Town of Queen Creek Advanced Traffic Signal Performance Measures (ATSPM)

Marshall Riegel P.E., Town Traffic Operation Engineer

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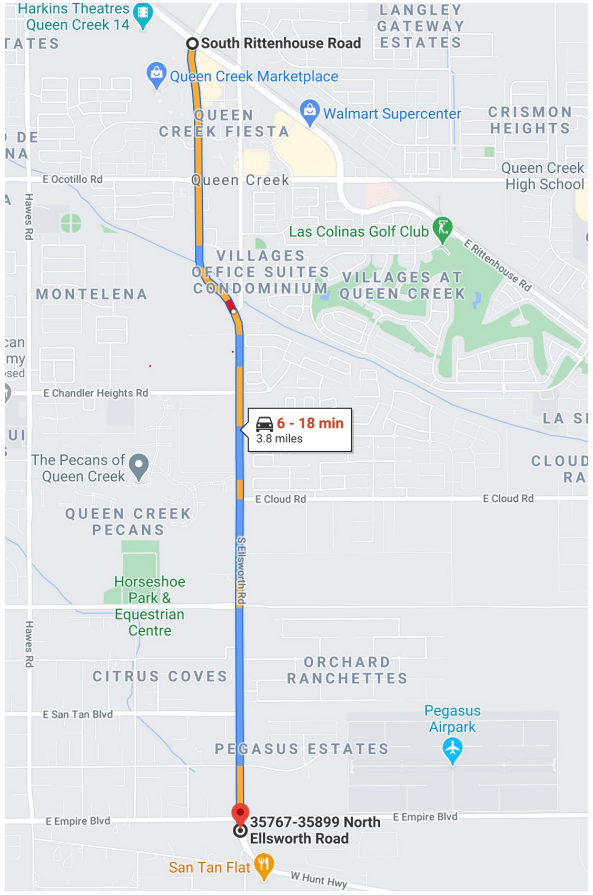
Queen Creek Traffic Today

- Congestion along S Ellsworth corridor, new timing plans needed
- Infrastructure in place – ***Future Proofed***
  - Hardware investment has been made
- State of the art Advanced Traffic Monitoring System
  - **Centracs ATMS**
    - Monitoring, Maintenance and Reports
- ***Next Steps***
  - Optimize timing along corridors to implement new timing plans
  - Address traffic congestion along S Ellsworth Rd



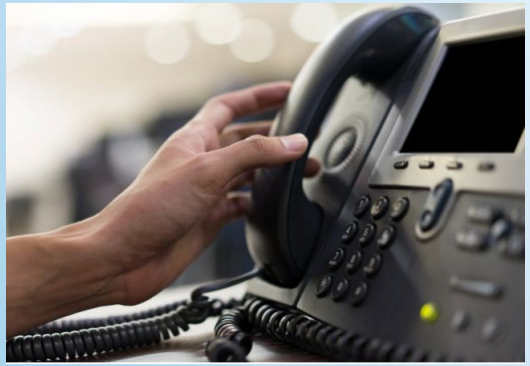
What You Have Now

- Split Monitoring
- Device Status
- Traffic Management

- Management is half the battle
- Performance is the other half
- What is needed?

