

# TRAFFIC VIOLATIONS ARE ON THE RISE: HOW FLEETS CAN PREPARE



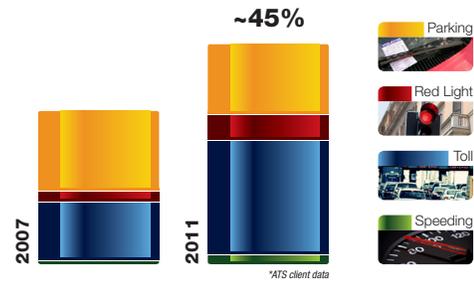
Fuel, insurance, preventive maintenance and repairs are generally accepted as standard operating costs for fleets. What about vehicle-issued violations, such as parking, toll and photo enforcement tickets?

Some fleets treat vehicle-issued violations as a cost of doing business. For instance, many delivery and utility fleets in urban areas, such as New York City, place a higher value on providing timely service than negotiating complex parking rules. Other fleets seek to make drivers accountable for violation-related costs. What most fleet managers seem to agree on is that vehicle-issued violations present a costly, burdensome problem that could use better solutions.

Violation-related issues are becoming a more visible discussion topic in the fleet world as violations are on the rise, driven by cashless electronic toll collection as well as advances in enforcement technology and practices. This overview seeks to provide fleet managers with an understanding of the trends in vehicle-issued traffic violations, as well as opportunities for saving money and reducing risk in dealing with these violations.

**A 45 percent increase in fleet violation volume was reported by a large, national fleet management company between 2005 and 2011.<sup>1</sup>**

## INCREASE IN FLEET VIOLATIONS

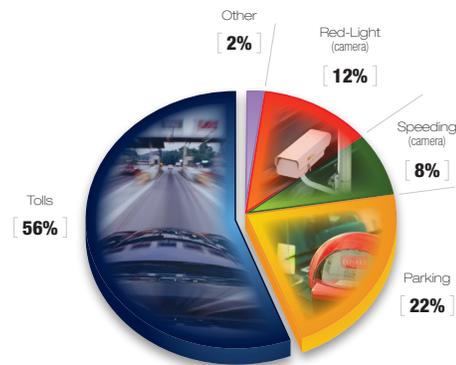


## THE VIOLATIONS CHALLENGE

### Understanding the Rise in Fleet Violations

Tolls, parking and photo enforcement represent more than 95 percent of the vehicle-issued violation volume impacting fleets. Typically, toll violations comprise the largest segment at approximately 56 percent, followed by parking tickets at about 22 percent, and finally, photo enforcement citations, for actions such as red-light running and speeding, at roughly 20 percent.<sup>2</sup>

## FLEET VIOLATION BREAKDOWN



**Tolling:** The number of toll violations on Maryland tollways rose 80 percent between fiscal years 2011 and 2012, and 310 percent between fiscal years 2008 and 2012.<sup>3</sup>

**Parking:** In 2011, Washington, D.C. collected a record \$92.6 million in parking fines, representing an increase of more than \$12 million over 2010.<sup>4</sup>

**Photo Enforcement:** American Traffic Solutions (ATS), the No. 1 photo enforcement services provider in North America, processed close to 3.9 million photo enforcement tickets between January and November 2012 — a 12 percent increase over the same period in 2010.<sup>5</sup>

## A. The Impact of Technology

Technological advancements in tolling, parking and photo enforcement are making it easier and less costly for ticket issuers to cite vehicles. Some of these advancements are paired with shifts in how municipalities are addressing mobility and safety challenges on the road. Other advancements are geared toward increasing ticket-issuing efficiency. As these advances in technology are explored, the net result is a higher volume of tickets for everyone, including fleet owners.

**All-Electronic Tolling:** At one time, the traditional toll booth was a mainstay on North America's tollways. Today, toll authorities are converting to All-Electronic Tolling (AET), removing manned toll booths that collect cash and instead collecting tolls electronically using in-vehicle transponders or vehicle license plates. The pace of conversion to AET at existing toll facilities is accelerating and some of the oldest and largest toll agencies have announced their plans to convert.

