

Road Safety Audits

NJDOT Research Showcase

October 23, 2019



AIMEE JEFFERSON

North Jersey Transportation Planning Authority

What's an RSA?

“A Road Safety Audit (RSA) is the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users.”

- Federal Highway Administration, 2018
(<https://safety.fhwa.dot.gov/rsa>)

RSA Process

Identify
Project

Conduct
Start-Up
Meeting

Analyze/
Report
Findings

Prepare
Formal
Response



Select
RSA
Team

Perform
Field
Review

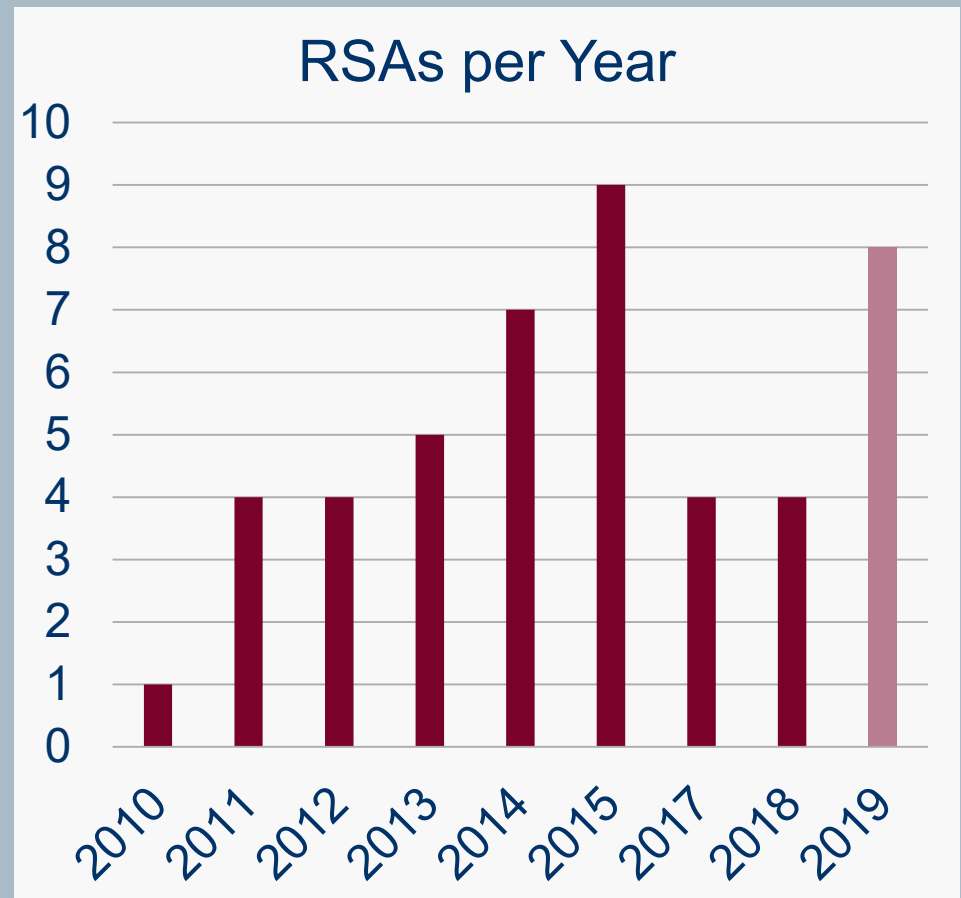
Present
Findings
to Owner

Incorporate
Findings

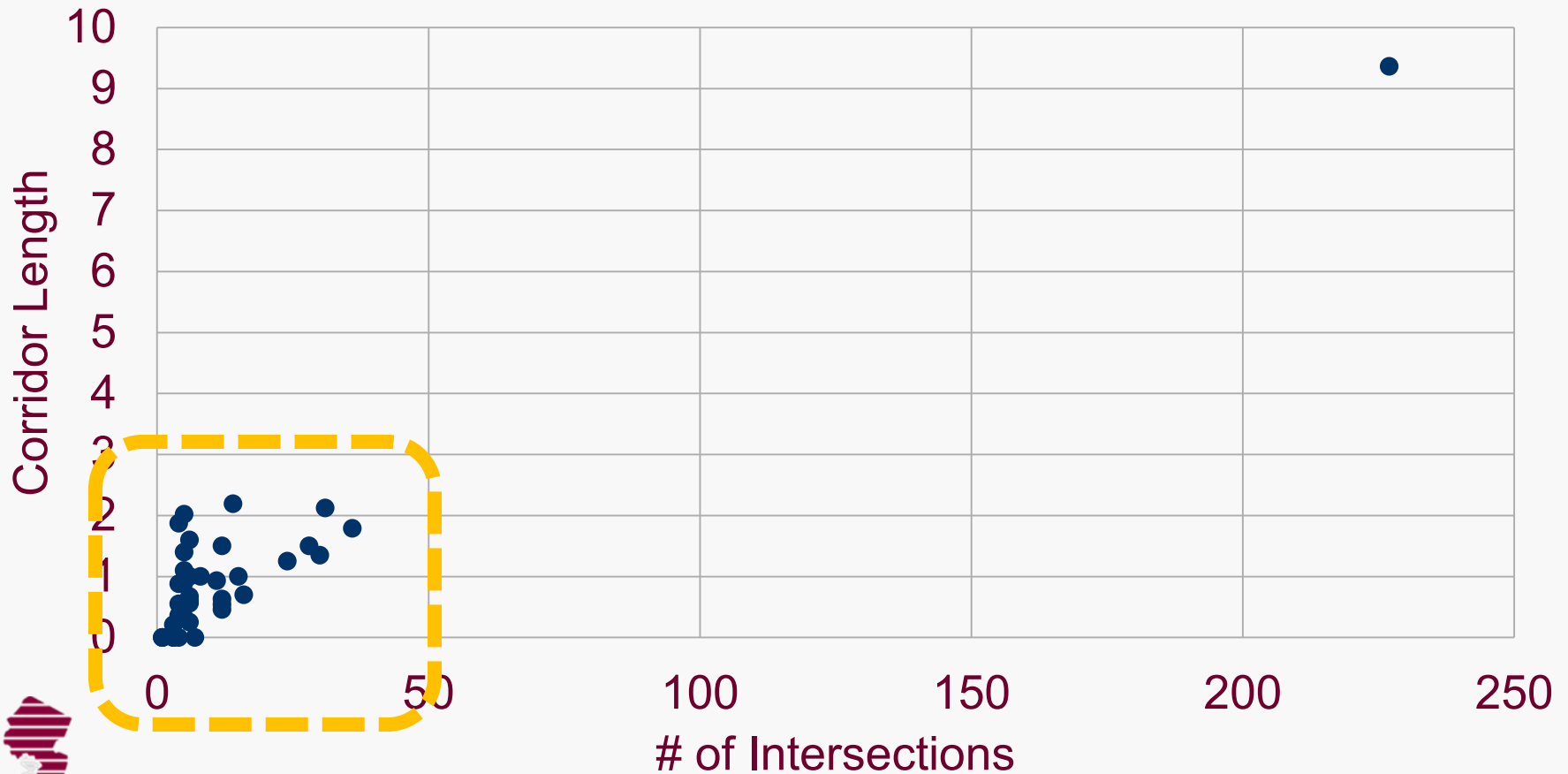
RSAs since 2010

Since 2010:

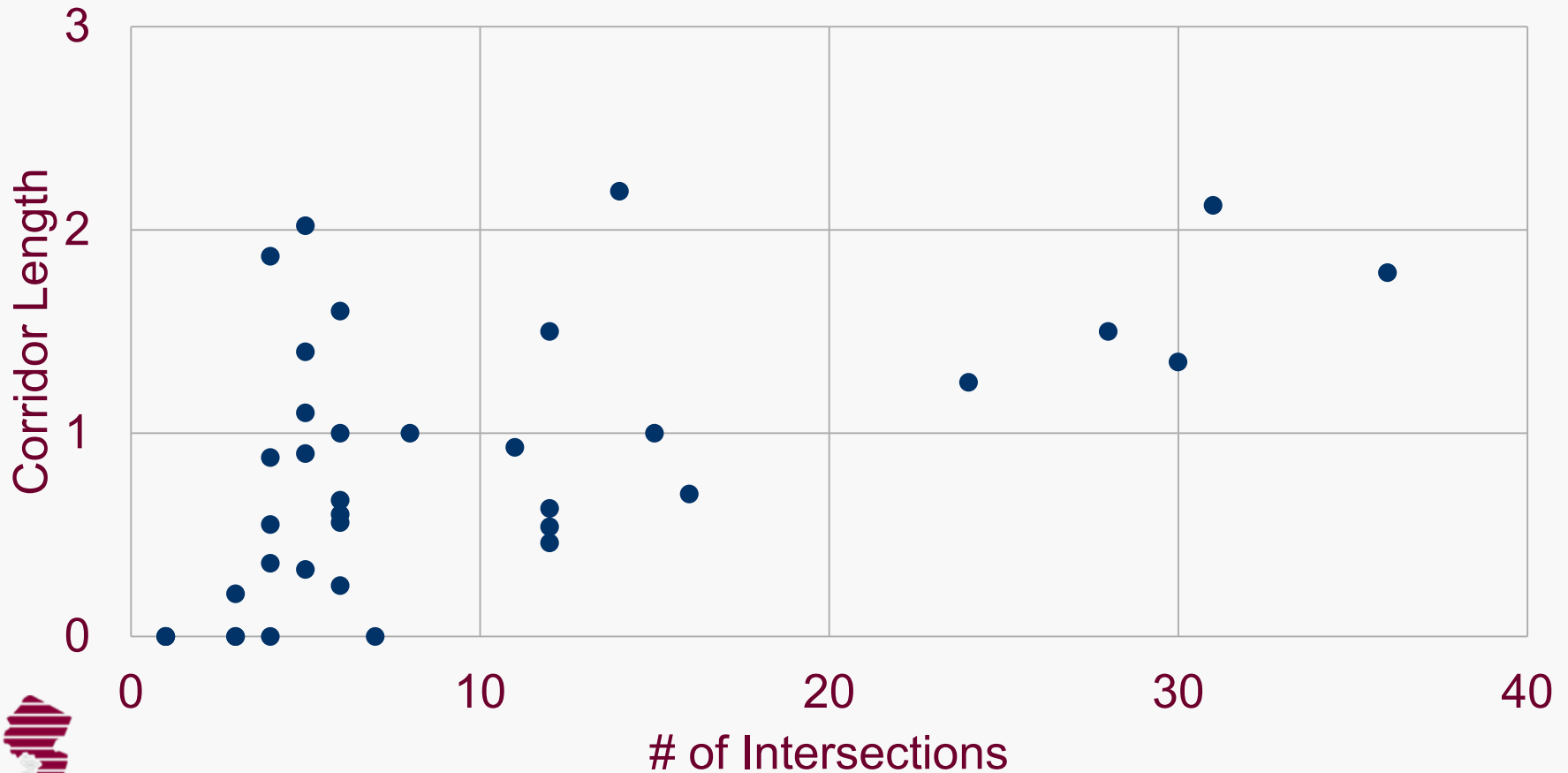
- 10 of the 15 subregions had RSAs
- 38 RSAs total
- 40 miles of corridors
- 582 intersections



