CITY OF CHARLOTTE

Strategies for Lowering Speeds

NCSITE SIMCAP/SAFETY USER GROUP MEETING

SEPTEMBER 29, 2022

Topics

- Speed Limit Setting
- Portable Driver Feedback Signs
- Speed Corridor Work
- TravelSafely Pilot Application

Speed Limit Setting
Charlotte practice

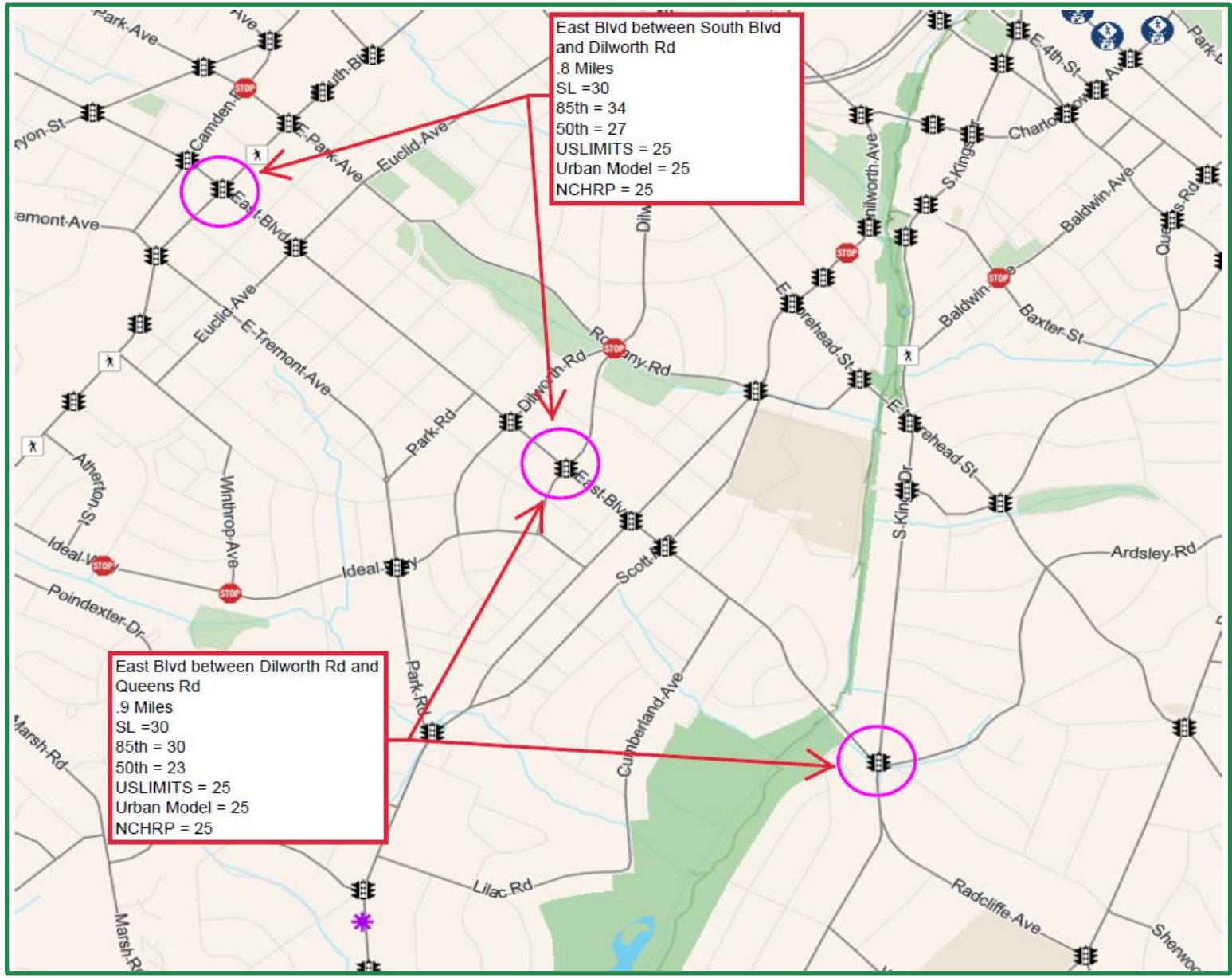
25 MPH

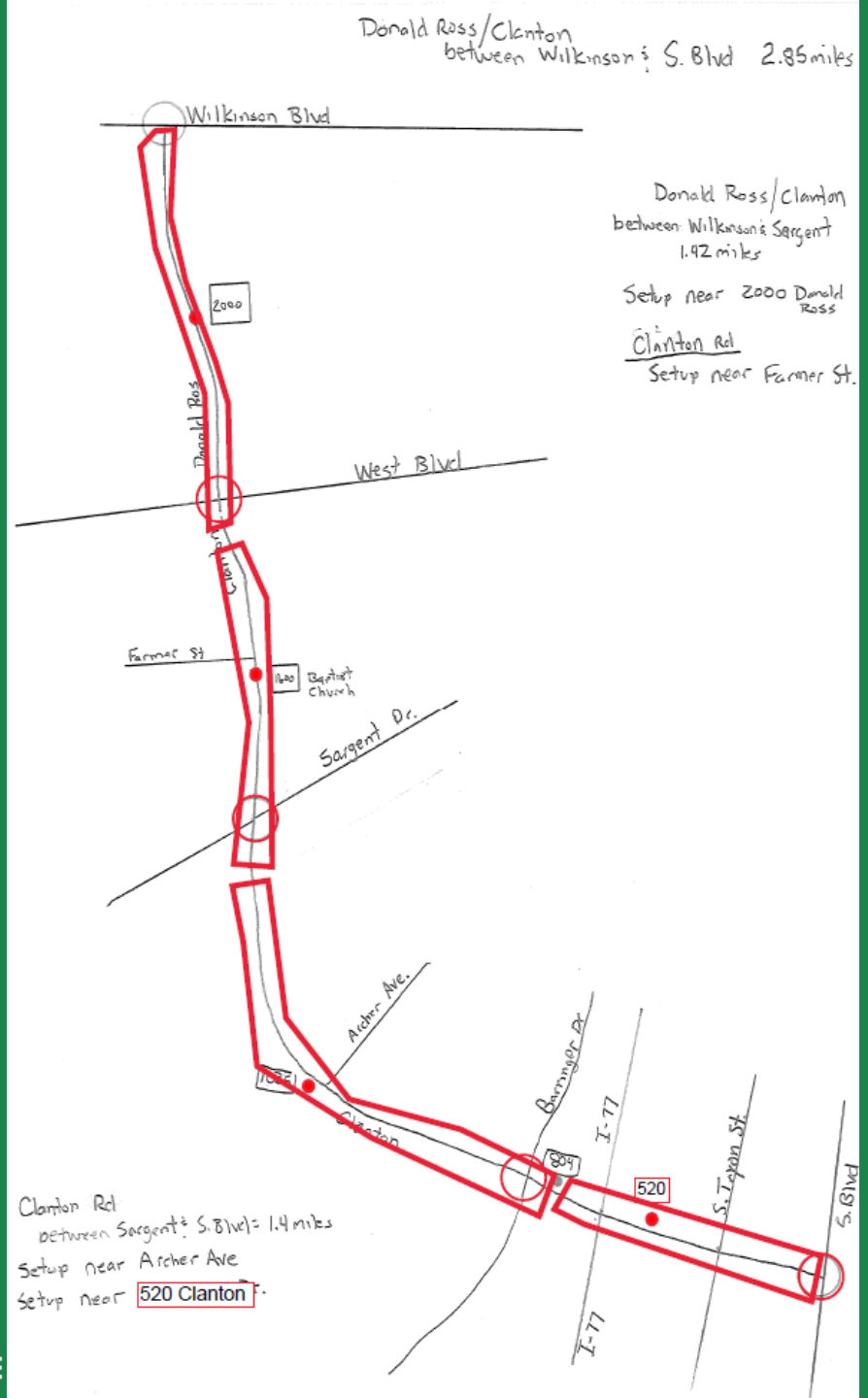
- Uptown – inside 277/77 loop
- Local streets and some collectors
- No engineering study required
- Driven by citizen request
- First step in Neighborhood Traffic Calming



