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The Evolution of CAFE Standards: Fuel Economy Regulation Enters its Second Act

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LETTER TO THE EDITOR


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The Evolution of CAFE Standards: Fuel Economy Regulation Enters its Second Act

Laura Hall*

"We have over the course of decades slowly built an economy that runs on oil. It has given us much of what we have—for good but also for ill. It has transformed the way we live and work, but it’s also wreaked havoc on our climate. It has helped create gains in prosperity unprecedented in history, but it also places our future in jeopardy." \(^1\)

President Obama announcing his National Fuel Efficiency Policy, May 19, 2009

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I. INTRODUCTION

On May 19, 2009, President Obama stood before an audience in the Rose Garden and announced plans to address climate change through heightened motor vehicle fuel economy standards. Behind the President stood a supporting cast of environmental advocates, government officials, and even auto executives and union representatives that had previously opposed such changes to fuel economy regulation. Building upon this landmark compromise, the Obama Administration forged a subsequent agreement between these parties and on July 29, 2011 announced continued aggressive increases to fuel economy standards through model year 2025. The apparent consensus between the auto industry and environmentalist groups is remarkable in light of their history of hard-fought debates since the inception of fuel economy standards in the late 1970s.

Congress mandated fuel economy regulation in response to the Arab Oil Embargo of 1973. Protesting U.S. support of Israel during the Yom Kippur War, the Organization of Arab Petroleum Exporting Countries imposed an embargo (“the Embargo”) in October, 1973 that drastically decreased supplies and quadrupled oil prices. As gas stations across the country ran out of fuel, both the federal and state governments took action to ration supplies. The fuel shortages and increased fuel costs caused by the Embargo had a substantial effect on the national economy. In its aftermath, economists would conclude that the Embargo was at least partially responsible for the contemporaneous stock market crash..

2. Id.
3. Id.
5. TRANSP. RESEARCH BD., EFFECTIVENESS AND IMPACT OF CORPORATE AVERAGE FUEL ECONOMY (CAFE) STANDARDS 1 (2002).
7. Id. The Nixon Administration imposed a nationwide 55 m.p.h. speed limit and requested that gas stations limit purchases to ten gallons and close operations on Sundays. Some states adopted an “odd-even plan” which called for drivers with license plate numbers ending in odd numbers to purchase gas on odd-numbered days, and those with license plate numbers ending in even numbers to purchase gas on even-numbered days.
and stagflation in the late 1970s.\footnote{9}{Id.}


The EPCA set forth an ambitious goal, requiring that the average fuel economy of car fleets double 1975 levels in less than ten years.\footnote{15}{Cars generally include all passenger vehicles that are not SUVs, trucks, or minivans.} The Act established the initial standard of 18 mpg for car fleets in MY 1978, representing a 29% improvement from the pre-regulation average fuel economy of 13.9 mpg.\footnote{16}{Id. at § 502(a)(1).} The final prescribed standard, to be achieved eight years into the new fuel economy regulation, was 27.5 mpg for MY 1985 and thereafter.\footnote{17}{Id. at § 502(a)(1).} For the light truck category, the EPCA did not specify any standard, but instead left this task to the Secretary of Transportation.\footnote{18}{Id. at § 502(b).} If a manufacturer's car or light truck fleet average fuel economy failed to meet the CAFE standard for a given MY, it owed a civil penalty equal to $5 multiplied by each tenth of an mpg it fell short of the
standard, multiplied by the number of vehicles it produced in that year's fleet.\footnote{19} The EPCA authorized the Secretary of Transportation to amend CAFE standards through the rulemaking process to a level determined to be the maximum feasible average fuel economy for a given model year.\footnote{20} To determine the maximum feasible average fuel economy, the EPCA designated four factors for the Secretary to consider: (1) technological feasibility; (2) economic practicability; (3) the effect of other federal motor vehicle standards on fuel economy; and (4) the nation's need to conserve energy.\footnote{21} After 1985, the EPCA subjected this decision to congressional approval if the proposed car standard was outside the narrow range of 26 to 27.5 mpg.\footnote{22} This requirement would serve to constrain CAFE standards in future years by creating a significant political hurdle to setting the standard outside the prescribed range.

Initially, the CAFE program seemed to be a successful regulatory scheme. Automakers made significant gains in fuel economy in the 1980s, a decade marked by declining oil prices that in the absence of regulation would have led to lower average fuel economy.\footnote{23} Economists credited the regulation with saving 35 billion gallons of gasoline in 1987.\footnote{24} Perhaps most importantly, in concert with the congressional intent behind the EPCA, oil imports dropped from 35.1\% of total U.S. oil consumption in 1975 to 27.3\% in 1985.\footnote{25} Despite these promising results at the outset, the apparent success of fuel economy regulation was short-lived.

Fuel economy improvements came to a halt in 1985 when the statutorily mandated increases in CAFE standards ceased.\footnote{26} Thereafter, the standards remained essentially stagnant for over two decades while demand for oil grew.\footnote{27} Three trends contributed significantly to the nation's increasing demand. First, the number of vehicles on the road was rising because of population growth and an increase in the number of households taking ownership of multiple vehicles.\footnote{28} Second, the average number of miles traveled per vehicle also increased, due to urban sprawl

\begin{itemize}
  \item \footnote{19} Id. at § 508(b)(1)(a). This provision is criticized for its failure to incentivize compliance. Luxury automakers frequently choose to buy their way out of regulation. Domestic automakers have never done so for political reasons. See NHTSA, Summary of CAFE Fines Collected, http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Fines_Collected_112010.pdf.
  \item \footnote{20} Id. at § 502(a)(4).
  \item \footnote{21} Id. at § 502(e).
  \item \footnote{22} Id. at § 502(a)(4).
  \item \footnote{23} See TRANS. RESEARCH BD., supra note 5, at 14-15.
  \item \footnote{25} U.S. \textit{ENERGY INFO. ADMIN.}, \textit{MONTHLY ENERGY REVIEW}, 15 (Jun. 2005).
  \item \footnote{26} See Perl & Dunn, supra note 12, at 4.
  \item \footnote{27} See id.
  \item \footnote{28} The total number of passenger vehicles on the road has grown by 110 million since 1975.
\end{itemize}
and low fuel costs. Finally, vehicles classified as "light trucks" and held to lower CAFE standards, such as SUVs, vans, and pickup trucks, were becoming increasingly popular passenger vehicles. The growth in demand for oil could not be met by gains in domestic production; therefore, oil imports rose drastically. The share of total U.S. oil consumption supplied by imports increased from 27.3% in 1985 to over 57% in recent years.

The CAFE program is now a particularly controversial regulatory scheme primarily because of its failure to curb oil consumption. Highlighting another downfall, critics of the program also point to potentially undesirable manufacturing changes made necessary by increased standards. For example, automakers have achieved higher fuel economy targets by decreasing vehicle weight, but lighter vehicles prove less safe in accidents. In fact, the National Highway Traffic Safety Administration ("NHSTA") estimated that lighter vehicles produced to comply with the original CAFE standards led to an additional 1,300 to 2,600 traffic deaths per year. As another example, automakers have also improved fuel efficiency by decreasing performance capabilities. While smaller engines with lower horsepower use less fuel, they require the driver to give up power and acceleration, both performance aspects highly valued by American car buyers. Finally, automakers have achieved fuel economy gains while maintaining performance through application of fuel-efficient

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29. The term "rebound effect" is used to describe the behavioral response where people drive more due to the decreased fuel cost per mile; studies estimate that the rebound effect increases vehicle miles traveled by one to two percent for a ten percent increase in fuel economy. Transp. Research Bd., supra note 5, at 19.
30. Since 1975, the number of light trucks on the road has increased by 81 million, whereas the number of passenger cars has increased by only 29 million. U.S. DEPT. OF TRANSP., supra note 28.
31. See Perl & Dunn, supra note 12, at 4.
32. See id. See also U.S. ENERGY INFO. ADMIN., 2011 ANNUAL ENERGY OUTLOOK, EARLY RELEASE REPORT 11.
33. While dependence on foreign oil has increased, this dependence would be far worse but for the implementation of CAFE standards. In 2002, the National Research Council estimated the savings at 2.8 million barrels of oil per day, or 14% or total consumption. Transp. Research Bd., supra note 5, at 3.
35. Id.
37. Resources for the Future, supra note 34.
technology (e.g. turbo chargers, improved aerodynamics, better automatic transmissions). However, this added technology increases the cost of new vehicles, causing some car buyers to wait longer to purchase a new vehicle while pushing others into the used car market. Because heightened vehicle cost results in fewer new cars on the road, it creates a lag in the benefits of heightened CAFE standards.

Counterbalancing all of these drawbacks, improved fuel economy leads to fuel cost savings over the life of a vehicle—a point that proponents of fuel economy regulation emphasize. Nevertheless, fuel economy is seldom a strong consideration among American car buyers in the absence of persistently high fuel prices. Critics of the regulation highlight this tension between market demand and the regulatory constraints of the CAFE program, which places the burden on industry to satisfy consumer preference for bigger, faster vehicles while simultaneously meeting higher fuel economy standards.

In light of the inherent defects in fuel economy regulation, economists, environmentalists, and policy experts have advocated for implementation of a gas tax that would properly account for the external costs of driving, namely pollution and national economic vulnerability. The record-high gas prices during the summer of 2008 demonstrate the potential effectiveness of increased gas taxes: Americans drove fewer miles and purchased more fuel-efficient vehicles when the national gas price averaged over $3.50 per gallon for five continuous months. Despite the apparent benefits of a tax that maintains gas prices at a level high enough to affect behavior (some estimate this to be north of $4 per gallon), costs...

39. Resources for the Future, supra note 34.
40. Id.
41. Id.
42. The amount of these savings is dependent on future oil prices and is thereby hard to predict, although the Obama Administration has valued this benefit at a level which fully compensates the consumer for the added costs of fuel efficient technology necessary to meet the new standards. Remarks by President Obama, supra note 1.
44. See Resources for the Future, supra note 34.
mentators consider the policy a political third rail due to broad public disfavor.\textsuperscript{48} Even the progressive Obama Administration made clear early on that it would not consider this alternative to fuel economy regulation.\textsuperscript{49} The apparent political impossibility of substantially increasing the gas tax indicates that CAFE standards are likely to remain the primary policy mechanism for controlling oil consumption in the U.S. Recent changes to fuel economy regulation support this conclusion.

The Energy Independence and Security Act of 2007 ("EISA") established significant increases in future CAFE standards.\textsuperscript{50} The Obama Administration accelerated the scheduled increases through 2016 in May 2009 and extended the schedule of increased standards another nine years in July 2011.\textsuperscript{51} This fast-paced regulatory progress, following two decades of unsuccessful campaigns to heighten CAFE standards, signals a change worthy of investigation. To understand the renewed interest in fuel economy regulation, I first examine the circumstances surrounding the progression of CAFE standards to date through three distinct eras: the first eight years of CAFE regulation prescribed by the EPCA, the two decades following during which the standards remained essentially unchanged, and finally the recent developments beginning with the passage of the EISA in 2007. I next discuss the effect of climate change activism, both in the courtroom and in the court of public opinion, on the debate over fuel economy regulation. I then establish the rare convergence of circumstances concerning the state of the American auto industry and the political landscape that laid the groundwork for significant changes to future CAFE standards. Finally, in light of the initial regulation's failure to prevent drastic increases in oil consumption, I analyze whether the recent changes to CAFE regulation will allow it to avoid the same pitfalls and lead to an enduring reduction in oil consumption and automotive CO\textsubscript{2} emissions, as President Obama so promised in his May 19, 2009 address.\textsuperscript{52}

\section*{II. The Evolution of CAFE Standards}

To appreciate the significance of recent changes to CAFE standards, it is necessary to first understand the history of fuel economy regulation through the backdrops of an ever-changing political scene, the struggles

\textsuperscript{48} Id. Merrill & Schizer, supra note 45, at 16.


\textsuperscript{51} \textit{Remarks by President Obama}, supra note 1; Eilperin, supra note 4.

\textsuperscript{52} \textit{Remarks by President Obama}, supra note 1 ("For the first time in history, we have set in motion a national policy aimed at both increasing gas mileage and decreasing greenhouse gas pollution for all new trucks and cars sold in the United States of America.").
of the American auto industry, and the rise of climate change concerns. This section details the first two eras of fuel economy regulation: the initial eight years during which the standards increased and the two decades following during which the standards held constant.

A. A Promising Start: 1978-1985

“Every month that passes brings us closer to the day when we will be dependent on imported energy for 50% of our requirements. A new embargo under these conditions could have a devastating impact on jobs, industrial expansion, and inflation at home. Our economy cannot be left to the mercy of decisions over which we have no control.”

                                   President Ford urging Congress to act to reduce dependence on foreign oil, April 10, 1975

The Arab Oil Embargo of 1973 revealed the economic vulnerability that accompanied the nation’s growing dependence on foreign oil. The incident galvanized President Ford and the 94th Congress to take action to remedy what was widely seen as a serious and imminent threat to national security. Taking note of recent successes with technology-forcing regulation of the auto industry, the Democratic Congress viewed fuel economy standards as an opportunity to address a major national issue without risk of a political backlash. At the time, the public strongly supported fuel economy regulation, believing that American automakers had the ability to raise the fuel economy of their product lines with relative ease.

By the time the EPCA became law, the auto industry was the only adversary to the new fuel economy standards. In a rare departure from its alliance with the auto manufacturers, even the United Auto Workers Union (“UAW”) supported the new regulation after negotiating a provision that allowed separate fuel economy calculations for foreign and domestic fleets. This compromise protected the UAW from the possibility that domestic manufacturers would import more fuel-efficient vehicles to meet the new standards.

Despite their resistance to the new regulation, domestic automakers General Motors (“GM”), Ford, and Chrysler (collectively known as the

54. See Perl & Dunn, supra note 12, at 6.
55. See id. at 5-8.
56. See id. at 6.
57. See id. at 6-8.
58. See id. at 8.
59. Id.
"Big Three") achieved the required fleet-wide fuel economy. The Big Three focused primarily on making vehicles lighter through downsizing to meet the new standards. Other increases in fuel economy came from improvements in vehicle design, including decreased aerodynamic drag and rolling resistance, improved automatic transmissions, and electronic engine controls.

Even though the Big Three successfully complied with the CAFE standards, this new regulation was hurting their business. The Big Three had lost market share to foreign competitors even before fuel economy regulations went into effect: the domestic market share had slipped from 87.4% in 1970 to 85.4% in 1975, a sign of serious trouble ahead. Unlike the Big Three, foreign automakers needed to make only minor adjustments to comply with the new standards. In fact, foreign-made fleets were, on average, 10.6 mpg more efficient than domestic fleets prior to the regulation due to greater demand for fuel efficiency in European and Asian markets. As such, the new CAFE standards likely helped foreign automakers continue to whittle away at the Big Three’s market share, which fell another 10.6% by 1980.