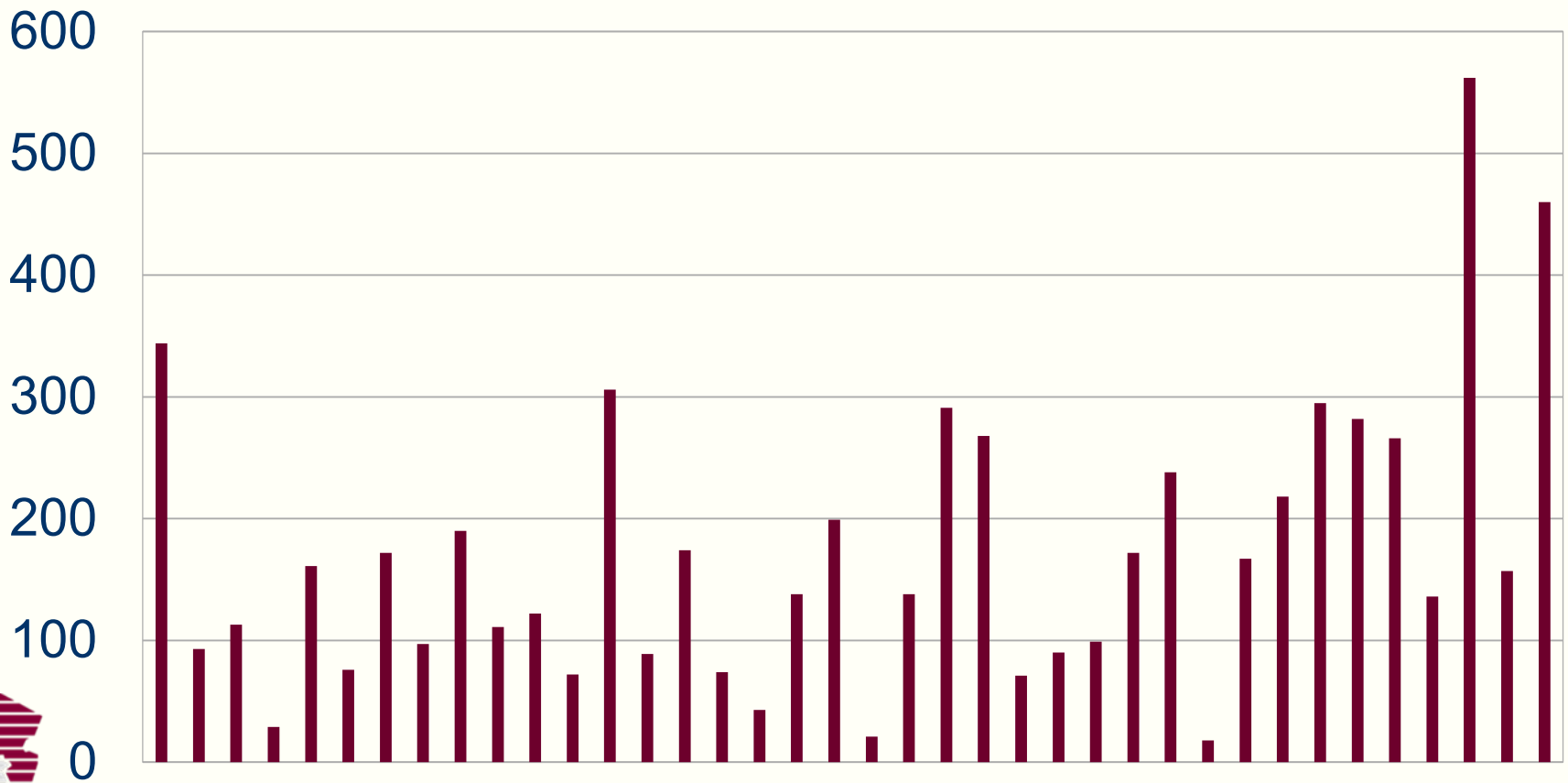
RSA Physical Characteristics



RSA Physical Characteristics



Crashes per RSA



