

# Denver Photo Enforcement Program

## Performance Audit

December 2011

Office of the Auditor  
Audit Services Division  
City and County of Denver



Dennis J. Gallagher  
Auditor

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# City and County of Denver

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*Dennis J. Gallagher*  
Auditor

December 15, 2011

Mr. Alex Martinez, Manager  
Department of Safety  
City and County of Denver

Dear Mr. Martinez:

Attached is the report of our audit of Denver's photo enforcement program, including the photo radar program, which measures speed compliance in designated areas, and the photo red light program, which measures compliance with red lights at four Denver intersections. The purpose of the audit was to evaluate the governance of the photo enforcement program, especially in relation to safety and finances, and to review program processes.

Unfortunately, DPD has not demonstrated that the photo radar program has a positive impact on public safety. Similarly, while DPD is working to assist Public Works' Traffic Engineering Services with an analysis of the photo red light program's safety impact, the analysis' conclusions may be limited by the concurrent implementation of longer yellow lights or other factors, such as the trend of Denver's overall annual accident numbers. It is critically important that both programs be supported with solid Denver-based data, so we do not maintain public policy on the basis of anecdotal evidence or national data that may not accurately represent Denver driver behavior. While we have concerns about the demonstrable safety impact of both photo enforcement programs, we note as of October 2011 both programs generated more revenue than the amount budgeted for 2011. Because these programs were sold as public safety enhancements but are widely viewed as a cash grab, it undermines public trust to maintain photo enforcement programs that are profitable but whose safety impact has not been conclusively shown. If this situation persists, then the photo enforcement programs should be shut down.

One area of particular public interest has been the issue of personal service of citations. We determined that DPD is not required to use personal service to comply with Denver ordinance and Colorado state law, and suggest to you an alternative method of service that offers promise of lowering costs, increasing revenues, or both.

If you have any questions, please call Kip Memmott, Director of Audit Services, at 720-913-5000.

Sincerely,

Dennis J. Gallagher  
Auditor

***To promote open, accountable, efficient and effective government by performing impartial reviews and other audit services that provide objective and useful information to improve decision making by management and the people. We will monitor and report on recommendations and progress towards their implementation.***

DJG/cnh

cc: Honorable Michael Hancock, Mayor  
Honorable Members of City Council  
Members of Audit Committee  
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Ms. Cary Kennedy, Chief Financial Officer  
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*Dennis J. Gallagher*

Auditor

## AUDITOR'S REPORT

We have completed an audit of Denver's photo enforcement program, which is administered by a program contractor and overseen by the Denver Police Department (DPD). The purpose of the audit was to examine and assess the photo radar program and the photo red light program, and to identify possible inefficiencies and opportunities for improvement.

This performance audit is authorized pursuant to the City and County of Denver Charter, Article V, Part 2, Section 1, *General Powers and Duties of Auditor*, and was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The audit revealed that DPD needs to develop a methodology to measure the specific effects of both the photo radar and photo red light programs. Up to this point, DPD has not shown the specific public safety impact of either program, although DPD is working with Traffic Engineering Services within Public Works to evaluate the effectiveness of the red light program. However, revenues for the photo radar and photo red light programs will exceed their budgets for 2011. Neither program should be expanded until DPD shows that each program has made a true impact on public safety over time. Further, since DPD's goal for the programs is to ensure safety, continuing to generate net revenues without a demonstrable safety impact will likely diminish public confidence in the programs. If these circumstances continue, the programs should eventually be terminated.

We extend our appreciation to the Department of Safety, Denver Police Department, and all personnel who assisted and cooperated with us during the audit.

Audit Services Division

Kip Memmott, MA, CGAP, CICA  
Director of Audit Services

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# EXECUTIVE SUMMARY

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## Denver Uses Cameras to Enforce Compliance with Speed and Red Light Laws

The City and County of Denver employs a photo radar program and photo red light program, collectively known as the *photo enforcement program*. The photo radar program, which began in 2002, uses camera equipment mounted on photo radar vans to enforce speed compliance in designated areas allowed under Colorado state law.<sup>1</sup> For the photo radar program, a violation occurs when a motorist exceeds the speed limit by ten miles per hour or more. The photo red light program, which was inaugurated as a pilot program in 2008, monitors red light compliance at one entry point at four intersections within the Denver city limits: 8<sup>th</sup> Avenue and Speer Boulevard; 6<sup>th</sup> Avenue and Lincoln Street; 6<sup>th</sup> Avenue and Kalamath Street; and 36<sup>th</sup> Avenue and Quebec Street.

## The Photo Radar Program's Safety Impact Has Not Been Sufficiently Measured and Revenues Exceed Expenditures

The Denver Police Department (DPD) has not sufficiently evaluated the effects of the photo radar program on speeds, accident rates, and pedestrian or officer safety. In addition, the current method for assessing the program, based solely on how the number of violations has changed, is inadequate, as it does not directly correlate to a sustained decrease in speeds after photo radar is deployed to a different location. A recent negative opinion piece in the *Denver Post* highlighted the importance of demonstrating to the public the impact of the photo radar program on safety.<sup>2</sup>

**No assessment of impact on speed reduction**—DPD has not evaluated the true effect of the photo radar program on speeds in Denver. To measure the program's true effect on speed, a set of baseline or comparison speeds needs to be established. So far, DPD has not established a baseline for vehicle speeds when photo radar vans are not present. Gathering this data would be difficult, as it would require the use of inconspicuous means, and a longer term study on speed trends would require photo radar vans to be deployed in the same location for longer periods of time, such as a three-, six-, or twelve-month period.

**There has been no evaluation of photo radar's effect on pedestrian or officer safety**—DPD officials assert that officer, pedestrian, and citizen safety is improved by the photo radar program because officers are not physically pursuing violators to issue individual

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<sup>1</sup> The City employed a photo radar program beginning in 1998. However, a Denver County Court judge ruled in 2002 that the City's photo radar program was in violation of Colorado Revised Statutes and Denver Revised Municipal Code. This initial program was restructured to take its current form. See *Denver v. Pirosko*, Cases No. S003143859, S003143912, S002999146, S003006196 (Denver Cty. Ct. Jan. 28, 2002).

<sup>2</sup> Vincent Carroll, *Put a stop to red-light cameras*, November 09, 2011 (<http://www.DenverPost.com>).

citations. However, DPD has not conducted a study to determine whether the safety of officers or citizens, especially pedestrians, has improved since the advent of the photo radar program. While DPD retains accident and pedestrian injury data that could be used as a baseline, it would be difficult to determine how photo radar affects safety in any particular area since the photo radar vans are only in one place for a relatively short period of time.

**The current measures of program impact are inadequate**—The program contractor provides DPD with an annual report summarizing the results of the photo radar program for the prior three years, but the data do not adequately show that the program has positively impacted safety. The most recent report, which covers 2007 through 2009, shows a decrease in the number of violations for vehicles traveling ten or more miles per hour over the speed limit in eight of the ten most frequent photo radar van deployment areas, as measured by deployment hours. However, a reduction in violations does not necessarily entail a significant reduction in speed, nor does it indicate a decrease in accident rates or pedestrian injuries. Further, a 2006 internal DPD assessment suggests that DPD believes driver's habits adjust as citizens become familiar with the locations of the photo radar vans. Therefore, a decrease in violations does not directly correlate to a sustained decrease in speeds after photo radar is deployed to a different location.

**Additional study is needed to demonstrate the effectiveness of the photo radar program**—DPD has not demonstrated the safety impact of the photo radar program, despite safety being the primary reason DPD officials provide in support of the program. Consequently, there is risk in maintaining or expanding the photo radar program until the safety impact of the program can be conclusively and scientifically demonstrated. To better assess the impact of the photo radar program, the Manager of Safety should ensure that DPD completes a study of the effects of the photo radar program on overall vehicle speeds, accident rates, and pedestrian injuries by January 2015. The study would first determine baseline speeds in key enforcement areas, followed by a long-term assessment of how the photo radar deployment impacts speeds in comparison to the baseline previously set. After the baseline data is established, performing the remainder of the long-term assessment would likely require a change in how the photo radar vans are deployed, requiring them to stay in one place for at least several months at a time. In addition, the Manager of Safety should determine whether DPD needs to consult with a third-party who can provide assistance in developing a reliable study of photo radar effectiveness. The Manager of Safety should not expand the photo radar program until the program benefits are adequately demonstrated through an analysis of the program's effect on, at minimum, speeds, accident rates, and pedestrian injuries.

**Photo radar program revenues have surpassed annual program expenditures**—In both 2010 and 2011, the photo radar program generated revenues significantly in excess of the program's expenditures. Specifically, the photo radar program generated approximately \$3.6 million in revenue for 2010, with net revenues totaling almost \$400,000. Total revenues have increased to approximately \$5.9 million for the period of January 1, 2011 through October 24, 2011, and net revenues for that period are approximately \$955,000. According to DPD's Finance Bureau, photo radar revenues are

projected to surpass \$7 million in 2011, which would result in over \$2 million in net program revenues for the year.

In 1997, the Colorado legislature promulgated state law permitting the use of automated vehicle identification systems (AVIS) subject to certain controls.<sup>3</sup> One of these controls limited the amount of revenue that can be realized from AVIS. Specifically, the compensation paid by the city and county to the AVIS vendor may not be based upon the number of traffic citations issued or the revenue generated by the AVIS equipment.<sup>4</sup> This suggests that AVIS programs should not be used primarily to generate revenue. However, Denver's photo radar program is a revenue generator and DPD officials have not effectively shown the safety impact. Therefore, DPD needs to sufficiently demonstrate the safety impact of the photo radar program. Failure to do so creates the risk that public confidence in the program will diminish. Because of the risk to public confidence in the program when the program is primarily viewed as a revenue generator, if the recommended evaluation of photo radar's impact on safety is not completed by January 2015, the Manager of Safety should terminate the photo radar program.

## The Photo Red Light Program's Safety Impact Has Not Yet Been Determined and 2011 Revenues Will Exceed the Program's Expenditures

While DPD has not effectively evaluated the impact of the photo radar program on public safety, an evaluation of the photo red light program is underway. The photo red light program began in 2008 as a pilot program. Denver's Traffic Engineering Services (TES) within the Department of Public Works is assessing accident data for intersections monitored by red light cameras to help determine whether the pilot program has successfully impacted public safety.<sup>5</sup> DPD has worked with TES to assist in the evaluation by providing accident data.

**An analysis on the effect of red light cameras is forthcoming and would need to establish a clear independent effect on public safety**—TES plans to issue the results of an analysis regarding the public safety impact of red light cameras based on accident data from the beginning of the program in 2008 to 2011. Because other factors may also have had an effect on public safety that is concurrent to red light cameras, the final TES analysis will have to address the impact of other factors that may also affect accident rates. For instance, TES implemented longer yellow light intervals at the red light camera intersections at almost the same time as they installed the red light cameras. In addition, at three of the four intersections with red light cameras, the number of right angle accidents was decreasing before the right light cameras were installed.

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<sup>3</sup> Colorado Senate Bill 36 (1997).

<sup>4</sup> C.R.S. § 42-4-110.5 (5).

<sup>5</sup> Traffic Engineering Services (TES) is responsible for the operation, maintenance, installation and emergency repair of traffic control devices. They maintain a fiber optic communication network providing services to the Department of Public Works, Information Technology Division and Denver Police Department. For more information about TES see <http://www.denvergov.org/TrafficEngineeringServices>.

TES' analysis had not been completed when this audit report was drafted. However, when the analysis is completed, it will need to demonstrate the photo red light program has positively impacted public safety, specifically, that accidents have decreased as a result of the red light cameras. While TES' report may show that accidents have decreased at intersections monitored by red light cameras, or that *right angle accidents* have decreased, the analysis should show conclusively that the red light cameras have caused a decrease in accidents to provide a safety justification for further use of red light cameras. If the TES analysis does not show conclusively that the red light camera pilot program has an independent, positive effect on accident rates, then the Manager of Safety should consider ending the red light pilot program. If there is no conclusive data to support the program's impact on accident rates and the Manager of Safety decides not to end the program, DPD should ensure that it does not act on its plans to expand the red light program until future evidence is presented showing that the red light program has reduced accident rates.

**The photo red light program has begun generating more revenue**—DPD maintains that the red light program improves public safety but as of November 2011 no Denver-based study has conclusively demonstrated the actual impact of red light cameras on accidents. A pending report from TES may assist DPD in determining the impact of red light cameras. Meanwhile, program revenues have begun to exceed expenditures. According to the program contractor, ACS, the change in revenue resulted primarily from an effort to fine-tune the red light system to more effectively capture when vehicles stop beyond the *stop line*. Enforcing a violation at an intersection's stop line is inconsistent with a more lenient enforcement of speed limits under the photo radar program. Enforcing a policy that increases revenues, while not having justified the safety impact of the program, creates a risk for DPD that the public may potentially see the red light program as a revenue generator rather than a public safety program.

Since May 2011, the photo red light program's revenues have increased. In 2010, the red light program was budgeted to earn \$1.9 million in revenues, but only earned about \$720,000. However, in early 2011, DPD and the new program contractor began retooling the red light system to more effectively capture violations. As a result, from May 2011 through October 24, 2011, monthly program revenues were approximately \$1.37 million, or about \$230,000 per month. By comparison, program revenues for January 2011 through April 2011 were approximately \$230,000, or \$57,500 per month.