Engineering Studies for Speed Limit Setting

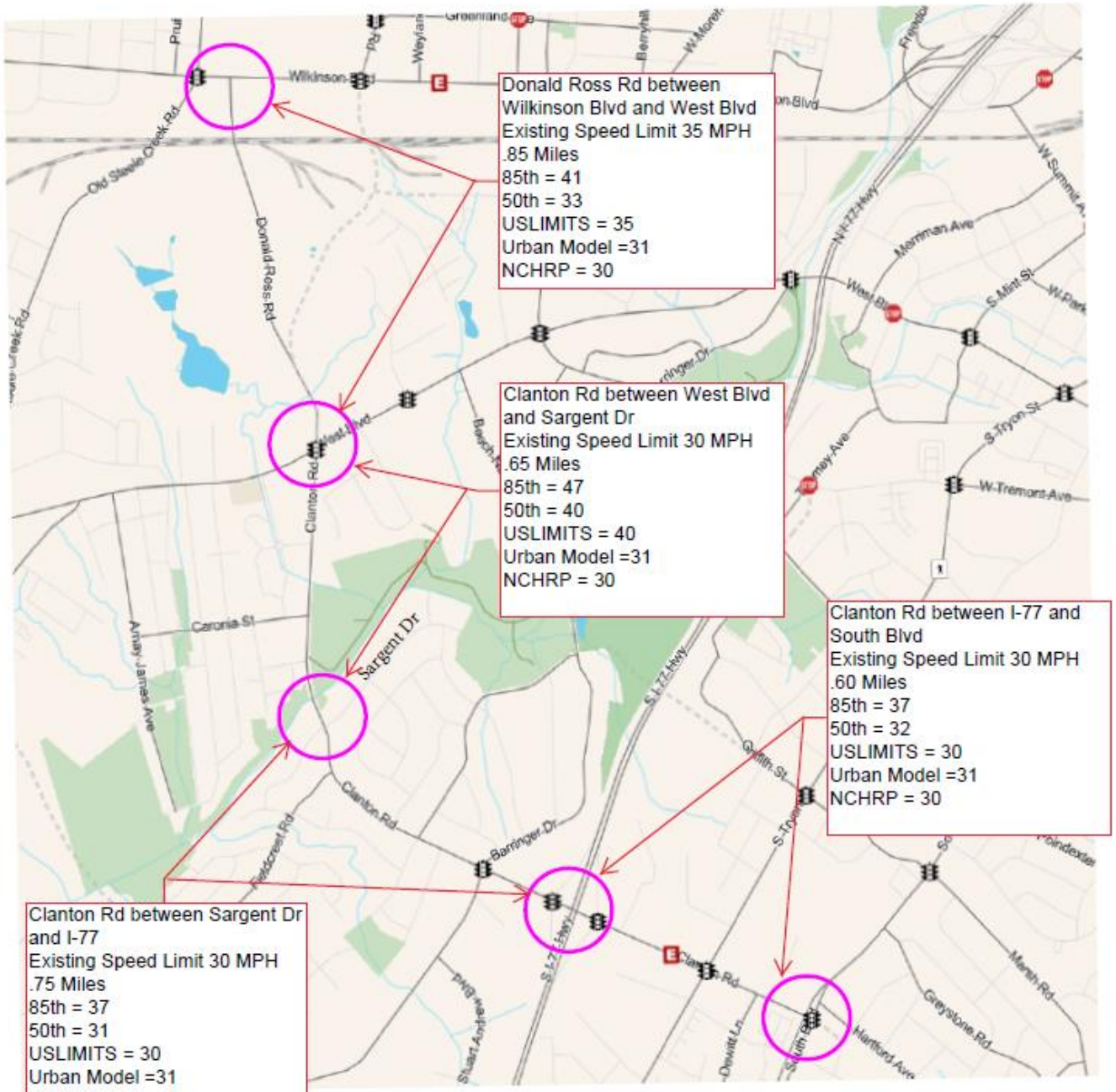
- **USLIMITS2**
- **NCHRP 17-76 Report**
  NCHRP 966 Tool
- **ITE Model from Canada**




Donald Ross/Clanton
between Wilkinson & S. Blvd 2.85 miles
Wilkinson Blvd
Donald Ross/Clanton
between Wilkinson & Sargent
1.92 miles
Setup near 2000 Donald Ross
Clanton Rd
Setup near Farmer St.
2000
Donald Ross
West Blvd
Clanton
Farmer St
1600
Baptist Church
Sargent Dr.
Archer Ave.
Barringer Dr
I-77
S. Tryon St
S. Blvd
520
Clanton Rd
between Sargent & S. Blvd = 1.4 miles
Setup near Archer Ave
Setup near 520 Clanton

The Process

Donald Ross/Clanton between Wilkinson Blvd and South Blvd



The Results

High Injury Network Evaluations

- **12 High Injury Network segments per year**
- **5 miles of bike lanes on HIN per year**

Street	Limit 1	Limit 2	Posted Speed	85th percentile	50th percentile	Recommended Speed
Shamrock Drive	Hickory Grove	Eastway	35	48-51	42-44	Keep at 35 mph
East Blvd	South Blvd	Queens Rd	30	30-34	23-27	**Lower to 25 mph**
Donald Ross/Clanton	Wilkinson	South Blvd	35	37-47	31-40	**Lower to 30 mph all the way to South Blvd**
Tuckaseegee Rd	Freedom Dr	Wilkinson Blvd	45	37-41	30-35	**Lower to 35 mph from Freedom to Wilkinson**
Oakdale Rd	Leolillie Ln	Brookshire Blvd	35	42-45	36-39	Keep at 35 mph
Beatties Ford Rd	Brookshire	Capps Hill Mine Rd	35	38-45	30-39	**Lower to 30 from Brookshire to Hoskins, remain 35 north of Hoskins**
Remount	Wilkinson	S. Tryon	35	38	32	**Lower to 30 mph**
Park Rd	Scott/Kenilworth	Tyvola	35	45-46	34-40	Keep at 35 mph
Rozzelles Ferry Rd	Old Mount Holly	S. Hoskins	45	41-43	31-37	**Lower to 40 mph**

Driver Feedback Signs

Portable Driver Feedback Signs



1. Documented speeding – Any street segment where the 85th percentile speed is more than 10 mph over the posted speed limit; **and**

2. On the High Injury Network; **or**

3. May also be requested by citizens but must meet criteria number 1 above. Citizen requests will be on a first come first served basis; **or**