RSA Process

Identify
Project

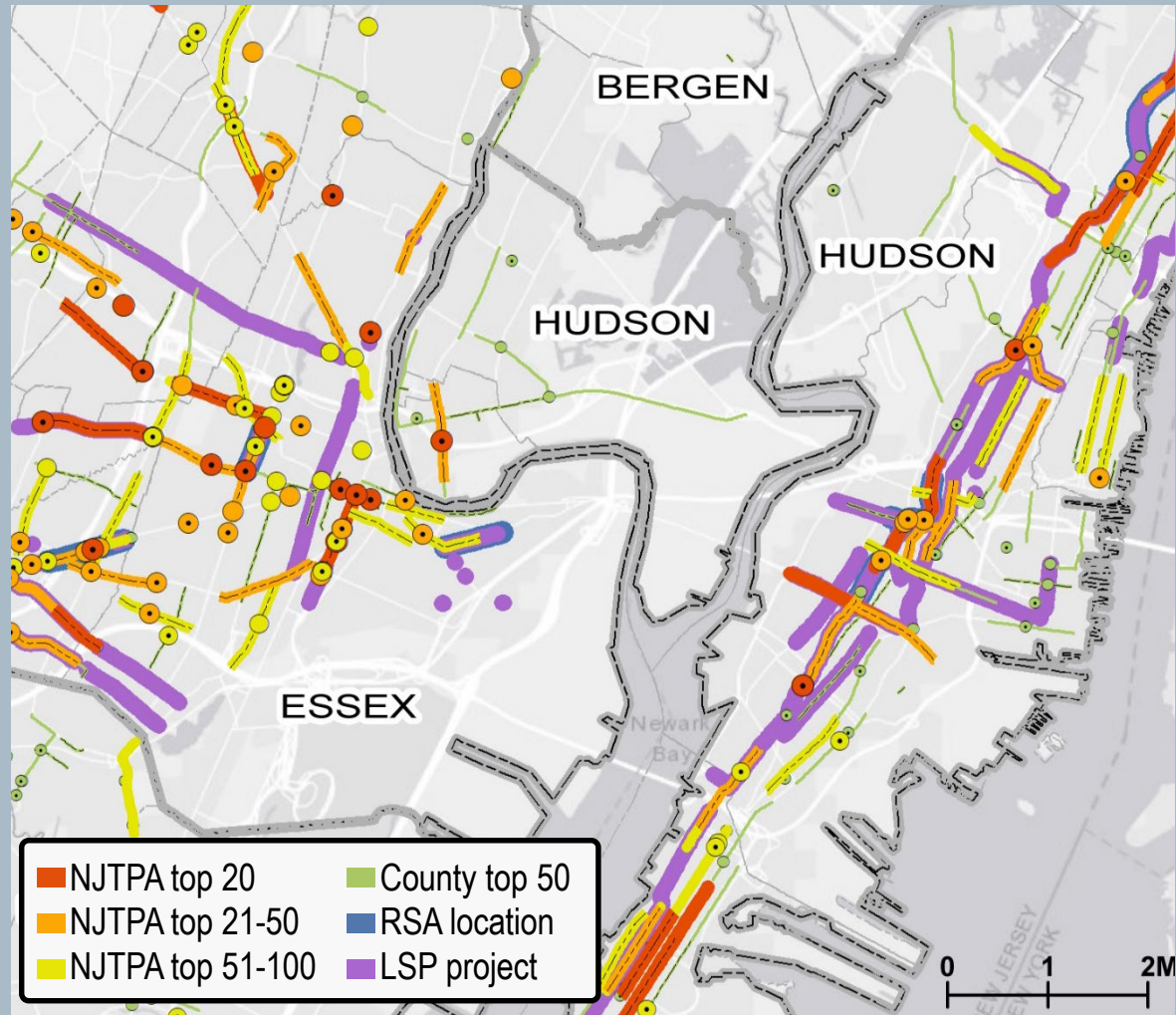
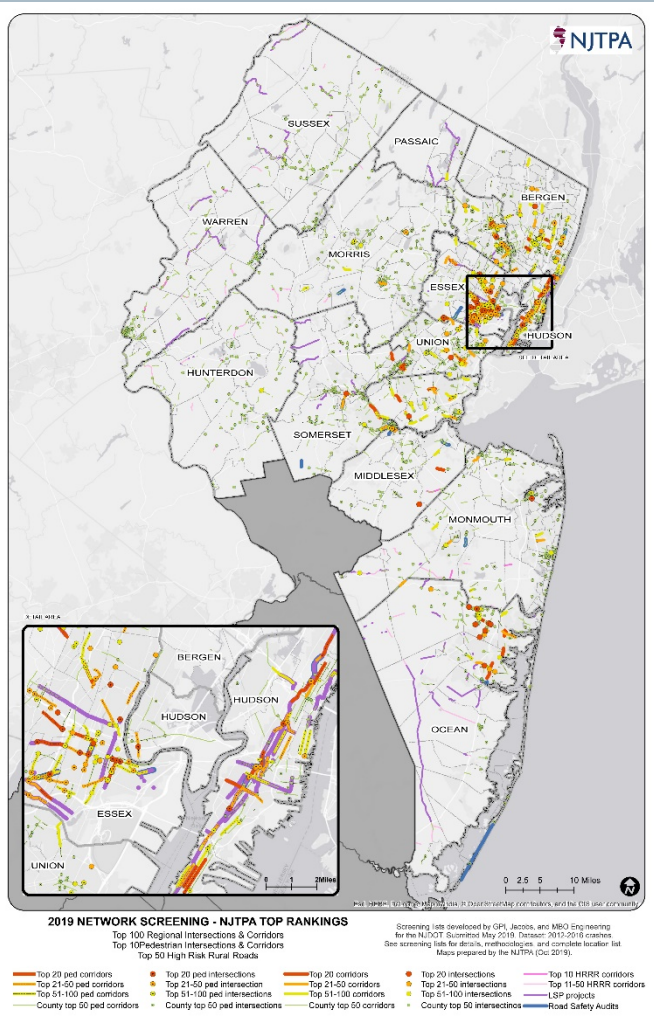


