

SEATTLE POLICE DEPARTMENT MEMORANDUM

June 11, 2012

TO: Councilmember Tom Rasmussen, Transportation Committee Chair
Councilmember Nick Licata

FROM: Assistant Chief Paul McDonagh
Special Operations Bureau

SUBJECT: Report on SPD Speed Van Operations – Q3 2011 through Q1 2012

Please accept this report on SPD's Mobile Speed Van (photo radar) operations conducted by the Traffic Section during the second half of last year and Q1 of this year. We regret not sending reports in the last two quarters of 2011. We were occupied with immediate technological and mechanical issues with the Speed Van. Nevertheless, we should have kept you in the loop during this time.

Background and Discussion of Q3 and Q4:

As you know, the Department's first and second quarter reports made commitments to increase van deployments. We indicated that the Speed Van deployments were a command priority and that the Department was in the process of training two additional van operators. We believed that with three operators, we would be better equipped to staff our arterial pilot sites and cover school openings and closings four days per week.

Unfortunately, a series of unforeseeable events prevented us from operating by the planned deployment schedule. Most notably, van software and camera issues made the vehicle extremely difficult for general traffic officers to operate. Over time, the van's primary operator, Officer James Morgan, became accustomed to the problems and developed some temporary workarounds. However, there were many problems that could not be easily fixed and the van spent much of the last two quarters parked at the Park 90/5 facility.

The Speed Van, or Legacy System Speed Van, experienced a number of equipment failures last year. One serious failure occurred in the van's strobe / flash system, which is necessary to take pictures in low light. Last fall and again this spring, multiple strobe failures sidelined the van while the Department waited for bulbs and generators that had to be shipped from the vendor in Arizona (American Traffic Solutions, or ATS). Early morning captures at schools were almost impossible to read because there was either low light (overcast or rainy day) or no light for photo development, especially as we moved further into the winter season. These issues did not prevent staff from deploying on sunny days, but they certainly curtailed the number of times the van was useful.

As we moved into Q4 of 2011, the van began to experience a series of mechanical problems that eventually took it out of service altogether. Most of these issues were caused by faulty wiring that ultimately led to the failure of the alternator. Some of these issues were addressed by City staff while others required the assistance of the auto dealer. We would be happy to meet with you and walk you through a timeline of these events.

The most significant failures occurred with the van's camera and software system. The camera was extremely difficult to keep in focus. Officer Morgan has indicated that some of his deployments produced no citations because the camera would produce pictures that were blurred and unusable. He eventually learned how to make manual adjustments that would produce some clear pictures / viable captures. This issue was most problematic during the few times that the van was operated by other traffic officers, who did not know the technical requirements necessary to adjust the focus.

Finally, software problems resulted in multiple system failures and eventually led to the demise of the Legacy System Speed Van. Late last year, ATS software technicians flew to Seattle to attempt an overhaul of the software system. While they were able to patch the software glitches, the van continued to have other issues (e.g. strobe malfunctions). It should be noted that ATS staff were always responsive to the Department's requests for help. It is simply the case that there were a lot of issues to address.

A new speed van: As the Legacy System van continued to have problems, SPD command staff began asking ATS for a new van with updated software and hardware systems. Ultimately, the collaboration between ATS and SPD (Officer Morgan) helped to determine the requirements / specifications for a replacement van.

The newer vans, called "Autopatrol," produce better results, are easier to operate and are much more dependable. This is largely because the technology has become much more advanced since Seattle received its first van in 2008.

In late February, ATS agreed to provide the City with a new speed van. The van was delivered in early April, but was out of service for approximately one month as it needed to be fitted with standard SPD equipment (e.g. radio) and SPD staff (Officer Morgan) needed to be trained on the new system.

The new van began deployment last month, and it is evident that the new technology has greatly improved the capture rate. A single deployment is producing up to 75 captures, where the previous van would produce less than half that rate. Officer Morgan also believes that the system is simple enough that anyone can use it. So, the Department is again pursuing a strategy where multiple officers will be trained to use the system, which will allow for additional deployments. We have included below pictures of the old system and the new system. It's easy to see how simple the new system is when compared with the older system.

