



Mid-Size Traffic Challenges: *Bringing It All Together*

Leslie Hart
Traffic Engineering Manager

Fast-growing hometown city

did you know?

ANKENY IS THE

Largest Suburb

IN THE DES MOINES METRO



72,222

POPULATION

ANKENY IS THE

6th

LARGEST CITY IN IOWA



- Growing by an average of 6 people per day
- Population Growth 25,000 in past 10 years
- Population projection 130,000 by 2040

The point is: we're bigger than West Des Moines.

Land Development

- \$528 million total investment in new commercial and residential development projects in 2022
- 1,133 new residential dwelling units

Over the past five years, the City of Ankeny has issued building permits more than \$2 billion worth of investment.



City of Ankeny: *Bringing It All Together*

OUR VISION

Ankeny is a multi-generational hometown with an independent community spirit. Residents enjoy a safe community, an active lifestyle, thriving businesses, and easy connectivity to the region.

Our Strategy includes:

- Reduce traffic congestion and improve traffic safety
- Maintain aging infrastructure
- Improve major corridors for all modes of travel
- Identify, present, and implement enhanced engineering standards

Fiber Optic Network

Began traffic signal interconnect to Signal Shop in mid-1990's

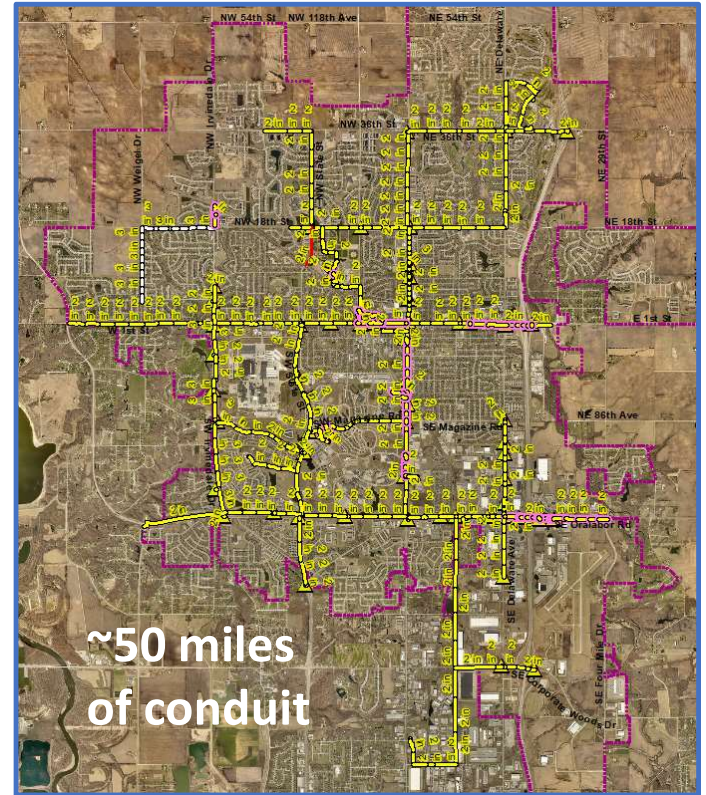
Initially using MM on hybrid cable

City operational network rode on unused SM fibers

In & out of every cabinet & building

2019 – Began transferring signal network to single mode, and installing separate cables for signal & City networks