Network Screening Lists

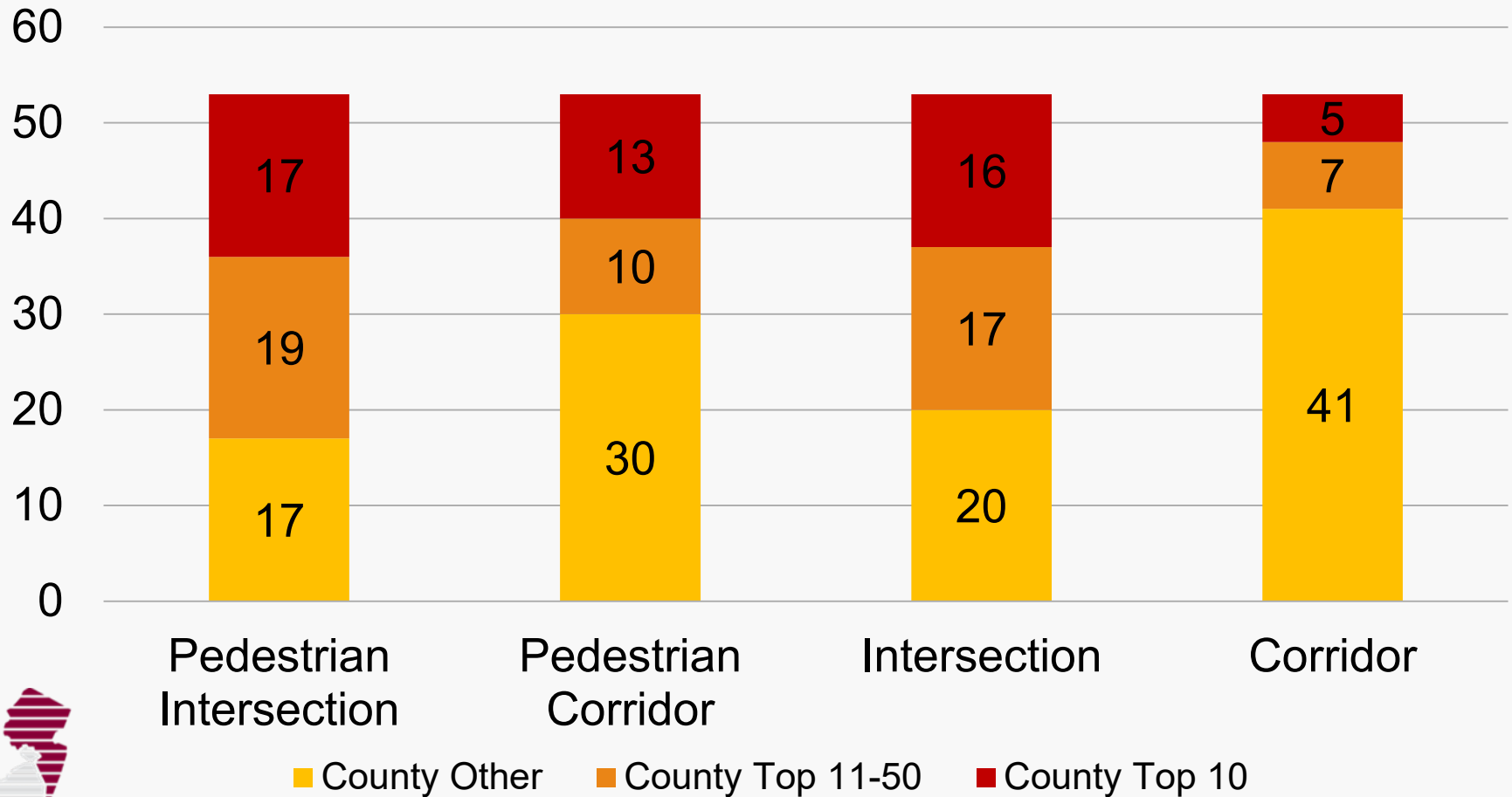
NJTPA Rank	County Rank	County	Town	Road	MP	Total Crashes	K	A	B	C	No Injury	Roadway System	Score
1	1	MIDDLESEX	EDISON TWP	00000529	1.06	73	0	0	2	28	43	County	372
2	1	OCEAN	LAKEWOOD TWP	00000528	32.13	53	0	0	7	20	26	County	354
3	1	BERGEN	ENGLEWOOD CITY	00000501	42.86	56	0	0	4	24	28	County	348
4	1	ESSEX	EAST ORANGE CITY	00000508	8.81	43	0	1	3	21	18	County	345
5	2	ESSEX	NEWARK CITY	07141865	0.82	35	0	2	0	21	12	Municipal	344
6	2	OCEAN	LAKEWOOD TWP	00000528	32.43	46	0	1	6	15	24	County	337
7	1	UNION	CRANFORD TWP	20000615	2.61	71	0	0	3	21	47	County	318
8	1	HUDSON	JERSEY CITY	00000501	28.42	46	0	1	2	17	26	County	293
9	1	SOMERSET	BRIDGEWATER TWP	00000533	29.89	45	0	0	5	17	23	County	285
10	3	OCEAN	LAKEWOOD TWP	15070086	1.43	18	0	3	2	7	6	County	278