**Denver is the only Colorado jurisdiction to enforce stop line violations**—Currently, D.R.M.C. sets the stop line of an intersection as the primary enforcement point for photo radar.<sup>6</sup> However, six Colorado municipalities that use photo red light cameras responded to a survey indicating that they do not enforce stop line violations. The Manager of Safety should ensure that DPD re-evaluates its policy of enforcing stop line violations in light of these benchmark findings. The evaluation should include the potential safety

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<sup>6</sup> The stop line, sometimes called a stop bar, is a painted line at an intersection that comes before the crosswalk that denotes where a vehicle should come to a complete stop. If the intersection does not have a stop line, the next enforcement point is the near side of the pedestrian crosswalk. For intersections with neither a stop line nor a pedestrian crosswalk, the enforcement point is the point at which the intersection begins. All of Denver's four photo red light intersections have stop lines.

impact and input from policymakers. DPD should also be aware that while program revenues recently increased in Denver, if DPD or Denver policymakers change the violation point to better align with practices in other municipalities, program revenues may decline to the point where they do not meet the budget for the program.

## Penalty Assessment Notices and Notices of Violation Could be Delivered More Efficiently

One key area related to photo enforcement that has received recent media attention is whether personal service of photo enforcement violations is required.<sup>7</sup> To be clear, under Colorado state law penalty assessment notices (PANs) or summons and complaints do not have to be *personally served*. Specifically, C.R.S. allows citations to be served through both personal service—where a copy of the penalty assessment notice is given to a person—and through other means of service.<sup>8</sup> Similarly, D.R.M.C. allows for multiple methods of service by incorporating the service requirements set out in the Colorado Municipal Court Rules of Procedure (C.M.C.R.).<sup>9</sup> Rule 204 of C.M.C.R. provides that service can be accomplished by personally serving a citation to a defendant, by serving the citation to someone over the age of 18 in the defendant's home, or sending the citation through certified mail. Individuals who are served with a citation may be charged the actual cost of the service, provided that cost is no more than the usual cost of a civil service of process.<sup>10</sup>

DPD can improve the efficiency of service for PANs, and of issuance of Notices of Violation (NOVs). In Denver, PANs are actual citations generated through photo radar and photo red light enforcement, and must be served to alleged violators. However, personal service of PANs is not required by Colorado state law, and is not required by five of seven Colorado municipalities that had photo enforcement programs as of July 2011. Further, under D.R.M.C., the C.M.C.R. for service must be followed. These rules provide that service can be accomplished via face-to-face delivery or by certified mail. However, DPD does not use certified mail. Specifically, DPD uses a third-party process server to accomplish personal service of PANs, and pays more for this type of service than it would for service through certified mail. In addition, PANs are only personally served in certain parts of Colorado and Wyoming, while certified mail can be sent throughout the United States. One possible method of serving PANs in a more effective way would be to utilize the state of Colorado's print shop for bulk mailings.

Additionally, DPD could improve its efficiency and effectiveness in issuing NOVs, which are the initial notices sent to violators resulting from photo radar and photo red light

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<sup>7</sup> Heidi Hemmat, *Photo radar tickets may not be worth the paper they're written on*, April 28, 2011, (<http://www.kdvr.com/news>); Heidi Hemmat, *Investigation: Are red light tickets worthless too?*, May 04, 2011, (<http://www.kdvr.com/news>); Vincent Carroll, *Photo-radar cash cows*, September 18, 2011, (<http://www.DenverPost.com>).

<sup>8</sup> See C.R.S. § 42-4-110.5 (2)(a). As an example, other means of service may include *service by mail* or *service by publication*. Service by mail involves mailing a notice to an appropriate party, and service by publication is accomplished by publishing a notice in an allowable place, such as a newspaper published in the county in which an action is pending. See Colorado Rules of Civil Procedure Rule 4 (f) and (g). Service by publication is not a service option under D.R.M.C.

<sup>9</sup> See C.R.S. § 42-4-110.5 (2)(a) and D.R.M.C. § 54-830 (c).

<sup>10</sup> See C.R.S. § 42-4-110.5 (2)(a).

enforcement. These notices are sent to the first registered owner of a vehicle photographed in violation, regardless of whether the registered owner's name appears to match the photographed driver. By matching the registered owner most likely appearing in the photograph, DPD would enhance the efficiency of NOV issuance.

# INTRODUCTION & BACKGROUND

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## Denver Has Photo Radar and Photo Red Light Programs

The City and County of Denver photo enforcement program comprises a photo radar program, which enforces general compliance with speed limits, and a photo red light program, which enforces red light compliance. A photo enforcement system (automated vehicle identification system) is a detection system that synchronizes the taking of a photograph with the occurrence of a possible traffic violation. Photo enforcement traffic violations are similar to other traffic violations only they are captured by photograph and citations are issued at a later time rather than immediately, as when observed by a police officer. The Denver Police Department's Photo Enforcement Unit, which is tasked with overseeing both photo enforcement programs, consists of 17 full time employees including executive management, a supervisor, and 13 photo enforcement agents.

In the state of Colorado, photo enforcement is considered a matter of statewide concern, and the state has established laws in the Colorado Revised Statutes (C.R.S.) regarding the implementation of *automated vehicle identification systems*, also called *photo enforcement systems*. Local jurisdictions are given express authority to supplement the state statutes regarding photo enforcement systems where it is apparent that local control may be necessary in addition to state control. Denver supplements C.R.S. through its Denver Revised Municipal Code (D.R.M.C.) provisions regarding photo enforcement. However, although state statutes provide authority to local governments, in matters of statewide concern, case law indicates Colorado statutes regarding photo enforcement supersede local ordinances, meaning that even home-rule jurisdictions such as Denver must not exceed authority found in Colorado statute.

## Photo Radar Program

The photo radar program, implemented by the City in 2002, uses camera equipment mounted on photo radar vans to enforce speed compliance in designated areas allowed under Colorado state law.<sup>11</sup> The City and County of Denver's photo radar program has a fleet of five photo radar vans that are maintained by the City's Photo Enforcement Unit, which operates photo radar enforcement seven days per week. Typically four photo radar vans are in enforcement mode at any one time, with one serving as a backup vehicle.

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<sup>11</sup> The City employed a photo radar program beginning in 1998. However, a Denver County Court judge ruled in 2002 that the City's photo radar program was in violation of Colorado Revised Statutes and Denver Revised Municipal Code. This initial program was restructured to take its current form. See *Denver v. Pirosko*, Cases No. S003143859, S003143912, S002999146, S003006196 (Denver Cty. Ct. Jan. 28, 2002).

Eighty-nine jurisdictions nationwide have a photo radar enforcement system, three of which are in Colorado.<sup>12</sup> Some states completely prohibit the use of photo radar enforcement, and a few allow the use of photo radar so long as a police officer is present.

**Colorado state law places limitations on how photo radar is used**—Colorado state law grants authority to municipalities to adopt ordinances and utilize photo enforcement equipment to detect traffic violations. However, photo radar usage is subject to limitations detailed in C.R.S. § 42-4-110.5 (2), as follows:



Photo Radar Signage  
Source: Auditor's Office

- There must be proper signage. For photo radar, signage requirements include: a temporary sign in a conspicuous place not fewer than 300 feet before the area in which photo radar is used notifying the public that the device is in use immediately ahead. Posting a permanent sign at the border of the jurisdiction does not satisfy this requirement, and neither does posting a permanent sign in the area of photo radar equipment.
- No citation may be issued unless an officer or employee of the jurisdiction is present during the operation of the photo enforcement device.
- No citation may be issued unless the violation occurs within a school zone; within a residential neighborhood; within a maintenance, construction, or repair zone; or along a street that borders a municipal park.<sup>13</sup>

**National research suggests that reducing traffic speed enhances safety**—The National Highway Traffic Safety Administration (NHTSA) reports the economic cost of speed-related crashes is more than \$40 billion each year and speed is a factor in nearly one-third of all fatal crashes. This justifies the need for jurisdictions to address speeding infractions, particularly in zones with heavy pedestrian use. A 2010 review by NHTSA concluded that the use of speed enforcement cameras reduced:

- Average speeds by between 1 and 15 percent
- The total percentage of speeding vehicles by between 14 and 65 percent

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<sup>12</sup> Some jurisdictions refer to their photo enforcement systems as an Automated Vehicle Identification System (AVIS).

<sup>13</sup> A *school zone* is defined as any portion of the street or highway designated as such by the city traffic engineer, where traffic signs, control devices, or both are in place to indicate the start and end of the zone, the times that the location is deemed to be a school zone, and that the penalty for a violation within the zone is doubled. See D.R.M.C. § 54-1. A *residential neighborhood* is any block on which a majority of the improvements along both sides of the street are residential dwellings and the speed limit is 35 miles per hour or less. See C.R.S. 42-4-110.5 (2)(g). A *construction zone* is any portion of the street or highway designated as such by the city traffic engineer, where traffic signs, control devices, or both are in place to indicate the start and end of the zone, and that the penalty for a violation within the zone is doubled. See D.R.M.C. § 54-1.

- All crashes by between 8 and 49 percent
- Injury crashes by between 8 and 50 percent
- Fatal or serious injury crashes by between 11 and 44 percent in vicinities with cameras

Because the data are national in scope and contain such wide ranges, it is important to view it in context. Further, the national data do not specifically address the effectiveness of photo enforcement systems in Denver.

## Photo Red Light Program

Denver's photo red light program, implemented by the City in 2008, monitors red light compliance at one entry point at four intersections within the Denver city limits: 8<sup>th</sup> Avenue and Speer Boulevard; 6<sup>th</sup> Avenue and Lincoln Street; 6<sup>th</sup> Avenue and Kalamath Street; and 36<sup>th</sup> Avenue and Quebec Street. For a map of these locations, refer to Appendix A.

Although seven states prohibit this type of program, photo red light enforcement is widely used in over 500 communities nationwide. Colorado municipalities utilizing red light cameras include: Aurora, Boulder, Cherry Hills Village, Denver, Fort Collins, Greenwood Village, Littleton, Lone Tree, Northglenn, and Pueblo.<sup>14</sup>

Similar to photo radar, Colorado statute grants local governments authority to adopt ordinances and utilize photo red light equipment to detect traffic violations and requires proper signage for the usage of those systems. C.R.S. § 42-4-110.5 (2)(d)(II) states: the sign must be in a conspicuous place not fewer than 200 feet or more than 500 feet before the photo red light system and the sign's uppercase lettering must be at least 4 inches high. Similarly, D.R.M.C. provides guidance on how photo red light programs enforced red light violations. Currently, D.R.M.C. sets the *stop line* of an intersection as the primary enforcement point for photo red lights.<sup>15</sup> A stop line indicates where drivers shall stop when directed by an official traffic control device or a police officer.



*Photo Red Light Signage*  
Source: Auditor's Office

An Insurance Institute for Highway Safety (IIHS) study of urban crashes found the most common type of crash (22 percent) involved running red lights, stop signs, or other traffic controls, and injuries occurred in 39 percent of those types of crashes.<sup>16</sup> Some studies

<sup>14</sup> Colorado Springs eliminated its photo red light program in October 2011.

<sup>15</sup> If the intersection does not have a stop line, the next enforcement point is the near side of the pedestrian crosswalk. For intersections with neither a stop line nor a pedestrian crosswalk, the enforcement point is the point at which the intersection begins. All of Denver's four photo red light intersections have stop lines.

<sup>16</sup> The Insurance Institute for Highway Safety (IIHS) is "an independent, nonprofit, scientific, and educational organization dedicated to reducing the losses ... from crashes on the nation's highways."

have shown a general trend in safety improvements including decreases in violations, collisions, injuries, and fatalities with the use of photo enforcement, not only for the specific intersections containing the cameras, but in neighboring intersections as well. For example, a 2011 IIHS study found that red light cameras reduced red light running by 24 percent and reduced all types of fatal crashes by 17 percent in signalized intersections. While the installation of red light cameras have reduced the numbers of mid-intersection crashes, they have been associated with a 15 percent increase in rear-end collisions.

## Photo Enforcement Citation Processing

Colorado state law *does not* explicitly require that photo enforcement citations be processed by uniformed police officers. Denver ordinance assigns responsibility of traffic law enforcement to the DPD.<sup>17</sup> Officers, or such special officers as assigned by the Manager of Safety, are authorized to enforce all traffic requirements.<sup>18</sup> In 2002, a class action law suit was filed against the City which resulted in a ruling in Denver County Court that DPD violated D.R.M.C. § 54-19 by delegating police responsibilities to ACS, the program contractor for photo radar enforcement.<sup>19</sup> As a result, photo enforcement monitoring is now under the responsibility of the DPD's Photo Enforcement Unit.

Photo enforcement agents receive training and must pass a background check, a written test on radar theory, a police officer-administered field test on their ability to estimate speeds, and a supervisor-administered field test on their knowledge and skills in set up, signage requirements, and location analysis. Once they have completed all training, the agents receive certification for special police powers, which is valid for a three-year period. All personnel in the Photo Enforcement Unit have received express authority by the DPD to observe photo enforcement infractions and issue citations for those violations.

**Payment to photo enforcement contractors**—Colorado state law prohibits Colorado jurisdictions from paying photo enforcement contractors based on the number of citations issued or the revenue generated by the jurisdiction's photo enforcement program. This prohibition removes an incentive to inflate the number of citations issued for the contractor's pecuniary gain.<sup>20</sup>

## Photo Enforcement Citation Requirements

When a driver commits an alleged violation detected by either a photo radar van or red light camera, Colorado law requires that citations be served no later than 90 days after the alleged violation occurred, and D.R.M.C. provides additional requirements. In

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<sup>17</sup> See D.R.M.C. § 54-19.

<sup>18</sup> See D.R.M.C. § 54-54 (a). A *police officer* is defined in D.R.M.C. as every officer of the police department, or any other peace officer, or other person designated and authorized in writing by the manager of safety to direct or regulate traffic, or make arrest, pursuant to such powers. See D.R.M.C § 54-1.