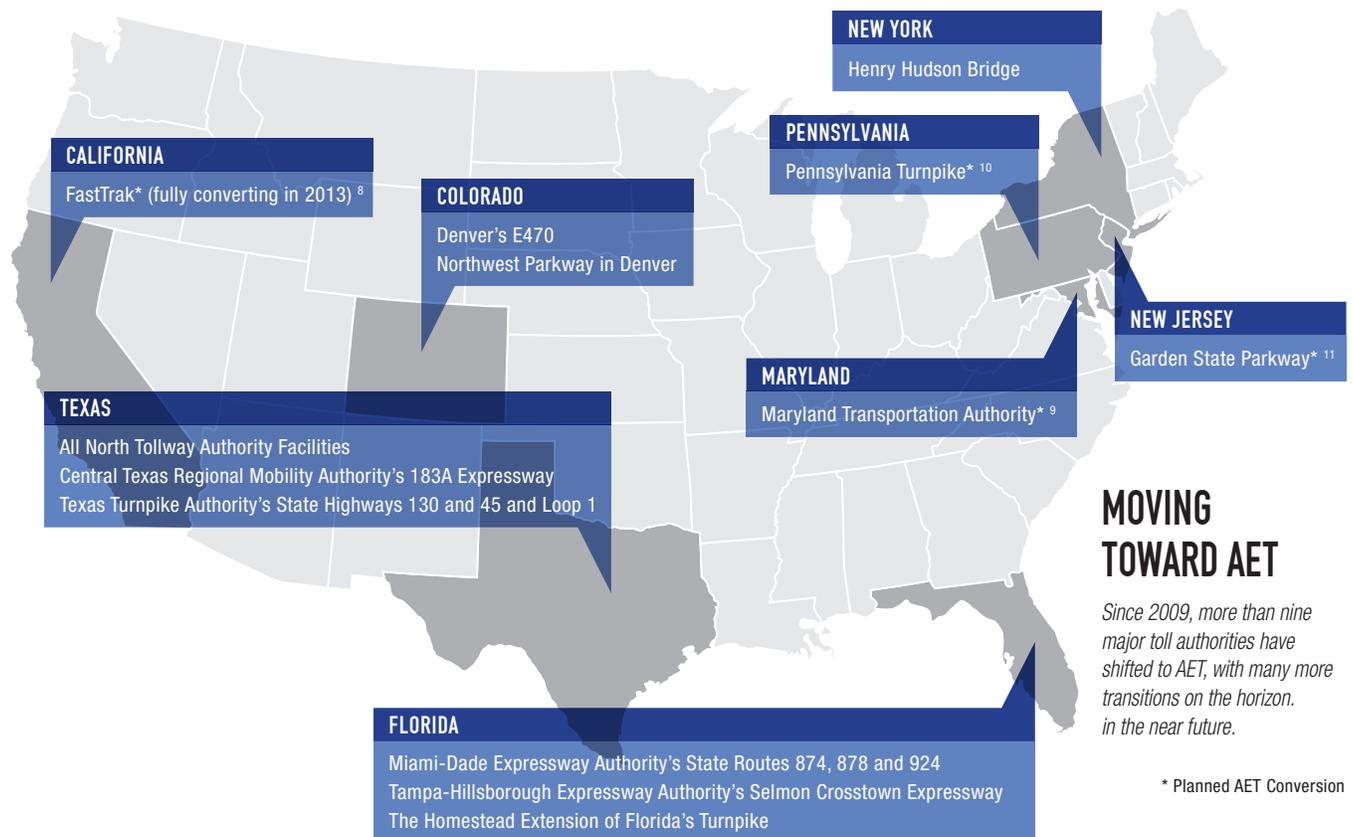
Massachusetts Governor Deval Patrick recently confirmed that the State is moving to end cash toll collection, saying that the planning for going cashless was "about how we get as modern and efficient a road

system as possible."<sup>6</sup> The Pennsylvania Turnpike, which operates 545 miles of toll roads throughout the State, has set a goal of converting all facilities to AET within five years.<sup>7</sup> The Florida Turnpike, which has already implemented AET on sections of its roads, has scheduled to convert all sections of the Turnpike to AET by 2015; it is a near certainty that any new toll facilities built will be AET from the outset.

To support AET, toll road operators are installing sophisticated Automatic License Plate Recognition (ALPR) systems that can accurately capture and identify the front and rear license plates on almost every vehicle using the toll road.

ALPR technology has improved dramatically in recent years, and modern systems are capable of identifying all state and commercial license plates at any time of day in all weather conditions. If the vehicle using the toll road is not pre-registered with the toll authority, then registered owner information is automatically obtained from the appropriate state DMV and the owner is invoiced for the toll charges.

Initially, the invoices issued are for the cost of tolls only, but if the invoice is not paid on time, additional fees are added and costs can escalate rapidly.



The transition to AET creates both opportunities and challenges. Fleets can improve their mobility by participating in AET programs, enabling vehicles to use high-speed cashless toll lanes and eliminate traditional expense reimbursement to their drivers. But AET also introduces additional effort for fleet managers. If vehicles are not appropriately equipped and registered with the tolling authorities, then AET conversions will typically result in an increase in toll invoices/violations being issued to the fleet, increasing operating costs.

**Toll agencies experience a 7 to 10 percent increase in toll violations when they convert to AET.<sup>12</sup>**

**Parking Violations:** Remember when parking was metered at 25 cents per hour on single space, wind-up parking meters? Those egg timer-like meters are disappearing, only to be replaced by multi-space meters that welcome drivers' dollar bills, credit cards and smart cards so fleets can spend \$3 per hour on parking. Cities' ability to generate revenue from their parking assets is no longer limited by the size of the coin box as it was in the past.

