

# Photo Safety Program



## Vision

*Relentless commitment to ensuring the safety of our roadways for all who travel them.*

## Mission

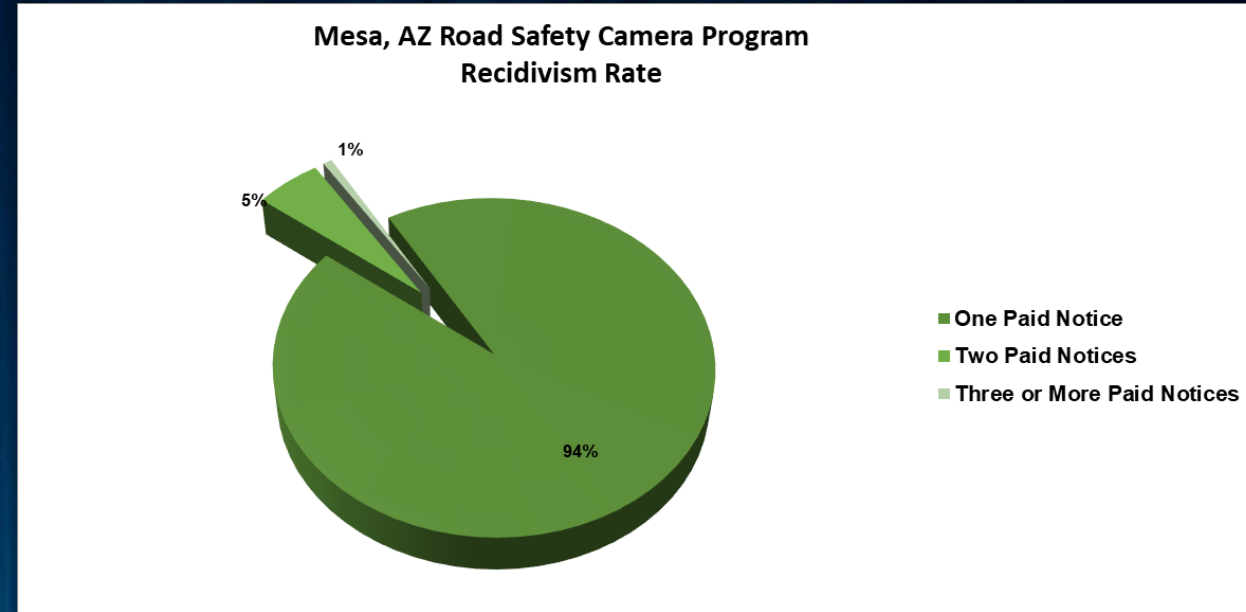
Progressive **E**ducation,  
Cutting-edge **E**ngineering  
& Courteous **E**nforcement



# Program

- **Active Locations: 25**
  - 7 Schools
  - 18 Intersections
  - 2 New Intersections – Active Jan. 7<sup>th</sup>, 2019
    - Ellsworth / Pecos
    - Guadalupe / Carriage Lane
      - Requested by local Mesa residents

- **Citations: Jan. 2016 – Oct. 2018**
  - Mesa Residents 44%
  - Non-Mesa Residents 56%