<sup>19</sup> See *Denver v. Pirosko*, Cases No. S003143859, S003143912, S002999146, S003006196 (Denver Cty. Ct. Jan. 28, 2002).

<sup>20</sup> See C.R.S. § 42-4-110.5 (5). This C.R.S. provision explicitly applies to both manufacturers and vendors of automated vehicle identification system equipment.

speeding cases, for example, every citation must specify the approximate speed as well as the posted or un-posted speed limit at the location.<sup>21</sup>

City ordinance also contains the following requirements for photo enforcement citations:

- Any citation from photo enforcement must include: the name and address of the defendant; the license number of the vehicle involved; citation of the alleged D.R.M.C. provision violated; a brief description of the violation; the amount of the penalty, and the number of points assigned (if any); and the date the summons and complaint is issued. The citation shall direct the defendant to a specified county court date, to respond in person at the county clerk's office, or allow the defendant to accept responsibility and pay the penalty before the court appearance date.
- The court date, or fine due date, should be at least 30 days, but not more than 90 days, after the summons and complaint issue date.
- The citation should be issued in compliance with the Colorado Municipal Court Rules of Procedure (C.M.C.R.).<sup>22</sup>

In addition to specifying certain requirements, Denver ordinance provides a foundation for the legitimacy of photo enforcement citations, noting that they are found to be scientifically accepted and are considered valid, trustworthy, and reliable when operated in accordance with three primary provisions. First, the photo enforcement agent is properly trained on the photo enforcement equipment. Second, the system is operated as instructed by the manufacturer. Third, the speed mechanism is calibrated appropriately.<sup>23</sup>

## Selected Cases Regarding Photo Enforcement Uphold Key Tenets of Photo Enforcement Policy

A body of case law has risen that provides insight on the legality of photo enforcement systems and the methods of enforcing photo-based citations. We present a limited set of examples here to illustrate that some key tenets of photo enforcement policy appear legally sound.

The idea that cameras can be used as a law enforcement tool was addressed by the U.S. Court of Appeals for the Seventh Circuit in 2009.<sup>24</sup> In this case, the court noted that "no one has a fundamental right to run a red light or avoid being seen by a camera on a public street."<sup>25</sup> In addition, the court found, "a system of photographic evidence reduces the costs of law enforcement and increases the proportion of all traffic offenses that are detected; these benefits can be achieved only if the owner is held responsible." Finally, the court stated, "A system that simultaneously raises money and improves

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<sup>21</sup> See D.R.M.C § 54-161.

<sup>22</sup> See D.R.M.C § 54-830.

<sup>23</sup> See D.R.M.C. § 54-834.

<sup>24</sup> *Idris v. City of Chicago*, No. 08-1363 (7th Cir. January 5, 2009).

<sup>25</sup> *Ibid.*

compliance with traffic laws has much to recommend it and cannot be called unconstitutionally whimsical."<sup>26</sup>

Additionally, selected case law has indicated that photo enforcement citations sent to the registered owner of the vehicle are presumed valid.

- A District of Columbia trial judge upheld the presumption that the driver of a vehicle is the registered owner and noted that in civil cases, the owner of a vehicle is liable for the negligence of any person driving the vehicle with the owner's consent. Vehicle owners are routinely held liable for parking infractions and abandoned vehicles.<sup>27</sup>
- The Supreme Court of Oregon concluded it was permissible to shift the burden to the defendant to present an alternative that is more probable than the presumption in the claim because Oregon photo radar law gives the state the benefit of a presumption that the registered owner is the violator. The same case referred to a 1976 U.S. Supreme Court decision and the court found, "... it was rational for the legislature to assume that registered owners commonly drive their own cars..." therefore, proof of ownership is a point at which the burden shifts to the owner of the vehicle to prove they were not operating the vehicle.<sup>28</sup>
- The Supreme Court of Oregon also held that the state could not avail itself of the presumption that the defendant was driving when the photo radar image was taken without proving the predicate fact that the defendant was the registered owner.<sup>29</sup>

Although a photo enforcement citation presumes the registered owner is the driver of the vehicle, C.R.S. prohibits requiring the registered owner to identify the actual driver to prove their innocence. However, the registered owner may be required to provide evidence they were not driving at the time of the alleged violation.<sup>30</sup>

Denver ordinance specifies that photo enforcement evidence constitutes *prima facie* evidence that the registered owner of the vehicle or the operator designated by the registered owner of the vehicle was the person committing the violation. This may be rebutted if evidence is provided contradicting the allegation. If a person contests that they were operating the vehicle at the time of the citation, they may sign an affidavit attesting such. However, falsifying an affidavit is subject to penalty.<sup>31</sup>

## Photo Enforcement Penalties

In Colorado, each adult driver over the age of 21 will have his or her license suspended after accumulating more than 12 points in 12 consecutive months, or 18 points in 24 consecutive months, for speeding citations issued by an officer. However, state law

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<sup>26</sup> *Ibid.*

<sup>27</sup> *Agomo v. Fenty*, 916 A.2d 181 (D.C. App. 2007).

<sup>28</sup> *State v. Dahl*, 87 P.3d 650, 655 (Or. 2004).

<sup>29</sup> *State v. Clay*, 29 P.3d 1101 (Or. 2001).

<sup>30</sup> See C.R.S. § 42-4-110.5 (2)(e).

<sup>31</sup> See D.R.M.C. § 54-833.

prohibits local jurisdictions from assessing points against a license and keeping any record of such a violation in the official records maintained by the department on photo enforcement violations.<sup>32</sup> In addition, the jurisdiction may not report to the state of Colorado any outstanding judgment or warrant if the violation was detected through photo enforcement.<sup>33</sup> The lower fines and zero-point assessments from photo enforcement violations are meant to prevent abuse of the technology as a revenue generator.

Under D.R.M.C., speed-related traffic violations that are not identified through photo enforcement are classified as either Class A traffic infractions or criminal violations. Class A traffic infractions involve violations of 1 to 24 miles per hour over the speed limit and criminal violations result from infractions 25 or more miles per hour over the speed limit. However, in Colorado, photo radar citations are not differentiated into Class A or criminal violations.

Conversely, Colorado law mandates that photo radar violations ten miles per hour or more over the speed limit carry a maximum penalty of a \$40; however, the \$40 maximum does not apply to construction zones or school zones. Penalty amounts for speeding infractions in these zones are doubled.<sup>34</sup> There is a maximum penalty of \$75 for photo red light violations.<sup>35</sup> Denver imposes the maximum fine for both photo radar and photo red light violations. By DPD policy, citations are only issued in cases of violations ten miles per hour or more over the speed limit. However, state law does not prevent the City from issuing photo enforcement citations for lower speed violations.

## Personal Service of Photo Enforcement Citations

Under Colorado state law, penalty assessment notices or summons and complaints must be served on individuals, and C.R.S. allows citations to be served through both *personal service*—where a copy of the penalty assessment notice is given to a person—and through other means of service.<sup>36</sup> This provision is echoed and amplified under D.R.M.C. by incorporating the personal service requirements set out in C.M.C.R.<sup>37</sup> Rule 204 of C.M.C.R. provides that service can be accomplished by personally serving a citation to a defendant, serving the citation to someone over the age of 18 in the defendant's home, or sending the citation through certified mail. Individuals who are served with a citation may be charged the actual cost of the service, provided that cost is no more than the usual cost of a civil service of process.<sup>38</sup>

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<sup>32</sup> See C.R.S. § 42-4-110.5 (3) and C.R.S. § 42-4-110.5 (2)(b).

<sup>33</sup> See C.R.S. § 42-4-110.5 (2)(c).

<sup>34</sup> See C.R.S. § 42-4-110.5 (4).

<sup>35</sup> See C.R.S. § 42-4-110.5 (4.5).

<sup>36</sup> See C.R.S. § 42-4-110.5 (2)(a). As an example, other means of service may include *service by mail* or *service by publication*. Service by mail involves mailing a notice to an appropriate party, and service by publication is accomplished by publishing a notice in an allowable place, such as a newspaper published in the county in which an action is pending. See Colorado Rules of Civil Procedure Rule 4 (f) and (g). Service by publication is not a service option under D.R.M.C.

<sup>37</sup> See C.R.S. § 42-4-110.5 (2)(a) & D.R.M.C. § 54-830 (c).

<sup>38</sup> See C.R.S. § 42-4-110.5 (2)(a).

Denver has a multi-step process to handle photo enforcement citations. Denver's photo enforcement unit agents personally witness speeding violations and carefully review potential red light violations to ensure that appropriate evidence exists to enforce the violation. Once the violation is substantiated, the program contractor mails a Notice of Violation (NOV) to the first registered owner of the vehicle. This notice is sent as a courtesy to notify the defendant involved in any traffic infraction or criminal violation detected by an automated vehicle identification system advising that the violation has been detected.

The second tier of the citation process involves sending a Penalty Assessment Notice (PAN) to the alleged violator. This notice is the legal citation and is personally served to the defendant. Denver utilizes a third-party to personally serve citations. Under state statute, if a citation is personally served, the jurisdiction may charge the actual costs of service, but no more than the amount usually charged for civil service of process.<sup>39</sup> Denver adds the costs of personal service onto the violation penalty amount. For a detailed flowchart of the personal service process, refer to Appendix B.

## Results of Non-Payment of Photo Enforcement Citations

According to City ordinance, if a defendant elects not to pay the fine specified in a PAN, he or she shall appear in county court at the time specified on the citation. If a defendant denies the allegation, then a trial shall be held. If the defendant fails to appear or is found guilty, he or she may be assessed a penalty and the costs of service of process.

Failure to appear in county court allows the court to find judgment against the defendant if the city has acquired personal jurisdiction in compliance with the C.M.C.R. State law specifies that enforcing penalties for photo enforcement by immobilizing a driver's vehicle is prohibited.<sup>40</sup> However, at their discretion, the Court is allowed to assess a judgment against the defendant for the amount of the penalty plus additional fees as applicable. If unpaid, this judgment is sent to collections on behalf of the City. If an individual is not served with a PAN then the alleged violation appears to be unenforceable under C.R.S. and D.R.M.C., and failure to pay the NOV does not result in an individual being referred to collections.

## SCOPE

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The audit reviewed the Denver Police Department Traffic Operations Bureau's Photo Enforcement Unit, which manages both the photo radar and photo red light programs in the City and County of Denver. This audit included a review and analysis of current management processes, laws, policies and procedures, and systems in place, as well as applicable financial data through October 24, 2011.

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<sup>39</sup> See C.R.S. § 42-4-110.5 (2)(a)(II).

<sup>40</sup> See C.R.S. § 42-4-110.5 (4.7).

# OBJECTIVES

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Audit objectives included the following:

- Determine if the photo enforcement program is conducted in accordance with applicable federal, state, and local legal requirements.
- Determine if DPD has effectively evaluated the safety impacts of the photo radar program, as well as determining whether the photo radar program's revenues can be increased and its processes can be improved.
- Determine if DPD has effectively evaluated the safety impacts of the photo red light program, as well as determining whether the photo red light program's revenues can be increased and its processes can be improved.

# METHODOLOGY

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We used several methodologies to achieve our audit objectives.

- We analyzed the City Charter, Denver Revised Municipal Code, Colorado Revised Statutes, and Colorado Municipal Court Rules of Procedure to assess the legal requirements placed on photo enforcement programs.
- We reviewed various DPD photo enforcement documents, including policies and procedures and deployment location information.
- We reviewed prior Auditor's Office audits completed on the photo enforcement program.
- We determined the requirements of the program contractor, the vendor that serves Penalty Assessment Notices, and the Photo Enforcement Unit as mandated by current contract requirements.
- We reviewed national research regarding best practices and industry standards, including information provided through the Insurance Institute for Highway Safety.
- We evaluated the budget and revenues for both the photo radar program and the photo red light program from the inception of each program through October 2011.
- We interviewed key personnel in the Photo Enforcement Unit and management of the program contractor, ACS.
- We observed photo enforcement agents conducting photo radar enforcement in the vans, and we observed the agents reviewing photo red light images and video to validate violations. As part of this observation, we saw Notices of Violation that were sent to various red light violators.

- We surveyed other Colorado jurisdictions with photo red light or photo radar programs and received responses from seven jurisdictions: Aurora, Boulder, Cherry Hills Village, Colorado Springs, Fort Collins, Lone Tree, and Pueblo.<sup>41</sup>
- We reviewed municipal code for the seven jurisdictions that responded to our survey. Specifically, we assessed the municipal code provisions related to serving penalty assessment notices and evaluating which registered vehicle owner should receive a Notice of Violation on the first mailing.

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<sup>41</sup> Colorado Springs eliminated its photo red light program in October 2011, after the completion of our survey.

# FINDING 1

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## The Photo Radar Program's Safety Impact Has Not Been Sufficiently Measured and Revenues Exceed Expenditures

The Denver Police Department (DPD) has not adequately demonstrated the impact of the photo radar program on public safety. While DPD believes that the photo enforcement program enhances public safety, DPD has not captured data establishing a clear link between the use of photo radar and an associated increase in public safety. Additionally, DPD has not performed an assessment of the impact of photo radar on reducing collisions or speeds citywide. Thus, additional study is needed to determine the overall safety impact of the photo radar program. The Manager of Safety should ensure that DPD completes a study of the effects of the photo radar program on overall vehicle speeds, accident rates, and pedestrian injuries by January 2015. Further, although the program's safety impact is not yet well established, program revenues have exceeded budget estimates since 2010. Specifically, the photo radar program generated net revenues of approximately \$400,000 in 2010 and about \$955,000 from January through October 2011. Since Denver's photo radar program is a revenue generator and DPD officials have not effectively shown the safety impact, there is a risk that public confidence in the program will diminish. Because of the risk to public confidence in the program when the program is primarily viewed as a revenue generator, if the recommended evaluation of photo radar's impact on safety is not completed by January 2015, the Manager of Safety should terminate the photo radar program.