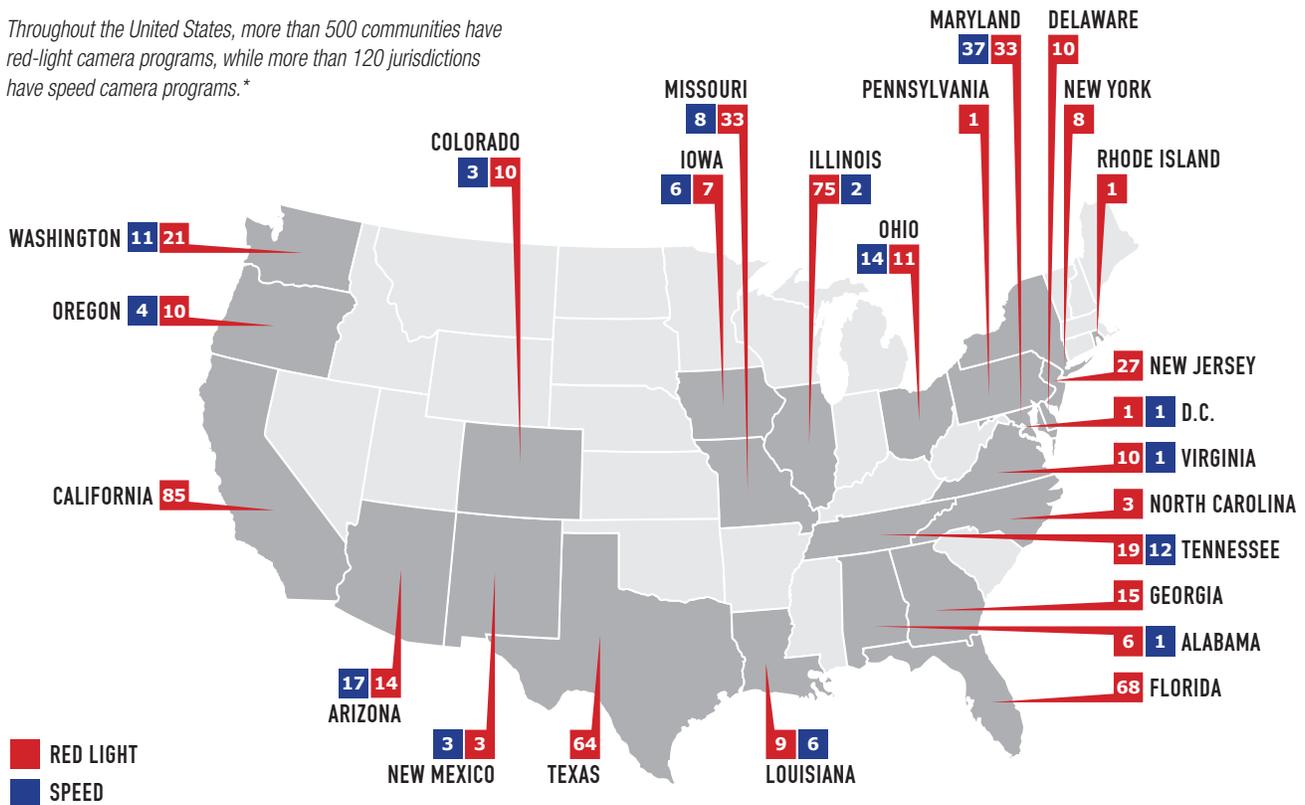
Parking officials are replacing the traditional 'walk every space' approach with an array of smart technology, such as end-to-end integration using multi-space meters with real-time wireless communication and telemetry-enabled enforcement, which relies on sensors installed in the road to collect and send real-time parking data to a network operations center.

**In Easton, PA, parking officials installed 50 telemetry-enabled parking spaces using high-tech in-road sensors. After three months, the City increased revenue more than 50 percent.<sup>13</sup>**

**Photo Enforcement:** Automated photo enforcement has been shown to be an effective tool for reducing collisions, injuries and fatalities associated with red-light running and speeding collisions. For this reason, municipalities across North America are turning to this technology in many ways to enhance road safety.

## PHOTO ENFORCEMENT BY STATE

*Throughout the United States, more than 500 communities have red-light camera programs, while more than 120 jurisdictions have speed camera programs.\**



\* Insurance Institute for Highway Safety (December 2012)

## Red-light safety cameras reduced fatal red-light running crashes by 24 percent, according to a 2011 study by the Insurance Institute for Highway Safety.<sup>14</sup>

Between 2005 and 2012 YTD, the number of photo enforcement systems installed in the United States increased 24.8 percent, with more than 6,000 photo enforcement cameras currently installed in 500+ U.S. communities.<sup>15</sup>

As an example of the growing reliance on photo enforcement, Washington, D.C.'s 2013 budget proposal includes provisions for \$30.6 million in revenue to be generated by a dramatically expanded traffic camera program.<sup>16</sup> This expansion is projected to include more than 200 additional units.<sup>17</sup>

Photo enforcement technology is improving, leading to higher capture and citation issuance rates. For example, ATS' latest automated speed enforcement cameras capture approximately 30 percent more violations compared to older systems.<sup>18</sup> As a result, fleet drivers who run red lights or speed can anticipate more tickets.

