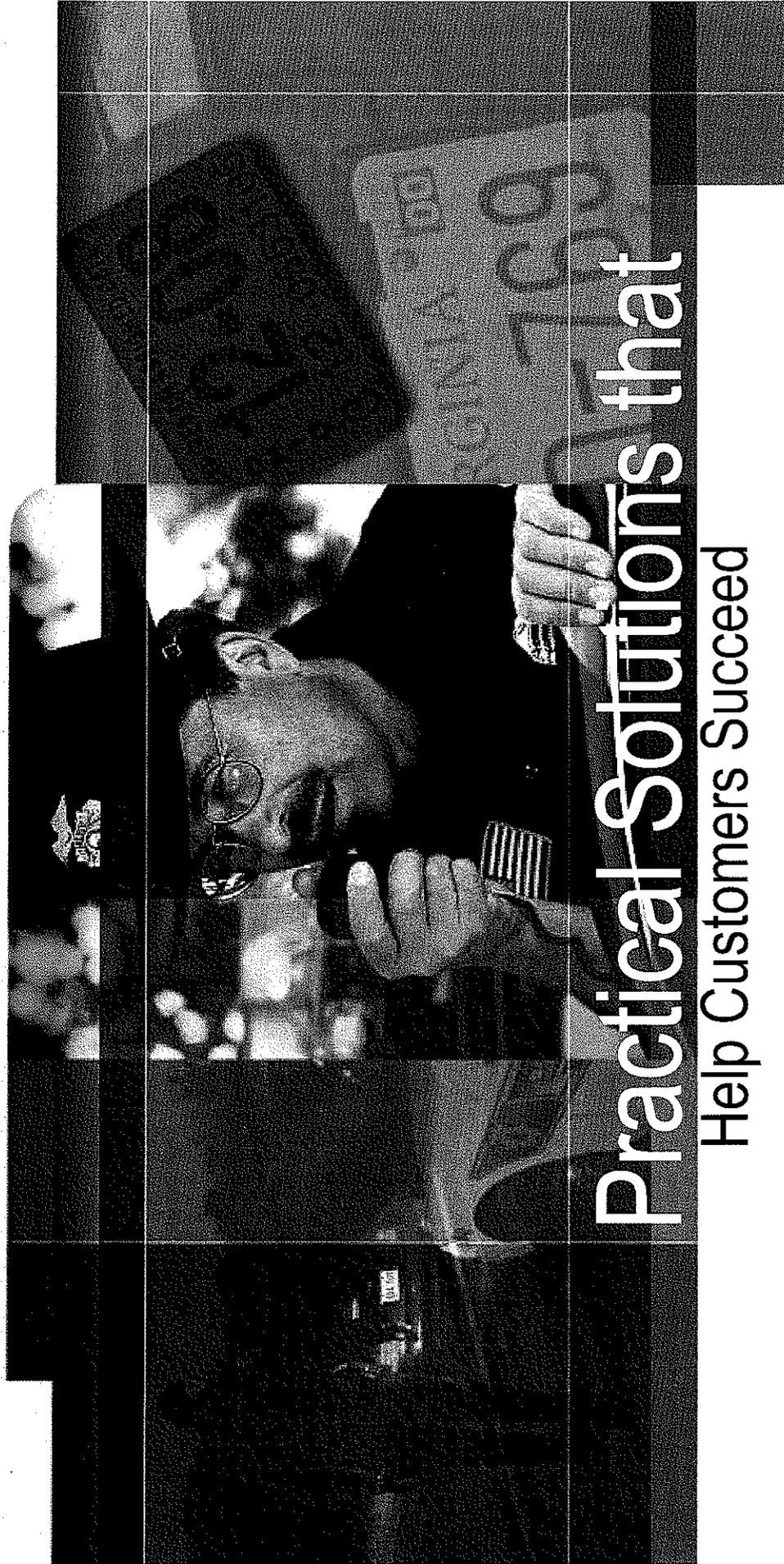


3M Vehicle Registrations Systems

License Plate Reissues

Rationale and Benefits



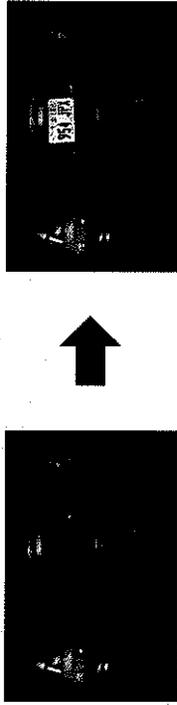
Practical Solutions that
Help Customers Succeed