4. On the High Injury Network, regardless of 85th percentile speed.

1. Staff member
2. Contractor
3. 15 signs originally
4. 29 signs now
5. NCDOT roads w/o encroachment

Our First Installation

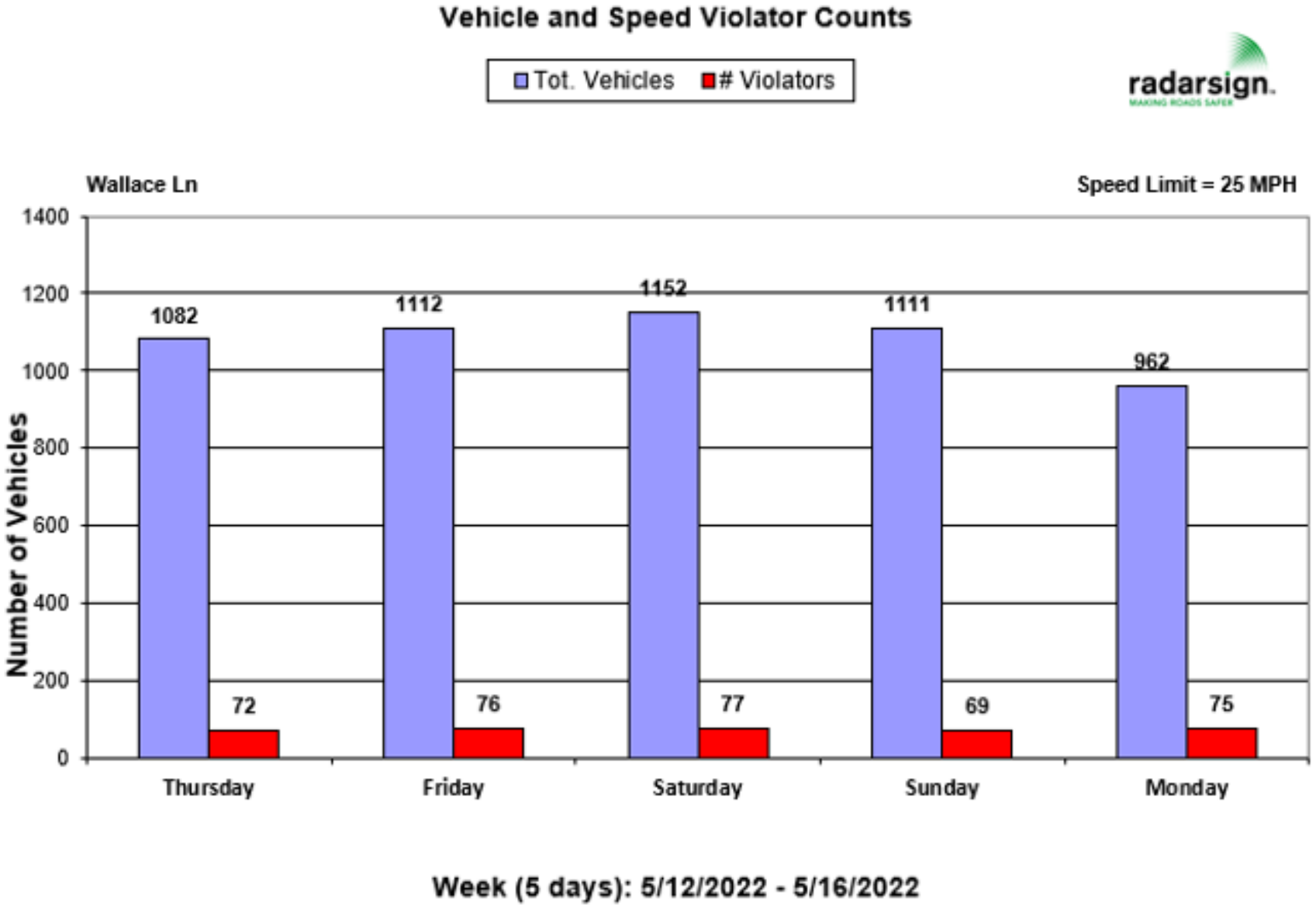




Current Installs

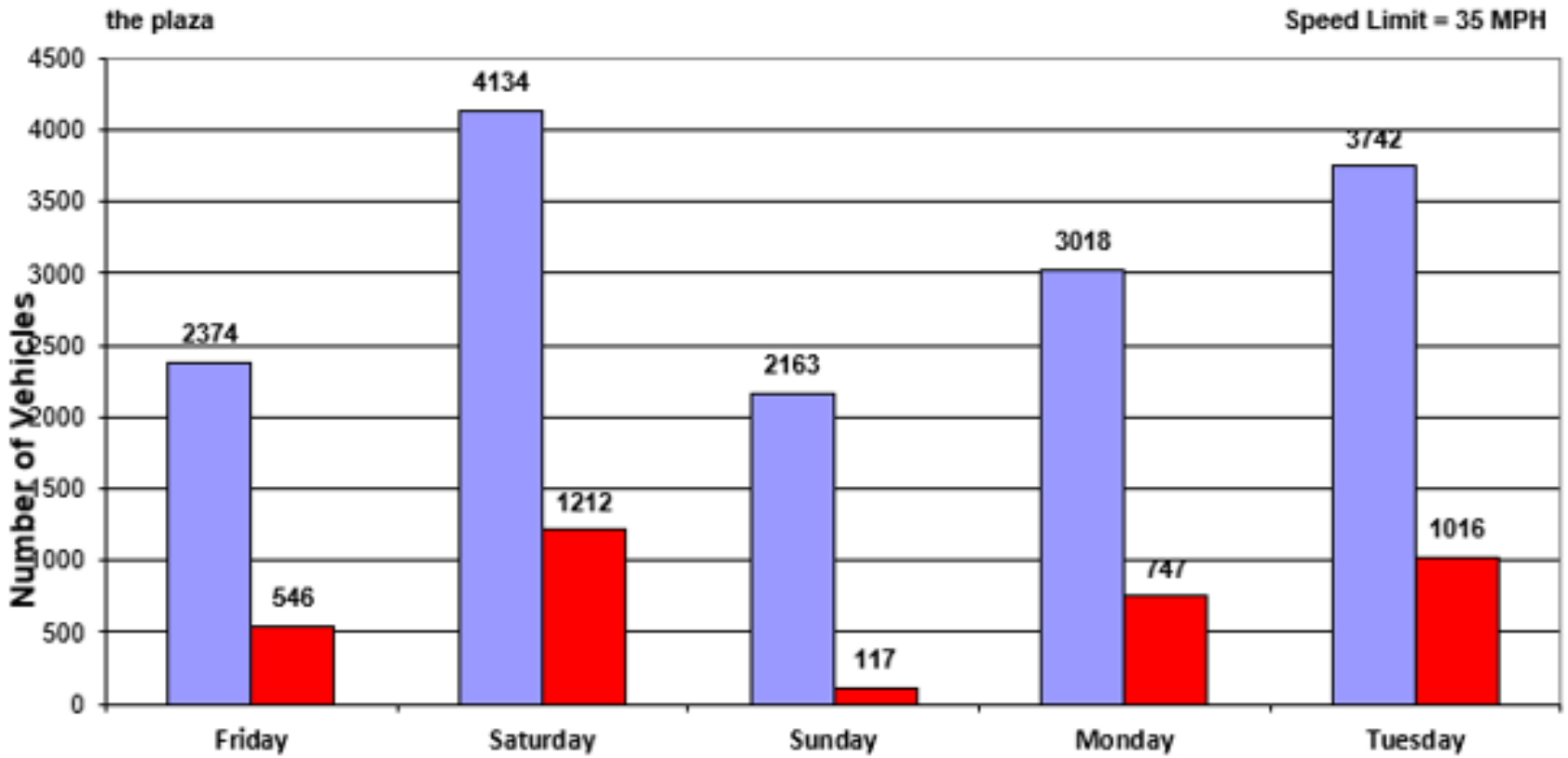




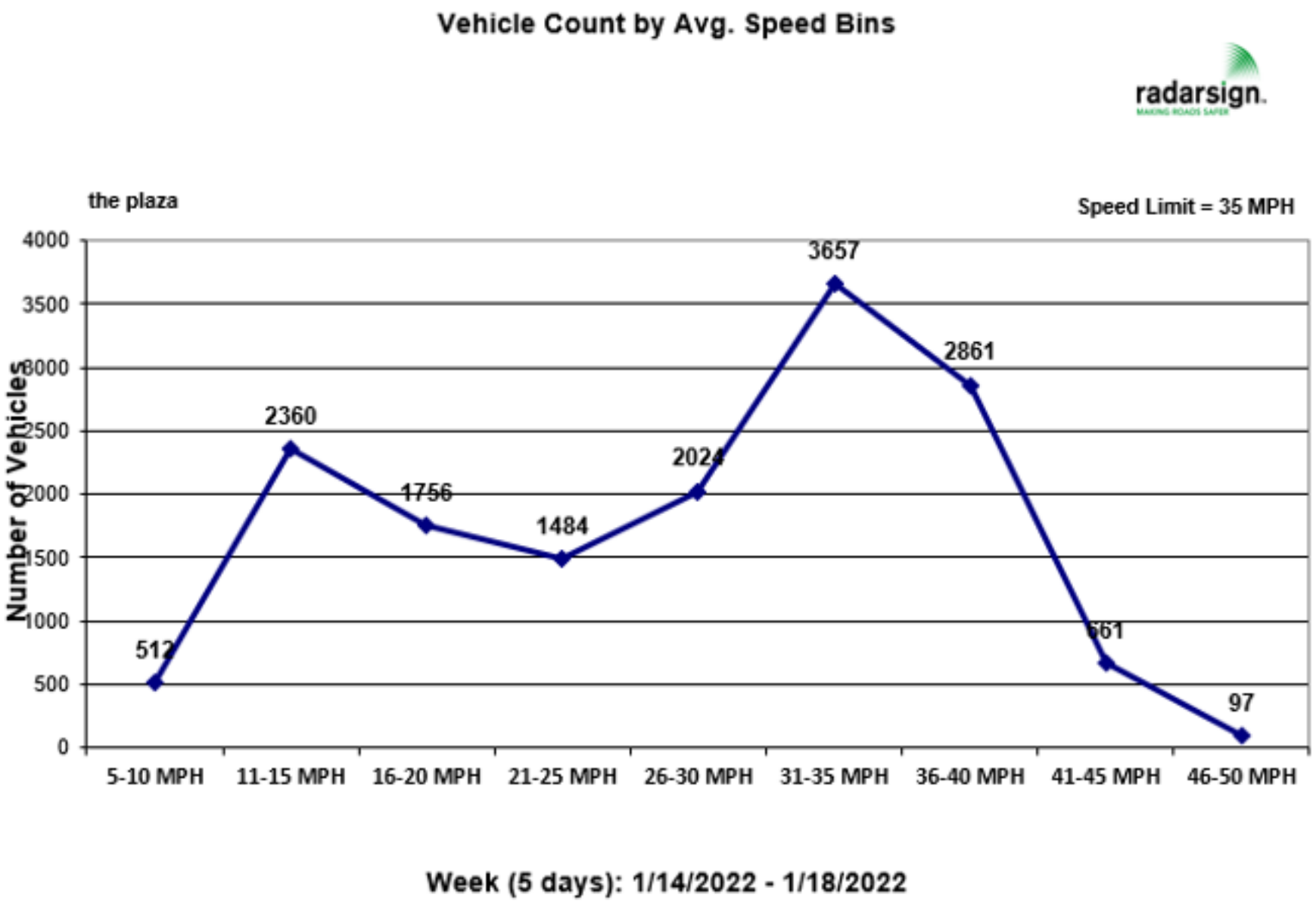


Wallace Lane

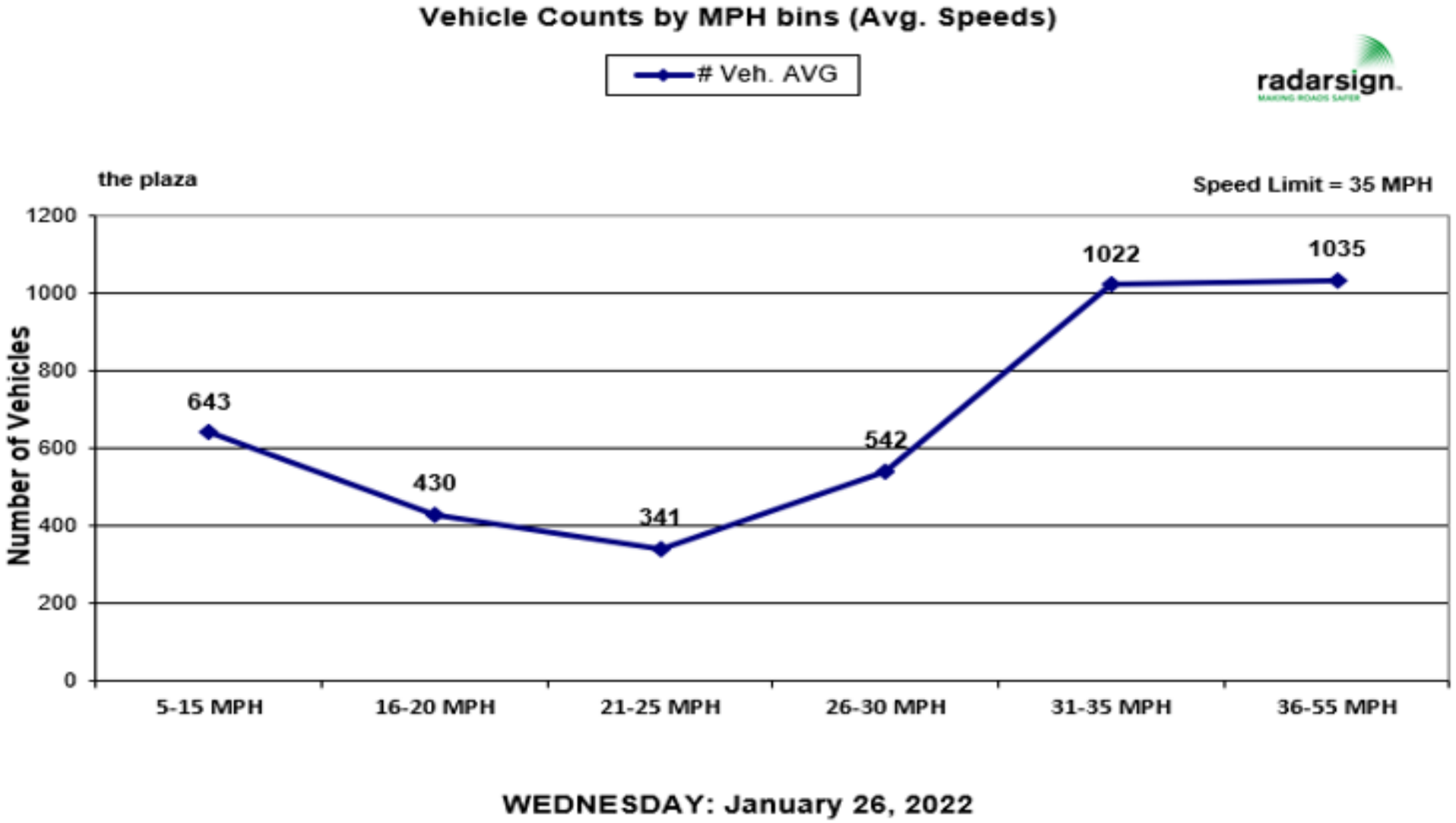
Vehicle and Speed Violator Counts



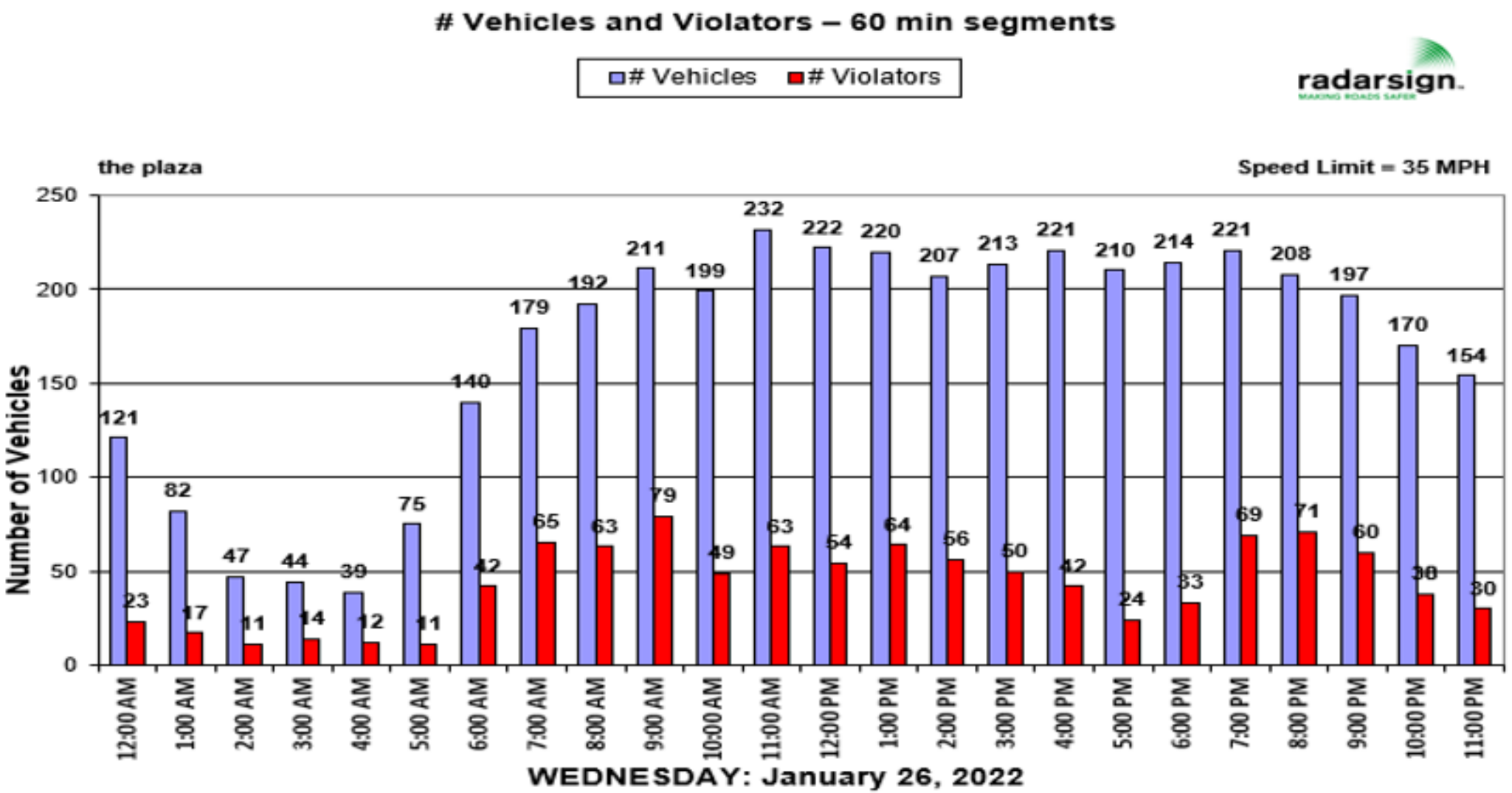
Week (5 days): 1/14/2022 - 1/18/2022


Vehicle Count by Avg. Speed Bins
radarsign.
the plaza
Speed Limit = 35 MPH
Number of Vehicles
4000
3500
3000
2500
2000
1500
1000
500
0
512
2360
1756
1484
2024
3657
2861
661
97
5-10 MPH
11-15 MPH
16-20 MPH
21-25 MPH
26-30 MPH
31-35 MPH
36-40 MPH
41-45 MPH
46-50 MPH
Week (5 days): 1/14/2022 - 1/18/2022

