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TO: Mike Van Milligan, City Manager
FROM: Jeremy Jensen, Chief of Police
SUBJECT: Automated Speed Enforcement
DATE: November 20, 2023

INTRODUCTION:

The purpose of this memo is to provide a recommendation to implement Automated Speed Enforcement (ASE).

BACKGROUND:

In February 2023, I presented to the City Council a recommendation to implement Automated Speed Enforcement (ASE) within the City of Dubuque.

The purpose of the request for Automated Speed Enforcement was based upon several factors:

1. A Safe and Livable Community is a City Council priority. If I can provide methods to promote proactive safety measures, then it is my job to propose those ideas.
2. With staff shortages and hiring impediments, finding force multiplier methods that leverage technology that can be used to address:
 - a. Crash prevention,
 - b. Reduction in crash severity,
 - c. Addressing frequent complaints about speed enforcement,
 - d. Promoting officer safety, and
 - e. To reduce bias or perceived bias in stops.

However, an incident on the NW Arterial involving extreme speed was the initial reason as to why I brought the idea of ASE forward.

At the time of the original presentation, I presented traffic crash data for the City of Dubuque. The data was questioned, as the causation shown in the crash data did not

show speed as a major contributing factor. As I explained, accidents have extreme nuances, and require an officer to report based upon a lot of factors (see the attached TraCs coding sheet for accident reporting). One of the hardest things to show or enforce is speed in an accident (hence why you don't see speeding tickets assigned to accidents very often). To enforce speed on an accident, the officer needs an admission, camera footage (though it does not show a speed), or the officer can complete a search warrant for the "black box" contained in each vehicle. The last is a very labor intensive and time consuming endeavor that would require us to seize a person's vehicle. This is not feasible and is only used on fatality or severe injury crashes. Additionally, at that time I introduced data from the City of Cedar Rapids, which has had an automated traffic enforcement program for a number of years. The data outlined their success with the system.

Multiple presentations earlier this year raised questions and requests for information as to:

1. How the technology works,
2. A need for more data,
3. For additional assurances about the technology, the safety of the data.

We addressed the technology piece, when Dorian Grubaugh from Jenoptik, an ASE vendor, presented to the City Council on the technology.

At the June 20, 2023, City Council Work Session, Abishek Rai, the ICMA City Manager Intern presented the City Council with data from other cities in Iowa as to the reduction in crash severity at the locations of Automated Traffic Enforcement cameras (ATE). It should be noted that most cities have both automated speed and red light cameras. Simply, the data showed a reduction.

Additionally, Abishek presented studies from various sources such as the National Highway Traffic Safety Administration. In a 2011 publication from the U.S. Department of Transportation National Highway Traffic Safety Administration titled, "Countermeasures that work: A Highway Safety Countermeasure Guide For State Highway Safety Officer, Sixth Edition, 2011" it states "Countermeasures to reduce aggressive driving and speeding."

The only two that received a 5 star rating, "Demonstrated to be effective by several high quality evaluations with consistent results" were

- "Speed Limits" and
- "Automated enforcement."

In 2011, no activity received 4 stars, "Demonstrated to be effective in certain situations."

In 2011 only "Public Information supporting enforcement" received 3 stars, "Likely to be effective based on balance of evidence from high quality evaluations and other sources."

In 2011, three items received 2 stars, “Effectiveness still undetermined, different methods of implementing this countermeasure produce different results” and those were,

- “High visibility enforcement,”
- “Other enforcement methods,” and
- “Penalty types and levels.”

In 2011 two items received one star, “Limited or no high quality evaluation evidence” and those were,

- “Aggressive driving laws” and
- “Diversion and plea agreements.”

In the 2020 Tenth Edition of this same publication once again 5 stars were awarded to

- “Speed Limits” and
- “Automated Enforcement.”

Again in 2020 no activity received 4 stars and only one activity received 3 stars, “Public Information supporting enforcement”.

At this presentation, the City Council asked for speed data.

In June 2023, community members associated with Bryant School presented to the City Council about safety on South Grandview near Bryant St. One of the concerns was speeding, and one member asked the City Council to have an officer to sit at that location. The City has since reengineered the crosswalk at that location, to make pedestrians more visible to oncoming traffic. Placing an officer in that location every single day is not feasible as this is the busiest time of day, with some of the heaviest traffic, and every school in Dubuque letting out at approximately the same time.

