Pedestrian Crossing Islands in Urban and Suburban Areas



Pedestrian Hybrid Beacon



Road Diet



Walkways

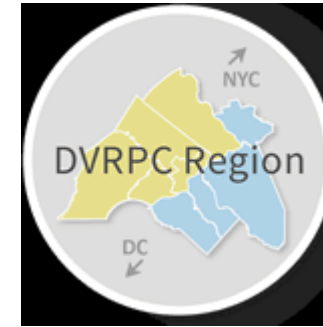


Road Safety Audit

► Establish Criteria and Map of Potential Traffic Calming Locations

Traffic Calming Criteria					
	Points				
	1	2	3	4	5
Percent of speeding (5MPH above)	10%	20%	30%	40%	50%
Density of Housing (lot size)	40,000sf	30,000sf	20,000sf	10,000sf	>10,000sf
Are there Sidewalks	2 sides		1 side		no sidewalks
Volume of traffic	500 VPD	750 VPD	1,000 VPD	2,000 VPD	3,000 VPD
Other Criteria:	Proximity to Pedestrian destination				

- ▶ Pilot fixes before they are built
- ▶ Participate in county and regional dialogues
- ▶ Find community champions to advocate for improvements
- ▶ Continue to evaluate modifications



QUESTIONS?

Deanna Stockton, P.E., Municipal Engineer
Municipality of Princeton
400 Witherspoon Street, Princeton, NJ 08540
609-921-7077 x 1138 609-731-2625

Princeton Police Traffic Safety Bureau
Lt. Geoff Maurer
Sgt. Thomas R. Murray III
609-921-2100