



Innovations in Safety Data Collection
7.10.2026



TRUE DATA TO IMPROVE MOBILITY



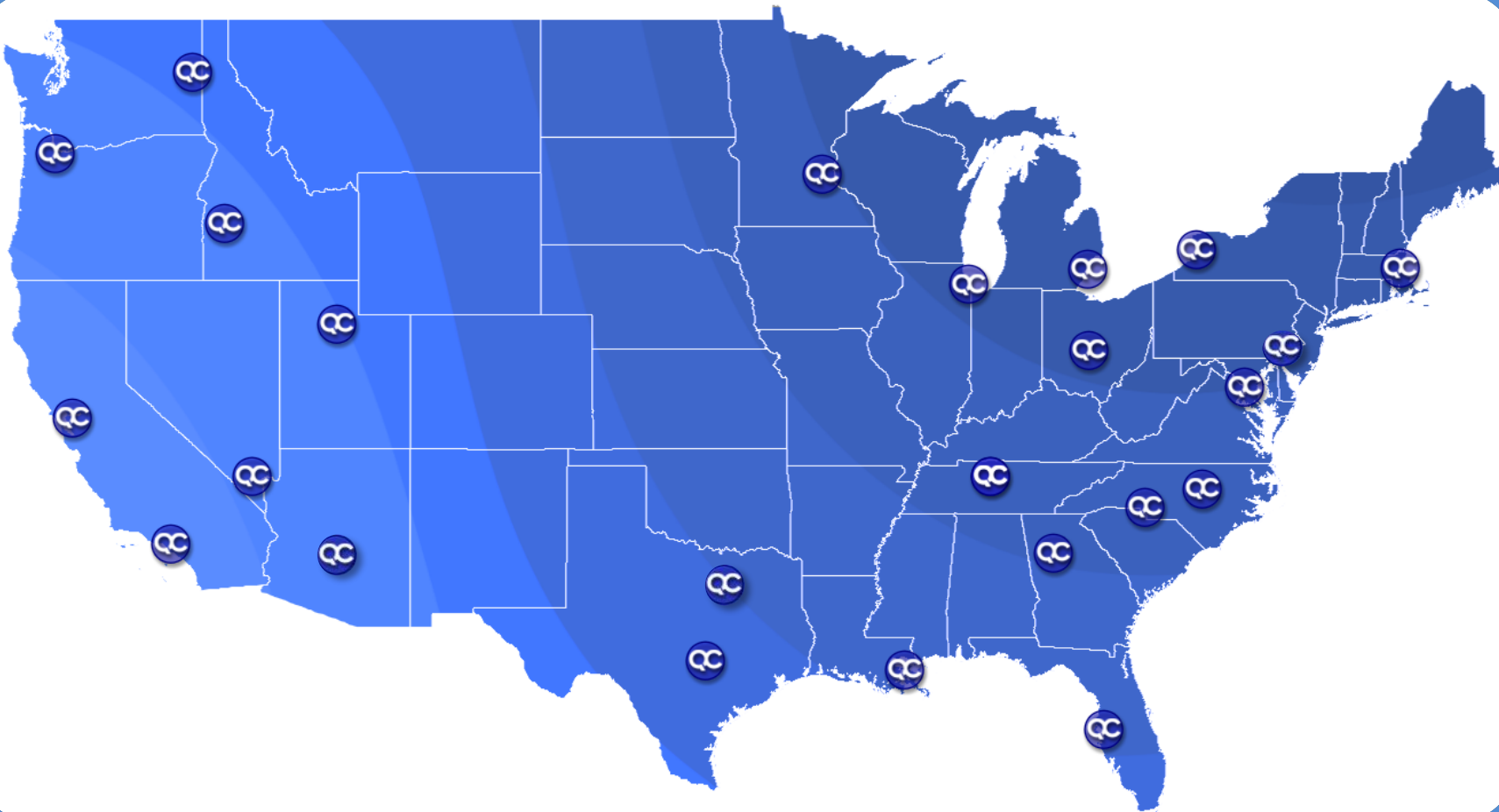
STEVEN HOLLENKAMP

Vice President

- Based in Plant City, FL
- Gator Undergrad and Columbia Grad
- Taught in Korea and worked on Wall Street
- Built a liquor brand and sold in 2020
- Have 4 sons!

Who we are

24 Base Cities
Nationwide Operations



**EMPLOYEE
OWNED**

300k+

**INDIVIDUAL
COUNTS
PERFORMED**

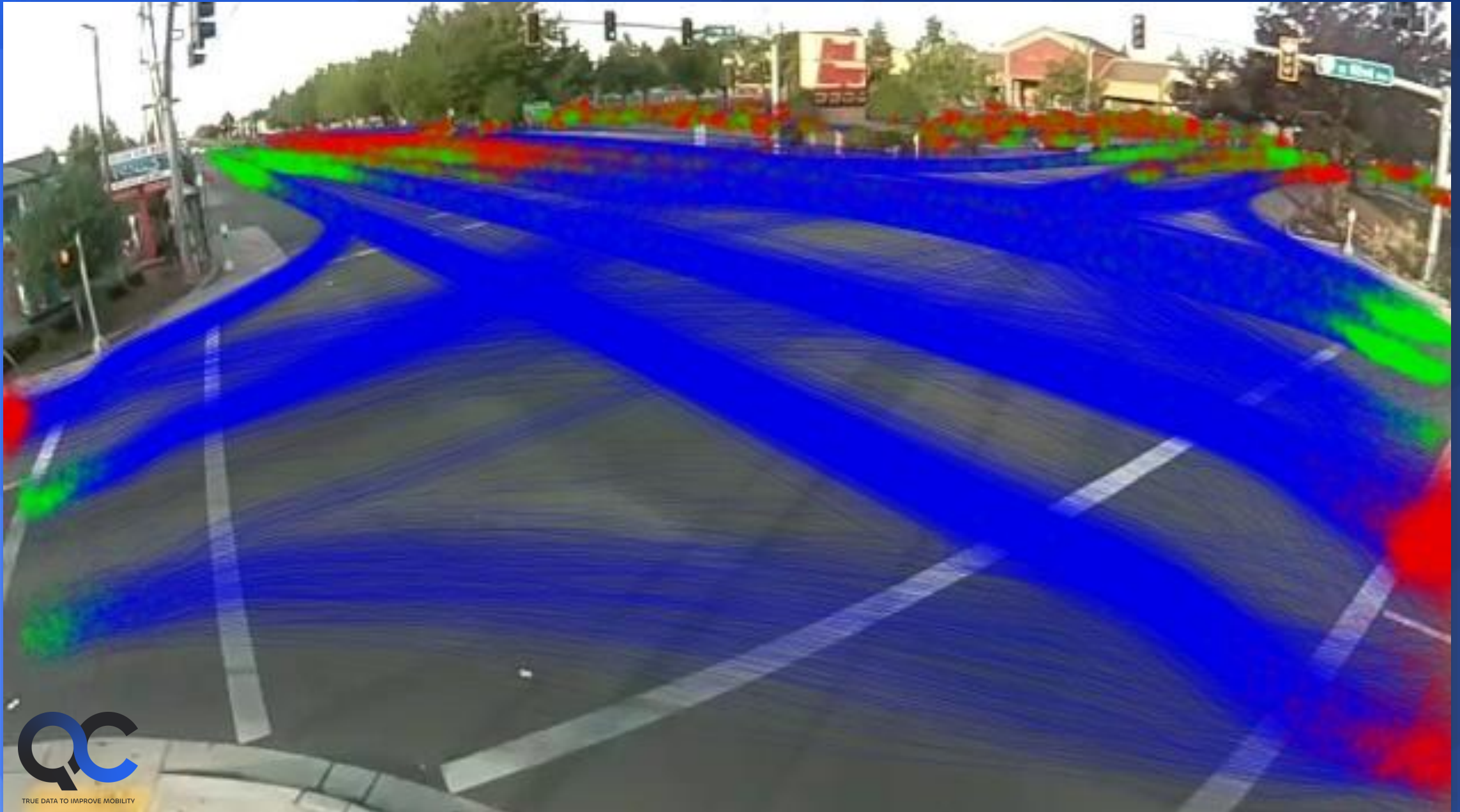
30k+

**PROJECTS
COMPLETED**

5k+

**UNIQUE
CLIENTS**

How the Data Collection Space is Evolving



Safety Innovations by Study Type

If you're working on...

Speed Management or Congestion

Signal Timing / Retiming / Progression

Public Meetings or Client Presentations

Capacity Analysis (Releasing this Summer)

Signal Warrants (In Beta)

Safety Studies / HSIP / RSAs / Bike & Ped

Data Collection Firms Now Provide

Intersection Speed & Delay Report

SPaT Performance Report

QC Reels

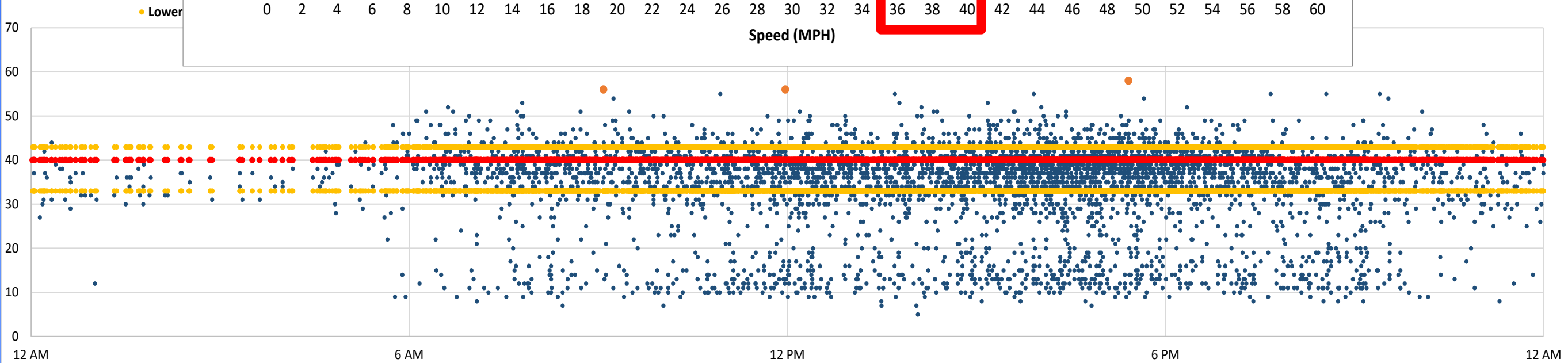
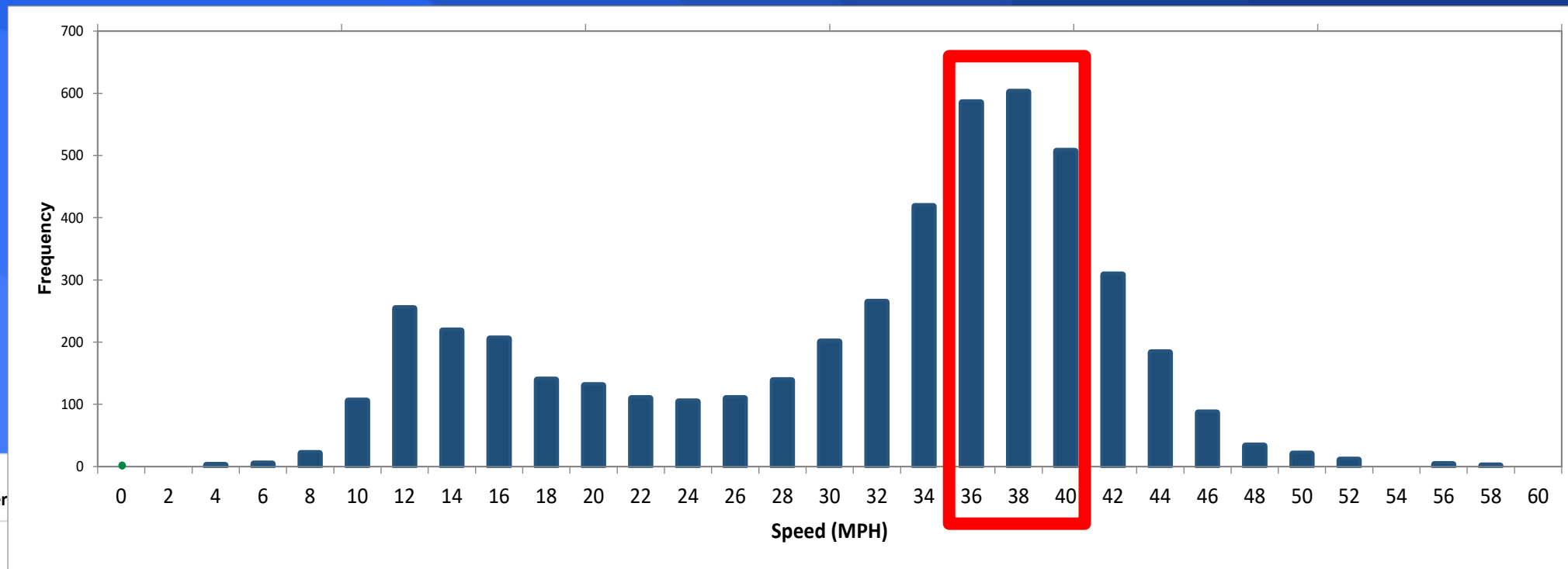
Capacity Planning Report