## Recidivism Rate:

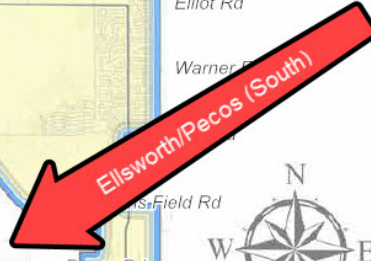
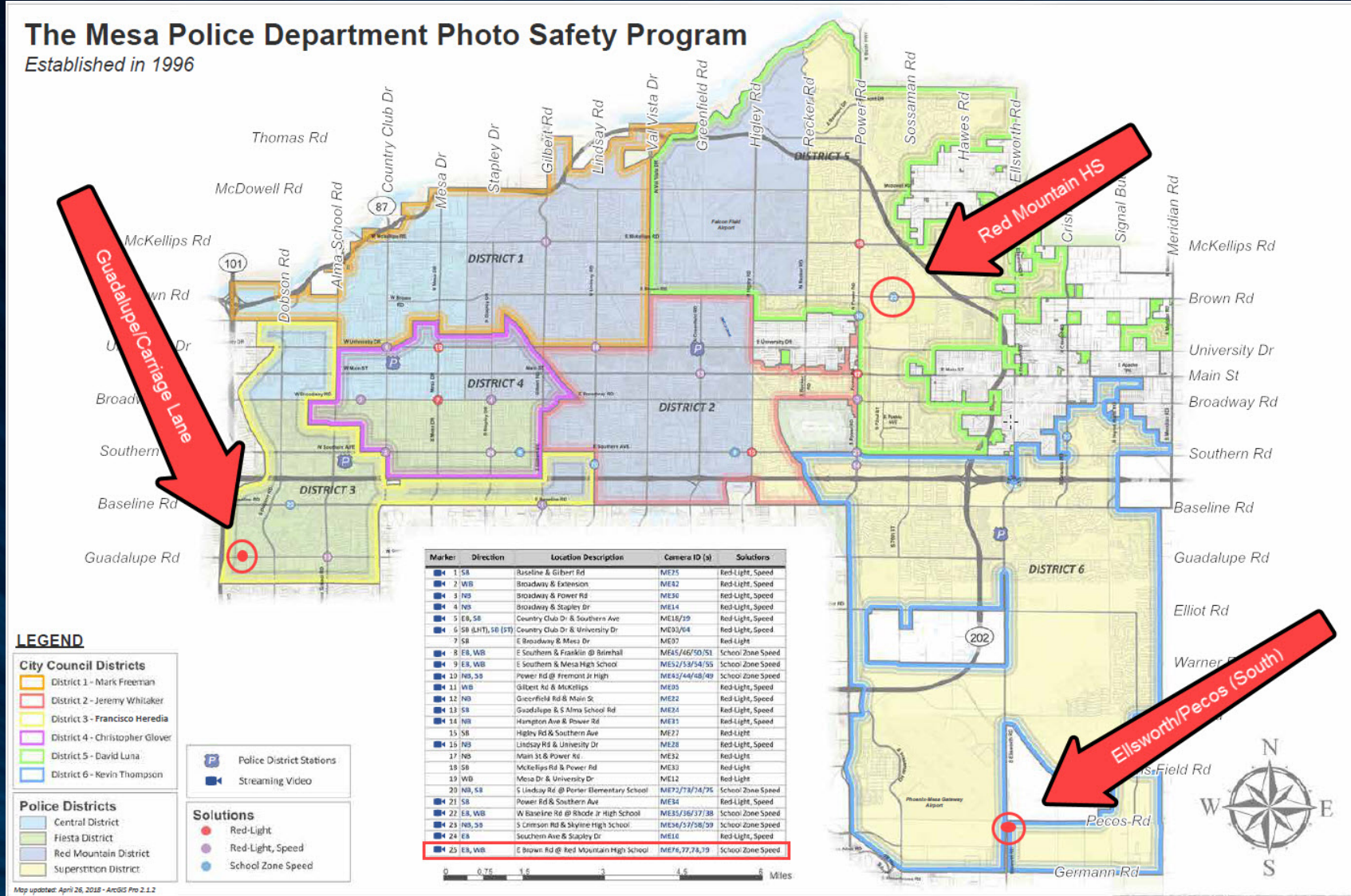
(January 2016 – October 2018)

*94% of cited drivers do not re-offend.*



# Photo Safety Map

## The Mesa Police Department Photo Safety Program Established in 1996



# Mesa Residents Support Program



*A photo-based traffic enforcement attitude study was conducted in the City of Mesa in 2006 and again in 2013. The studies gauged the support of the photo safety program and its effectiveness.*

## Results:

- 8 of 10 residents see red light running as a problem in Mesa.
- 85% of residents are in favor of the cameras.
- 3.5% of those surveyed had received a citation in the past year. 86% of those said it made them more careful.