Today's advanced detection systems, radar and LIDAR (Light Detection and Ranging), are highly accurate and can track at least 20 vehicles simultaneously, including the lane designation and path, ultimately yielding higher violation capture and citation issuance rates. Both detection and camera technologies are advancing rapidly, making it easier and more reliable to capture vehicles violating traffic laws. Advancements in detection accuracy and super high resolution digital photography have strengthened evidence, translating into fewer citations getting dismissed.

Photo enforcement is being used in new ways to address traffic issues for cities and other municipalities. New York City has a successful bus lane photo enforcement program that assists in keeping unauthorized motorists from illegally using city bus lanes. School bus stop arms are now being enforced with photo enforcement solutions to discourage motorists from illegally passing school buses.

These advances have expanded the types of violations that fall under automated photo enforcement. They have also improved existing photo enforcement capabilities. Better technology results in a greater volume of vehicle-issued tickets that impact fleets.



### B. More Aggressive Enforcement:

More aggressive enforcement begins with the technology innovations discussed above. Ticket issuers, primarily at state and local government levels rather than the federal level, make decisions on how they enforce their laws and issue violations. With nearly 4,000 different ticket issuers between the United States and Canada, the rules vary dramatically especially with regard to photo enforcement. For example, some states do not allow photo enforcement at all, while other states that do will often allow each local municipality to decide whether or not to pursue drivers who make an illegal right turn on red. There are also cases of some cities within a state choosing to abandon photo enforcement programs for political reasons, while others aggressively expand photo enforcement.

Enforcement tactics also include fine rules, non-payment penalties, collection efforts, booting, towing, registration holds, public shame campaigns and other strategies/tactics. The following cover some of these strategies and tactics pursued by ticket issuers.

**Increased fines:** Fine amounts, like toll rates, generally go up and not down, whether for tolling, parking or photo enforcement.

- In 2012, the New Jersey Turnpike Authority increased its fine for toll violations from \$25 to \$50.<sup>19</sup>
- The Los Angeles City Council raised parking fines six times over the past seven years; fines now range from \$63 to \$93.<sup>20</sup>
- In 2012, the District of Columbia doubled its fine for red-light running, increasing it from \$75 to \$150.<sup>21</sup>

Increasing fine amounts means higher costs for fleets. When coupled with rising violation rates, the violation impact on fleets could be material.

**Increased penalties:** Penalties for unpaid fines, such as registration holds and vehicle seizures, are also generally increasing. For example, in 2012:

- The Colorado Department of Motor Vehicles implemented registration holds for unpaid toll citations.<sup>22</sup>
- The New Jersey Turnpike Authority began suspending registrations, impounding vehicles, filing lawsuits and arresting offenders for theft of service.<sup>23</sup>
- Nassau County, New York began booting and towing vehicles with three or more unpaid parking tickets.<sup>24</sup>

Ticket issuers have begun to link other vehicle-based penalties on the back of unpaid violations. These consequences for unpaid tickets can be materially more expensive and disruptive for both fleets and their vehicle owners.

Vehicles being booted, towed and potentially impounded can be especially disruptive for national fleets that may not have support resources in many local markets to help get a vehicle out of impound. The story of a major municipal fleet that was blocked from selling a multi-million dollar real estate asset until their outstanding violations and penalties were paid in full is another scenario where fleet violation issues spilled over into the broader organizational landscape.

Technology innovations like ALPR systems attached to vehicles that drive streets and parking lots imaging license plates in search of unpaid violations allow for advanced ticketing, booting and towing of vehicles raise the bar on keeping ahead of violations.

**Enhanced collections efforts:** Ticket issuers also are increasing their collections efforts. Fleets have reported some issuers attempting to collect on unpaid tickets dating back five years or more.<sup>25</sup>

In 2012, the Port Authority of New York and New Jersey filed civil suits against nearly 20 of the most egregious commercial and individual toll violators.<sup>26</sup>

“Cracking down on repeat offenders, and in particular those who have egregiously violated the law, will be part of our ongoing and aggressive collection efforts,” Port Authority Executive Director Pat Foye stated.<sup>27</sup>

The District of Columbia used a different strategy:

By August 2012, the District turned over more than 230,000 drivers to the District’s debt collector for unpaid parking tickets.<sup>28</sup>

The Illinois Local Debt Recovery Program allows the Illinois Comptroller’s Office to collect local debt by docking tax refunds; the law covers multiple types of fines, including parking and red-light camera tickets.<sup>29</sup>

Increasing fines translate into higher costs for fleets — what might have been a minimal cost at one time is quickly eating more of the company’s profits.