Warrant & Gap Report

Near Miss Conflict Report

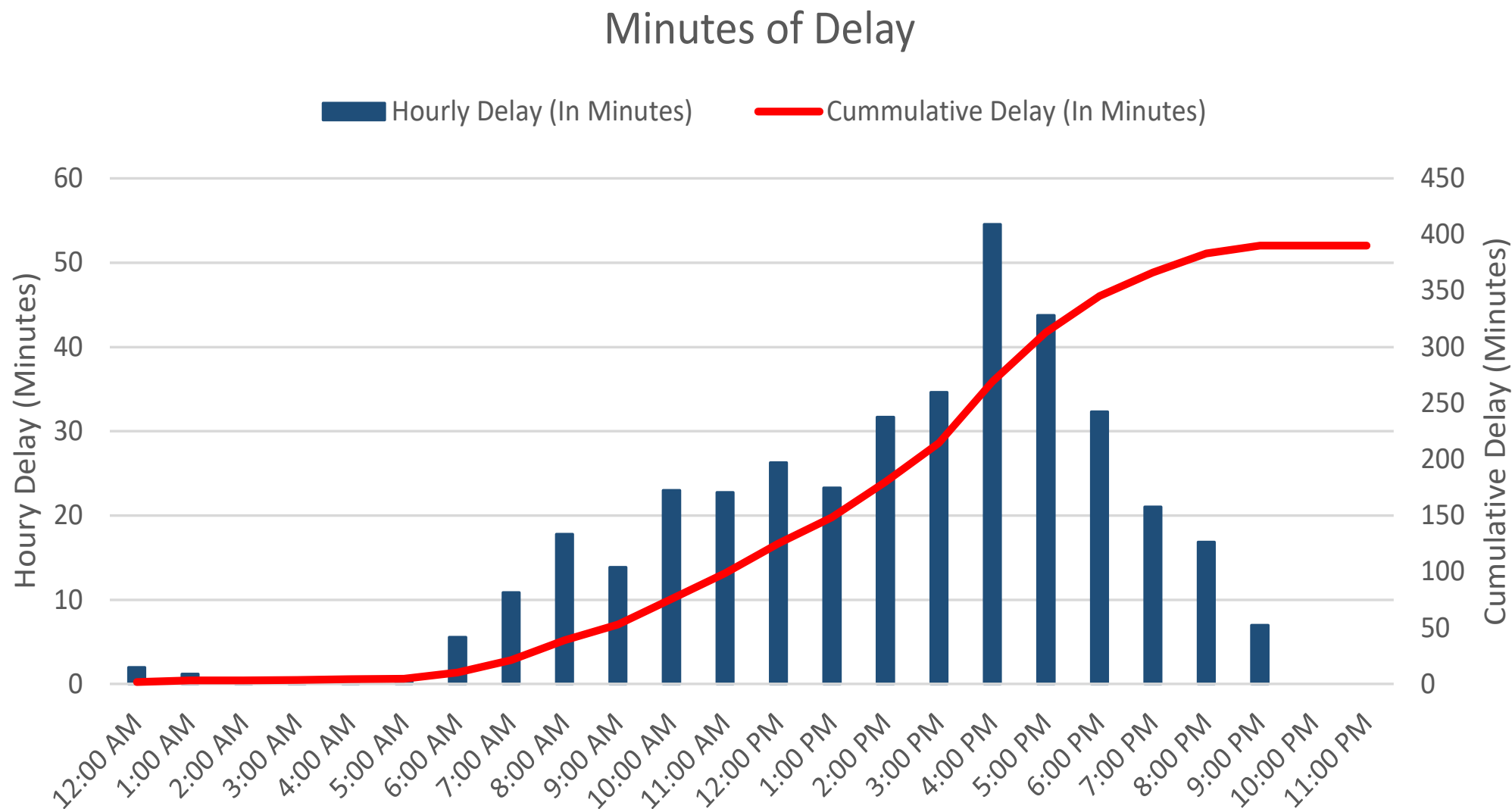


Intersection Speed Studies



Intersection Speed Studies

Collected alongside turning movement counts



QC Reels

Summary reels of any movement, class or speed:

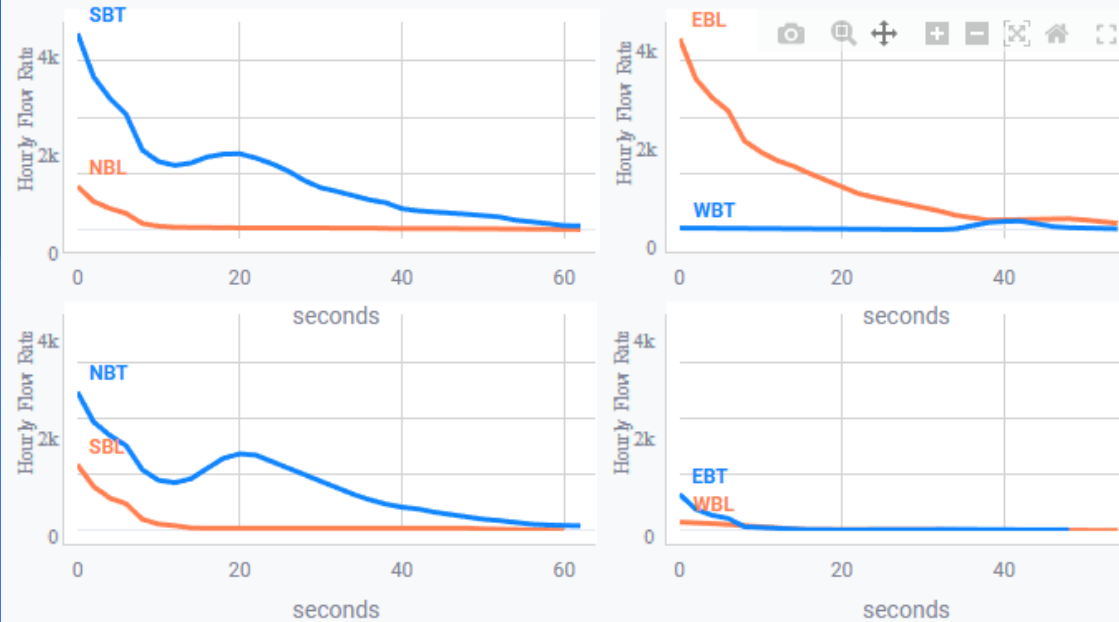
- All northbound semi-trailers moving through the roundabout
- Every pedestrian crossing the south leg at night
- All high-speed southbound motorcycles

“Show me the northbound U-Turns”



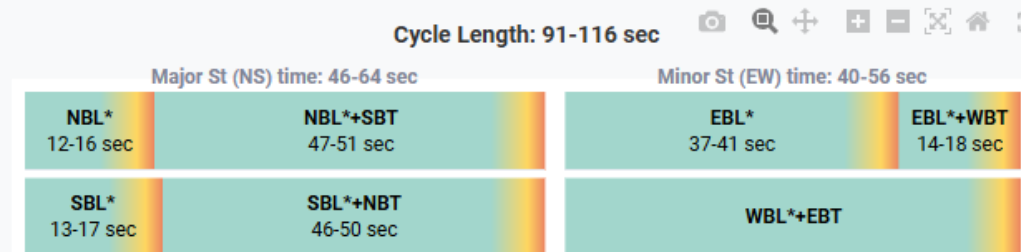
SPaT Summary Data

Flow Distribution Plot



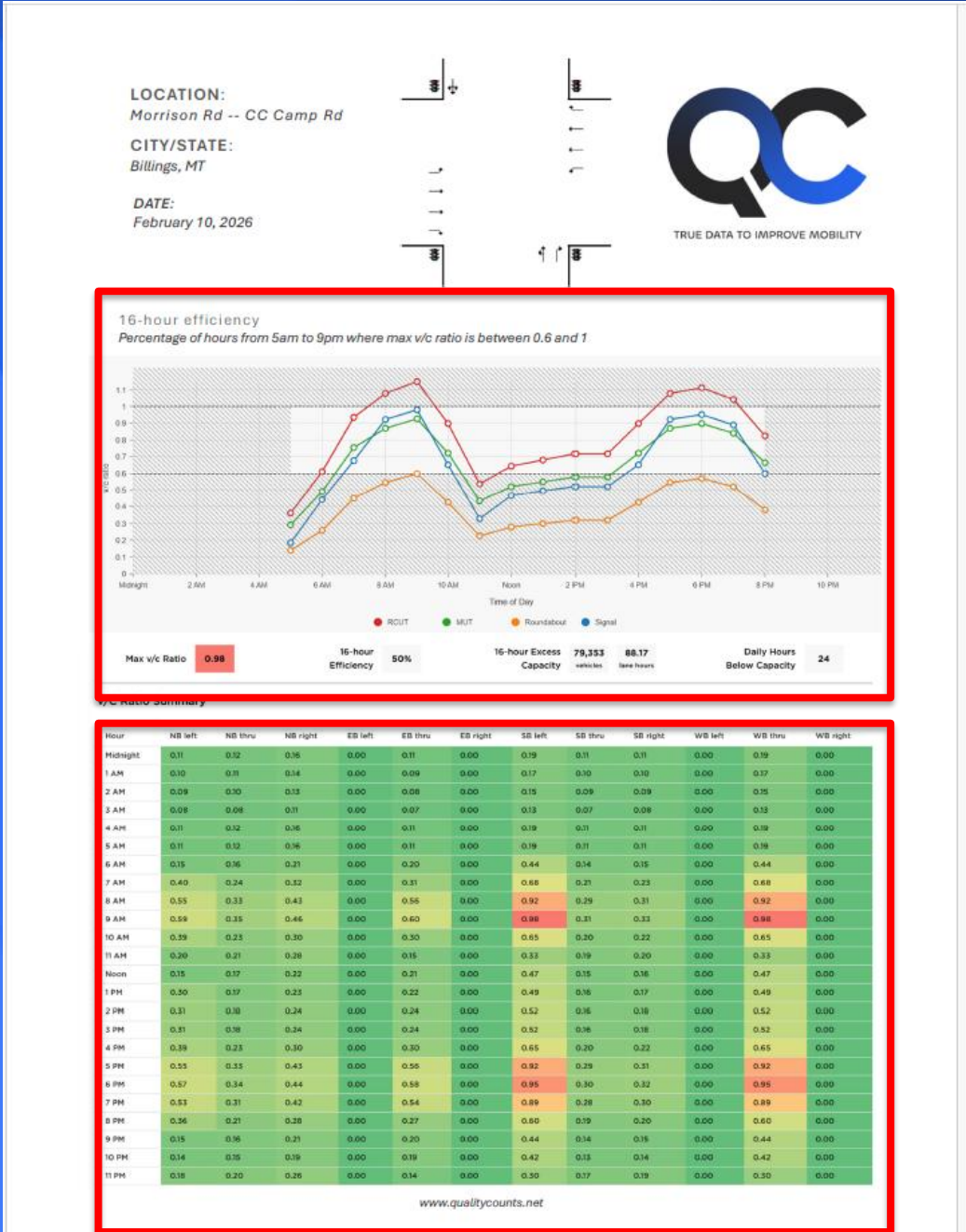
SPaT Estimate

Signal Phasing and Timings (SPaT) estimates are based solely on traffic flows and are subject to errors. Consult the signal's timing sheet for the actual SPaT.