The Plaza


Vehicle Counts by MPH bins (Avg. Speeds)
Veh. AVG
radarsign.
the plaza
Speed Limit = 35 MPH
Number of Vehicles
1200
1000
800
600
400
200
0
643
430
341
542
1022
1035
5-15 MPH
16-20 MPH
21-25 MPH
26-30 MPH
31-35 MPH
36-55 MPH
WEDNESDAY: January 26, 2022

The Plaza

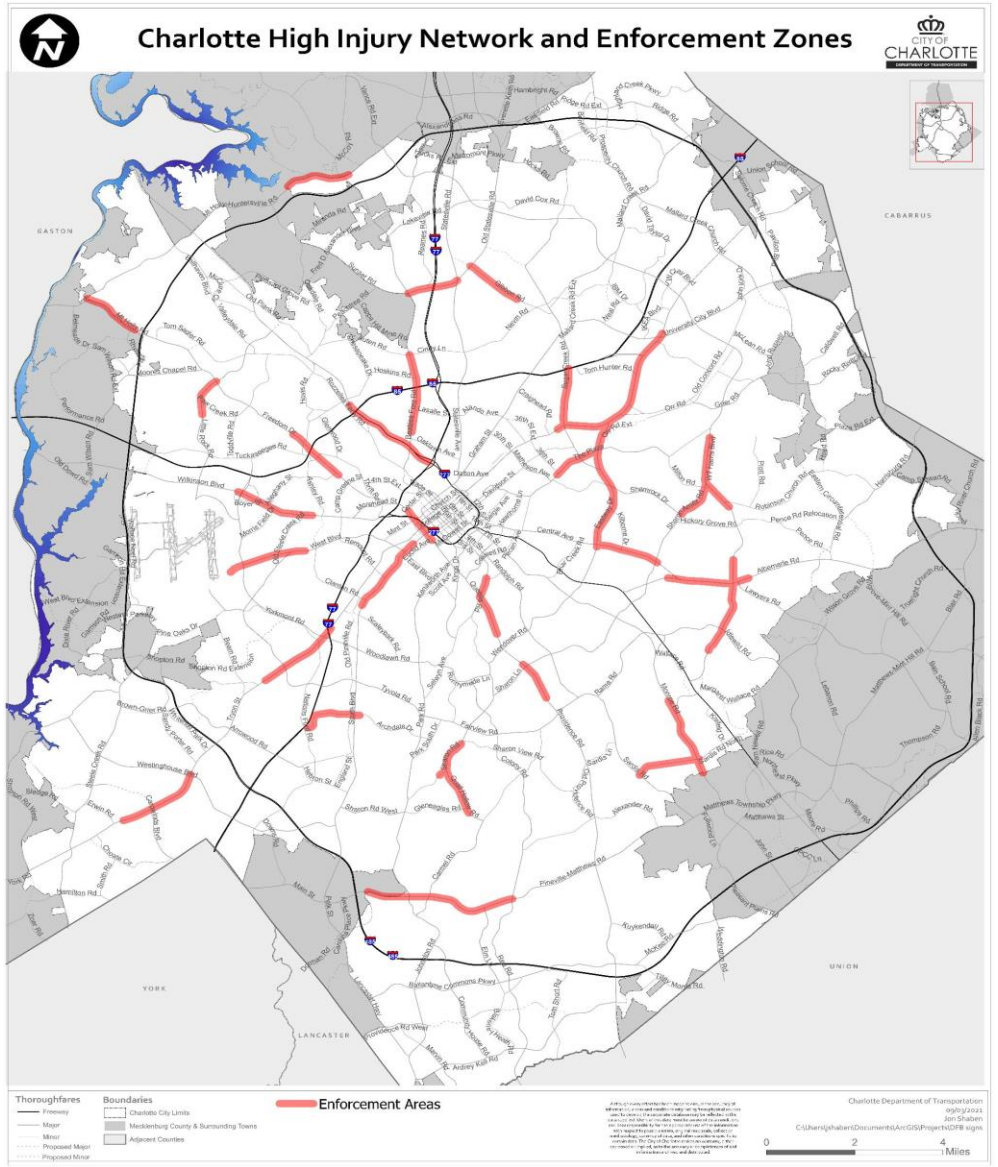

Vehicles and Violators – 60 min segments
Vehicles
Violators
radarsign.
MAKING ROADS SAFER
the plaza
Speed Limit = 35 MPH
Number of Vehicles
250
200
150
100
50
0
121 23
82 17
47 11
44 14
39 12
75 11
140 42
179 65
192 63
211 79
199 49
232 63
222 54
220 64
207 56
213 50
221 42
210 24
214 33
221 69
208 71
197 60
170 38
154 30
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
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10:00 PM
11:00 PM
WEDNESDAY: January 26, 2022