Purposes of a License Plate

- Safety
- Law Enforcement
- Motor Vehicle Revenue Collection
- Tolling Revenues – camera readable license plates
- State Image

Reissue Objectives

- Enhance safety



- Improve visual and camera readability

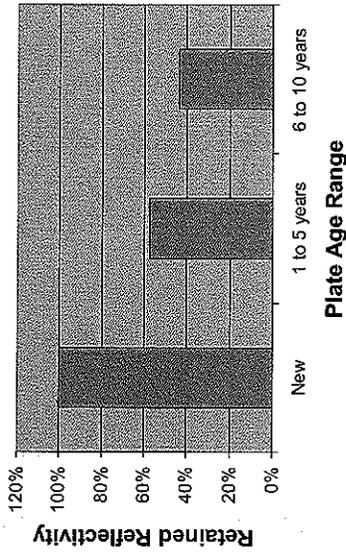
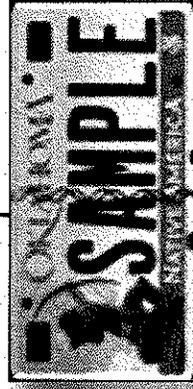
Visual



Camera



Improved



- Recapture non-compliant vehicles

- *Improve registrations*

Law Enforcement - Support from Police Chiefs

The International Association of Chiefs of Police (IACP) resolved in 2002 to support license plate reissues



...WHEREAS, reissuance of license plates serves as a deterrent to those who would avoid registration and payment of motor vehicles fees; now, therefore, be it

RESOLVED, that the ...IACP, recognizing that the efficient and reliable identification of vehicles is a critical element of national and state security procedures, supports the issuance of fully-reflective, license plates with clearly identifiable registration numbers and state of registration, and urges that states periodically issue new plates to maintain effective vehicle identification and to protect the security and integrity of the vehicle registration process.

Reissues encourage compliance and help with security



Policy Positions of American Association of Motor Vehicles
Administrators (AAMVA)

“License plates can be issued for multi-year periods and should be reissued on a regular basis to insure that the information they display remains legible.”



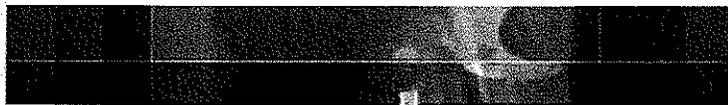
American Association of
Motor Vehicle Administrators



Failure Modes after Warranty Period (typically 5 years)

- Mechanical Damage
- Roll Coat Adhesion Loss
- Fading
- Brightness Loss
- Bubbling
- Corrosion
- Sheeting Delamination
- Metal Fatigue

Example of Fading



SOS: Hear a cop's pleas about license plates and driver's licenses

By Rich Kinsey AnnArbor.com Community Contributor

Posted on: Thu., Jun 21, 2012 5:59am

"My son's vehicle still sports a 1996 issued 100th Anniversary of the Automobile plate. It, like the early "**Great Lakes Splendor**" license plates, have fallen victim to Great Lakes State road salt and look like they have been Great Lakes sand blasted. **At night, these plates, which are up to 16 years old, are so oxidized they are barely readable.**

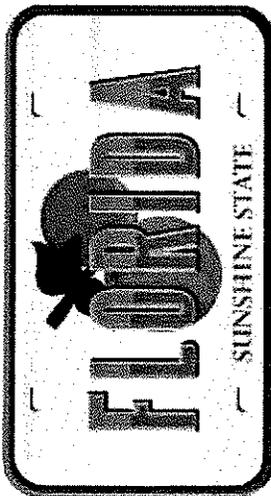
Did you know that if your plate is unreadable due to oxidation, dirt, grime, snow, or license plate frame, you are in violation of the law? This would be termed an "obscured plate" violation. If your plate is old, oxidized and unreadable, take it to the SOS office and get it replaced.

Have you tried to read a license plate by following a vehicle, like the police have to in order to radio in their traffic stop? Is it my old eyes or are license plates hard to read? In order to read the now seven-digit plates, you have to be locked on the other vehicle's bumper. "