* = low confidence due to few vehicles

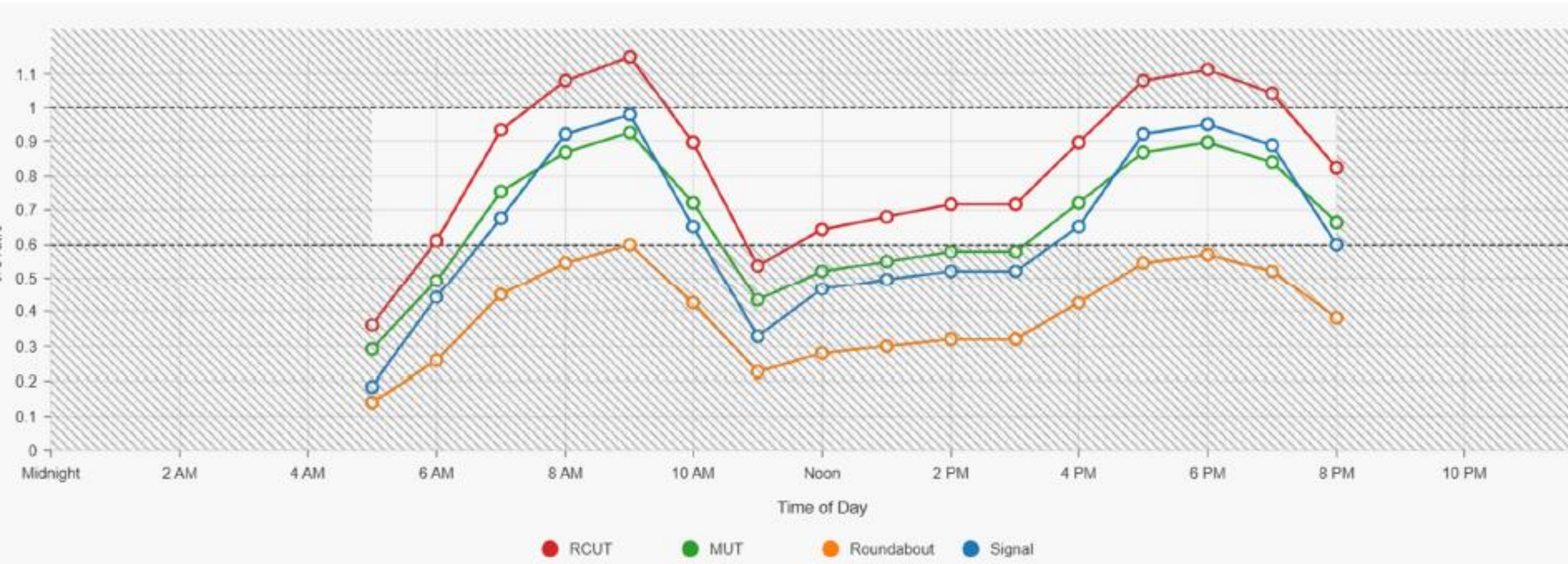
Capacity Planning Reports Coming This Summer



V/C By Hour

16-hour efficiency

Percentage of hours from 5am to 9pm where max v/c ratio is between 0.6 and 1



Max v/c Ratio

0.98

16-hour
Efficiency

50%

16-hour Excess
Capacity

79,353
vehicles

88.17
lane hours

Daily Hours
Below Capacity

24

V/C Ratio Summary

Hour	NB left	NB thru	NB right	EB left	EB thru	EB right	SB left	SB thru	SB right	WB left	WB thru	WB right
Midnight	0.11	0.12	0.16	0.00	0.11	0.00	0.19	0.11	0.11	0.00	0.19	0.00
1 AM	0.10	0.11	0.14	0.00	0.09	0.00	0.17	0.10	0.10	0.00	0.17	0.00
2 AM	0.09	0.10	0.13	0.00	0.08	0.00	0.15	0.09	0.09	0.00	0.15	0.00
3 AM	0.08	0.08	0.11	0.00	0.07	0.00	0.13	0.07	0.08	0.00	0.13	0.00
4 AM	0.11	0.12	0.16	0.00	0.11	0.00	0.19	0.11	0.11	0.00	0.19	0.00
5 AM	0.11	0.12	0.16	0.00	0.11	0.00	0.19	0.11	0.11	0.00	0.19	0.00
6 AM	0.15	0.16	0.21	0.00	0.20	0.00	0.44	0.14	0.15	0.00	0.44	0.00
7 AM	0.40	0.24	0.32	0.00	0.31	0.00	0.68	0.21	0.23	0.00	0.68	0.00
8 AM	0.55	0.33	0.43	0.00	0.56	0.00	0.92	0.29	0.31	0.00	0.92	0.00
9 AM	0.59	0.35	0.46	0.00	0.60	0.00	0.98	0.31	0.33	0.00	0.98	0.00
10 AM	0.39	0.23	0.30	0.00	0.30	0.00	0.65	0.20	0.22	0.00	0.65	0.00
11 AM	0.20	0.21	0.28	0.00	0.15	0.00	0.33	0.19	0.20	0.00	0.33	0.00
Noon	0.15	0.17	0.22	0.00	0.21	0.00	0.47	0.15	0.16	0.00	0.47	0.00
1 PM	0.30	0.17	0.23	0.00	0.22	0.00	0.49	0.16	0.17	0.00	0.49	0.00
2 PM	0.31	0.18	0.24	0.00	0.24	0.00	0.52	0.16	0.18	0.00	0.52	0.00
3 PM	0.31	0.18	0.24	0.00	0.24	0.00	0.52	0.16	0.18	0.00	0.52	0.00
4 PM	0.39	0.23	0.30	0.00	0.30	0.00	0.65	0.20	0.22	0.00	0.65	0.00
5 PM	0.55	0.33	0.43	0.00	0.56	0.00	0.92	0.29	0.31	0.00	0.92	0.00
6 PM	0.57	0.34	0.44	0.00	0.58	0.00	0.95	0.30	0.32	0.00	0.95	0.00
7 PM	0.53	0.31	0.42	0.00	0.54	0.00	0.89	0.28	0.30	0.00	0.89	0.00
8 PM	0.36	0.21	0.28	0.00	0.27	0.00	0.60	0.19	0.20	0.00	0.60	0.00
9 PM	0.15	0.16	0.21	0.00	0.20	0.00	0.44	0.14	0.15	0.00	0.44	0.00
10 PM	0.14	0.15	0.19	0.00	0.19	0.00	0.42	0.13	0.14	0.00	0.42	0.00
11 PM	0.18	0.20	0.26	0.00	0.14	0.00	0.30	0.17	0.19	0.00	0.30	0.00

Auto Screening for Warrant and Gap

- Connecting data to MUTCD threshold requirements
- Conducts the simple steps of signal warrant process
- Comes in a ~6 page auto-generated report

Warrant and Gap Report Assistance

Turning-Movement Count & Gap Availability Data Package

With Preliminary Signal Warrant Screening Inputs

Prepared in support of an engineering Traffic Control Signal Needs Study — unsignalized intersection, camera-based turning-movement study

Prepared by	Quality Counts — traffic data collection & processing
Prepared for	[Engineering Firm / Engineer of Record]
Data source	Camera track export — file 17446401_cam-1_all_tracks.csv (single device, cam-1)
Count date	2026-05-13 (Wednesday)
Count window	06:00–17:59 (12 h)
Total tracks	13,938 detected; 10,113 counted motor vehicles used in tabulations
Reference framework	Tables organized per MUTCD 11th Edition (2023), Chapter 4C — Traffic Control Signal Needs Studies
Document status	Data summary with preliminary screening observations — not an engineering determination

1. Purpose of This Package

This package delivers the processed field data, tabulations, and supporting calculations from a 12-hour camera-based turning-movement count, organized to plug directly into a traffic control signal needs study. Our role is data collection and processing: we have pre-tabulated the observed volumes against the MUTCD Chapter 4C framework and computed gap and headway statistics so that your team can move straight to the engineering evaluation without re-reducing raw data.

Where this document notes a *preliminary screening observation*, it is offered as a convenience and a starting point — a factual comparison of observed values against published thresholds under the stated working assumptions. These observations are not warrant determinations and carry no engineering judgment. The signal warrant determination, the selection of critical-gap values, and all operational conclusions rest with the engineer of record. We are glad to re-tabulate any portion of this package under different assumptions, thresholds, or formats to match your firm's worksheets.

2. Data Highlights

The major (north–south) street carried substantial volume throughout the day, exceeding 630 vph in 11 of 12 hours and peaking at 1,080 vph in the 12:00 hour. Minor (east–west) street demand peaked at 25 vph. In our preliminary screening under the working assumptions in Section 3, the observed minor-street volumes did not reach the reduced (70%) volume thresholds associated with MUTCD Warrants 1,

2, and 3 during the count window, and the measured supply of adequate gaps in the major-street stream exceeded observed minor-street and pedestrian demand in every hour.

These observations reflect one day of data and the stated assumptions; Section 8 lists the caveats your team will want to weigh. Whether any warrant is satisfied — and what, if anything, should be done at this intersection — is your call to make, and we have structured the tables below to make that review as fast as possible.

3. Working Assumptions (Adjustable)

The tabulations in Sections 5 and 6 depend on the following interpretations of the site. Each is adjustable — if your field review or design files indicate otherwise, let us know and we will re-run the affected tables.

- Major street:** north–south, two through lanes in each direction plus a center two-way left-turn lane (TWLTL). Tabulated under the “2 or more lanes” warrant column.
- Minor street:** east–west, one shared (multi-directional) lane per approach. Tabulated under the “1 lane” warrant column.
- Major-street 85th-percentile speed:** 45 mph, as supplied to us (not measured from this dataset). Because this exceeds 40 mph, the tabulations apply the 70% reduced-volume factor of MUTCD Section 4C to Warrants 1–3. If the posted or measured speed differs, the 100% columns can be substituted.
- Major/minor designation:** assigned from observed volume — the north–south through movement dominates (see movement matrix below). Subject to confirmation against functional classification.

4. Observed Volumes

4.1 Turning-Movement Matrix (counted motor vehicles)

Rows are the approach the vehicle entered from; columns are the exit direction. The dominant movements are north-to-south and south-to-north through traffic; east–west volumes are comparatively light. Fifteen-minute and movement-level breakdowns are available on request (Section 7).

From \ To	N	S	E	W
N	8	5,038	64	40
S	4,415	0	63	155
E	51	76	0	6
W	28	162	7	0

4.2 Hourly Approach Volumes

Major-street volume is the sum of both approaches; minor-street volume is the higher-volume single approach, per MUTCD convention. The peak major-street hour is 12:00 at 1,080 vph.

Hour	Major (N+S)	Minor E	Minor W	Minor (higher)
06:00	244	2	8	8
07:00	716	11	23	23
08:00	749	11	13	13
09:00	622	9	10	10
10:00	738	14	15	15
11:00	775	8	18	18
12:00	1,080	13	17	17
13:00	931	18	19	19
14:00	1,013	10	16	16
15:00	1,052	13	13	13
16:00	967	8	25	25
17:00	896	16	20	20

5. Signal Warrant Screening Inputs

The table below pairs each volume-based warrant with its applicable reduced threshold and a factual note on how the observed data compares. The major street cleared every major-street threshold for 8+ hours (≥ 630 vph in 11 of 12 hours), so under these assumptions each warrant comparison turns on minor-street volume, which did not exceed 25 vph in any observed hour.

Warrant	Applicable threshold (70% factor)	Preliminary screening observation*
1A – Minimum Vehicular Volume	Major ≥ 420 & Minor ≥ 105 vph, any 8 h	<u>Minor-street</u> values below threshold in all 12 observed hours
1B – Interruption of Continuous Traffic	Major ≥ 630 & Minor ≥ 52.5 vph, any 8 h	<u>Minor-street</u> values below threshold in all 12 observed hours
2 – Four-Hour Vehicular Volume	Fig. 4C-2 curve (>40 mph), 4 highest hours	All four plotted points fall below the curve
3 – Peak Hour	Fig. 4C-4 curve / numeric criteria	Peak minor-street hour (25 vph) below curve floor and numeric criterion

* Screening observations are factual comparisons under the Section 3 assumptions, provided to accelerate your review. They are not warrant determinations; see Section 1.

5.1 Warrant 1 — Eight-Hour Vehicular Volume

Warrant and Gap Report Assistance

Condition A pairs a 105 **vph** minor-approach value with the **major-street** threshold, and Condition B a 52.5 **vph** value, each for the same 8 hours. In the observed data, no hour reached either minor-street value, including under the 80%/80% combination provision. The full hourly table in Section 4.2 supports whichever condition set your worksheet applies.

5.2 Warrant 2 — Four-Hour Vehicular Volume

The four highest minor-street hours observed are 25, 23, 20, and 19 **vph**. Plotted against Figure 4C-2 (the curve applicable when major-street speed exceeds 40 mph), all four points fall below the curve, whose minor-street values remain above roughly 60 **vph** across the observed major-street volume range. Plotted figures with the data points overlaid are available on request.

5.3 Warrant 3 — Peak Hour

The peak observed minor-street hour is 25 **vph**, which falls below both the Figure 4C-4 curve floor and the 100 **vph** numeric **criterion** for a single-lane approach.

5.4 Warrants Requiring Additional Inputs

Warrant 4 (Pedestrian) can be evaluated once the pedestrian crossing location and the camera's pedestrian-gate definition are confirmed; the pedestrian volumes and gap data in Section 6.4 are the raw inputs. Warrants 5–9 (School Crossing, Coordinated Signal System, Crash Experience, Roadway Network, Intersection Near a Grade Crossing) require inputs beyond a traffic-count file — crash history, school-route data, and network classification. If supplemental field data would help complete any of these (school-crossing counts, additional pedestrian studies, speed studies), we can collect it.