The high oil prices caused by the Embargo and the Iraq-Iran War had resulted in a consumer preference shift toward smaller vehicles. This trend was troublesome for the Big Three, having specialized in larger cars and vans. By 1979, unit sales were down 28% at Chrysler, 27% at Ford, and 15% at GM. As larger companies, GM and Ford were better able to withstand the downturn. However, Chrysler laid off nearly a quarter of its blue collar workforce and was on the brink of financial collapse. Chrysler then pled for help from the Carter Administration in the form of federal tax refunds or immediate relief, citing the burdens of

61. OFFICE OF TECH. ASSESSMENT, INCREASED AUTOMOBILE FUEL EFFICIENCY AND SYNTHETIC FUELS 105 (David Sheridan, ed., Office of Technology Assessment 1982).
62. Id.
66. See Ward’s Automotive Yearbook, supra note 63.
68. Id.
69. Id.
70. See id.
having to satisfy costly new safety, environmental, and fuel economy regulations.\textsuperscript{71} Seeing this proposition as an unfair use of the taxpayer money, the government instead offered federal loan guarantees, which Chrysler accepted.\textsuperscript{72} In return, the Carter Administration demanded a place at Chrysler's management table, conditioning its loans on the submission of an acceptable financial and operating plan.\textsuperscript{73} During the restructuring of the company, the government forced Chrysler to gear its product line toward more fuel-efficient vehicles.\textsuperscript{74} This turn of events was "eye opening for the Carter [A]dministration," and came with the realization that placing conditions on government aid was an effective means for advancing regulation.\textsuperscript{75}

Shortly thereafter, as Americans continued to buy more foreign-made vehicles, Ford and GM similarly found themselves in need of government assistance.\textsuperscript{76} In 1980, Transportation Secretary Neil Goldschmidt offered trade protection against Japanese imports in exchange for a collective bargaining arrangement among the Big Three, the UAW, and the government to establish future automotive policy.\textsuperscript{77} Further increases in CAFE standards were critical to this compromise.\textsuperscript{78} The Reagan Administration would later refuse to support this proposal, and the bargaining arrangement never came to be.\textsuperscript{79} Three decades later, in 2010, President Carter would reflect on this botched opportunity as a primary regret of his presidency.\textsuperscript{80}

\textbf{B. Two Decades of Deadlock: 1986-2007}

The election of President Reagan, who campaigned on a deregulatory platform, did not bode well for the future of fuel economy regulation. Upon entering office, the Reagan Administration cancelled a Notice of Proposed Rulemaking initiated by the Carter Administration to increase CAFE standards beyond what the EPCA had prescribed, and would later appear to support proposals to revoke the CAFE program

\textsuperscript{71} Id. \\
\textsuperscript{72} See id. \\
\textsuperscript{73} See Perl & Dunn, supra note 12, at 8. \\
\textsuperscript{74} Id. \\
\textsuperscript{75} See id. \\
\textsuperscript{76} See id. \\
\textsuperscript{77} See id. \\
\textsuperscript{78} See id. \\
\textsuperscript{79} See id. at 9. \\
\textsuperscript{80} David R. Baker, 3 Questions for Former President Jimmy Carter, S.F. Chron., Oct. 24, 2010, at D1. "The issue that I wish I'd addressed more clearly was to put into law the requirement we'd worked out, with the agreement of the automobile industry, to increase the efficiency of automobiles."
altogether.\textsuperscript{81}

Market forces coinciding with Reagan’s presidency quieted calls to reduce the nation’s dependence on foreign oil, the objective which was then the sole driving force behind fuel economy regulation.\textsuperscript{82} As soon as Reagan took office, oil prices began a five-year decline.\textsuperscript{83} The monthly average gasoline price dropped from $3.52 in March 1981 to $1.54 in August 1986, and thereafter did not exceed $2 for the remainder of Reagan’s term in office.\textsuperscript{84} Given the persistently low cost of fuel, consumer preference began to shift back toward bigger, less fuel-efficient vehicles.\textsuperscript{85}

Even though the tides had already turned against fuel economy regulation, CAFE standards continued to increase in the early years of the Reagan presidency as required by the EPCA.\textsuperscript{86} However, the statutorily mandated increases came to an end in 1985.\textsuperscript{87} The following year, NHTSA, acting under the authority of Secretary of Transportation Elizabeth Dole, lowered the standard for the first time from 27.5 mpg to 26 mpg, the minimum allowed without congressional approval.\textsuperscript{88}

NHTSA had based its decision on claims from GM and Ford that they were unable to comply with the 27.5 mpg standard due to the unforeseen events, namely the “the rapid decline in gasoline prices during the mid-1980s, attended by a shift in consumer demand away from smaller, more fuel-efficient models.”\textsuperscript{89} In making its decision, NHTSA had determined that the effect of the higher standard “would largely be limited to attempts to change product mixes through increased marketing efforts and/or product restrictions . . . [which] could result in significant adverse economic impacts and restrict consumer choice to an unreasonable degree.”\textsuperscript{90} This turn of events highlighted the extent to which rulemaking regarding fuel economy standards was sensitive to changing politics.

Environmental NGOs, as well as certain cities and states particularly concerned with air pollution, opposed the decision to lower CAFE standards. Public Citizen, a nonprofit advocacy group, California and New

\textsuperscript{82} Crandall & Graham, supra note 81.
\textsuperscript{84} Id.
\textsuperscript{85} Id.
\textsuperscript{87} Id.
\textsuperscript{88} See Perl & Dunn, supra note 12, at 9.
\textsuperscript{90} Id.
York state, and the cities of Chicago, Los Angeles, Boston, and New York together filed a lawsuit against NHTSA, alleging that its decision to roll back the CAFE standard was arbitrary and capricious, and contrary to the EPCA.\textsuperscript{91} They contended that the agency had given market forces and consumer demand so much weight that its decision contradicted the EPCA's "technology-forcing" design and improperly undervalued the need to conserve energy, a consideration explicitly required by the statute.\textsuperscript{92} Giving deference to NHTSA's judgment, the D.C. Circuit concluded that the decision to lower the 1986 CAFE standard was reasonable in light of the conflicting policies set forth by the EPCA.\textsuperscript{93} This decision came as no surprise: litigations concerning the CAFE standard for light truck fleets had already taken place and yielded similar outcomes.\textsuperscript{94}

Resistance to fuel economy regulation, largely supported by market conditions, peaked in the 1990s. Throughout the decade, the monthly average gas price ranged from a low of $1.23 to a high of $2.22, and averaged only $1.64.\textsuperscript{95} The Big Three's financial condition greatly improved as consumer demand continued to shift toward less fuel-efficient vehicles: light trucks (SUVs, vans, and pickups) rose from 26.5\% of U.S. passenger vehicles in 1990 to 37.2\% in 2000.\textsuperscript{96} The nation's dependence on foreign oil boomed along with its overall oil consumption, with imports rising by 48\% over the course of the decade.\textsuperscript{97}

NHTSA's standard setting was again the subject of litigation in the 1990s. However, this time plaintiffs claimed that CAFE standards were too high. Consumer groups alleged that NHTSA had failed to recognize the safety impact resulting from the lighter vehicles produced to meet the standards.\textsuperscript{98} Automakers alleged that the agency set the standards too

\begin{footnotesize}
\textsuperscript{91} Id. at 259.
\textsuperscript{92} Id.
\textsuperscript{93} Id. at 265.
\textsuperscript{94} Congress had not specified standards for the light truck fleets in the EPCA, but rather left this determination to the Department of Transportation, which set the initial standard at 17.2 mpg in 1979 and had raised it to 20 mpg by 1984. Thereafter, the light truck standard remained relatively constant, and did not reach 21 mpg until 2005. Nat'l Highway Traffic Safety Admin, Light Truck Fleet Average Characteristics, NHTSA, available at http://www.nhtsa.gov/cars/rules/cafe/LightTruckFleet.htm. See Ctr. for Auto Safety v. Nat'l Highway Traffic Safety Admin., 793 F.2d 1322, 1326-37 (D.C. Cir. 1986) (finding reasonable NHTSA's decision to lower the CAFE truck after Ford argued that a change in the standards was necessary due to changes in the "price of fuel, the attendant consumer reaction to falling fuel prices and stable fuel availability, and the increasing import penetration into the truck market.").
\textsuperscript{95} U.S. Energy Info. Admin., supra note 83.
\textsuperscript{96} INGARSSIA & WHITE, supra note 43. See U.S. DEPT. OF TRANSP., supra note 28.
\textsuperscript{98} See generally Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin., 901 F.2d 107 (D.C. Cir. 1990) (rejecting the organization's claim that the NHTSA was arbitrary and capri-
\end{footnotesize}
high in light of market conditions.\textsuperscript{99} Again in this round of litigation, the courts afforded deference to NHTSA's judgment.\textsuperscript{100} The CAFE standard for car fleets held constant at 27.5 mpg throughout the 1990s.\textsuperscript{101}

By the close of the decade, it was clear that the price of oil had a significant impact on the debate over fuel economy regulation. When oil prices were high, only the auto industry opposed increasing fuel economy requirements. Fuel economy regulation was politically popular during these times. When prices were persistently low, however, only those concerned with air quality were willing to fight for higher fuel economy standards. Under these conditions, the political system as a whole was unresponsive to calls for fuel economy improvements.

The new millennium brought a renewed interest in fuel economy regulation. The events of September 11, 2001 raised concerns that America's reliance on foreign oil was helping to fund the rise of Islamic-extremist terrorism, which had roots in a number of Middle Eastern oil-exporting nations.\textsuperscript{102} Also, because many of these nations held anti-American sentiments, there was a fear that these states might again impose an embargo as a means of economic terrorism.\textsuperscript{103} Even in the absence of explicit anti-Americanism, unrest in the Middle East translated


\textsuperscript{100} See Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin., 45 F.3d 481 (D.C. Cir. 1995) (finding reasonable NHTSA's decision to terminate its rulemaking and to not amend the standard for the 1990 model year because the record did not indicate that any automobile manufacturer had suggested that lowering the CAFE standard would affect production, price, sales, or safety).

\textsuperscript{101} TRANSP. RESEARCH Bo., supra note 5, at 1.

\textsuperscript{102} Thomas L. Friedman, Hot, Flat And Crowded 79-80 (Farrar, Straus and Giroux et al. eds., 1st ed. 2008).

\textsuperscript{103} Id.
to a higher probability of a future oil shock. In addition to these national energy dependence concerns, apprehensions over global warming were mounting, and climate change activists pointed to America's transportation sector as a major source of greenhouse gas emissions.

Acting on these concerns, John McCain, a Republican senator from Arizona, and John Kerry, a Democratic senator from Massachusetts, offered a bipartisan plan to reform fuel economy regulation in early 2002. Their plan proposed an increase in CAFE standards to achieve a fleet average of 36 mpg by MY 2015. It also proposed the implementation of a CO₂ emissions trading program to allow automakers to meet a lower standard by buying credits from utilities and other businesses that earned the credits through lowering their CO₂ output.

The proposed legislation failed. The Big Three and the UAW successfully argued that the proposed increases in CAFE standards would force them to build smaller vehicles that American consumers would not buy. Siding with industry, the Bush Administration sought to preempt the legislation by asking Congress for the authority to revamp the CAFE regulations with no concrete commitment to future increases. In the end, Republicans had won the votes of Democrats from rural and industrial states in opposing the measure. The Senate voted 62 to 38 to delete the increased CAFE standards from the comprehensive energy bill it was then considering. After this failed attempt to advance fuel economy regulation in 2002, Dick Durbin, a Democratic senator from Illinois, proposed an amendment for major increases to CAFE standards which the Senate similarly defeated 65 to 32 in 2003. He sought passage of

104. Id.
105. Id.
107. Id.
108. Id.
109. Id.
110. Id.
113. Id.

Despite these campaigns' lack of success, a confluence of circumstances was on its way that would serve to break the 20-year deadlock on CAFE reform. Gas prices were rising: the annual national average price at the pump rose steadily from $1.64 in 2002 to $2.97 in 2007.\footnote{U.S. Energy Info. Admin., supra note 60. The prices listed are the annual average gasoline price.} Additionally, the Big Three were in an increasingly perilous financial state due to declining sales and rising healthcare and pension costs.\footnote{See Paul Ingrassia, Crash Course: The American Automobile Industry's Road to Bankruptcy and Bailout—and Beyond (Random House, Inc. 2010).} Finally, demands for climate change policy were growing along with knowledge of global warming's harmful effects.\footnote{Friedman, supra note 102.}

III. A SHIFTING DIALOGUE LEADS TO REGULATORY PROGRESS

"For too long, our nation has been dependent on foreign oil. And this dependence leaves us more vulnerable to hostile regimes and to terrorists who could cause huge disruptions of oil shipments and raise the price of oil and do great harm to our economy."

President Bush urging Congress to increase CAFE standards, January 23, 2007

The impasse on regulatory progress finally gave way in 2007. The Energy Independence and Security Act (EISA) established the first significant changes to CAFE standards since 1985, requiring that the combined car and light truck fleet fuel economy reach 35 mpg by MY 2020.\footnote{George W. Bush, President of U.S., State of the Union Address (Jan. 23, 2007).} In some aspects, the circumstances surrounding this regulatory progress paralleled those which prompted the creation of the CAFE program: high gas prices led to public support and market demand for higher fuel economy, and Congress acted primarily with the intent of decreasing the

\footnote{Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492 § 102(b)(2)(A) (codified as amended in scattered sections of 2, 15, 40, 42, and 46 U.S.C.). This energy bill also mandated increased production of biofuels, improved efficiency in appliances and buildings, and research funding for renewable energy technologies. With regard to the implementation of CAFE standards, the Act required that the standards be set based on a vehicle attributes and altered the credits trading program to allow automakers more flexibility in reaching the new standards. The new program allowed companies to carry credits forward for 5 years (instead of the 3 years previously specified) to encourage early introduction of technology and give incentive for over-compliance; to sell their credits to other companies, with no limit to how much any company can rely on traded credits to raise its CAFE; and to transfer credits between their car and truck fleets, capped at 1 mpg for 2011-2013, 1.4 mpg 2014-2017, and 2 mpg for 2018 and beyond.}
nation’s dependence on foreign oil.\textsuperscript{121} However, by 2007, the push to reform fuel economy regulation had taken on another rationale: environmentalists lauded the heightened CAFE standards as a means to address global warming by reducing the automotive sector’s CO\textsubscript{2} output, which in 2007 accounted for 28\% of total U.S. greenhouse gas emissions.\textsuperscript{122}

It was the growing concern over climate change that set the stage for the Obama Administration to accelerate the EISA’s standards in 2009,\textsuperscript{123} requiring the combined average fuel economy level reach 34.1 mpg by MY 2016, rather than 35 mpg by MY 2020.\textsuperscript{124} By this time, it seemed that circumstances had come full circle from the later years of the Carter presidency: following legislation to increase fuel economy standards under a Republican administration in pursuit of energy independence, the Big Three had fallen into financial despair and pled for government aid from the subsequent Democratic administration and were anxious to achieve regulatory progress.\textsuperscript{125} Luckily for the Obama Administration, it faced this set of circumstances at the very beginning of its term, whereas the Carter Administration was left scrambling to advance fuel economy regulation during its final days in office.\textsuperscript{126}

Will the Obama Administration succeed in securing lasting reductions in oil consumption where the Carter Administration failed? To begin to answer this question, below, I explore the three coinciding conditions that prompted the recent regulatory progress: climate change litigation, the auto industry bailouts, and the Obama Administration’s appetite for regulatory change. In the next section, I analyze whether these conditions denote sustainable trends toward circumstances amenable to advancements in fuel economy regulation, and to what extent the current regulations are susceptible to the conditions which led to the failure of

\textsuperscript{121} Id.


\textsuperscript{123} See Remarks by President Obama, supra note 1 (expressing concern over climate change as factor in acceleration of EISA emission standards); Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. at 25,324 (referring to climate change as factor in President Obama’s adoption of National Fuel Efficiency Policy).


\textsuperscript{126} The Carter Administration was working to implement higher requirements through rule-making in 1980, during Reagan’s presidential campaign. See Perl & Dunn, supra note 12, 8-9.
the initial CAFE program to achieve lasting reductions in oil consumption.

A. Climate Change Litigation

In his May 19, 2009 address, President Obama announced that a series of major lawsuits would be dropped in support of the new National Fuel Efficiency Policy. The lawsuits to which he was referring concerned states’ rights to regulate automotive CO2 emissions as a tailpipe pollutant under the Clean Air Act (CAA).

Although the EPCA expressly forbids state regulation of fuel economy, states are allowed to regulate tailpipe emissions through an exception to the CAA’s state action preemption provision. Because California regulated tailpipe emissions prior to the enactment of the CAA, the CAA provides that California is entitled to implement tailpipe emission standards more stringent than the federal standards if the State obtains a waiver from the Environmental Protection Agency (EPA).

