MEMORANDUM

Date: January 3, 2014

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Speed Photo Enforcement Program Contract**

On September 17, 2013, I reported to the Board of Supervisors the findings of a comprehensive review of the County's photo enforcement speed camera program. This review concluded that maintaining the existing fixed photo enforcement base without some modifications will not provide meaningful safety benefits given some shortcomings in practice. Hence, I had indicated that without further Board direction, I would allow the present contract with American Traffic Solutions (ATS) to expire on January 6, 2014.

I provided the Board a supplemental memorandum regarding this program on October 11, 2013.

ATS provided an alternative proposal for evaluation, which I transmitted to the Board on December 18, 2013. I also asked Transportation Director Priscilla Cornelio to evaluate the proposal, and Ms. Cornelio's January 3, 2014 evaluation memorandum is attached.

I have placed on the January 7, 2014 Addendum an item for the Board's review and direction regarding ATS' alternative proposal. Absent positive action by the Board, the present contract will expire at midnight on January 6, 2014; and without affirmative action on the ATS proposal, all photo speed enforcement cameras in Pima County will be deactivated as soon as practically possible after the Board's January 7, 2014 decision on this matter.

CHH/mjk

Attachments

c: John Bernal, Deputy County Administrator for Public Works
Priscilla Cornelio, Transportation Director

ATTACHMENT 1

MEMORANDUM

Date: September 17, 2013

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Photo Enforcement Speed Camera Program**

Attached are two reports: one dated August 28, 2013 from our Transportation Director and one dated August 30, 2013 from Captain Karl Woolridge of the Sheriff's Department. These reports are self-explanatory.

The contract period with our photo enforcement camera contractor, American Traffic Solutions (ATS), ends in December 2013. Prior to the end of the contract, I requested that both the Transportation Department and Sheriff provide an evaluation of the effectiveness of the program in reducing speed and improving overall traffic and transportation safety.

The attached reports indicate results are mixed.

It appears that maintaining the existing fixed photo enforcement base without some modifications will not provide meaningful safety benefits given some shortcomings in practice. Studies show that drivers become familiar with the fixed sites and decelerate as they near the camera, only to accelerate once clear of the site.

The crash rate throughout the entire Pima County road system declined 19 percent since 2008. Isolating just the 11 camera sites, however, indicates the three-year crash rate across the camera locations decreased only 13 percent, which is lower than expected. Still, outcomes at the camera locations vary, with some showing increases in crash rates and others showing more encouraging results.

Similarly, while the system-wide severity rate of crashes decreased 11 percent throughout the County as a whole, there was little impact in severity at the camera locations as a whole – less than one percent. This overall number is discouraging, although a few individual locations showed positive improvement.

If continued, the program should transition from fixed locations to limited mobile and special circumstances photo enforcement programs, which rely on a "kiosk" type of photo

enforcement camera that will allow more portability and can reinforce driver habits across a wider area.

To retain the speeding deterrent effect, maintaining and/or expanding fixed sites and then randomizing activation of cameras at these locations is also possible. For such randomized operation, no more than four of the fixed sites would be active at any given time; and activation would be rotated among all sites, including newly installed sites.

This option would also allow for evolving law enforcement surveillance as technology improves. Although not practical in the near term, the conversion of the permanent photo enforcement sites in the future to license plate readers would provide increased law enforcement capability if databases were updated with real-time information, particularly in trying to locate stolen vehicles or "wanted" plates.

In almost all instances, traffic volume, time of day, density and speed data captured are also important transportation planning tools; hence, the existing sites should be retained for this purpose, even if not for photo enforcement randomization. Also, additional sites will be developed on all ongoing and future transportation projects to facilitate evolving technological capability in law enforcement operations and transportation planning.

I have provided these reports for your information and review, as it is likely I will ask the Board to make a decision regarding the continuation of the photo information and enforcement program in either October or November 2013.

CHH/mjk

Attachments

c: The Honorable Clarence Dupnik, Pima County Sheriff
John Bernal, Deputy County Administrator for Public Works
Priscilla Cornelio, Transportation Director
Brad Gagnepain, Administrative Bureau Chief, Sheriff's Department
Captain Karl Woolridge, Administrative Services Division, Sheriff's Department

MEMORANDUM

PIMA COUNTY SHERIFF'S DEPARTMENT

CLARENCE W. DUPNIK, SHERIFF

Date: August 30, 2013

To: Chief Brad Gagnepain, Administrative Bureau

From: Capt. K. Woolridge, Administrative Services Division

Re: **Photo Enforcement**

Background

The purpose of this memorandum is to further document the concerns, observations, and recommendations I expressed regarding the continued viability and use of photo enforcement or possible alternatives. This is based on my experiences with the program since its inception in 2008 and during my tenure in Special Operations (ending in 2010). Additionally I have reviewed the literature prepared by American Traffic Solutions (ATS) as well as the thorough report created by the Pima County Department of Transportation (PCDOT) and the recommendations of Ms. Priscella Cornelio, Director of PCDOT.

As the Traffic Unit Supervisor and later as the Special Operations Commander I was involved with the City of Tucson's initial bid process for photo enforcement including radar vans, red light cameras, and "speed on green" fixed site speed enforcement. I participated in the evaluation which included two vendors, Redflex and ATS. I became familiar with the products and methodologies of each organization and later participated in a similar selection process after I supported the recommendation for the use of fixed speed enforcement in Pima County. This recommendation was a result of the collaborative efforts of PCDOT and this Department.

At the onset of this program several key factors drove the strategies and eventual deployment of photo enforcement. Foremost was the concern for improving driver safety. This goal was intended to reduce speed related offenses and crashes throughout our jurisdiction. Another important consideration was fiscal responsibility: Photo enforcement was not to have an adverse impact on the County financially. The initial installation and maintenance of all equipment was the selected contractor's (ATS) responsibility and financial burden. Financially it was understood the County would only pay the vendor for only those citations in which fines were collected.

Mr. Lindy Funkhouser was involved in the initial deployment of photo enforcement at 10 locations comprising 20 cameras. Reimbursement to the vendor was and still remains a tiered system with an initial quantity of paid citations (per location) resulting in a higher

reimbursement and those paid citations beyond the defined threshold (per location) being paid at a reduced rate.

When the program went "live," an initial controversy existed when the vendor (ATS) billed for the entirety of the "initial" tier of citation essentially creating a "minimum" threshold amount for which the County was responsible regardless of the quantity of citations actually paid. Mr. Funkhouser eventually prevailed on this issue and documents recently reviewed by Mr. Ron Jee (Finance Manager) confirm the County is not being billed this "minimum mandatory."

In selecting a strategy for photo enforcement, a decision was made to concentrate on speed enforcement and avoid red light enforcement. The City of Tucson was embroiled in controversy regarding red light enforcement to include the length of yellow phases at City intersections and the actual boundaries of the intersection which were often far beyond the painted crosswalks and stop bars on roadways which contributed to driver confusion. More significantly, the County could not demonstrate a need for red light enforcement as the vast majority of fatal motor vehicle collisions involved excessive speed and alcohol on roadway segments away from intersections.

Increased impaired driving enforcement in the form of DUI Task Force efforts including sobriety checkpoints and saturation patrols were used to address the impaired driver aspect of this problem. Photo enforcement was selected to assist with curtailing excessive speed. A management decision to forego "speed enforcement vans" (mobile enforcement) was provided and fixed location speed enforcement was the only option chosen.

A primary concern was the locations of the actual camera installations. PCDOT, PCSD IST (Information Systems Technology), PCSD Records, and the PCSD Traffic Unit collaborated to identify locations at which photo enforcement would be most productive. Initially the majority of the identified locations were arterial roadways in the Foothills District. Further direction and guidance was received to disperse photo enforcement throughout the County (PCSD Districts) and a representative from Justice Precinct 7 advocated for a camera in the Green Valley area. No locations in Green Valley proper warranted a camera but a site was located on Nogales Highway within the Court's jurisdiction.

The initial deployment of cameras was as follows:

- Green Valley District -1 (Nogales Highway)
- Rincon District - 2 (River, Swan)
- San Xavier District- 4 (Alvernon, East Valencia, Mission, West Valencia)
- Foothills District - 3 (Ina, La Cholla, Ruthrauff)

Actual camera locations were influenced by roadway design and the availability of necessary infrastructure (i.e. power and communications). Therefore several of the cameras were not installed in optimal locations. For example, the Alvernon and

Valencia east cameras were placed too close to the intersection approach which resulted in speeding vehicle queues in one direction already slowing for traffic signals while opposing traffic was often just accelerating from the intersection as cars encountered the enforcement zone. Therefore cars were not necessarily operating at their peak speed as they encountered the enforcement zone.

The permanence of the fixed site installations created limitations on the program's effectiveness. Drivers quickly learned the cameras locations and reduced speed upon entering the enforcement zone before resuming an excessive speed afterward. However, this strategy was thought to be potentially effective to counter roadway characteristics such as the Ina site (roadway curvature) and other streets (intersection approaches) where a slowing driver—even if only momentarily—reduced the propensity for collisions.

The photo enforcement program has provided additional investigatory information for a variety of crimes since its inception. In several cases in which the suspect activated a photo enforcement device, clear evidentiary quality photographs and video were available for investigators. One significant case involved a home invasion in which a female victim was violently assaulted and her vehicle stolen. Clear photographs of the juvenile offender were instrumental in identifying the perpetrator. To date in 2013, photo enforcement evidence has been requested in 37 investigations.

Recommendation

The report prepared by the PCDOT is an excellent resource in judging the effectiveness of each camera location. It is both well prepared and thorough in its analysis. It acknowledges the shortcomings in performance of a number of locations, specifically a lack of reduction in crash rates and associated injury severity. After reviewing the data produced by PCDOT, I respectfully advocate for supporting their recommendations as follows:

- Modifications to the existing program de-emphasizing or eliminating the fixed site locations with the exceptions of both La Cholla Boulevard stations, both Valencia Road stations, and the Nogales Highway site.
- Further consideration of the use of mobile or portable speed enforcement photo systems.
- Emphasis in the use of the portable technology in high risk areas such as school zones, pedestrian crossings, and problem areas identified by the collaborative efforts of PCDOT and PCSD which could include addressing citizen complaints.

Further Considerations

From a Department perspective, photo enforcement seems to generate a less than positive perception in the community. It seems—at least anecdotally—few people advocate for the continued use of photo enforcement and those who do are not necessarily passionate about its continued use. Opponents of photo enforcement have

generated legislative change and have contributed to the cessation of its use on a statewide level (Interstate Highways) and in an adjacent county (Pinal). I respectfully recommend this be considered as well in any decision to support continuing this endeavor.

Additionally, Department resources expended in support of the photo enforcement effort currently consist of a Sergeant and a Public Safety Support Specialist who devote approximately 0.5 and 3 hours to the program each week. I recommend any future continuation or modification of the photo enforcement program not further encumber staff resources. Also—in light of the climate surrounding photo enforcement—I recommend any vehicles or equipment used not be marked with Sheriff's Department insignia. I further recommend exploring the possibility of modifying the existing citation and literature for photo enforcement to include just the County insignia/logo while disassociating/deemphasizing the Department's role in any photo enforcement efforts.

Alternative Uses for Existing Sites

Alternative uses for existing photo enforcement sites—should they be deactivated—could have limited applications/usefullness to the Department. One such adaptation would be the installation of permanent License Plate Readers (LPRs). The use of LPRs has been evaluated by the agency on at least two occasions. The Department chose not to pursue the purchase of LPR equipment in either instance. A limiting factor was the availability of a "real time" database which was necessary for the LPR to compare and locate "wanted" plates. Unlike a deputy running a records inquiry (immediately accessing a criminal justice database), the LPR relied on an upload of wanted plates—whether stolen, associated with a warrant, or other—to locate and alert on vehicles. This system and the associated alerts were in the vehicle with the deputy who could immediately act upon the information. Unfortunately the LPR was limited by the twice daily upload of a current database resulting in situations where a deputy could "miss" a recently stolen car because the vehicle's information would not be uploaded until later in the day.

Static LPRs would not have a deputy immediately available to act upon an alert, and this information would most likely be passed on to area deputies much like an ATL (Attempt to Locate) for possible action. In these cases the vehicles location and direction of travel would be known which could contribute to an apprehension, but the delay in relaying this information from the vendor to a deputy via communications would prove cumbersome—delaying and hampering any possible apprehension.

Additionally, LPRs could record and store vehicle plate numbers passing through the station for later analysis in showing a vehicle was in a specific area at the time of an incident, much like a cell phone leaves a record based on cell tower usage. The storage of such data has generated controversy similar to the privacy issues raised with the initial use of photo enforcement (continuous active video at the sites). The photo enforcement equipment essentially "records over" older footage creating a minimal retention time for the video dictated by the actual recording equipment. However

recording license plates using an LPR creates a need to store the data, the need to schedule the retention of the data, a need to analyze/search the data, and the possibility of FOIAs (Freedom of Information Act requests) being submitted requesting the gathered data.

I respectfully recommend the installation of LPRs—which would most likely bring additional fixed costs not offset by citations—not be considered in light of their limited usefulness.