License Plate Visibility

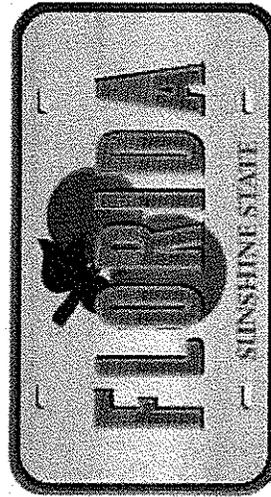
New Plate



4 years old



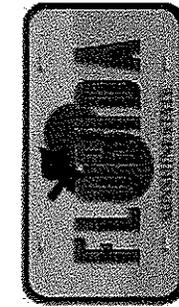
8 years old



10 ft.
Day



75 ft.
Night



250 ft.
Night

Day Time Photo



Night Time Photo



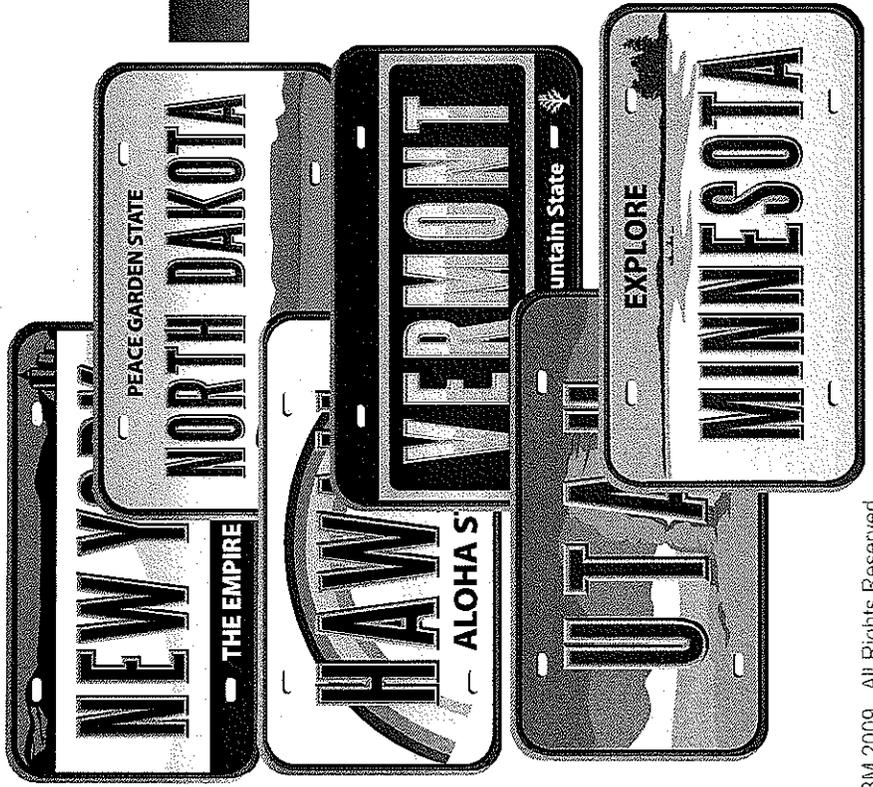
Improve Visibility & Safety at Night