The Plaza

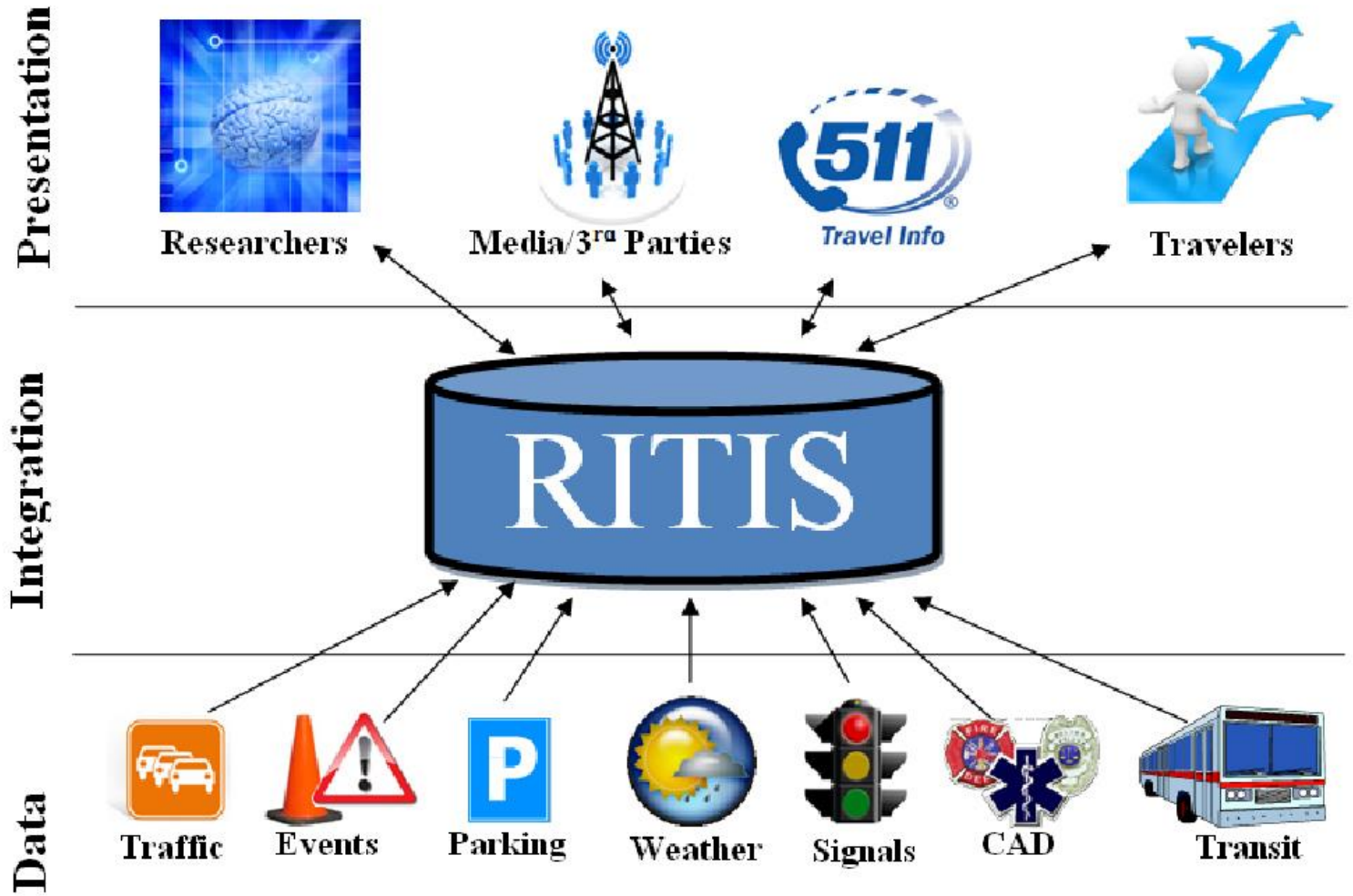
Speed Corridor Work

Current Focus Areas

- **30 Corridors on High-Injury Network**
  - High-Injury Network not only based on speed
  - Based on crash data and contributing circumstances
- **CMPD's Transportation Unit Focus**
  - Seatbelt checks
  - Saturation patrol
  - DWI checkpoints
  - Radar speed checks



Where is speeding a problem?

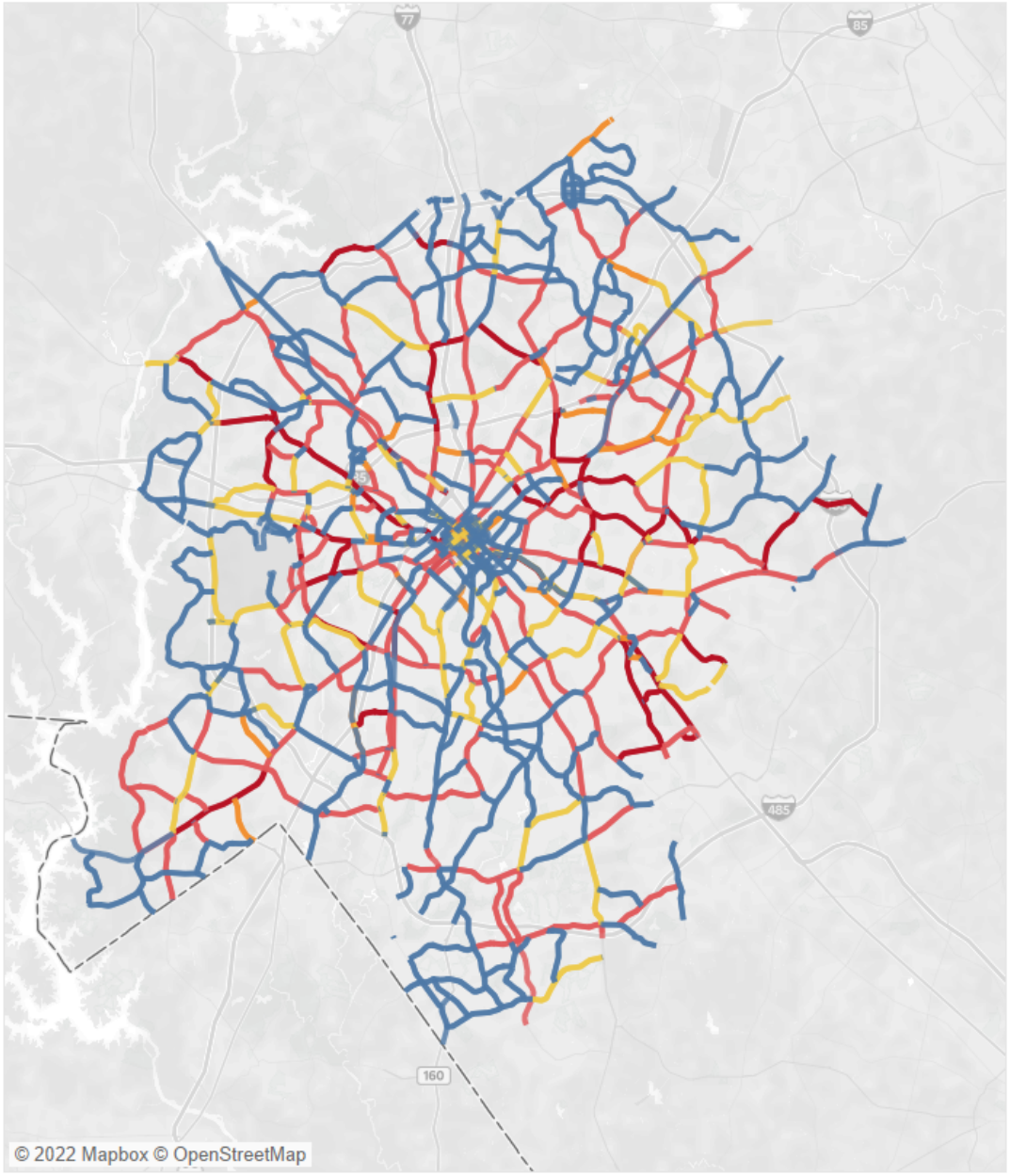


Identify Speeding Corridors

- Compare speed limits to RITIS travel speed data
- Focus on excessive speeding
- Compare with High-Injury Network / Community Input
- Target enforcement
- Evaluate before and after



Speed Corridors (2021) + HIN (2016-2020)