Security and bandwidth benefits

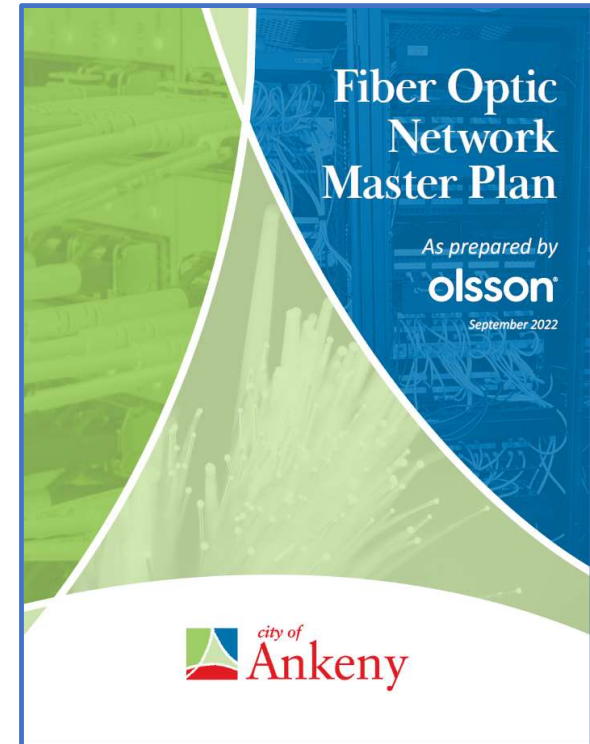
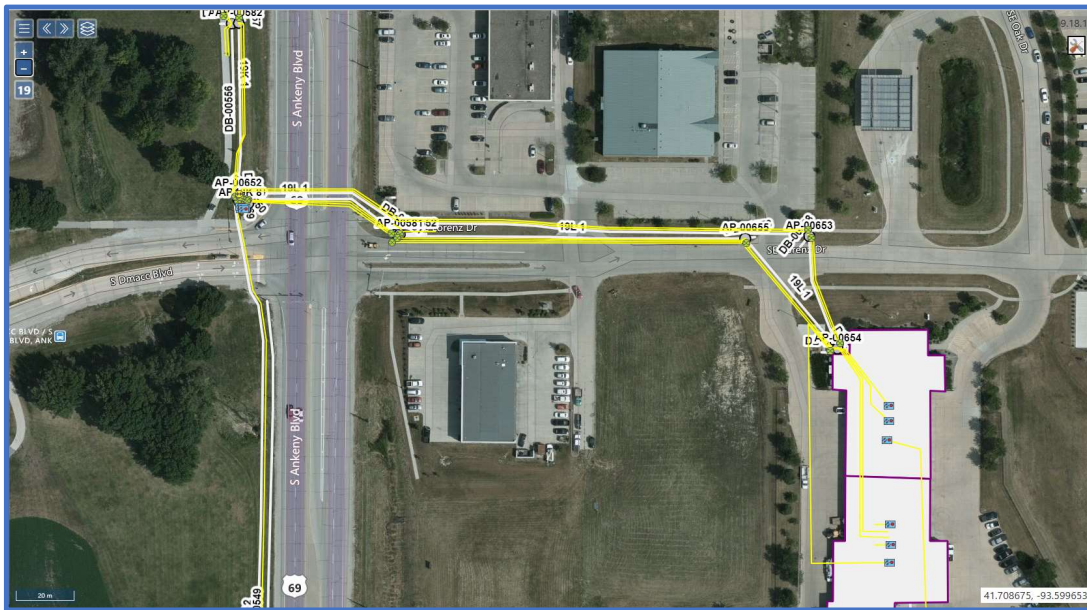


Inventory & Management System



Dual-cranium
inventory and
management
system

Inventory Software and Master Plan



Improving Corridors for All Modes



RRFB's



Used at:

- High Trestle Trail crossings
- Unsignalized school crossings with guards on arterial streets

Features:

- Solar-powered
- Actuated luminaires at night

Elementary School Walkability



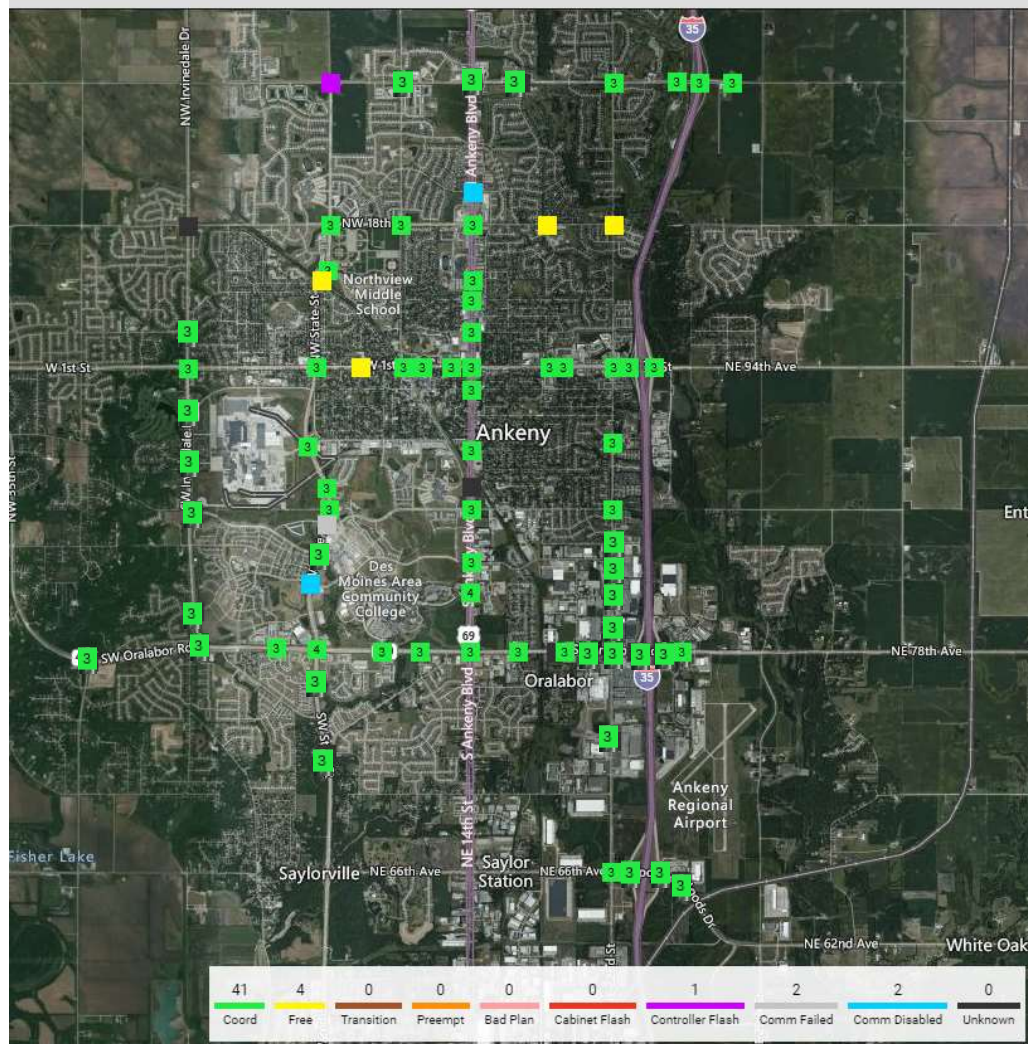