Network Screening Lists



Ranking Addressed



RSA Process

Identify
Project

Conduct
Start-Up
Meeting



Select
RSA
Team

Perform
Field
Review

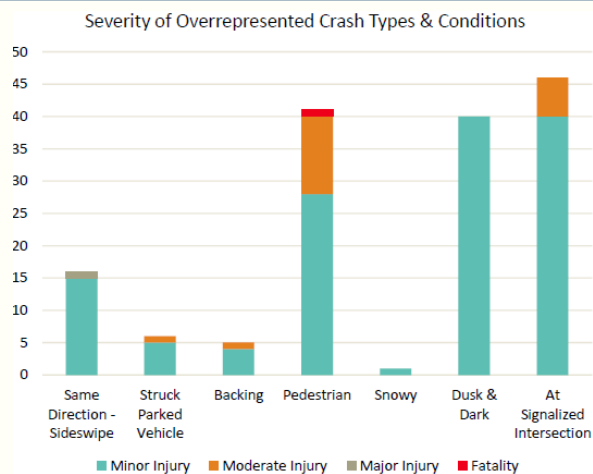
Start-Up Meeting

Review Countermeasures



- Existing conditions
- Transit
- Land use
- ADT

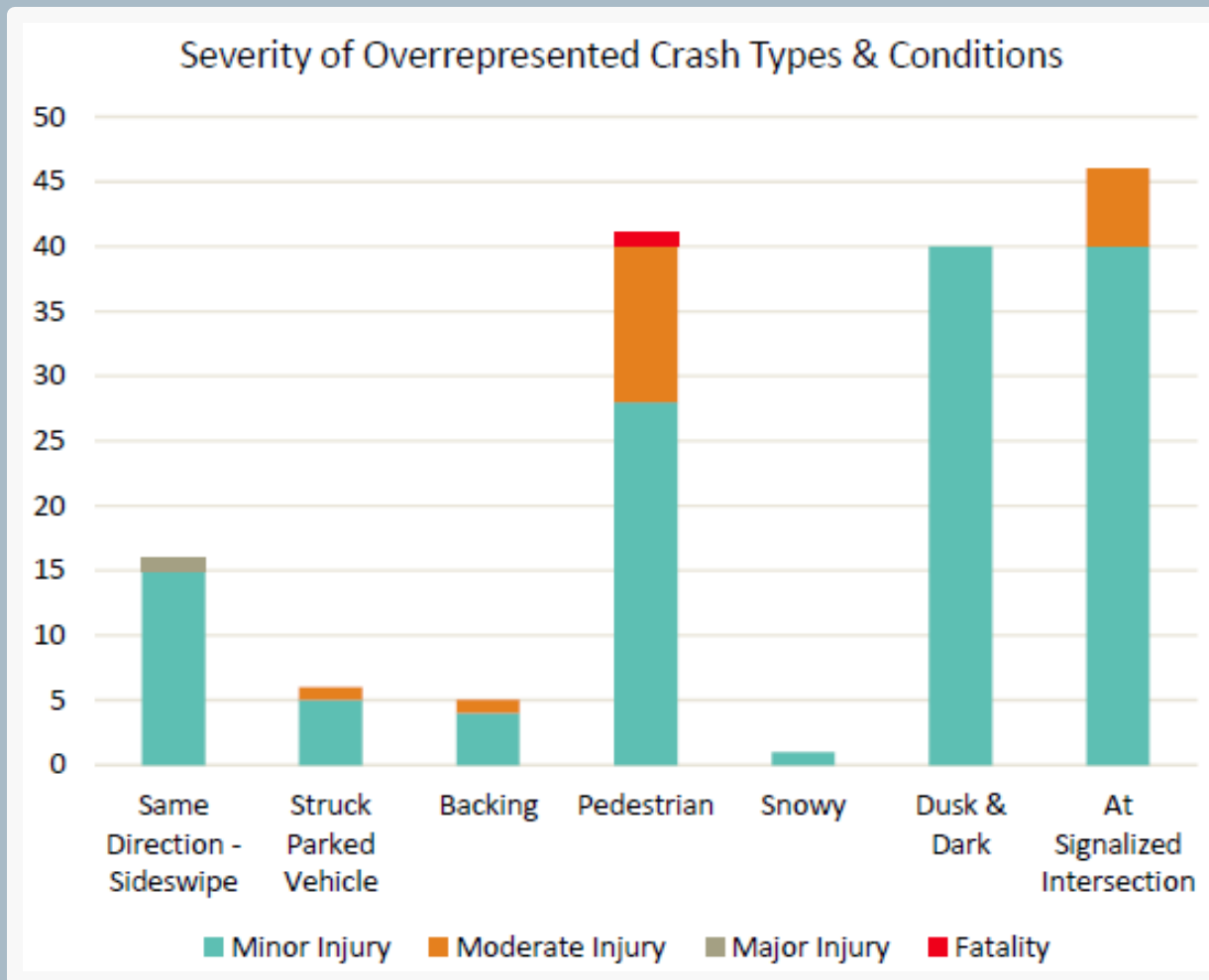
Crash Analysis



Crash Diagrams



Data Focus: Crash Dataset



Data Focus: Crash Diagrams



SYMBOLS

	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	BICYCLIST
	PROPERTY DAMAGE ONLY CRASH