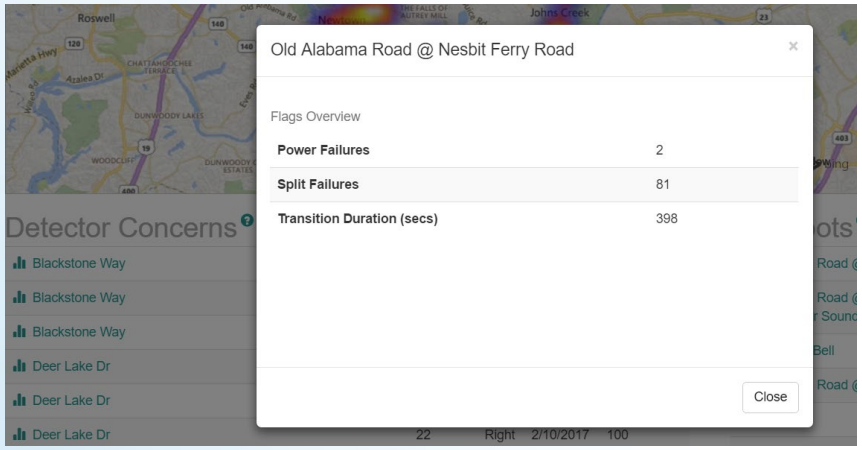
The Goal

Reactive



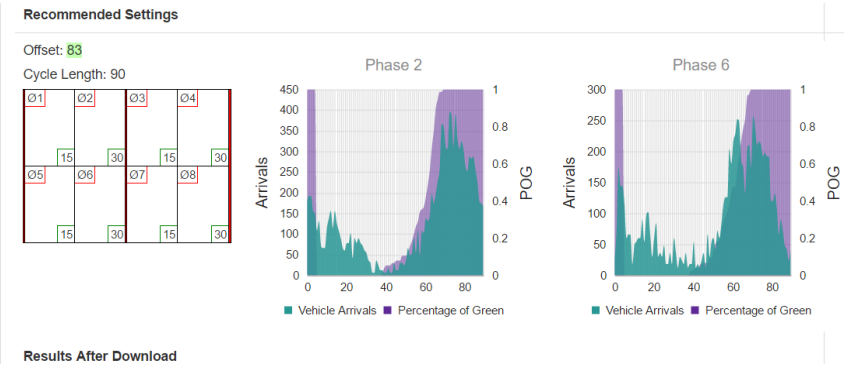
Responding to Citizen complaints or reported system failures

Proactive



Heads up on abnormally out of range metrics

Recommend Solutions



Recommended offset optimization to improve coordination along corridor signals

Centracs SPM
Signal Performance Measures

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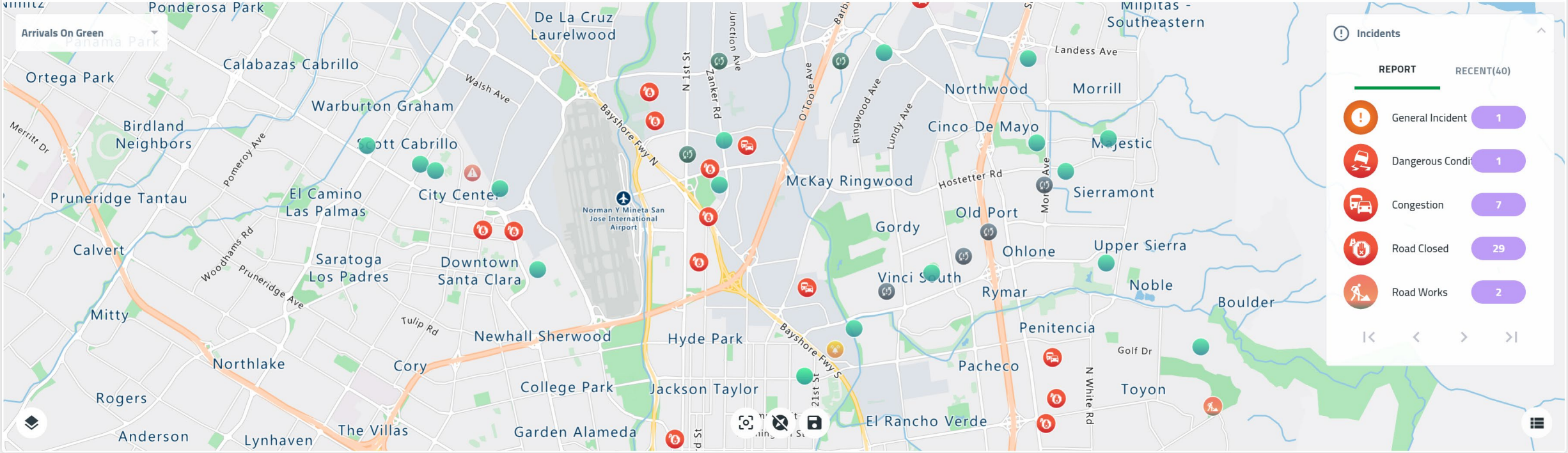
Centracs Signal Performance Measures (SPM)