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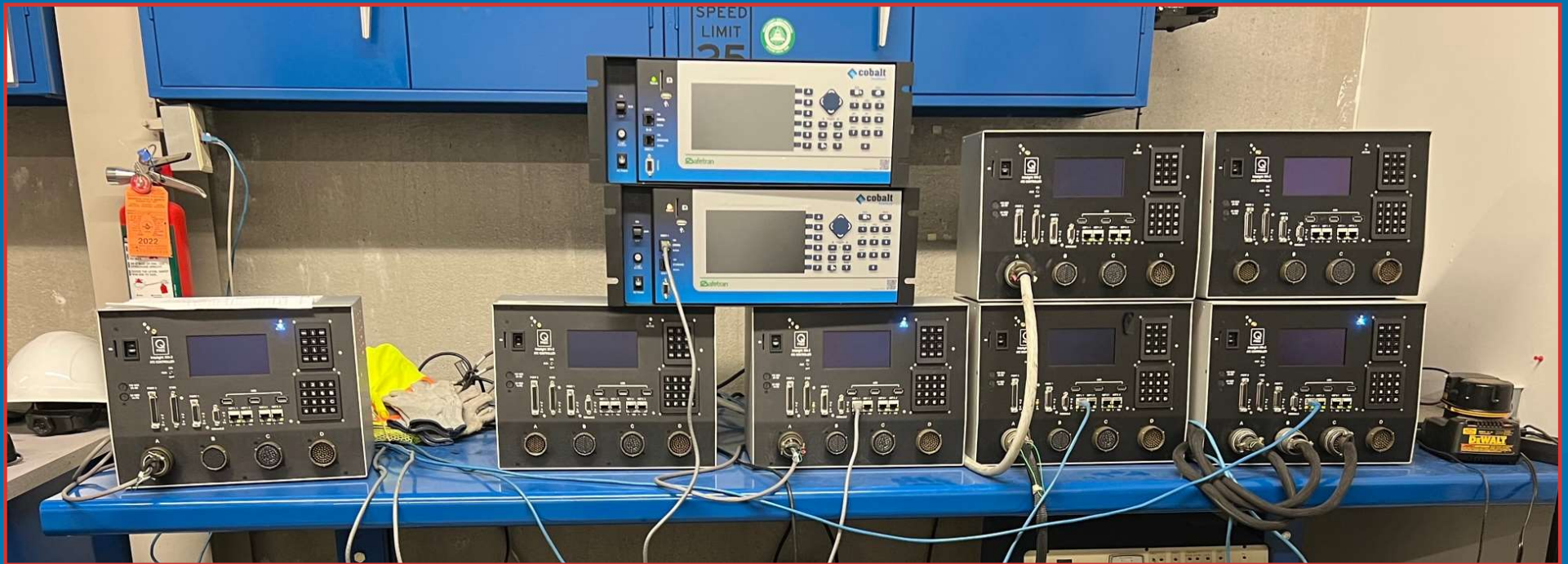
Advanced Traffic Management Software (ATMS)