	INJURY IN CRASH
	FATAL CRASH

SAMPLE DATA

MINOR ROUTE

MAJOR ROUTE

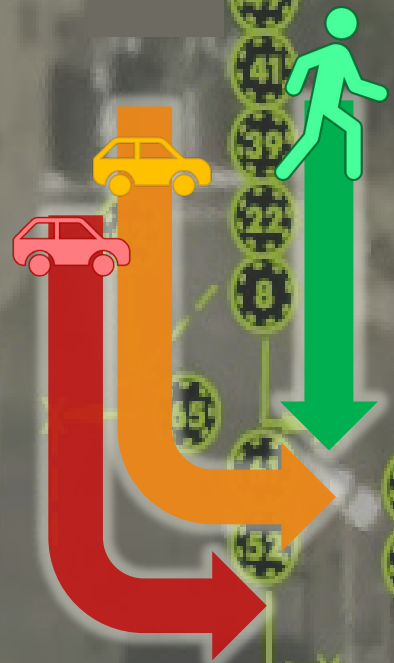


SYMBOLS

- ← MOVING VEHICLE
- ↔ BACKING VEHICLE
- - - NON-INVOLVED VEHICLE
- X - - - PEDESTRIAN B - - - BICYCLIST
- PROPERTY DAMAGE ONLY CRASH
- ⊙ INJURY IN CRASH ⊙ FATAL CRASH

MINOR
ROUTE

MAJOR ROUTE



SYMBOLS

- ← MOVING VEHICLE
- ↔ BACKING VEHICLE
- - - NON-INVOLVED VEHICLE
- x - - - PEDESTRIAN B - - - BICYCLIST
- PROPERTY DAMAGE ONLY CRASH
- ⊙ INJURY IN CRASH ⊙ FATAL CRASH