6. Gap Availability Data

6.1 Methodology

Each counted major-street vehicle's passage time (the camera's between-gates timestamp) was treated as a point event, and time headways between successive vehicles were computed for the northbound stream, the southbound stream, and both directions combined (10,113 vehicles). These headways represent the gaps available to minor-street and crossing users. The count of headways meeting or exceeding a candidate critical gap is tabulated as the “adequate-gap supply” alongside observed minor-street demand. Note that a headway slightly overstates the usable gap by the vehicle occupancy time (~1–2 s); your team may wish to net this out when applying the figures.

6.2 Headway Summary

Major-street stream	Mean headway (s)	Median headway (s)
Both directions combined	4.41	2.40
Northbound only	9.31	4.20
Southbound only	8.37	3.40

The combined stream is dense (median 2.4 s), while each individual direction is looser because it carries about half the flow — relevant if a two-stage crossing via the center TWLTL is considered in the evaluation.

6.3 Adequate-Gap Supply vs. Minor-Street Demand

Tabulated at a representative crossing critical gap of 6.5 s: single-stage values require a simultaneous gap in both directions; two-stage values (NB / SB) reflect crossing one direction at a time, holding in the TWLTL. We can re-run this table at any critical-gap value(s) your analysis requires — 6.5 s is a placeholder, not a recommendation.

Hour	Major vol (vph)	Minor demand (vph)	1-stage gaps ≥6.5 s	2-stage NB ≥6.5 s	2-stage SB ≥6.5 s
06:00	244	8	145	85	84
07:00	716	23	153	138	134
08:00	749	13	173	136	145
09:00	622	10	167	140	135
10:00	738	15	175	160	153
11:00	775	18	173	148	143
12:00	1,080	17	136	154	147
13:00	931	19	140	150	122
14:00	1,013	16	149	159	139
15:00	1,052	13	155	150	144
16:00	967	25	157	169	144
17:00	896	20	156	161	149

For reference: in the peak major-street hour (12:00, 1,080 **vph**), the stream offered approximately 136 single-stage gaps ≥ 6.5 s against 30 minor-street vehicles across both approaches. At a 9 s critical gap (bounding a wide single-stage crossing of all four through lanes), the supply averages roughly 100+ adequate gaps per hour over the count window.

6.4 Pedestrian and Bicycle Data

The camera recorded 498 pedestrian tracks and 115 bicycle tracks, including 86 pedestrian crossing events over the 12-hour window (~7 per hour). For a single-stage crossing of the full width (on the order of 60+ ft at ~3.5 ft/s plus startup — roughly a 21 s gap, with no refuge credit for the TWLTL), the stream offered 262 gaps over the day; at a 16 s gap, 498. These figures are inputs for a Warrant 4 evaluation and any pedestrian-crossing treatment analysis your team performs; we can re-tabulate at your preferred walking speed and crossing geometry.

7. Additional Data & Support Available

Everything in this package can be re-cut to fit your workflow. On request, we can provide:

- The raw track-level export (CSV) and any intermediate tabulations, for independent verification.
- 15-minute binned volumes, movement-level detail, and formats matched to your firm's warrant worksheets.
- Figure 4C-2 / 4C-4 plots with the observed data points overlaid.
- Gap and headway tables re-run at agency-specific or HCM movement-specific critical-gap values.
- Additional count coverage: overnight hours, additional weekdays or weekend days, or seasonal recounts to address representativeness.
- Supplemental studies — spot-speed data, pedestrian/school-crossing counts, queue observations, or video clips for validation of any movement.

8. Data Notes & Limitations

- The dataset is a single 12-hour weekday count (06:00–17:59, May 13, 2026). The window very likely captures the 8 and 4 highest hours relevant to Warrants 1–3, but does not cover overnight periods. Representativeness (school in session, no nearby holiday or incident) should be confirmed; we can verify conditions on the count date or schedule additional coverage.
- Volumes derive from automated camera tracking; missed or merged tracks would slightly undercount vehicles and overstate gaps. Video is retained and available for spot-validation of any movement.
- Speed and RTOR fields were not populated in the source file; the 85th-percentile speed used in the threshold selection was supplied separately and was not measured by us.
- Critical-gap values used in Section 6 (6.5 s crossing, etc.) are representative HCM-style placeholders that vary by movement and crossing width; substitute values can be applied on request.
- Warrant thresholds follow the MUTCD 11th Edition as adopted by the governing agency (e.g., FDOT); confirmation of the adopted edition and any state supplements is part of the engineering review.

A traffic signal warrant determination is a matter of engineering judgment reserved to a licensed professional engineer. This package — including every screening observation in it — is a data resource prepared to support that work, and we welcome the chance to adapt it to how your team likes to receive it.

Auto Screening for Warrant and Gap

Warrant	Applicable threshold (70% factor)	Determination
1A – Min. Vehicular Volume	Major ≥ 420 & Minor ≥ 105 vph, any 8 h	NOT MET
1B – Interruption of Traffic	Major ≥ 630 & Minor ≥ 52.5 vph, any 8 h	NOT MET
2 – Four-Hour Volume	Fig. 4C-2 curve (>40 mph), 4 highest hours	NOT MET
3 – Peak Hour	Fig. 4C-4 curve / numeric criteria	NOT MET

Major-street stream	Mean headway (s)	Median headway (s)
Both directions combined	4.41	2.40
Northbound only	9.31	4.20
Southbound only	8.37	3.40

Auto Screening for Warrant and Gap

Hour	Major vol (vph)	Minor demand (vph)	1-stage gaps ≥6.5 s	2-stage NB ≥6.5 s	2-stage SB ≥6.5 s
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08:00	749	13	173	136	145
09:00	622	10	167	140	135
10:00	738	15	175	160	153
11:00	775	18	173	148	143
12:00	1080	17	136	154	147
13:00	931	19	140	150	122
14:00	1013	16	149	159	139
15:00	1052	13	155	150	144
16:00	967	25	157	169	144
17:00	896	20	156	161	149

Near Miss Conflict Analysis



Near Miss in Texas

- Collected near miss data at more than 3,500 intersections in Texas since 2024

Including:

- City of Waco, TX SS4A
- City of Denton, TX
- City of Keller, TX
- City of San Marcos, TX



TxDOT Dallas - 2026

ORDER DETAIL

CLIENT PROJECT #

CLIENT CONTACT Katrina Baker

COMPANY TxDOT - Strategic Initiatives and Innovation Division

ORDER DATE 1/13/2026

DESIRED DELIVERY DATE 2/13/2026

PROJECT S Loop 12, Dallas

DATA PRIVACY ☐ ON ☒ OFF

QC OFFICE Texas Operations

CHECKLISTS

DOCUMENTS

COMMENTS

HISTORY

ESTIMATE

INVOICE

EDIT ORDER

LANE DIAGRAM

IMPORT DATA

REPORTS

Turn Movement Counts

DOWNLOAD

Group 1

Midweek - 12:00 AM - 12:00 AM - 48 Hrs.

Site Code	Intersection	Time Period	PDF	CSV	Video	HTML
17408501	N Buckner Blvd -- Windsor Station Dwy	12:00 AM - 12:00 AM				
17408502	Buckner Blvd -- Eastpoint Dr	12:00 AM - 12:00 AM				
17408503	Buckner Blvd -- Jennie Lee Ln	12:00 AM - 12:00 AM				
17408504	Buckner Blvd -- Maddox St	12:00 AM - 12:00 AM				
17408505	Hillburn Dr -- S Loop 12	12:00 AM - 12:00 AM				

Map Satellite

Search ...

Go!

KML

XLSX

Google

Keyboard shortcuts

Map data ©2026

Terms

Near Miss-Conceptions

Misconception #1: “Useful for all safety issues.”

QC’s Experience: Best for left turn safety and bike/ped safety.

Misconception #2: “If it didn’t feel dangerous, it doesn’t matter.”

QC’s Experience: Conflict data is not about dramatic almost crashes. More akin to tracking blood pressure than tracking heart attacks.

Misconception #3: “The more near miss data the better.”

QC’s Experience: One or two days is typically enough. The juice of getting more days isn’t worth the squeeze.

Misconception #4: “Near miss analysis is about analyzing the number of seconds.”

QC’s Experience: It’s about comparing observed vs expected, speed, and engineering judgement.

Misconception #5: “Intended to be used in place of crash data.”

QC’s Experience: Both are useful in different ways and pair well together.

DeIDOT Project

July, 2025

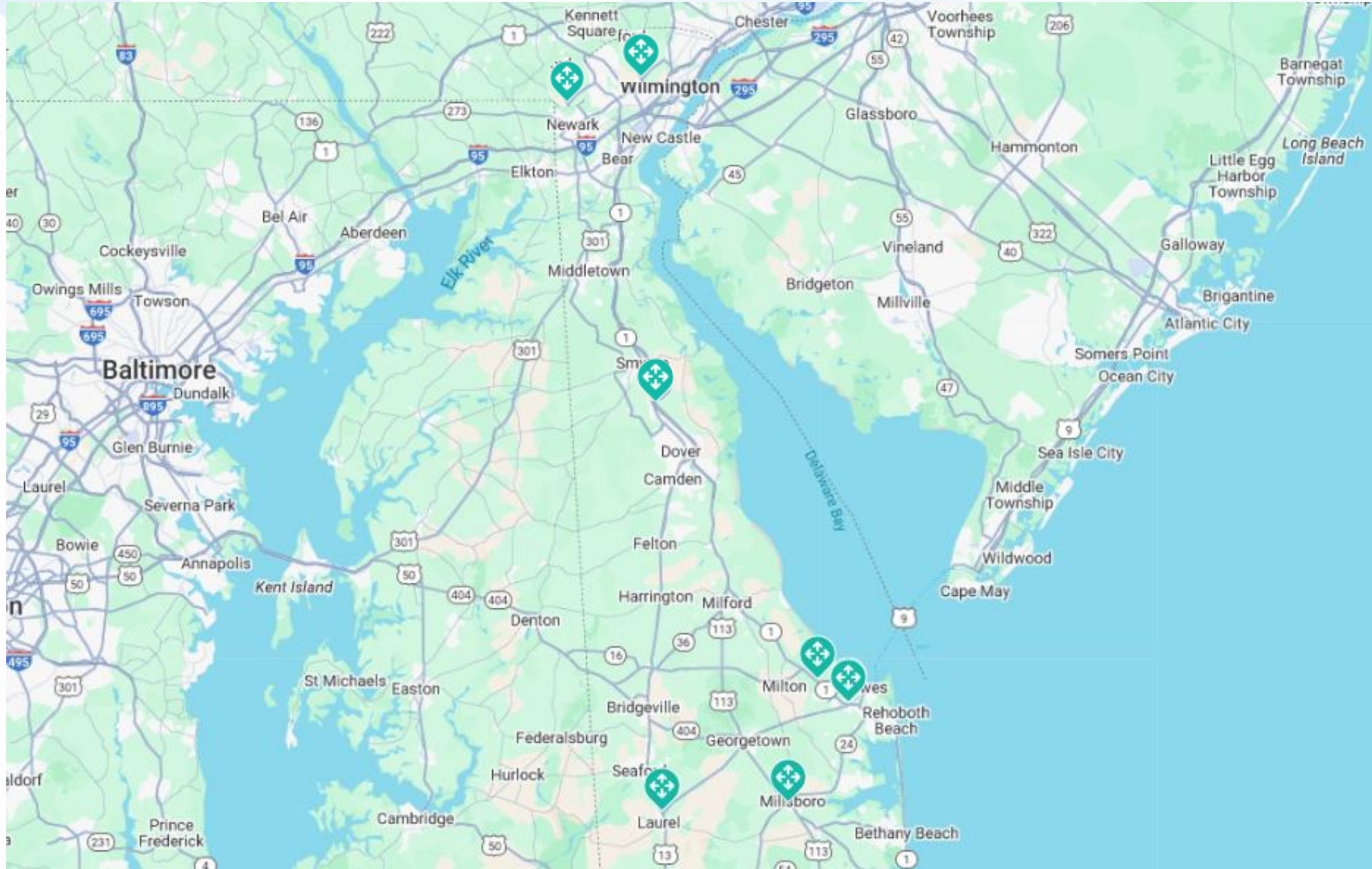
Locations in Study

- 1. College Ave – Delaware Ave**
- 2. N Walnut St – E Front St**
- 3. US 13 – Hickory Ridge Rd/Spring Meadow Dr**
- 4. Belltown Rd/Salt Marsh Blvd – Rd 285/Plantation Rd**
- 5. Belltown Rd – US 9**
- 6. Hudson Rd – DE 1**
- 7. US 13 – US 9**
- 8. Delaware Ave – SR 24 (Laurel Rd)**