- 5 cpl
- 7 year old plate
- 25 cpl
- new plate

250 Feet

3M Vehicle Registration Systems

\$15 Billion - is collected in vehicle registration fees in the U.S. annually



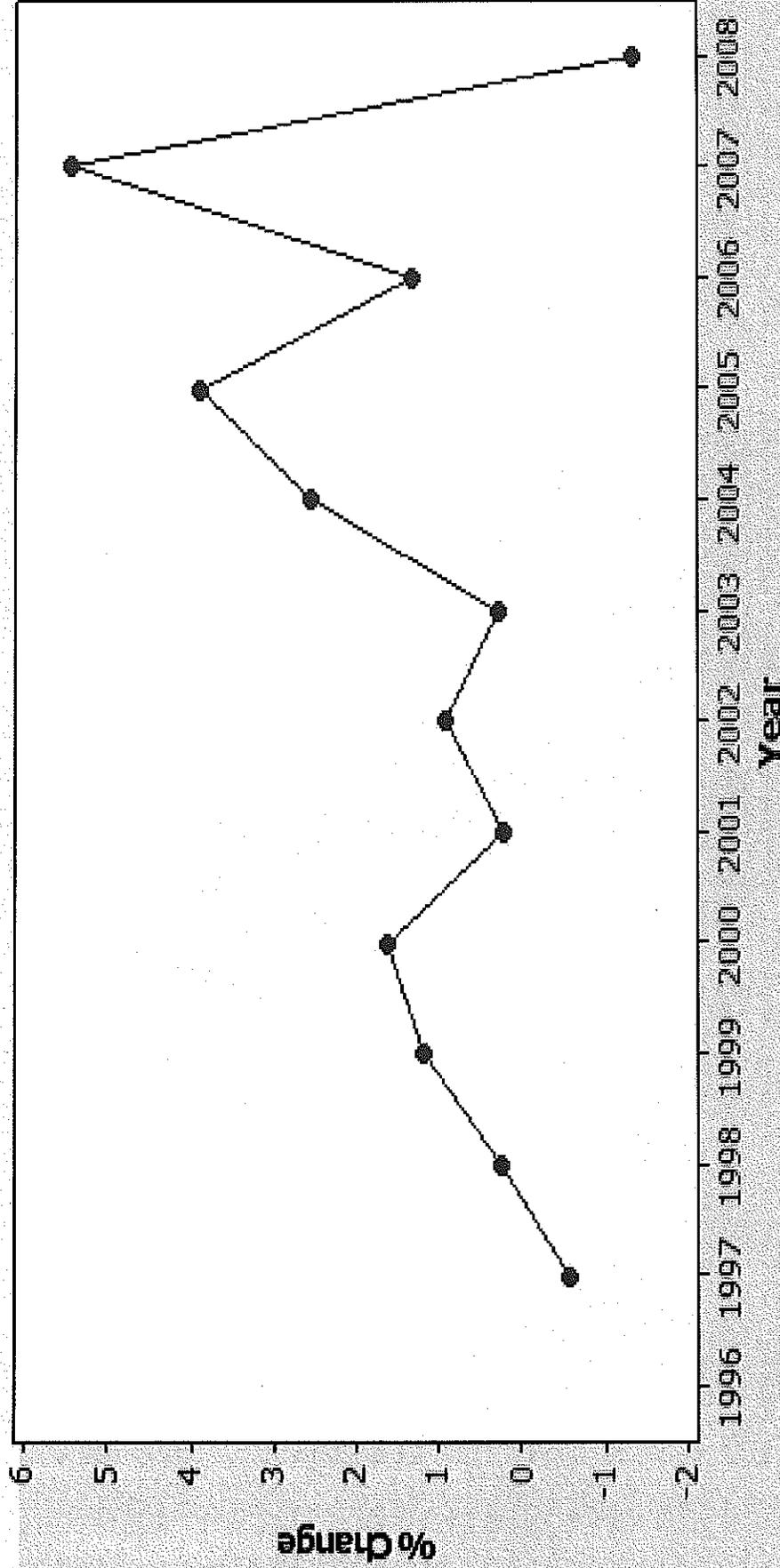
3M

3M Vehicle Registration Systems

Michigan 2007 Reissue Data

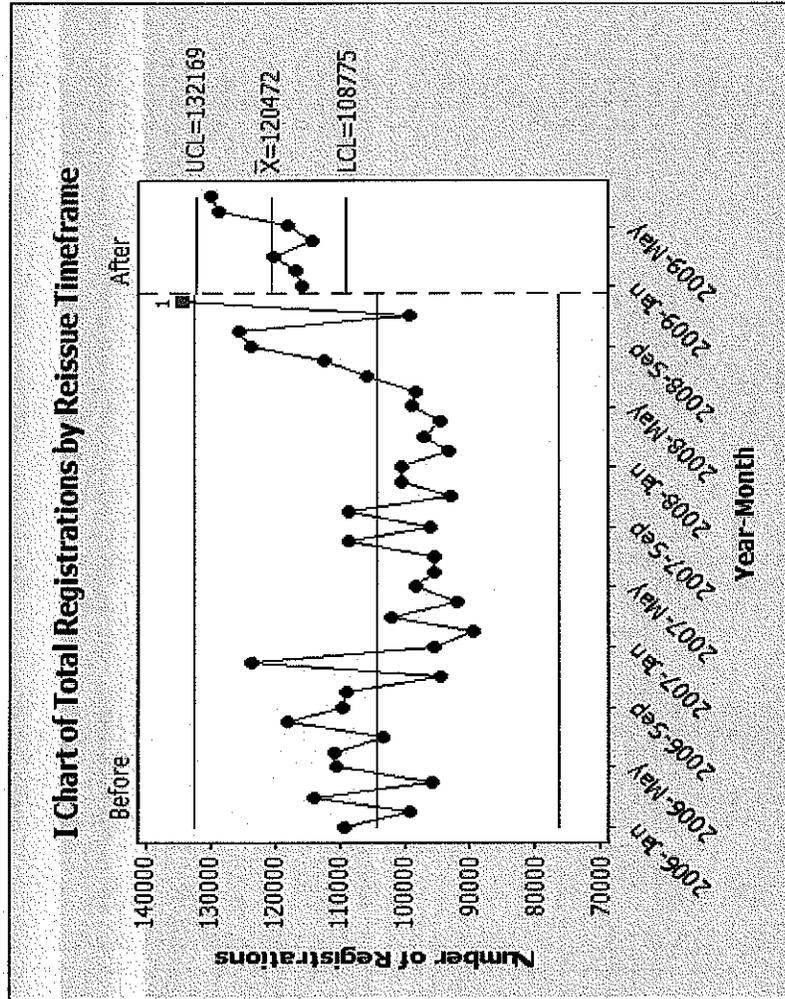