Replacement of cameras with fixed site video monitoring would provide similar opportunity for gathering video evidence which could be of limited usefulness in criminal investigations. Again, evidence storage, retention, and disposal become issues as well as the limitations of such installations. Existing photo enforcement locations provide continuous lower quality video and higher quality images are limited to those instances in which a violator actually triggers an activation. In these cases, high quality photos are preserved regardless of the time of day. However in instances where a suspect passes through a camera without exceeding the threshold speed, no high quality still photographs are taken and the video is of limited usefulness—especially at night considering the absence of street lighting at the photo enforcement locations. Nighttime video usually shows only approaching headlights, receding taillights, and a limited view of the vehicle without any details of the actual occupant(s).

Again, I recommend the Department should not pursue or support the installation of fixed cameras which again would bring a fixed cost not offset by citation revenue.

Another consideration offered by ATS is an innovation in mounting cameras on school busses to enforce statutes prohibiting traffic from passing of the stopped bus. A similar effort involving the use of deputies riding on busses and operating in unmarked cars—"Operation BUS" (Beware Undercover Sheriff)—met with support from local school districts and enjoyed the support of the community (in much the same way as speed enforcement in school zones). However the actual number of violations encountered in these operations coupled with the infrequency of collisions resulting from such driving violations offset the costs associated with starting such an effort.

I recommend exploring possible grant funding for such a school bus enforcement effort.

PIMA COUNTY

MEMORANDUM

Department of Transportation

DATE: August 28, 2013

TO: C.H. Huckelberry, County Administrator

FROM: Priscilla S. Cornelio, P.E., Director

SUBJECT: Photo Enforcement Camera Program

Enclosed is a report prepared by Pima County Department of Transportation (DOT) Traffic Engineering Division (TED) detailing the results of the Photo Enforcement Camera (PEC) five-year contract/program. This report was prepared in anticipation of the December 31, 2013 expiration of the five-year contract with the current vender, ATS. The report provides information to substantiate the continuation of the PEC program with positive statistics related to the performance of the program.

Basic information was compiled for the 11 roadway locations where the PECs are currently installed. Location statistics are provided for two (2) three-year periods representing the statistics before and after the installation of the PEC's (Calendar Years 2006 through 2012). Calendar year 2009 has been excluded because the PECs were installed midyear.

For consistency, all crash rate/severity rate statistics originate from TED's Safety Management System Report statistics and use the same segment statistics. The report attempts to address the effectiveness of the PEC program for the individual segments and on the entire transportation network.

THE PROBLEM

Drivers in the region use arterial and collector roads to move long distances throughout the community. Drivers travel at speeds within the 85 percentile, but there are a random number of drivers traveling at excessive speeds resulting in crashes and severe injuries/deaths.

THE OBJECTIVE

The objective of the PEC is to control the speed of the vehicles on the arterial and collector roads so that traffic moves as near as possible to the speed limit, but does not exceed eleven (11) miles over the speed limit. If that objective is achieved:

1) Crash numbers will decrease.
2) Severity of the crashes will decrease.
3) The differential speed between the slow-moving vehicles and fast-moving vehicles will be less and there will be less opportunity for crashes.
4) Traffic will remain in caravans and move from signal to signal without stopping, which will result in less pollution/delay at signalized intersections.

THE PHOTO ENFORCEMENT CAMERA PROGRAM

Over the last five years that the PEC program has been in effect, the statistics have shown improvement in crash numbers and crash severity. Some of the results of the camera enforcement include crash rates at most PEC locations have diminished and severity rates at PEC locations remained steady.

DOT recommends that the PEC program continue with some modifications. The future program should build on the positive results from the initial program. DOT recommends changing the mode of operation and/or deployment plan to utilize new technology coming into the marketplace.

Currently, there are eleven (11) stationary PECs. This limits the ability of the PEC to influence driver behavior to only camera specific locations. You have suggested a rotation between the available PECs, leaving some active and some camera locations inactive. In contrast, DOT recommends a plan to systematically move away from the fixed PEC station technology over the next contract period (except at the La Cholla Boulevard, Valencia Road stations, and the Nogales Highway station) to new technologies that would allow more portability over many locations for limited periods of time to reinforce positive driver habits in locations that have high crash statistics and high crash severity numbers.

American Traffic Solutions (ATS), the County's current speed enforcement vendor, has developed a self-contained PEC that has 3-D radar and its own on board power supply. For lack of a better term, this will be referred to as a "kiosk" type PEC.

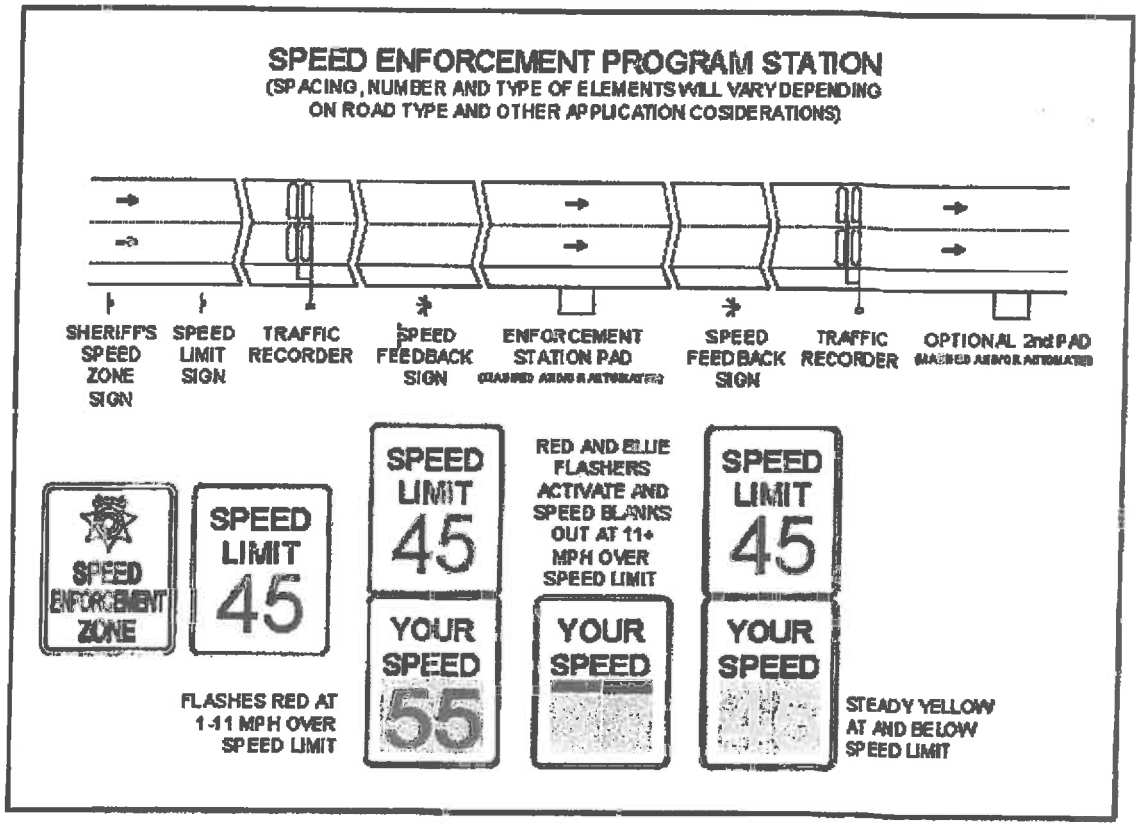
This new technology could be used in a more networked or systematic fashion to address specific road segment safety problems that have been identified in Pima County's Annual SMS Report as speed related. Just how this will be done will need to be determined and developed by a cooperative task group between the DOT, Pima County Sheriff's Department (PCSD), and County Administrator's Office. This task group will develop criteria and methodology that will be used to implement the devices. The number of devices and their locations would be specifically designed to help address speed issues and still be acceptable to the public. It is recommended that spot enforcement with a more defined criteria and purpose still be used with whatever technology is suitable for the application (e.g. portable van or kiosk).

Three areas of concern where the cameras could be utilized are school zones, pedestrian areas, and problem geometries on rural two-lane roads. DOT will continue to evaluate and monitor other potential photo enforcement options as ATS and other vendors are continuing to refine and develop new systems that offer many opportunities to improve public safety.

THE PHOTO ENFORCEMENT CAMERA PROGRAM STANDARD IMPLEMENTATION

The intent of the PEC is not to issue a citation, but to enforce the regulatory (safe) speed limit in a manner that is palatable to the driving public. Figure 1 below depicts a standard layout for mobile kiosks with associated signing and appliances as follows: 1) A speed enforcement sign indicates the camera zone approaching. 2) A regulatory speed limit sign is permanently displayed. 3) A prominent electronic feedback sign indicating your speed so that the driver can adjust to the appropriate speed prior to entering the enforcement zone. 4) A temporary PEC in the speed enforcement zone. This enforcement zone could last for several miles utilizing PEC's spaced every 1/4 to 1/2 mile. 5) At the end of the speed enforcement zone, a permanent electronic speed feedback sign would be installed.

Fig.1



As a result of the positive results concerning the PEC program, DOT recommends that the PEC program continue with modifications. At this time, DOT is requesting permission to extend the existing contract or engage in a new contract solicitation (RFP) to continue the program without a break in service. We propose to work closely with the PCSD on determination of the optimal approach for continuation of this PEC program. Please let me know if you have questions or would like to discuss this issue in more detail.

PSC:RR:dg

Attachment

cc: John M. Bernal, Deputy County Administrator–Public Works
Capt. Karl Woolridge, PCSD
Ana Olivares, Deputy Director-Infrastructure
Benjamin H. Goff, Deputy Director-Transportation Systems, Support and Operations
Seth Chalmers, Division Manager, TED
Bob Roggenthen, Civil Engineering Manager

2013

Pima County

Traffic Engineering Division, Department of Transportation

PHOTO SPEED ENFORCEMENT CAMERA PROGRAM REPORT –

This report presents information regarding the photo speed enforcement program that was instituted in Pima County in September of 2009. Included in the report is data and discussion about photo speed enforcement potential for influencing driver speed behavior and the impacts this may have on roadway operations and safety. Recommendations are made for the future of the program.

EXECUTIVE SUMMARY

Pima County Department of Transportation (PCDOT) Traffic Engineering Division (TED) has completed this report to determine and report the effectiveness of the photo Speed Enforcement Camera (PEC) program during the time period of 2010 -- 2012. Crash statistics were compiled by the Safety Management System for the years being studied.

The main purpose for speed enforcement cameras in Pima County is for safety reasons. The cameras are placed in areas that have high speeds for the purpose of reducing speed and reducing crashes in Pima County. This analysis presents the results of the speed enforcement camera program over the last three years. They are as follows:

1). Crash rates at most PEC locations have diminished and at minimum mirrored the crash rates of Pima County's transportation network.

2). Severity rates at PEC locations have remained steady and mirrored severity rates of Pima County's transportation network.

3). Crash/severity rates are influenced by distance between cameras and signals. Consistent camera placement through a corridor greatly enhances the camera's effectiveness. Standalone cameras are effective at some locations, but results could be improved by installing a series of well-spaced cameras. This is documented well on the La Cholla corridor where there are very few citations issued, speeds are compliant with postings, there are minimal number of crashes, and crash severity is low.

4). Pima County DOT tries to modify driver behavior by utilizing the photo enforcement cameras. The number of citations have consistently dropped since the start of the program. Drivers are recognizing where the cameras are located. Drivers tend to slow down rapidly before the camera locations and speed up after the camera locations.

5) Driver compliance does not necessarily require a lot of citations. Pima County DOT's camera program does not desire to issue large numbers of tickets. The intent of the program is to maintain a safe driving speed and not issue a citation unless the driver is 11 mph over the posted speed limit.

6). Revenues collected from the citations and retained by Pima County is minimal. State of Arizona programs are ultimately the recipient of a large percentage of the fines.

7). New technology needs to be embraced so that less expensive cameras can be placed consistently along a corridor. The cameras need to be mobile and the coordinated system needs to be moved around to problem areas within the county with the goal of changing driver behavior and mitigating crashes related to speeding.

8). The program is very important to law enforcement to be able to identify and apprehend criminals committing felonies in our community that happened to drive by a Photo Enforcement

Camera. The camera is capturing license plates and video at all times. This video is stored for 30 days and law enforcement can and often requests video in relations to criminal activity for certain time periods surrounding a criminal activity. At present, there are no scanning activities, but may be implemented in the future.

9). Attached is a report by the State of Arizona, Department of Public Safety detailing the photo enforcement program as implemented on the state level. The report is supplied as supplement for your use to compare Pima County's Photo Enforcement Program with Phoenix Metro area program from 2008-2009.

DISCUSSION

As requested by the County Administrator, the Pima County Department of Transportation (PCDOT) Traffic Engineering Division (TED) has completed a study on the Photo Speed Enforcement Camera (PEC) program in Pima County. This report presents the findings of this study based upon the information and data on 3 years of before-and-after average daily traffic, average crash rates, and average crash severity at all 11 PEC locations. A PEC "location" is defined as a roadway segment which contains a PEC. These statistical divisions were defined many years ago and allow for consistent year to year analysis. There are a number of graphics comparing the entire system and PEC locations in relation to crash and severity ratings along with driver speed behavior observations. Speed data used in this study was collected in March, April, and May of 2013 by PCDOT TED. The crash rate and severity statistics are for three full calendar years of the before condition (2006-2008) and the after condition (2010-2012). Number of tickets issued data is based on information obtained from the contractor responsible for operating the PECs, American Traffic Solutions (ATS). Crash data source is the PCDOT TED Safety Management System.