## Denver Police Department Has Not Adequately Demonstrated the Safety Impact of the Photo Radar Program

Two recent opinion pieces in the *Denver Post* highlight the importance of showing the impact of the photo radar program on public safety to enhance the perception of the program.<sup>42</sup> However, DPD has not effectively assessed the photo radar program's overall impact on reducing speeds and improving safety, which creates a risk that public confidence in the program will erode.

**An assessment of effects on speed has not been performed**—DPD has not effectively evaluated the effects of the photo radar program on speeds in Denver. According to DPD officials, if the photo radar program reduces vehicles' speed, the program will have a positive impact on safety, and there is some scientific support for this position.<sup>43</sup>

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<sup>42</sup> Vincent Carroll, *Photo-radar cash cows*, September 18, 2011 (<http://www.DenverPost.com>); Vincent Carroll, *Put a stop to red-light cameras*, November 09, 2011 (<http://www.DenverPost.com>).

<sup>43</sup> An independent study corroborates some assertions made by DPD. A doubling in speed results in a stopping distance four times as long and exponentially increases the likelihood of pedestrian fatality upon impact. Specifically, the report states, "travelling at 40 mph, the average driver who sights a pedestrian in the road 100 feet ahead will still be travelling 38 mph on impact: driving at 25 mph, the driver will have stopped before the pedestrian is struck." Furthermore, the odds of pedestrian

However, to accurately measure the photo radar's effect on speed, a set of baseline or comparison speeds needs to be established. DPD has not established a baseline for vehicle speeds when photo radar vans are not present, and gathering this data would be difficult. For example, information on vehicle speeds would need to be gathered through inconspicuous means, since merely the sight of a photo radar system is enough to cause drivers to decrease their speeds, which would skew the baseline study results. In addition, once baseline speeds are established, conducting a longer term study on speed trends would require photo radar vans to be deployed in the same location for longer periods of time, such as a three-, six-, or twelve-month period. This would be different from the current practice, which involves redeploying the photo radar vans after a period of weeks, once speeds in an enforcement location appear to decrease. Therefore, a shift in the way that the photo radar program is implemented would be necessary to perform an effective study of the program's impact on speeds.

**There has been no evaluation of photo radar's effect on pedestrian or officer safety**—DPD officials assert that officer, pedestrian, and citizen safety is improved by the photo radar program because officers are not pursuing violators to issue individual citations. For instance, an officer's pursuit of an alleged speeder may result in a high-speed chase. This action could place the officer, pedestrians, and other drivers in danger.

However, DPD has not conducted a study to determine whether the safety of officers or citizens, especially pedestrians, has improved since the advent of the photo radar program. For example, DPD has not looked at whether accident rates or pedestrian injuries have gone down in the enforcement zones. While DPD maintains accident and pedestrian injury data that could be used as a baseline, it would be difficult to determine how photo radar affects safety citywide since the vans are only in one place for a relatively short period. To determine whether accidents or pedestrian fatalities in a certain area have decreased, the photo radar vans would need to be deployed in the same place for a long enough time to develop reliable statistics to compare to the baseline.

**The current measures of program impact are inadequate**—The photo radar program contractor, ACS, provides DPD with an annual report summarizing the results of the photo radar program over the last three years. The most recent report, which covers 2007 through 2009, shows a decrease in the number of violations for vehicles traveling ten or more miles per hour over the speed limit in eight of the ten most frequently enforced photo radar areas. However, driver habits can adjust as citizens become familiar with the locations of the photo radar vans. Therefore, a decrease in violations does not directly correlate to a sustained decrease in speeds after photo radar vans are deployed to a different location. Further, a reduction in violations does not indicate a decrease in accident rates or pedestrian injuries.

**Additional study is needed to demonstrate the effectiveness of the photo radar program**—DPD officials identify public safety as the primary justification for the photo radar program, but they have not demonstrated the safety impact of photo radar.

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death from an impact by a motor vehicle increase from 5 percent at 20 mph to 83 percent at 40 mph. See [Effects of Vehicle Speed on Pedestrian Fatalities](#) (Accessed August 16, 2011).

Consequently, there is a risk in expanding the photo radar program until the safety impact of the program can be conclusively and scientifically determined. Without proper parameters, methodology, and measurements of success in place, the photo radar program may be viewed primarily as a revenue generator for DPD.

To address any gaps in understanding about the effects of the photo radar program, the Manager of Safety should initiate a long-term study for the purpose of confirming the specific effects of photo radar enforcement as it relates to reducing speeds and accidents, and pedestrian injuries within the City of Denver. Specifically, the Manager of Safety should ensure that DPD completes a study of the effects of the photo radar program on overall vehicle speeds, accident rates, and pedestrian injuries by January 2015. This study would include a determination of baseline speeds in key enforcement areas, and then a long-term assessment of how the photo radar van's deployment impacts speeds in comparison to the baseline. After the baseline data is established, performing the remainder of the long-term assessment would likely require a change in how the photo radar vans are deployed, requiring them to stay in one place for at least several months at a time. In addition, the Manager of Safety should determine whether DPD needs to consult with a third-party who can provide assistance in developing a reliable study of photo radar effectiveness. Finally, the Manager of Safety should not expand the photo radar program until the program's safety benefits are adequately demonstrated.

## Though the Safety Impact of the Photo Radar Program Has Not Been Established the Program Generates Net Revenue

While DPD has not effectively shown the safety impact of the photo radar program, which is the primary justification for its continuation, the program is a revenue generator. In both 2010 and 2011, the photo radar program generated revenues in excess of the program's budget. The photo radar program took in approximately \$3.6 million in revenue for 2010, with net revenues totaling almost \$400,000. Total revenues have increased to approximately \$5.9 million for the period of January 1, 2011 through October 24, 2011, and net revenues for that period are about \$955,000. According to DPD's Finance Bureau, photo radar revenues are projected to surpass \$7 million in 2011. If reached, this will be in excess of \$2 million in net program revenues.

<u>Year</u>	<u>Budget</u>	<u>Revenues</u>	<u>Over/(Under)</u>
2009	\$3,000,000	\$2,788,277	(\$211,723)
2010	\$3,250,000	\$3,646,292	\$396,292
2011	\$4,897,400	\$5,852,491	\$955,091

Source: DPD Finance Bureau. 2011 data from January 1, 2011 – October 24, 2011.

DPD attributes the 2011 increase in revenues primarily to the expansion of the photo radar program to a seven-day enforcement schedule, the addition of a fifth photo radar van, and the inclusion of work zones beginning in 2011. Specific to work zones, DPD's Finance Bureau noted that some of the revenue is a result of an increase in construction projects due to the allocation of ARRA monies. As such, DPD may see a decrease in this specific area of revenue collection as ARRA funds are expended and work zone enforcements decline.

In 1997, the Colorado legislature promulgated state law permitting the use of automated vehicle identification systems (AVIS) subject to certain controls.<sup>44</sup> One of these controls limited the amount of revenue that can be realized from AVIS. Specifically, the compensation paid by the city and county to the AVIS vendor may not be based upon the number of traffic citations issued or the revenue generated by the AVIS equipment.<sup>45</sup> This suggests that AVIS programs should not be primarily used to generate revenue. However, Denver's photo radar program is a revenue generator and DPD officials have not effectively shown the safety impact. Therefore, DPD needs to sufficiently demonstrate the safety impact of the photo radar program. Failure to do so creates the risk that public confidence in the program will diminish. Because of the risk to public confidence in the program when the program is primarily viewed as a revenue generator, if the recommended evaluation of photo radar's impact on safety is not completed by January 2015, the Manager of Safety should terminate the photo radar program.

## Photo Enforcement Unit Policy Imposes an Unnecessary Requirement

As discussed in the Introduction and Background section of this report, DPD is in compliance with key legal requirements for automated vehicle identification systems; however, an internal policy unnecessarily exceeds legal requirements. Specifically, the Photo Enforcement Unit requires photo enforcement agents to observe vehicles they believe are traveling over the posted speed limit and accurately estimate their speed to within five miles per hour above or below the radar equipment reading. Even if the photo radar equipment confirms a speeding violation occurred, a Notice of Violation will not be issued unless the photo enforcement agent observes the vehicle and correctly estimates the vehicle's speed. While estimation of speed may be a useful point of data when defending a violation in court, speed estimations are not required under either Colorado state law or Denver municipal ordinance. Further, this practice may detract from any safety impact of the photo radar program. According to one photo enforcement agent, the ability to estimate speeds may degrade when a vehicle's speed is excessively high. Consequently, the most egregious speeding offenses might not be accurately estimated and therefore, would not result in a photo radar violation.

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<sup>44</sup> Colorado Senate Bill 36 (1997).

<sup>45</sup> C.R.S. § 42-4-110.5 (5).

According to benchmark responses from three jurisdictions in Colorado that utilize photo radar enforcement, the City of Denver is the only jurisdiction that requires an estimation of the violator's speed to justify issuance of a citation.<sup>46</sup> To ensure that safety and speed reduction efforts are appropriately enforced, the Manager of Safety should ensure that photo enforcement agents submit all observed violations captured by the photo radar equipment.

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<sup>46</sup> Benchmark respondents included: Boulder, Fort Collins, and Colorado Springs.

# RECOMMENDATIONS

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- 1.1 Safety Impact – To address the gaps in understanding about the effects of the photo radar program, the Manager of Safety should initiate a long-term study for the purpose of confirming the specific effects of photo radar enforcement as it relates to reducing speeds, accidents, and pedestrian injuries, within the City of Denver.
- 1.2 Study Timeframe – The Manager of Safety should ensure that DPD completes a study of the effects of the photo radar program on overall vehicle speeds, accident rates, and pedestrian injuries by January 2015.
- 1.3 Third-Party Consultation – The Manager of Safety should determine whether the Denver Police Department needs to consult with a third-party who can provide assistance in developing a reliable study of photo radar effectiveness.
- 1.4 Program Expansion – The Manager of Safety should not expand the photo radar program until the program's safety benefits are adequately demonstrated through an analysis of the program's effect on, at minimum, speeds, accident rates, and pedestrian injuries.
- 1.5 Possible Program Termination – Because of the risk to public confidence in the program when the program is primarily viewed as a revenue generator, if the recommended evaluation of photo radar's impact on safety is not completed by January 2015, the Manager of Safety should terminate the photo radar program.
- 1.6 Violation Submittal – The Manager of Safety should ensure that photo enforcement agents submit all observed violations captured by the photo radar equipment.

# FINDING 2

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## The Photo Red Light Program's Safety Impact Has Not Yet Been Determined and 2011 Revenues Will Exceed the Program's Expenditures

The Denver Police Department (DPD) has not yet demonstrated the isolated effect that photo red lights have on collisions and on traffic safety in the City of Denver, but the Department of Public Works' Division of Traffic Engineering Services (TES) is performing an evaluation of the photo red light program that may demonstrate a positive effect on public safety. DPD has worked with TES to assist in the evaluation by means such as providing crash data for use in the TES evaluation. However, to demonstrate effectively that the red light program has a positive effect on public safety, TES will need to consider the effects of other possible factors such as yellow light cycles or overall accident trends in the City. If the TES analysis does not conclusively show that red light cameras have an independent, positive effect on accident rates, then the Manager of Safety should consider ending the red light pilot program. If there is no conclusive data to support the program's impact on accident rates, and the Manager of Safety decides not to end the program, DPD should ensure that it does not expand the red light program until future evidence is presented showing the red light program has reduced accident rates.

Finally, the red light program's revenues did not exceed the program budget from 2008 through 2010, but technical changes to the red light camera system have resulted in revenues exceeding the program budget in 2011. These technical system changes allowed the program contractor to more effectively implement Denver ordinance, which states that red light violations occur when vehicles breach the *stop line*, as well as increasing its overall issuance rate.<sup>47</sup> Of seven photo red light programs from which information was gathered, Denver is the only jurisdiction in which the red light program sets the violation point at the stop line. Enforcing a policy that increases revenues, while not having justified the safety impact of the program, creates a risk for DPD that the public may potentially see the red light program as a revenue generator rather than a public safety program.

## An Analysis of the Effect of Red Light Cameras is Forthcoming but Would Need to Establish a Clear Independent Effect on Public Safety

TES is conducting an analysis, which was not complete when the audit report was drafted, regarding the public safety impact of red light cameras based on data from the

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<sup>47</sup> See D.R.M.C. § 54-101 (3). The ordinance states that if a clearly marked stop line does not exist, the next violation point is the entry to the crosswalk on the near side of the intersection. If no crosswalk exists then the violation point is entry into the intersection itself. However, all four intersections in the Denver photo red light program have stop lines.

beginning of the program in 2008 to 2011, a period of approximately three years.<sup>48</sup> However, because other factors may also have an effect on public safety that is concurrent to red light cameras, the results of the TES analysis should be evaluated carefully to determine if TES has disentangled the public safety effects of the red light cameras from other possible reasons for decreasing accidents.

**DPD and other users of the TES analysis should consider all traffic countermeasures to determine the true effect of red light cameras**—A preliminary study update from TES shows that right-angle crashes decreased at the four locations where red light cameras were installed. This data is shown in Table 2.

Table 2: Preliminary Traffic Engineering Services Data on Red Light Intersections		
<u>Red Light Camera Location</u>	<u>Right Angle Crashes: 1-1-06 to 6-4-08</u>	<u>Right Angle Crashes: 6-5-08 to 1-1-10</u>
EB 6th at Kalamath	4	2
EB 6th at Lincoln	43	11
WB 8th at SB Speer	15	4
NB Quebec at 36th	7	4

Source: Traffic Engineering Services June 24, 2011 data.