There are only three conditions under which the EPA may deny California’s petition for a waiver. First, the EPA may deny the waiver if California’s finding that its proposed standards are more protective than federal standards is arbitrary or capricious. Second, the agency may deny the waiver if California’s air quality does not imply the “compelling and extraordinary conditions” necessary to justify more stringent standards. Lastly, it may deny the waiver if California’s proposed standards are inconsistent with the EPA’s authority to prescribe federal emissions standards. Amendments to the CAA in 1977 added a “piggyback” provision: if California receives a waiver from the EPA, other states may also adopt standards in excess of the federal standards so long as these are not more stringent than California’s standards.

As knowledge of climate change grew, it became clear that CO2 emissions from the automotive sector were a significant source of green-
house gases.135 Characterizing CO₂ as an air pollutant in an attempt to bring it under the purview of the CAA, progressive states would fight to regulate automotive CO₂ emissions via California’s waiver right to the CAA.136 However, because regulating CO₂ tailpipe emissions and regulating fuel economy are practically one in the same, the states’ requests were questionable in light of the EPCA’s prohibition of fuel economy regulation at the state level.137

California’s plight to regulate automotive CO₂ emissions began in 2002 when the state legislature passed A.B. 1493, which directed the State’s Air Resources Board to create regulations to reduce greenhouse gas emissions from cars and light trucks.138 In September 2004, the Board announced California’s new automotive regulations.139 The standards, prescribed in units of grams of CO₂ emitted per mile, were to commence in 2009 and continue increasing through 2016.140 The standards would have effectively raised the State’s fuel economy standard from 27.5 mpg (then the CAFE standard) to 43.7 mpg.141 In December 2005, California requested a waiver from the EPA, pursuant to its exemption from the CAA preemption provision, to implement the greenhouse gas emission standards set forth by the Board.142

The auto industry vehemently opposed California’s proposed standards.143 Automakers sued the state in the Eastern District of California, claiming that the EPCA preempted its greenhouse gas standards and also that the standards conflicted with federal policy to leverage agreements from foreign nations for global CO₂ emission standards.144 The case,

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137. The amount of CO₂ emissions is essentially constant per gallon of fuel consumed. Higher fuel economy results in less fuel burned to travel a given distance. Thus, the less fuel a vehicle burns, the less CO₂ it emits in traveling that distance. See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 75 Fed. Reg. at 25,327.
138. Cal. Assem. B. 1493 (codified at CAL. HEALTH & SAFETY CODE § 43018.5(a) (West 2011)).
141. See Green Mountain Chrysler Plymouth Dodge Jeep, 508 F. Supp. 2d at 342 n.49.
143. See John M. Broder, California Wants Strict Auto Emission Rules, N.Y. TIMES, May 23, 2007, at A19 (displaying auto industry’s opposition towards California’s proposed emission standards).
Central Valley Chrysler-Jeep v. Witherspoon, was stayed awaiting the outcome of Massachusetts v. EPA, a Supreme Court case which would decide whether CO₂ qualified as an air pollutant under the CAA. In April 2007, the Supreme Court, in a 5 to 4 decision, ruled that the EPA had the authority to regulate CO₂ emissions. Notably, the Court rejected the argument that the EPA cannot regulate automotive CO₂ emissions because to do so would de facto tighten fuel economy standards, authority over which Congress assigned to the Department of Transportation (DOT). The Court reasoned that the “EPA has been charged with protecting the public’s ‘health’ and ‘welfare,’ a statutory obligation wholly independent of the DOT’s mandate to promote energy efficiency,” and concluded that “[t]he two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency.”

Following the reasoning in Massachusetts v. EPA, in December 2007, the district court in Central Valley rejected the automakers’ claims challenging California’s authority to issue automotive greenhouse gas standards. A district court in Vermont, a state which was attempting to piggyback off of California’s proposed CO₂ regulations, had similarly rejected the automakers’ claims three months prior. In Rhode Island, yet another state attempting to implement automotive greenhouse gas emission standards, a district court cited these two cases in rejecting the same automaker claims under the doctrine of issue preclusion.

In October 2007, California sued the EPA demanding action on the waiver necessary to enact its proposed CO₂ emission standards. The EPA, then under the Bush Administration, finally denied California’s request in March 2008, over two years after the state filed the request, finding that California had not met the CAA requirement of showing that the waiver was needed to address “compelling and extraordinary conditions” regarding the state’s air quality. This was the first time the EPA had

145. Id. at 1153-54.
147. Id. at 531-32.
148. Id. at 531-32.
150. Green Mountain Chrysler Plymouth Dodge Jeep v. Croombie, 508 F. Supp. 2d 295, 347 (D. Vt. 2007) (“Congress has consistently acknowledged interplay and overlap between emissions reductions regulations and fuel economy regulations, and could not have intended that an EPA-approved emissions reduction regulation did not have the force of a federal regulation.”).
denied such a request from California.\textsuperscript{154}

The litigations regarding states’ right to regulate CO\textsubscript{2} tailpipe emissions not only put pressure on President Bush and the 110th Congress to toughen CAFE standards, but also caused great concern among automakers that someday, under a more progressive administration, the EPA might grant California’s waiver. The piggyback provision to California’s waiver right allowed the possibility of 50 different state-level automotive CO\textsubscript{2} emission standards, implying enormous logistical challenges and financial burdens for the auto industry.\textsuperscript{155} With the threat of a patchwork of different fuel economy standards looming, automakers were becoming more amenable to advancements in federal regulation so long as these would prevent states from enacting their own standards.\textsuperscript{156}

The parties to the lawsuits discussed above entered into a settlement agreement on May 19, 2009, the same day President Obama announced the new National Fuel Efficiency Policy.\textsuperscript{157} The Obama Administration would later grant California’s waiver on June 30, 2009, a mostly symbolic gesture as the state was obliged to work with federal regulators to establish future standards which would be enforced nationally.\textsuperscript{158} The month prior, California had announced its commitment to revise its program for MYs 2012–2016 such that compliance with the federal fuel economy standards would be deemed to be in compliance with California’s greenhouse gas standards.\textsuperscript{159}

On May 7, 2010, NHTSA and the EPA issued a joint rulemaking establishing new requirements for the purpose of reducing vehicular greenhouse gas emissions and improving the fuel economy of America’s vehicle fleet.\textsuperscript{160} In this joint rulemaking, the EPA established greenhouse gas emission standards under the CAA, and NHTSA established CAFE standards under the EPCA, as amended by the EISA.\textsuperscript{161} The new policy permits automakers to produce and sell a single fleet nationally, thereby

\begin{thebibliography}{9}
\bibitem{157} Remarks by President Obama, supra note 1.
\bibitem{159} Id. at 25327-28.
\bibitem{160} Id. at 25326.
\bibitem{161} Id. at 25328.
\end{thebibliography}
allowing them to avoid the costly burdens they would have faced in having to comply with varied federal and state standards.162

B. History Repeats: The Bailouts of Chrysler and GM

Climate change litigation was not the only worry of the domestic auto industry during the past decade. As gas prices rose from 2002 to 2008, consumers began to shy away from larger vehicles.163 The domestic auto industry suffered from this trend because sales of gas guzzling trucks, SUVs, and vans were its primary source of profits.164

The Big Three's declining market share and their failure to deliver on promises made to voluntarily increase fuel economy had diminished their political clout.165 Despite their weakened bargaining position, the Big Three vehemently fought the 2007 proposals to increase CAFE standards, complaining that the changes targeted the best-selling trucks and SUVs on which they depended for profits.166 This time, the UAW also opposed the changes, worried that heightened regulations would encourage small car production to move overseas.167 To avoid becoming the political punching bag for democrats looking to make climate change policy, the auto industry first attempted to delay the regulatory changes by pushing for comprehensive climate change legislation.168 Other CO2 emitting industries, wanting to stall any such legislation, lobbied Congress to act on fuel economy regulation—for instance, the National Petroleum Council advocated the position that the fuel economy of America's vehicle fleet should be improved "at the maximum rate possible."169

After it became clear that increases in CAFE standards were politically unstoppable, the Big Three resorted to mitigating the potential im-

162. Id. at 25326.
163. See Ingrassia, supra note 117, at 164.
164. Id. at 136. The domestic auto industry faced another competitive disadvantage due to climbing worker pension and health care costs.
168. Jeffrey Ball & Mike Spector, Industries Show Uncertainty Over Ruling's Impact — Some Favor Regulation From Congress, Others From Federal Agencies, WALL ST. J., April 3, 2007, at A10 ("Several domestic and foreign auto makers referred inquiries to the Alliance of Automobile Manufacturers, a trade group [that] issued a brief statement calling for a 'national, federal, economy-wide approach to addressing greenhouse gases.'").
First, industry advocated for less significant hikes in fuel economy standards. Second, they asked for the new fuel economy standards to be based on the size of the vehicle instead of mandating a fleet-wide average. This would allow automakers to avoid downsizing to meet the new standards as was the case with the initial regulations. Finally, the Big Three wanted the rulemaking power to remain with the DOT rather than the EPA because the EPA, by design, emphasized environmental concerns over consumer preference and safety concerns. These requests were, for the most part, honored by the Bush Administration in its implementation of the EISA. The standards to be imposed were less aggressive than was technologically achievable and also were based on the vehicle’s “footprint” (the wheelbase times the track width). Additionally, the EPA was excluded from the standard-setting process.

By the time the EISA passed into law, the auto industry supported the increases in CAFE standards (at least publicly), but pushed for government assistance, pointing to foreign governments investing heavily in next generation cars. This blow to the Big Three was to be outdone just two years later, when worsened financial troubles would leave the future of Chrysler and GM at the mercy of the Obama Administration.

Following the stock market crash on September 14, 2008, vehicle sales dropped to the lowest levels seen in nearly thirty years. Chrysler and GM, on the brink of financial collapse, pled for government help. After Congress rejected a plan to issue $14 billion in emergency loans to the automakers, President Bush diverted $17.4 billion of the Troubled Asset Relief Program (TARP) fund their way, which would be enough to get them by until the end of his term. On February 17, 2009, Chrysler

171. Id.
173. Ball & Spector, supra note 168.
175. Id.
177. INGRASSIA, supra note 117, at 218.
178. Id. at 223 (explaining that Ford had initially requested federal assistance, but withdrew because it was in better financial condition than Chrysler and GM due to better management decisions and a 2006 $23.6 billion loan).
and GM filed viability plans with the Obama Administration, as was required in taking the TARP money, and requested another $21.6 billion in federal assistance. When the TARP funds officially ran out on March 30, President Obama offered Chrysler and GM an additional 30 and 60 days, respectively, of government aid. The additional time and funding would prove insufficient and on April 30, Chrysler filed for bankruptcy, followed by GM one month later on June 1. By this time, the total amount of federal aid to Chrysler, GM and their subsidiaries had topped $100 billion, drawing significant public criticism but allowing the Obama Administration considerable influence over the companies' management.

During these negotiations, the Obama Administration was moving quickly to take advantage of its influence. Between the two automakers' bankruptcy filings, on May 19, 2009, the Big Three would willingly agree to support the President's new National Fuel Efficiency Policy, accelerating the timeline for fuel economy improvements and establishing corresponding greenhouse gas emission standards, thereby necessitating the EPA's input. The Policy also mandated a fleet-wide average in combination with the footprint standards. In so doing, the Policy removed the opportunity for manufacturers to reduce fuel economy requirements simply by increasing a vehicle's size just enough to reach lower target levels. Indeed, the Policy stripped away the conditions that industry had fought for and won under the Bush Administration. The 2009 bailouts marked the first time that the automakers would acquiesce without resistance to stricter fuel economy regulation since their financial troubles in 1979-80.

C. RIGHT POLITICS, RIGHT TIME

Two trends are primarily responsible for renewing the political will to mandate fuel economy improvements: rising angst over high fuel prices and loudening calls for climate change policy. By Bush's second term, oil prices were climbing in a way unseen since the oil crises of the 1970s. In fact, fuel prices were the highest they had ever been, affecting the average American as well the nation's economy as a whole. On the envi-

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181. Id. at 232.
182. Id. at 242.
183. Id. at 255, 270.
184. Id. at 275.
186. Id.
Environmental front, climate change issues were increasingly a topic of discourse, driving a tide of public opinion in support of policy aimed at reducing CO₂ emissions. Conveneitly, one solution could address both of these issues: reducing oil consumption would simultaneously decrease both CO₂ emissions and the nation's susceptibility to high oil prices.

Fuel economy regulation was the most politically palatable means for achieving lower oil consumption. At this point, the regulation had existed for nearly 30 years. Thus, despite the policy's debatable effectiveness, it required the least effort from a legislative standpoint to enact regulatory change. Also, because fuel economy regulation bears no immediate perceptible burden on the public, it protects politicians from a negative public reaction and corresponding reelection concerns. Finally, the domestic automakers, being the only major adversaries to the new regulation, no longer had the political clout or public support to effectively fight against advancements in fuel economy regulation.

President Bush was resistant to giving the EPA or the states power to enforce automotive CO₂ emission standards, but by 2007 both the President and the 110th Congress were feeling pressure to advance fuel economy standards. In addition to the growing calls to act on energy independence and global warming concerns, the EPA was sitting on California's waiver request following the Supreme Court's decision in Massachusetts v. EPA. In a compromise, on the same day the EPA initially denied California's waiver request, President Bush would sign the EISA mandating higher CAFE standards. Despite the Bush Administration's refusal to fully recognize greenhouse gas regulation, environmentalists lauded the EISA as a win. The Union of Concerned Scientists estimated that the measures established by the EISA would cut automotive CO₂ emissions from 15% to 18% by 2025.

The political popularity of fuel economy regulation had never been higher. With the EISA's passage, Democrats and Republicans alike could

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188. See generally An Inconvenient Truth (Participant Productions 2006) (added visibility to global warming effects and stirred public debate).
The Evolution of CAFE Standards

enter the 2008 election cycle having addressed issues important to their constituents. Presidential candidate and Senator Hillary Clinton announced her plans to double the fuel economy of the U.S. vehicle fleet by 2030.\textsuperscript{193} Then Senator Barack Obama announced that he would increase CAFE standards by 4\% a year, equating to about a 1 mpg increase per year, beginning in 2009.\textsuperscript{194}

Having campaigned on a platform of change, President Obama was anxious to achieve regulatory progress upon entering office on January 20, 2009.\textsuperscript{195} Indeed, fuel economy regulation was one of the first issues he addressed.\textsuperscript{196} He issued a memorandum to Secretary of Transportation Ray LaHood six days after entering office, asking NHSTA to consult with the EPA before issuing future CAFE regulations and to reconsider its stance regarding the implications of \textit{Massachusetts v. EPA} to CAFE regulation.\textsuperscript{197} The President leveraged the Big Three's request for government aid as well as the Supreme Court's decision in \textit{Massachusetts v. EPA} to gain a consensus unseen since the days when the Carter Administration had attempted to establish collective decision-making for fuel economy regulations in 1980. Democrats counted the May 19, 2009 agreement among California, the EPA, NHTSA, the Big Three, and the UAW to establish the new National Fuel Efficiency Policy as a political win.\textsuperscript{198}

IV. AN EVALUATION OF THE CAFE PROGRAM'S FUTURE EFFECTIVENESS

The disappointing history of fuel economy regulation raises doubts as to whether the new regulations will succeed in not only halting the growth in demand for oil, but also in initiating a sustained downward trend in oil consumption for the first time in history. As demonstrated in the previous section, a unique set of circumstances led to the recent changes in fuel economy regulation. This section compares the past circumstances to the present to evaluate whether the current landscape for fuel economy regulation will allow it to avoid the failings of the past.