The Photo Enforcement Camera Program

Pima County entered into a 5 year contract with American Traffic Solutions (ATS) in 2009 to install and operate PECs at locations throughout Pima County that were perceived to have speeding vehicle issues. Easy access to electrical facilities was a major consideration in location selection due to the high cost of electrical facility installation. Therefore, some PECs were located where capital projects were being built because electrical facilities would be economically constructed by these projects. The 11 locations that ended up with PECs are presented in Table 1 below.

Table 1: Photo Speed Enforcement Camera (PEC) Locations

#	Location
1	3500 West Valencia Road "West of Camino de la Tierra
2	5250 South Mission Road South of Irvington Rd

3	8300 South Nogales Highway South of Nogales Hwy
4	6400 East Valencia Road Between Kolb Rd and Wilmot Rd
5	4250 South Alvernon Way South of Ajo Way
6	5660 North La Cholla Boulevard
7	5000 North La Cholla Boulevard North of River Rd
8	1780 West Ruthrauff Road North of Ruthrauf
9	1100 East Ina Road East of 1st Ave.
10	3050 East River Road East of Hacienda del Sol
11	4700 North Swan Road North of River Rd.

As can be seen in the above table, many urban routes were picked as locations for PECs. This was done for the following reasons:

1) The locations had high traffic volumes that created a perceived potential for affecting the number of drivers.
2) The locations had a statistically higher number of vehicles operating over the speed limit.
3) The locations had a statistically higher number of crashes than other locations.
4) Pragmatic to locate a station at a location within a Capital Improvement Project due to the availability of electrical power.

PROGRAM RESULTS

As the number of tickets issued data will show, the program had varying results. Ten of the 11 locations are very close to signalized intersections, which influences the approach and departure speeds to the camera enforcement station.

From the available speed data, it is apparent that drivers decelerate and accelerate substantially in the vicinity of PECs; this is especially true at locations where the PEC is isolated. On the other hand, vehicle speeds are more consistent when multiple PECs are distributed throughout a corridor in a networked enforcement system.

It should be noted that the only "network" enforcement system Pima County has installed is through stations 6 and 7 on La Cholla Boulevard and, to a lesser extent, other stations close to the La Cholla corridor like number 8 on Ruthrauff Road. If you combine these stations with the interaction of the traffic signal spacing, there is a noticeable positive impact on driver speed behavior. The overall average speed of all vehicles is much more consistent, averaging 43 mph

through the La Cholla corridor (a 45 mph speed area), and the speed differential is minimal. Both of these observations should be regarded as good for operations and safety, as shown by the crash rate statistics that indicate there is a decrease in crashes along the La Cholla corridor where the PECs are consistent and networked. All of the other stations are pretty much spot enforcement types. Although vehicle speeds are somewhat high near the PECs, they are generally less than 11 mph above the posted speed limit – the speed threshold at which speeding tickets are issued. Due to this, 74% of the speeding citations are generated at only 4 of the 11 locations.

CRASH RATE/SEVERITY RATE

According to the crash rate and severity statistics from the Safety Management System, the countywide crash rate has decreased by 19% and the average countywide crash severity rating has decreased by 11% since the PECs were installed. Note that this decrease basically reflects the state and nationwide trends and is not necessarily influenced by the implementation of Photo Enforcement Cameras.

Crash rates at many of the PEC locations have decreased at the same rate as the countywide traffic network; however, the average crash severities at the PEC locations had mixed results with little or no change overall. The exceptions are high-speed, rural locations, which have seen marked improvements in both crash rate and average crash severity rating. This study compares the system-wide, before-and-after crash rate and severity to the before-and-after crash rates and severities at the PEC locations. This was done in attempt to show the relationship of what was happening on the county system at the same time the PECs were in place. The combined crash rate went down in the after condition, but the severity went up slightly. This could mean a number of things, such as not all the sites selected had a problem that was related to speed and/or the PECs were placed in a way that limited their effectiveness. It could also mean that there has not been enough time to really determine the extent of the overall impact.

In addition, it is difficult to gauge what the impact of the PECs are based on the crash/severity criteria alone. This probably has a lot to do with the random and mostly spot deployment of the County's current PEC locations. Most of the locations were selected based on what could be most reasonably achieved within the time and resources available rather than what was needed to address a specific speed related problem. In other words, it was not a "designed" system.

METHODOLOGY OF OPERATION

Pima County's method of PEC station deployment endeavors to modify driver behavior on a more localized (or by spot) and random pattern. Spot enforcement only allows the speed reduction behavior to be influenced at that spot. The speed data taken for this study shows very distinctly that drivers slow down before the PEC and once they go by that camera spot they can and do speed up. However, if the PECs are deployed in more of a network or system fashion, like the La Cholla corridor or the Maricopa County freeway system(Circa 2006), then the PECs' influence zones would be extended. This methodology does reduce the randomness that they have to

influence drivers' speed behavior, which in turn raises their potential effectiveness. The La Cholla PEC stations show this effect.

Within the La Cholla PEC influence zone the speed data and the number of citations issued shows that in the after condition the average speed is lower, the speed variation is less, and more importantly the crash rates are lower. These decreases were accomplished by two stations and only accounted for a total of 6% of the tickets issued. This is a significant finding, leading to the conclusion that if PEC is properly deployed and used it can have a positive impact on driver behavior without having to issue a lot of tickets.

Pima County's experience with the La Cholla PEC stations is showing the potential for this type of network or system approach to have measurable positive impact on driver behavior that in turn measurably helps roadway operations and safety. The spot enforcement approach also has an impact referring to the data at the Nogales Highway and both Valencia Road stations that shows a significant decrease in crash rates. Spot enforcement is a better approach where there is a high speed problem and low vehicle volume and the higher risk factors associated with rural two- or four-lane roads with narrow shoulders.

It should also be pointed out that crashes are very random events that take time (typically more than 3 years) to determine what, if any, impact a mitigation measure has had on them. Additionally, the rationale for why crashes happen is equally unpredictable. These are independent variables that are impossible to control or predict. Thus, to help minimize their impact it is always advisable to allow as much time as possible to collect data. Crash studies which are regarded as more robust, are normally done on at least a 5-year, before-and-after interval. For this study only a 3-year interval was used because that is the only data that was available.

Since the PECs were installed, volume decreases of approximately 12% have been observed at their locations. Overall national and Arizona resident experience is associated with the economy; people are driving less and this driving activity has decreased. This is consistent with the total transportation network traffic volume decrease, so it is unlikely that drivers are avoiding the PECs.

LAW ENFORCEMENT/CITATIONS AND FEES

The Photo Enforcement Camera Program cost and economic impact is an issue. . This issue needs to be further evaluated, not only with the contractor, but through all the various fees and/or taxes that are remunerated for each citation. All of these taxes on the citation really increase the cost. The definitions of all these fees and taxes are shown herein(Table 1). Defining the impact and the need of each of these is beyond the scope of this report; however, the impact they have on the political and social viability of a photo enforcement program, like what Pima County has, is a question that should be addressed.

Table 1 Citation Fees and Taxes

	13% Medical Services Enhancement Fund Surcharge
	47% Criminal Justice Enhancement Fund Surcharge
	10% Clean Elections Fund Surcharge
	7% Fill The Gap Surcharge
	6% DNA Analysis Surcharge
	Justice Court EF Probation Assessment ($20.00 flat)
	SB1398 Assessment ($13.00 flat)
	The remainder of the payment is the total "base fine". Deposited to Pima County as Revenue

PCDOT meets and counsels with the Pima County Sheriff's office(PSC) on a monthly basis. Through this communication, PCDOT has been informed by PCS that they support the decision of the Board of Supervisors and will enforce the program when approved.

Definition of Terms

Volume: For intersections, the average daily entering volume (ADEV). For segments, the two-way average daily traffic volume (ADT).

Crash Rate: Expressed as crashes per million vehicle miles (c/mvm) for roadway, the crash rate is calculated utilizing the traffic crash and volume information for three-year periods. The use of three-year data tends to de-emphasize unusually high or low annual crash rates caused by unique circumstances, such as abnormally severe weather or modified travel patterns due to construction projects.

Severity Index (SI): The severity of each crash is based on the severity of the most seriously injured person. The severity index gives much greater weights to crashes and fatalities with incapacitating injuries. Developed by the National Safety Council, the severity index is calculated using the following formula:

$$SI = \frac{5.8(N_k+N_a)+2(N_b+N_c)+N_{pd}}{T}$$

Where, SI = Severity index.
N_k = Number of fatal crashes.
N_a = Number of crashes at which the most severe injury was a Class 4 (incapacitating) injury.
N_b = Number of crashes at which the most severe injury was a Class 3 (non-incapacitating) injury.
N_c = Number of crashes at which the most severe injury was a Class 2 (possible injury/no visible sign of injury, but complaint of pain or momentary unconsciousness) injury.
N_{pd} = Number of property damage only crashes.
T = Total number of crashes.

On the following pages are sets of statistics with associated graphs. Under the graphs are observations to help the reader interpret raw statistics presented.

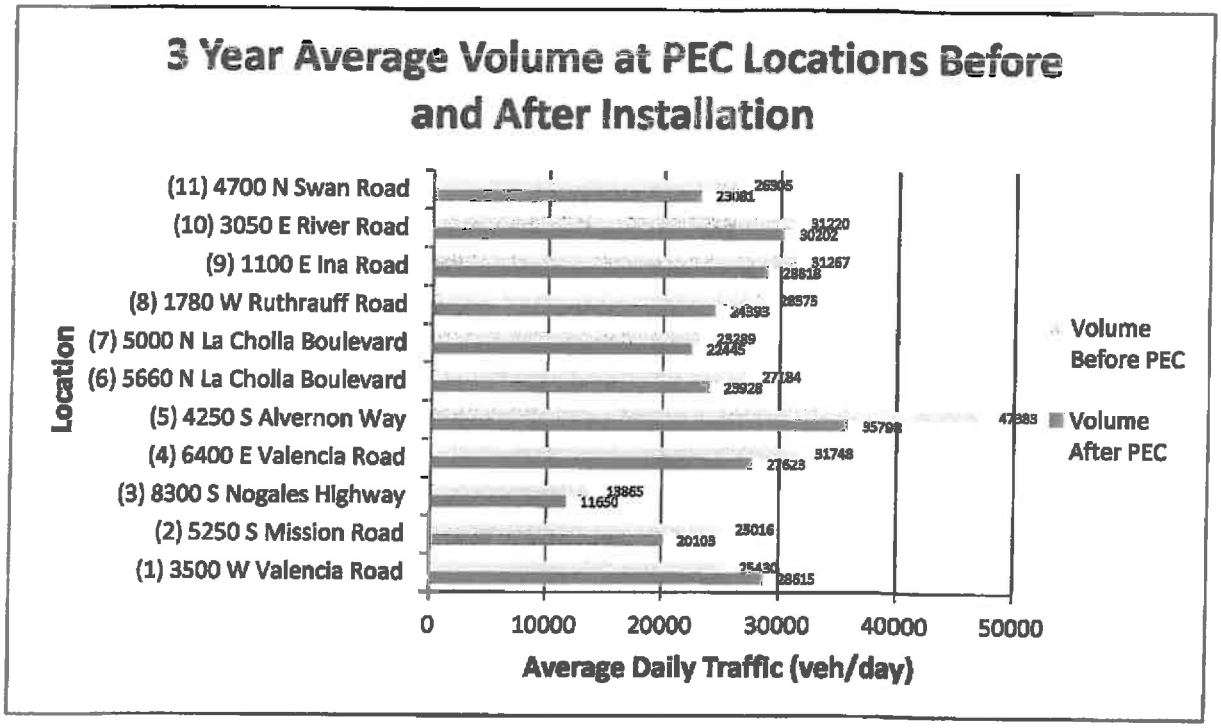


Figure 1: A comparison of three year traffic volume averages at all PEC locations before and after the PECs were installed.

Volume observations

1. In all but one locations, volumes decreased. This follows the overall volume trend of the Pima County traffic network during the same timeframe.
2. This chart can be used to determine if traffic is avoiding the camera locations. The only PEC location that may be subject to avoidance is 4250 S Alvernon Way, because the decrease is higher than that observed countywide. However, this conclusion is not definitive.
3. The lower volumes at PEC locations may influence the crash rates and average severities at the PEC locations during the time frame being studied.