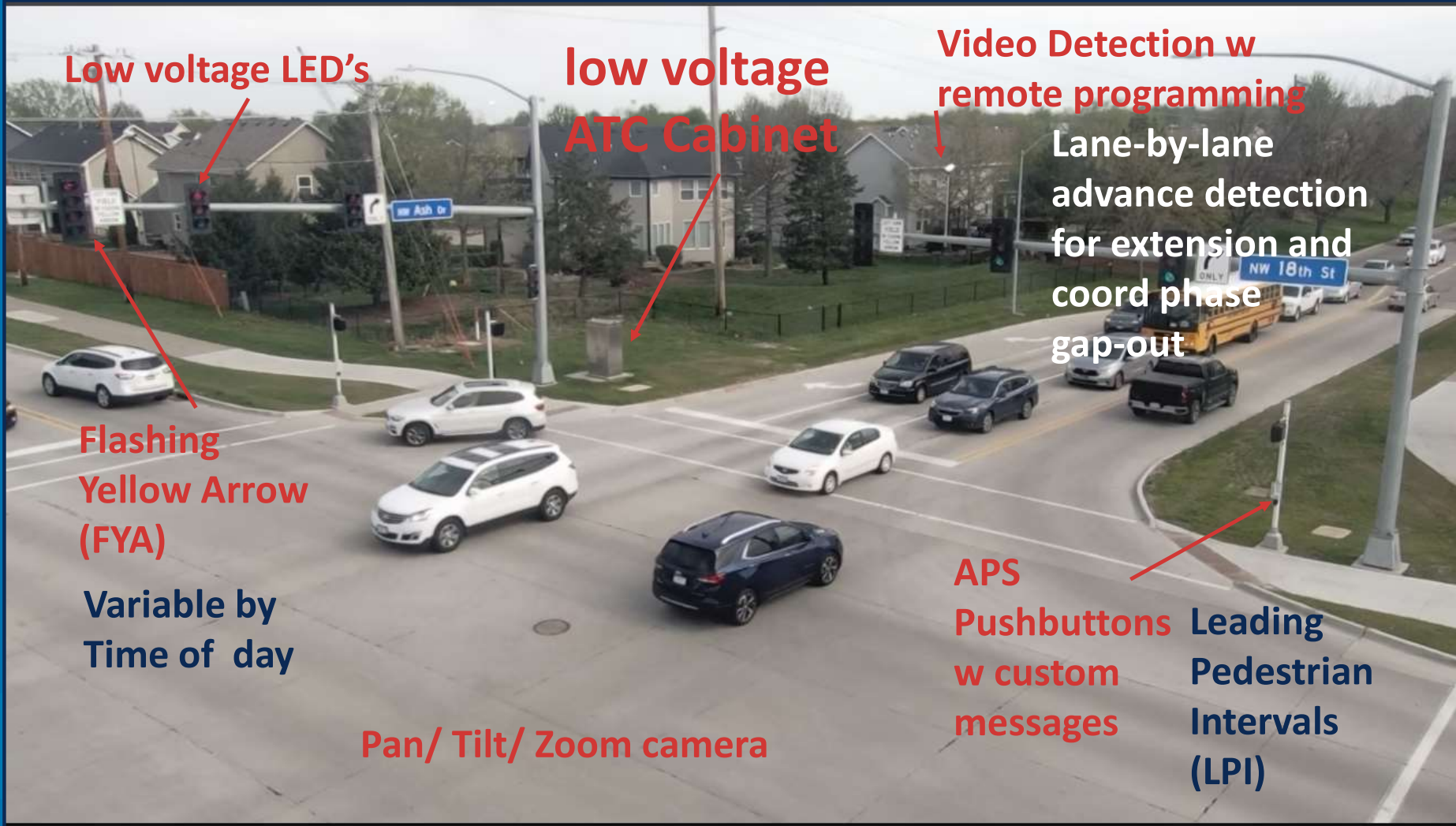
Pre-2022: single-user management software