FHWA Data

Line Plot of Year to Year % Change in MI Vehicle Registrations

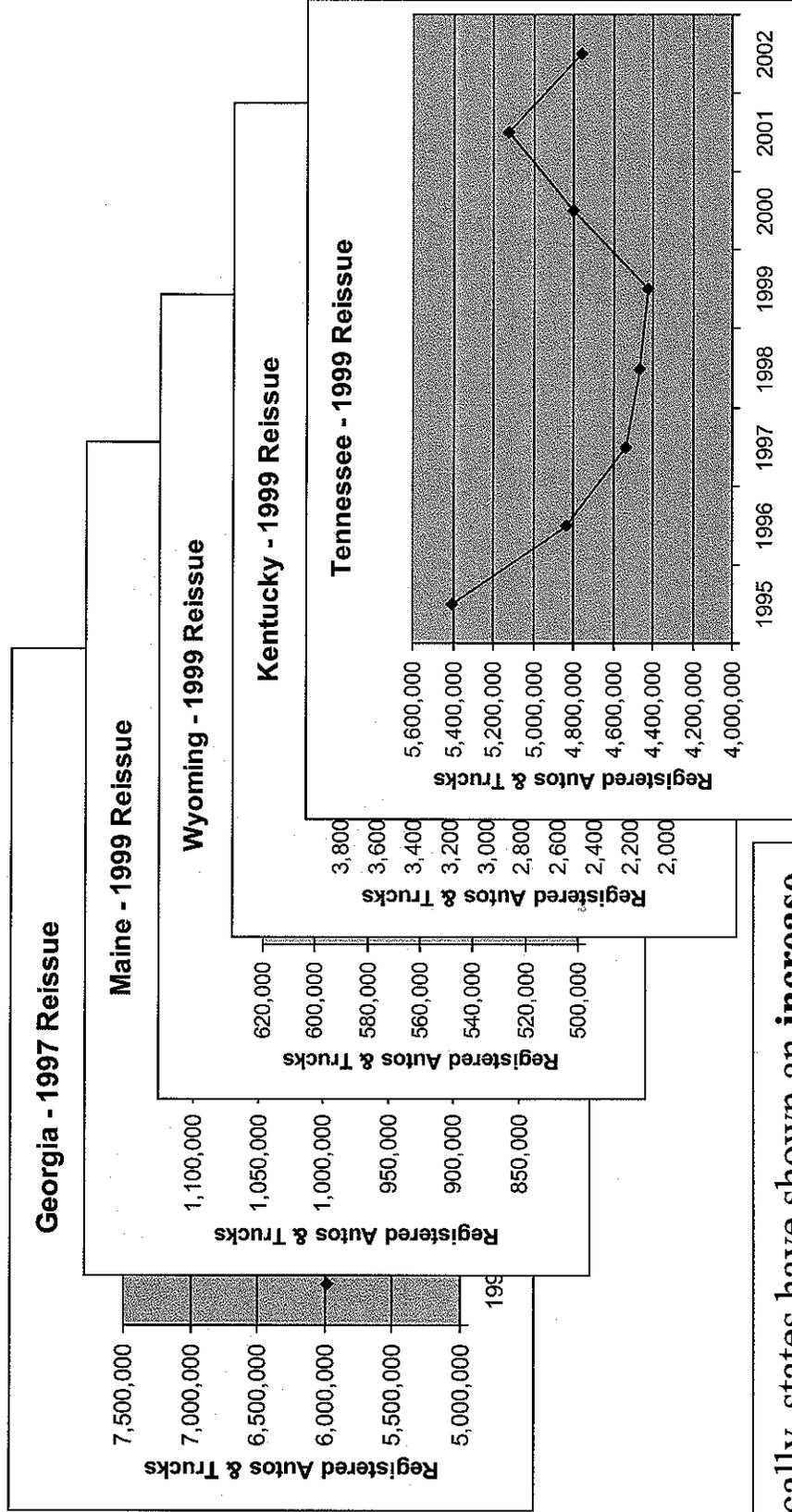


Oklahoma 2009 Reissue Data

- The average monthly registrations went from around 105,000 during the before reissue period to over 120,000 in the after reissue period