**Shame campaigns:** Ticket issuers are relying on the power of negative PR by “outing” violators who amass unpaid citations, a strategy known as a “shame campaign.” The negative effects of bad PR can be much broader than the cost burden of the fines themselves. For example, the Port Authority of New York and New Jersey released its “Wall of Shame: Top Egregious Offenders List.” In the 2012 list, 24 of the 35 toll offenders listed were fleets.<sup>30</sup>

**“For too long, toll violators have put themselves above the law, running up bills that range from the thousands of dollars to hundreds of thousands of dollars. Those days are over. This is a new era at the Port Authority, and I will have zero-tolerance for truckers and motorists who cheat the system and short-change the rest of us.”<sup>31</sup>**

**— Port Authority Executive Director Pat Foye**

The North Texas Tollway Authority (NTTA) began publishing its list of top toll violators on its website in 2012. The list includes all toll violators with invoices more than 180 days old. The NTTA stated it hopes publishing the list would help the agency avoid taking violators to court, but it is not afraid to play hard ball if necessary.<sup>32</sup>

“So fair warning,” said NTTA Spokesperson Michael Rey. “If you are on the list, there will be further action.” Nassau County, New York began booting and towing vehicles with three or more unpaid parking tickets.<sup>33</sup>

In October 2012, New York City Comptroller John C. Liu released a statement criticizing the City’s Department of Finance for not collecting millions of

# FLEET VIOLATION CHALLENGES

Most fleets experience, to some degree, the following violation challenges.

## Challenges for Companies with Fleets

**Hard Costs:** Include the initial violation fines, related penalties due to late or non-payment and associated administrative fees.

**Accident Liability Risk:** Companies can be held liable for accidents caused by unsafe drivers. Courts have awarded damages in liability suits against companies with histories of unsafe fleet driving.

**Negative Public Relations:** From shame campaigns to public statements by authorities, ticket issuers are becoming more aggressive with fleets that do not pay their violations.

## Challenges for Fleet Managers

**Administrative Costs:** Include time required to process violations, as well as following up with drivers to recover fines and/or administrative fees. Additional penalties, such as registration holds and vehicle seizures, can be assessed due to late or non-payment of violations, which can negatively impact a fleet.

**Lack of Visibility:** When fleets lack systems for violation processing, management and tracking, a fleet may be unaware of its driver's violation history and whether or not it has unsafe drivers on the road. While some driver score carding programs seek to alleviate this risk, capturing all types of violations has been elusive for fleets.

**Lack of Driver Accountability:** Especially in large disbursed organizations, holding drivers accountable for their violations and fines is challenging, as systems for administering violation handling have not been readily available in the market place. Some fleets choose not to pursue drivers and others do the best they can with limited resources. As such, the opportunity to hold drivers accountable for their violations may be lost along with the opportunity to improve driver behavior with regard to incurring violations.

## Challenges for Fleet Drivers

**Loss of Due Process:** When a fleet or Fleet Management Company pays fines automatically, drivers generally lose their right to due process, preventing them from contesting tickets they believe to be unjustified. Once paid, most ticket issuers view violations as closed with no further recourse available.

**Driving Record at Risk:** By losing the ability to contest citations believed to be unjustified, drivers also lose the ability to protect their driving records, whether with their DMVs or the driver scoring systems used by their employers.

dollars in parking tickets left unpaid by commercial fleet vehicles. In his statement, Liu suggested that officials remove companies that ignore parking tickets from the city's ticket discount program.<sup>34</sup>

"It's bad enough that people feel like they're constantly blitzed with parking tickets. It's absolutely galling to now find that the city lets big companies off the hook on millions in parking tickets," Lui said.<sup>35</sup>

Given these aggressive and public tactics, fleets must be aware of the far reaching consequences of unpaid and unaddressed violations. Consequences involving negative PR and legal action represent additional costs to companies with fleets.

## SOLVING THE VIOLATIONS PROBLEM

As the financial and business impact of violations grows, fleets can greatly benefit from solutions that solve the violations problems. Programs have been developed and are currently being marketed that address the violations challenge for fleets in valuable ways. This document will address some of those programs while providing evaluation criteria to help fleets determine the best fit between the problem they face and potential solutions that may be available.

### Toll Violations Prevention Programs

The No. 1 violation problem for most fleets is toll-violation related. Preventing or even reducing these citations remains a challenge for many fleets. Some fleet managers view tolling expenses as something they would like to manage centrally whereas others view toll expenses as a T&E item that is not part of the fleet budget.

Relying on drivers to manage their own tolling can lead to a lack of top-down visibility regarding toll spend and risk of driver-related violation consequences. Conversely, fleets that manage tolling centrally face the administrative burden of juggling multiple toll accounts. Toll authority systems were by and large created for individual account holders and are not set up to provide many of the conveniences that fleets seek.