*“In summary, the City’s red light camera program is well supported by Mesa residents.”*

## Complaints

- No historical protocols for collecting this data.
  - Protocol now established.
  - Complaint defined as: Anything escalated to the first-level supervisor.
- According to current Traffic Program Coordinator:
  - Approximately 5 complaints a year are escalated to his attention.
  - Of those, 2-3 are direct overall opposition to the photo safety program. The remaining are process, employee or camera site related.
- According photo safety vendor (ATS) they have received zero citizen complaints during the current contract period (February 2014 to present.)



# Photo Safety Slows Traffic

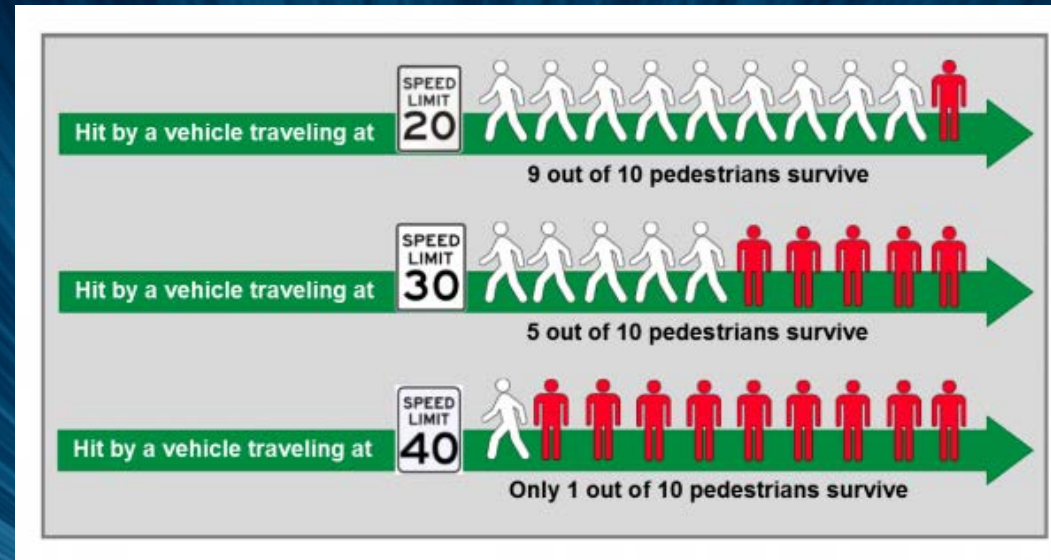
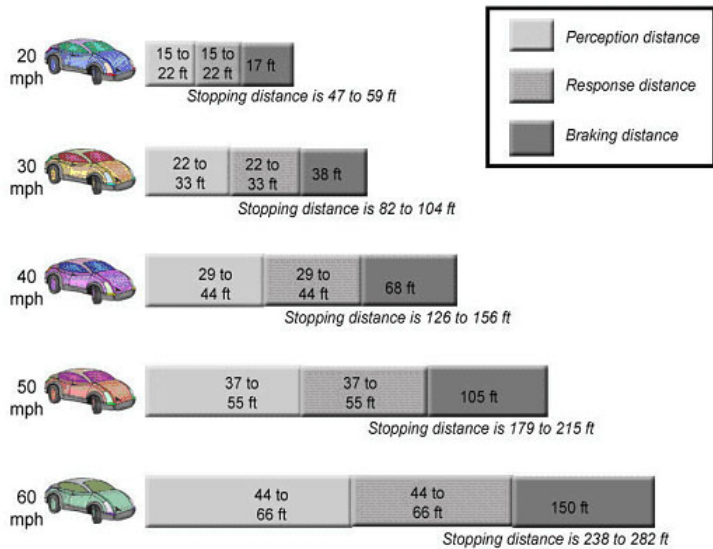
## 85<sup>th</sup> Percentile Speed Comparison