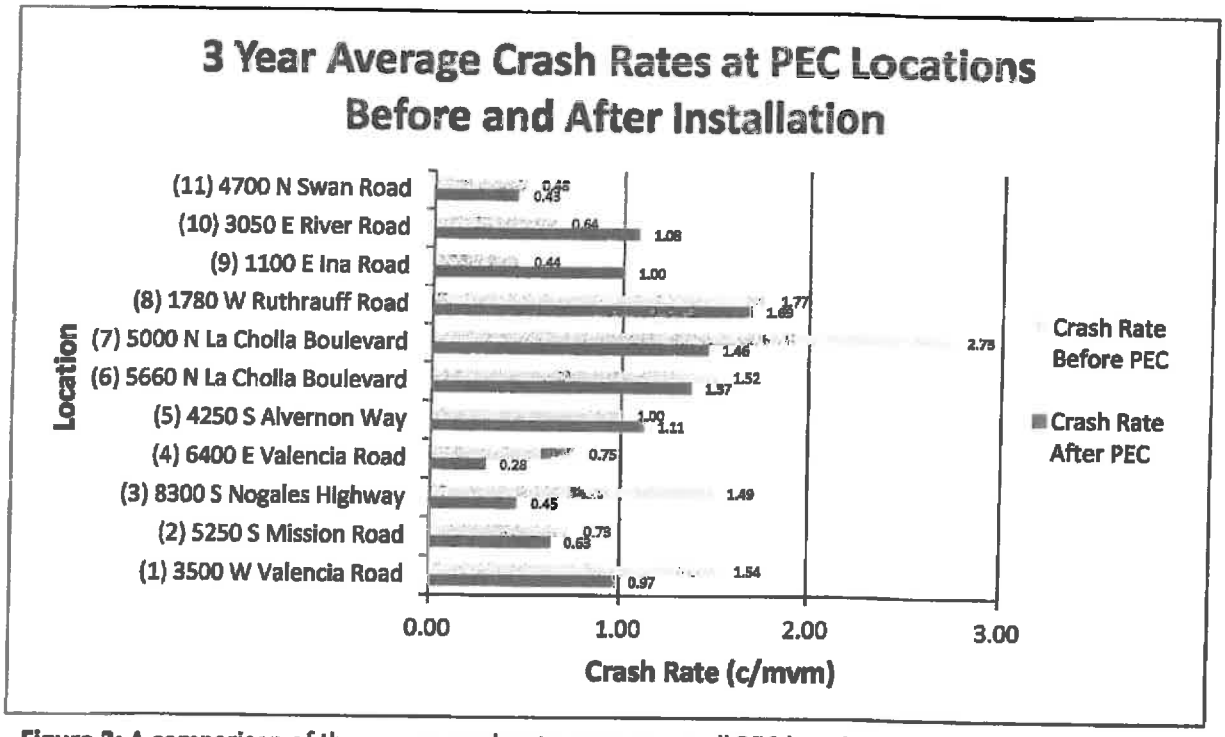


Figure 2: A comparison of three year crash rate averages at all PEC locations before and after the PECs were installed.

Crash rate observations

1. Pima County's system wide crash rate decreased approximately 19% during the timeframe that the PECs were installed.
2. The data should show that crash rates at the PEC locations are decreasing as much or slightly more than the system wide crash rate.
3. The most discouraging outcomes appear at location 5, 9, and 10, where crash rates actually increased during the time frame in question. The outcomes for location 11 are also discouraging, as the crash rate decreased very little compared to the entire Pima County road network. Notice that these locations are stand-alone PECs. Meaning there is no nearby signals or PECs to support a continuous speed pattern.
4. The most encouraging outcomes appear at locations 8, 7, 6, 3, and 1 where the crash rates decreased by much more than the Pima County road network as a whole. Locations 8, 7, and 6 are comprised of a series of cameras and signals that offer a continuous control opportunity to maintain constant speed.
5. Locations 4, 3 and 1 are in semi-rural surroundings with high-volume, high-speed vehicles and have shown a marked improvement in relation to the crash rate.

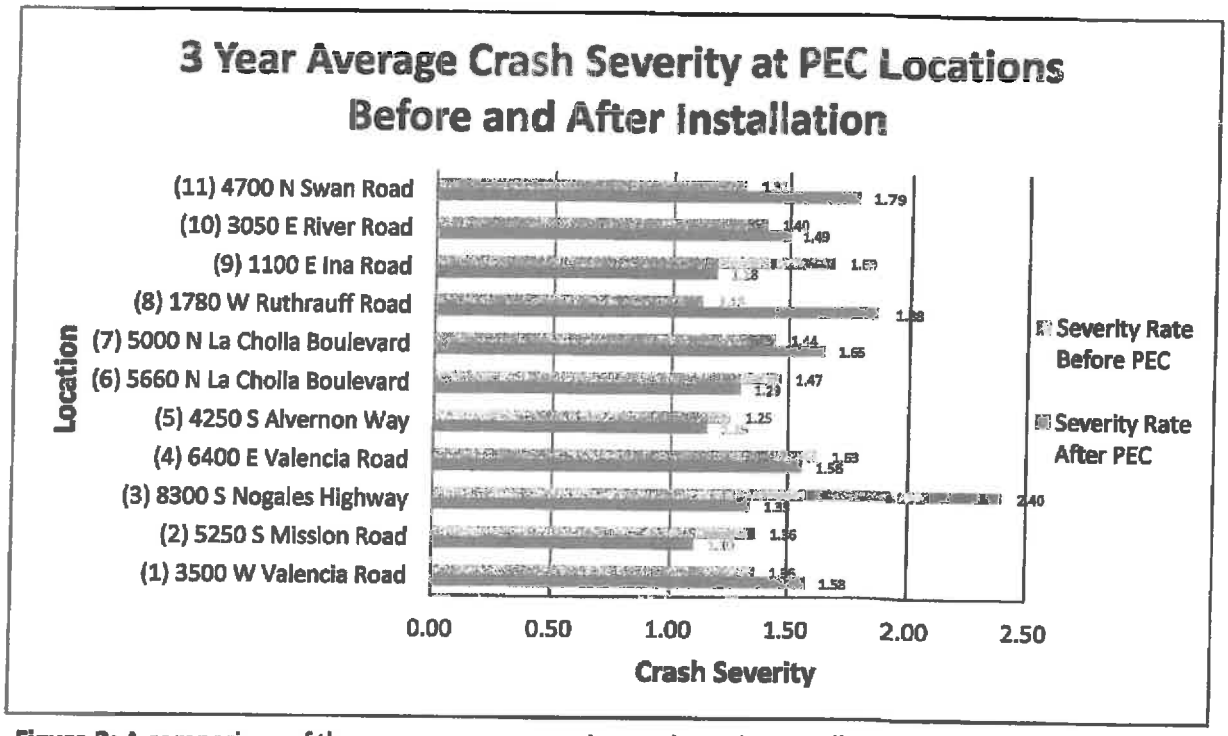


Figure 3: A comparison of three year average crash severity ratings at all PEC locations from before and after the PECs were installed.

Severity rate observations

1. Pima County's system wide severity rate decreased approximately 11% during the timeframe that the PECs were installed. In the PEC locations there was little improvement in the severity of the crashes overall, but there are individual locations that show impressive positive improvement.
2. Compared to the system wide improvements, locations 11, 10, 8, and 7 seem to be anomalies, because their average crash severity rating increased during the PEC program.
3. Locations 11, 10, and 3 are stand-alone, isolated PECs. Location 3 is a rural, high-speed road and has shown very impressive positive improvement in relation to severity rating. It appears that the PEC has had a positive impact at this location.

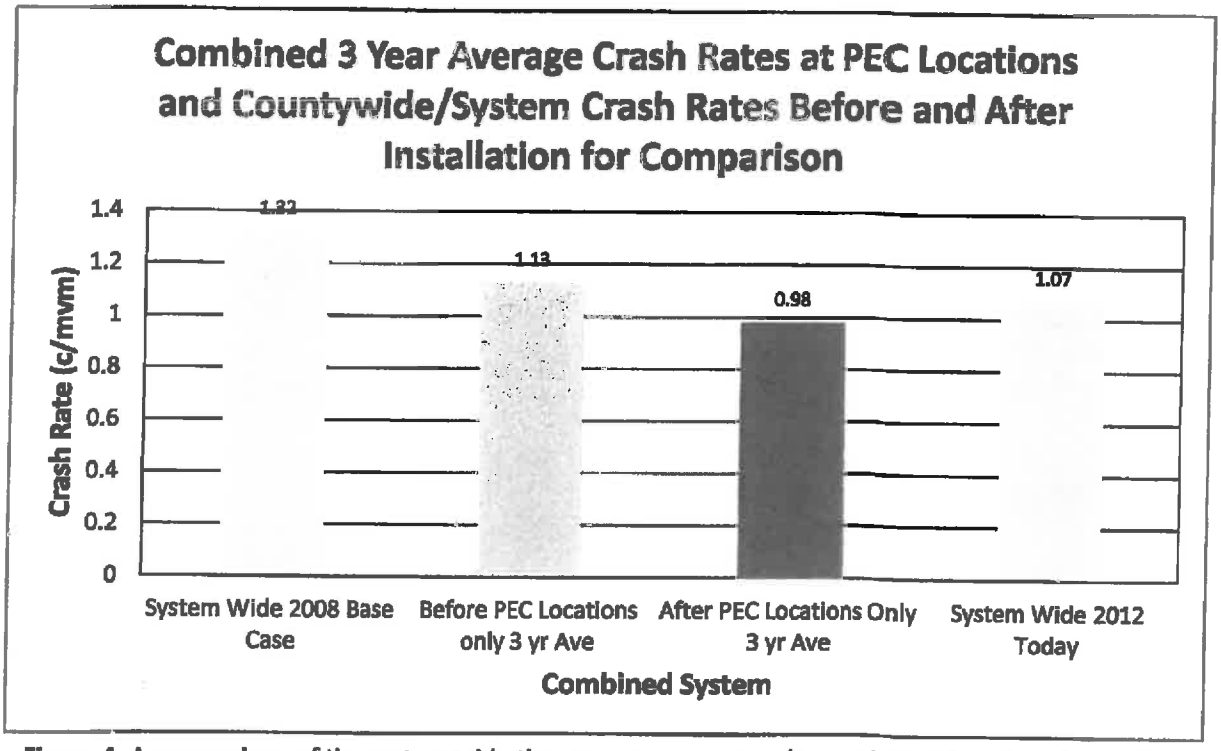


Figure 4: A comparison of the system wide three year average crash rates in 2008 and 2012 as well as the combined average crash rates of all the PEC locations before and after the PECs were installed.

Combined network crash rate observations

1. The three year average crash rate comparison between 2008 and 2012 shows a decrease of 19% countywide.
2. The combined PEC locations three year crash rate averages indicate that the crash rate has decreased approximately 13.3% across the locations. This is lower than expected compared to the 19% decrease in crash rate across the Pima County road network.

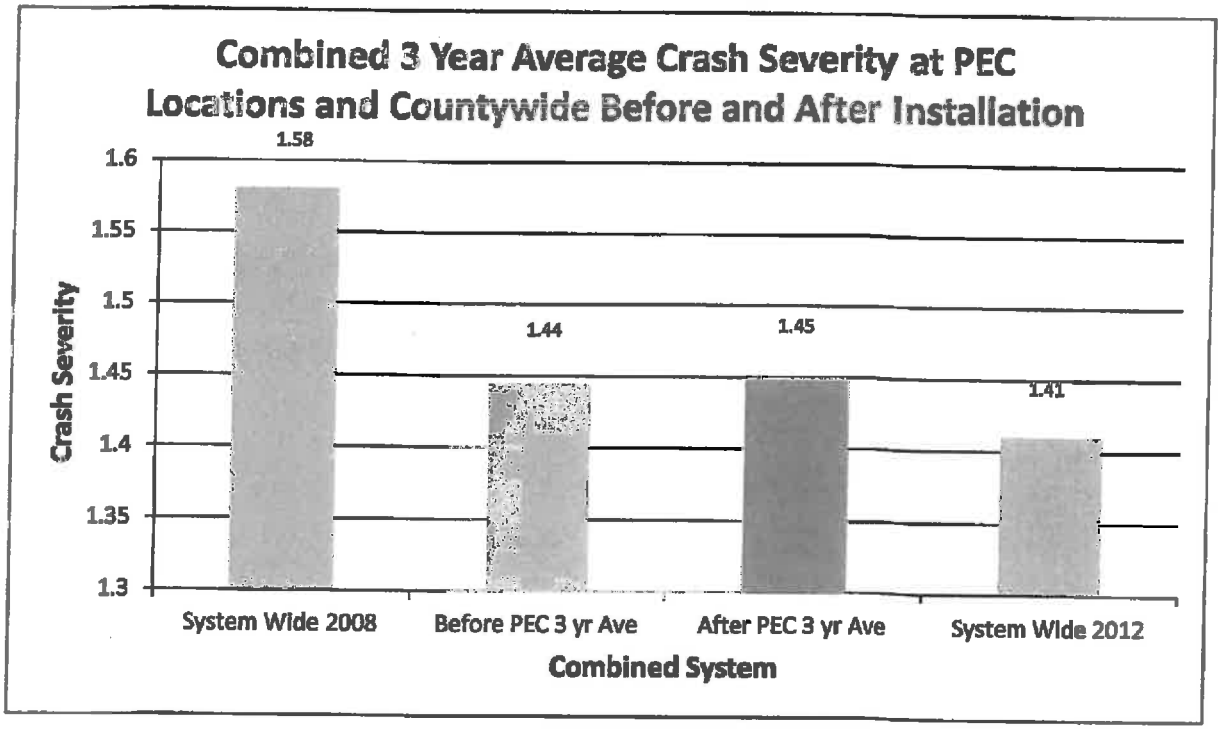


Figure 5: A comparison of the 2008 system-wide three year average severity rating with the system-wide 2012 three year average severity rating as well as the combined three year average severity ratings across all PEC locations from before and after the PECs were installed.

Combined network average crash severity rating observations

1. The three year average crash severity rating comparison between 2008 and 2012 shows a decrease of 11%.
2. The combined three year crash severity ratings indicate that the severity rating has decreased less than 1%. This result is highly discouraging compared to the 11% decrease in the countywide three year crash severity ratings.