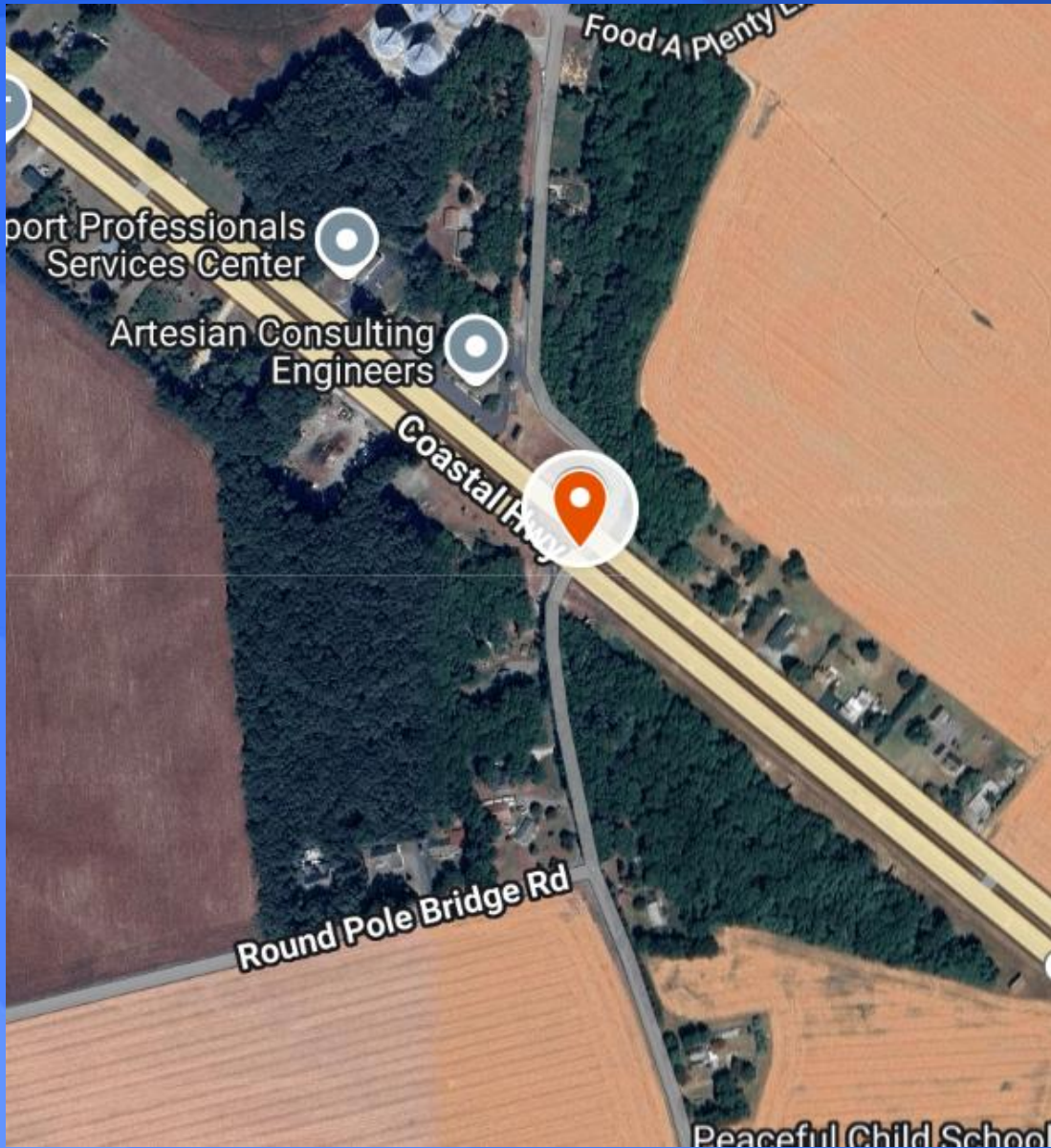
Location Map



TRUE DATA TO IMPROVE MOBILITY



Hudson Rd – DE 1



Hudson Rd – DE 1

Route 1 crossovers: Cars stack up, so do crashes

Since 2012, five intersections have seen 212 collisions



Traffic piles up at Nassau Road after a crash in the crossover in July. MELISSA STEELE PHOTO

By Melissa Steele • September 15, 2017

A school bus with two students still on board was stopped in a crossover median, waiting to merge onto Route 1 northbound, when it was struck by a car.

The bus driver and a boy on the bus were uninjured; an 11-year-old girl was later taken to a hospital for an undetermined injury.

But the driver of the car was trapped when his car became stuck under the bus. The 26-year-old man was flown to Christiana Medical Center in critical condition.

"These crossovers are crazy," said a neighbor who came out to witness the commotion off Reynolds Road. "The cars come so fast, you can't see them coming."

It's a scenario played out daily up and down the dual highway from the Milton area and south to Lewes.



There have been 33 crashes at Minos Conaway Road in the past five years. MADDY LAURIA PHOTO

EDITORIALS

Changes needed at Route 1-Hudson Road

September 5, 2025

Yet another serious accident occurred at the intersection of Route 1 and Hudson Road last week — the second major crash at this location in just a few months. Each time, Route 1 was shut down and traffic was diverted onto alternate routes, causing widespread disruption.

This most recent incident was particularly disastrous, as it happened on a Friday afternoon at the start of a holiday weekend, compounding traffic woes and public safety risks.

Hudson Road has become a popular alternative route for travelers heading westbound to Route 9 or south to destinations like Long Neck in an effort to avoid congestion in the Five Points area. It's also a key commuter corridor, often backed up during morning and evening rush hours.

With many drivers exceeding the posted 55 mph speed limit on the straight stretch between Route 16 and the Nassau Bridge, this crossover has grown increasingly dangerous. It's long past time for meaningful action.

At a Five Points Working Group meeting in April 2019, Delaware Department of Transportation officials proposed several projects to be completed by the end of that year. Among them were short-term improvements to four Route 1 crossovers between Milton and Lewes. While upgrades were made at Cave Neck Road and Route 5, progress at Hudson Road and nearby Eagle Crest Road has lagged significantly.

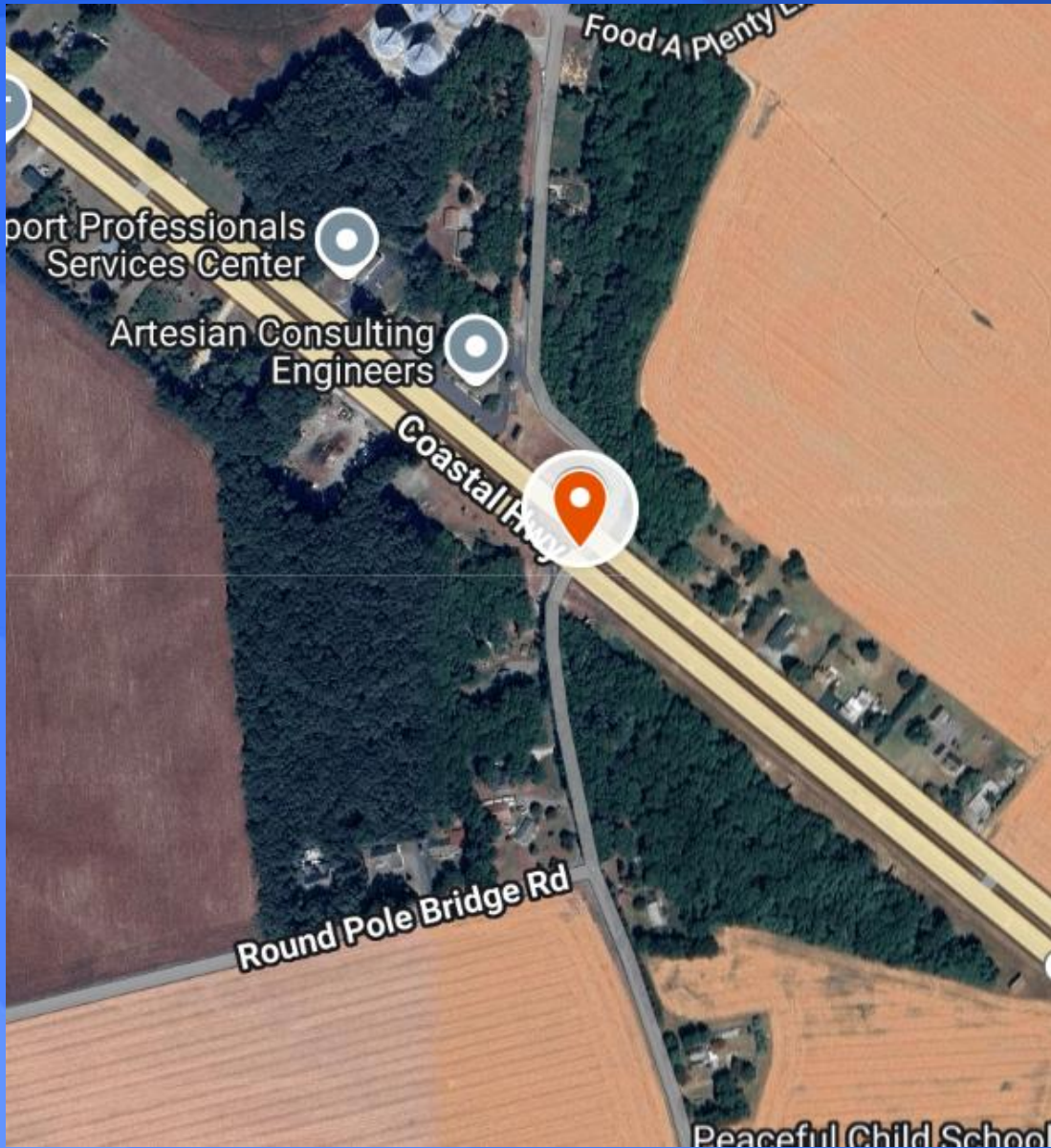
Public crash data shows more than 60 accidents at the Route 1-Hudson Road intersection between 2011 and 2023. That's not just a statistic; that's a red flag. The urgency is real, and something must be done.

At the same time, drivers must do their part. Sitting at the front of the line waiting for a safe gap in traffic can be frustrating, but taking risks isn't worth the cost. Don't gamble with your life, your passengers' lives or the lives of others on the road.

Until DelDOT makes long-overdue changes at this and other dangerous intersections across the Cape Region, be patient, be courteous and be safe.

**Cape
Gazette**
EDITORIAL

Hudson Rd – DE 1



Hudson Rd – DE 1



Hudson Rd – DE 1

Site Name	Total Hours Studied	Total Conflicts			Veh - Veh Conflicts			Ped - Veh Conflicts			Bike - Veh Conflicts		
		0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s	0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s	0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s	0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s
College Ave - Delaware Ave	24	17	28	105	0	0	10	14	23	85	3	5	10
N Walnut St - E Front St	24	22	36	153	0	0	1	20	29	135	2	7	17
US 13 - Hickory Ridge Rd/Spring Meadow Dr	24	0	1	3	0	0	3	0	1	0	0	0	0
Belltown Rd/Salt Marsh Blvd - Rd 285/Plantation Rd	24	22	72	317	21	71	315	1	0	2	0	1	0
Belltown Rd - US 9	24	0	2	12	0	0	6	0	2	3	0	0	3
Hudson Rd / Steamboat Landing Rd - DE 1	24	6	25	256	6	25	256	0	0	0	0	0	0
US 13 - US 9	24	2	2	4	1	2	3	1	0	1	0	0	0
Delaware Ave - SR 24 (Laurel Rd)	24	2	10	73	2	9	70	0	0	2	0	1	1

	Highlights	Diagrams	Trajectories	Average Speed (MPH)
Site Name	By Location	By Location	Bike/Ped	Thru Vehicles
College Ave - Delaware Ave	Video Compilation	Summary Diagrams	Trajectories	22.4
N Walnut St - E Front St	Video Compilation	Summary Diagrams	Trajectories	31.6
US 13 - Hickory Ridge Rd/Spring Meadow Dr	Video Compilation	Summary Diagrams	Trajectories	29.2
Belltown Rd/Salt Marsh Blvd - Rd 285/Plantation Rd	Video Compilation	Summary Diagrams	Trajectories	51.5
Belltown Rd - US 9	Video Compilation	Summary Diagrams	Trajectories	44.9
Hudson Rd / Steamboat Landing Rd - DE 1	Video Compilation	Summary Diagrams	Trajectories	64.2
US 13 - US 9	Video Compilation	Summary Diagrams	Trajectories	34.1
Delaware Ave - SR 24 (Laurel Rd)	Video Compilation	Summary Diagrams	Trajectories	38.6

Steamboat Landing Rd



Veh-to-Veh

70



Near Misses	Conflict Rate
8	11%
National Avg	Percentile
8.6	58%
Average Thru Speeds	
--	



DE 1

DE 1



22318

210



Near Misses	Conflict Rate
9	4%
National Avg	Percentile
20.9	11%
Average Thru Speeds	
--	

