



CITY OF CARSON

DEPARTMENT OF PUBLIC WORKS

MEMORANDUM

TO: MAYOR DAVIS-HOLMES AND CITY COUNCIL

FROM: ELIZA JANE WHITMAN, DIRECTOR OF PUBLIC WORKS

SUBJECT: CARSON'S CAMERA SYSTEM APPROACH AND RECOMMENDATION

DATE: MAY 17, 2022

BACKGROUND

In December, after a number of City Council meetings where public safety cameras were discussed, staff engaged a firm with broadband and security expertise to evaluate various technologies and recommend an appropriate technology for the City of Carson. Using one of its On-call Consultants, the City hired Westberg+White and their subconsultant, GHD, a global engineering company with extensive municipal and private client broadband experience (the "Consultants"). Their scope included the following:

- Determine the existing system of public safety cameras
- Define the existing broadband network and technology
- Describe the current server and computer software currently used in the LA County Sheriff's office
- Assist in writing the camera and broadband system RFP

The Consultants developed a comprehensive overview of the existing system, met with the Sheriff's IT manager, met with the City's IT Manager, and provided a detailed overview of the broadband options and technology available to the City.

Engineering also consulted with Assistant City Attorney Robert Lee to determine if there were any legal or compliance issues related to adding cameras throughout the City. The City Attorney's office researched laws associated with the use of public safety and traffic cameras and license plate readers in California. His findings determined that the City is well within its rights to install both surveillance cameras and Automated License Plate Readers (ALPR's).

There were two items that were referenced in the legal research:

- The 4th Amendment – protects individuals from unreasonable searches and seizures
 - People usually have no reasonable expectation of privacy in their movements from one place to another in public places and while participating in public activities. Abusive practices, however, could run afoul of the 4th Amendment.

Accordingly, City should be mindful in how it implements use of surveillance cameras (and likely ALPRs) by possibly adopting a policy to address potential abusive or discriminatory practices, designate authorized users, provide appropriate training, and mitigate public concern over the potential for abuse.

- California Privacy Act – Illegal for an individual to monitor or record a confidential communication
 - California’s Privacy Act does not protect communication made in a public gathering or in which there is no reasonable expectation of privacy. Furthermore, this statute does not apply to law enforcement officials acting within the scope of their authority. Therefore, the City is able to install video surveillance and the Sheriff’s Department is allowed to use video surveillance with audio capability within City’s public rights of way.

CURRENT CAMERA SYSTEM

The City of Carson currently utilizes 8 surveillance cameras to monitor traffic along Avalon Blvd. between Scottsdale Street and the 91 freeway and on Victoria Street between Main Street and Central Avenue. In addition, there are two other cameras on Victoria, at the intersections of Main and Central. In addition, there are five traffic license plate readers along Avalon. The video data generated from the surveillance cameras along Avalon are conveyed wirelessly through a combination of 5GHz, 60GHz or 70GHz microwave transmitters and 4.9 GHz microwave transmitters to a receiver at the Double Tree Hotel and then to the Sheriff’s Station located near the corner of Desford Street and Avalon Blvd. Figure 1 presents the layout.

