

Highway 99 Traffic Responsive Incident Management (TRIM)

Clark County – CRP #340022



Project Goals:

- Purchase and install software and hardware.
- Determine and prioritize several situations for pre-programmed system responses.
- Program the system and test operation for accuracy and completeness.

Project Outcomes:

- Project software and hardware was successfully purchased and installed.
- Pre-programmed system responses have been determined and implemented.
- The system has been programmed, tested for accuracy, completeness and successfully deployed.

Project Information

Federal Funding Program: CMAQ Program

RTC Awarded Funding: \$420,000

Total Project Cost: \$539,000

Project Type: TSMO

Project Length: 7.2 miles

Function Classification: 14 Principal Arterial

Daily Traffic Volume: 18,959 ADT

Project Description

Upgraded centralized traffic hardware and software to enable automatic detection of changing traffic volumes, implementing predefined, rules-based changes to signal operation when detected. This software project implemented this automated detection/response on 7.2 miles of various county roads. Work also included an audit of existing fiber-optic inventory and updates to county records reflecting currently as-built conditions.

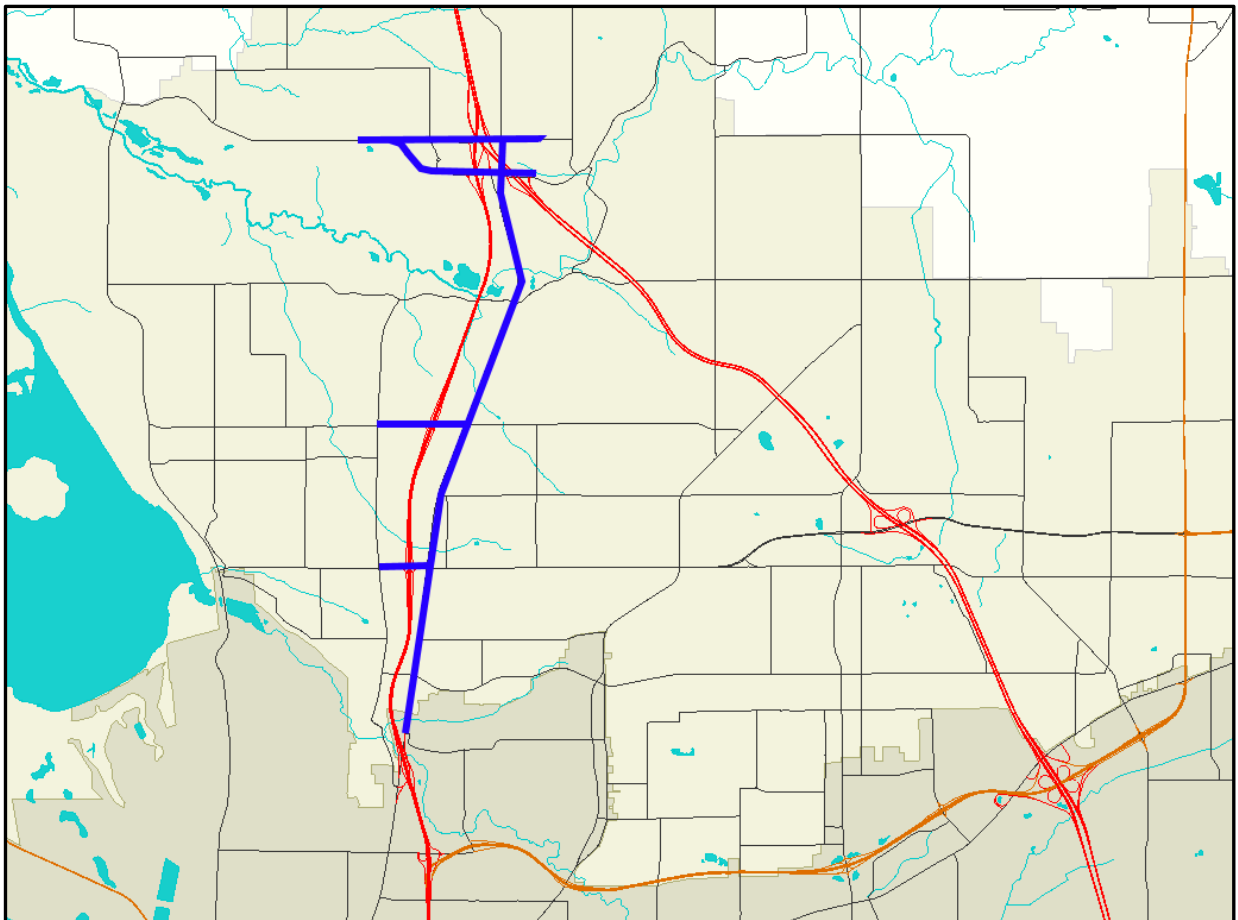
Project Funding

Phase	Year	Federal Funds	County	CRAB/RAP	Total
PE	2014	\$420,000	\$119,000	\$0	\$539,000
ROW	N/A	\$0	\$0	\$0	
CN	N/A	\$0	\$0	\$0	
Total		\$420,000	\$119,000	\$0	\$539,000