In response to the request for speed studies, the City of Dubuque Engineering Department presented speed data to the City Council that had been conducted over various locations throughout the City of Dubuque. The data almost unequivocally showed speeding to be a problem. Particularly disturbing was the speed in residential neighborhoods. At the time of this presentation, the Council asked for an ordinance proposal and additional crash data at the locations of the speed studies.

DISCUSSION:

The previous discussions as to the location of ASE’s were based upon locations of crashes, using crash data. As I pointed out before, crash data is extremely nuanced as to the causation. This is a reactive way to respond to a problem after there is an issue. Issues in traffic crashes can have dire consequences. While crash data is necessary to determine if there is a problem at the location, the whole premise of traffic enforcement is to change driver behavior proactively. Proactive means addressing the issues before

they become problems. In the case of crashes, it means addressing the issue to reduce the number and severity of crashes. Prevention is slowing an area down through design, education, and concentrated and consistent enforcement so that “a kid doesn’t get hit”, which is common language when the community requests proactive enforcement. Additionally, people have stated both to me and publicly that a few fatalities are acceptable considering the amount of traffic moving through Dubuque. As the Police Chief and a resident of Dubuque, I do not think this is acceptable.

Every year and every week, the Police Department receives requests for speed enforcement or speed shield placement. Most of these locations require an officer to be at a location for a period of time. Many of the locations are neighborhoods, where the concern is either frequent speeders at a specific time or individual speeders which may be at all hours. This is in addition to many other traffic enforcement requests such as noise and commercial motor vehicle traffic. These take time.

An officer’s job is not only to respond to crashes but to prevent crashes. On the law enforcement side, this is done by concentrated and routine enforcement. Simply, an officer cannot be everywhere at all times. Additionally, in the past two (2) years the Dubuque Police Department has seen been down, or short, 12-17 officers, while calls for service in calendar years have remained above 50,000, with the projected calls for service in 2023 to be approximately 56,000 calls for service which is in line with the 10 year average. Cameras of all sorts are simply a force multiplier that aid in time savings and accuracy. ASE’s do not replace traditional officer enforcement but complement traditional enforcement efforts by being in place 24/7/365 and in locations that are hazardous or have geographical issues preventing traditional enforcement.

As I stated before, a lot of things can contribute to crashes. Things such as distracted driving, failure to obey traffic control devices (road signs, stop signs, traffic lights, etc), failure to maintain control, speeding, erratic driving (reckless, improper lane changes, failing to use signals, braking suddenly, etc.), roadway conditions and weather conditions.

Which areas can we consistently enforce with traditional officer initiated stops? None of them consistently as we cannot be in “the right spot” all of the time. Which ones can we currently enforce with technology? Speed and red lights. This proposal is only for automated speed enforcement.

Distracted driving is a major concern. However, distracted driving is not just cell phone use. Distracted driving is eating, loud music, kids screaming in the backseat, things along the roadway (Iowa is pretty and has lots of deer), dropping your napkin, or reading a book. These things are not enforceable in and of themselves. What we can we address in the multiple factors that contribute to crash severity and crash avoidance using technology to create consistent enforcement at locations? One of those answers is speed enforcement.

Distracted driving contributes to reaction time. The time it takes for a driver to recognize and react to a hazard. Also, what contributes to reaction time is speed, weather conditions, and physical/cognitive ability. Corporal Travis Kramer, a Dubuque Police Department Accident Reconstructionist, has completed the attached graphs to show reaction time and how speed and distraction can greatly increase the distance needed to react to a hazard. This does not show actual stopping distances which also increase with speed, vehicle size, mechanical condition, weather and roadway conditions. This is physics.

Numerous studies and reports from reputable sources such as the National Highway Traffic Safety Administration (NHTSA), the National Traffic Safety Board (NTSB), Texas A & M, the University of Chicago, the City of Portland, Oregon, the International Association of Chiefs of Police (IACP), the Congressional Research Service and the Insurance Institute for Highway Safety (IIHS) show ASE's do have an impact on reducing crash severity, reducing speeds, and ultimately aiding in crash avoidance.

The NHTSA study was mentioned above.