Increased Registrations



Historically, states have shown an **increase in registration compliance** following a license plate reissue, which brings both **economic benefits** and an **improved image** to the state



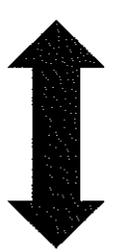
\$750 Million

- *It is estimated that we lose over \$750 million dollars in the U.S. annually due to registration fee evasion.*
- *This loss to states is even greater when you consider that vehicle registration revenues are often used to match federal highway construction funds at a ratio of one to five. In a typical state, this can mean a loss of over \$50,000,000 per year in Federal funds.*
- **\$750 million is derived from a 5% noncompliance rate x number of vehicles x average registration fee**



Reissue Benefits

- ✓ Law Enforcement
 - Readable license plates facilitate catching criminals
- ✓ Homeland Security
 - New electronic law enforcement and homeland security tools require readable license plates
- ✓ State Image
 - Attractive license plates boost state's image for residents, visitors, and others who see plates when drivers go out of state
- ✓ Tourism
 - Plates that promote activities or natural environment of state attract visitors



3M Vehicle Registration Systems

Thank you



License Plate Aging and Visibility Risk Factors

License plates are subject to some of the harshest environmental conditions: Road salts, chemicals, petroleum spatter, high wind speed, extreme temperatures, UV radiation, humidity, and debris impact, to name a few.

The standard comprehensive warranty offered by a manufacturer covers license plate sheeting performance for a period of five years. After this period, it is recommended to replace the license plate in order to maintain performance characteristics. White sheeting, for example, has a specified brightness level of retro-reflectivity which must be maintained during the warranty period. In general practice, it is expected that within the first five years, the sheeting will still maintain about 50-80% of its original retro-reflectivity levels. Further accelerated retro-reflectivity drops are expected after the first five years and may represent significant losses and reduced night visibility for law enforcement. Environmental conditions will further diminish the retro-reflectivity, legibility and general appearance of the license plate. In addition to normal retro-reflectivity loss over time, various degradation modes of license plates have been observed.

Although the failure modes MAY NOT be typical for every state, they represent actual performance risk factors AFTER the manufacturer's warranty period. Some of these failure modes can occur anytime in the lifetime of a license plate, but the longer a plate is in service, the greater the probability a failure mode will occur. That's why it is recommended to replace license plates every 5 years to minimize such risk.

After the warranty period license plates MAY experience:

1. **Mechanical Damage:** This is perhaps the most common failure mode and includes damage due to impact of road debris and of the vehicle hitting curbs, other vehicles, etc. It is common for these damage sites to have reduced brightness.



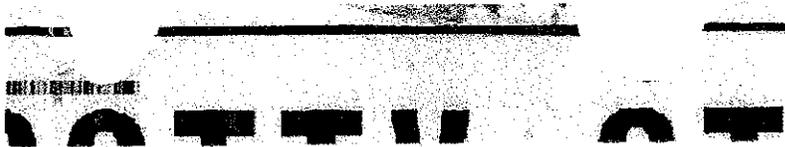
6. **Corrosion:** Metal substrates are subject to salts and other chemicals which are corrosive.



7. **Sheeting Delamination or Edge Lifting:** Process where the sheeting is infiltrated by air/water and freeze/thaw cycles, causing uplifting of sheeting and visibility impairment of the plate identification area. This infiltration may also occur at the plate edge. As seen in this picture, sometimes the sheeting will break off.



8. **Metal Fatigue:** Substrates (aluminum or steel), can break or crack due to continuous vehicle vibration, debris impact, and less costly, thin metal blanks.





RICH KINSEY | SEMPER COP

COLUMN: SOS: Hear a cop's pleas about license plates and driver's licenses

By RICH KINSEY (/USERS/PROFILE/?UID=4969) AnnArbor.com Community Contributor

Posted on Thu, Jun 21, 2012 : 5:59 a.m.

A woman and her child were leaving a grocery store about a month ago when they notice some guy taking their picture. The child actually noticed it first. Is this illegal? No, because they are in a public place.

Is it creepy? You bet. Especially since the creepy cameraman, upon realizing he had been discovered, backed out of the store's parking lot so no one could read his license plate.

Not to worry, the cops have identified the suspicious shutterbug, spoken to him and will continue to watch for him. However this case underscores a problem in the State of Michigan between the police and the Michigan Secretary of State (SOS). As the late **Strother Martin** put it in the classic 1967 movie *Cool Hand Luke*, "what we got here is failure to communicate." (See the YouTube clip here (<http://www.youtube.com/watch?feature=fvwp&NR=1&v=V2f-MZ2HRHQ>))

Michigan is among 19 states that do not require a front license plate. It may be a cost-saving measure for the SOS, but at what price to victims, potential victims, witnesses and those whose duty it is to protect the public?