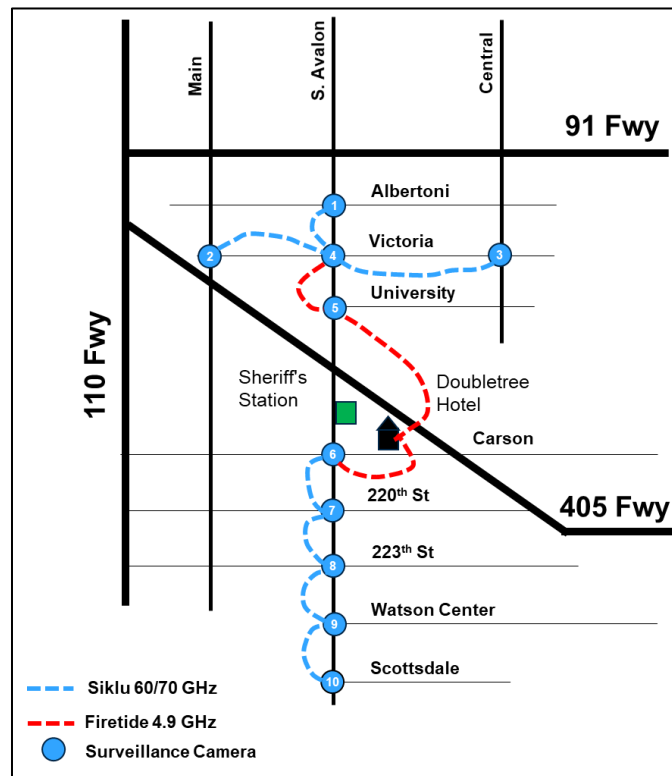


Figure 1

According to interviews with the Sheriff's department, the cameras do not function well and the video is intermittent. The cameras were installed several years ago and are considered antiquated technology. The microwave transmission system along Avalon used to convey data from one camera site to the other is fragile since if one transmitter or receiver fails, data from any of the upstream cameras will not be conveyed. This can happen if a truck, tree or other tall object blocks the signals or if there is a system issue.

Another weak link is the 4.9 GHz Firetide System that conveys the data from the last camera to the Double Tree roof and then to the Sheriff station. This 4.9 GHz microwave system is a very congested band width and thus is also susceptible to interference from other 4.9 GHz microwave systems.

Last, the current Sheriff's server used to receive and store the data was installed in 2012 and uses the original software, Microsoft Windows 2008 with the original Video Management Software (VMS), and has had multiple drive failures.

RECOMMENDATIONS

There are three fundamental components that the Consultant provided for a robust system to meet City Council's and the Sheriff's expectations. The first is related to the Broadband type, the second related to the types and locations of the cameras and the third is the Sheriff's computer equipment and software. Related to Broadband, the following attributes are required:

- Expandable, so that additional cameras and networks are possible
- Independent of and non-interfering with the City's broadband network
- Secure, so that the Sheriff does not need to be concerned about data reliability
- Technology that does not rely on a clear line of sight and resists obstructions due to trucks, trees, and potential earthquakes
- Robust enough to handle the significant amount of data transfer required from the license plate cameras
- Reliable and considered state-of-the-art.

Related to cameras, the following attributes are required:

- Surveillance Cameras: AXIS PTZ or Equal
 - 1920x1080 (1080p) (max resolution of supplied cameras)
 - H.265
- Automatic License Plate Readers (ALPR): Vigilant or Equal
- 24/7 Operations
- Zoom Capability
- 3-year maintenance contract with up-time requirement

Related to the computer equipment and software, the attributes are the following:

- Server
 - 1RU rack mountable

- Rack rails
- Dual power supplies
- RAID 1 for OS
- RAID 5 for data storage
- Two spare drives
- All drive to be SSD
- Storage for 60-days at 15-fps for 24 cameras - 13 TB usable storage
- Dell or HP
- 5-year 24/7/4hr response warranty with keep your hard drive.
- Video Management System (VMS) Software
 - Genetec
 - Expandable but licensed for 24 cameras
 - 3-years manufacturer support

The broadband system that is recommended is the “5G low-band/mid band” cellular system. This system is very different from the microwave technology and is considered the best broadband system for the City of Carson. This system is manufactured by CradlePoint and meets all the Broadband attributes listed above. This system can be deployed at any intersection in the City and is commonly used across the country by cities like Los Angeles, Las Vegas, and Hawthorne.

The recommendations from the City Attorney’s office include the following:

- Review the Sheriff’s privacy policy related to cameras
- Update the existing MOU related to camera surveillance to make sure that the 4th amendment and the California Privacy Act are adhered to by the Sheriff’s department in the City of Carson.

Specifically, privacy laws pertaining to listening to conversations, zooming in on cell phones, and 24/7 surveillance should be considered.