The NTSB study states,

“ASE has some advantages over in-person speed enforcement by an officer. It provides a force multiplier effect that can free up limited law enforcement resources to be used for other purposes. ASE can operate in location and under conditions that would make traffic stops dangerous or impractical, and it may reduce congestion from other drivers distracted by traffic stops. Finally, its high rate of speeding detection may provide a higher general deterrence effect.”

This study also refers to misuse surrounding best practices, privacy issues, and no vendor oversight can cause concerns.

The IIHS study states,

“Speed safety cameras, when used properly, can be an important tool for discouraging drivers from exceeding the posted speed limits”.

The University of Chicago study showed a 15% reduction in fatal and severe injury crashes. Additionally, the study points to the need for good policy on placement and fines to minimize the disproportionate impact on people of color and people in poverty.

The City of Portland created the Vision Zero initiative which includes 20 cameras. In 2020, their data showed a 94% decrease in top end speeding (11 mph or more over the posted speed limit). This data was from a 4 year period.

The Congressional Research Service paper states that vehicle crashes are one of the leading causes of death. This paper states,

“There have been many studies of speed camera programs: most have concluded that speed cameras reduced speeding and/or crashes in the vicinity of the camera, and in some cases in the surrounding areas. Several reviews that looked at dozens of studies from around the world found that despite methodological issues in most studies, speed cameras reduce speeding and/or crashes”.

The IIHS study states,

“Speed safety cameras, when used properly, can be an important tool for discouraging drivers from exceeding the posted speed limits”.

IIHS refers to several studies that show a reduction in speed, reduction in crashes and crash injuries.

It cannot be stated that ASE is the only answer to address the problems presented by speeding. As was presented in July there is a speeding problem on a number of streets in the City of Dubuque. In response to a question raised about crash data directly associated with the time and date of the speed studies at the locations of the speed study. There are no crashes at the locations and times of the data collection. This is not complete data as it only shows a specific time and place. None of the speed studies were done at intersections, where again a reduced speed may allow for more reaction time, thus avoiding a crash all together and if a crash happens, reduce the severity. Additionally, a speed study or crash data does not show how many crashes were averted. Quite frankly, this is not data that can be sourced.

To move forward the City Council has asked for more information, based upon input, more crash data, and a draft policy.

There have been many comments for and against the cameras. People for the cameras almost always state that people need to slow down and if they don't speed or break the law they don't have anything to worry about.

The comments against included the following; my responses are in red: It should be noted that some of the comments were from social media trolls that are not from Dubuque.

- Hire more police officers, instead of cameras.

Hiring is a nationwide issue in law enforcement. Agencies are turning to technology to complete the mission of keeping communities safe.

- Reduced tourism and commerce.

This has not been shown in response to implementation in Des Moines and Cedar Rapids and is unlikely to occur in Dubuque.

- It unfairly tracks or enforces on protected class drivers.
ASE doesn't track anyone, as it is specific to a time and location of a vehicle.
- Unfair if I loan my car to someone.
Owners of vehicles are already held accountable in the Iowa code when it comes to identifying drivers in crashes. Simply, owners know who they loan the car to and can hold them accountable. Rental companies have this as part of their agreements and simply charge it to the credit card that is on file.
- The technology is unreliable or lies.
There are checks and balances within the system.
- I want to take my chances with an officer (a. less likely to get caught and b. want the ability to "plead my case as to why I was speeding".
ASE actually reduces the impact to the motorist and the 4th amendment issue of potentially being seized.
- They are not proven.
Numerous studies support the use of automated speed enforcement to reduce speeding, thus having an impact on crash avoidance and crash severity.

In 2021, the ACLU of Iowa wrote a paper in opposition to traffic enforcement cameras. They state the data is conflicting, they don't protect against dangerous drivers, and automated traffic enforcement systems are revenue generators with no oversight as to where the money is spent. There is no due process since the owner of the vehicle receives the citation instead of the driver. The ACLU cited insufficient notices of the devices being used and issues around citations directly related to automated traffic light enforcement. The ACLU cites that vendors are not subject to open records laws, which can lead to misuse and abuse. Additionally, the ACLU notes the Big Brother approach to governing bodies using cameras to monitor driving behavior.

I agree with many of the concerns of the ACLU.