22318

27869



Near Misses	Conflict Rate
21	14%
National Avg	Percentile
20.9	61%
Average Thru Speeds	
--	

151



27869



Near Misses	Conflict Rate
231	14%
National Avg	Percentile
14.0	100%
Average Thru Speeds	
64.2	

1605



Hudson Rd

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QualityCounts.net



Hudson Rd – DE 1: After



Hudson Rd – DE 1: After Study

		Total Conflicts			Veh - Veh Conflicts		
Site Name	Total Hr	0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s	0.0 - 1.5s	1.5 - 2.0s	2.0 - 3.0s
Steamboat Landing Rd/Hudson Rd - Rt 1	120	0	6	67	0	6	67

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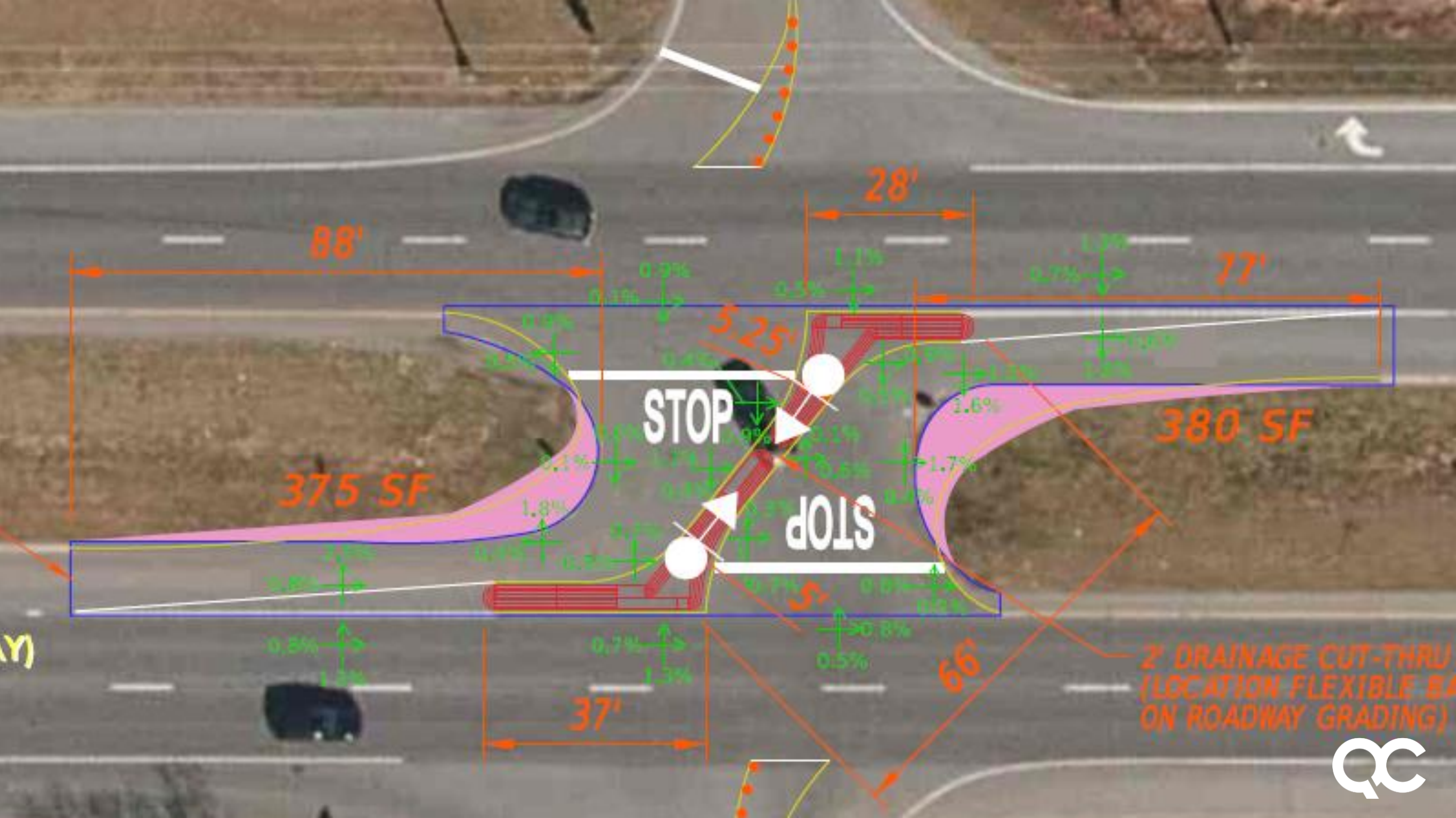
QualityCounts.net



Hudson Rd – DE 1: Results

RESULTS

- The average of 14.6 in a 24-hour span in the after study compares to 287 conflicts in the 24 hours collected in the before study.
- There were 231 conflicts between NBLs and EBTs in the 24 hours of the before period and there were 8.2 per day in the after period, a 97% reduction.
- When compared to similar roadways in our database, the number of NBL vs EBT conflicts was in the 100th percentile nationally in the before period and in the after study, is now in 17th percentile nationally.
- There are still 131 vehicles per day making this “impossible” movement.







04.11.2026



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PC 1141

QualityCounts.net



After After Results (Daily)

When

Jul 2025

Nov 2025

May 2026

NB Left Movements

1,605

131

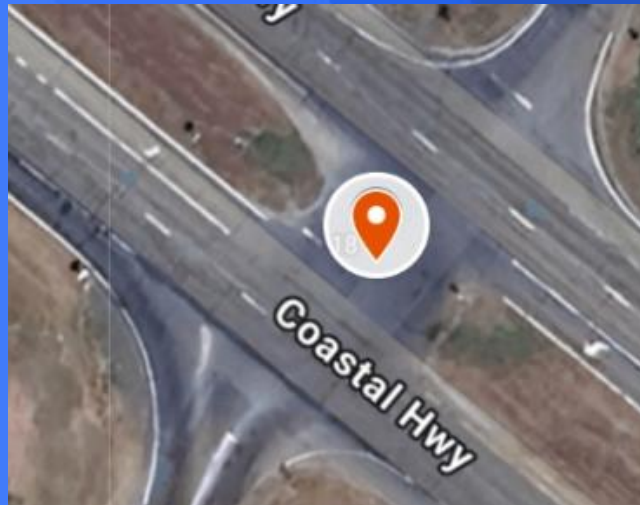
6.3

NB Left Conflicts

231

8.2

0



Kinetic Energy Data

Converting conflict data into a Kinetic Energy (KE) report

Putting the Safe Systems Approach into practice

$$KE_{\text{initial}} = \frac{1}{2}m_1v_1^2$$

$$KE_{\text{lost}} = KE_{\text{initial}} - KE_{\text{final}}$$

Recently completed our first kinetic energy project for GDOT

- Riverdale Rd and Garden Walk Blvd in Atlanta, GA

Riverdale Rd and Garden Walk Blvd

Pedestrian Conflicts	
KABCO Equivalent	Frequency*
O	0
C	0
B	67
A	6
K	7

Total KE _{LOST} (Joules)	
Raw	181,094
Near Miss Adjusted	20,536

Riverdale Rd and Garden Walk Blvd

Pedestrian Conflicts By Leg (Frequency)

KABCO	NL	SL	EL	WL
O	0	0	0	0
C	0	0	0	0
B	33	19	15	0
A	3	3	0	0
K	3	4	0	0

Total Energy Injury Equiv. Energy Transfer (Joules)

Raw	67,513	90,542	23,039	0
Near Miss Adjusted	7,461	8,820	4,255	0

Riverdale Rd and Garden Walk Blvd

Pedestrian Conflicts By Movement (Frequency) - South Leg								
KABCO	Left Entering	Left Exiting	Right Entering	Right Exiting	Thru Entering	Thru Exiting	U-turns	
O	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0
B	0	18	0	1	0	0	0	0
A	0	0	0	0	1	2	0	0
K	0	0	0	0	2	2	0	0

Total Energy Injury Equiv. Energy Transfer (Joules)							
Raw	0	28,814	0	553	26,992	34,183	0
Near Miss Adjusted	0	2,589	0	117	2,981	3,132	0

After After Results (Daily)

When

Jul 2025

Nov 2025

May 2026

NB Left Movements

1,605

131

6.3

NB Left Conflicts

231

8.2

0

Kinetic Energy (Joules)

611,643

149,837

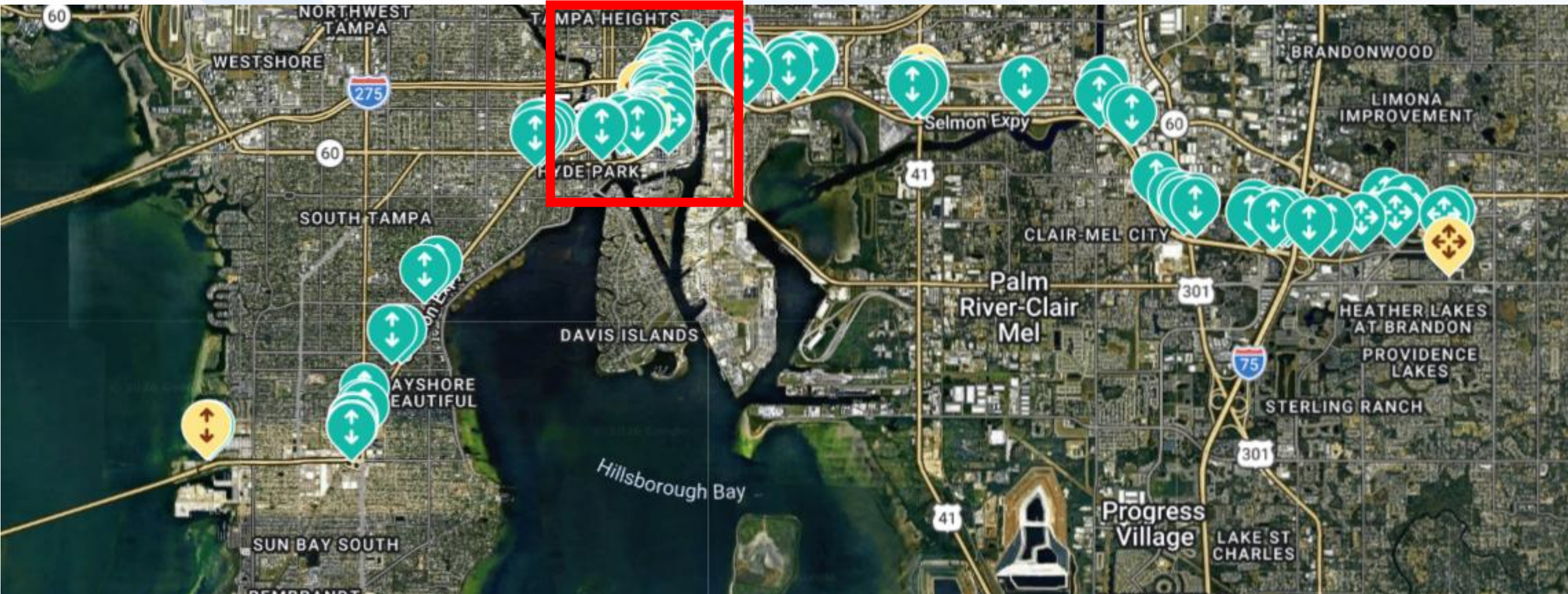
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THEA Project