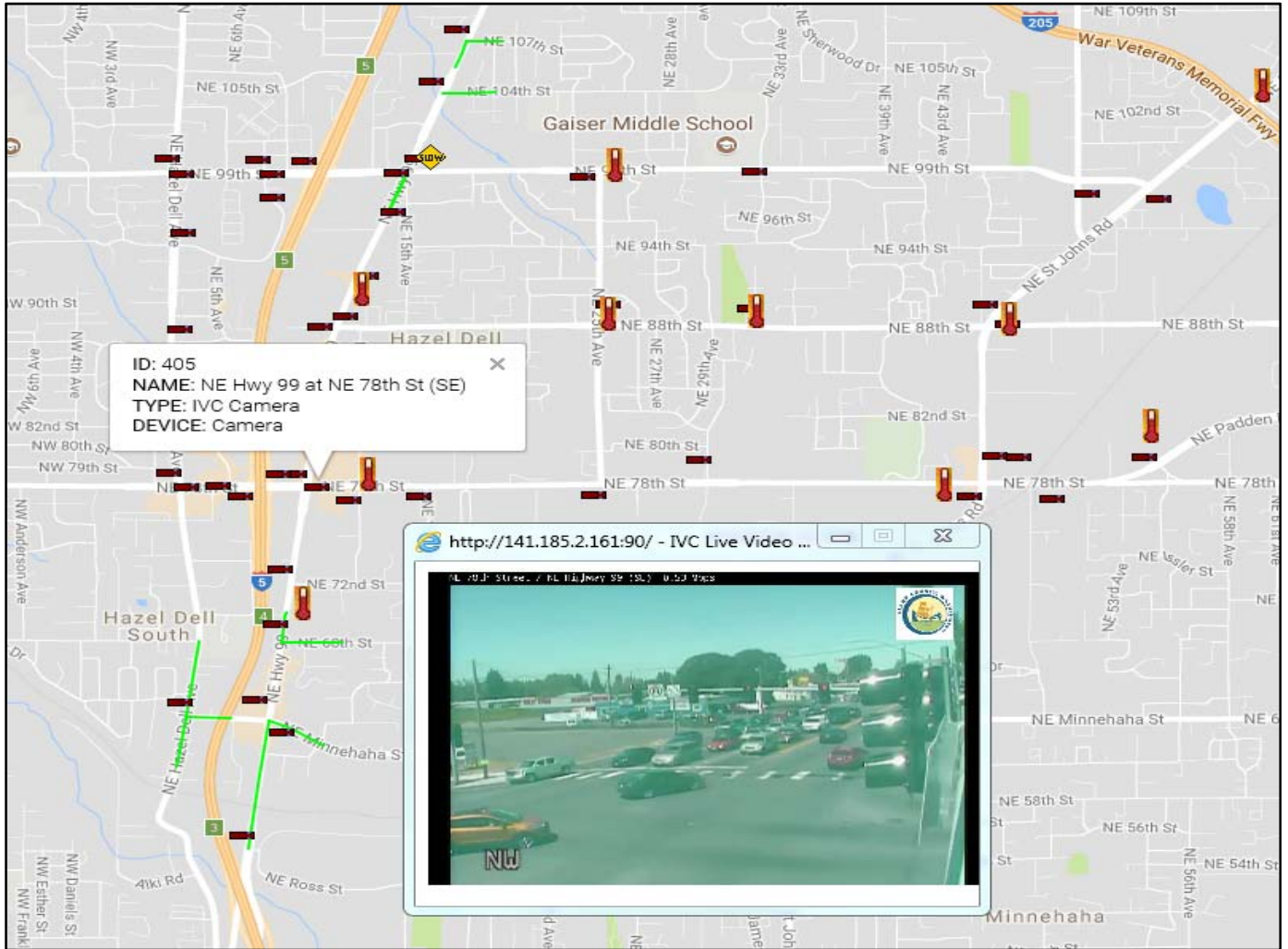
Project Outcome Details

- The purchase of specific hardware and software was complete, installed, configured and tested for proper function.
- In conjunction with data from WSDOT count stations, WSDOT signals on County arterials and the County ITS network, a varied mix of simple and complex scenarios for the system were selected to test.
- The County worked with the consultant to program analysis rules and automated responses for the test scenarios.
- The County supervised and assisted the consultant to create system programming.
- The overall system was tested to ensure that specific scenarios were being detected properly, the pre-programmed responses were accurate and the resulting changes to traffic flow were as anticipated.