TMC Join	Road Name	Point Desc	Avg. Traffic ..	KSI Revise
125-12103	Harrisburg Rd	Mecklenburg/Cabarrus Cnty Line	56%	0
125-12233	City Blvd	Neal Rd	55%	0
125+5389..	University City Bl..	Rumple Rd	48%	0
125+05811	E Independence ..	Idlewild Rd	42%	6
125-53895	University City Bl..	Rumple Rd	39%	0
125-10232	E Independence ..	Briar Creek Rd/Television Ln	34%	1
125-53898	Rumple Rd	University City Blvd	34%	0
125+5384..	Toddville Rd	Paw Creek Rd/Lewhaven Dr	34%	1
125+5389..	Rumple Rd	University City Blvd	33%	0
125-0580..	E Independence ..	NC-24/NC-27/Albemarle Rd	33%	0
125-12210	Sunset Rd	Peachtree Rd	31%	1
125+05810	E Independence ..	N Sharon Amity Rd	29%	0
125+058..	E Independence ..	Hawthorne Ln	28%	0
125+17941	I-85-CONN	NC-49/N Tryon St	28%	8
125-05810	E Independence ..	N Sharon Amity Rd	26%	6
125-53703	Old Pineville Rd	E Arrowood Rd	26%	5
125+540..	Prosperity Ridge..	Prosperity Church Rd	25%	0
125+51331	Conference Dr	US-74/E Independence Blvd	25%	0
125+5388..	Cindy Ln	Statesville Rd	24%	1
125+5370..	Old Pineville Rd	Archdale Dr	24%	5
125-12137	The Plaza	Eastway Dr	24%	9
125-11831	W Tyvola Rd	US-521/Billy Graham Pky	24%	0
125-53887	Cindy Ln	Beatties Ford Rd	24%	1
125+11936	Central Ave	NC-27/Albemarle Rd	23%	0
125+12001	Park Rd	Gleneagles Rd/Sharon Rd W	23%	0
125+12138	The Plaza	Milton Rd	23%	9
125-11696	Providence Rd	Sardis Rd/Fairview Rd	23%	7
125-53845	Toddville Rd	Tuckaseegee Rd	23%	1
125+11820	Nations Ford Rd	Westinghouse Blvd	23%	0
125-11819	Nations Ford Rd	SC/NC State Line	23%	0
125-12000	Park Rd	Johnston Rd/Birnen Dr	23%	0
125-53705	Old Pineville Rd	Tyvola Rd	22%	0
125-12002	Park Rd	Sharon Rd	21%	0
125+5242..	I-77 Hov Ln	I-77 (North)	21%	0
125-51341	Shamrock Dr	Eastway Dr/Frontenac Ave	21%	7

0% 50% | 0 20 40

Safety Cat
- Null
- 1: One to Two Vehicle Serio..
- 2: One Ped or Bike Serious I..
- 3: One Fatality and/or sever..
- 4: Several Fatalities and/or ..

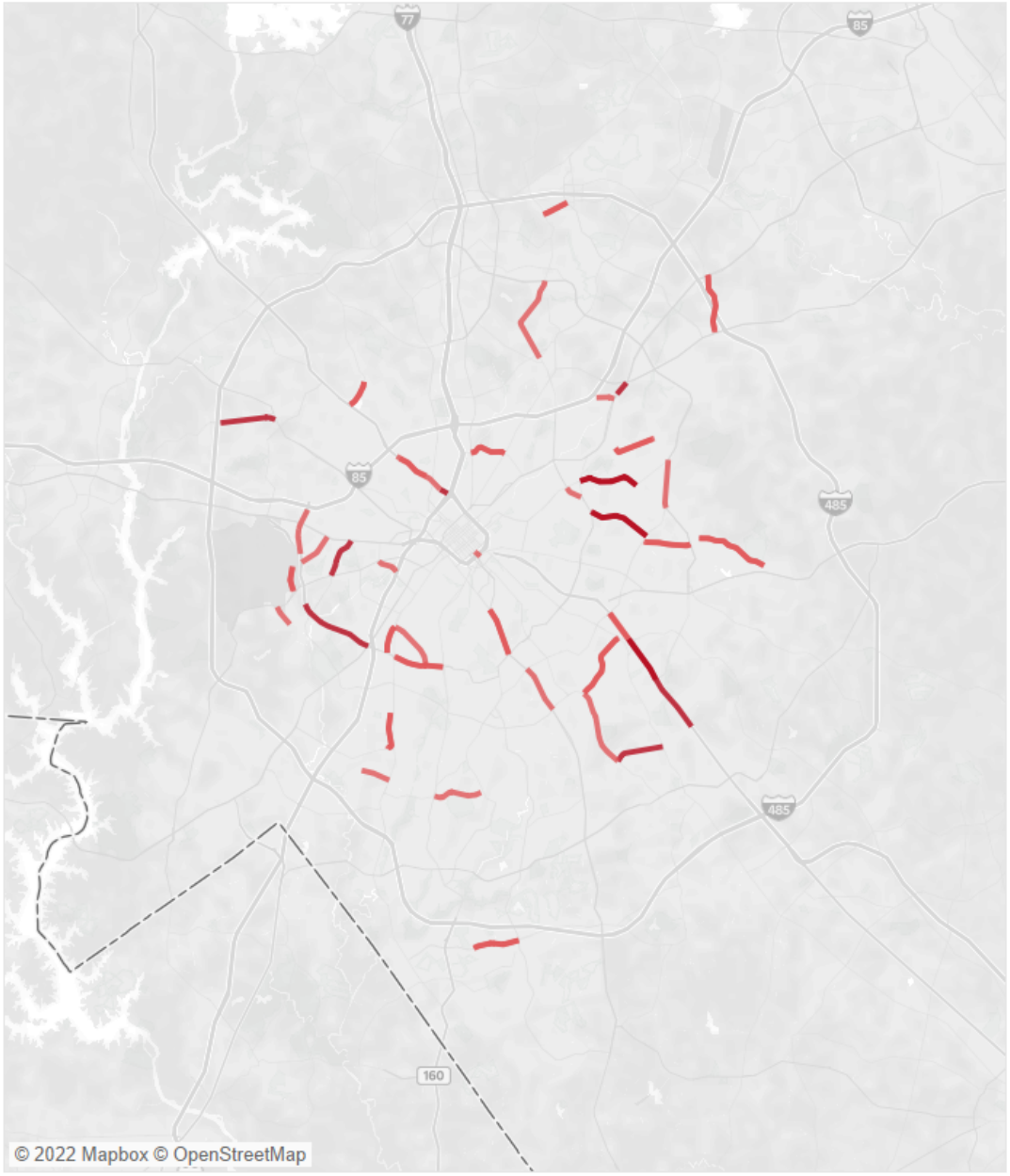
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- [x] 4: Several Fatalities and/or s..

Road Name
All

Max. KSI Revise
All values

Avg. Traffic with 10 mph over S..
From 0%

Speed Corridors (2021) + HIN (2016-2020)



TMC Join	Road Name	Point Desc	Avg. Traffic ..	KSI Revise
125+05811	E Independence ..	Idlewild Rd	42%	6
125+17941	I-85-CONN	NC-49/N Tryon St	28%	8
125-05810	E Independence ..	N Sharon Amity Rd	26%	6
125-53703	Old Pineville Rd	E Arrowood Rd	26%	5
125+5370..	Old Pineville Rd	Archdale Dr	24%	5
125-12137	The Plaza	Eastway Dr	24%	9
125+12138	The Plaza	Milton Rd	23%	9
125-11696	Providence Rd	Sardis Rd/Fairview Rd	23%	7
125-51341	Shamrock Dr	Eastway Dr/Frontenac Ave	21%	7
125+0585..	Brookshire	Idaho Dr	20%	9
125+05812	E Independence ..	E WT Harris Blvd/E Harris Blvd	19%	13
125-51327	Rama Rd	Sardis Rd	18%	8
125+51368	Pavilion Blvd	US-29/N Tryon St	18%	5
125+51342	Shamrock Dr	N Sharon Amity Rd	18%	7
125+51328	Rama Rd	Monroe Rd	18%	8
125+12307	Hickory Grove Rd	NC-24/E Harris Blvd/WT Harris B..	18%	5
125-12037	E Woodlawn Rd	Park Rd	18%	5
125-17158	W Brookshire F..	I-77/US-21	18%	10
125-08371	N Tryon St	US-29-BYP	17%	13
125+11839	Old Steele Creek..	US-29/US-74/Wilkinson Blvd	17%	5
125-05852	Brookshire	Beatties Ford Rd	17%	9
125-12306	Hickory Grove Rd	N Sharon Amity Rd	17%	5
125+12062	Ballantyne Com..	Rea Rd	16%	5
125+5370..	Old Pineville Rd	South Blvd	16%	5
125+12131	Sugar Creek Rd	NC-24/W WT Harris Blvd	16%	6
125-53706	Old Pineville Rd	E Woodlawn Rd	16%	5
125-53690	Gleneagles Rd	Park Rd	16%	5
125-51367	Pavilion Blvd	NC-49/University City Blvd	15%	5
125-53709	Scaleybark Rd	E Woodlawn Rd	14%	5
125+5369..	E Hebron St	South Blvd	14%	5
125-53922	Orr Rd	Old Concord Rd	14%	5
125-50001	Oakdale Rd	NC-16/Brookshire Blvd	14%	5
125-53771	Airport Dr	NC-160/West Blvd	13%	5
125+51250	Atando Ave	Statesville Ave	13%	6
125-53775	Morris Field Dr	Billy Graham Pkwy	13%	6

0% 50% 0 10 20

Safety Cat
- 3: One Fatality and/or sever..
- 4: Several Fatalities and/or ..