2022: began implementation of web-based ATMS



Replace all controllers with ATC





Low voltage LED's

low voltage
ATC Cabinet

Video Detection w
remote programming

Lane-by-lane
advance detection
for extension and
coord phase
gap-out

Flashing
Yellow Arrow
(FYA)

Variable by
Time of day

Pan/ Tilt/ Zoom camera

APS
Pushbuttons
w custom
messages

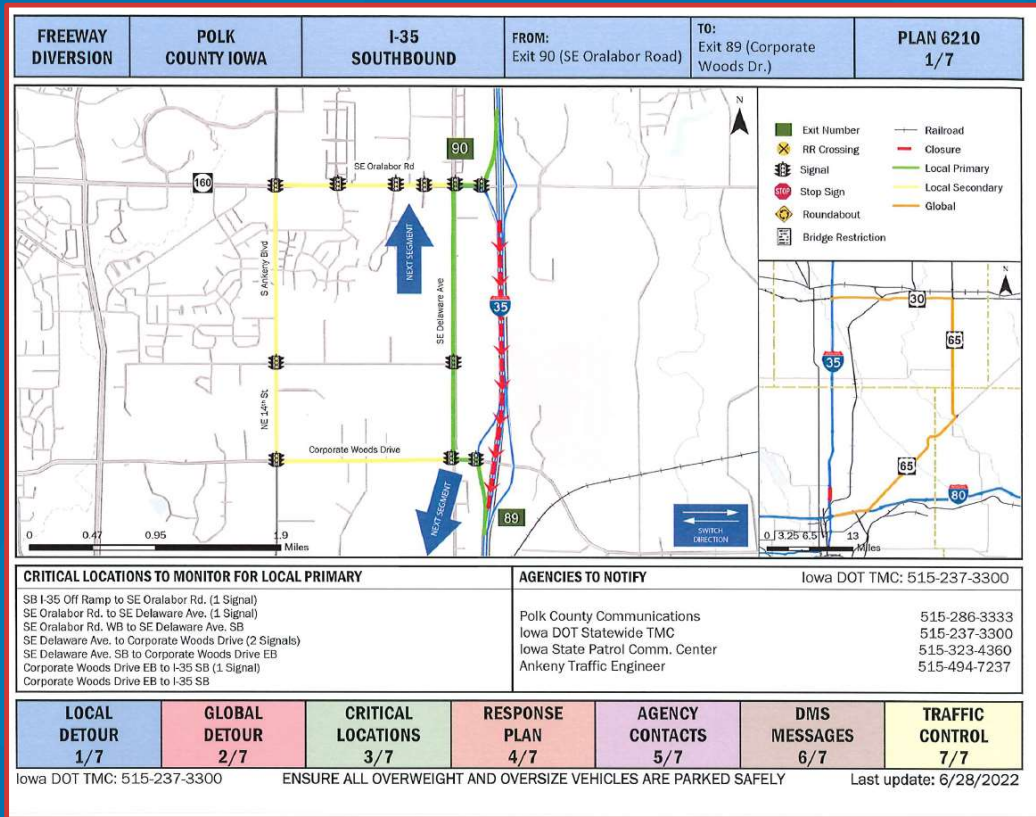
Leading
Pedestrian
Intervals
(LPI)