School Zone	85 <sup>th</sup> % speed before cameras installed (i.e.. school flasher assemblies in place)		85 <sup>th</sup> % speed after cameras installed		Reduction in 85 <sup>th</sup> % speed	
	School Hours	Non-School Hours	School Hours	Non-School Hours	School Hours	Non-School Hours
Franklin @ Brimhall	39.1	49.7	34.7	46.0	-4.4	-3.7
Fremont JHS	44.6	50.0	39.1	46.0	-5.5	-4.0
Mesa HS	38.3	45.0	34.2	41.3	-4.1	-3.7
Rhodes JHS	40.8	47.5	34.2	43.9	-6.6	-3.6
Skyline HS	38.8	48.6	37.1	46.3	-1.7	-2.3
Porter Elem	39.1	47.8	33.9	39.1	-5.2	-8.7
Red Mountain HS	48.1	47.7	36.4	47.0	-11.7	-0.7
<b>Average for all locations (mph)</b>					<b>-5.6</b>	<b>-3.8</b>

*Slower speeds effect the severity of the collision.*

### Average Stopping Distance for a Given Speed

Stopping distance = perception + response + braking distances



# Program Successes



**Table 8 - Regional Comparison**  
 Period Before Photo Enforcement Was Installed Compared to  
 Period After Photo Enforcement Was Installed

Data Source	Agency	Average Annual Number of Crashes 2001 - 2005	Average Annual Number of Crashes 2007 - 2016	Difference	% Change
A	Arizona	135,486	114,436	-21,050	-15.5
	Maricopa County	88,426	78,723	-9,703	-11.0
	Phoenix	41,125	34,743	-6,383	-15.5
	Mesa (A)	10,885	7,034	-3,850	-35.4
	Tempe	8,422	7,535	-887	-10.5
	Glendale	5,122	5,030	-93	-1.8
	Scottsdale	4,592	3,971	-621	-13.5
	Chandler	4,316	4,036	-280	-6.5
	Gilbert	1,946	2,574	628	32.3
B	Mesa (B)	9,109	5,585	-3,524	-38.7

## Regional Data

- **Approx. 130% reduction in collisions** compared to the state average during the same time frames.
- Mesa is doing something right.

Data Sources: A. Arizona Motor Vehicle Crash Facts (ADOT 2001-2014). Includes crashes at any location within the Mesa city limits.

## Mesa Data

- Intersections data only.
- Comparison location factors:
  - Volume
  - Configuration
- **A serious injury collision is > 3 times more likely to occur in an intersection without photo safety.**

**Table 11 - Mesa Comparison**  
 Period Before Photo Enforcement Was Installed Compared to  
 Period After Photo Enforcement Was Installed - Serious Injury Crashes

Mesa	Average Annual # of Serious Injury Crashes 2001 - 2005	Average Annual # of Serious Injury Crashes 2007 - 2016	Difference	% Change
Active Photo Enforcement Locations*	11.0	7.1	-3.9	-35.5
Inactive Photo Enforcement Locations*	5.8	6.1	0.3	5.2
Comparison Locations*	2.6	2.3	-0.3	-11.5

\* Intersection Related Crashes at Traffic Signals





- What happens when cities drop their photo safety programs?
- Parameters:
  - Cities with pop. > 200k
  - 14 cities that stopped photo safety vs. 14 regionally matched cities with continuous camera programs.

## Results

*“After controlling for temporal trends and annual fatal crashes, population density and unemployment rates, rates of fatal red-light running crashes and of all fatal crashes at signalized intersections”:*

### Cities with **activated** camera programs:

- Were 21 and 14 percent **lower**, respectively, with cameras turned on than without.

### Cities with **terminated** camera programs:

- Were 30 and 16 percent **higher**, respectively, after cameras were turned off.