However, while the preliminary crash data suggests that the photo red light program is having a positive effect on public safety; the final TES analysis would need to consider other factors. For example, TES implemented longer yellow light intervals as a safety countermeasure simultaneous to the implementation of the red light camera at the same four intersections shown in Table 2. In addition, any decrease in overall city accident rates may play a role in any decrease in accident data reported by TES. At three of the four intersections with red light cameras, the number of right angle accidents was decreasing before the red light cameras were installed. Thus while the TES report may show that accidents have decreased at intersections monitored by red light cameras, or that *right angle accidents* have decreased, the TES analysis should show conclusively that the red light cameras are the reason for the decrease in accidents to provide a safety justification for further use of red light cameras. If the TES analysis does not conclusively show that red light cameras have an independent, positive effect on accident rates, then the Manager of Safety should consider ending the red light pilot program. If there is no conclusive data to support the program's impact on accident rates, and the Manager of Safety decides not to end the program, DPD should ensure that it does not expand the red light program until future evidence is presented showing the red light program has reduced accident rates.

<sup>48</sup> Traffic Engineering Services (TES) is responsible for the operation, maintenance, installation and emergency repair of traffic control devices. They maintain a fiber optic communication network providing services to the Department of Public Works, Information Technology Division and Denver Police Department. For more information about TES see <http://www.denvergov.org/TrafficEngineeringServices>.

**Other countermeasures also used to improve traffic safety in Denver**—As previously noted, TES has installed other countermeasures to improve traffic safety, which include intersection countdowns to alert both pedestrians and motorists of the light changing, enlarging the signal signs to 12 inches, and implementing longer yellow light cycles.<sup>49</sup>

TES conducted a limited study of intersections where only longer yellow light cycles were implemented.<sup>50</sup> A study of traffic behavior at these intersections three months after the installation of the longer yellow lights showed a significant decrease in red light violations. However, subsequent analysis of the same intersections showed a dramatic increase in red light violations. TES concluded that Denver drivers adapted to the longer yellow light cycles, and therefore this countermeasure did not result in a sustained improvement in red light compliance. This suggests that traffic enforcement countermeasures, including red light cameras, may have a type of *novelty effect* that wears off over time.

## Photo Red Light Cameras Were Not Installed at the Intersections with the Highest Number of Accidents

The four intersections chosen for the photo red light pilot program were not all among the intersections with the highest number of accidents. Based on information provided by TES, intersections with a high ratio of right-angle crashes to rear-end collisions were the strongest candidates to examine for red light running. A study conducted by TES considered officer input, number of lanes, traffic volumes, and other relevant information to evaluate the best locations for installment of the red light cameras.<sup>51</sup> TES identified the top 100 intersections by total crash count.

In addition, budget and time constraints on DPD influenced the final intersection selection, as did initial opposition by the Colorado Department of Transportation (CDOT) to the use of red light cameras. Accordingly, DPD and TES excluded highway intersections that fell under the jurisdiction of CDOT. However, these reasons do not explain why two of the four red light enforcement intersections either ranked 32<sup>nd</sup> on the Top 100 list or did not rank on the Top 100 list at all. As shown below, the four locations selected for red light camera installation by DPD were not the intersections with the highest total crash count.

- 6<sup>th</sup> and Lincoln ranked 2<sup>nd</sup>
- 8<sup>th</sup> and Speer ranked 4<sup>th</sup>
- 6<sup>th</sup> and Kalamath ranked 32<sup>nd</sup>
- 36<sup>th</sup> and Quebec was not on the Top 100 list

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<sup>49</sup> Yellow Light Cycle—*The Manual on Uniform Traffic Control Devices (2006)* indicates that the yellow interval should range from approximately three to six seconds, with higher values used at locations with higher speed approaching traffic.

<sup>50</sup> Following are the intersections where the longer yellow lights were implemented: 8<sup>th</sup> and Broadway, Speer and Broadway, Alameda and Lincoln, Speer and Champa, 15<sup>th</sup> and Champa, Colorado and 40<sup>th</sup>, Monaco and Hampden.

<sup>51</sup> City and County of Denver Red Light Running Project Report – Camera Location Analysis, Signal Timing and Warning Sign Placement. Prepared by: City and County of Denver-Traffic Engineering Services, July 2008.

## Denver Police Department Crash Database Lacks Analytical Capabilities

DPD utilizes *VERSADEX*, a database that collects information about collisions that occur at intersections. However, this database does not have the capability to allow DPD's data analysts to filter and analyze the crash information in a multitude of reports. As a result, DPD transmits traffic accident reports to TES for use in creating reports based on type of collision.

At the time of an accident, the police officer fills out a *State of Colorado Traffic Accident Report*. In addition to basic information related to the motorists involved in the accident, this report furnishes detailed information describing the dynamics of the collision. For example, the form contains sections to describe the *first harmful event*, which is the first point of injury or damage in the sequence of events in a traffic accident. Ultimately, Harmful Event Sequence will describe if the collision was front-to-front, front-to-rear, front-to-side, side-to-side, and more. This crash information is downloaded into *VERSADEX*, and later transmitted to TES for use in their database.

TES uses a traffic accident database called *Crash Magic*. Unlike DPD's database, *Crash Magic* can display and analyze a multitude of reports according to the type and severity of the crash and other information. For traffic safety purposes, TES must know the severity of the crash at various intersections so they can implement additional traffic safety controls if a location shows too many severe or fatal accidents. The Manager of Safety should address the analytical deficiency in DPD's *VERSADEX* database by either incorporating an analytical tool of its own, or by requesting interim reports from TES's *Crash Magic* database to perform interim assessments of the photo red light program.

## Photo Red Light Program Has Begun Generating More Revenues Which Creates a Risk Regarding Public Perception of the Program

DPD maintains that the red light program improves public safety but as of November 2011 no Denver-based study has conclusively demonstrated the actual impact of red light cameras on accidents. A pending analysis from TES may assist DPD in determining the impact of red light cameras. Meanwhile, program revenues have begun to exceed expenditures. In April 2011, the new program contractor, ACS, completed retooling the red light system to more effectively capture violations when vehicles stop beyond the stop line; this resulted in a significant increase in revenue from red-light program citations. Enforcing a violation at an intersection's stop line is inconsistent with a more lenient enforcement of speed limits by the photo radar program. Further, enforcing a policy that increases revenues, while not having justified the safety impact of the program, creates a risk for DPD that the public may potentially see the red light program as a revenue generator rather than a public safety program. As discussed in Finding 1, an analysis of Colorado state law enabling automated vehicle identification systems suggests that photo enforcement programs are not intended to be primarily for revenue generation.

After several years of not meeting program budget, the photo red light program's revenues began to increase in May 2011. One of the most significant shortfalls occurred

in 2010 when the red light program was budgeted to generate \$1.9 million in revenues but it only earned about \$721,000. DPD attributes the 2010 shortfall to a change in vendors for the red light program.

Table 3: Photo Red Light Budget and Revenues			
<u>Year</u>	<u>Budget</u>	<u>Revenues</u>	<u>Over/(Under)</u>
2009	\$1,500,000	\$1,498,803	(\$1,197)
2010	\$1,900,000	\$721,205	(\$1,178,795)
2011	\$1,500,000	\$1,600,371	\$100,371

Source: DPD Finance Bureau. 2011 revenue information reflects the period January 1, 2011 through October 24, 2011.

According to reports produced by the vendor, the first four months of 2011 showed average revenues of about \$58,000. After the program vendor made the necessary changes to the software and DPD provided more insight to photo enforcement unit personnel, program revenues showed a considerable increase, as follows:

- May 2011 Revenues: \$150,061
- June 2011 Revenues: \$290,392
- July 2011 Revenues: \$271,373
- August 2011 Revenues: \$306,133
- September 2011 Revenues: \$183,220
- October 2011 Revenues (through October 24, 2011): \$168,672

**Program revenues spiked largely due to more precise stop line enforcement**—Originally, the program contractor, ACS, utilized the existing infrastructure and firmware left by the previous vendor. There were various technical issues caused by the transfer. For example, ACS officials acknowledged that Denver had a different violation requirement than most other clients, the stop line encroachment. It took a number of months for ACS to acquire the appropriate firmware and software upgrades to enforce violations at the stop line. By April 2011, ACS was able to dramatically increase the number of incidents captured by the red light cameras due to the upgrades. According to ACS, this spike in incidents captured resulted in the increase in revenues starting in the month of May 2011. Due to DPD and ACS's updates to the program, these monthly revenue totals are expected to be the new standard unless DPD liberalizes its policy of enforcing stop line encroachments.

**DPD should re-evaluate enforcing red light violations at the stop line**—Currently, D.R.M.C. sets the stop line of an intersection as the primary enforcement point for photo red light.<sup>52</sup> However, Denver is the only municipality that enforces stop line violations. After surveying six other Colorado municipalities that use photo red light cameras, the audit team learned that other municipalities allow drivers to move further into the intersection before a violation occurs. The Manager of Safety should ensure that DPD re-evaluates its policy of enforcing stop line violations in light of these benchmark findings. The evaluation should include the potential safety impact and input from policymakers. DPD should also be aware that while program revenues recently increased in Denver, if DPD or Denver policymakers change the violation point to better align with practices in other municipalities, program revenues may decline to the point where they do not meet the budget for the program.

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<sup>52</sup> If the intersection does not have a stop line, the next enforcement point is the near side of the pedestrian crosswalk. For intersections with neither a stop line nor a pedestrian crosswalk, the enforcement point is the point at which the intersection begins. All of Denver’s four photo red light intersections have stop lines.

# RECOMMENDATIONS

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- 2.1 Possible Pilot Program Termination – If the Traffic Engineering Services analysis does not conclusively show that red light cameras have an independent, positive effect on accident rates, then the Manager of Safety should consider ending the red light pilot program.
- 2.2 Program Expansion – If there is no conclusive data to support the program's impact on accident rates, and the Manager of Safety decides not to end the program, DPD should ensure that it does not expand the red light program until future evidence is presented showing the red light program has reduced accident rates.
- 2.3 VERSADEx Database – The Manager of Safety should address the analytical deficiency in the Denver Police Department's VERSADEx database by either incorporating an analytical tool of its own, or by requesting interim reports from the Traffic Engineering Service's Crash Magic database to perform interim assessments of the photo red light program.
- 2.4 Stop Line Violations – The Manager of Safety should ensure that the Denver Police Department re-evaluates its policy of enforcing stop line violations in light of the benchmark findings. The evaluation should include the potential safety impact and input from policymakers.

# FINDING 3

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## Penalty Assessment Notices and Notices of Violation Could Be Delivered More Efficiently

The Denver Police Department (DPD) can improve the efficiency of service for Penalty Assessment Notices (PAN) and of its issuance of Notices of Violation (NOV). Colorado state law and Denver Revised Municipal Code (D.R.M.C.) require that PANs, which are the actual citations generated through photo radar and photo red light enforcement, be served to alleged violators. This service can be accomplished via face-to-face delivery or certified mail, but DPD does not use certified mail. Consequently, personal service is costlier and less wide-spread than it could be. Additionally, DPD could improve its efficiency and effectiveness in issuing NOVs, which are the initial notices used to inform drivers that a citation resulting from photo radar and photo red light enforcement may be forthcoming. These notices are sent to the first registered owner of a vehicle photographed in violation, rather than the person most likely depicted in the image produced by the camera. By mailing the first NOV to the person most likely depicted in the image, DPD could enhance the efficiency of NOV issuance.

## Colorado State Law and Denver Ordinance Provide Various Options for Serving Penalty Assessment Notices and Certified Mail Service Would Be More Efficient

DPD serves its PANs using personal service, but personal service of PANs is not required by Colorado state law or by D.R.M.C. Penalty assessment notices or summons and complaints must be served on individuals under the Colorado Revised Statutes (C.R.S.), and C.R.S. allows citations to be served through both *personal service*—where a copy of the penalty assessment notice is given to a person—and through other means of service.<sup>53</sup> Similarly, D.R.M.C. requires that the photo enforcement program follow applicable Colorado Municipal Court Rules of Procedure (C.M.C.R.). Specifically, C.M.C.R. Rule 204 requires the use of service for PANs and provides various options for accomplishing this service.<sup>54</sup> As shown in Appendix C, we learned that no other Colorado municipality that employs photo enforcement requires the use of personal service for photo enforcement citations.

For both the photo red light and photo radar programs, citations are issued in the form of PANs. When an incident occurs that is captured by photo enforcement cameras, a registered owner receives a NOV, which is not a PAN and therefore does not need to be

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<sup>53</sup> See C.R.S. § 42-4-110.5 (2)(a). As an example, other means of service may include *service by mail* or *service by publication*. Service by mail involves mailing a notice to an appropriate party, and service by publication is accomplished by publishing a notice in an allowable place, such as a newspaper published in the county in which an action is pending. See Colorado Rules of Civil Procedure Rule 4 (f) and (g). Service by publication is not a service option under D.R.M.C.

<sup>54</sup> See D.R.M.C. § 54-830 (c).

served. The NOV is a “courtesy notice” alerting the registered owner that the photo enforcement equipment has captured a violation. The NOV gives the registered owner an opportunity to disclaim involvement in the incident or pay the fine resulting from the incident.