- Good data in the form of speed studies, crash data, and complaints about speeding is needed to properly identify locations. One of the benefits of the system, particularly in mobile ASE is that we can see data before the system issues citations. Simply, there does need to be oversight and transparency as to how ASE's are used, recognizing the balance between the privilege of driving and constitutional rights, transparency and oversight as to what vendors are doing and how the data is kept. Hence, a good ordinance with good policy is necessary.
- The City Manager has stated the funds need to go into traffic safety initiatives.
- Owners receiving a civil citation allows for two things. First, it is not tracking an individual. Second, the citation itself does not count against a driving record or insurance. As far as repeat offenders, while some people may find it acceptable to pay fines, most people do not want multiple fines. Dangerous drivers will still

be dangerous drivers no matter what the enforcement effort or the status of their driver's license. All violations are confirmed by a City of Dubuque police officer.

- As far as tracking driver's behavior, ASE is a time and place device and does not "track" vehicles. Any vehicle with the above mentioned black box tracks driver behavior as do the cell phones often with the vehicle occupants, and the safe driving apps initiated by insurance companies to track behavior for purposes of accurate billing and credits for good behavior. Black box tracking, cell phone tracking, and insurance app tracking is all done by private entities with no oversight as to what they do with the data.

One of the City Council requests was to create an ordinance. The City Legal Department has created an ordinance based upon best practice, case law, current law and with input from the previous sessions as instructed by the City Council and from comments from the community. Specific care is taken into account with the draft ordinance to allow for due process of the owner of the vehicle, to allow the owner to contest and challenge. Additionally, a sworn police officer must conduct a review of the ASE violation. Another issue that needed to be addressed within an ordinance was the possible inequity of fines and notice of speed. Signage and public announcements as to the locations of the cameras is one way to address the notice, but additionally, the City of Dubuque proposed ordinance allows for a warning for first offense, unless the speed is excessive or in a school or construction zone. The fine schedule as proposed in the ordinance is based upon a warning (courtesy waiver) for lower speed first time offenders except for speeds in construction zones and school zones. Additionally, in most circumstances, the second offense for lower speed offenders is eligible for a 50% fine reduction, and community service is available after third offense in some cases. Community service will be coordinated the City of Dubuque's Community Impact Division.

The second component to this is to draft a policy to the use of ASE's. Some of the key components to a policy are as follows:

- Locations based upon data (public safety need, using crash data, speed studies, traffic volume and complaints).
- Locations that are not within 1000 feet of a speed change.
- Complete transparency as to the locations and how to communicate that transparency such as social media, websites, and signage.
- How many days of non-enforcement readings are required before "turning on" the enforcement?
- What do to with revenues from the system? Traffic safety that has a budgetary impact has been proposed. This includes public safety, traffic calming, Safe Routes to Schools.
- How to measure effectiveness? My proposal would be to provide a quarterly report to the City Council, in the first year, coupled with an annual report thereafter outlining the effectiveness.
- Requirements of the vendor, such as a data retention policy, and what they can do with the data.

RECOMMENDATION:

My recommendation is to approve the proposed ordinance which allows us to begin the vendor selection which impacts the development of the policy. ASE's are not a standalone solution to traffic enforcement problems. In addition to the recommendation for ASE's, we have created traditional enforcement projects. Even with staffing being short, we have prioritized traffic enforcement. Patrol, when possible, will assign traffic enforcement officers during each shift. Starting in September, we asked each patrol lieutenant to conduct traffic enforcement projects on an overtime basis in the territories they oversee, using grant monies received from the Governor's Traffic Safety Bureau. Additionally, the Police Department is partnering with other enforcement agencies and projects, such as an ongoing Hwy 20 project that is being facilitated by the Iowa State Patrol and covers multiple counties and states. The Public Information Officer has begun a more proactive social media campaign about safety initiatives. This is coupled with the Department of Public Safety's safety campaigns about speed and crash reduction.

Additionally, the City has approached traffic safety holistically through other safety methods in an effort to look to physical traffic calming solutions. An example of this is what was done with the Bryant School crossing on South Grandview. Other initiatives revolve around non-enforcement speed shields, flashing lights on signs, and crosswalk enhancements. However, these efforts do have a budgetary impact.

None of these things individually accomplish the total goal of roadway safety. Simply, it comes down to a voluntary commitment on behalf of drivers to slow down, pay more attention and avoid distractions. However, when left unchecked these things become a problem.

ACTION REQUESTED:

I recommend approving of the proposed ordinance.