# Program Reinvestments



## Completed (2015 to current)

- Static driver speed feedback signs at various locations throughout the City for speed control (\$80K)
- 12 portable driver speed feedback signs for speed control school zones (\$35K)
- School zone flashers on Alma School Road and Broadway Road to reduce speed limits during school start and release to 35 mph for Guerrero Elementary (\$10K)
- Left turn arrows for north- and southbound traffic on Gilbert Road at Hampton Avenue to reduce left turn crashes (\$80K)
- Rectangular Rapid Flash Beacon on Extension at Kleinman Park to provide a safe pedestrian crossing (\$85K)

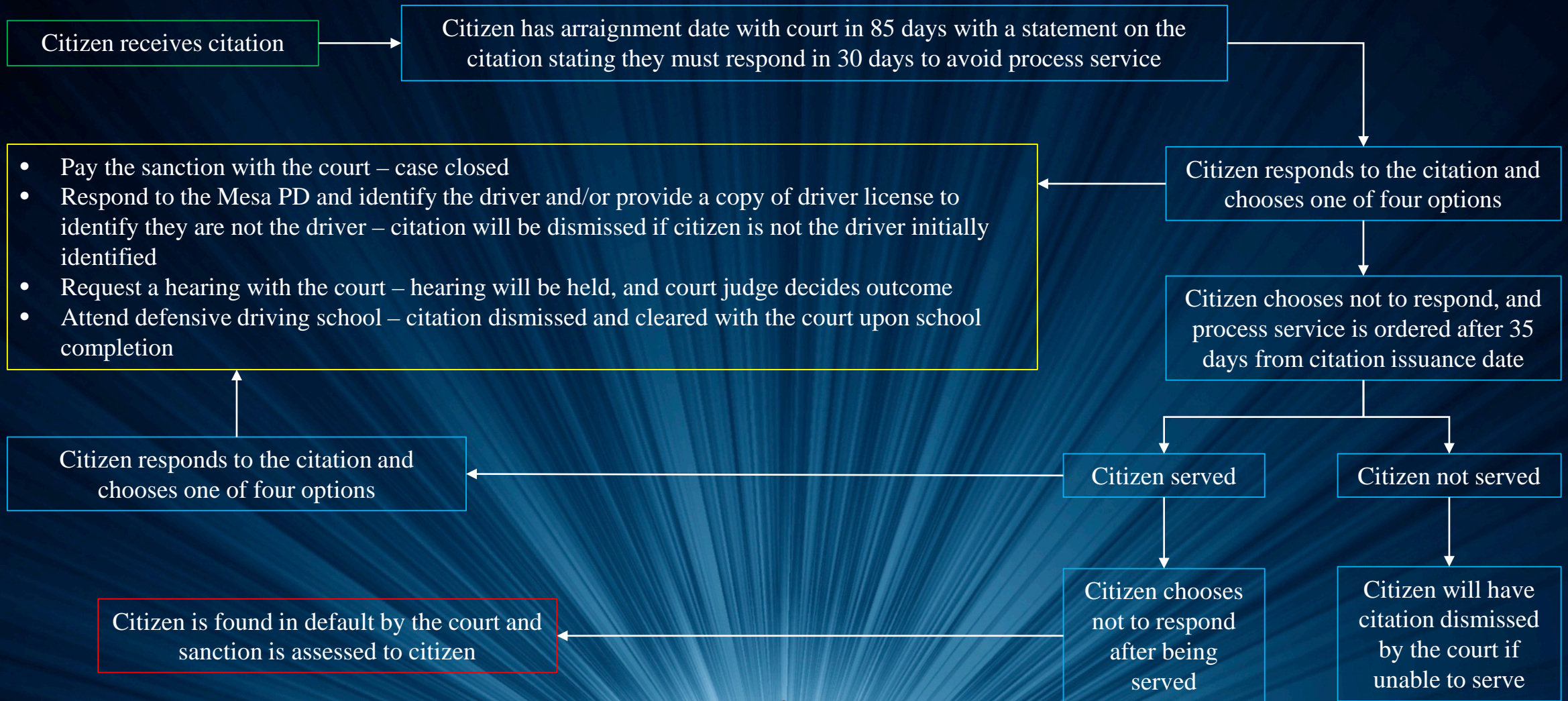
## Future Opportunities

- Pedestrian Hybrid Beacon on Rio Salado Parkway at the Eureka Canal to provide a safe pedestrian crossing for Westwood HS, Carson JH, and Emerson ES (\$100K)
- Safety enhancements for a 15-mph school crosswalk on 24th Street for Hermosa Vista Elementary (\$35-50K)
- Delineators on 2nd Avenue between Solomon and Spencer to provide a walking area for students of Lowell Elementary (\$ TBD)
- New traffic signal on Guadalupe Road for Highland JH to provide a safe pedestrian crossing (\$200K)