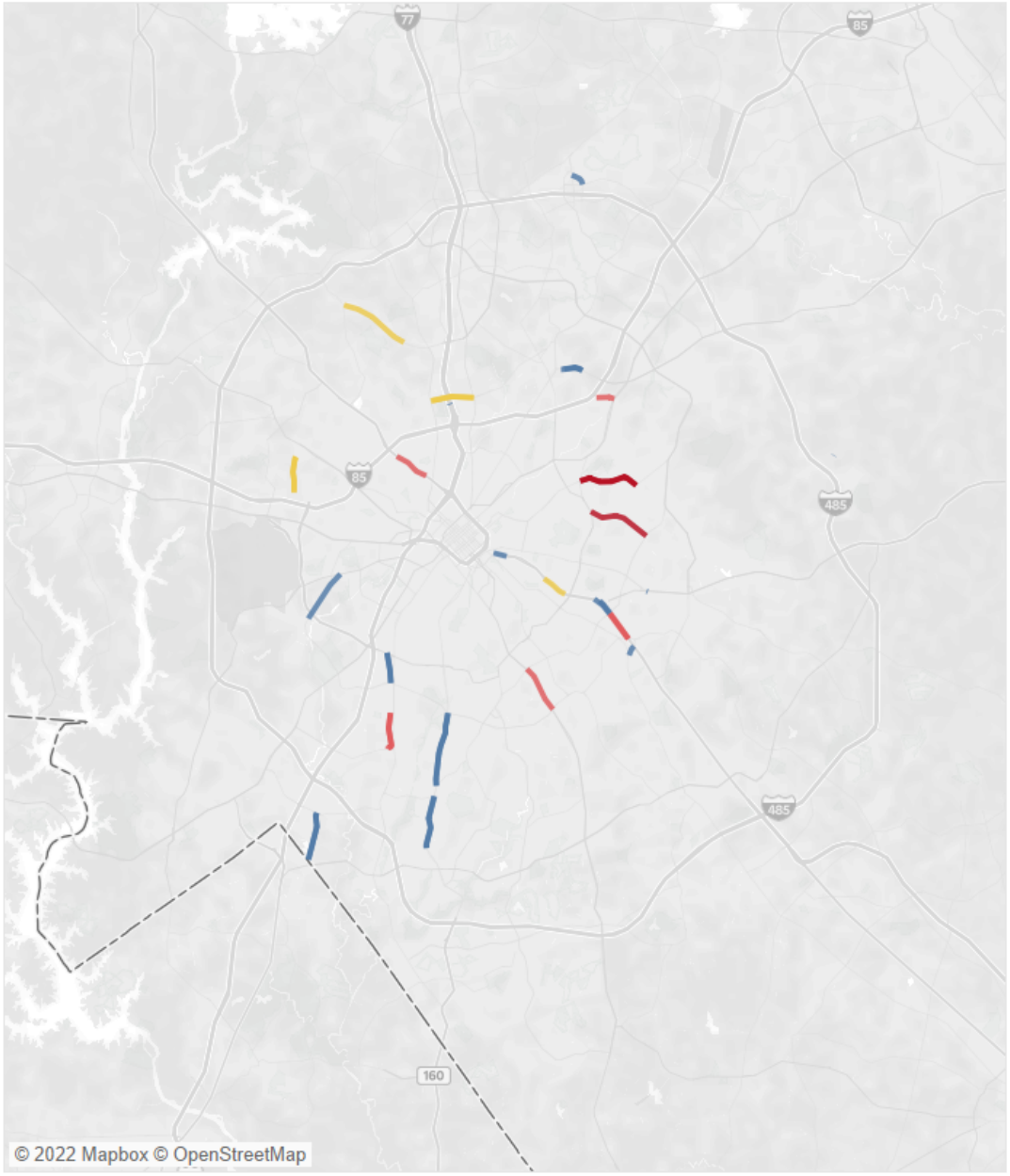
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Road Name
All

Max. KSI Revise
All values

Avg. Traffic with 10 mph over S..
From 10%

Speed Corridors (2021) + HIN (2016-2020)



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125+17941	I-85-CONN	NC-49/N Tryon St	28%	8
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125-12210	Sunset Rd	Peachtree Rd	31%	1
125-10232	E Independence ..	Briar Creek Rd/Television Ln	34%	1
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125-12233	City Blvd	Neal Rd	55%	0
125-12103	Harrisburg Rd	Mecklenburg/Cabarrus Cnty Line	56%	0
125-12002	Park Rd	Sharon Rd	21%	0
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125-11831	W Tyvola Rd	US-521/Billy Graham Pky	24%	0
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125+5370..	Old Pineville Rd	E Woodlawn Rd	20%	0
125+5242..	I-77 Hov Ln	I-77 (North)	21%	0
125+51331	Conference Dr	US-74/E Independence Blvd	25%	0
125+12003	Park Rd	Fairview Rd/Tyvola Rd	20%	0
125+12001	Park Rd	Gleneagles Rd/Sharon Rd W	23%	0
125+11936	Central Ave	NC-27/Albemarle Rd	23%	0

0% 50% 0 5 10

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Road Name
All

Max. KSI Revise
All values

Avg. Traffic with 10 mph over S..
From 20%

https://tableaudev/#/workbooks/1026/views

TravelSafely Pilot Project

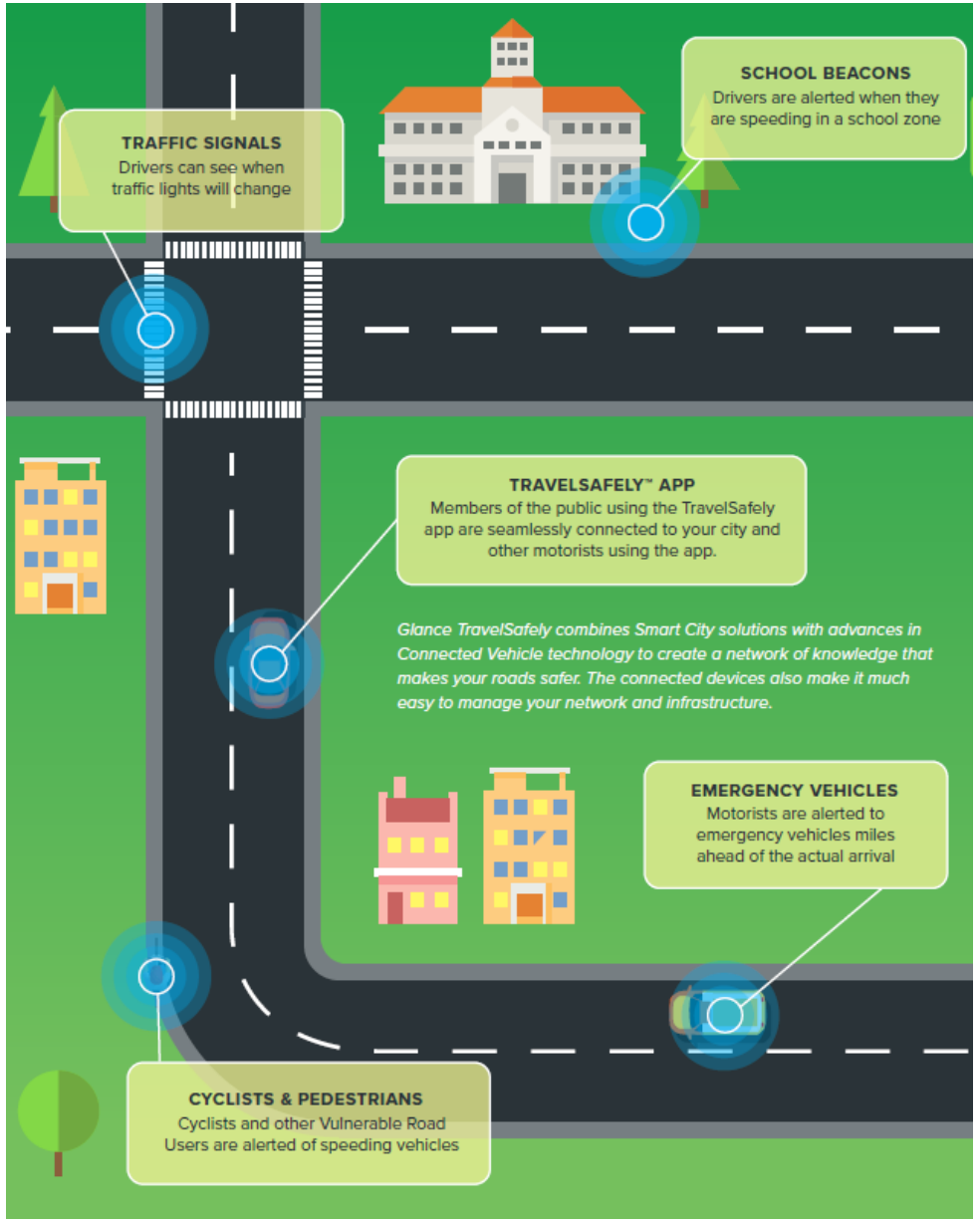
Revolutionize Traffic in Your City.

Glance TravelSafely™ is a new smartphone application, developed by Applied Information, that uses cutting edge technology to make the promise of connected vehicles a reality. Harness the power of connecte vehicle technology to make your city smarter, and your citizens safer.

GLANCE TRAVELSAFELY™

Smart City Solutions

Connect vehicles, pedestrians, & bicycles to traffic signals, emergency vehicles and more!



TravelSafely App – What does it do?



Get Ready for Green

At a red light, the app will display a countdown and verbally notify you when the light is about to turn green.



Red Light Warning

If a user speeds towards towards a red light, the app will alert that they are approaching the intersection too fast.



School Zone Warning

The app will notify you if you're speeding in an active school zone.



Cyclist Ahead Warning

you're a motorist, the app will warn you if there's a cyclist on the road ahead.



Pedestrian Ahead Warning

If you're a motorist, the app will warn you of pedestrians in the crosswalk ahead if it detects you aren't going to stop.



Emergency Vehicle Warning

The app notifies motorists and cyclists if an emergency vehicle is approaching, and from what direction.



Work Zone Warning

The app will notify you if you're speeding in an active work zone, and show you the speed limit.



Curve Warning

The app will warn you if you are traveling too fast with dangerous curves approaching.



Slow Speed Zone Warning

The app will warn you if you're traveling too fast in an area of increased accidents.



Rear-end Collision Warning

The app notifies you if it appears that ou're about to have a rear-end collision.



Vehicle Approaching Cyclist

The app will tell cyclists if a speeding car will pass close by.