August, 2025

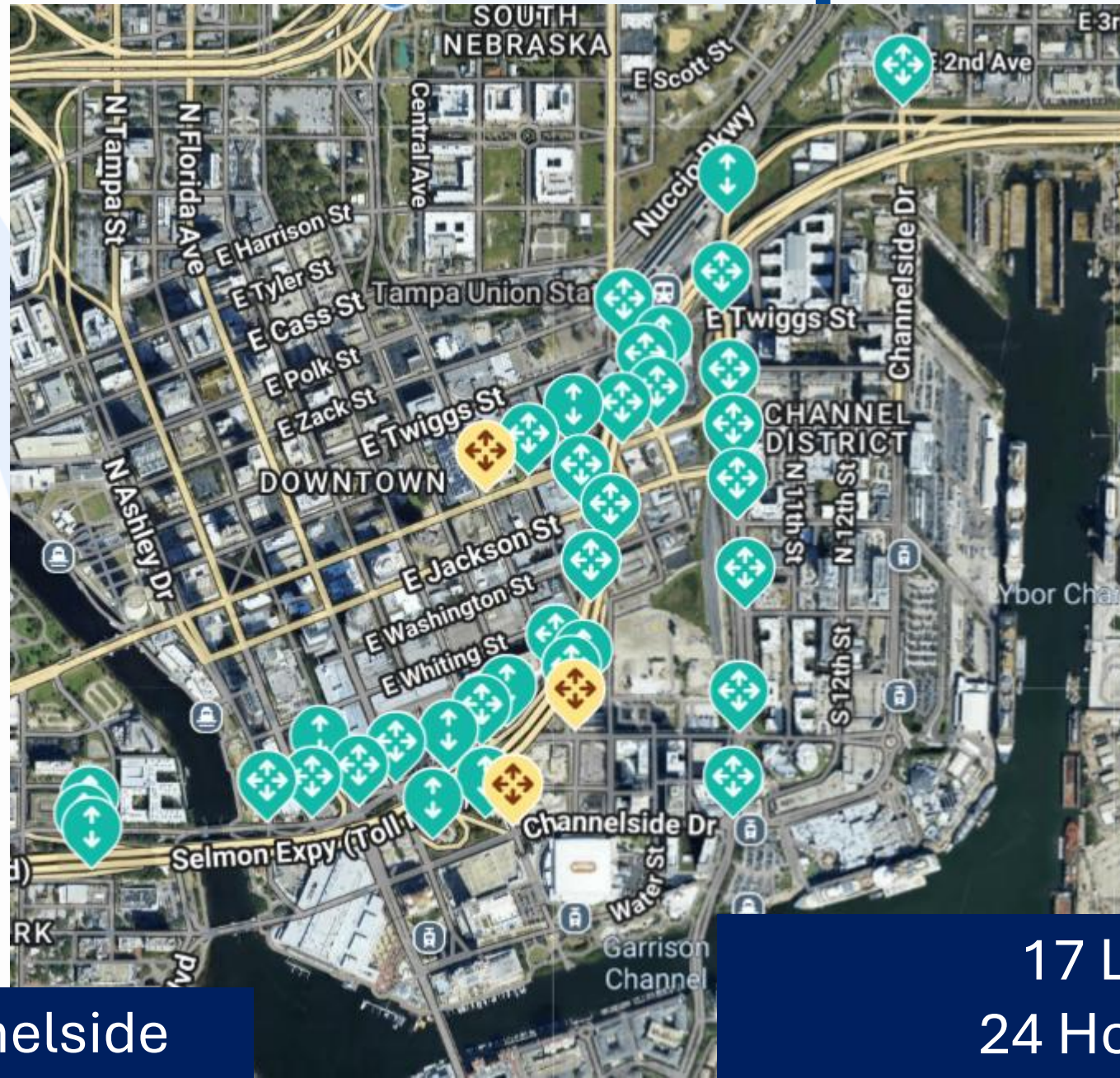
Location Map



37 Intersections
63 Ramps

5 Midblocks
Bike/Ped Counts

Location Map



Near Miss in Channelside

17 Locations
24 Hour Studies

401564 2025/08/19 06:59:21



PC 2097

PC 2096

QualityCounts.net

Ped Safety Analysis



By Intersection

By Leg

By Movement

SiteNumber	Observed	Expected	Observed/Expected	Absolute Percentile*
17178524	93	41	2.29	89%
17178525	291	230	1.27	96%
17178526	108	81	1.34	90%
17178527	91	39	2.31	89%
17178528	150	105	1.43	92%
17178529	16	44	0.36	55%
17178530	35	58	0.61	80%
Total	784	597	1.31	

SiteNumber	Leg	Observed	Expected	Observed/Expected
17178524	N	1	3	0.35
17178524	S	83	25	3.29
17178524	E	7	10	0.67
17178524	W	2	2	0.97
17178525	N	61	71	0.86
17178525	S	113	81	1.39
17178525	E	34	24	1.42
17178525	W	83	53	1.56
17178526	N	5	14	0.36
17178526	S	11	12	0.92
17178526	E	74	36	2.07
17178526	W	18	19	0.95
17178527	N	2	3	0.61
17178527	S	60	17	3.59
17178527	E	--	--	--
17178527	W	29	20	1.49
17178528	N	18	17	1.05
17178528	S	7	21	0.34
17178528	E	74	36	2.06
17178528	W	51	32	1.61
17178529	N	1	9	0.11
17178529	S	1	8	0.13
17178529	E	14	27	0.51
17178529	W	--	--	--
17178530	N	3	12	0.25
17178530	S	9	12	0.74
17178530	E	23	33	0.69
17178530	W	--	--	--

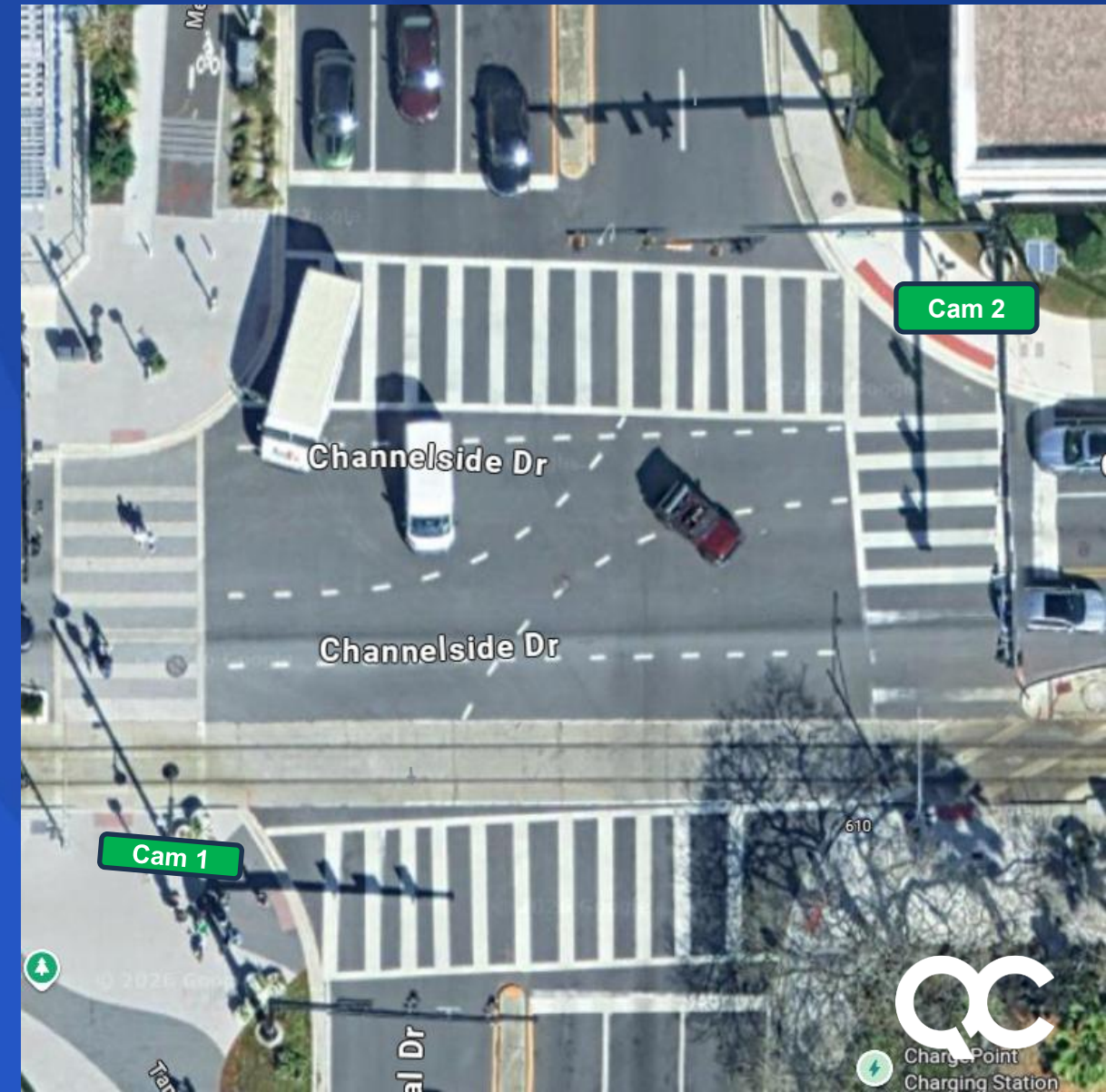
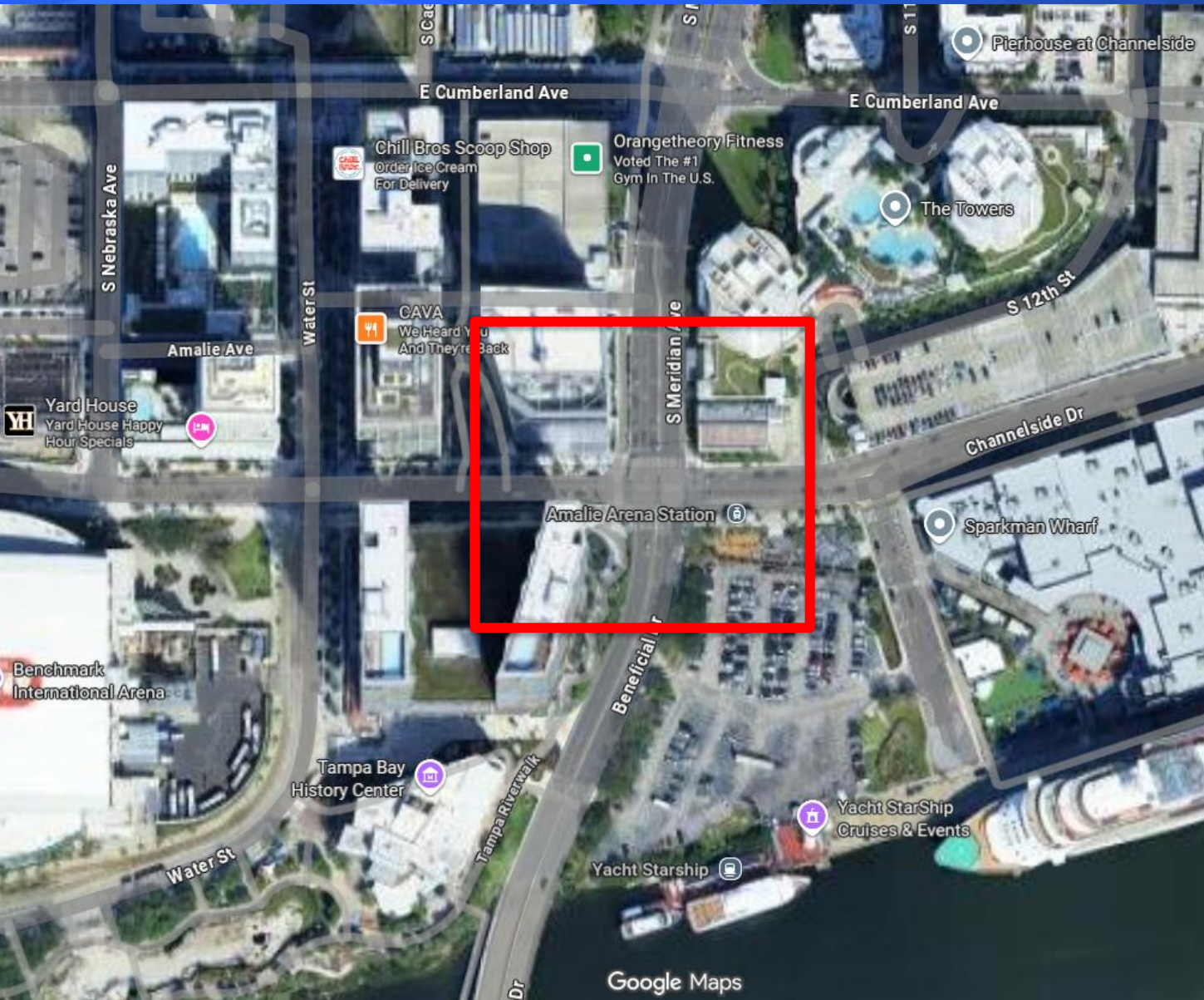
SiteNumber	Leg	nm_in_left			nm_in_thru			nm_in_right			nm_out_left			nm_out_thru			nm_out_right			nm_u_turn		
		observed	expected	ratio	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio
17178524	N	0	0.04	0.00	0	0.29	0.00	0	0.30	0.00	0	0.53	0.00	0	0.41	0.00	1	1.23	0.81	0	0.03	0.00
17178524	S	9	1.01	8.92	1	5.16	0.19	9	1.74	5.17	26	5.38	4.83	5	4.13	1.21	32	7.65	4.18	1	0.16	6.18
17178524	E	2	0.29	6.87	2	1.48	1.35	0	0.87	0.00	0	2.18	0.00	0	1.63	0.00	3	3.96	0.76	0	0.09	0.00
17178524	W	0	0.04	0.00	1	0.21	4.86	1	0.21	4.86	0	0.42	0.00	0	0.31	0.00	0	0.87	0.00	0	0.02	0.00
17178525	N	0	3.15	0.00	2	17.47	0.11	3	4.40	0.68	39	15.42	2.53	5	12.09	0.41	12	18.45	0.65	0	0.35	0.00
17178525	S	5	3.99	1.25	10	13.24	0.76	13	5.22	2.49	30	21.13	1.42	22	12.73	1.73	33	24.41	1.35	0	0.48	0.00
17178525	E	1	0.91	1.10	1	4.19	0.24	1	1.74	0.58	7	5.53	1.27	14	3.80	3.69	10	7.58	1.32	0	0.16	0.00
17178525	W	8	2.40	3.33	22	10.32	2.13	0	3.54	0.00	15	12.73	1.18	24	8.56	2.80	14	15.27	0.92	0	0.30	0.00
17178526	N	1	0.46	2.19	2	2.38	0.84	0	1.10	0.00	0	2.91	0.00	2	2.30	0.87	0	4.75	0.00	0	0.10	0.00
17178526	S	1	0.37	2.68	1	1.77	0.56	9	0.99	9.08	0	2.54	0.00	0	1.93	0.00	0	4.28	0.00	0	0.09	0.00
17178526	E	2	1.56	1.28	2	6.52	0.31	3	2.35	1.28	12	8.59	1.40	0	5.68	0.00	55	10.79	5.10	0	0.20	0.00
17178526	W	0	0.65	0.00	0	3.96	0.00	0	1.41	0.00	1	3.91	0.26	2	3.13	0.64	15	5.78	2.60	0	0.13	0.00
17178527	N	0	0.08	0.00	0	0.27	0.00	0	0.30	0.00	2	0.71	2.81	0	0.49	0.00	0	1.38	0.00	0	0.03	0.00
17178527	S	0	0.61	0.00	5	2.98	1.68	0	1.25	0.00	0	3.60	0.00	17	2.74	6.19	38	5.40	7.04	0	0.11	0.00
17178527	E	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17178527	W	6	0.67	8.90	0	4.02	0.00	23	1.50	15.34	0	3.98	0.00	0	3.31	0.00	0	5.90	0.00	0	0.12	0.00
17178528	N	1	0.65	1.55	2	2.32	0.86	3	1.32	2.27	9	4.14	2.17	2	2.68	0.75	1	5.96	0.17	0	0.12	0.00
17178528	S	1	0.80	1.26	4	3.45	1.16	1	1.49	0.67	1	4.82	0.21	0	3.24	0.00	0	6.59	0.00	0	0.13	0.00
17178528	E	0	1.44	0.00	25	7.83	3.19	8	2.38	3.36	26	8.04	3.23	11	5.84	1.88	4	10.13	0.39	0	0.20	0.00
17178528	W	1	1.29	0.77	1	6.21	0.16	0	2.19	0.00	15	7.28	2.06	2	5.14	0.39	32	9.30	3.44	0	0.18	0.00
17178529	N	0	0.23	0.00	0	3.48	0.00	0	0.25	0.00	0	0.31	0.00	0	4.42	0.00	1	0.31	3.19	0	0.05	0.00
17178529	S	0	0.18	0.00	0	3.02	0.00	1	0.21	4.69	0	0.29	0.00	0	3.79	0.00	0	0.30	0.00	0	0.05	0.00
17178529	E	1	1.57	0.64	0	4.81	0.00	3	2.60	1.15	6	4.82	1.25	0	9.97	0.00	4	3.50	1.14	0	0.08	0.00
17178529	W	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17178530	N	0	0.36	0.00	0	1.67	0.00	0	1.01	0.00	0	2.65	0.00	2	1.93	1.03	1	4.40	0.23	0	0.10	0.00
17178530	S	0	0.37	0.00	4	1.66	2.41	0	1.02	0.00	0	2.69	0.00	5	1.93	2.60	0	4.39	0.00	0	0.09	0.00
17178530	E	3	1.36	2.21	0	6.95	0.00	10	2.27	4.41	6	7.65	0.78	0	5.37	0.00	4	9.54	0.42	0	0.18	0.00
17178530	W	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Percentile rank of Conflicts Per Hour within historical dataset.
Conflicts Per Hour: Number of conflicts during 7am-7pm "active hours" divided by count duration.