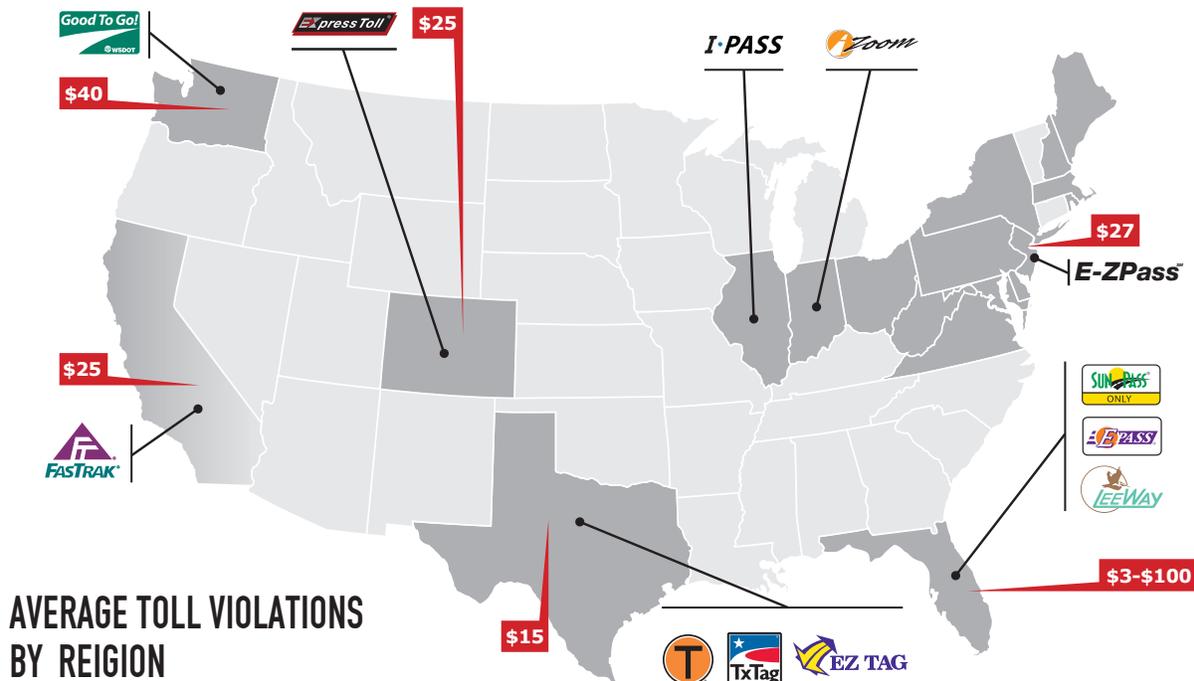
However, solutions are available to resolve the challenges associated with tolling.

Toll violation prevention programs can significantly reduce, if not eliminate, a fleet's risk of incurring toll violations. An effective prevention program should automatically enroll vehicles with participating toll authorities and then ensure all enrollments remain active and up-to-date.

This removes the administrative burden from the fleet manager and eliminates the "lack of control" factor for fleets with driver-managed toll programs as fleet managers no longer have to rely on drivers to be responsible for not incurring toll violations

**Fleets with effective toll violation prevention programs have saved up to 80 percent on their toll violation costs.<sup>37</sup>**

**Average Fleet Toll Fine = \$27 per Violation<sup>36</sup>**



\* \$3 for first violation; then \$100 per toll if unpaid

## Violation Management Programs

Managing fleet violations is time-consuming and expensive. Ensuring that violations are addressed in a timely manner is not easy for fleet managers.

**Average Violation Fine= \$74  
per Violation<sup>38</sup>**

Municipalities across the United States and Canada employ varying rules governing how vehicle owners must respond to the violations they issue, thus making the process of managing violations very complex.

**A large rental car company amassed more than \$500,000 in unpaid red-light running fines and penalties between 2006 and 2011. The company did not learn of the debt until 2012 when the unpaid fines were submitted to a collections agency.<sup>39</sup>**

The traditional process most fleet managers follow has been to receive the violations, identify and track down the drivers who incurred them, forward the violation to the responsible driver, follow up to ensure tickets were paid, pay escalated tickets and address penalties assessed due to late or non-payment. Cost recovery from drivers is also burdensome since most companies do not have systems in place to track violation activity or to recover violation costs from employees.

Additionally, fleets often do not have visibility to violation-related metrics that can help companies ensure that their drivers are operating vehicles in a legal and safe manner, protecting the company from further potential liabilities.

To mitigate these challenges, an automated violation management program can save fleets money and time, incent drivers to improve driving behavior and return due process to drivers.

A critical component of an effective violation management program is transfer of liability. By transferring the legal responsibility for citations to drivers, fleets can significantly reduce their expenses because they no longer need to pay for fines up front. Additionally, when a violation is successfully transferred to the responsible driver, any future penalties assessed due to late or non-payment are issued directly to the driver rather than the vehicle owner.

When transferring liability is not possible, these programs include paying the violation up front and securing fine reimbursement from drivers, saving fleets valuable administrative time.

A violation management program also can incent drivers to improve their driving behavior by ensuring drivers are held accountable for the tickets they incur. An effective program provides increased visibility into a fleet's violation history, allowing managers to more easily identify repeat offenders.