- Data Driven, Turn Data Collection into Actionable Results
- System Performance
  - Dashboard, Heat Map, Hot Spots, Reports, Metrics
- Metrics That Matter:
  - Travel Time – Reduced # of Stops
  - Delay
  - Incidents (Crowdsourced data)
  - Roadway Capacity Utilization

System Performance Dashboard

11/09/2020



ARRIVALS ON GREEN	PED DELAY	POWER UPTIME	TRANSITION	VEHICLE DELAY
92%	37%	100%	96%	51%

Vision Data Collection

- Provide Traffic Engineer data to design intersections (set signal timing)
- Capacity Measures
- Turning Movement Counts
- 85th Percentile
- No more manual counts

South Bound

AM	77	31	38	0
Midday	16	8	13	0
PM	5	5	2	0

East Bound

	762	850	209
	60	33	18
	1257	976	216
	0	0	0
	AM	Midday	PM

West Bound

	0	0	0
	616	780	480
	15	15	3
	146	150	21
	AM	Midday	PM

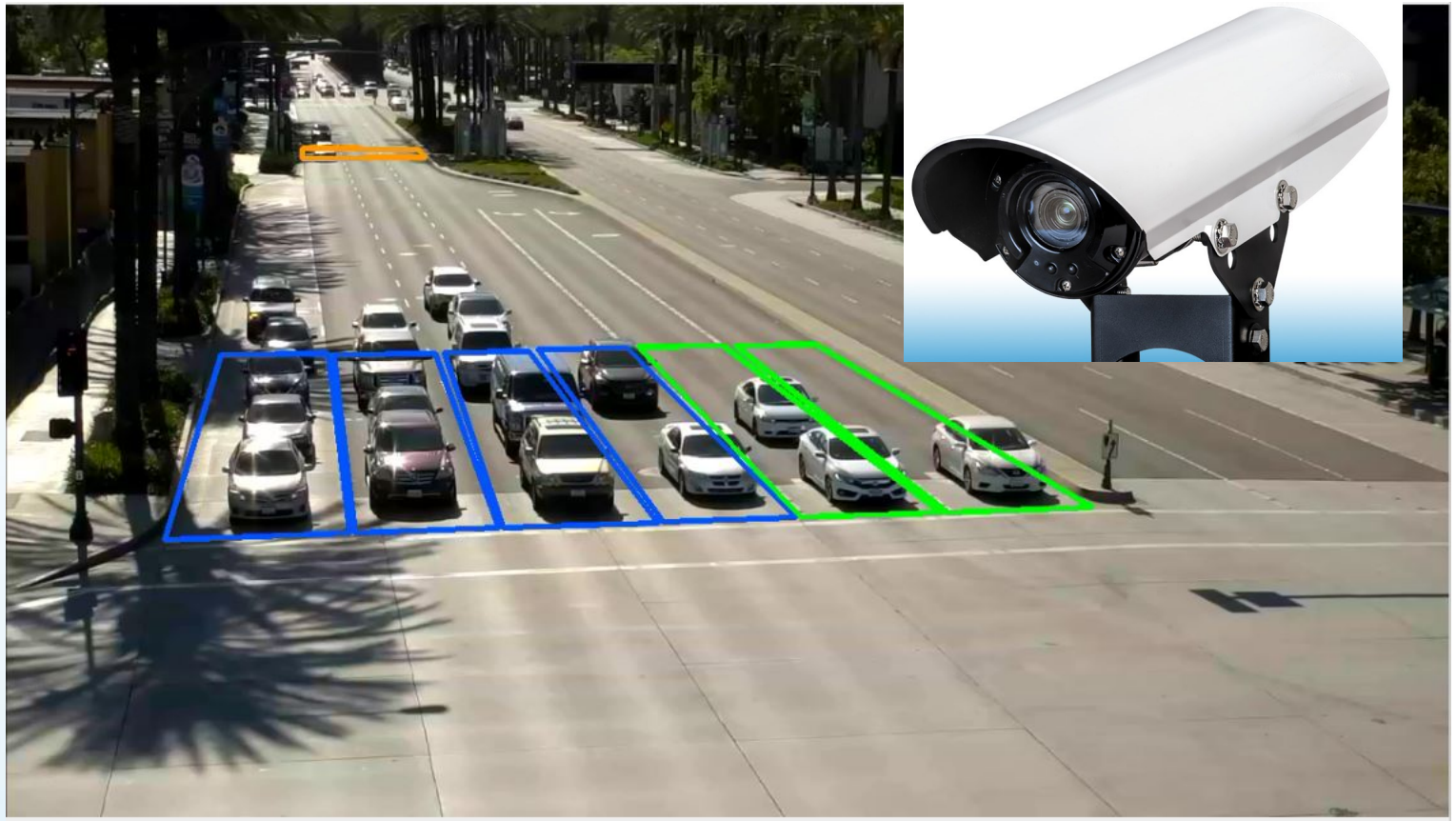
AM	0	61	43	0
Midday	0	31	12	0
PM	0	11	9	1