# Citation Process



# Photo Safety Activity



2018	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
ATS Events	8376	8387	8988	9346	8755	7165	5696	8713	8530	8462			82418
Events Processed	7284	5972	6651	5601	4120	5152	4844	5520	4751	5698			55593
Violations	7110	5846	6494	5461	3590	5055	4777	5346	4688	5619			53986
Citations	5694	4361	4821	3893	2560	4463	4207	3907	4003	4889			42798
Notices	1416	1485	1673	1568	1030	592	570	1439	685	730			11188
Subpoenas	638	538	463	636	601	529	557	487	499	444			5392
Mailings	461	554	531	587	485	469	404	471	409	554			4925
Overtime	43.5	39.5	20.75	25.5	35	60	60	60	60	62			466.25

2017	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
ATS Events	7801	7527	9189	8778	8186	6724	5834	8302	8903	7769	8294	8132	95439
Events Processed	4200	5210	6269	5690	5855	4836	3659	5940	3246	7821	5569	4725	63020
Violations	4058	5069	6116	5565	5694	4741	3603	5765	3185	7654	5427	4629	61506
Citations	3004	4005	4799	4432	4680	4092	2953	4738	2334	6500	4176	3331	49044
Notices	1054	1064	1317	1133	1014	649	650	1027	851	1154	1251	1298	12462
Subpoenas	613	462	454	348	462	440	615	599	392	438	450	303	5576
Mailings	533	519	550	546	664	515	432	402	475	512	467	345	5960
Overtime	0.00	15.00	20.00	20.00	20.00	20.00	20.00	25.00	25.00	45.00	43.50	31.00	284.50

2016	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
ATS Events	8570	8722	6073	0	0	7757	6609	8565	8564	8074	8526	8375	79835
Events Processed	2984	8603	7919	0	0	3331	5208	6672	5836	6363	5094	5428	57438
Violations	2834	8414	7738	0	0	3267	5152	6515	5752	6253	4992	5318	56235
Citations	1122	6523	7022	0	0	1735	3838	4791	4010	4592	3445	3681	40759
Notices	1812	1891	716	0	0	1532	1314	1724	1742	1661	1547	1637	15576
Subpoenas	600	953	850	29	501	208	135	252	391	404	622	626	5571
Mailings	362	211	635	465	165	156	443	625	677	575	576	542	5432
Overtime													



# Expense / Revenue FY 17/18



## Direct Expenses

<b>Photo Safety Vendor Fees</b>	
American Traffic Solutions	
Speed Programs	\$739,218
Red Light Program	<u>\$580,221</u>
<b>Total American Traffic Solutions</b>	<b>\$1,319,438</b>
<b>Process Service Fees</b>	
Hot Shots Delivery	<b>\$422,122</b>
<b>Mesa Police Personnel Costs</b>	<b>\$304,098</b>
<b>Transportation Costs (reinvestments)</b>	
Kleinman Park Signal	\$84,637
Gilbert/Hampton Signal	<u>\$73,829</u>
<b>Total Transportation Costs</b>	<b>\$158,466</b>
<b>Total Direct Expenses</b>	<b><u>\$2,204,124</u></b>

## Revenues

<b>General Fund Revenue</b>	<b><u>\$3,284,181</u></b>
<b>Restricted Fund Revenue</b>	
AZ Highway and Citing Agency Fund	\$56,136
Court Construction Fund	\$408,830
Court Sustainability Fee	\$455,101
Local – Time Payment Fund	<u>\$36,042</u>
<b>Total Restricted Fund Revenues</b>	<b>\$956,109</b>
<b>Total Direct Revenues</b>	<b><u>\$4,240,290</u></b>





# New Technology



- No Loops = No Road Intrusions
- Much Better Resolution
  - 29 megapixels vs. 12
  - HD Live Streaming
- Cloud Based Review



Thank You



Questions?