**Multiple methods of PAN service are allowed through C.M.C.R.—**Under Rule 204 of C.M.C.R. a citation, or PAN, can be served by personal service to the alleged violator, by personal service to someone over 18 in the same usual residence as the violator, or by certified mail.<sup>55</sup> In reviewing the municipal codes of other jurisdictions, we found that three of seven jurisdictions, Fort Collins, Lone Tree, and Cherry Hills Village, use C.M.C.R. Rule 204 as the template for their municipal code. For further information see Appendix C.

**Denver uses personal service by a third-party contractor—**DPD has elected to use a third-party contractor to perform personal service of PANs. The contractor is paid an amount based on the region where service is made, and the contractor is not paid unless service is successful. However, while using personal service provides a level of assurance that service is successful, there are some drawbacks. First, many geographic areas are not served. Specifically, under its contract with DPD, the contractor is only tasked with serving PANs in select areas of Colorado and Wyoming. Consequently, PANs tied to registered vehicle owners outside the selected areas are not served at all. As a result, these alleged violations might go unpaid and would not be enforceable. Further, according to DPD, PANs that are not served do not go to collections. This practice removes another incentive for individuals to pay their outstanding NOVs. Photo enforcement financial data shows that numerous individuals submit payment after being served with a PAN; however, DPD does not capture information regarding the exact percentage of citations actually paid. Consequently, DPD does not know how effectively its use of a contractor for personal service results in payments of PANs.

**Other options exist that could save costs on service—**DPD could save costs on service, improve overall collections, or both by looking at various options for citation service such as the certified mail option allowed under C.M.C.R. Rule 204. Although the price of certified mail may vary, it will still be lower than the use of the third-party contractor. Further, certified mail can be sent throughout the United States for a relatively low cost. This provides the possibility of gaining additional collections that would not otherwise occur, since DPD could serve PANs in areas for which the contractor does not provide service. There are some disadvantages to using certified mail, including that individuals may not voluntarily accept the certified mail. However, the advantages of certified mail strongly encourage its use, at minimum, as a complement to personal service. Consequently, the Manager of Safety should ensure that DPD implements a pilot program to assess the effectiveness of service through certified mail. In creating the pilot

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<sup>55</sup> “A copy of a summons or summons and complaint issued pursuant to these rules shall be served personally upon the defendant. In lieu of personal service, service may be made by leaving a copy of the summons or summons and complaint at the defendant’s usual place of abode with some person over the age of eighteen years residing therein or by mailing a copy to the defendant’s last known address by certified mail, return receipt requested, not less than five days prior to the time the defendant is required to appear.” C.M.C.R. Rule 204 (e).

program, the Manager of Safety should ensure that DPD assesses whether the State print shop, which handles printing for the City, can offer DPD a competitive rate on mailing certified mail.

## Notices of Violation Can Be Issued More Effectively

DPD's photo enforcement program contractor issues NOVs to registered owners of vehicles that are identified committing alleged violations through its photo red light and photo radar programs. In cases where a vehicle has two registered owners, the administrative practice is to issue NOVs to the first registered owner. This results in instances where the first registered owner receives an NOV when, in actuality, the driver is the second registered owner. The first registered owner can then simply state that he or she was not driving the vehicle when the alleged violation occurred. When this happens, DPD sends a second NOV, this time to the second registered owner of the vehicle. This wastes resources and delays collection of fines. Further, Colorado state law requires that citations be served no later than 90 days after the alleged violation occurred. If the NOV mailing and response period takes too long, it can threaten DPD's ability to successfully serve an alleged violator with a citation.

**NOVs should be sent to the registered owner listed first if he or she matches the photo image**—In numerous cases, the two registered owners of a vehicle appear to be a male and female, based on the names associated with the vehicle's registration information. When auditors observed DPD photo enforcement agents as they viewed photo evidence, we saw that the photos generally allow the agents to distinguish between male drivers and female drivers. Therefore, there is a method which, while not infallible, can allow DPD to issue an NOV to the registered owner who was photographed on the first mailing, thereby saving resources and accelerating the collection of fines. Of the four jurisdictions who responded to our survey question regarding mailing NOVs, Boulder and Fort Collins reported that they attempt to match the driver's gender to the violator's picture; like Denver, Colorado Springs sends the first NOV to the first registered owner of the vehicle.

The Manager of Safety should ensure that DPD's photo enforcement program contractor, ACS, sends a first mailing of a NOV to the registrant whom the Photo Enforcement Unit determines, based on all the facts and circumstances, was the person most likely depicted in the image produced by the camera. The Manager of Safety should also ensure that DPD, in cooperation with ACS, develops business rules that will mitigate the chance of an incorrect determination of the registered owner appearing in the violation photo.

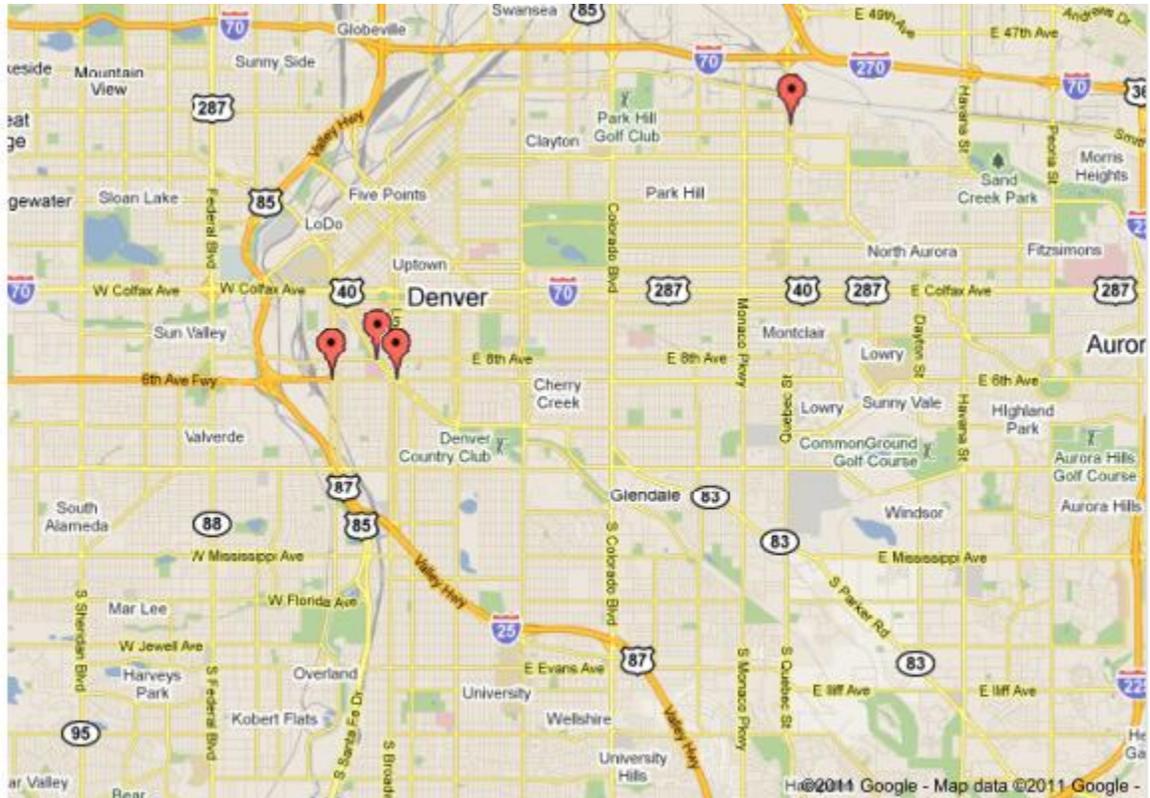
# RECOMMENDATIONS

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- 3.1 Certified Mail Pilot Program – The Manager of Safety should ensure that the Denver Police Department implements a pilot program to assess the effectiveness of service of Penalty Assessment Notices through certified mail.
- 3.2 State Print Shop – In creating the pilot program, the Manager of Safety should ensure that the Denver Police Department assesses whether the State print shop, which handles printing for the City, can offer the Denver Police Department a competitive rate on mailing certified mail.
- 3.3 Driver Identification – The Manager of Safety should ensure that the Denver Police Department's photo enforcement program contractor sends a first mailing of a Notice of Violation to the registrant whom the Photo Enforcement Unit determines, under all the facts and circumstances, was the person most likely depicted in the image produced by the camera.
- 3.4 Business Rules – The Manager of Safety should ensure that the Denver Police Department develops business rules in cooperation with the program contractor that will mitigate the chance of an incorrect determination of the registered owner appearing in the violation photo.

# APPENDIX A

## Denver's Photo Red Light Enforcement Camera Locations



### Denver's Photo Red Light Cameras

Locations of photo red light enforcement cameras in use in the City and County of Denver.

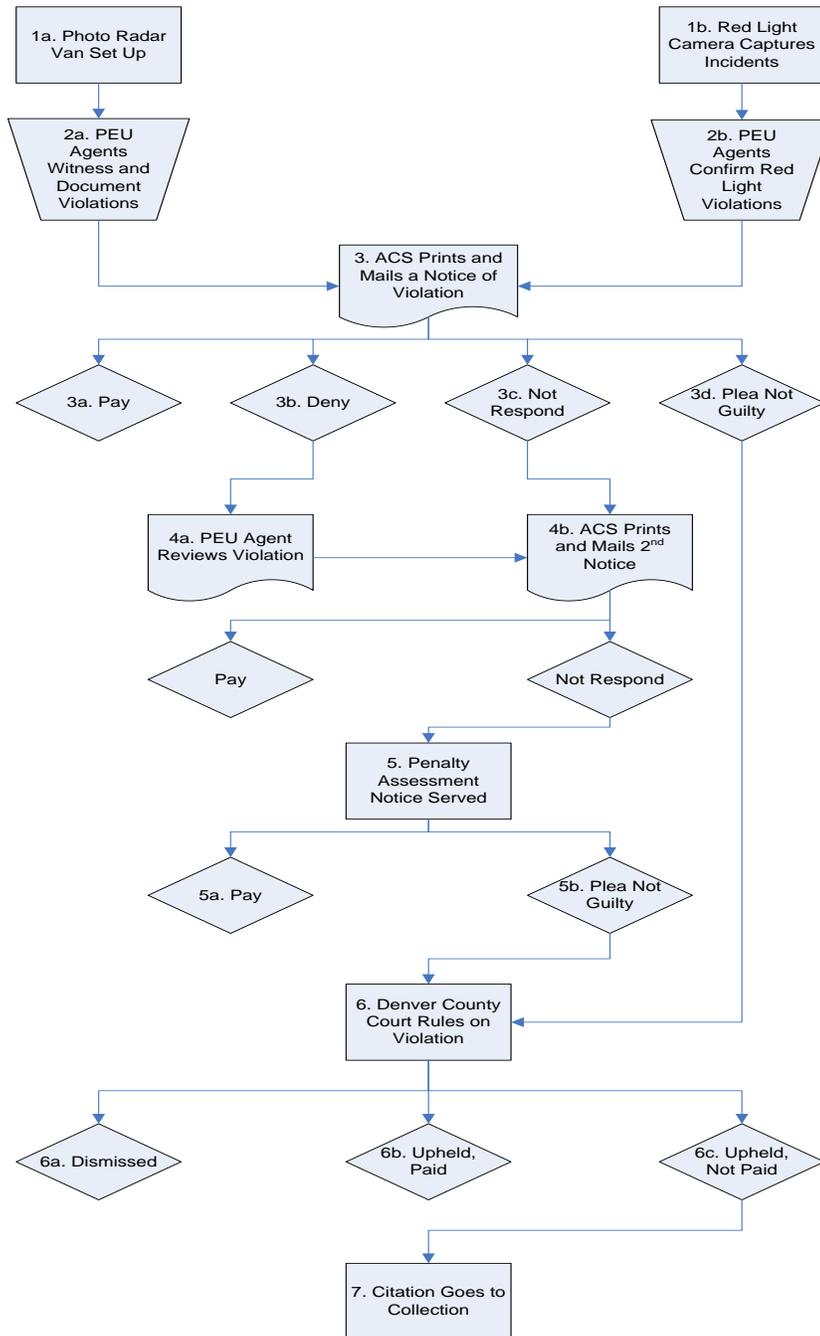
-  [8th Ave and Speer Blvd](#)  
West bound 8th Avenue at Speer Boulevard.
-  [6th Ave and Lincoln St](#)  
East bound 6th Avenue at Lincoln Street.
-  [6th Ave and Kalamath St](#)  
East bound 6th Avenue at Kalamath Street.
-  [36th Ave and Quebec St](#)  
North bound Quebec Street at 36th Avenue.

Source: Google Maps.

# APPENDIX B

## Denver's Photo Enforcement Process for Photo Radar or Photo Red Light Violations

### Photo Enforcement Process Flow



Source: Auditor's Office analysis of DPD information.

# APPENDIX C

## Municipal Code Provisions Regarding Service of Penalty Assessment Notices for Eight Colorado Jurisdictions

Appendix C provides excerpts from municipal codes for eight Colorado jurisdictions regarding service of penalty assessment notices. Two jurisdictions, Denver and Aurora, incorporate the Colorado Municipal Court Rules of Procedure (C.M.C.R.) by direct reference. Three other jurisdictions, Cherry Hills Village, Fort Collins, and Lone Tree, use language directly from C.M.C.R. Rule 204 for their municipal code.