As was the case with the original CAFE standards, the future CAFE standards through MY 2016 are achievable with known technology and

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\item \textsuperscript{194} See Workingcalifornians.com, Barack Obama on Environment, \textit{available at} http://workingcalifornians.com/candidate_position/barack_obama_on_environment (last visited Sept. 29, 2011).
\item \textsuperscript{196} Id.
\item \textsuperscript{197} Id.
\item \textsuperscript{198} See \textit{Remarks by President Obama}, supra note 1.
\end{itemize}
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will undoubtedly result in fuel economy improvements.\textsuperscript{199} Thus, at least in the short-term, these standards will curb oil consumption. Yet, questions remain as to whether future fuel economy improvements beyond MY 2016 will be great enough to overcome the three ongoing trends that negated the effectiveness of the initial CAFE standards: (1) the increasing number of vehicles on the road, (2) the increasing number of vehicle miles traveled, and (3) the increasing proportion of light trucks. All three of these metrics have grown fairly steadily since the CAFE program began, with setbacks coinciding only with notably poor economic conditions.\textsuperscript{200} It is unlikely that the number of vehicles on the road and the total vehicle miles traveled will decline or even level off without a significant change in transportation policy (e.g. higher gas taxes, more expensive and more prevalent tolls). However, the new regulations may slow the trend toward light trucks to some extent: because the standards are now tied to a vehicle’s footprint, the automakers will no longer have the incentive to preferentially produce and market light trucks to escape the higher CAFE standard for cars.

Given that the overall demand for oil is likely to increase, past experience teaches that fuel economy improvements must keep pace with this growing demand in order to remain effective. Just as the initial improvements in fuel economy resulted in only a temporary reduction in oil import levels and, for that matter, CO\textsubscript{2} emissions, so too will the current changes if the government fails to mandate additional improvements beyond 2016. Recognizing this need, the Obama Administration announced an agreement on July 29, 2011 for further increases through MY 2025.\textsuperscript{201} The newly announced standards require a fleet wide average of 54.5 mpg, representing a 50\% reduction in automotive CO\textsubscript{2} emissions from present emissions.\textsuperscript{202}

The Obama Administration likely did not push for legislation on fuel economy regulation because the 110th Congress had more pressing issues to address, such as healthcare reform and an ailing economy. However, the choice between specifying future CAFE standards through legislation or through rulemaking is critical, as statutory standards have proven to be

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199. See Nat'l Highway Traffic Safety Admin, CAFE Rules Overview, NHTSA, available at http://www.nhtsa.gov/cars/cafe/rules/overview.htm (showing that the rate of increase in fuel economy standards from 2011 to 2016, at 1.1 mpg per year, is comparable to the rate of increase that was required by the EPCA from 1978 to 1985, at 1.2 mpg per year); see also Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 40 C.F.R. §§ 85-86, 600. (explaining that, as was the case in 1975, industry has the technology to achieve the future standards).

200. U.S. ENERGY INFO. ADMIN., \textit{supra} note 32. The total number of vehicles on the road has increased at a fairly steady rate, oscillating between 1\% and 3\% per year, since 1975.

201. Eilperin, \textit{supra} note 4, at A17.

202. \textit{Id.}
\end{flushright}
a more effective means for securing improvements in fuel economy regulation. History teaches that this regulation is politically sensitive, rendering rulemaking too subject to change between different administrations. Reagan’s moves to decrease the standard to the statutory minimum and to cancel Carter’s Notice of Proposed Rulemaking to increase standards beyond MY 1985 illustrate this point. While the Obama Administration’s rulemaking that sets standards as far out as 2025 is promising, it is subject to the same fate as Carter’s similar proposed rulemaking. Even Obama’s accelerated standards through 2016 are subject to administrative change, as the National Fuel Efficiency Policy establishing these standards is also the product of agency rulemaking.

Although it is best to write fuel economy regulation into law, the circumstances fostering the political will to change fuel economy law are rare. In both 1975, when Congress passed the EPCA, and in 2007, when Congress passed the EISA, the domestic auto industry was in relatively weak financial condition, and there was widespread apprehension over the nation’s dependence on foreign oil in light of unrest in the Middle East and high prices at the pump. In contrast, when Senators McCain and Kerry attempted to pass legislation to advance CAFE standards in 2002, their efforts failed in spite of obvious need for such advancements in part because the Big Three had some level of political clout at that time and in part because fuel prices had not yet reached a level to generate serious concern among the public.

Notably, the confluence of circumstances necessary to pass fuel economy legislation may come about more often in the future. Global demand for oil has reached a level which global supply cannot consistently meet. Thus, it is likely that oil prices will remain persistently high in light of the ever-increasing global demand. Furthermore, unrest in the Middle East, a major oil-exporting region, appears unlikely to subside in the foreseeable future. As a result, there is a greater likelihood of oil shocks and high oil prices in the coming decades barring an unlikely decline in global oil consumption.

It is also possible that the domestic auto industry will not fight advancements in fuel economy requirements as it did in the past. American auto manufacturers are now advertising themselves as the producers of the cars of the future, responding to public opinion in favor of green companies. Additionally, hybrid and electric vehicles may achieve substantial market penetration with the renewed push for fuel-efficient vehicles. This would obviate the difficulty industry now faces in satisfying conflicting market demands and regulatory constraints. Even if demand for alternative vehicles does not grow, higher oil prices in the foreseeable future will help to create demand for fuel-efficient vehicles. On the other hand, the industry has retracted similar commitments to improve fuel
economy in the late 1970s. Thus, as the financial condition of the Big Three improves, it is reasonable to presume that the industry would again push for less stringent regulations.

The establishment of EPA’s authority to regulate automotive CO$_2$ emissions undoubtedly marked a significant change in the landscape for fuel economy regulation. First, it allowed the Obama Administration to leverage the automakers’ preference for one national standard, even if it meant increases in the federal standard, over having to meet multiple federal and state standards. While future administrations may disfavor advancements in fuel economy requirements, barring legislative changes to the CAA, there will always be progressive states pushing to regulate automotive CO$_2$ emissions through California’s waiver right. States may thereby put pressure on the current administration to maintain acceptably high standards. Also, if a future administration attempts to reverse the changes made by the National Fuel Efficiency Policy to have the EPA, NHTSA, and California work together on fuel economy standards, litigation on the matter is guaranteed, serving as a likely deterrent to such action. Notably, states had no such influence in the original debates over CAFE standards because state regulation was expressly prohibited by the EPCA.

Representing another key difference between past and present, the regulation now has a dual rationale. It is likely that the new and growing climate change concerns will better serve to encourage enduring advancements in fuel efficiency than the energy independence concerns which incited the initial fuel economy regulations. History has shown that the political will to fight for energy independence is strongly tied to the present fear of oil shortages, and when oil is plentiful and inexpensive there have been no advancements in the fuel economy of America’s vehicle fleet. In contrast, concerns over climate change are persistent and increasing over time as the science behind global warming improves and its harmful effects become more evident. Furthermore, as knowledge and acceptance of climate change grow, it is increasingly unlikely that future administrations would undo climate change policy by, for example, refusing the EPA’s or California’s participation in automotive CO$_2$ regulation.

203. Notably, such a bill was recently proposed. See John M. Broder, Inhofe & Upton: Just Say No to the E.P.A., N.Y. TIMES BLOG (Mar. 3, 2011, 5:27 PM), http://green.blogs.nytimes.com/2011/03/03/inhofe-and-upton-just-say-no-to-the-e-p-a/. (“The Inhofe-Upton bill allows many Clean Air Act programs to continue, but takes away the agency’s authority to apply the landmark law to carbon dioxide. A deal negotiated with automakers to limit carbon dioxide emissions from cars and light trucks would be allowed to stand through 2016, but no further greenhouse gas emissions rules for vehicles would be permitted. State programs to try to address global warming and carbon emissions would be allowed to continue.”).
or removing the parallel greenhouse gas standards that the National Fuel Efficiency Policy put into place.

V. CONCLUSIONS AND RECOMMENDATIONS

An examination of the history of fuel economy regulation provides instructive lessons. Perhaps most importantly, fuel economy regulation can lower oil consumption but improvements in fuel economy must continue if the regulation is to keep pace with the ever-growing energy demands of the transportation sector. Also, legislation is superior to rulemaking when attempting to secure future fuel economy improvements, because rulemaking is especially subject to changes in the political scene. Finally, the conditions generating the political will to make legislative change to fuel economy regulation have been rare, suggesting that lawmakers should act expeditiously to secure this kind of change when the right circumstances exist.

In light of these lessons, Congress should amend the EPCA's prescription for CAFE standards as soon as the political climate allows. Ideally, the CAFE standard would ramp up steadily over a longer time period, for example, over the course of the next four decades. Long-term mandates would give the industry the certainty it needs to invest in research of alternative technologies. The legislation should aim to ban gasoline and diesel powered vehicles over the long-term, thereby eliminating the nation's energy independence problem, and significantly reducing the nation's CO₂ emissions. Although this may seem to be a lofty goal, it would bring U.S. automotive policy in line with recent European policy proposals to the same end.²⁰⁴

The recent actions to advance fuel economy regulation undoubtedly denote significant progress. The Obama Administration took advantage of uniquely favorable conditions to implement important changes in fuel economy regulation, accelerating the increase in future CAFE standards, establishing automotive greenhouse gas emission standards, and attempting to secure future improvements in fuel economy through MY 2025. Indeed, the success of fuel economy regulation looks more promising as it enters its second act.

Letter to the Editor


John Forester

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I. INTRODUCTION

Bruce Epperson describes the events surrounding the issuance of the U. S. Consumer Product Safety Commission’s regulation of the design of bicycles¹ and the adoption, starting in California and moving to the Association of State Highway and Traffic Officials and the Federal Highway Administration, of the standards for bikeway design. John Forester is a rather central character in these events. Epperson makes a large number of errors and makes several unwarranted opinions, and those that refer to Forester are strongly biased against Forester.

¹. 16 C.F.R. Part 1512
Epperson states: "This article will argue that the promulgation of a set of product safety standards by the then-new Consumer Product Safety Commission ('CPSC') triggered an irrevocable ideological schism between experienced recreational cyclists, government, and the bicycle industry. Of course, there were adult cyclists well before the 1960s, but they amounted to a small number of hardy devotees. While most of these cyclists welcomed the popularity brought about by the great bike boom, a group of 'club cyclists,' racers, and marathon-distance semi-competitive tourists (called 'randonneurs') devoted to featherweight precision-built European bicycles, wanted the new cycling populism nipped in the bud and the clock rolled back to what they saw as an idyllic pre-1967 insularity. . . . In less than a decade, the ideology of a handful of elite, high-performance cyclists on exotic bicycles priced more than some used cars came to dominate the bicycling community. The consequences were enormous. The American industry, once home to thousands of well-paying, blue-collar jobs, simply disappeared. . . . The CPSC regulations not only proved ineffective in improving bicycle safety, but also opened a window of opportunity for those who sought the destruction of the domestic industry and wished to block the efforts of local, state, and federal agencies to improve bicycle safety and revitalize bicycling as a viable transport mode."

Because Forester was the leader in this activity, Epperson rightly makes him the leading target in his argument. The issue to be discussed herein is the accuracy and trustworthiness, or not, of Epperson's statements regarding Forester.

II. Definitions

Toy bicycle: A bicycle intended to be suitable for children, as the regulation required, even if sized for adults.

Real bicycle: A bicycle intended to be efficient, capable, durable, and useful for the usual purposes of adult bicycling.

These two definitions, biased though they seem, are necessary to overcome the confusion that is inherent in the CPSC bicycle regulation. In general, the American bicycle industry manufactured toy bicycles, while real bicycles came from Europe.

III. Epperson's Arguments

Argument About Bicycles

Epperson argues (see above) that the users of real bicycles managed

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to prevent the public from buying toy bicycles and thereby killed the American bicycle industry.

ARGUMENT ABOUT BIKEWAYS

Epperson argues that the controversy over regulation of the design of bicycles "opened a window of opportunity for those who . . . wished to block the efforts of local, state, and federal agencies to improve bicycle safety and revitalize bicycling as a viable transport mode."

SUMMARY OF EPPERSON’S ARGUMENTS

Epperson tries to tie together two controversies that are entirely different, although they have points in common.

The differences: The bicycle regulation involved bicycle manufacturers, bicycle buyers, and federal regulation of consumer products. The bikeway standard involved cyclists, motorists, and state highway departments, and, eventually, environmentalists.

The common factors: Both the bicycle regulation and the bikeway standard were based on the concept that people who use bicycles are childlike and incompetent. (That is the legal standard for the bicycle regulation, and it has always been the basis of bikeway laws and bikeway advocacy.) Forester was the leader in opposing both of these, acting to preserve the right of cyclists to buy the bicycles they chose and the right of cyclists to operate according to the rules of the road for drivers of vehicles.

A. EPPERSON’S BICYCLE REGULATION ARGUMENT

Epperson appears to argue (see above) that those who used real bicycles managed to get the bicycle regulation written to prohibit toy bicycles. How else could those people kill the American bicycle industry? Wrong. The bicycle regulation was written to require that all bicycles be toy bicycles of the kind the American industry produced. Indeed, the regulation was largely copied from BMA/6, the standard written by the Bicycle Manufacturers Association to persuade parents that American-made bicycles were reliable toys for their children.3 The opposition arose when the CPSC ruled that all bicycles sold in America had to be toy bicycles; real bicycles were prohibited. In the end, the regulation was modified so that it permitted both toy and real bicycles. At no time did anyone do anything with the intent of killing the American bicycle industry, nor had anyone but the CPSC regulators the power to do so, and they were wedded to the toy bicycle concept. In fact, with the regulation based on typical American-made bicycles, it must be considered as intended to protect the American bicycle industry. Why, then, is Epperson so intent on

maligning Forester? The bicycle regulation controversy provides no reason to do so.

B. EPPERSON’S BIKEWAY ARGUMENT

Epperson shows the most probable answer to that question in a small statement in the outline of his argument and some paragraphs in his paper. The initial statement refers to those who “wished to block the efforts of local, state, and federal agencies to improve bicycle safety and revitalize bicycling as a viable transport mode”. Epperson’s evidence is presented in the sections titled *We Don’t Know What to Call Them* and *A Darwinian Perspective*, in the final three paragraphs of his paper, and scattered through his footnotes.

While the bicycle design regulation controversy aroused both anger (in cyclists) and financial concern (in the bicycle industry), none of the design controversy went very deep and it quickly disappeared once the regulation permitted real bicycles as well as toy bicycles. But one part of the bicycle design regulation affects cyclist operational safety: the all-reflector system of nighttime traffic protection.4 Those persons who are concerned about cyclist safety view both the all-reflector system and bikeways as misleading means, as false promises, for reducing casualties to cyclists.

However, the bikeway controversy involves much more emotional matter than does the all-reflector system, and its controversy is as emotional as ever. Epperson’s early statement (above) about cyclist safety and revitalizing bicycle transportation refers to the standard bicycle planning and bicycle advocacy argument. There exists a great unsatisfied demand for bicycle transportation that is held back by the danger of motor traffic, so that building bikeways to make cycling safe will persuade many motorists to switch many trips from motor to bicycle transportation. This argument has three elements:

- Bikeways reduce the level of skill required for safe cycling;
- Bikeways make cycling safe for unskilled persons;
- Safe cycling will persuade American motorists to switch a transportationally significant number of trips from motor to bicycle transport.

These are articles of faith among bicycle planners and advocates. Providing factual criticism of these articles of faith provokes angry responses, such as shown in Epperson’s paper.