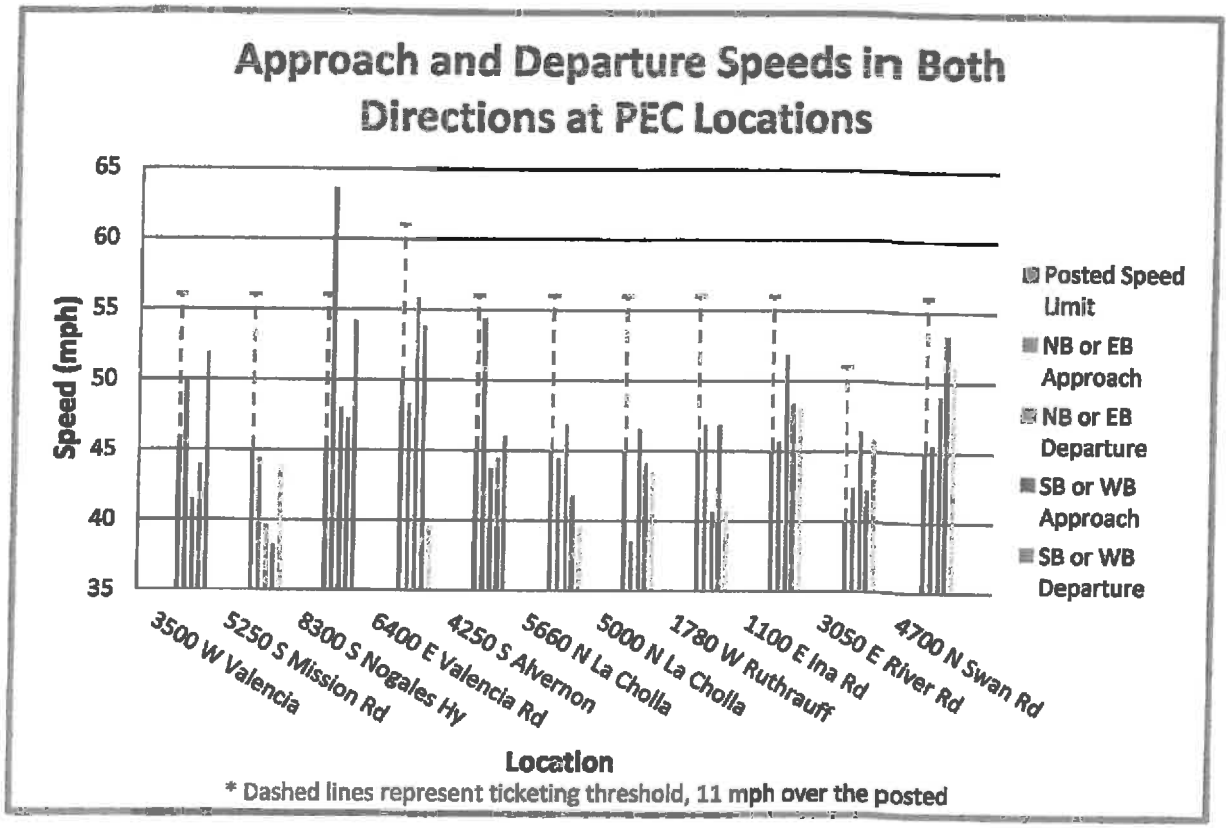


Figure 6: A comparison of average speed data collected with standard speed tubes in the field March, April, and May of 2013 for all PEC locations; see Table 2 for a tabular representation of the data.

Vehicle speed observations

1. The speed limit is 45 miles per hour at all but two locations. A speed limit of 50 mph is posted at 6400 E Valencia Road, and a speed limit of 40 mph is posted at 3050 E River Rd.
2. The chart shows very erratic speed variations in both directions as vehicles approach and depart from the PEC locations; drivers are either rapidly decelerating or accelerating on either side of the camera for any number of geometric reasons.
3. In general, the travel speeds are well below the ticketed speed, shown by the dashed lines. In addition, the speeds are much lower than the posted speed limit after vehicles have passed the cameras. This indicates that many drivers are being overly cautious and adjusting their speed to below the posted limit in the vicinity of the PECs. While this initially appears to be a positive, speed differentials (speeding up and slowing down) is a negative for traffic crashes. Traffic movement is safest and most efficient when speed is consistent.

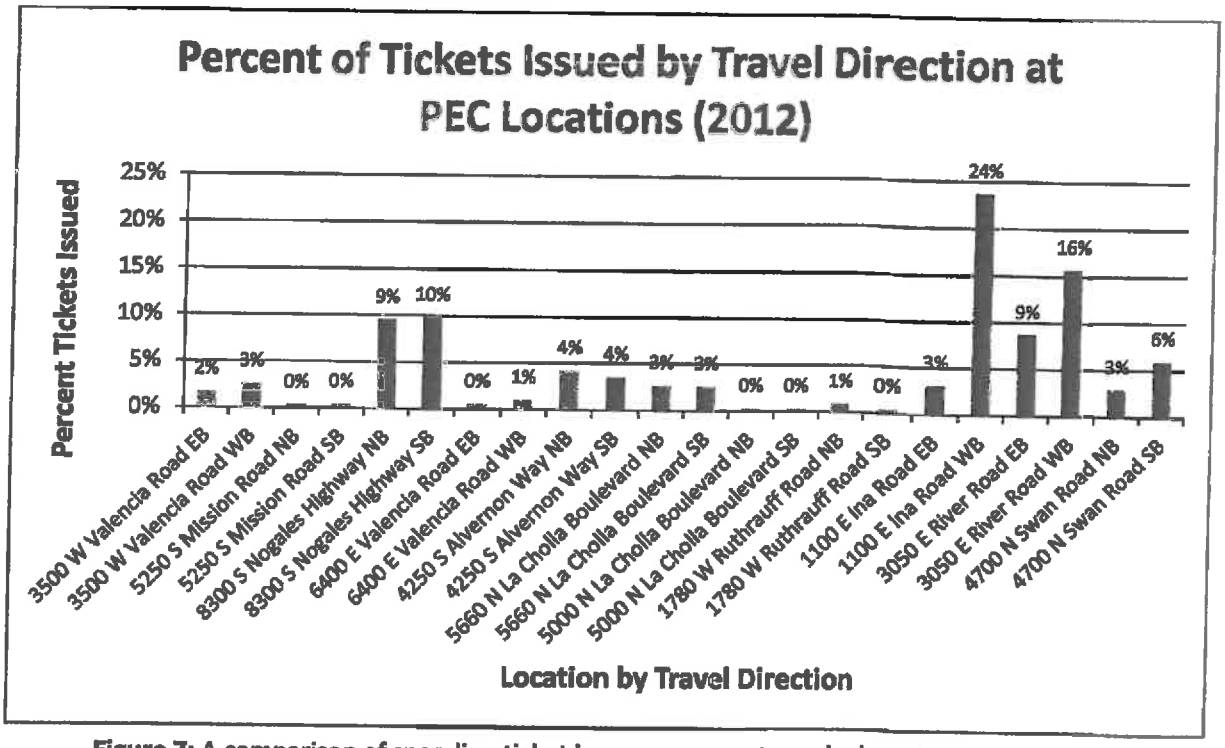


Figure 7: A comparison of speeding ticket issuance percentages by location and direction.

Ticket location percentage observations

1. Seventy-four percent of the PEC tickets come from four locations, which have a number of similar geometries.
2. The 3050 E River Road location is an isolated PEC in a semi-rural environment.
3. The 1100 E Ina Road PEC accounts for 27% of all tickets issued. The bulk of these tickets are for westbound traffic which is travels down a long downhill, semi-rural roadway with one isolated camera.
4. The 4700 N Swan Road PEC comprises 9% of the total ticket citations. It is also an isolated PEC measuring the speed of vehicles travelling on a long downhill roadway in a semi-rural environment.
5. The 8300 S Nogales Highway PEC represents 19% of the total ticket citations and is, again, an isolated PEC measuring the speed of vehicles in a semi-rural environment.
6. The 4250 S Alvernon Way PEC represents 8% of the total citations issued. It is an isolated location in a semi-rural environment, but it is located very close to a traffic signal.

Table 2: Speed Measurement Field Data for all PEC locations.

Photo-enforcement Camera Location (PEC)	Speed Limit (mph)	Date	NB or EB				SB or WB				Comments
			Approach		Departure		Approach		Departure		
			Block Distance	Speed	Block Distance	Speed	Block Distance	Speed	Block Distance	Speed	
3500 W. Valencia Rd	45	3/14/2013	3800W	50.1	3500W	41.4	3500W	43.9	3800W	51.9	Signal @ 3300W
			1700'		400'		400'		1700'		
5250 S. Mission Rd	45	2/11/2013	5400S	44.4	5150S	39.6	5150S	38.2	5400S	43.9	Signal @ 5100S
			1000'		700'		700'		1000'		
8300 S. Nogales Hy	45	2/5/2013	8650S	63.6	8200S	48.0	8150S	47.2	8600S	54.2	Midway between signals @ 8100S and 8900S
			2300'		1350'		1300'		2250'		
6400 E. Valencia Rd	50	4/22/2013	6200E	48.3	6600E	55.8	6525E	53.8	6150E	39.5	Signal @ 6300E
			1300'		1200'		700'		1700'		
4250 S. Alvernon Wy	45	2/4/2013	3850S	54.4	4150S	43.7	4100S	44.4	4500S	46.0	Signal @ 4000S
			1250'		600'		800'		1200'		
5660 N. La Cholla Bl	45	3/5/2013	5500N	44.4	5900N	46.8	5900N	41.7	5500N	39.6	Signal @ 5400N
			1000'		1500'		1500'		1000'		
5000 N. La Cholla Bl	45	3/5/2013	4900N	38.5	5100N	46.5	5100N	44.1	4900N	43.4	Midway between signals @ 4800N and 5200N
			750'		750'		750'		750'		
1780 W. Ruthrauff Rd	45	4/1/2013	1840W	46.8	1725W	40.6	1730W	46.8	1825W	40.6	Signal @ 1700W
			1300'		820'		800'		1250'		
1100 E. Ina Rd	45	3/11/2013	800E	45.6	950E	51.8	1280E	48.3	800E	48.0	Signal @ 700E
			1200'		750'		850'		1200'		
3050 E. River Rd	40	3/18/2013	2700E	42.3	3200E	46.4	3200E	42.2	2700E	45.8	Signal @ 2650E
			1400'		800'		800'		1400'		
4700 N. Swan Rd	45	4/10/2013	4350N	45.5	5000N	49.0	5000N	53.3	4350N	51.0	
			2000'		1800'		1800'		2000'		

Field speed measurement observations

1. Ten of the 11 of the PECs are quite close to signals. Research of historical decisions indicates that many of the cameras were installed near signals because electricity was readily available, as it is needed for the signals.
2. Proximity to signals is definitely affecting how the driver speeds up or slows down while in the vicinity of the PEC. It appears that drivers are either accelerating from the signal or slowing down for the signal as they pass through the PEC locations.

Pima County Sheriff's Department and the law enforcement role of photo enforcement cameras

The Pima County Department of Transportation Traffic Engineering Division has met with the Pima County Sheriff's Department and received their directive that they will support the Pima County DOT's decision in regards to the photo enforcement camera program to the best of their ability.

The main reason the photo enforcement cameras were installed in Pima County was for safety. They were placed in areas with high vehicle speeds for the purpose of reducing speeds and reducing crashes in Pima County. Speed can reduce a driver's ability to control a vehicle, stop safely, or steer safely around curves or objects on the road. So, what aspects of the PECs have helped law enforcement in relation to the community?

1. Where the cameras have worked, a dramatic reductions in crashes has been observed.
2. The cameras have worked when placed in a manner where the PECs are either close together or in conjunction with signals and other PECs.
3. American Traffic Solutions maintain the PEC video log for 30 days. Law enforcement routinely checks and requests video to determine the identity/acquire a picture of individuals moving through our camera locations when there are criminal activities in the area. This is a vital tool to be able to apprehend and prosecute the individual responsible for any number of crimes taking place in Pima County.

ATTACHMENT 2

MEMORANDUM

Date: October 11, 2013

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Speed Photo Enforcement Program Contract**

Background

In May 2009, Pima County implemented a speed photo enforcement program at 10 locations, with an 11th location added in 2012. The Board of Supervisors awarded the contract for speed photo enforcement to American Traffic Solutions (ATS) on January 6, 2009, for an initial term of one year, and included four possible one-year contract renewals. The fourth and final renewal expires on January 5, 2014.

Program Effectiveness

I previously provided the Board two reports regarding the effectiveness of our speed photo enforcement program; one from Transportation Director Priscilla Cornelio and one from Sheriff's Captain Karl Woolridge. The reports indicated that speed photo enforcement has had mixed results in terms of safety. While the crash rate for the entire Pima County road system declined by 19 percent since the inception of speed photo enforcement, the three-year crash rate for the 11 photo enforcement locations declined only 13 percent. Severity of crashes at photo enforcement locations declined less than one percent, while the severity rate for the entire road system declined by 11 percent.

The use of fixed, stand-alone cameras generally has not been as effective as hoped in reducing speeds and crashes because drivers tend to rapidly decrease their speed before reaching the camera and then speed up quickly after passing the camera. Our Department of Transportation (DOT) noted more positive results from a section of roadway on La Cholla Boulevard where two cameras were placed within about six blocks of each other. In this area, observed speeds decreased more consistently, and the crash rate decreased by much more than the countywide average.

