



City and County of Denver

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Dennis Gallagher

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Testimony of Denver Auditor Dennis Gallagher on SB 181

House of Representatives State Affairs Committee – April 28, 2014

We conducted an audit of the Photo Radar and Photo Red Light Program of the City and County of Denver, in 2011. We have since done some follow-up work. The purpose of the audit, among other things was to assess the performance of the programs in relation to safety. The results of the audit indicated that the Denver Police Department had not shown the specific public safety impact of either program. 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. To that end, we recommended that it was important to conduct objective analysis and study of both programs to determine their actual impact on improving public safety.

If they are not having a tangible impact on improving public safety then perhaps other options for that improvement need to be investigated and implemented that might be better at improving public safety.

We also noted that these two programs are generating over \$7 Million combined annually. Because these programs were sold as public safety enhancements but are widely viewed as a 'cash grab' by the public, it undermines public trust to maintain photo enforcement programs that are profitable but whose safety impact has not been conclusively shown.

Among the recommendations we made in our original audit, three dealt with study or analysis of the safety impact of the Photo Radar Program and three dealt with study or analysis of the safety impact of the Photo Red Light Program.

Our follow-up work through 2014 indicates that those studies have never taken place. To our knowledge, the Denver Police Department still cannot demonstrate that either program has had a tangible impact on improving public safety.

We are all concerned with reducing accidents; protecting the safety of our children in around our public streets; and ensuring that pedestrians are not at risk when they step off the curb and into the street. However we need to ensure that any program we undertake, does indeed do that. As I have said, without verifiable and objective data we cannot confirm these programs do that.

Moreover, if indeed the Photo Red Light Program in particular is having a tangible impact on reducing accidents and improving pedestrian safety, why is it only being used at one entry point at four intersections in Denver: 6th Avenue and Lincoln, 8th Avenue and Speer, 6th Avenue and Kalamath and 36th Avenue and Quebec? Interestingly, at the time 36th and Quebec was chosen for inclusion in the Photo Red Light Program, it was not on the list of Top 100 intersections in Denver by total crash count. Further, 6th and Kalamath was 32nd on the list. Arguably there are many more dangerous intersections with a higher volume of pedestrian traffic than these intersections.

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We will monitor and report on recommendations and progress towards their implementation.

EXECUTIVE SUMMARY

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.¹ 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: 8th Avenue and Speer Boulevard; 6th Avenue and Lincoln Street; 6th Avenue and Kalamath Street; and 36th 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.²

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

¹ 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).

² 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.³ 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.⁴ 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.⁵ 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.

³ Colorado Senate Bill 36 (1997).

⁴ C.R.S. § 42-4-110.5 (5).

⁵ 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.⁶ 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

⁶ 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.⁷ 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.⁸ 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.).⁹ 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.¹⁰

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

⁷ 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>).

⁸ 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.

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

¹⁰ 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.



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Dennis Gallagher
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April 08, 2014

Ms. Laura Wachter, Deputy Manager
Department of Safety
City and County of Denver
Re: Audit Follow-Up Completion Letter

Dear Ms. Wachter:

In keeping with professional auditing standards and the Audit Services Division's policy, as authorized by D.R.M.C. § 20-276, our Division has a responsibility to monitor and follow-up on audit recommendations to ensure audit findings are addressed and to aid us in planning future audits.

This letter is to inform you that we have completed audit follow-up procedures for the Denver Photo Enforcement Program Performance Audit, issued December 2011. Our final review of audit recommendation status determined that the Department of Public Safety has adequately implemented recommendations, where practical. However, three recommendations (1.2; 1.4; and 2.3) remain in-progress as of April 2014. Consistent with our internal tracking procedures, we have designated these three recommendations as *Agree – Not Implemented*. Our Office may conduct a review of related programs in future audit engagements. However, any new audits planned for the Department of Safety will be communicated through our Annual Audit Plan released each October.

This concludes audit follow-up work related to the Denver Photo Enforcement Program. Upon release of the audit report, four (4) recommendations were *Disagree*. No follow-up work occurred for these four (4) recommendations. We have verified through our review that six (6) of the fourteen (14) audit recommendations have been *Implemented*; four (4) of the fourteen (14) audit recommendations were confirmed *Agree – Not Implemented*.

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In summary, the table below depicts the status of the fourteen (14) recommendations.

Recommendation	Status
1.1	Agree
1.2	Agree – Not implemented
1.3	Agree
1.4	Agree – Not Implemented
1.5	Disagree
1.6	Disagree
2.1	Agree
2.2	Agree
2.3	Agree – Not Implemented
2.4	Agree
3.1	Agree
3.2	Agree – Not Implemented
3.3	Disagree
3.4	Disagree

If you have any questions, please feel free to contact me at 720-913-5029 or Marcus Garrett, Internal Audit Supervisor, at 720-913-5086.

Sincerely,



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

KRM/mg

cc: John Carlson, Deputy Director Audit Services Division
Audrey Donovan, Deputy Director Audit Services Division
Mary Beth Klee, Deputy Chief of Administration