American traffic law has two opposite laws for cyclists. One law requires cyclists to obey the same laws as other drivers.5 The other law pro-

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4. 16 CFR Part 1512; sections 1512.16 and 1512.18(m)(n)(o)
5. Cyclists “shall have all of the rights and all of the duties applicable to the driver of any other vehicle . . . “ UVC 11- 1202.
hibits them from doing so, by limiting them to the edge of the roadway, or off the roadway when a path is nearby. America has correspondingly had two styles of cycling. One is obeying the same laws as other drivers on an equal basis, the other is hugging the curb to stay out of the way of same-direction motor traffic, as if inferior to motorists. Motorists enacted the cyclist-inferiority laws and argued that they were necessary to make cycling safe because child cyclists were incapable of obeying the standard rules of the road. They later added bikeways "to make cycling safe" by enforcing cyclist-inferiority cycling on all cyclists. These restrictions on cyclists appeared to make motoring more convenient; they were enacted without any shred of traffic-safety evidence; they were contradicted the moment such evidence was discovered.

The public, which had never thought much about cycling and had never experienced adult cycling, believed in the cyclist-inferiority dogma. Those who opposed motoring, called anti-motorists, believed this at least as strongly as the rest of the public, perhaps more strongly because of their antipathy toward motoring and motorists. Therefore, calling themselves bicycle advocates, they placed their faith in bike-ways as the best available means of enticing motorists to switch many trips from motor to bicycle transport. Just as in the case of bicycle design, cyclists who used the adult method of obeying the rules of the road arose in opposition to being required to cycle as children, with its corresponding degradation in safety, convenience, and status. The political situation of the era produced both the bicycle design and the bikeway laws at much the same time. Forester, having entered the bikeway opposition, later entered the bicycle design opposition. This is the reverse of the sequence stated by Epperson. The two lines of opposition to detrimental laws operated entirely separately, except that in both cases lawful, competent cyclists were led by Forester.

Epperson's history of the bikeway program is inaccurate; he cites irrelevant documents and ignores relevant documents and events. The present national bikeway program is descended from the work done by California's government as filtered by the opposition led by Forester, who

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6. Cyclists “shall ride as close as practicable to the right-hand curb or edge of the roadway, except . . .” UVC 11-1205.
7. Cyclists “shall use such path and not use the roadway” Formerly in UVC 11-1205, still extant in some jurisdictions.
9. Id., Chap 46. See also JOHN FORESTER, BICYCLE TRANSPORTATION 2nd ed Chap 13; The MIT Press, Cambridge Mass; 1994
has continued to play a leading role among the rules-of-the-road cyclists. Forester's actions regarding bikeways are the source of Epperson's anger.

The documents and work cited by Epperson are largely irrelevant. BIA's Bike Trails, the work in Davis, Palo Alto's sidepaths and bike lanes, all led nowhere, except that Palo Alto's facilities sparked Forester's comparison of traffic movements in vehicular cycling versus bikeway cycling.11 California's first try, UCLA's Bikeway Planning Criteria and Guidelines,12 was never issued because Forester led the objection to its dangerous copies from Dutch and German sidepath designs. The FHWA work was finally issued in three volumes: Vol 1, Bicycle Facility Location Criteria; Vol 2, Design and Safety Criteria; Vol 3, Final Report,13 the research papers. Forester demonstrated that the research supporting the designs was gravely defective, and the full documents were never adopted.14

The actual line of development runs through two California governmental committees established by the Legislature. The first was the California Statewide Bicycle Committee, composed of eight highway and motoring representatives plus one cyclist, Forester. During its operation, Forester discovered the UCLA document with its dangerous sidepath designs and also that the purpose of the Committee was to recommend laws to enforce cyclists to use bikeways, wherever built. Forester, leading as president of the California Association of Bicycling Organizations, prevented the Committee from recommending a mandatory sidepath law, but failed to prevent the recommendation of a mandatory bike lane law, and the Legislature followed those recommendations.15

The rejection of the UCLA designs required a second committee, the California Statewide Bicycle Facilities Committee, to prepare new designs. This committee was composed of six representatives of highway departments, one cyclist representing the League of American Wheelmen (but who, as an employee of a governmental office in transportation refused to speak out) and one cyclist representing the California Association of Bicycling Organizations. The Committee rejected Forester but accepted his close associate, Prof. John Finley Scott, sociology, UC, Davis. While Scott and Forester generally opposed the work of the Commit-

12. Bikeway Planning Criteria and Guidelines, Institute of Transportation and Traffic Engineering; UCLA; April 1972
14. John Forester, Bicycle Transportation 2nd ed, App 2 pg311-313; The MIT Press; 1994
15. SCR 47 Statewide Bicycle Committee Final Report; California Dept. of Transportation; Feb 1975
tee, their criticism provided a large part of the technical information that prevented adoption of really dangerous designs and enabled the resulting designs to be probably proof against lawsuits.

The Committee issued Planning and Design Criteria for Bikeways in California in June, 1978.16 That document was then largely copied and adopted by the Association of State Highway and Traffic Officials as its Guide for Bicycle Facilities,17 which the FHWA then adopted. All later design standards are based on this.

The bicycle transportation controversy still rages. The current scientific state of the controversy favors vehicular cycling over cyclist-inferiority bikeway cycling. Bicycle advocates have never demonstrated which traffic-cycling skills are no longer needed with a practical bikeway system; they have never demonstrated the mechanism by which a bikeway design actually reduces car-bike collisions, and they have not demonstrated reduction in motoring.18 Vehicular cyclists have demonstrated how the rules of the road prevent collisions between drivers, that it is easy to learn how to obey the rules of the road, and that obeying the rules of the road does not require the ability to ride fast.19 Considering this balance of evidence, cities who actually own bikeway systems rely on the public superstition that bikeways make cycling safe for the unskilled, while limiting themselves to legally safe statements that their bikeways provide comfortable routes for cyclists of all levels of skill.

This mild conclusion has not been accepted by anti-motoring bicycle advocates and bikeway promoters. Their standard argument is that only the elite few are capable of obeying the rules of the road when riding a bicycle. Therefore, the bicycle transportation system must be designed for safe operation by those incapable of obeying the rules of the road; those opposed to this policy deserve opprobrium. Bicycle advocates accuse vehicular cyclists of trying to limit cycling to their elite few, to return cycling

16. Planning and Design Criteria for Bikeways in California; California Dept. of Transportation, June 1978. Latest revision is in the California Highway Design Manual, Chapter 1000
18. JOHN FORESTER, THE BICYCLE TRANSPORTATION CONTROVERSY, Transportation Quarterly V 55 #2, Spring 2001, p 7-17
to what the advocates imagine to have been its elite status before 1970. They also accuse vehicular cyclists of siding with the motoring interests and with suburbanites. This accounts for Epperson's injection of his antipathy to elite cyclists into his account of the bicycle design controversy, where it actually counters rational argument.

The bicycle transportation controversy stretches into fields further from bicycling. The nearest one, and the only one specifically mentioned by Epperson, is the bicycle advocates' hatred of suburbs. Bicycle advocates want dense central cities, which they believe reduce motoring, while vehicular cyclists advocate the best cycling technique for the environment that exists and improvements to make the roads better for rules-of-the-road cyclists.

Notice that none of these controversies have anything to do with the design of bicycles, the subject of the CPSC controversy. This explanation of Epperson's line of argument should provide the intellectual background necessary for evaluating Epperson's errors and biased opinions.

C. Consumer Product Safety Commission Regulation

Some background information is necessary about the CPSC bicycle design regulation. The starting document was the Bicycle Manufacturers Association Bicycle Standard BMA/6: Safety Standards for Regular Bicycles. There is no evidence that the requirements of this document were based on any safety studies. Many requirements were pure strength tests and there was a bumpy road simulation; these were basically durability tests. There were two brake tests: the stopping distance test had an easy requirement; the brake fade test required that the brake hold the bicycle to 15 mph for one mile on a 5% grade (264 feet elevation loss in 4 minutes). There was a front fork impact test simulating cycling into curbs and other objects; this was "to assure the strength and durability of front forks." And there was the 10-reflector system which assured that at least one reflector would be facing motor vehicle headlamps no matter what angle to the road the bicycle assumed.

Among the BMA/6 requirements that the CPSC adopted were the stopping distance test, the front fork impact test, and the all-reflector system. The CPSC refined these requirements and added some more. Some of the added requirements referred to non-slip pedals (based on accident survey), strength of rims (to prevent failure caused by excessive spoke tension), prohibition of derailleur adjusting screws (to prevent children from misadjusting derailleurs), prohibition of quick-release hubs, a

21. 37 Transp. L.J. 73, 118. The American Dream Coalition acts to protect suburbanites. But opposition to suburbs is rife within the discussions of bicycle planning.
22. See supra, note 3.
“brake fade” test for caliper brakes but not for coaster brakes, and the prohibition of anything small that stuck out, “protrusions” (to prevent cuts and scrapes if a person bumped one).

Some of these requirements prohibited real bicycles (and a few prohibited toy bicycles also): prohibition of quick-release hubs, prohibition of derailleur adjusting screws, prohibition of protrusions. Therefore, these were revised to permit both toy and real bicycles. The bicycle industry either accepted or wanted the remaining requirements.

Safety regulations require some justification. For “toys or other articles intended for use by children” regulated under the Federal Hazardous Substances Act, only the regulator’s say-so was required. For consumer goods regulated under the Consumer Product Safety Act, formal justification was required.\(^2\) Had the CPSC replied to challenges by refusing to provide justification because the FHSA did not require such, it would have been in great political difficulty. Therefore, the CPSC attempted to provide safety justifications for the requirements remaining in the regulation. However, several requirements were durability requirements and not safety requirements; for example, the front fork impact test and the spoke tension test. Rather than delete these, the CPSC attempted to invent safety justifications that appeared to be based on engineering.

The front fork impact test\(^2\) delivered a weighted blow to the front fork, as if the bicycle had been ridden into a wall or similar object. The purpose of the BMA test was to demonstrate to potential buyers that they would not have to buy new forks when their children rode up curbs or similar objects.

The spoke tension test\(^2\) was a late addition by manufacturers. With a wheel held in position by its rim, a specified lateral force was applied to the hub, perpendicular to the plane of the wheel. This increased the tension in the spokes on one side of the wheel and decreased the tension in the opposite-side spokes. Bicycle wheels are assembled from hubs, spokes, nipples, and rims. Bicycle wheels are “tension-spoked wheels” whose spokes must be in tension. The final step in wheel building, after all the parts are together, is to screw the nipples tighter onto the ends of the spokes until the desired spoke tension is reached and the rim is true, does not “wobble” when the wheel is rotated. Some types of rims failed during this last stage of wheel building. As the spoke tension increased, the rim allowed some nipples to pull through the rim material. The bicycle manufacturers used this increased tension test to disqualify some models of rim.

\(^{23}\) Discussed at 37 Transp. L.J. 73, 113.
\(^{24}\) 16 CFR 1512.18(k)(1)
\(^{25}\) 16 CFR 1512.18(j)
The CPSC chose to include these two requirements and their tests in its regulation. When challenged (by Forester) to provide the safety justifications for these (as well as for others), the CPSC's political situation required it to invent safety justifications that appeared to be based on engineering.

For the front fork impact test, the CPSC argued that sufficiently strong front forks prevented the cyclist from flying forward into whatever was in front of him. Any first-year engineering student would see this error; the cyclist has no seat belt to hold him back, and there's no fixed object to which the seat belt could attach. The CPSC's arguments get funnier. At this period gear-shift levers were often mounted on the top tube. There was concern that the cyclist, flying forward in a crash, would pass his crotch area over the shift lever. The CPSC decided to prohibit such shift levers. Therefore, at one point the CPSC was arguing that when a cyclist rode into a large fixed object his arms were sufficiently strong to prevent him from flying forward (in defense of the front fork impact test) while simultaneously being too weak to prevent him from flying forward (in defense of the top tube shift lever prohibition).

For the spoke tension test, the CPSC argued that when a bicycle was ridden over a bump the increased spoke tension could pull many nipples through the rim and cause catastrophic wheel failure. Such an accident had never been recorded, either in written form or in memory. When Forester asked for such data, the CPSC replied that its engineers believed that such could occur. The invention of an imaginary kind of accident that has never caused casualties is one source for the "body count" controversy sneered at by Epperson. In fact, the CPSC's hypothesis is false; its postulated accident mechanism cannot occur. When a bicycle wheel carries an increased load, as when going over a bump, the increase in load is not carried by increased tension in the topmost spokes but by decreased tension in the bottommost spokes. (This was not known at the time, but was discovered a few years later, not coincidentally by

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26. "It is recognized by the CPSC that a fork construction, resulting in unnecessarily high stiffness, might lead to potential injury because front impact energy would be transmitted more directly to the rider." Draft regulation December 1974 (#A 24, p10).
27. "[T]he probability that a cyclist can use his arms to prevent forward body movement during a sudden stop" (Forester v CPSC, Reply Brief 40). "[T]he Commission cannot regulate the speed of a bicycle at the time of a collision or the impact force of a bicyclist against a protrusion during a collision" (Forester v CPSC Reply Brief 38).
28. 16 CFR 1512.18(j)
29. "The proposed test was designed to simulate spoke loading under actual roadway conditions. Hazards associated with wheel collapse will be minimized if the spokes do not fail or pull out under conditions of high loading. The stress level . . . is high enough to simulate a bicycle running through a pothole at moderate speeds." Federal Register 16 July 1974, p 26103
30. 37 Transp. L.J. 73, 116
The testing of caliper brakes but not coaster brakes for heat fade was illogical and counter factual (caliper brakes didn’t fade, but coaster brakes did). Some requirements, while possibly safety related, such as the requirement for non-slip tread on pedals (feet slipping off pedals, particularly in wet weather, was a known cause of injuries), were so carelessly worded that nobody could make sense of the requirement.

While these were engineeringly absurd, they were largely harmless (people who bought coaster-braked bicycles didn’t ride them over such mountains that would burn out their brakes), there was one really dangerous requirement. The all-reflector system purported to produce nighttime traffic protection which it could not possibly deliver. For whatever reason, both the bicycle industry and the CPSC have stuck to this dangerous requirement, against the opposition of traffic experts, right through meetings as late as 1997.

Just as with the front fork test and the spoke tension test, it is necessary to explain the errors of the all-reflector system. The regulation contains highly detailed engineering tests for individual reflectors but no test of the system. BMA/6 contains one system test, which, so Forester has been told, was convincingly demonstrated to the CPSC officials in their own driveway. The test consists of an observer in the driver’s seat of a stationary car observing a bicycle standing in the headlamp beams of that car. The bicycle is supported by a person who also rotates the bicycle through a full circle, 360 degrees. The test requires that at all times least one reflector is reflecting light to the observer.

The test may have some relevance to a child playing with his bicycle in the roadway at night, but it has practically no relevance to actual traffic operation and nighttime car-bike collisions. The feature that condemns the all-reflector system is its inability to alert other drivers and pedestrians of the approach of the cyclist. Consider a nighttime motorist arriving at a stop sign. The motorist is required to yield to approaching traffic. The headlamps of approaching vehicles alert him to wait. When he sees no headlamps approaching, he starts across the road. A cyclist relying on the all-reflector system is approaching, say from the motorist’s left, invisible to the motorist until his reflectors get in front of the motorist’s headlamp beams. By the time that the motorist sees a reflector, he has already started across the intersection into a collision in which either he hits the cyclist’s side or the cyclist hits his side. This is important. The best evi-

31. JOHN FORESTER, HOLD UP BY DOWNWARD PULL, American Wheelmen, Aug 1980, 13-14
32. 16 CFR 1512.16 and 1512.18(m), (n)
33. BICYCLE MANUFACTURERS ASSOCIATION; APPENDIX TO BICYCLE STANDARD BMA/6; June 1972; Test item 6.1.4
dence strongly suggests that 75% of nighttime car-bike collisions occur after the motorist has been forward of the cyclist, cases in which the cyclist's headlamp would be of prime importance.\textsuperscript{34}

While it is true that the CPSC regulation does not prohibit the use of headlamps, it officially discourages them. First, the CPSC declared, on the sole basis of the driveway demonstration, that the all-reflector system provided adequate visibility under nighttime conditions. Epperson states this purpose at page 110: “Because the CPSC reflector regulations were meant to reduce the risk of injury from inadequate cyclist visibility to cars, but were not meant to reduce the risk from obstacles in the road...” the states could require headlamps for this purpose. (Which is practically the opposite of reality; most headlamps of this time were insufficiently bright to disclose tire-damaging obstacles in the roadway.) This is an official lie that is deadly dangerous.\textsuperscript{35} Second, the official requirement for a proliferation of reflectors on the bicycle convinces people that the reflectors must make nighttime cycling much safer, so they don't bother to buy and operate headlamps. Adequate bicycle headlamps always required informed purchase and careful operation; any excuse for not using them was persuasive. Only in very recent years the advent of light emitting diodes and better energy sources have made bicycle headlamps cheaper and easier to manage.