Traffic Management Center (TMC)



- Web-based Advanced Traffic Signal Management system (ATMS)
- Remote viewing and programming of video detection
- Real-time observation of traffic conditions
- Automated Traffic Signal Performance Measures (ATSPM)

Command Sets for Freeway Diversions



Other technologies

Not Using/ Yet:

- Wi-Fi or Bluetooth readers
- Red light running cameras
- Speed enforcement cameras
- Connected vehicle/ V2I

Are Using/ Plan to Use:

- Speed Feedback signs
- Automated License Plate Readers
- Adaptive Signal Control

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Dream: Sharing the story

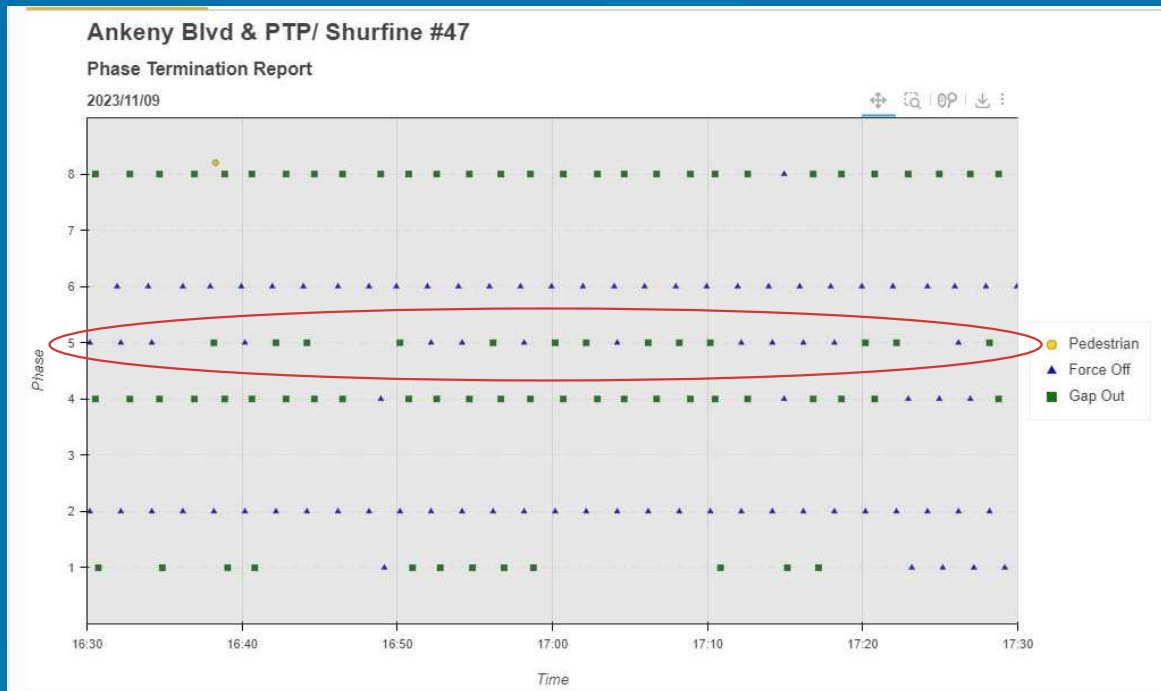


Real Life: Sharing the Story

The southbound left turn signal at the intersection of Ankeny Blvd and SE Shurfine Dr never changes to a green left turn signal no matter how many cars are in the turn lane. The northbound green left turn signal operates with 1 car in the turn lane. Why?

*Sincerely,
Resident*

Real Life: Sharing the Story



Thank you for asking this question.

<INSERT TECHNICAL EXPLANATION>

This data from yesterday afternoon shows that the left-turn arrow came up in 26 of 30 cycles between 4:30 and 5:30 pm.

*Best regards,
Traffic Engineer*

Real Life: Sharing the Story

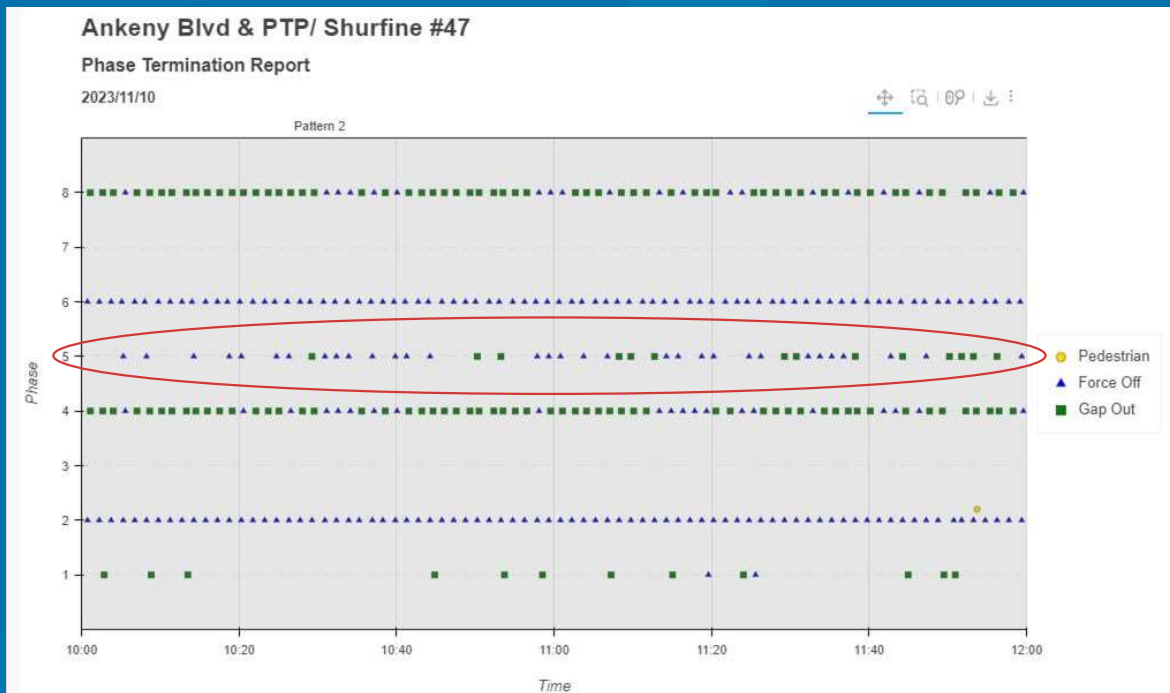
Thank you for the information.