Deployment Metrics and Discussion: The following table presents statistics that are descriptive of van deployment in Q3 and Q4 of 2011 and Q1 of 2012.

Items Tracked	School Zone	Arterial
# deployments	24	78
# citations issues	224	712
posted speed	20	35
mean speed	19	35
85th percentile speed	23	39
violation trigger speed	various	46
mean violation speed	32	48
percent vehicles in violation	5%	1%

This data looks very similar to data captured for prior reports. In fact, every measure is within 1 mph (up or down) of the measures taken in 2010 and again in 2011. There is no trend in the measures. This is not surprising as it is unlikely that such sporadic deployments could create any kind of deterrent effect.

The most notable change from prior report data is the reduction in School Zone captures of “percent of vehicles in violation.” In the past, this measure has hovered around 6 or 7 percent. It is possible that this measure is down because of the flash / low light capture issues discussed above. In several instances, deployments to school zones produced very low or no captures. This has had an obvious dampening effect on the percent of “vehicles in violation.” Knowing that low light was a problem, Officer Morgan eventually curtailed his school deployments. This effect is obvious in the “number of deployments” measure.

Looking to the future: As is noted above, the new van shows great promise. The capture rate has effectively doubled and the van is considerably easier to use. Officer Morgan and Lt. Kuehn will soon begin training other officers and will eventually roll out a three-officer deployment scheme. Officer Morgan recently submitted two new school zone locations to ATS, including View Ridge elementary (NE 75/48 NE) and Our Lady of Guadalupe (7100 blk 35 Ave. SW). Both morning and afternoon deployments are occurring at these schools as well as the schools that have been previously identified. Results of these activities should be apparent in our second quarter report for 2012.

New Fixed School Speed Zone Cameras:

The Department recognizes the great benefit of enforcing school speed zones, but has obviously had several issues over the years with the mobile van technology. For this reason, it paired with SDOT to propose a budget increment last year for ATS to install permanent cameras at four schools. The radar-based devices will issue tickets only

when the school beacons are flashing (during school hours). Speed violators will be issued tickets with variable fines that will match the cost of a ticket that would otherwise be issued by an officer.

As you know, the Adopted Budget included funds for this project and SPD staff has been working with SDOT and ATS to site the cameras. Both departments realize the benefit of enforcing school zones and have worked together to determine high risk locations.

This siting process began last year when SDOT staff undertook an analysis on 50 schools where they had installed flashing beacons to encourage drivers to go the speed limit through the school zone. SDOT narrowed the list to 15 schools where speeding continued to be a concern, and conducted week long speed studies in all of those locations. The list was eventually narrowed to five schools that would receive the greatest public safety benefit from automated enforcement. Last summer, this list of schools was presented to Mayor McGinn.

SDOT and ATS then performed feasibility studies at the locations and determined that they were all good candidates for the cameras. Most recently, SDOT staff narrowed the list to the four schools funded in the Adopted Budget and have requested that the fifth school receive treatment in 2013. There is also another school being considered on the same arterial as the fifth school, but SDOT will need additional time to work with ATS on a design. This request will likely be brought to the Executive at some point in the near future.

Selected sites include: **Broadview-Thomson K-8 School, Thurgood Marshall Elementary School, Olympic View Elementary School and Gatewood Elementary School.** The school principals were recently notified of the plans for automated enforcement and are supportive of the cameras. ATS is currently developing the design for the four school sites and construction is planned to take place over the summer, when school is not in session. Barring any significant problems with construction, the cameras should be up and running shortly before the 2012-13 school season.

Thank you for the opportunity to submit this report. We will be sure to be on time with future quarterly reports. Pictures attached.

cc: Carl Marquardt, Mayor's Office
Council President Sally Clark
Councilmember Tim Burgess
Chief John Diaz
Deputy Chief Clark Kimerer