As a result of their review, Ms. Cornelio and Captain Woolridge have recommended that the speed photo enforcement program continue with modifications. They recommend a move toward portable photo enforcement stations that can be moved among many locations for limited periods of time to reinforce positive driver habits in locations that have

high crash rates and high crash severity numbers. They also recommend more use of "networked" groups of stations to address specific road segment safety problems. All photo enforcement "networks" would include advance notice to drivers that they are entering a speed enforcement zone and prominent electronic feedback signs indicating the driver's actual speed. The details of such a system would need to be finalized by DOT, the Sheriff's Department, and the County Administrator's office.

Financial Considerations

A major consideration regarding continuation of speed photo enforcement is its financial impact. Table 1 below summarizes revenues and expenses attributed to the photo enforcement program for Fiscal Years (FYs) 2011/12 through 2013/14 (as of September 23, 2013).

Table 1: Speed Photo Enforcement Financial Impact.

Fiscal Year	Program Expenditures	Program Revenues	Net Revenue to General Fund
2013/14[1]	$ 98,151	$ 183,323	$ 85,172
2012/13	1,059,237	1,430,125	370,888
2011/12	1,243,692	1,779,062	535,370

[1]as of September 23, 2013

Expenditures include: for FY 2011/12, $1,001,484 paid to the vendor ATS and $168,860 to support three full-time Justice Court clerk positions (two in Tucson and one in Green Valley); for FY 2012/13, $828,699 paid to the vendor and $178,303 for the three Justice Court staff positions. Net revenues are deposited into the County's General Fund.

The number of citations and the resulting revenues have generally declined as drivers have become aware of the fixed photo enforcement locations. Figures supplied by ATS indicate total citations of 39,997 in 2009, 37,360 in 2010, 28,473 in 2011, 25,434 in 2012, and 15,498 in the first nine months of 2013 (for an estimated annualized number of 20,664).

The most common speed photo enforcement fine is $239.25, which is imposed for exceeding the speed limit by 11 to 15 miles per hour (mph). Eighty-seven percent of speed photo enforcement citations are in this category according to figures supplied by ATS. Another 10 percent of citations are for driving 16 to 20 mph over the speed limit (for which the fine is $258.25). The remaining 3 percent of citations are for driving 21 or more mph over the speed limit, with fines of $278.25 (21 through 25 mph over), $291.25 (26 through 30 mph over), and $412.25 (31 mph over). Speed photo enforcement citations are not issued for speeds that are less than 11 mph over the speed limit.

As is true for other types of traffic fines, more than 50 percent of each fine is paid to the State of Arizona due to surcharges imposed by statute for various purposes. For example, a $239.25 photo enforcement fine includes $126.73 in State surcharges, and the remainder of $112.52 is received by Pima County. The breakdown of a $239.25 fine is shown in Table 2 below.

Table 2: Photo Enforcement Citation Revenue Allocation.

Fine Component	Amount	Recipient
Base Fine	94.52	County
State Surcharges	78.48	State
Probation Fee	20.00	State
SB 1398 fee	13.00	State
Automation Fee	18.50	$10 to County; $8.50 to State
Photo Enforcement Fee	14.75	$8 to County; $6.75 to State
Total	**$239.25**	**$112.52 to County; $126.73 to State**

Of the $112.52 received by Pima County, about 58 percent, or $65, is paid to ATS.

Recommendation

The speed photo enforcement program as currently operated has not demonstrated significant safety benefits, and it appears to have declining financial benefits as drivers become accustomed to the camera locations. For that reason, I do not recommend renewal of the contract with ATS on terms similar to those set forth in the current contract.

While the use of portable photo enforcement cameras that could be relocated periodically as part of a redesigned system might be more effective in reducing speeds and accidents, such would require a complete redesign of the photo enforcement system and a substantially different contract arrangement. Given the decline in revenues and the uncertainties about the costs and effectiveness of a redesigned speed photo enforcement system, I recommend the contract with ATS be allowed to expire on January 5, 2014.

CHH/mjk

c: The Honorable Clarence Dupnik, Pima County Sheriff
Captain Karl Woolridge, Sheriff's Department
John Bernal, Deputy County Administrator for Public Works
Priscilla Cornelio, Transportation Director
Ellen Wheeler, Program Manager, Special Projects

ATTACHMENT 3

MEMORANDUM

Date: December 18, 2013

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **American Traffic Solutions Proposal to Extend the Speed Photo Enforcement Program**

Enclosed is a copy of a proposal by American Traffic Solutions to extend the current speed photo enforcement program in four locations and discontinue operations in seven locations. The proposal would:

- Add five fixed school zone locations for speed photo enforcement in active school zones.
- Add two semi-portable speed peak compliance containers for speed associated with pedestrian crosswalk locations, parks and other areas with high pedestrian traffic.
- Include one mobile speed component solution for responding to citizen requests for speed enforcement and noncompliance speed areas such as Gates Pass Road, Picture Rocks Road, Kinney Road, Old Spanish Trail, etc.

I have asked the Department of Transportation to review and evaluate this request and identify the specific school zone areas where five fixed speed enforcement cameras would be installed. Any recommendation to continue with the speed photo enforcement program as now proposed will be forwarded to the Board of Supervisors for your final review and direction.

CHH/anc

Attachment

c: John Bernal, Deputy County Administrator for Public Works
Priscilla Cornelio, Director, Department of Transportation

American Traffic Solutions (ATS) is pleased to present this automated safety proposal to Pima County. This proposal addresses current concerns with the existing safety program and provides the requested modifications for an improved safety program.

It includes the removal of more than half of the current speed enforcement locations, improved focus on children's safety in school zones and flexible enforcement solutions for targeted areas.

In addition to these modifications, this proposal summarizes the existing and additional benefits of a safety program. Driver behavior changes, reduced accidents, increased law enforcement through video retrieval and the use of limited Pima County resources.

Many automated speed enforcement locations have succeeded with driver behavior changes or accident reductions and no longer meet the needs of Pima County. Based on input from the program stakeholders, the following seven locations would be removed from operation:

- Alvernon Way @ Station Master
- Mission Rd @ Nebraska St
- River Rd @ Country Club Rd
- Ina Rd @ Camino De Las Candelas
- Swan Rd @ Calle Barril
- Valencia Rd @ Camino De Las Candelas
- Valencia @ Wilmot

Only Four locations continue to meet the needs of Pima County and it is recommended they remain active:

- La Cholla @ W Sunset
- Ruthrauff @ Romero
- La Cholla @ Jay
- S Nogales Hwy @ E Hermans

Automated speed enforcement has proven results in Arizona School Zones. The City of Mesa utilized a networked solution within school zones to reduce overall vehicle speeds and increase safety. This networked solution includes installation of automated fixed speed enforcement and school zone flashers.

How it works:

Fixed speed cameras remain continually active in school zones and are connected to the school zone flashers. When the flashers are active and alerting drivers to reduce speeds, lower speed thresholds are enforced. A 12 second video is attached to all violations. The school zone flashers are seen clearly in the video, along with the speeding vehicle.

As a direct result of this solution, the City of Mesa has been successful in reducing speeds and increasing safety in school zones. The City of Mesa provided these results:

mesa·az

Avg. School Zone Speeds
Before/After Photo Safety

	Before	Activation	After
Rhodes Jr. High:	46.6	*May 2008*	36.8
Brimhall Jr. High:	43.5	*March 2010*	36.8
Fremont Jr. High:	44.7	*March 2010*	37.1
Mesa High:	45.0	*August 2012*	38.3
Skyline High:	48.6	*August 2012*	37.5

*Speeds shown are the average speeds measured during school hours, with a posted speed limit of 35 mph.

American Traffic Solutions™

Pima County continues to focus on children's safety in school zones. Speeding is a major concern in school zones both during and after school zone hours specifically near or at school crossings. With minimal effort and resource, this proposal will help Pima County improve its focus on school zone safety.

As a portion of this proposal, ATS will supply school zone flashers with each automated school zone installation. The new school zone installations will utilize the previously recommended removed speed zone hardware. ATS will partner with the Transportation Department to select and implement this solution.

The following school zones have been identified as target areas for additional safety:

- Quail Run Elementary School (Cortaro Farms Road)
- Mountain View High School
- Tanque Verde Elementary School
- Acacia Elementary School (Colossal Cave Rd)
- Old Vail Middle School (Colossal Cave Rd)
- Homer Davis
- Khalsa Montessori School on River Rd
- Emily Gray JHS on Tanque Verde Rd
- Cienega High School on Mary Ann Cleveland Way
- Orange Grove Middle School on Orange Grove Rd
- Ocotillo Ridge Elementary School on Rolling Water Dr
- Fruchhendler Elementary School on Cloud Rd
- Coronado K-8 School on Wilds Road
- Khalsa Montessori School on River Rd
- Summit View Elementary School on Summit St
- Corona Foothills Middle School on Houghton Rd
- Desert View High School on Valencia Rd

Based on recommendations, this proposal includes flexible enforcement solutions for targeted areas. These flexible solutions are portable enforcement tools which can be utilized as networked enforcement solutions or as part of a PAG pilot program (Pima Association of Governments). The PAG program is a nonprofit metropolitan planning organization with Transportation Planning, Environmental Planning, Energy Planning and Technical Services divisions. Pima County Transportation will be requesting, as part of the PAG program, the implementation of a Speed Management Strategic Initiative. Some of the objectives for this study include defining the relationship between travel speed and traffic safety, increase awareness of the dangers of speeding, identify and promote effective speed enforcement activities, and identify and promote effective speed enforcement activities. As part of this proposal, ATS is prepared to provide and support Pima County Transportation with the appropriate enforcement technology needed for this study. Additionally, the flexible enforcement solutions do not require Sheriff badging on the Citations sent to the citizens.

This proposal includes the following:

- Two (2) Semi -Portable Speed Compliance Containers for:
  - Crosswalk enforcement
  - Parks with high pedestrian traffic
  - Speed Enforcement Study Areas (i.e. Ina Rd, portions of La Cholla, etc.)
- One (1) Mobile Speed Compliance Solution for:
  - Higher speed problem areas
  - Citizen requests (Gates Pass, Picture Rock, Kinney Road, Spanish trail, etc)
  - Speed Enforcement Study Areas (i.e. Ina Rd, portions of La Cholla, etc.)
- Continued Automated Fixed Speed Enforcement at the remaining locations:
  - La Cholla @ W Sunset
  - Ruthrauff @ Romero

- La Cholla @ Jay
- S Nogales Hwy @ E Hermans

These program modifications will improve the safety program and retain many existing benefits.

The Pima County Fixed Speed Safety Camera Program has brought a public safety value that extends beyond just fixed locations. The Sheriff's Department has requested and received over 70 Fixed Speed Safety Camera videos to investigate collisions, robberies and serious crimes including hit-and-run collisions and various other police investigations. The incident types are listed below.

Type of Request	Number of Requests
Video Pull - Accident	8
Video Pull - Accident Fatality	2
Video Pull - Accident Hit & Run	1
Video Pull - Homicide	8
Video Pull - Police Investigation	48
Video Pull - Shooting	4
Video Pull - Robbery	1
Total	**72**

Every time video is used to reconstruct a traffic collision or aid in an investigation, the Sheriff's Department reduces operating costs. Thus the program provides efficiency and an economic benefit to Pima County.

National Highway Traffic Safety Administration estimates that the economic cost of speed-related collisions is $40.4 billion each year = $76,865 per minute or $1,281 per second. Any reduction in accidents, regardless of percentage, is financially beneficial.

As a proud partner with Pima County, ATS is pleased to offer this proposal. Pima County resources to operate the safety program will continue to be minimal. ATS has existing and established interfaces with the Pima County Consolidated Justice Court and Green Valley Justice Court. The backend solution (Axsis) is already implemented and ATS meticulously follows the business rules established by Pima County. ATS will coordinate the removal and installation of fixed speed systems with the Transportation Department and provide a turnkey solution for all proposed new products.

In summary the proposal includes:

- Removal of 7 fixed speed locations
- Retention of 4 fixed speed locations
- Addition of 5 fixed school zone locations
- 2 semi-portable speed containers for flexible enforcement
- 1 mobile speed vehicle
- Notice enhancements to include the Pima County Seal in place of the Sheriff's Badge

Pima County procurement rules permitting, there are a variety of contract options available. ATS is a proud member of cooperative agreements where ATS was selected competitively over the competition. Additionally, a sole source extension may be permissible since ATS is the single source who can operate and maintain the proprietary equipment in the existing program and there is no reasonable alternative source with this capability.

American Traffic Solutions™

ATS proposes to pass along the cost benefits of continuing an operational program. Cost savings are achieved by; utilizing existing hardware at potential school zones, maintaining the existing interfaces with the courts, continued maintenance of the four existing locations and an extended five year contract.

Cost savings summary:

- No upfront costs for the installation of proposed school zones
- School Zone Flashers for each newly implemented school zone
- Implementation of two (2) semi-transportable speed compliance solutions
- Implementation of one (1) mobile speed compliance solution
- Reduced per paid citation fee of $50, regardless of enforcement type

As a proud partner we have listened to the concerns and responded with solutions. We respectfully request this proposal be given consideration and look forward to continuing our partnership and implementing this improved safety program.