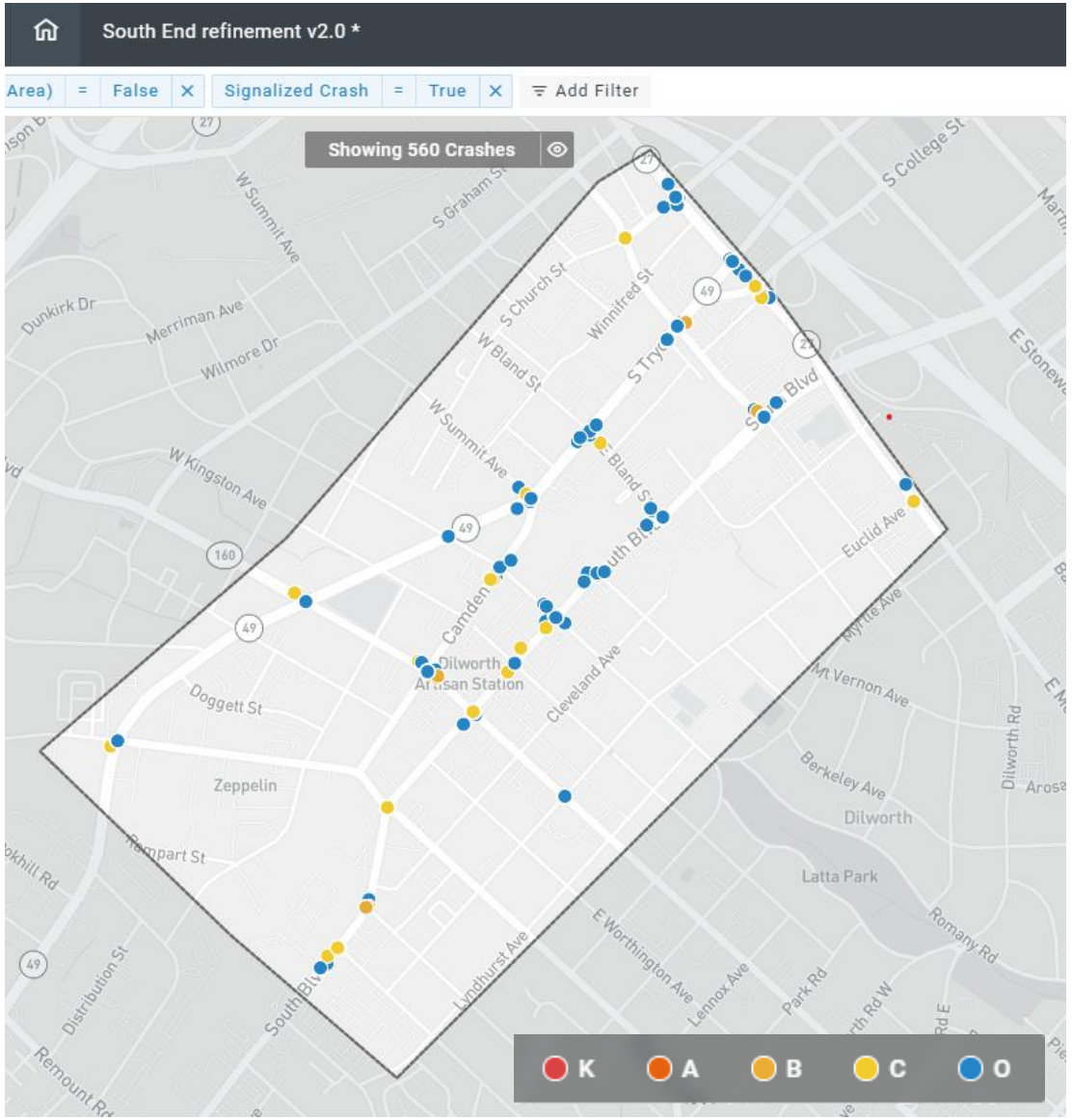


Vehicle Approaching Cyclist

The app will tell cyclists if a speeding car will pass close by.

Recommended Pilot Area

- **South End**
  - Dense mix of land uses
  - High levels of pedestrian activity
  - High Injury Network Overlap
  - Partnerships for Education and Communication Plan
- **Crash Data**
  - Before period: 2019-August 2021
  - 200+ crashes in this geography
  - Multiple crash types



Hardware Installation

Front View



Back View

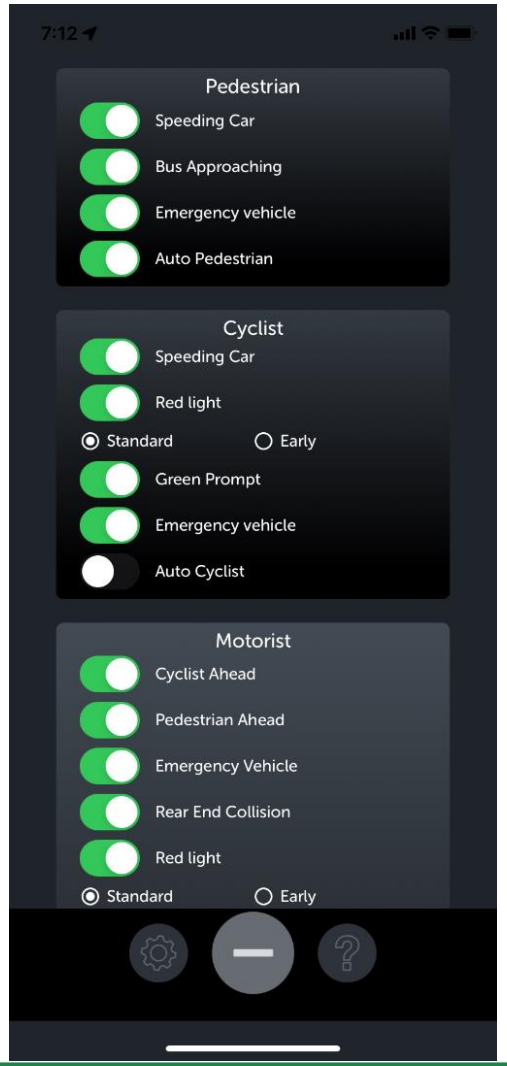


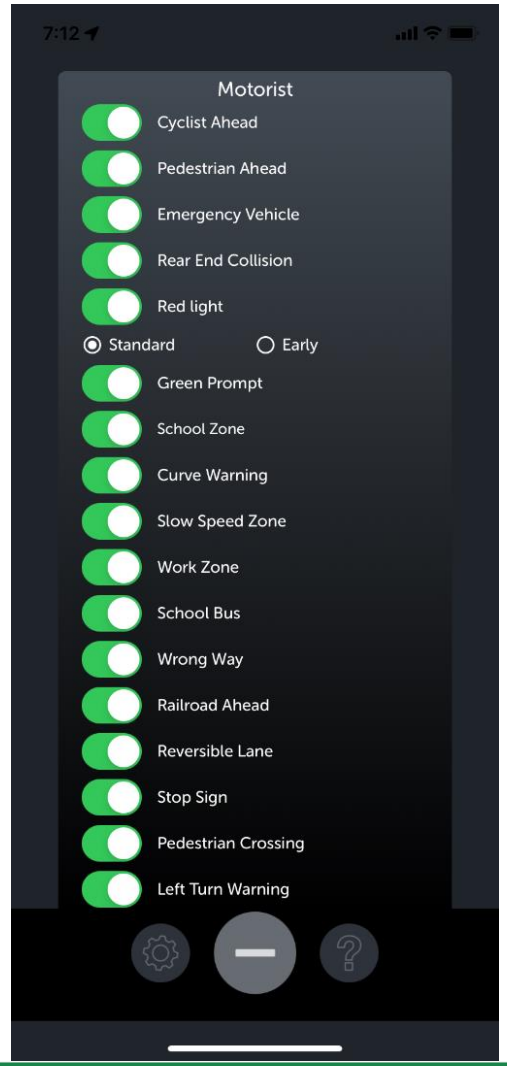
App Testing

- **Testing to occur this week and over the next several weeks.**
- **Media event planned for October**



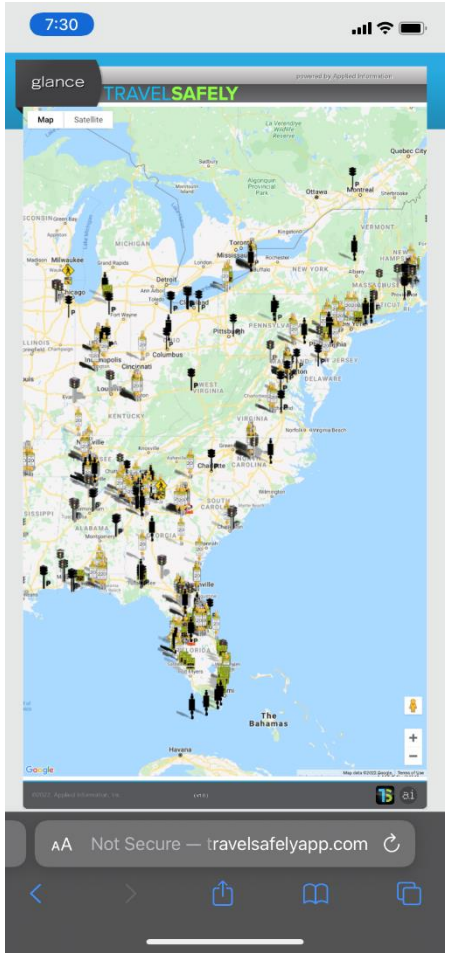
Options on Application





Map of TravelSafely Deployments





http://map.travelsafelyapp.com/

Questions?

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Angela.Berry@charlottenc.gov
704-363-4271