IV. EPPERSON’S ERRORS AND BIASES, IN SEQUENCE

Page 74

“Beginning in 1973, [BMA] pledged $56,000 to the venerable League of American Wheelmen” to hire an executive director, Morgan Groves. But Epperson’s account is erroneous. Groves planned that LAW would attract many new members by attaching LAW prospectuses to BMA bicycles, and these new members would produce a strong lobby for bikeways. The project failed because purchasers of BMA bicycles weren’t interested in cycling activity, and LAW members didn’t buy BMA bicycles. Groves overspent LAW into technical bankruptcy, debts exceeding assets.

When Forester first served as director, 1976, the directors were informed by the president, Kehew of Pennsylvania, of the financial situation, that Groves was out, and it was up to us to manage the League with our own resources.

\textsuperscript{34} \textit{John Forester, Bicycle Transportation} 2nd ed, Chapter 17; The MIT Press, Cambridge Mass; 1994

\textsuperscript{35} A cyclist relying on the all-reflector system was descending an arterial road at about 33 mph. A motorist coming up the hill did not see him and turned left so that the cyclist hit his vehicle, causing lifetime disability. Johnson v Derby Cycle, Essex County Superior, N.J. Nov 4, 1993
Contrary to Epperson, the BMA's money was out before Forester even became a director, and therefore is not relevant to him becoming president in 1980, nor to Epperson’s claim of what he was saying at the time, which Epperson got from an article published in 1973.

Page 75

This is Epperson's argument that buyers of good bicycles killed the American bicycle industry. This is disproved in section 3.3.1 above.

Page 85

Epperson's history is erroneous. A more accurate account is from “Epperson's history of the bikeway program is inaccurate” at page ? herein through “All later design standards are based on this” at page ?.

Page 86

The Federal study of bicycle accidents contained many errors. Its statement about nighttime protective equipment was so vague as to be useless. It recommended better illumination, without stating where it should come from; could even be from streetlights.

Page 91

Epperson's description of Forester as a “production analyst” is erroneous. At the time that all this started, Forester was director of industrial engineering of Raychem, in Menlo Park CA, a prominent manufacturer of aerospace materials, supervising four engineers and a statistical assistant.

Epperson's claim that Forester was “a devotee of Harold Munn's 'vehicular cycling' theory” is false. Forester knew Munn when they both cycled in Los Angeles, which Forester left in 1969. Forester does not recall discussing bikeways with Munn, certainly not in a highway engineering context; in 1969 bikeways were not a subject of concern. Furthermore, Forester's attachment to the vehicular cycling principle goes back to his early training in England in the 1930s and to reading the articles by George Herbert Stancer in the 1940s. Stancer was the leader of the British Cyclists' Touring Club from 1920 to 1962. Furthermore, Forester's first analysis of the superiority of vehicular cycling over bikeway cycling was done for the Palo Alto bikeway case, in 1972, while Munn did not publish his article until 1975.

Pages 91-92

Epperson pejoratively disparages Forester for claiming “a vast conspiracy”. However, on the evidence at that time, Forester was accurate. The bicycle industry was already promoting bikeways, which only government could build (Epperson 80), it had subsidized LAW's executive director to build a lobbying force for bikeways (Epperson 74), the CPSC regulation, at that time, required toy bicycles and prohibited real bicycles,
and California government was designing dangerous bikeways and laws to require cyclists to use them.

Page 92

Epperson disparages Forester by saying that Forester had “laughed uproariously” because the chairman of his city’s bikeway committee had been in a car-bike collision. What Epperson fails to understand is that the humor was Kafkaesque. The person named to chair that important bikeway committee had cycled himself into a car-bike collision by doing something typically absolutely incompetent and childish, and had then complained about the lawfully behaving motorist.

Page 93

Epperson’s denial of the validity of Forester’s complaint about the CPSC requiring only toy bicycles and prohibiting real bicycles is plain false. The early versions of the regulation did that (see third paragraph of Section 4). This was known to Epperson, because he tells of DeLong later “working . . . to find a mutually acceptable set of rules”. It was also the cause of the anger expressed about the regulation by Tullio Campagnolo, a leading manufacturer of bicycle components. Epperson attributes this to the protrusions rule, but it was more likely to the initial prohibition of derailleur adjusting screws to prevent misadjustment by children. This was so unworkable that it was deleted early and all derailleurs continue to have adjusting screws.

Pages 98-99

Epperson’s account of the negotiations between DeLong, Townley (vice president of Schwinn Bicycle Company with responsibility for government relations) and the CPSC to fix up the regulation is reasonable, but his view of Forester’s part is false. Forester recognized that the regulation was an absurdity in mechanical engineering (defying Newton’s laws of motion), safety engineering (inventing accidents that had never occurred), and traffic engineering (the dangerous all-reflector system); it was reasonable to fear further troubles from the same source. None of the other parties cared about the errors or the dangers. DeLong and Townley cared only that the regulation permit both toy and real bicycles, while the CPSC cared only that the regulation be issued with little trouble. Epperson asserts that Forester knew that the CPSC did not need to depend on DeLong’s advice because Forester knew that the CPSC had a responsible engineer named O’Connor. Forester knew of O’Connor, but he also knew that the engineering incompetence of the regulation demonstrated either that O’Connor was incompetent or that his advice was ignored.

Had the other participants told Forester that they didn’t care how silly the regulation was, as long as issuing it would not cause casualties to
cyclists, Forester might well have cooperated, leaving only the all-reflector system to be negotiated over. Instead, the other participants kept insisting that this absurd regulation was wonderful.

Pages 99-100

Epperson’s account of the creation and the content of Forester’s Effective Cycling course and program is erroneous. While Munn and Forester had similar opinions regarding bicycle traffic, those opinions were widespread at the time. Forester had formalized his view of traffic-cycling in the course of the Palo Alto sidepath case of 1972, and was teaching his Effective Cycling course in 1973, while Munn’s article was not published until November, 1975.

In the 1960s Forester had been involved with the Sierra Club in teaching some aspects of mountaineering, and as a professor had created his own university course in statistical decision theory. He had no need of DeLong’s information (as asserted by Epperson) to develop a course that taught what Forester knew to be necessary. Furthermore, Forester has always opposed cyclist training based on hazard recognition (misstated by Epperson as “hazard record approach”). The driver who drives along wondering what might be the next hazard has insufficient time to scan everything, recognize a hazard, and decide what to do about it. The driver who operates as a driver and understands why traffic operates as it does is quick to recognize the occasion when something is not operating properly and can best take evasive action.

Epperson’s statement, based on Townley, that Forester and DeLong disliked each other intensely is inaccurate. Possibly DeLong had such strong dislike for Forester, but Forester merely considered DeLong to be an engineer of low competence.

Pages 100-101

Epperson’s justification for the different treatments of bicycles with coaster brakes and bicycles with rim brakes is both uninformative and falsely impugns Forester. The CPSC regulation is based on the argument that there is no safety difference between toy bicycles and real bicycles. Surely, the ability of brakes to control speed during descents is an important safety attribute. Therefore toy bicycles, which often use coaster brakes, ought to have the same braking performance as real bicycles, which, in America, never have coaster brakes.

For one of his real bicycles that had rim brakes front and rear, Forester built a wheel with a coaster brake. He instrumented the rims and the coaster brake with temperature recording labels, such as are used in heat treating. He then descended a hill near his house, approximately

2,000 feet elevation loss. First, using both rim brakes; a second time using only the rear rim brake; a third time using only the coaster brake. The front rim when using both rim brakes, and the rear rim for only one rim brake, did not quite reach the brakeblock test temperature specified in the regulation, and the brakeblocks remained in perfect condition. The coaster brake started smoking about one-third of the way down, would neither release fully nor grip fully two-thirds of the way down, and was good only for scrap when the bottom was reached. Either there should be two standards, one for toy bicycles and one for real bicycles, or coaster brakes should be prohibited because they burned out on hills frequently used by riders of real bicycles.

Epperson claims that Forester “forgot to mention that he had his own conflict of interest: at the time, he was being paid as an expert witness to testify in litigation against the Bendix Corporation, the nation’s largest supplier of coaster brakes.” Epperson then quotes a statement from James Green: “There is no ideological basis to anything Forester does. He will sway in the wind depending on who is paying him.”

Forester ran the descent tests in 1973 and his article was published in March 1974. Epperson lists the Bendix case as 1977, while Forester lists his testimony as 1978. Forester was assisting the U. S. Customs Service in a very simple case. Bendix was trying to evade customs duties by importing coaster brakes under a different name (backpedalling brake) with a lower rate. All Forester had to do was to look at a standard Bendix coaster brake that Bendix was importing from Mexico and say that this type of brake had always been known as a coaster brake. Epperson’s claim that such easy testimony influenced Forester’s determination, four years before, to test a coaster brake (a New Departure one, not a Bendix) is absurd. Furthermore, Epperson should have recognized that Green’s claim does not comport well with the Forester that Epperson claims to be describing. Epperson describes Forester as having undertaken, at the cost of great worry and effort, to correct dangerous engineering errors without possibility of financial recompense.

Page 103

No matter what correspondence the CPSC had generated, in May 1976 the question of the definition of a “one-of-a-kind” bicycle still worried cyclists. Forester attended a May 1976 CPSC meeting at which, Epperson claims, “Forester tried to use the San Francisco meeting to bully the CPSC into a verbal interpretation that would open a new ‘two-box’ loophole, but by now the CPSC staff knew him well enough not to give him a straight answer.” The practice of buying made-to-measure framesets was, and is, a large part of the good-bicycle business, and cyclists were worried whether the CPSC regulation would consider such bicycles exempt as “one-of-a-kind” or would prohibit them. So Forester
asked the question, was told that if it used standard bicycle components it could not qualify as a one-of-a-kind bicycle. Forester asked the more specific question about using standard bicycle tubing, such as Reynolds 531. The reply that he was given, heard by all there, was that if it used standard bicycle items it could not be exempt as a one-of-a-kind bicycle. That official statement made the custom framemaking business unlawful. Epperson’s claim that Forester was bullying the CPSC is absurd, but the demonstration of the CPSC’s ignorance and incompetence stands out.

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Epperson asserts that he doesn’t know why Forester objected to the all-reflector system. “For obscure reasons, the 10-reflector rule became his bête noire.” If this statement is true, Epperson has demonstrated that he does not know how the rules of the road work and therefore should be disqualified from working in the bicycle traffic field, and equally was not qualified to have written his article.

Epperson’s statement of Forester’s motive is erroneous, speculative, and defaming: “driving American cycle makers out of business while making bicycles too expensive for the casual, occasional, or indifferent cyclists he loathed so much.” This is the typical bicycle advocate’s hatred of what he calls elite cyclists forced into a controversy in which it has no place. Forester was not so foolish as to think he could accomplish that, even had he wanted to, which he didn’t.

Page 105, footnote 228

Epperson again tries to assert that Forester had a monetary conflict of interest. “Forester started a bicycle accessories firm, which sold a proprietary front headlight system. Forester claimed that the only two worthwhile headlamp systems were his and acetylene lamps, which hadn’t been made for 50 years because of their propensity to explode.” The statement is false. Forester designed and made his first pieces of equipment to make cycling more useful when he lived in Los Angeles, before 1969. Note the emphasis on utility, not what one would associate with elitism. Forester never “sold a proprietary front headlight system.” All he ever sold was a kit of some precut pieces of aluminum from which the customer could cut and bend a handy and reliable bracket on which to mount any commercially available headlamp and generator. Forester intended to make cycling safer and more useful by making generator headlamps more easily used; nobody would do this for money. And acetylene lamps did not explode; their use dropped because they required careful management to work properly, they took time to start, and they smelt bad after use.

Page 106

Epperson claims “Forester hoped to use the CPSC ruling to turn the clock back to an idyllic, pre-bike boom era.” Epperson’s claim makes
sense only to bicycle advocates who believe that vehicular cyclists want to restrict cycling to the elite few, as the bicycle advocates claim it was before the bike boom. This is false from the beginning. Cycling stopped being an elite activity in the nineteenth century. In the twentieth century the great majority of American cycling was done on the type of bicycles produced in America to suit the American market, called "toy bicycles" herein. Therefore, in the twentieth century, American bicycle use could never have been an elite activity. Forester had two aims in opposing the CPSC regulation. The first and broader was to stop government from issuing a patently absurd and useless regulation. The second was limited to getting rid of the dangerous governmental requirement for the all-reflector system of nighttime protection.

Epperson's statements about the Chicago meeting between the BMA and the National Committee for Uniform Traffic Laws and Ordinances (NCUTLO) about lights are erroneous. Groves, upon whom Epperson relies, may have thought that the subject concerned 3M's reflectorized tires, but the subject discussed and voted upon was the bicycle headlamp requirement of the Uniform Vehicle Code. Forester stands by his account that the BMA argued that the CPSC all-reflector system supplanted the UVC, so that voting to repeal the UVC requirement was just a formality, and if the NCUTLO did not repeal its requirement the BMA would go to the individual states. When the vote came, nobody voted to repeal the headlamp requirement.

Epperson's supposition that Forester had written to Dr. Clifford Graves is incorrect. The Cliff to whom the letter was addressed was Clifford Franz, the LAW director for Forester's region.

Epperson's claim that Forester arranged for two years financial support from Dorris Taylor is false. Such an arrangement was never made, Taylor and Forester always split household expenses equally. Taylor never provided Epperson with information to support Epperson's claim, and the one reference Epperson quotes, from one of Forester's books, says only "I decided to rectify government's errors by putting cycling transportation on a scientific basis. I thought it would take me two years, after which I would return to industrial engineering." Forester had savings, and used them.

Therefore, also false is Epperson's statement that "With the imminent end to his court appeal in the Palo Alto bikeways case, (it was decided against him in November 1973) the clock was running out." With no

37. UVC 12-702, at the time of this event numbered 11-1207(a).
arrangement with Taylor, there was no clock to run out. Furthermore while Forester paid a nominal fine of $25, the Palo Alto City Council immediately repealed the law prohibiting cycling on particular roadways.

Page 109

Epperson's claim that "Forester set up a company to act as sole-source provider of the textbook" is false. As stated herein under Page 105, footnote 228, Forester had been designing and producing various items to make cycling more useful since 1969. He had also been writing and printing a newsletter to California cyclists to inform them of the acts of the California Statewide Bicycle Committee and the California State Bicycle Facilities Committee. Furthermore, no publishing firm thought there was a market for informed information about cycling, and there was no money to pay printers. And producing textbooks with a mimeograph machine and binding punches was just plain work. Forester was happy when The MIT Press decided to take on the task.

Page 109

Epperson claims, with respect to the Effective Cycling textbook, "Some parts of the book were highly critical of the BMA and American firms, and the industry withdrew its financial support from the League, not to return for over a decade." The claim is misleading. The industry had withdrawn its support years before, in consequence of the Morgan Groves disaster. Thereafter, the industry and the League were on opposite sides. The League represented lawful, competent cyclists, while the industry wanted bikeways to appeal to myriads of incompetent cyclists. Only when control of the League was seized by anti-motoring bikeway-promoting bicycle advocates did the industry see that it could use the League for its own ends (1983).