Programs can also modify driver behavior by holding drivers responsible for paying the violations incurred while the vehicle was under their control. Some programs include a small processing fee on top of the initial fine as added incentive for drivers to avoid incurring citations in the future.

Finally, a violation management program addresses the needs of both fleet managers and drivers. By transferring liability for violations, a fleet can return the important right of due process to drivers.

For one national pharmaceutical sales fleet, annual violation management costs had reached roughly \$80,000 – more than half of these costs stemmed from fines not recovered from the fleet drivers. After implementing a comprehensive violation management program for one year, that fleet was able to reduce its violation costs by 79 percent.<sup>40</sup>

**Fleets that have implemented violation management programs have experienced cost savings ranging from 70 to 90 percent.<sup>41</sup>**

## REDUCING VIOLATION COSTS AND CONSEQUENCES

Enhanced technology combined with increased enforcement efforts are leading to higher volumes of fleet traffic tickets and as a result, lower company profits. Fleets can protect their bottom line by taking control of their violation management by implementing automated programs that reduce the impact of this growing challenge and reduce their burden.

For more information on how fleets can protect themselves from the cost and risk of violations, visit ATS online at [www.ATSFleetSolutions.com](http://www.ATSFleetSolutions.com).

# FLEET VIOLATIONS: THE IMPACT ON SAFETY

From speeding to distracted driving, unsafe driving jeopardizes the wellbeing of everyone on the road.

In addition to the human costs, motor vehicle accidents by fleet drivers come with significant hard costs. For this reason, fleet managers understand the importance of promoting fleet safety, which includes taking steps to avoid both violations and collisions.

A landmark study conducted by the California Department of Motor Vehicles found that having prior citations on one's driving record was the No. 1 risk factor for predicting future accident risk. Compared to drivers with no violations on their records, drivers with one prior citation were 1.15 times as likely and drivers with four prior citations were 1.75 times as likely to be involved in an accident.<sup>42</sup>

Among commercial operators specifically, drivers with eight citations were 2.86 times as likely to have an accident compared to drivers with no violations.<sup>43</sup>

While violation fines can negatively impact a fleet's profits, accidents can be even more costly.

On-the-job highway crashes cost employers approximately \$73,800 per injury and \$505,000 per fatality, according to the National Highway Traffic Safety Administration.<sup>44</sup> The overall average cost to employers for on-the-job highway crashes is roughly \$16,500 and covers physical damage and bodily injury, sick time, workman's compensation, lost sales and productivity, as well as recruitment and training to replace permanently disabled drivers.<sup>45</sup>

In addition to the standard hard costs associated with fleet accidents, the greatest financial risk to the company stems from the liability associated with unsafe drivers. Companies are ultimately responsible for

## Estimating Fleet Accident Costs

Fleets can estimate their total accident costs using the Accident Cost Calculator on [www.Fleet-Central.com](http://www.Fleet-Central.com).

The calculator provided by The CEI Group, Inc., North America's largest accident management and fleet driver safety company, multiplies a fleet's total number of accidents with the average cost per accident to determine the fleet's total annual accident costs, or lost profits.

The tool then divides that number by the company's operating profit margin to establish the total additional revenues needed to offset the fleet's accident costs. For example:

|   |          |   |          |   |
|---|----------|---|----------|---|
| <b>Fleet Size:</b><br>250 Vehicles              | <b>X</b> | <b>Accident Rate:</b><br>20 percent*            | <b>=</b> | <b>Number of<br/>Accidents Per<br/>Year: 50</b>       |
| <b>Number of<br/>Accidents Per<br/>Year: 50</b> | <b>X</b> | <b>Average Cost<br/>Per Crash:<br/>\$16,500</b> | <b>=</b> | <b>Total Annual<br/>Accident Costs:<br/>\$825,000</b> |

Operating Profit Margin: 10 Percent  
Necessary Revenue to Offset  
Accident Costs: \$8,250,000

*\*Number of accidents equals 20 percent of fleet size.*

their drivers' behavior on the road. When a fleet does not take steps to address poor driving, the company can be held liable for accidents caused by unsafe drivers.

Lawsuits have resulted in large awards or settlements payable by employers and their insurers when employees were involved in motor vehicle crashes.

For example, when a fleet driver rear-ended another vehicle on a freeway, causing the vehicle to cross into oncoming traffic, a jury found both the driver and the corporation that owned the car liable. The crash resulted in a fatality at the scene, and the company had to pay \$21.6 million in damages.<sup>46</sup>

## Driver Safety & Risk Management Programs

Facing the risk of losing millions in liability exposure, companies are looking for ways to improve the overall safety of their fleets.

One of the main tools used is a driver safety and risk management program. Such programs rely on findings that workers improve their job performance when 1) they know it is being observed and measured and 2) management will reward or punish workers according to job performance expectations.

### **Step 1: Establish Safety Policy**

Companies with fleets first should establish safety policies that are clear, provided in writing, communicated to all drivers and enforced consistently. The policy should illustrate the driving behavior that is expected by the fleet and detail the interventions that will take place should a driver violate the policy. Safety program experts recommend fleets require drivers to read the company's safety policy and take a test to ensure the policy is understood.