<u>Jurisdiction</u>	<u>Personal Service Municipal Code Provision</u>
Denver	A copy of the summons and complaint <b>shall be</b> served upon the defendant in compliance with Colorado Municipal Court Rules of Procedure. D.R.M.C., § 54-830 (c).
Aurora	A copy of the summons and complaint <b>may be</b> personally served upon the defendant in compliance with Colorado Municipal Court Rules of Procedure no later than 90 days after the date the alleged violation occurred. Aurora Code of Ordinances, § 134-451 (c).
Boulder	The city manager <b>may cause</b> letters concerning violations detected by automated vehicle identification systems to be sent by <b>first class mail</b> to the owner of the vehicle involved, informing the owner of the event, and of the steps the City may take subsequently, so long as it is clear that such letters are not the formal process of the municipal court. Boulder Revised Code, § 7-4-74 (c).
Cherry Hills Village	To obtain personal jurisdiction in the Municipal Court over the charged person, a copy of the summons and complaint must be personally served upon the charged person, or, <b>in lieu of such personal service</b> , by leaving a copy of the summons and complaint at the charged person's usual place of abode with some person over the age of eighteen (18) years residing therein, or by mailing a copy to the charged person's last known address by certified mail, return receipt requested, within ninety (90) days after the alleged violation occurred and not less than five (5) days prior to the time the charged person is required, pursuant to the summons and complaint, to appear in court. Cherry Hills Village Municipal Code, § 110.5 (5).

# APPENDIX C (continued)

Jurisdiction	Personal Service Municipal Code Provision
Colorado Springs	If a person issued a penalty assessment notice under this section either appears in Municipal Court to contest the violation or fails to appear in Municipal Court according to the instructions in the penalty assessment notice, a summons and complaint for a violation of subsection 10.5.104F or 10.17.105C5 of this chapter <b>may be</b> served upon the person issued the penalty assessment notice or another person after a probable cause determination. Colorado Springs Municipal Code, § 10.1.115 (B)(3).
Fort Collins	In order to obtain personal jurisdiction in Municipal Court over the person charged in the summons and complaint, a copy of the summons and complaint issued under this Section must be personally served upon the person charged with the violation of Section 604(1)(c) or, <b>in lieu of such personal service</b> , by leaving a copy of the summons and complaint at the person's usual place of abode with some person over the age of eighteen (18) years residing therein or by mailing a copy to the charged person's last known address by certified mail, return receipt requested, not less than five (5) days prior to the time the charged person is required in the summons and complaint to appear in Municipal Court. Fort Collins Municipal Code, § 615 (4).
Lone Tree	To obtain personal jurisdiction in the Municipal Court (the "Court") over the person charged with a violation, a copy of a summons and complaint shall be personally served upon the person charged or, <b>in lieu of personal service</b> , by leaving a copy of the summons and complaint at the person's usual place of residence with an individual over the age of eighteen (18) years residing therein, or by mailing a copy to the person's last known address by certified mail, return receipt requested, within ninety (90) days after the alleged violation occurred and not less than five (5) days prior to the time the person charged is required to appear in Court pursuant to the summons and complaint. Lone Tree Municipal Code, § 8-1-30 (e).
Pueblo	A civil penalty assessment notice <b>shall be sent by first class mail</b> to each person alleged to be liable as an owner for a violation. Pueblo Municipal Code, § 15-1-15 (f)(1).

Source: Sections of municipal code obtained from websites of select cities referenced with emphasis added.

# AGENCY RESPONSE

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*Audit Response Letter*

**Department of Safety  
Denver Police Department**

December 15, 2011

Mr. Kip R. Memmott, MA, CGAP, CICA  
Director of Audit Services  
Office of the Auditor  
City and County of Denver  
201 West Colfax Avenue, Dept. 705  
Denver, Colorado 80202

Dear Mr. Memmott:

The Office of the Auditor has conducted a performance audit of the City and County of Denver's Photo Enforcement Program.

This memorandum provides a written response for each reportable condition noted in the Auditor's Report final draft that was sent to us on November 14, 2011. This response complies with Section 20-276 (b) of the Denver Revised Municipal Code (DRMC).

**AUDIT FINDING 1: The Photo Radar Program's Safety Impact Has Not Been Sufficiently Measured and Revenues Exceed Expenditures**

**RECOMMENDATION 1.1:** Safety Impact – To address the gaps in understanding about the effects of the photo radar program, the Manager of Safety should initiate a long-term study for the purpose of confirming the specific effects of photo radar enforcement as it relates to reducing speeds, accidents, and pedestrian injuries, within the City of Denver.

➤ **RESPONSE/ACTION PLAN:**

<b>RECOMMENDATION 1.1</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>January 15, 2012</b>	<b>DPD Captain of Traffic Operations 720-337-1034</b>

### Narrative:

The Denver Police Department believes that the photo radar speed enforcement program does need to demonstrate that the enforcement reduces speed violations within the City and County of Denver. However, the Auditor's Office recommendation that the Manager of Safety initiate a long-term study to show the effects of photo radar enforcement on speed reduction, accidents and pedestrian injuries is complicated and cannot be accomplished with the Safety Department's current resources. The new Manager of Safety and new police chief, Chief Robert White, will review the study request, but our initial response is that it is difficult to measure prevention. The Police Department is aware that a clear and convincing study to show that the photo radar program resulted, by itself, in accident and injury reduction, is what this audit is requesting but the department does not believe such a study can be conducted. Instead, the Police Department will comply with the listed requirement by requesting an additional speed reduction study be conducted by the Photo Radar Program vendor, ACS, to cover the three year period of 2010-2012. The report will be due to the Manager of Safety by June 30, 2013. This would be the second speed impact study and would be similar to the three year study ACS conducted for 2007-2009 showing that in Denver there was a decrease in the number of violations for vehicles traveling ten or more miles per hour over the speed limit in eight of the ten most frequently enforced photo radar areas, (pg.18).

Speeding is a persistent traffic violation. The enforcement of speed limits, based on professional long term law enforcement observation, requires several resources working together. The police department's enforcement efforts which include the use of photo radar, combined with uniform police officer enforcement, public education, and a working relationship with Traffic Engineering to improve traffic flow, are all aimed at *reducing* the incidence of speed violations in areas where enforcement is **active**. Professional law enforcement observation has shown there is no enforcement activity, including photo enforcement, speed trailers, or active uniform officer enforcement that will cause sustained compliance with speed limits once the enforcement effort is removed. The auditor's report indicates that a measure of effectiveness for photo enforcement would be the "sustained decrease in speeds after photo radar vans are deployed to a different location," (page 18). The police department disagrees with that measure of effectiveness because it is unrealistic. Even where the DPD deploys uniformed police officers to conduct speed enforcement, once the visible enforcement is removed and the officers are deployed elsewhere, speeds will return to the previous levels.

There are national studies that have been conducted and which are referenced in the auditor's report showing that reducing traffic speeds enhances safety, (page 8-9). The National Highway Traffic Safety Administration conducted a review in 2010 that concluded the use of speed enforcement cameras successfully reduced speeds and accidents. Although the NHTS study was not specific to Denver, the Denver photo radar vendor, ACS, did provide a three year study for 2007-2009 showing that in Denver there was a decrease in the number of violations for vehicles traveling ten or more miles per hour over the speed limit in eight of the ten most frequently enforced photo radar areas, (pg.18).

The recommendation made by the auditors that the Manager of Safety initiate a study confirming the effects of photo radar enforcement on accidents and pedestrian injuries is complicated. There is no single surface street location in Denver with a significant number of accidents. If there was there might be a purpose to deploying photo radar enforcement at the location to determine if the deployment resulted in a statistically relevant reduction in accidents. The same is true of pedestrian injury accidents; there is no recurring accident location.

What can be measured is in the below chart which shows the reduction in overall accidents citywide since the Photo Radar Program was implemented in 2002. The police department believes the photo radar program is one of several enforcement tools that combined, resulted in the reduction in overall accidents.

ACCIDENTS	
Year	Number
1998	28,497
1999	29,207
2000	31,878
2001	31,123
2002	29,100
2003	26,244
2004	25,633
2005	26,507
2006	24,370
2007	23,256
2008	22,390
2009	20,767
2010	22,242

Source: Chris Wyckoff, Director Data Analysis Unit, Denver Police Department

**RECOMMENDATION 1.2:** Study Timeframe – The Manager of Safety should ensure that DPD completes a study of the effects of the photo radar program on overall vehicle speeds, accident rates, and pedestrian injuries by January 2015.

➤ **RESPONSE/ACTION PLAN:**

RECOMMENDATION 1.2		
Agree or Disagree with Recommendation	Target date to complete implementation activities (Generally expected within 60 to 90 days)	Name and phone number of primary individual responsible for implementation
Agree	January 1, 2012 Study due to Manager of Safety June 30, 2013	DPD Captain of Traffic Operations 720-337-1034

**Narrative:**

The police department will comply with the listed requirement by requesting an additional speed reduction study to be conducted by the Photo Radar Program vendor, ACS, to cover the three year period of 2010-2012. The report will be due to the Manager of Safety by June 30, 2013.

**RECOMMENDATION 1.3:** Third-Party Consultation – The Manager of Safety should determine whether the Denver Police Department needs to consult with a third-party who can provide assistance in developing a reliable study of photo radar effectiveness.

➤ **RESPONSE/ACTION PLAN:** The study described in 1.1 and 1.2 above will be conducted by the photo radar vendor, ACS. The study will be a three year study similar to the one conducted for the three years 2007-2009 indicating if

speed reductions resulted in the areas where photo radar is most frequently deployed. The study will be due to the Manager of Safety, June 30, 2013. This will save the cost of a third party consultation which is not a cost budgeted in the 2012 budget.

<b>RECOMMENDATION 1.3</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>January 1, 2012</b>	<b>DPD Captain of Traffic Operations 720-337-1034</b>

**Narrative:**

The study described in 1.1 and 1.2 above will be conducted by the photo radar vendor, ACS. The study will be a three year study similar to the one conducted for the three years 2007-2009 indicating if speed reductions resulted in the areas where photo radar is most frequently deployed. The study will be due to the Manager of Safety, June 30, 2013. This will save the cost of a third party consultation which is not a cost budgeted in the 2012 budget.

**RECOMMENDATION 1.4:** Program Expansion – The Manager of Safety should not expand the photo radar program until the program’s safety benefits are adequately demonstrated through an analysis of the program’s effect on, at minimum, speeds, accident rates, and pedestrian injuries.

- **RESPONSE/ACTION PLAN:** Response is listed above in 1.1-1.3

<b>RECOMMENDATION 1.4</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree (that an evaluation of the impact of photo radar enforcement on speeds must be demonstrated).</b>	<b>Completed study due June 30, 2013</b>	<b>DPD Captain of Traffic Operations 720-337-1034</b>

**Narrative:** The three year speed study must show that there has been a reduction in speeds at the majority of the measured locations before the police chief requests that the manager of safety expands the photo radar program.

**RECOMMENDATION 1.5:** Possible Program Termination – Because of the risk to public confidence in the program when the program is primarily viewed as a revenue generator, if the recommended evaluation of photo radar’s impact on safety is not completed by January 2015, the Manager of Safety should terminate the photo radar program.

- **RESPONSE/ACTION PLAN:** The photo radar program is one tool or resource in the police department's traffic enforcement program. The evaluation of the program as described covering the three year period of 2010-2012, will be conducted by the vendor and completed by June 30, 2013.

<b>RECOMMENDATION 1.5</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Disagree with scope of recommended study; an evaluation of reduction in speeds as described will be completed.</b>	<b>Study will be requested January 1, 2012 Study to be completed June 30, 2012</b>	<b>DPD Captain of Traffic Operations 720-337-1034</b>

**Narrative:** When the speed study has been completed by the vendor, the Manager of Safety, in combination with the Chief of Police and Traffic Engineering, should review the study and insure the appropriate deployment of the photo radar vans, but there should not be an automatic termination of the program based on the scope of the study recommended by the audit.

**RECOMMENDATION 1.6:** Violation Submittal – The Manager of Safety should ensure that photo enforcement agents submit all observed violations captured by the photo radar equipment.

**RESPONSE/ACTION PLAN:** The requirement that the photo enforcement agent needs to accurately estimate the vehicle speed within plus or minus 5 miles per hour is the same as radar certified Denver Police Officers. The requirement was adopted by the Photo Enforcement Unit to insure that the training was the same as the Denver Police Department's training for police officers that conduct hand held radar speed enforcement. Previous discussions regarding this requirement indicated that judicial history has necessitated it. Although neither Colorado State Law nor Denver Revised Municipal Code ordinance requires speed estimation, it has proven to be useful when defending a violation in court and has become a standard for testimony in speed related cases. The number of "cross-offs" on the enforcement log indicating an invalid violation by photo radar enforcement agents due to an inaccurate speed estimation is minimal [less than 1%]. The requirement gives professional credibility to the Photo Enforcement Agents.

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<b>RECOMMENDATION 1.6</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Disagree</b>		

**AUDIT FINDING 2: The Photo Red Light Program’s Safety Impact Has Not Yet Been Determined and 2011 Revenues Will Exceed the Program’s Expenditures**

**RECOMMENDATION 2.1:** Possible Pilot Program Termination – If the Traffic Engineering Services analysis does not conclusively show that red light cameras have an independent, positive effect on accident rates, then the Manager of Safety should consider ending the red light pilot program.

- **RESPONSE/ACTION PLAN:** Pending final review of the Traffic Engineering three year study of the four photo red light enforcement intersections. Preliminary information is that there was a reduction in right angle crashes at the four intersections which indicates a reduction in red light accidents. Due to the lengthened yellow light at the four intersections prior to the implementation of the red light camera system, the study may not be able to show that the reduction was independent of other changes made by the traffic engineers. A study will need to be conducted at intersections with a lengthened yellow light but no photo red light enforcement to see if red light violations begin to increase over time, (once regular commuters become comfortable with the length of the yellow signal), at those intersections compared to the photo red light intersections. Due date for that study is undetermined at this time.