Page 114

Epperson asserts that Forester was wrong in claiming that the CPSC could not justify some requirements. Epperson states "it wasn't that the CPSC couldn't meet the standard, but that they did not do it." Epperson's claim is false. As demonstrated herein, as well as in the court documents, it was impossible to provide valid safety justifications for the front fork test, the spoke tension test, and the all-reflector system.

Page 114

Epperson criticizes Forester "who unwisely believed he was competent to act as his own lawyer." The quotation on which Epperson makes this claim does not support Epperson's claim. Forester wrote: "I figure that I am the best combination of cyclist, engineer, and amateur lawyer around." Forester qualified only "lawyer" by "amateur", clearly indicating that he did not consider himself to have professional competence. Furthermore, he applied the description of "best" only to persons who
combined the three different kinds of expertise, surely a small population.

Epperson’s criticism is false; Forester had no choice. He had found no source of money to support the case; not for any attorney, let alone such expensive attorneys as hired by BMA or employed by the U. S. government. The choice was to either proceed with the resources available or to quit.

Footnote 289 (page 114)

Epperson’s footnote appears to be deliberately written to mislead the reader about Forester’s formal qualification. Epperson correctly states that Forester holds a California industrial engineering license. He then states: “Prior to 1973, the State of California granted ‘professional engineer’ certificates to many types of para-professionals . . . Industrial engineers are specifically prohibited from ‘the practice of civil, electrical, or mechanical engineering,’ which are the only engineering licenses the State of California now issues.” In short, Epperson claims that Forester became registered by California as an industrial engineer before 1973, after which date California ceased to include industrial engineering as a registered discipline. This is false. The California Board for Professional Engineers and Land Surveyors Written Examination Schedule for Engineering Examinations lists industrial engineering examination dates near the end of October in each year for 2010, 2011, 2012, 2013.

Pages 115-116

In footnote 291, Epperson notes the importance of the number of casualties (the “body count”) in considering safety regulations. Epperson then claims (116) that Forester argued that a safety regulation must “eliminate entirely a specific hazard” and that the Forester case “became known forever more as the ‘body count’ case.” Epperson confuses the presence of a hazard with the number of casualties. Logically, if a hazard is eliminated, then the casualties caused by that hazard disappear. However, many safety regulations, such as requiring headlamps at night, only ameliorate the hazard, thus reducing but not eliminating its casualties.

Epperson ignores the more important aspect of the “body count” controversy. That had two aspects. The CPSC was claiming that casualties must have occurred even though nobody had recorded them and the mechanism was engineeringly impossible: the spoke tension requirement. The CPSC also made opposite claims that its requirement would reduce casualties when that also was engineeringly impossible: the front fork impact requirement.

Forester’s arguments for the importance of both the number of casu-

38. www.pels.ca.gov/applicants/schedule_eng.pdf
alties and the mechanisms for reducing them address the entire justification for safety regulations.

Pages 117-118

In the last pages, Epperson returns to his motivating grievance, Forester's opposition to bikeways and bicycle planning. "[M]any agencies turned to the type of skill-based, anti-facilities program Forester advocated, not necessarily because it was the best approach but because it was the cheapest." Then Epperson quotes Green again: "this puts the public at risk and is deplorable." In these pages Epperson exploits the ubiquitous superstition that bicycle planning of bikeways will make cycling safe and therefore persuade many motorists to switch many trips from motor to bicycle transport. As with other bicycle planners and bicycle advocates, he ignores the fact that America's basic bikeway designs were created by motorists for their own convenience, and the facts that bikeway advocates have never been able to demonstrate either that incompetent cycling on bikeways is safer than rules-of-the-road cycling on roadways or the great predicted switch by motorists from motor to bicycle transport.

Epperson falsely asserts that "Forester . . . now grudgingly concurs with his former opponents on the impact of bicycle facilities: 'Yes, there a correlation between the amount of bicycle transportation and the presence of bikeways.'" Epperson's statement is false because Forester has always said that a larger cycling population produces the political pressure to produce bikeways, which is the opposite of Epperson's claim. Correlation does not demonstrate causation.

Epperson concludes by claiming, in the sentence from which the above quotation is taken, that Forester is "these days an author and speaker for the American Dream Coalition." The ADC is an organization of suburbanites that is, therefore, roundly despised by bicycle advocates for being such and for supporting motor transportation.

Forester has never advocated suburbs, holding only that people should be free to choose their residences. Forester has never spoken for the American Dream Coalition. On the two occasions at which he has spoken to them, his subject was only the welfare of cyclists, saying that both cyclists and suburbanites would be better off with rules-of-the-road cycling than with incompetent cycling on bikeways. In short, he warned them against doing harm to cyclists.39

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Dear Reader:

Volume 39, Issue 2 features an article by a leading man in the field on demurrage, and another wonderful article on federal preemption in cases against brokers and shippers. We at the TLJ hope that this issue will be a boon to practitioners in a very practical way, and a joy to read for those not practicing.

Mr. Moseley's article on federal preemption addresses very pertinent issues in litigation that are continually visited in a vast number of cases. We hope that this poignant piece will inform practitioners as well as members of the bench for years to come.

Mr. Sheib's piece on demurrage is a very interesting commentary on why case law should align more with the federal demurrage statute, and how the current case law undermines the purposes and perverts the purpose of the federal statute. We hope that this will be a source of authority that can either be used in a persuasive way in the courts to affect change in the case law, or perhaps in the annals of Congress to tailor the statute more precisely.

I would like to extend special thanks to my executive board and all our new members that helped bring this issue to publication.

We hope you enjoy this spring issue of the Journal as much as we did.

Best wishes,
Alex Wenzel
2011-2012 Editor-in-Chief
Mind the Gap: Why The Current Case Law on Demurrage Makes Little Sense and Undermines the Federal Statute

John M. Scheib*

A rail carrier providing transportation subject to the jurisdiction of the Board under this part shall compute demurrage charges, and establish rules related to those charges, in a way that fulfills the national needs related to—(1) freight car use and distribution; and (2) maintenance of an adequate supply of freight cars to be available for transportation of property.¹

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* General Counsel at Norfolk Southern Corporation. The views expressed in this article are the author's and not necessarily the views of Norfolk Southern Corporation or its subsidiaries.
In 2010, at the urging of the United States Solicitor General in consultation with the United States Surface Transportation Board ("Board"), the United States Supreme Court declined to hear argument in a case that created a circuit split as to the application of demurrage rules to warehousemen and other intermediaries in rail transportation. As a result, a lower court ruling that highlighted and expanded a regulatory gap that undermines the purpose of 49 U.S.C. 10746 was permitted to stand. The Solicitor General contended that the Board could resolve the demurrage gap through a proceeding that the Board opened after the Supreme Court requested the views of the Solicitor General on Norfolk Southern’s then-pending petition for certiorari.

It is time to plug the regulatory gap that results from the antiquated reliance on designations such as “consignee” and “in care of”—designations in which the railroads do not participate. The courts’ continued reliance on these terms and the common law of contracts ignores the adoption of Section 10746 and undermines that federal statute. In fact, that continued reliance prevents a rail carrier from adopting demurrage rules “in a way that fulfills” the twin goals of the

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statute. The Board must act in a way that makes the statute paramount and provides guidance to the courts so that the common law no longer impedes the statute.

I. BACKGROUND

A. 49 U.S.C. § 10746 – DEMURRAGE IS FOR THE NATIONAL INTEREST

In Section 10746 of Title 49, Congress gave railroads the statutory responsibility to establish and collect “demurrage charges” so as to advance the “national needs” relating to both “an adequate supply of freight cars” and the efficient “use and distribution” of those cars. This formulation is the modern version of Justice Brandeis’s classic statement that “[a]ll demurrage charges have a double purpose. One is to secure compensation for the use of the car and of the track which it occupies. The other is to promote car efficiency by providing a deterrent against undue detention.”

To further these goals, railroads establish rules and charges for demurrage. Demurrage is “the assessment of charges for holding railroad-owned rail freight cars for loading or unloading beyond a specified amount of time” and “has compensatory and penalty functions.” Section 10746 commands railroads to establish demurrage rules “in a way that fulfills” the twin goals of the statute. Importantly, the statute does not limit or restrict in any way the participants in the transportation chain to whom the demurrage rules may be applied.

Both purposes of demurrage that are stated in 49 U.S.C. 10746 are of vital importance to the efficiency of the rail network as a whole. As the Board’s predecessor—the Interstate Commerce Commission (“ICC”)—held long ago, “[t]he necessity for demurrage is well recognized. Such charges serve the best interests of the railroads, the users of rail transportation, and the public in the maintenance of an adequate transportation service.” The merits of these goals are not disputed even by in-

9. Id.
10. Id.
termediaries who have sought to avoid damages.\textsuperscript{12}

"As a result, the Board and its predecessor have also long recognized the important role the agency plays in enabling the collection of demurrage charges. In the mid-1970s, for example, the ICC explored revisions to its regulations aimed at ensuring that demurrage charges were collected from the responsible parties."\textsuperscript{13} "As the ICC explained, we cannot ignore the fact that if carriers habitually fail to assess or collect demurrage charges or detention fees, an important economic incentive for shippers and consignees promptly to release cars is destroyed."\textsuperscript{14} As explained below, after two recent court decisions, the Board cannot ignore that the two goals of Section 10746 are being circumvented by a regulatory or demurrage gap that prevents railroads from collecting demurrage from certain key participants in the rail transportation chain.

1. Norfolk Southern Railway Co. v. Groves

In \textit{Norfolk Southern Ry. Co. v. Groves}, the United States Court of Appeals for the Eleventh Circuit considered whether a warehouseman was liable for demurrage charges assessed by Norfolk Southern for the warehouseman's delay in unloading and returning railcars to the railroad.\textsuperscript{15} Norfolk Southern was instructed by the shippers\textsuperscript{16} in that case to deliver loaded railcars to a designated intermediary, known as Savannah Re-Load.\textsuperscript{17} That receiver was at times listed on the bill of lading as the "consignee," at times as the "care of" party, and at times in other ways –

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{12} International Warehouse Logistics Association Comments on the Surface Transportation Board Decision on Demurrage Liability, at 2 (Jan 21, 2011) ("[T]here is a purpose for demurrage," which "contribute[s] towards making [the transportation system] more efficient."); Reply Comments of Norfolk So. Ry. Co., at 7 (May 20, 2011) (citing Savannah Re-Load Comments: "[D]emurrage serves a dual role of compensating car owners for the use of their equipment and encouraging prompt return of railcars into the transportation network . . . [with] this latter goal ensuring the smooth functioning of the rail system.").
\item \textsuperscript{13} Opening Comments of Norfolk So. Ry. Co., at 10 (March 7, 2011).
\item \textsuperscript{14} \textit{Id.}
\item \textsuperscript{15} Norfolk S. Ry. Co. v. Groves, 586 F.3d 1273, 1275 (11th Cir. 2009), \textit{cert denied}, 131 S. Ct. 993 (2011).
\item \textsuperscript{16} \textit{Id.} As used here, the term "shippers" refers to the party who tendered the freight to the railroad and was responsible for paying for the freight.
\item \textsuperscript{17} \textit{Id.}
\end{enumerate}
\end{footnotesize}
but Norfolk Southern did not participate in that designation. Because Norfolk Southern was not a party to any agreement between the shippers and Savannah Re-Load, Norfolk Southern lacked any knowledge of the legal relationships—if any—between Savannah Re-Load and the shipper, or between Savannah Re-Load and the freight itself. What Norfolk Southern knew was that (1) 49 U.S.C. § 10746 commands railroads to establish and apply demurrage charges in a way that promotes freight car use and distribution and helps maintain an adequate supply of freight cars to be available for transportation of property; (2) Savannah Re-Load accepted those railcars; and (3) Savannah Re-Load’s conduct caused delays that resulted in railcars being unavailable for an extended period of time for other loads of freight. Nonetheless, Norfolk Southern was unable to collect demurrage charges from Savannah Re-Load because the Eleventh Circuit concluded that, despite the receiver having been listed as the consignee for many of the shipments, Norfolk Southern had not established any contractual basis for collecting demurrage from Savannah Re-Load.

The Groves court began by noting that “[b]efore such transportation-related assessments such as detention charges can be imposed on a party . . . there must be some legal foundation for such liability outside the mere fact of handling the goods shipped.” The demurrage charges could “be imposed only against a consignor, consignee, or owner of the property, or others by statute, contract, or prevailing custom.”

The court then stated that a “consignee is the party designated to receive a shipment of goods. But, consignee status is more than a mere designation.” The court described how the term consignee takes on a legal significance by creating a quasi-contract between the railroad and the party named consignee. Quoting a prior state court case, the court wrote that “[a]lthough a consignee’s liability may rest upon quasi-contract, a party’s status as consignee is a matter of contract and must be established as such.” The court then followed contract law to the con-

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18. Id. at 1276.
19. Id. at 1280.
20. Id. at 1276.
21. Id. at 1277.
22. See generally id. at 1276.
23. See generally id. at 1282.
24. Id. at 1278 (quoting Middle Atl. Conference v. United States, 353 F. Supp. 1109, 1118 (D.D.C. 1972) (three-judge panel)).
25. Id.
26. Groves, 586 F.3d at 1281.
27. Id.
clusion that "there must be a meeting of the minds between the parties" on all essential terms and obligations of the contract. Furthermore, the court reminded that "a third-party cannot be bound by a contract to which it was not a party." The court's conclusion was that Savannah was not a consignee, and thus not liable for demurrage charges. Savannah did not agree to be named as consignee on the bills of lading between Norfolk and the various shippers, and was not aware of its designation as such. Savannah cannot be made a party to shipping contracts without its consent or notice of such.

In summary, although Norfolk Southern played no role in naming Savannah Re-Load the consignee and had no way to indentify whether Savannah Re-Load had consented to the shipper naming it as consignee, Norfolk Southern and the efficiency of the national rail system suffered the consequences of the court's ruling. In addition, Norfolk Southern could not collect demurrage from any other party because it did not know who any other party involved with the shipment was. Indeed, such parties often are foreign entities. Thus, the efficiency of the national railcar supply was undermined.

2. CSX Transportation v. Novolog Bucks County

In Novolog, the United States Court of Appeals for the Third Circuit also examined the liability of intermediaries for demurrage charges. The intermediary objected to the assessment of demurrage and argued that "it could not be subjected to charges under an agreement-namely, the transportation contract-to which it was not a party." Accordingly, the issue before the court was whether an intermediary can become subject to liability for demurrage charges by being listed as the consignee in a bill of lading and accepting delivery of the freight listed therein, even if it does not have a beneficial interest in the freight and has not authorized the shipper or the carrier to list it as the consignee.

The court began its substantive discussion of the issue by reciting two principles. The first was that "liability for freight charges, including demurrage charges, may be imposed against a consignor, consignee, or

29. Id.
30. Id. at 1281-82.
31. Groves, 586 F.3d at 1282; but see Payment of Detention Charges, Eastern Central States, 335 I.C.C. 537, 545 (1969) (Bush, dissenting)(stating that warehousemen who do not avail themselves of Section 233 of the Interstate Commerce Act — which provided a process for them to avoid liability as an agent similar to Section 10743 — are parties to the transportation contract when named in the bills of lading as receivers of freight).
33. Id.
34. Id. at 254.
owner of the property, or on others by statute, contract, or prevailing custom.”

Second, “the consignee becomes a party to the transportation contract, and is therefore bound by it, upon accepting the freight; thus it is subject to liability for transportation charges even in the absence of a separate contractual agreement or relevant statutory provision.”

To resolve the matter, the Novolog court looked to another statutory provision. The court concluded that Novolog had been named “consignee” and had not availed itself of 49 U.S.C. § 10743. The court determined that Section 10743 provided the escape hatch for a party improperly named consignee or named consignee without its consent. Accordingly, the court held that “recipients of freight who are named as consignees on bills of lading are subject to liability for demurrage charges arising after they accept delivery unless they act as agents of another and comply with the notification procedures established in ICCTA’s consignee-agent liability provision, 49 U.S.C. § 10743(a)(1).”