Speaking of plates, just how many different styles of license plates are there in the State of Michigan? Some of those plates are really sharp and artistic. Some of them honor veterans. Some support charities. Some show support of colleges, groups and fraternities. Some celebrate events and some vanity plates are extremely clever. However some license plates have been around too long.

My son's vehicle still sports a 1996 issued 100th Anniversary of the Automobile plate. It, like the early "Great Lakes Splendor" license plates, have fallen victim to Great Lakes State road salt and look like they have been Great Lakes sand blasted. At night, these plates, which are up to 16 years old, are so oxidized they are barely readable.

Did you know that if your plate is unreadable due to oxidation, dirt, grime, snow, or license plate frame, you are in violation of the law? This would be termed an "obscured plate" violation. If your plate is old, oxidized and unreadable, take it to the SOS office and get it replaced.

Have you tried to read a license plate by following a vehicle, like the police have to in order to radio in their traffic stop? Is it my old eyes or are license plates hard to read? In order to read the now seven-digit plates, you have to be locked on the other vehicle's bumper.

It also used to be when plates were made "fresh" every couple of years — and arguably when there were fewer cars on the road — they were easier to remember. The reason for this was that there was a system.

Passenger car plates had three alphabet letters then three numbers or vice versa. Commercial plates had two letters then four numbers or vice versa.

When plates were so configured, I knew one undercover officer named "Slider" who could memorize three license plates in a driveway — go in and do his dope deal remembering all the names and faces in the group — and 30 minutes later write down the plate numbers. Slider was phenomenal for a number of reasons, but I doubt even he could remember three license plates with so many combinations of numbers and letters currently assigned to Michigan license plates.



Here are just three of the many varieties of license plates offered in Michigan.

SOS also used to avoid using certain letters because they looked so much like numerals.

The letter "B" was not used because it looked like the number 8. The letter "Q" was not used because it looked like a 0 (zero) which of course also looks a lot like the letter "O." All of these are currently used. I am positive that "B" and "Q" are used. The letter "O" I can not say for sure, because I saw a plate with what I thought in the sequence of numbers and letters had to be a letter instead of a number — but who knows with all the different alpha-numeral configurations SOS currently stamps on plates.

Take a look at the letters M, N, W and sometimes H. Those letters are easily confused on license plates — especially when they are crammed onto a seven-digit license plate.

Take your driver's license out for a moment — I'll wait. If you happen to be wearing "readers" as many of us aging "baby boomers" are, take them off and try to read your license. It is not easy unless your arms are long enough and you squint just right. Furthermore you know what your license should read.

Now picture trying to read that license at night, with strobe lights flashing and a blinding spotlight behind you and your life perhaps depends on it. Furthermore, the very latest licenses have a plastic coating with an embossed state seal that catches the light of the spotlight or flashlight just right and makes it almost impossible to read outside the police car.

One veteran officer — "The Engineer" — complained to me, "Just because they (SOS) can print in #6 font on a license does not make it a good idea." Those licenses are hard to read in lowlight or spotlight conditions.

"The Engineer" offered a great idea. Why not — since it is a "privilege" and not a "right" to drive in the State of Michigan — require people renewing their plates each year to provide a telephone number where the police or SOS could reach the registered owner.

Those phone numbers could be used at accident or abandoned car scenes. They could assist in calling the registered owner to see who should have their vehicle. It would make it easier to call parents when teen drivers are involved. That is a great idea since there really is no free and comprehensive phone directory anymore.

A pair of state trooper friends suggested the SOS collect the vehicle color and all the insurance data and print that information on a vehicle's registration. The SOS is clearly getting data from insurance companies — why not print the insurance company, policy number and expiration on the registration? In that way motorists would only have to carry their registration and driver's license while motoring on Great Lakes State roads.

I am not necessarily blaming **Secretary of State Ruth Johnson** for the problems with plates and driver's license. Those issues were initiated before her term. I am however urging the SOS to consult "street cops" before starting programs, because some of the SOS revenue-generating initiatives also adversely impact public safety.

Lock it up, don't leave it unattended, be aware and watch out for your neighbors.

Tags: Rich Kinsey ([/tag/Rich Kinsey/](#)), Semper Cop ([/tag/Semper Cop/](#)), crime ([/tag/crime/](#)).



Rich Kinsey is a retired Ann Arbor police detective sergeant who now blogs about crime and safety for AnnArbor.com.