North Bound

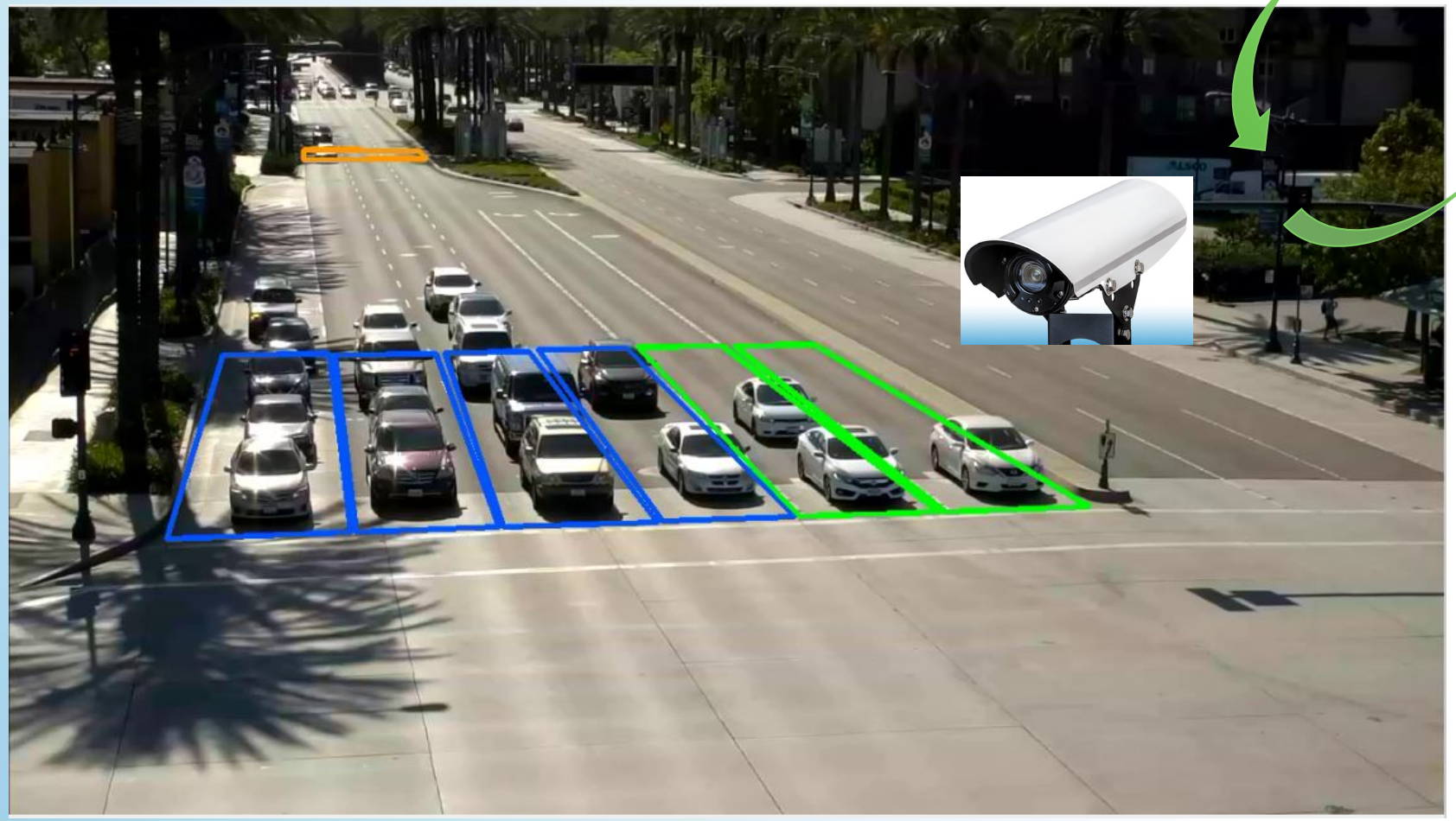
How to Improve Traffic Flow

Centracs® SPM

- Optimize green time per movement
- Reduce vehicle stops and Delay
- Maximize arrivals on Green



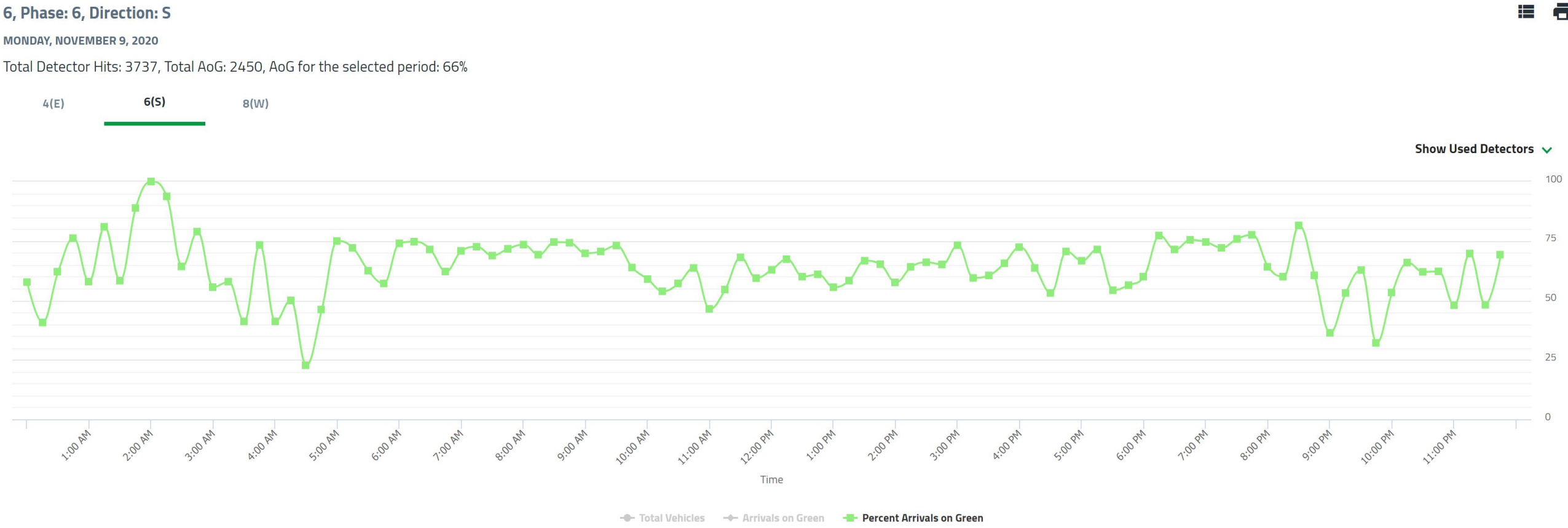
How Do We Accomplish This



Centracs® SPM

- Collect Data from the field from Video Detection
- Analyze data and optimize traffic timing
- Reduce delay and improve traffic flow automatically

Track Performance – Arrivals on Green



Queen Creek Demo

- Deploy Centracs SPM on S Ellsworth Corridor
- Identify areas of poor traffic performance
- Provide regular optimizations to improve traffic flow
- Provide performance metrics for traffic engineering
- True data counts in real time
- Demo free of charge to the town to help find best solutions

Thank You!

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