### **Step 2: Track Driver Behavior**

Fleets need the ability to track driver behavior and identify high-risk drivers. Drivers who accumulate multiple citations should be rated in the higher-risk categories.

### **Step 3: Timely Intervention**

When a driver violates a fleet's safety policy, it is important that interventions, such as mandatory remediation training, are instituted in a timely manner. The longer a bad driver flies under the radar, the less impact any intervention will have.

### **Step 4: Maintain Safety Records**

A fleet must track all safety activity closely and maintain detailed records. This step will play a critical role if the company faces a liability lawsuit.

### **Step 5: A Culture of Safety**

Finally, the most important step to improve fleet safety is to create a culture of safety. It is essential that everyone at the company knows that safety is not just an afterthought, but rather is the way the company does business and is enforced consistently.

When companies institute a driver safety and risk management program as outlined above, they find that traffic accidents can be prevented. In fact, fleets can experience decreases in both preventable (i.e. driver at fault) and non-preventable (i.e. driver not at fault) accidents because safer drivers are often better defensive drivers as well.

According to CEI, fleets enrolled in its driver safety and risk management program have reduced their accident rates as much as 30 percent.<sup>47</sup>

- <sup>1</sup> American Traffic Solutions – Based on data reported by large fleet customer.
- <sup>2</sup> American Traffic Solutions – Based on compilation of reported violations by several large fleet customers.
- <sup>3</sup> The Washington Post, September 10, 2012. As Toll Cheating Increases, Maryland Does Little to Enforce Rules. ([http://www.washingtonpost.com/local/tracking-unpaid-toll-transactions-in-maryland/2012/09/10/0c5170c8-fba3-11e1-8adc-499661afe377\\_graphic.html](http://www.washingtonpost.com/local/tracking-unpaid-toll-transactions-in-maryland/2012/09/10/0c5170c8-fba3-11e1-8adc-499661afe377_graphic.html))
- <sup>4</sup> The Washington Post, March 5, 2012. D.C. Sets Record with Parking Ticket Revenue. ([http://www.washingtonpost.com/local/trafficandcommuting/dc-sets-record-with-parking-ticket-revenue/2012/03/04/gIQAIVxWTR\\_story.html](http://www.washingtonpost.com/local/trafficandcommuting/dc-sets-record-with-parking-ticket-revenue/2012/03/04/gIQAIVxWTR_story.html))
- <sup>5</sup> American Traffic Solutions – YOY analysis of public safety customers.
- <sup>6</sup> The Patriot News. November 13, 2012. Pennsylvania Turnpike to Go All-Electronic, with No Toll Plazas. ([http://www.pennlive.com/midstate/index.ssf/2012/11/pennsylvania\\_turnpike\\_to\\_go\\_al.html](http://www.pennlive.com/midstate/index.ssf/2012/11/pennsylvania_turnpike_to_go_al.html))
- <sup>7</sup> Toll Road News. December 10, 2012. All-Electronic Tolling News in Boston. (<http://www.tollroadsnews.com/node/6313>)
- <sup>8</sup> Golden Gate Bridge, Highway and Transportation District. Status of the Conversion to All-Electronic Tolling at the Golden Gate Bridge. (<http://goldengate.org/tolls/>)
- <sup>9</sup> The Baltimore Sun, March 13, 2012. State Looks at All-Electronic Toll Collection. ([http://articles.baltimoresun.com/2012-03-13/news/bs-bz-expand-electronic-tolls-20120312\\_1\\_electronic-toll-e-zpass-toll-takers](http://articles.baltimoresun.com/2012-03-13/news/bs-bz-expand-electronic-tolls-20120312_1_electronic-toll-e-zpass-toll-takers))
- <sup>10</sup> The Patriot-News, July 25, 2012. PA Turnpike Commission Takes Major Step Toward All-Electronic Tolling.” ([http://www.pennlive.com/midstate/index.ssf/2012/07/pa\\_turnpike\\_commission\\_takes\\_m.html](http://www.pennlive.com/midstate/index.ssf/2012/07/pa_turnpike_commission_takes_m.html))
- <sup>11</sup> The Record, June 10, 2012. All-Electronic Toll Collections Explored for Garden State Parkway. ([http://www.northjersey.com/news/state/061012\\_Allelectronic\\_toll\\_collections\\_explored\\_for\\_Garden\\_State\\_Parkway.html](http://www.northjersey.com/news/state/061012_Allelectronic_toll_collections_explored_for_Garden_State_Parkway.html))
- <sup>12</sup> HNTB Corp. August 2011. Should an Agency Implement All-Electronic Tolling? ([http://ibtta.files.cms-plus.com/images/GN\\_AgencyImplementElecTolling\\_2011.pdf](http://ibtta.files.cms-plus.com/images/GN_AgencyImplementElecTolling_2011.pdf))
- <sup>13</sup> StreetSmart Technology, LLC.
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