([/users/profile/?UID=4969](#))

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REISSUING LICENSE PLATES IS A PUBLIC SAFETY ISSUE

Fully reflective license plates ensure safety for motorists and law enforcement. Reflectivity is a key component to identification of vehicles in normal traffic, bad weather and dark environments.

License plate fully reflective sheeting has a warranty of five years and is 50 percent reflective after seven years. When a license plate loses its reflectivity, the vehicle's safety is jeopardized when driving in bad weather (rain, snow, sleet) and low light. Through all weather conditions, the fully reflective sheeting can be seen, even when the vehicle is not visible.

More than 30 states across North America have reissued their license plates since 1995. Twenty of those states are currently legislated to have regular reissues. **Government in these states has placed a priority on public safety by assuring their motorists the visibility of their license plate.**

Law enforcement has testified license plates are their top marker for vehicle identification and integral in traffic safety. Reflectivity of the license plate is of high priority for criminal investigations and missing children. There are multiple examples of readability of plates leading to public safety. I have included a sampling of stories from across the country from law enforcement officials:

MISSING/ENDANGERED PERSONS

Wyoming - Officer John King, who was off-duty at the time, was in the parking lot of a grocery store in Sheridan, WY. He observed a 12 to 13 year old female kissing an older man near a van. The van also had two other older males in it. Officer King became concerned about this and noticed the license plate was from Washington State. He contacted the police department's dispatch center and checked on the plate. The plate returned with a NCIC hit concerning a missing 13-year-old child from Washington. An on-duty officer initiated a traffic stop on the van. One male subject, 19 years of age, was arrested. The girl ended up being 13 years old and had left Washington State with the three older males voluntarily. One subject, a 19 year old male was charged with Sexual Assault of a Minor, 2nd degree. The subject was sentenced for 5-8 years in the state prison in Wyoming.

Subject was driving slowly and swerving in the lane of travel. Check of rear plate revealed subject was listed as endangered and missing. The officer stopped the driver and he was able to get him medical attention. The family was contacted and put at ease.

CRIME

Fake Plate

Cpl. Was assigned to investigate a crash that occurred in Marion County. The license plate attached to the vehicle in the crash belonged to a dealership and had been copied on a color copier. The paper copy was secured to two tags with several layers of heavy-duty clear tape and then attached to the car. Further investigation revealed that the subject had purchased the vehicle

from the dealership but had not registered the vehicle; the vehicle was not insured at the time of the crash. At the conclusion of the investigation, the suspect was charged with several crimes and the DMV office was notified for further investigation of the dealer.

Robbery

A wanted vehicle description and license plate was broadcast for an armed robbery and aggravated assault with a firearm where shots were fired at the victim. Offender capture was a direct result of the license plate information. Confirmation of wanted license plate led to the arrest of two violent and dangerous offenders.

Drugs/Weapons

While on routine patrol, officer observed a Windstar van with dirty rear plates and no validation sticker. Seven large garbage bags containing marijuana plants with buds totaling 271 pounds, estimated street value to be \$1.23 million dollars.

Michigan - Trooper Marie Nelson conducted a traffic stop on a vehicle due to it not having a rear license plate on it. The driver of the vehicle stopped in his own driveway. He admitted to just having smoked a joint in his house a few minutes prior to being stopped. He was subsequently arrested for operating while intoxicated by alcohol or by drugs. Nelson obtained consent from both the driver and wife to search their residence. Troopers located a marijuana grow operation in both the master bedroom and an inoperable bathroom of this residence. Several bags of marijuana were located throughout the house trailer. Their son and daughter were also both in possession of marijuana. Nine other plants were located just a few feet outside the trailer. The driver admitted the plants were his.

Massachusetts - Trooper Keefe was on patrol when he conducted a routine Registry of Motor Vehicle inquiry on a MA registration displayed on a Honda. The result was that the plate was revoked. Trooper stopped the vehicle and three male occupants and one female occupant were ordered out of the vehicle. An inventory of the vehicle's content revealed a sawed off rifle in the front of the trunk, accessible by passengers.

Another argument for creation of a revolving reissue cycle for license plate issuance is transportation funding. 3M Company has conducted a study that shows at any given point, 3 percent of motorists are non-compliant in their registrations. In Michigan, there are 5.5 million registered vehicles x 3% = 165,000 vehicles are non-compliant. At an average registration cost of \$100 x 165,000 = \$16,500,000 in potential registration capture when new license plates are issued. Since all registration revenues are constitutionally tied to transportation funding, there is a potential increase in transportation funding.