It appears the SB left green turn arrow works during a specific time which as a retired person I avoid that timeframe for running errands.

In my opinion/observation of the SB signal at that intersection between approximately mid-morning to mid-afternoon the left green turn signal is never utilized and if utilized it is very infrequent.

*Regards,
Resident*

Real Life: Sharing the Story



Hello – The left-turn phase is available during all daytime operations.

Here's 10 AM to noon today. Phase 5 (your southbound left) was activated 46 cycles out of 80 total cycles.

Northbound left was activated 14 times.

*Best regards,
Traffic Engineer*

Real Life: Sharing the Story

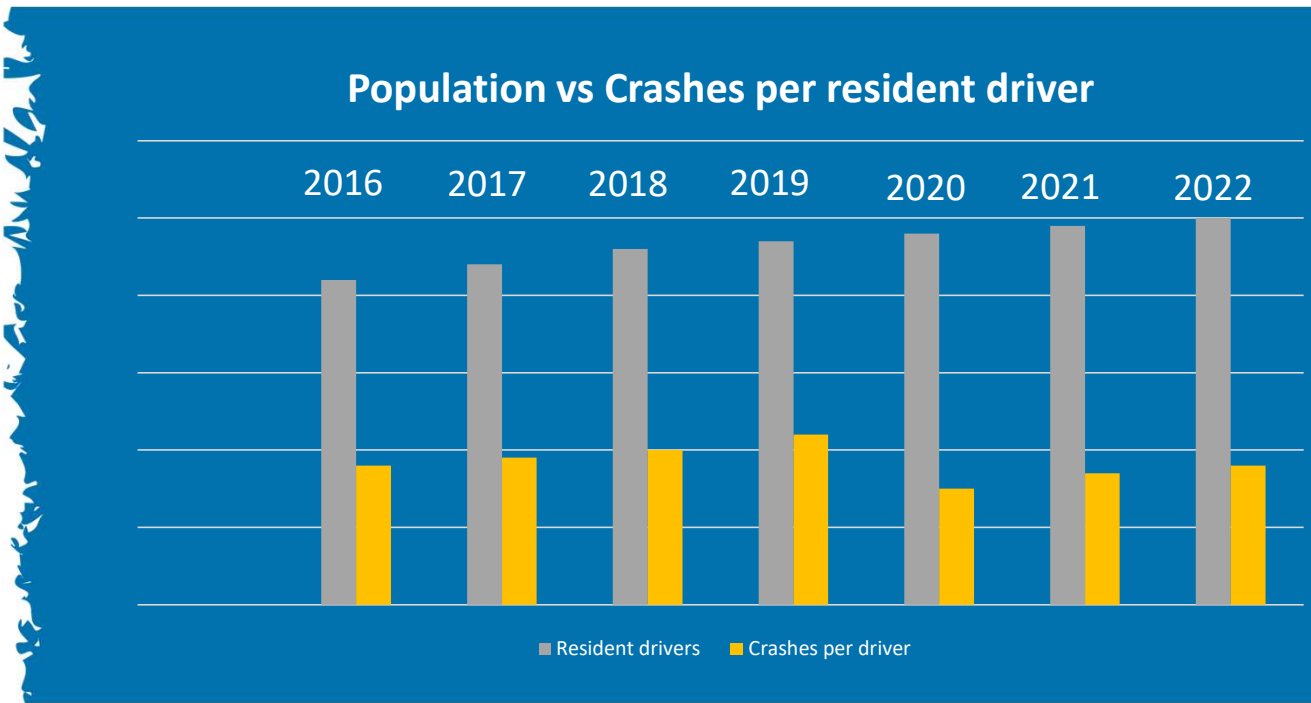
Thanks again maybe the next time my vehicle will be at the “stop line”. I’m only relaying what I experience at this particular intersection.

Have a good weekend!

*Regards,
Resident*



Trends in Crash Incidence





Thank you.

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