<b>RECOMMENDATION 2.1</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Pending (Generally expected within 60 to 90 days)</b>	<b>Name and phone of primary individual responsible for implementation</b>
<b>Unknown pending traffic engineering study</b>		<b>DPD Division Chief of Special Operations 720-913-6526</b>

**RECOMMENDATION 2.2:** Program Expansion – If there is no conclusive data to support the program’s impact on accident rates, and the Manager of Safety decides not to end the program, DPD should ensure that it does not expand the red light program until future evidence is presented showing the red light program has reduced accident rates.

- **RESPONSE/ACTION PLAN:** Agree, no action plan required, see 2.1 above

<b>RECOMMENDATION 2.2</b>		
<b>Agree or disagree with Recommendation</b>	<b>Target date to complete implementation activities</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>None needed</b>	

**RECOMMENDATION 2.3:** VERSADEX Database – The Manager of Safety should address the analytical deficiency in the Denver Police Department’s VERSADEX database by either incorporating an analytical tool of its own, or by requesting interim

reports from the Traffic Engineering Service's Crash Magic database to perform interim assessments of the photo red light program.

- **RESPONSE/ACTION PLAN:** Request that Traffic Engineering provide a recurring report to the police department.

<b>RECOMMENDATION 2.3</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>February 15, 2012</b>	<b>DPD Division Chief of Special Operations 720-913-6526</b>

**Narrative:** The listed division chief will work with Traffic Engineering Services, (Michael Finochio, Engineer and TES Director Brian Mitchell) to develop a recurring biannual report comparing accident data for each of the four photo red light intersections to data for four similar non-photo red light intersections. The recurring report would have to be agreed upon by Traffic Engineering.

**RECOMMENDATION 2.4:** Stop Line Violations – The Manager of Safety should ensure that the Denver Police Department re-evaluates its policy of enforcing stop line violations in light of the benchmarking findings. The evaluation should include the potential safety impact and input from policymakers.

- **RESPONSE/ACTION PLAN:**

<b>RECOMMENDATION 2.4</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Disagree</b>	<b>N/A</b>	<b>N/A</b>

**Narrative:** The establishment of the stop line or stop bar at an intersection as the primary enforcement point for photo red light was set at the recommendation of the city attorney. The photo red light program is run out of the Department of Safety, Denver Police Department's Traffic Operations Bureau. No sworn police officer in the chain of command for the program is prepared to disregard the city ordinance or the recommendation of the city attorney's office and change the current practice of issuing a red light violation ***if the violator's vehicle's two front tires are completely across the stop bar.*** There have been several media stories that inaccurately portrayed when a notice of violation is issued. The vehicle's front tires have to be clearly completely across the stop bar, not on it, for a notice of violation to be issued. Once a vehicle's front tires have completely crossed the stop bar, the front end of the vehicle has intruded into the

crosswalk area and both bicyclists and pedestrians often have to walk outside the crosswalk area. Denver has worked hard to encourage "multi-modal" forms of transportation and insuring that drivers observe the stop bar at stop lights is an important safety issue.

Below is a copy of an email sent on 2/25/2009 from Assistant City Attorney Kory Nelson to then Deputy Manager of Safety Mel Thompson to further explain the Department of Safety's position on Audit Recommendation 2.4:

#### Public Safety Issues Unaffected by the Timing of Yellow-Lights

As we discussed this morning, the DPD Photo Red-Light Program advances many legitimate government interests, including the important goal of reducing dangerous T-bone collisions involved in "red-light running", but adjusting the yellow-light timing is only one part of a multi-faceted approach. As Brian Mitchell put it on the Channel 8 *Issues & Options* television show, there are the "three E's of traffic Safety: that's Engineering, Enforcement, and Education". This was most evident in his statement, "*The National Highway Safety Institute did a study recently that published result[sic] that stated if you increase the yellow phase duration you can reduce crashes in the intersections by roughly 35-36%, but if you add camera enforcement to that then you can reduce accidents another 96%. So using the two practices together are really going to make a difference.*" (See Transcript, pages 5-6). Mr. Mitchell also discussed other T.E.S. actions, including the increased size of the signal lights, the count-down pedestrian indicators, refreshed pavement markings, and brighter LED lights.

Other legitimate interests advanced by photo red-light camera systems are obviously unaffected by the timing of the yellow lights. I believe it is important to emphasize the actual Denver municipal ordinance at issue here:

Denver Revised Municipal Code (D.R.M.C.) § 54-101(3)(a):

"Vehicular traffic facing a steady circular red signal alone shall stop **at a clearly marked stop line** but, if none, before entering the crosswalk on the near side of the intersection or, if none, then before entering the intersection and shall remain standing until an indication to proceed is shown . . ." (emphasis added)

This ordinance is based upon the Colorado Model Traffic Code and mirrors the language found in the Colorado Revised Statutes at C.R.S. § 42-4-604(1)(c)(I). These other public safety issues at intersections controlled by standard traffic signal lights are based upon the reality that it is necessary to have vehicles stop at a sufficient distance from the "*prolongation of the lateral curb lines*" (the legal definition of the boundary of the actual "intersection"). While many of these issues were discussed by Brian Mitchell and Captain Padilla in the Channel 8 television show (See transcript), they are highlighted here:

- **Partial intrusions into the intersection.** Where a driver is speeding or applies their brakes too late, even if their vehicle is not going to completely travel across the entire intersection, their vehicle's partial intrusion into the intersection still increases the probability of a collision. While the recent TES video study would not count this as a "red-light running violation", it is still a violation of the DRMC – and rightfully so.
- **Right & Left Turns on Red Lights.** A significant % of violations captured by the current red-light camera system show motorists who fail to stop before turning against a red-light. The risk of a collision here is the type where the red-light violator is struck either directly from behind or at a glancing angle from the approaching

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vehicle entering the intersection on a green-light. Although the risk of significant personal injuries may be less here than in T-bone collisions – the other collateral negative effects -- property damage, obstruction to traffic flow, use of police/court resources, etc., are still present.

- **Screeching stops into cross-walk area.** As the traffic signal lights cycle, the pedestrian cross-walk signals are also cycled to “white” – allowing pedestrians, bicyclists, and disabled persons in wheelchairs (or those using other durable medical equipment to assist them) to proceed across in the cross-walk. This important “safety zone” is entitled to significant consideration of the law’s protection against intrusion by motorists. Even if a motorist is able to slam on their brakes and bring their motor vehicle to a screeching stop, so as to avoid intruding into the intersection, there is an unreasonable likelihood that the vehicle will still intrude into this safety zone with sufficient force as to result in a collision with a pedestrian, causing significant personal injury.
- **Obstructions to cross-walk area.** Even if a motorist approaches the intersection on a red-light and stops past the marked stop line, without striking a pedestrian, their vehicle’s presence in the cross-walk safety zone may result in a significant obstruction to the capacity of the pedestrians and the disabled to cross the roadway in safety. Some pedestrians and disabled, in their efforts to cross the roadway, may feel compelled to either walk into the intersection itself (thus risking being struck by a passing motor vehicle) or walk behind the obstructing motor vehicle (thus risking being struck by another vehicle approaching the intersection and being pinned between both vehicles).
- **Effective Enforcement.** These photo red-light cameras provide the best possible method of enforcing of violations of DRMC § 54-101(3)(a) for the following reasons:
  - **Objective Evidence** – There is no subjectivity to the digital photos and video; the angles are not misleading, and by reviewing the images and the important speed and red-light cycling data on each photo’s data bar, there is no doubt at all that the motor vehicle was behind the marked stop line at the time the light cycled from yellow to red. Using the vehicle’s detected speed and the known timing of the light cycle, it is even possible to calculate a reasonable estimate of the distance between the marked stop line and the violator’s motor vehicle at the time the light cycled from green to yellow and from yellow to red – which establishes that at the posted speed limit, the driver had more than adequate amount of time to react and stop at the marked stop line.
  - **Reliable Evidence** – The digital photos and video will not forget what happened, will not retire, become sick, move away, or be subject to impeachment through cross-examination.
  - **“Bright Line Test”** – As the language of the ordinance is very clear, it has been the recommendation of the Prosecution Section of the City Attorney’s Office that the ordinance be enforced as written, meaning that where a motor vehicle either fails to stop or stops such that *both* of its two front tires are clearly past the marked stop line – a violation has occurred. We have recommended that the tires be used as the measuring point, because the hood and bumpers of some cars are extremely long, and the tires are much easier to see in the photos and video. Remember – whether a vehicle completely fails to stop, or stops just past the

marked stop line, the violation of the ordinance is the same. While a traffic citation for the same ordinance violation issued by a uniformed police officer would result in a 4-point violation and a minimum of a \$141.00 fine and court costs, in photo red-light cases, the judiciary has taken it on themselves to reduce the \$75.00 fine where the individual stops past the marked stop, and they do not uniformly impose court costs. So the only “grey area” in this ordinance is found in the imposition of the fines and costs by the County Court.

- **Officer Safety & Resources:** Having a uniformed police officer positioned at an intersection so as to maximize the officer’s capacity to clearly observe both the marked stop lines and the color of the traffic signal light also creates a traffic safety hazard when the officer has to pull their vehicle out into the intersection to chase and stop the violator. Beyond the clear danger to the officers – their ability to stop violators is also limited due to the time involved for each stop and their repositioning their vehicle back at the intersection – time that is not wasted through the capacity of the red-light camera systems to capture multiple violators in rapid sequence. As a “force multiplier”, the red-light cameras allow the limited number of police officers available to be able to be used for other objectives.

**AUDIT FINDING 3: Penalty Assessment Notices and Notices of Violation Could Be Delivered More Efficiently**

**RECOMMENDATION 3.1:** Certified Mail Pilot Program – The Manager of Safety should ensure that the Denver Police Department implements a pilot program to assess the effectiveness of service of Penalty Assessment Notices through certified mail.

- **RESPONSE/ACTION PLAN:** The pilot program will require a designated manager with controlled and objective parameters for measuring success and verifying the case-by-case status and results. The use of Excel spreadsheets documenting dates of mailing, dates/copies of return receipts received, filing return receipt forms with the Court Clerk’s Office, affidavit of verification of costs of service and final confirmation of conviction/costs ordered would all have to be measured.
- All affected agencies would have to agree to the pilot before implementation could occur.

<b>RECOMMENDATION 3.1</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>March 1, 2012</b>	<b>DPD Traffic Operations Bureau Captain 720-337-1034</b>

Narrative: There has been past discussion about implementing a pilot program to determine the cost and success rate of using certified mail to serve Penalty Assessment Notices. The action plan indicates the concerns from prior discussions that will have to be addressed prior to implementation.

**RECOMMENDATION 3.2:** State Print Shop – In creating the pilot program, the Manager of Safety should ensure that the Denver Police Department assesses whether the State print shop, which handles printing for the City, can offer the Denver Police Department a competitive rate on mailing certified mail.

➤ **RESPONSE/ACTION PLAN:**

<b>RECOMMENDATION 3.2</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Agree</b>	<b>March 1, 2012</b>	<b>DPD Captain Traffic Operations Bureau 720-337-1034</b>

**Narrative:** See 3.1, this recommendation would be part of the same implementation.

**RECOMMENDATION 3.3:** Driver Identification – The Manager of Safety should ensure that the Denver Police Department’s photo enforcement program contractor sends a first mailing of a Notice of Violation to the registrant who the Photo Enforcement Unit determines, under all the facts and circumstances, was the person most likely depicted in the image produced by the camera.

➤ **RESPONSE/ACTION PLAN:**

<b>RECOMMENDATION 3.3</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Disagree</b>		

**Narrative:** In regards to the efficiency and effectiveness in issuing Notice of Violations (NOVs), the performance audit recommends that the pictured driver, (appearing in the photograph), be “most likely matched” to the registered owner. My understanding is this means matching the gender of the driver to the registered owner if there is more than one registered owner listed. The NOV is a “courtesy” notice to the owner for the vehicle that there has been a violation involving the vehicle and not an accusation of a violation to the owner. This is not legally required. Generating the NOVs is an automated process wherein the information is imported directly from a file that is generated from an NCIC inquiry. In the case of Photo Speed citations, since the NOVs are issued based on the observation of the Photo Enforcement Agent when the violation occurred, the DPD has eliminated the initial process of reviewing each citation. While this arduous process would give us the opportunity to match the gender when available, it would greatly slow down our production and would require

additional staffing which is not budgeted. Furthermore, one of the options available to the citizen on the NOV is to provide a "not pictured driver" affidavit. This recommendation has been evaluated against the cost of implementation and the result is that we disagree with this recommendation.

**RECOMMENDATION 3.4:** Business Rules – The Manager of Safety should ensure that the Denver Police Department develops business rules in cooperation with the program contractor that will mitigate the chance of an incorrect determination of the registered owner appearing in the violation photo.

➤ **RESPONSE/ACTION PLAN:**

<b>RECOMMENDATION 3.4</b>		
<b>Agree or Disagree with Recommendation</b>	<b>Target date to complete implementation activities (Generally expected within 60 to 90 days)</b>	<b>Name and phone number of primary individual responsible for implementation</b>
<b>Disagree</b>	<b>N/A</b>	<b>N/A</b>

**Narrative:** See above 3.3. This recommendation is of limited value compared to the staffing and work hours required to implement the recommendation so it will not be implemented and no business rules will be required.

Please contact **Division Chief Mary Beth Klee** at **720-913-6526** with any questions.

Sincerely,

***MB Klee 83013***  
 Mary Beth Klee  
 Division Chief of Special Operations  
 Denver Police Department  
 Department of Safety

cc: Deputy Manager of Safety Laura Wachter  
 Chief of Police Gerald R. Whitman  
 Captain Joe Padilla, Traffic Operations  
 Ted Porras, Supervisor PEU