Best regards,

Mark Priebe
VP, Account Management
American Traffic Solutions Inc

ATTACHMENT 4

PIMA COUNTY
TRANSPORTATION

MEMORANDUM

DATE: January 3, 2014

TO: C.H. Huckelberry, County Administrator

FROM: Priscilla S. Cornelio, P.E., Director of Transportation

SUBJECT: American Traffic Solutions Proposal to Continue/Modify the Speed Photo Enforcement Camera Program

As requested, Department of Transportation (DOT) staff has reviewed American Traffic Solutions (ATS) (current photo enforcement camera provider) December 9, 2013 proposal to continue with certain modifications and additions to the current speed Photo Enforcement Camera (PEC) Program. DOT offers the following input for consideration. This memo presents a general overview of the existing program. In addition, DOT proposes to implement an improved speed management program if the Board of Supervisors (BOS) wishes to continue activities in this area. Information is presented regarding DOT's developing speed management program and the mitigation of related pedestrian, bike and vehicle crashes.

Speed Enforcement in Pima County:

As noted in my memorandum to you dated February 20, 2013 (attached), the results of the PEC Program do not definitively demonstrate that it has been successful in reducing speeding on roadways in Pima County. Fatal crashes due to excessive speed have been reduced, but the PECs may not be the underlying reason for the apparent positive results. The data suggests that there are only certain locations that speed has diminished and the differential is small between the before and after data of PEC installation. As identified in my prior memo, the Sheriffs have stepped up their traffic patrols and have been successful in removing speeding vehicles and DUI drivers from County roads. Large capital improvement projects have been completed contributing to safer roadways and DOT has instituted a Safety Management System to prioritize areas that should be investigated to improve safety.

Based on DOT's initial analyses of the success of the PEC Program, it appears that vehicles are now slowing down for the cameras, but the PEC Program does not appear to influence transportation speeds system wide. DOT is in general agreement with ATS's proposal and would support a new contract with modifications. DOT found that many of the eleven PEC stations did not meet the need because they were not a piece of a networked program that was designed to manage speed on a systematic basis. Consequently, the PECs potential was not fully realized because of too many variables that could not be isolated.

In fact, this was one of the most important pieces of information DOT achieved from the current program (as documented by DOT's memorandum of February 20, 2013). It showed that if a systematic network approach is taken, it is possible to achieve statistically significant results that are directly attributable to the presence of a visible speed enforcement station. Furthermore, it demonstrated that these desired results do not necessarily require a lot of citations be issued to achieve better speed behavior.

DOT would like to work with the Sheriffs to perform a review of the existing system to develop a network of visible speed enforcement stations that use systematic enforcement efforts that can temper roadway speeds in a way that improves safety. Through study, DOT has determined that spot enforcement can create "halos" of effectiveness. The approach that the DOT is now proposing is to develop, in cooperation with the Sheriff, a system that spreads this "halo" of effectiveness over more miles of roadway, not just isolated locations. The principles of this type of approach have been defined by Federal Highway Administration into what is termed as a Speed Management Strategic Initiative (SMSI). DOT is recommending that Pima County adopt this speed management system that would include the following:

- Permanent Speed Feedback signs to inform the driver of their speed prior to getting to the enforcement station.

- Enforcement pads that can be occupied by Pima County Sheriff's Department motorcycle patrol vehicles, mobile speed compliance vehicles, semi-transportable speed compliance modules, placebo/decoy/non-functional PECs, or not at all.

- Permanent Automated Traffic Recorders (ATR) that can provide volume and speed data that will provide information on data driven enforcement decisions. These ATRs would also provide information on measures of effectiveness (MOE) or triggers for enforcement to be developed and tracked. These MOEs indicate when enforcement has achieved the desired results and speed enforcement resources can be utilized at another location. The MOEs also enable a data driven decision to be made when the enforcement resource needs to return to reinforce the "halo" of effectiveness.

Concept drawing of the speed management station is attached.

DOT will establish criteria for its proposed Pima County Speed Management Strategic Initiative (PCSMSI) by investigation of the following:

- How many stations are necessary?
- How much enforcement is necessary at these stations to achieve speed tempering that result in a decrease in crashes?
- How often does the enforcement need to be there to maintain those "halos" of effectiveness that are reinforced by the feedback signs?

- Does Pima County have enough enforcement resources to achieve its goal?
- How do schools, special school crosswalk, and speed zones work into a program?

The goal is not necessarily to increase the number of citations; rather it is to increase effectiveness of Pima County's limited enforcement resources. Included in this goal would be schools. Schools are a unique issue in themselves which will require a special study because there are over 105 schools in Pima County. Because of the large number of schools, DOT will utilize the Sheriffs' experience and expertise to identify school locations with speed issues.

To help answer these questions as well as others, DOT is developing the PCSMSI Program. An application to acquire federal-aid Highway Improvement Safety Program funds to set up a study project to start the PCSMSI program has been submitted. DOT is currently in the process of achieving eligibility for the application with Arizona Department of Transportation.

Recommendation:

Direct DOT to work with the Sheriff in implementing PCSMSI to improve safety on County's roadways. If the BOS would like to continue a PEC Program, which can be incorporated into the PCSMSI, it is recommended that the BOS authorizes DOT and Procurement to negotiate a new ATS contract. If the BOS does not approve of a continuation of the PEC Program, the DOT will instruct ATS to decommission upon contract expiration (plus one day) and remove the 11 stations within the next 120 days.

PSC:SC:dg

Attachments: Concept Drawing
ATS Proposal

c: John M. Bernal, Deputy County Administrator – Public Works
Seth Chalmers, Traffic Engineering Division Manager

American Traffic Solutions (ATS) is pleased to present this automated safety proposal to Pima County. This proposal addresses current concerns with the existing safety program and provides the requested modifications for an improved safety program.

It includes the removal of more than half of the current speed enforcement locations, improved focus on children's safety in school zones and flexible enforcement solutions for targeted areas.

In addition to these modifications, this proposal summarizes the existing and additional benefits of a safety program. Driver behavior changes, reduced accidents, increased law enforcement through video retrieval and the use of limited Pima County resources.

Many automated speed enforcement locations have succeeded with driver behavior changes or accident reductions and no longer meet the needs of Pima County. Based on input from the program stakeholders, the following seven locations would be removed from operation:

- Alvernon Way @ Station Master
- Mission Rd @ Nebraska St
- River Rd @ Country Club Rd
- Ina Rd @ Camino De Las Candelas
- Swan Rd @ Calle Barril
- Valencia Rd @ Camino De Las Candelas
- Valencia @ Wilmot

Only Four locations continue to meet the needs of Pima County and it is recommended they remain active:

- La Cholla @ W Sunset
- Ruthrauff @ Romero
- La Cholla @ Jay
- S Nogales Hwy @ E Hermans

Automated speed enforcement has proven results in Arizona School Zones. The City of Mesa utilized a networked solution within school zones to reduce overall vehicle speeds and increase safety. This networked solution includes installation of automated fixed speed enforcement and school zone flashers.

How it works:

Fixed speed cameras remain continually active in school zones and are connected to the school zone flashers. When the flashers are active and alerting drivers to reduce speeds, lower speed thresholds are enforced. A 12 second video is attached to all violations. The school zone flashers are seen clearly in the video, along with the speeding vehicle.

As a direct result of this solution, the City of Mesa has been successful in reducing speeds and increasing safety in school zones. The City of Mesa provided these results:

mesa·az

Avg. School Zone Speeds
Before/After Photo Safety

	Before	Activation	After
Rhodes Jr. High:	46.6	May 2008	36.8
Brimhall Jr. High:	43.5	March 2010	36.8
Fremont Jr. High:	44.7	March 2010	37.1
Mesa High:	45.0	August 2012	38.3
Skyline High:	48.6	August 2012	37.5

*Speeds shown are the average speeds measured during school hours, with a posted speed limit of 35 mph.

American Traffic Solutions™

Pima County continues to focus on children's safety in school zones. Speeding is a major concern in school zones both during and after school zone hours specifically near or at school crossings. With minimal effort and resource, this proposal will help Pima County improve its focus on school zone safety.

As a portion of this proposal, ATS will supply school zone flashers with each automated school zone installation. The new school zone installations will utilize the previously recommended removed speed zone hardware. ATS will partner with the Transportation Department to select and implement this solution.

The following school zones have been identified as target areas for additional safety:

- Quail Run Elementary School (Cortaro Farms Road)
- Mountain View High School
- Tanque Verde Elementary School
- Acacia Elementary School (Colossal Cave Rd)
- Old Vail Middle School (Colossal Cave Rd)
- Homer Davis
- Khalsa Montessori School on River Rd
- Emily Gray JHS on Tanque Verde Rd
- Cienega High School on Mary Ann Cleveland Way
- Orange Grove Middle School on Orange Grove Rd
- Ocotillo Ridge Elementary School on Rolling Water Dr
- Fruchhendler Elementary School on Cloud Rd
- Coronado K-8 School on Wilds Road
- Khalsa Montessori School on River Rd
- Summit View Elementary School on Summit St
- Corona Foothills Middle School on Houghton Rd
- Desert View High School on Valencia Rd

Based on recommendations, this proposal includes flexible enforcement solutions for targeted areas. These flexible solutions are portable enforcement tools which can be utilized as networked enforcement solutions or as part of a PAG pilot program (Pima Association of Governments). The PAG program is a nonprofit metropolitan planning organization with Transportation Planning, Environmental Planning, Energy Planning and Technical Services divisions. Pima County Transportation will be requesting, as part of the PAG program, the implementation of a Speed Management Strategic Initiative. Some of the objectives for this study include defining the relationship between travel speed and traffic safety, increase awareness of the dangers of speeding, identify and promote effective speed enforcement activities, and identify and promote effective speed enforcement activities. As part of this proposal, ATS is prepared to provide and support Pima County Transportation with the appropriate enforcement technology needed for this study. Additionally, the flexible enforcement solutions do not require Sheriff badging on the Citations sent to the citizens.

This proposal includes the following:

- Two (2) Semi -Portable Speed Compliance Containers for:
  - Crosswalk enforcement
  - Parks with high pedestrian traffic
  - Speed Enforcement Study Areas (i.e. Ina Rd, portions of La Cholla, etc.)
- One (1) Mobile Speed Compliance Solution for:
  - Higher speed problem areas
  - Citizen requests (Gates Pass, Picture Rock, Kinney Road, Spanish trail, etc)
  - Speed Enforcement Study Areas (i.e. Ina Rd, portions of La Cholla, etc.)
- Continued Automated Fixed Speed Enforcement at the remaining locations:
  - La Cholla @ W Sunset
  - Ruthrauff @ Romero

- La Cholla @ Jay
- S Nogales Hwy @ E Hermans

These program modifications will improve the safety program and retain many existing benefits.

The Pima County Fixed Speed Safety Camera Program has brought a public safety value that extends beyond just fixed locations. The Sheriff's Department has requested and received over 70 Fixed Speed Safety Camera videos to investigate collisions, robberies and serious crimes including hit-and-run collisions and various other police investigations. The incident types are listed below.

Type of Request	Number of Requests
Video Pull - Accident	8
Video Pull - Accident Fatality	2
Video Pull - Accident Hit & Run	1
Video Pull - Homicide	8
Video Pull - Police Investigation	48
Video Pull - Shooting	4
Video Pull - Robbery	1
Total	**72**

Every time video is used to reconstruct a traffic collision or aid in an investigation, the Sheriff's Department reduces operating costs. Thus the program provides efficiency and an economic benefit to Pima County.

National Highway Traffic Safety Administration estimates that the economic cost of speed-related collisions is $40.4 billion each year = $76,865 per minute or $1,281 per second. Any reduction in accidents, regardless of percentage, is financially beneficial.

As a proud partner with Pima County, ATS is pleased to offer this proposal. Pima County resources to operate the safety program will continue to be minimal. ATS has existing and established interfaces with the Pima County Consolidated Justice Court and Green Valley Justice Court. The backend solution (Axsis) is already implemented and ATS meticulously follows the business rules established by Pima County. ATS will coordinate the removal and installation of fixed speed systems with the Transportation Department and provide a turnkey solution for all proposed new products.

In summary the proposal includes:

- Removal of 7 fixed speed locations
- Retention of 4 fixed speed locations
- Addition of 5 fixed school zone locations
- 2 semi-portable speed containers for flexible enforcement
- 1 mobile speed vehicle
- Notice enhancements to include the Pima County Seal in place of the Sheriff's Badge

Pima County procurement rules permitting, there are a variety of contract options available. ATS is a proud member of cooperative agreements where ATS was selected competitively over the competition. Additionally, a sole source extension may be permissible since ATS is the single source who can operate and maintain the proprietary equipment in the existing program and there is no reasonable alternative source with this capability.

ATS proposes to pass along the cost benefits of continuing an operational program. Cost savings are achieved by; utilizing existing hardware at potential school zones, maintaining the existing interfaces with the courts, continued maintenance of the four existing locations and an extended five year contract.

