

December 11, 2012

Khalil Zaied

Director, Department of Transportation

400 E. Fayette St.

5th Floor

Baltimore, MD 21201

Re: Status Update for System Wide Review

Dear Mr. Zaied,

Xerox has completed a review of the City's eighty-three (83) photo speed enforcement systems. As explained in greater detail below, the review produced the following results:

- The speed enforcement systems have been operated by the City consistent with industry standards and in compliance with applicable law.
- Each system must pass a calibration test, as confirmed by a City operator, prior to being placed into deployment on each day.
- Each system's annual certification by an independent third party has been and remains current.
- In a limited number of cases, radar effects can occur. Radar effects are caused by reflection, refraction and absorption, and can be identified and eliminated during the review process.
- Based on a review of the images alone, we identified five (5) locations that
 demonstrated higher incidents of radar effects than is typical and need further
 investigation to determine the root cause. All of these errors are identifiable by
 reviewing the images, which means they can be addressed as exceptions during the
 review process.

In short, the review demonstrates that the speed enforcement systems are reliable and accurate. However, the City and its vendor should institute additional controls to minimize human errors and to ensure that radar effects are identified and limited to the greatest extent possible.

As part of the review, Xerox examined over seven thousand issued citations for radar effects that may have resulted in erroneous speed recordings. With respect to seventy-eight (78) of the eighty-three (83) locations, the review showed incidence of radar effects that were not identified in processing of approximately one-half of one percent (.5%). Five (5) of the eighty-three (83) sites revealed some environmental issues causing an unusually high rate of occurrence of radar effects, typically attributed to the presence of high profile vehicles in the field of view. A more extensive review of these locations showed incidence of radar effects that were not identified in processing of 5.2 percent (5.2%). The five (5) locations are:

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- 1400 Block of Cold Spring Lane E/B
- 1700 Block of Cold Spring Lane W/B
- 400 Block of Franklin Street W/B
- 500 Block of Cold Spring Lane E/B
- 1300 Block of Cold Spring Lane E/B

In each of the observed cases, the images should have been flagged in our processing workflow as exceptions requiring further review and eliminated from the process. We have implemented enhanced quality assurance steps for all locations to ensure sufficient reviews are conducted going forward.

Based on this review and in addition to recommendations previously provided, Xerox recommends the following:

- With the retraining of vendor staff complete and a supervisory review process in place for events flagged for possible radar effects, processing should resume at the 1300 Block of Cold Spring Lake W/B and the 3800 Block of Greenspring Avenue S/B locations.
- Re-training on identifying radar effects for City personnel responsible for final approval of citations. We are available to provide this re-training as soon as possible.
- The processing hold already in place for the 1300 Block of Cold Spring Lake E/B should continue and be extended to the 1400 Block of Cold Spring Lane E/B, the 1700 Block of Cold Spring Lane W/B, the 500 Block of Cold Spring Lane E/B, and the 400 Block of Franklin Street W/B. The processing hold for these locations should remain in effect until further investigation is completed

In conclusion after extensive field tests and reviews of the captured images, we have not identified any abnormality in the speed detection devices. The radar effect is a known property of radar, but with the annual certification, the daily calibration and additional processing controls properly applied during review of the images the City can eliminate any erroneous violations from being issued.

We will continue to provide the City regular updates. Please let us know if you require additional information.

Sincerely,

Ryan Nicolas