Field Review



RSA Process

Identify
Project

Conduct
Start-Up
Meeting

Analyze/
Report
Findings



Select
RSA
Team

Perform
Field
Review

Present
Findings
to Owner

Report Components

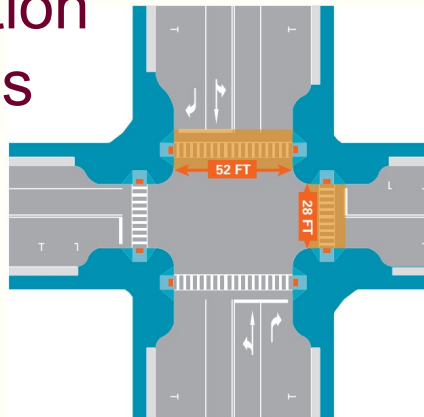
Identified Issues & Observations



Recommendations

✓	Safety benefit potential
\$	Cost magnitude
🕒	Timeframe

Recommendation Visualizations



Other Information

- Corridor description & analysis
- Crash findings and diagrams
- Photographs
- Reference documents (traffic data, studies, other plans)
- Road owner response

RSA Process

Identify
Project

Conduct
Start-Up
Meeting

Analyze/
Report
Findings

Prepare
Formal
Response



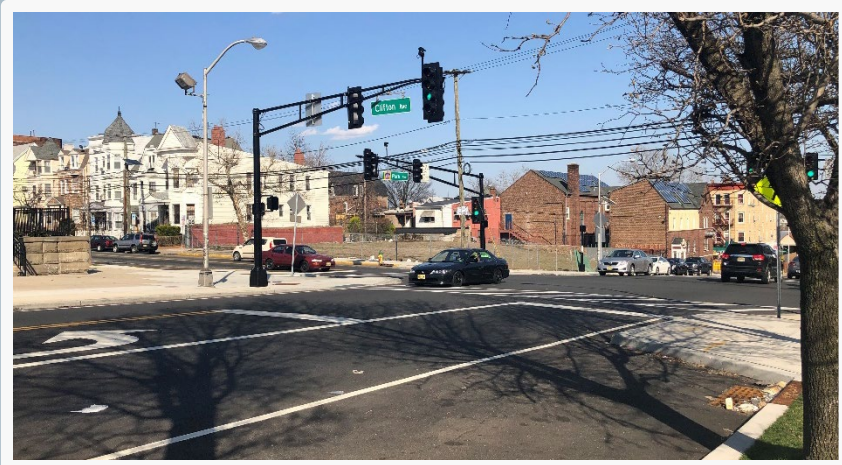
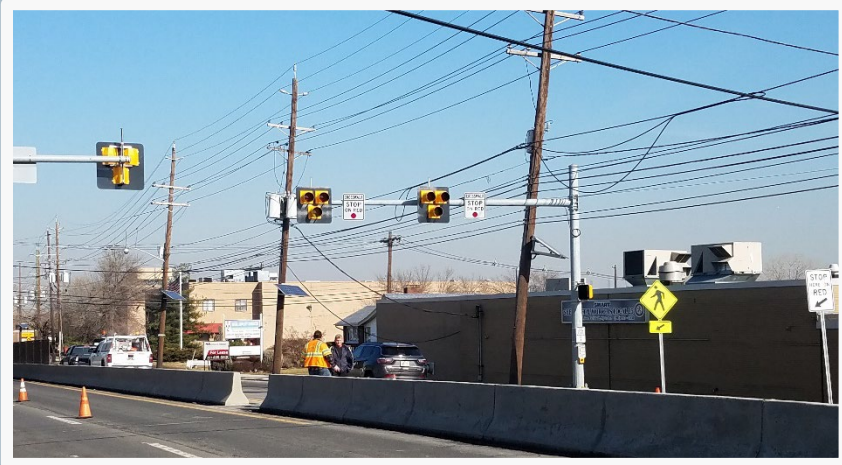
Select
RSA
Team

Perform
Field
Review

Present
Findings
to Owner

Incorporate
Findings

Post-RSA



Recommendations from 22 of the 38 RSA reports advanced to the Local Safety Program

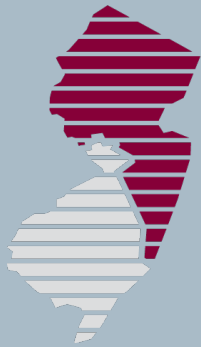
- Washington Avenue, Bergen County
- Park Avenue & Clifton Avenue, Essex County

Next Steps

1. Review screening lists for ideas on potential project locations
2. Collecting data for completed projects to evaluate effectiveness of improvements

Thank You!

Defining the Vision. Shaping the Future.



NJTPA

**NORTH JERSEY
TRANSPORTATION
PLANNING AUTHORITY**

AIMEE JEFFERSON
ajefferson@njtpa.org
(973) 639-8439



Find us on
Facebook!

follow us on

twitter 



Find Us On
Instagram

You
Tube

SUBSCRIBE
TO OUR CHANNEL