Intersection Level Analysis

By Intersection					
SiteNumber	Observed	Expected	Observed/Expected	Absolute Percentile*	Average Speed
Meridian - Twiggs/REL	93	41	2.29	89%	30
Meridian - Channelside	291	230	1.27	96%	26
Meridian - Kennedy	108	81	1.34	90%	36
Meridian - Jackson	91	39	2.31	89%	37
Meridian - Cumberland	150	105	1.43	92%	34
Meridian - Washington	16	44	0.36	55%	27
Meridian - Whiting	35	58	0.61	80%	28
Total	784	597	1.31	84%	31

Meridian -- Channelside



Analysis of Ped Conflicts By Leg

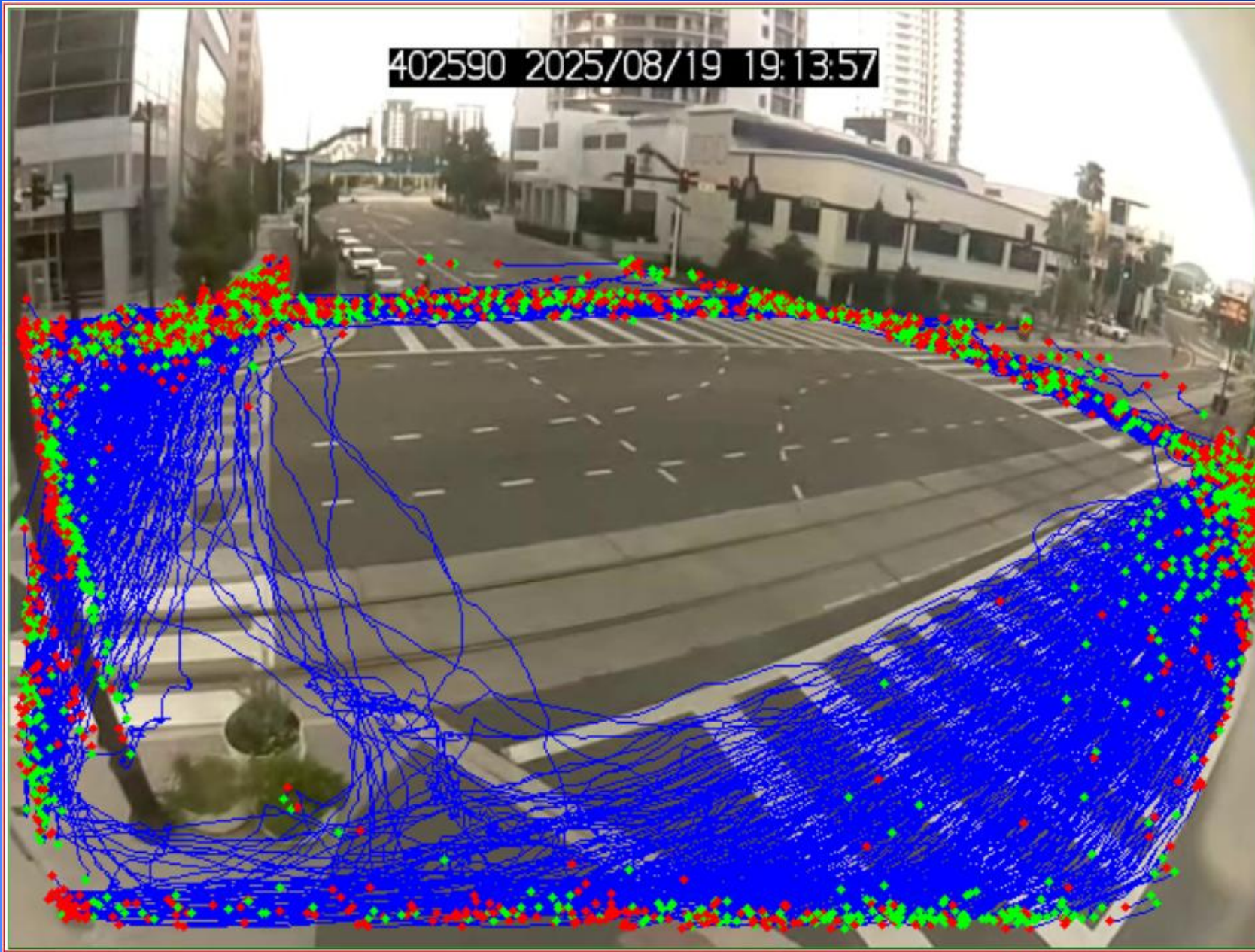
By Leg				
Leg	Observed	Expected	Observed/Expected	Average Speed (By Direction)
N	61	71	0.86	27
S	113	81	1.39	29
E	34	24	1.42	25
W	83	53	1.56	25

Expected leverages dataset of more than 20,000 locations nationwide

Comparing to locations based on:

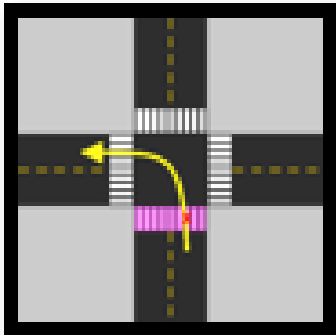
- Stop control
- Pedestrian volumes

Pedestrian Path Analysis

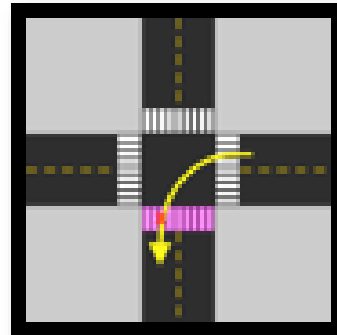


Analysis of Ped Conflicts By Movement

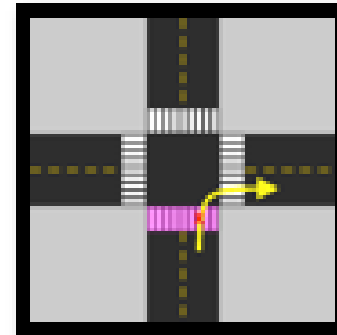
Left - Entering



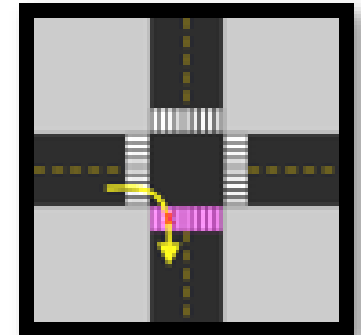
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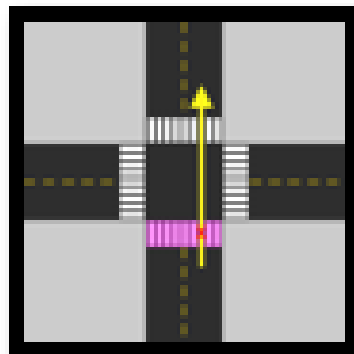
Right - Entering



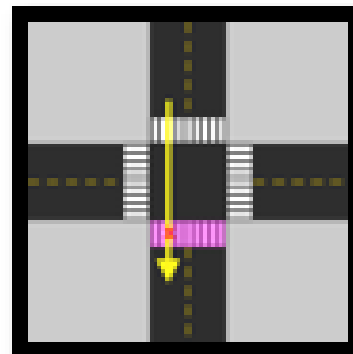
Right - Exiting



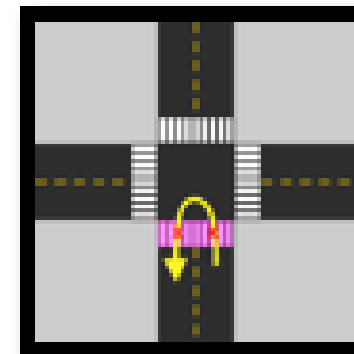
Thru - Entering



Thru - Exiting



U-Turn



Meridian -- Channelside

Leg	Left Turns In			Left Turns Out			Right Turns In			Right Turns Out		
	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio
N	0	3.15	0.00	39	15.42	2.53	3	4.40	0.68	12	18.45	0.65
S	5	3.99	1.25	30	21.13	1.42	13	5.22	2.49	33	24.41	1.35
E	1	0.91	1.10	7	5.53	1.27	1	1.74	0.58	10	7.58	1.32
W	8	2.40	3.33	15	12.73	1.18	0	3.54	0.00	14	15.27	0.92

Leg	Thrus In			Thrus Out			U-Turns		
	observed	expected	ratio	observed	expected	ratio	observed	expected	ratio
N	2	17.47	0.11	5	12.09	0.41	0	0.35	0.00
S	10	13.24	0.76	22	12.73	1.73	0	0.48	0.00
E	1	4.19	0.24	14	3.80	3.69	0	0.16	0.00
W	22	10.32	2.13	24	8.56	2.80	0	0.30	0.00

Average Speed (By Direction)	
N	27
S	29
E	25
W	25

THANK YOU!



TRUE DATA TO IMPROVE MOBILITY

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618.978.0589