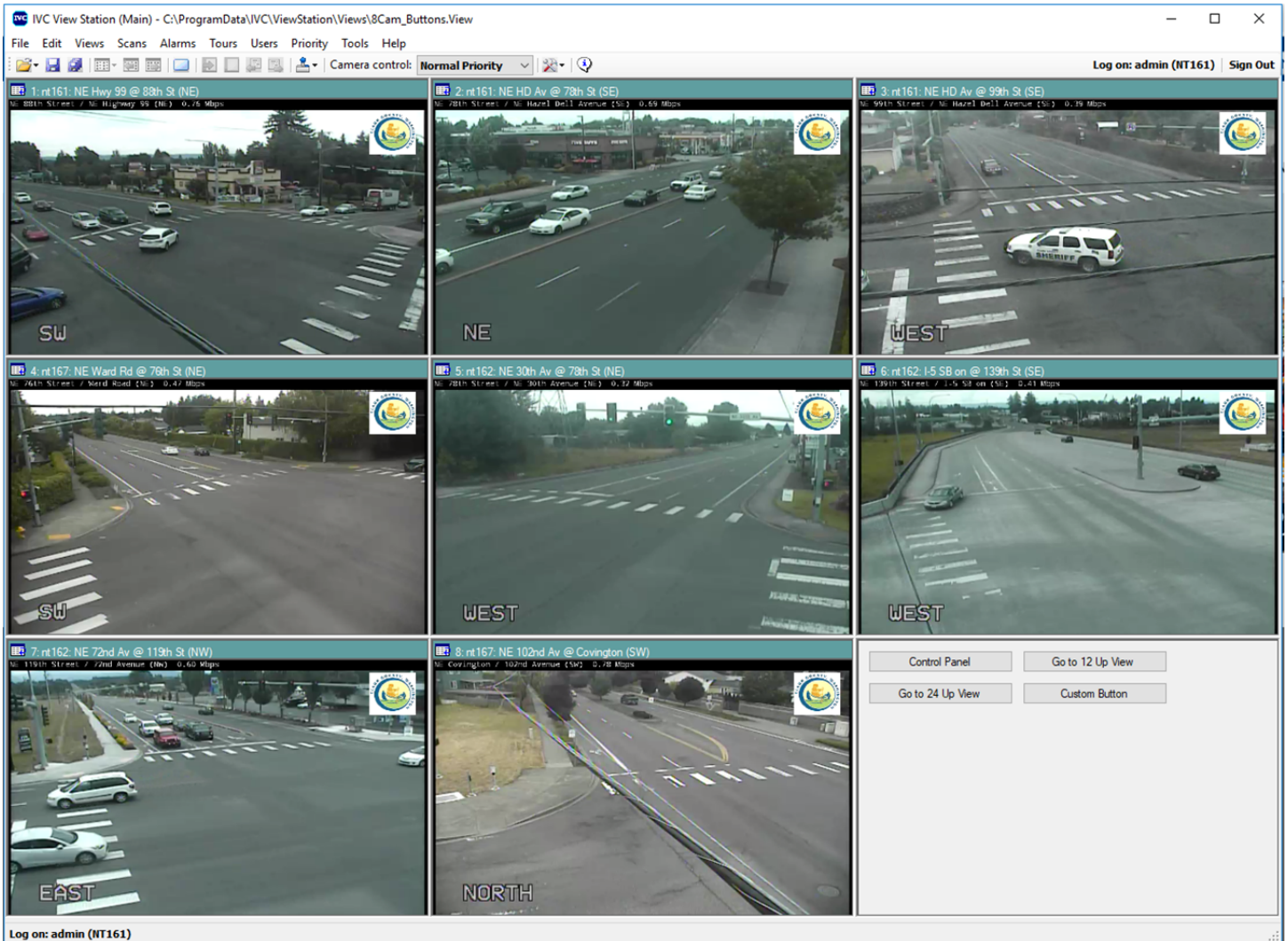
Project Map



Project Intersections



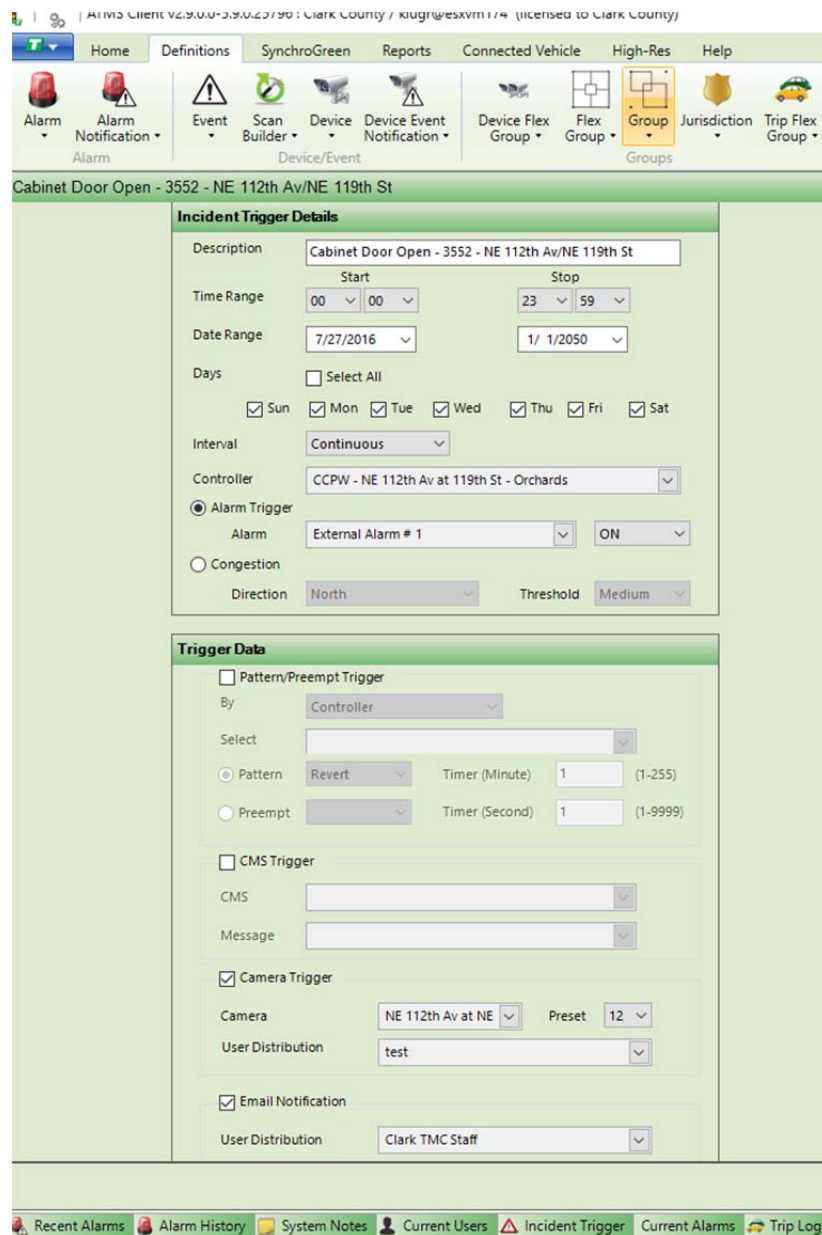
The video management software allows traffic monitoring with traffic cameras:



The system also allows us to publish still images from the cameras to the county website. The still images are updated once per minute.

This is the county traffic cameras website link: <https://www.clark.wa.gov/public-works/traffic-cameras> .

The software is also used to create “incident triggers” such as shown below:



In the case above, the incident was when someone opened a cabinet door.

For traffic flow, the central traffic system “looks” to see if an incident trigger has been met to modify traffic signal control timing operations. If the incident trigger has been met with heavier volumes of traffic, the central system sends a command to the traffic system server to adjust to a preprogrammed system response.

This traffic system “look” is also done once every five minutes, checking for unusual or very heavy traffic congestion.

The project intersections that are part of this traffic system are shown on page 3 of this report.