Cost savings summary:

- No upfront costs for the installation of proposed school zones
- School Zone Flashers for each newly implemented school zone
- Implementation of two (2) semi-transportable speed compliance solutions
- Implementation of one (1) mobile speed compliance solution
- Reduced per paid citation fee of $50, regardless of enforcement type

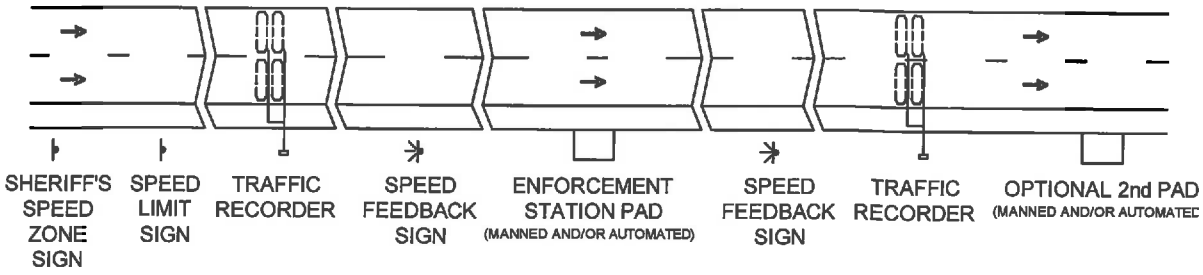
As a proud partner we have listened to the concerns and responded with solutions. We respectfully request this proposal be given consideration and look forward to continuing our partnership and implementing this improved safety program.

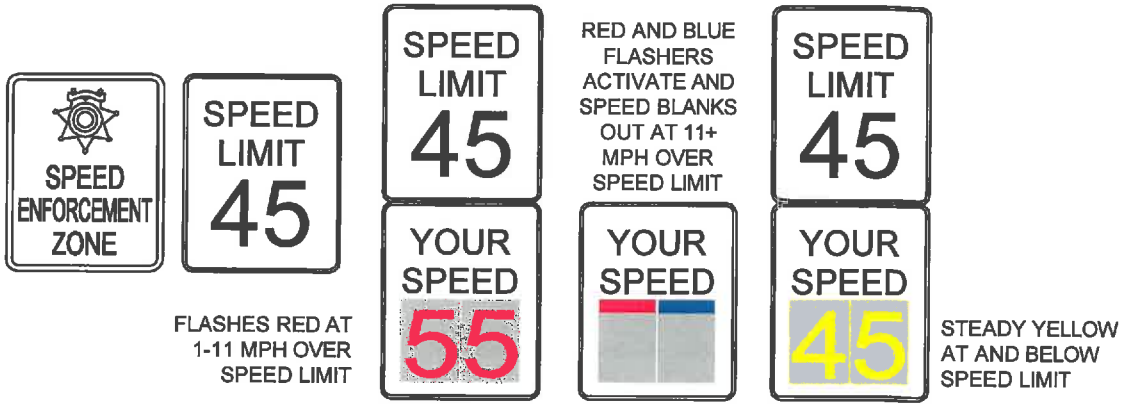
Best regards,

Mark Priebe
VP, Account Management
American Traffic Solutions Inc

SPEED ENFORCEMENT PROGRAM STATION

(SPACING, NUMBER AND TYPE OF ELEMENTS WILL VARY DEPENDING ON ROAD TYPE AND OTHER APPLICATION COSIDERATIONS)





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MEMORANDUM

Department of Transportation

DATE: February 20, 2013

TO: C.H. Huckelberry, County Administrator

FROM: Priscilla S. Cornelio, P.E., Director

SUBJECT: **Photo Enforcement Camera (PEC)Traffic Program**

This memorandum is in response to your inquiry of December 18, 2012, concerning the Photo Enforcement Camera (PEC) Traffic Program. Your inquiry asked for 1) Statistical information regarding the number of citations issued by the fixed site cameras, and 2) Cost proposal and program design for implementation of a single mobile van PEC for speed enforcement.

Statistical information regarding the number of citations issued by the eleven existing stationary site enforcement camera program throughout Pima County is as follows:

Statistical information for Eleven stationary speed camera sites (ticket volume)

The PEC program began May 2009. Quarterly breakdown in tickets issued is not available for 2010, but there is an annual total for 2010. As shown below the number of tickets issued annually has decreased by 30% between 2010 and 2012 probably as a result of drivers becoming more aware of the presence of the cameras.

2010

Total Annual Tickets
48,956

2011

Total annual Tickets	First-quarter	Second quarter	Third-quarter	Fourth-quarter
38,317	9314	10,027	8592	10,384

2012

Total annual Tickets	First-quarter	Second quarter	Third-quarter	Fourth-quarter
33,878	8681	9261	7776	8160

The current contract with American Traffic Solutions (ATS) is a five-year contract in place until December 31, 2013, with extendable one-year renewal options at the County's discretion. ATS has proposed a one year expansion of the PEC program with the addition of a mobile van PEC program with one van that could be rotated among sites. Citations (on an annual basis) from a mobile speed van surveillance program are estimated to be 4250 tickets/annum/van as experienced by the City of Tucson van. In a memo dated Nov 11, 2012, there was an assumption that the van would be deployed 24 hrs/day, but ATS has proposed duplicating the City of Tucson's program. Technology is improving and ATS has proposed an unmanned van in the future for the 24 hour program, but the cost may be higher.

The major goal for the mobile photo enforcement speed camera program is to deploy PECs in problem areas with expectations that this will assist in addressing speeding issues and result in safer roadway conditions for the traveling public.

Criteria for deployment /program implementation of Mobile PECs
It is expected that the mobile PECs will be located in the following problem areas traditionally experiencing high speeds:

1. School zones.
2. Construction zones.
3. Roadways with known speeding issues as determined by the Sheriff's Department and the Department of Transportation.
4. The proposed mobile speed surveillance van will be deployed to address speeding issues reported by concerned constituents at specific locations within Pima County traffic network.
5. County parks/playgrounds.

Operating Cost and Maintenance
All traffic safety camera program equipment is installed, owned, operated, and maintained by ATS at no direct cost to Pima County. In lieu of direct payment, ATS receives a portion of the ticket revenues collected through the PEC program as described below.

Stationary speed enforcement capability up to four lanes. Fee to be paid to ATS for each of the first 95 paid citations/ month/ camera equals $60 each paid ticket. Each additional paid citation equals $23 each paid ticket.

Mobile photo traffic enforcement unit is proposed to be as follows:
250 paid citations/month/camera equals $60 to ATS for each paid ticket. Each additional paid citation equals $23 paid to ATS. In addition, Pima County will provide storage/security for the van at Pima County's Mission Yard overnight and weekends.

Capital Cost for implementation for each mobile van is to be absorbed **by ATS**.

Van cost to vendor	$25,000
Speed recognition equipment to vendor	$60,000
Total	$85,000

Financial Considerations
Staff from Pima County Justice Court and Pima County Department of Finance has provided information for costs and revenues generated by the current PEC program. Since ticket volume varies it is difficult to accurately account for revenues at any specific time in relation to the tickets issued and tickets paid. That said, the revenues and expenses for FY 11/ 12 are presented below:

$1,788,026.73 Total revenues to Pima County FY 11/12 after state mandated payments(definition below)
-$1,206,604.46 Total expenses FY 11 /12
$581,424.27 Income to Pima County
$581,424.27/38,878 tickets= $17.16/ticket for FY 2011/12 year
Income in FY 11/12 to Pima County after state mandated payments and expenses are $17 per ticket.

The following fine amounts are taken from Pima County Judicial Court 2012 Bond Book, and include both the base fine for photo enforcement tickets and the surcharges and assessments that are levied upon them. From January 1st, 2012 to present, any fines assessed in court are subject to surcharges and assessments (state mandated payments). These state mandated payments are distributed before revenues being reported to Pima County Finance. See typical example of a ticket transaction below for state mandated assessments.

Speeding 11-15 mph over limit	$206.00
Speeding 16-20 mph over limit	$225.00
Speeding 21-25 mph over limit	$245.00
Speeding 26-30 mph over limit	$258.00
Speeding 31-45 mph over limit	$379.00

Typical Example of a Ticket Transaction for the Lowest Speed Citation (Most Volume)
There is an 83% surcharge (state mandated payments) paid to the State of Arizona as the fines are collected (detailed below). The standard photo enforcement fine plus surcharges for travelling at 11-15 miles over the speed limit is $206.00. When a full payment of this fine is made, the following breakdown occurs in the "case management system":
$20 is subtracted for the Justice Court EF Probation Assessment
$13 is subtracted for the SB1398 Assessment

Then, the state mandated percentages are taken from the remaining $173.00:

SUMMARY EXAMPLE of a TYPICAL $206 Citation

$(12.30)	13% Medical Services Enhancement Fund Surcharge
$(44.43)	47% Criminal Justice Enhancement Fund Surcharge
$(9.45)	10% Clean Elections Fund Surcharge
$(6.63)	7% Fill The Gap Surcharge
$(5.67)	6% DNA Analysis Surcharge
$(20.00)	Justice Court EF Probation Assessment ($20.00 flat)
$(13.00)	SB1398 Assessment ($13.00 flat)
$ 94.52	The remainder of the payment $94.52, is the total "base fine". Deposited to Pima County as Revenue

The base fine is reported as revenue to Pima County ($94.52 for a $206 ticket). Pima County subtracts off the ATS contractor cost per ticket ($60 /first 95 tickets/month and $23/ticket per month for the remainder over 95 tickets) along with all internal Pima County labor and supply costs.

MEMORANDUM

Date: December 18, 2012

To: Priscilla Cornelio, Director
Transportation Department

From: C.H. Huckelberry
County Administrator

Re: **Photo Enforcement Camera Traffic Program**

Please provide me with statistical information regarding the number of citations issued by the fixed site photo enforcement camera (PEC) program throughout Pima County. The data should be aggregate and show citations issued per quarter over the last one to two years.

In response to your proposal for a one-year mobile van PEC program, attached is a December 5, 2012 letter from Pima County Sheriff Clarence Dupnik. Please prepare a cost proposal and program design for implementation of a single mobile van speed PEC. This is not authorization to proceed with procuring such. This is a request for a cost estimate for such services and implementation program that defines the traffic safety benefits that would be achieved if a mobile van PEC were implemented.

CHH/dph

Attachment

c: The Honorable Clarence Dupnik, Pima County Sheriff
John Bernal, Deputy County Administrator for Public Works

Pima County Sheriff's Department

1750 E. Benson Highway • Tucson, AZ 85714-1758
Phone 520-351-4600 • Facsimile 520-351-4822
www.pimasheriff.org

Clarence W. Dupnik
Sheriff

Keeping the Peace and Serving the Community Since 1865

December 5, 2012

Mr. Charles H. Huckelberry
Pima County Administrator
130 W. Congress, 10th Floor
Tucson, Arizona 85701

Dear Chuck,

My staff has received and reviewed the report compiled by Ms. Priscilla Cornelio, Pima County Transportation Director, regarding the effectiveness of the fixed site photo enforcement camera (PEC) program. This report includes her suggestion of initiating the use of mobile van speed photo enforcement cameras provided by American Traffic Solutions (ATS) for a one year evaluation to study the effect on traffic safety.

Currently the Sheriff's Department Special Operations Section assists ATS with some administrative duties involving the fixed PEC sites by facilitating in the identification of obscured drivers in photographs provided to them by ATS, and in enforcing criminal (not civil) traffic violations. My staff would be available to provide the same service in the event you choose to utilize the mobile van speed PEC's provided by ATS.

Additionally, Sheriff's Department staff can provide input into problem areas identified through multiple citizen complaints and areas recognized for excessive speed. It is expected that the Transportation Department, in coordination with ATS, would provide, in advance, a listing of the locations including dates and times of the deployment of the mobile van PEC's to the Special Operations Section as well as to the local media.

I understand by the proposal that my staff will not man, drive, or provide storage for the units provided by ATS. As there are no deputies conducting these services, I prefer that the mobile van is not marked with Pima County Sheriff's Department indicia in any way.

Sincerely,

By Clarence W. Dupnik, Sheriff

Public Safety Improvements

In previous reports, it has been reported that from 2008 to 2010 fatal crashes have been reduced by 48%; and fatalities due to excessive speed were reduced from 13 fatalities down to zero. This is accurate, but the PECs may not be the underlying reason for the positive results. The data suggests that there are only certain locations that the speed has diminished and the differential is small between the before and after date of the PEC installation. I would suggest that there are many variables that have changed in during this time period such as:

1. PCSD has step up their traffic patrols and are quite successful in removing DUI drivers and speeding vehicles on Pima County roads.
2. Large Capital Improvement Projects have been completed contributing to a safer roadway network.
3. Spot Capital Projects have been completed in known crash prone locations contributing to a safer roadway network.
4. Socio-economic factors including the recession have contributed to the type of driver on the roadway.

To try and evaluate the PEC effectiveness, Pima County Department of Transportation will install speed tubes at varying distances before and after the speed camera locations to determine the effectiveness of the PEC program locally and system wide. The goal is to determine if vehicles are slowing just for the camera or does the PEC program influence the transportation speed system wide?

In addition, DOT will investigate before and after crash statistics. Data from the previous three years will be compared to the most recent three years that the cameras have been in place to determine if there is a significant crash reduction/property value damage reduction attributed to the Photo Enforcement Camera Program. It is expected that this additional information will be available after new speed data has physically been collected and analyzed. This report will be completed by May 1, 2013.

C: Ana Olivares, Deputy Director-Transportation
Ben Goff, Deputy Director- Transportation Systems, Support and Operations
Robert W. Johnson, Division Manager, Department of Finance
Seth Chalmers, Traffic Engineering Division Manager
Mo Farhat, Traffic Engineering Civil Engineering Manager
Mark Baird, Traffic Engineering
Lt. Lisa Sacco, Commander, PCSD Special Operation
Annabelle Valenzuela, Community Relations Manager