Whereas the Groves court absolved from liability an exception for an intermediary that claimed that it did not consent to being named the consignee, the Novolog court concluded that

[T]o hold, as Novolog asks us to do, that the designation in the relevant bills of lading should not be given effect without some further evidence of consent or involvement would also frustrate the plain intent of Section 10743, which is to facilitate the effective assessment of charges by establishing clear rules for liability.

3. Surface Transportation Board Advance Notice of Proposed Rulemaking

While the appeal from the Eleventh Circuit was pending at the United States Supreme Court, the Board issued a notice of proposed rulemaking to reexamine the demurrage regime. In its Ex Parte 707

35. Id.

36. Novolog, 502 F.3d at 254-55 (citing Louisville & Nashville Ry. Co. v. Central Iron & Coal Co., 265 U.S. 59, 70, 44 S. Ct. 441, 68 L. Ed. 900 (1924) (“if a shipment is accepted, the consignee becomes liable, as a matter of law, for the full amount of the freight charges, whether they are demanded at the time of delivery, or not until later”); Erie R. Co. v. Waite, 62 Misc. 372, 114 N.Y.S. 1115 (1909) (demurrage may be imposed upon consignees independently of statute or express contract); Gage v. Morse, 94 Mass. 410, 12 Allen 410, 90 Am. Dec. 155 (Mass. 1866) (“[i]f the consignee will take the goods, he adopts the contract”)).

37. Novolog, 502 F.3d at 259.

38. Id. at 254.

39. Id. at 258; see 49 U.S.C. § 10743 (2006) (“gives written notice to the delivering carrier before delivery of the property - (A) of the agency and absence of beneficial title; and (B) of the name and address of the beneficial owner of the property if it is reconsigned or diverted to a place other than the place specified in the original bill of lading.”) (emphasis added).

40. Demurrage Liability, supra note 8.
decision, the Board attempted to summarize what it thought the state of the law had become:

Notwithstanding the usual common-law liability (for both freight charges and demurrage) of a consignee that accepted delivery, the issue was more complicated for warehousemen, who typically are not "owners" of the property being shipped. The law became well accepted that, for a warehouseman to be subject to demurrage or detention charges, there had to be some other basis for liability outside the mere fact of handling the goods shipped. And what became the most important "other basis" was whether the warehouseman was shown as the consignee on the bill of lading. Thus, our predecessor, the [ICC], held that a tariff may not lawfully assess such charges on a warehouseman who is not the beneficial owner of the freight, who is not named as a consignor or consignee in the bill of lading, and who is not otherwise party to the contract of transportation, "e.g., a warehouseman who receives the freight pursuant to an 'in care of' designation."41

Even this summary of the state of the law highlights how disconnected the current regime has become from the goals of the statute and reality.

First, why does a designation made by a non-railroad determine whether the railroad can collect demurrage to "fulfill" the goals of Section 10746?

Second, should acceptance of the cars directly from the railroad be a sufficient act to create a legal relationship between the railroad and the intermediary whose business is dependent on its voluntary participation in the rail system?42

Third, does the rule that prevents a railroad from collecting demurrage charges from an intermediary "who is not the beneficial owner of the freight, who is not named as a consignor or consignee in the bill of lading, and who is not otherwise party to the contract of transportation"43 make any sense in the modern world where receivers who accept railcars have easy access to demurrage tariffs via the Internet and cannot deny that they are participants in the rail transportation system?

Fourth, what basis might be applicable for making demurrage apply to all parties who send, receive, load, unload, handle, or otherwise take possession of railcars?44

41. Id. (citing see, e.g., Smokeless Fuel Co. v. Norfolk & W. Ry., 85 I.C.C. 395, 401 (1923)) (footnotes omitted).
42. The term "voluntary" is appropriate here because there is no legal requirement that a warehouseman or other intermediary participate in that line of business or interact with the rail network.
43. Demurrage Liability, supra note 8.
44. Id.; Evans Prods. Co. v. Interstate Commerce Comm'n, 729 F.2d 1107, 1113 (7th Cir.
Fifth, how can the statutory goals be met when the regime permits some participants in the rail transportation system to avoid demurrage because they fall in the demurrage gap that the Groves and Novolog decisions highlighted and expanded?

4. “Consignee” and “Care of Party”—Why Those Designations Should Not Matter

As shown by the Board’s summary of what it sees as the state of the law and the most recent cases, these designations have an inflated importance. The Board’s description emphasizes that how the receiver of the railcar is listed by the shipper is what matters most. In the simplest case, demurrage is assessed on the “consignor” for delays at origin and on the party named the “consignee” on the bill of lading “for delays at destination.” The Board notes that a party designated by the shipper as an “in care of party” is not liable for demurrage even if it is the only party to handle the railcars on the receiving end of the shipment. Like the Board, the Novolog and Groves courts both start the analysis with how the receiver was listed by the shipper in the bill of lading.

For purposes of advancing the twin goals of Section 10746, these terms are a fiction. The common law has established that the description of the receiver as the “consignee” by the shipper is essentially a prerequisite to establishing a legal relationship between the railroad and an inter-


45. Demurrage Liability, supra at note 8.

46. Id.

47. “The ‘in care of’ designation refers to the principle of agency law under which a consignee—although presumed to be an owner generally liable for freight charges upon acceptance of goods—could be relieved of such liability if the carrier were made aware that the receiver of the goods was accepting the goods only as an agent for the actual owner,” which is a concept reflected today in Section 10743. Demurrage Liability, supra at note 8. As happened with Savannah Re-Load in the Groves case, a shipper can designate an intermediary, such as a warehouseman, either a “consignee” or an “in care of party” on different shipments. Groves, 586 F.3d at 1276.

48. Other cases also start with the designation. See Ill. Cent. R.R. Co. v. S. Tec Dev. Warehouse, 337 F.3d 813, 821 (7th Cir. 2003) (“Being listed by third parties as a consignee on some bills of lading is not alone enough to make South Tec a legal consignee liable for demurrage charges, although it, coupled with other factors, might be enough to render South Tec a consignee.”); Union Pac. R.R. Co. v. Carry Transit, Inc., No. 3:04-CV-1095B, 2005 U.S. Dist. LEXIS 45568, at *14 (N.D. Tex. Oct. 27, 2005) (“The Court agrees with the principle enunciated in Matson and CSX that a party’s (here, the shippers’) unilateral decision to name a non-party to the transportation contract (here, Carry Transit) as a consignee without its consent does not render the non-party a consignee liable for demurrage charges.”) (citing CSX Transp., Inc. v. City of Pensacola, Fla., 936 F.Supp. 880, 884 (N.D. Fla. 1995); S. Pac. Transp. Co., 383 F.Supp. at 157.
mediary. Apparently, it stems from the fact that the consignee becomes liable for freight charges by accepting the shipment or from the fact that the consignee may have an ownership interest in the shipment. However, neither of those facts—being designated "consignee" by the consignor or owning the goods in the railcar—creates any more of a legal relationship between the receiver of the railcar and the railroad than the act of accepting the railcars. Indeed, the railroad does not make the designation and likely does not know who owns the goods in the railcar. The obvious act that creates any relationship between the railroad and any receiver (absent an express contract between them) is the receiver's acceptance of the railcar when delivered by the railroad.

The reliance on these terms evolved then from two early lines of cases. The first line of cases focused the legal analysis on whether the demurrage charges were akin to transportation charges. These cases concluded that demurrage charges are part of the total transportation cost, and accordingly, demurrage charges could be assessed against the shipper or consignee. The early cases that started this line of reasoning implicated the scope of the ICC's power (sometimes relative to a state commission)—finding demurrage to be part of the transportation meant the ICC had the power to regulate or had exclusive jurisdiction over an issue presented.

The second line of cases arose in the context of whether steamship companies could be liable for demurrage charges assessed by railroads. Essentially, these cases were trying to determine whether one transportation company could charge another transportation company for demurrage. Those cases held that the consignee could not avoid liability for the demurrage charges. Relying on these two lines of cases, it seems that the common law then inflated the importance of who was consignee

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49. *Carry Transit*, 2005 U.S. Dist. LEXIS 45568 at *8 (citing *South Tec*, 337 F.3d at 820). Of course, an express contract between the railroad and the intermediary could also establish liability for demurrage.

50. *Novolog*, 502 F.3d at 254-55; see *Cent. Iron & Coal*, 265 U.S. at 70 ("[i]f a shipment is accepted, the consignee becomes liable, as a matter of law, for the full amount of the freight charges, whether they are demanded at the time of delivery, or not until later"); *Morse*, 94 Mass. (12 Allen) at 411, (1866) ("[i]f the consignee will take the goods, he adopts the contract").


53. See, e.g., *Cent. R.R. Co. of N.J. v. Anchor Line*, 219 F. 716, 717 (2d Cir. 1914); *N.Y. Bd. of Trade and Transp. v. Dir. Gen.*, *Cent. R.R. Co. of N.J.*, 59 I.C.C. 205, 209 (1920) (affirming that consignee is liable for demurrage even if caused by the steamship company, which was an agent of the consignee).
which later evolved into an inquiry of whether the receiver was listed as the “consignee” by a third party in a bill of lading.

However, a third line of cases focused on the fact that the consignee was the receiver of the shipment. In one case, the ICC went so far as to describe the obligations thusly:

[I]t is the duty of the railroad to deliver freight to its destination and there deliver it to the consignee; that it is the duty of the consignee to receive such freight with a reasonable time, and that if he neglects to do so the liability of the railroad as a common carrier ceases and it becomes a warehouseman.”

In a 1905 case, the ICC said the railroad “is under no legal liability to continue to discharge the duty of a warehouseman but may insist that the consignee shall receive and remove [from the railcar] his freight.” Similar to these ICC cases, in 1920, the Supreme Court stated the rationale behind demurrage when it said, “[t]he purpose of demurrage charges is to promote car efficiency by penalizing undue detention of cars.” The Court then noted that the “duty of loading and of unloading carload shipments rests upon the shipper or consignee.” Here the link is between who has the duty to load and unload a car—who actually touches the car—and the effectiveness of the demurrage system. In both instances the ICC and the Court arguably use the term consignee to mean only receiver or party entitled to receive the freight because what mattered was the consignee was the party “unloading” the railcar.

In these cases, the characterization of the consignee as the receiver is consistent with the Black’s Law definition of consignee. A consignee is “one to whom a consignment is made.” The term consignment means “the transportation of goods consigned.” Therefore, the consignee is the one to whom goods are transported. In the rail context, goods are transported to the receiver. And from the perspective of the railroad that moves cars to a destination, the receiver is the one who accepts the railcar—regardless of how others designate it.

This third line of cases also was moored more securely to the efficiency and car supply rationales underlying demurrage charges. Early

57. Id.
ICC cases examining demurrage charges also used the term consignee. But their focus was on the party whose failure to unload the railcar timely was an "inconvenience to the public." Because the cases involved situations where the railcar was being used as the warehouse, the issue of intermediaries did not arise squarely. The focus was nevertheless clear: "[t]he public needs will be best subserved by compelling the prompt unloading of cars upon arrival at destination." These cases, like Section 10746, are concerned about the railcar as an instrument of conveyance.

The current rail system and regulatory regime do not support the continued reliance on how the receiver is designated. There are simply more actors in the transportation chain. One commenter described this evolution:

[T]he traditional structure or transportation role of service providers is disappearing or has disappeared. The transportation market between an asset-based direct transportation provider and the beneficial owner of goods who wants to sell them to an ultimate consumer is now very fluid. Intermediaries have generally interjected themselves into this historically simple economic relationship. The parties to each such comprehensive transportation transaction are no longer the consignor, carrier, and consignee where the economic relationships were defined by a single bill of lading. The market is now known as the supply chain and each movement in the supply chain can have a number of different actors functioning in different interlocking capacities depending upon perceived economic benefits that will accrue to each actor.

In a filing at the Board, a warehouseman similarly described the relationship today between intermediaries and the rail system.

Product that moves in and out of a third-party warehouse depends on an integrated freight delivery system. The warehouse-based third-party logistics industry depends on rail as one mode for goods movement. The industry is fully integrated into the national rail system, heavily reliant on both intermodal and box car moves.

A return to the third line of cases is needed. These cases advanced the goals of demurrage and recognized that the receiver of the freight cars is the party that affects those goals. Reliance on third party designa-

tions in a bill of lading has created the opportunity for parties to undermine the national goals in Section 10746. After Groves, at least in the Eleventh Circuit, the railroad may not even rely on the fact that an intermediary was listed as the “consignee” because the case held that the named consignee is liable for demurrage only if it at least knew that it had been—and maybe even needed to assent to being—designated by the shipper as the “consignee.” A practical problem with the Groves decision is that an intermediary can always claim it did not know the shipper designated it as the “consignee,” and it is often hard for a railroad to prove otherwise—short of discovery through litigation.

Section 10746 requires railroads to establish demurrage rules to fulfill the twin national goals. But the railroads cannot fulfill this requirement when the system for determining liability turns on how a third-party designates the receiver’s status. The railroad does not participate in designating a party as the “consignee” or “care of party.” Moreover, the intermediary’s relationships, if any, with the shipper or owner of the freight—and the intermediary’s ownership interest in the freight itself—are irrelevant to the efficiency-based goals of demurrage. The connection between the railroad and the intermediary is only in the physical act of delivering and accepting the railcars.

5. Acceptance of Railcars Is Objectively Determinable and What Matters for Fulfilling the Statutory Goals

Acceptance of railcars does not turn on terminology that attaches to a party because of a label applied by a third-party. The Novolog court noted that one of the often-repeated principles was “that the consignee becomes a party to the transportation contract, and is therefore bound by it, upon accepting the freight; thus, it is subject to liability for transportation charges even in the absence of a separate contractual agreement or relevant statutory provision.” But, being named by a third-party as “consignee” adds nothing to the relationship between the railroad and the intermediary. But, being named by a third-party as “consignee” adds nothing to the relationship between the railroad and the intermediary. Being the party that unloads the freight is what mattered to the Supreme Court in 1920 and is what should matter today.

66. CSX Transp. v. Novolog Bucks Cnty., 502 F.3d 247, 254-55 (3rd Cir. 2007); see Cent. Iron & Coal, 265 U.S. at 70 (“If a shipment is accepted, the consignee becomes liable, as a matter of law, for the full amount of the freight charges, whether they are demanded at the time of delivery, or not until later”); Morse, 94 Mass. (12 Allen) at 411, (1866) (“If the consignee will take the goods, he adopts the contract”).
Who received and handled the railcars can be objectively determined; the party that receives and handles the railcars cannot deny knowing that it is receiving and handling the railcars. A further examination of the Groves and Novolog decisions reinforces the need for a standard that is not based on some designation in which the railroad does not participate. In particular, given the importance the Groves court appears to attach to the existence of a "meeting of the minds between the parties,\textsuperscript{68} there is uncertainty whether an intermediary who is aware of its designation could still escape liability merely by asserting that it \textit{did not agree} to become a "consignee" and thereby assume liability for demurrage.\textsuperscript{69} Groves also suggests that the railroad might be required in such cases to offer proof that the intermediary was in fact the true "consignee," not someone merely misidentified as such on the bill of lading.\textsuperscript{70}

This ruling could considerably undermine demurrage. Absent discovery against the intermediary in a legal proceeding,\textsuperscript{71} the only basis for the railroad's knowledge regarding the intermediary receiver's role and legal relationships with the shipper or owner of the freight typically is the bill of lading submitted to the railroad. No litigation and no discovery are needed, however, to know who the railroad and the receiver of the railcar are.

"Demurrage seeks to compensate railroads for the use of the railcar, and to encourage rapid return of the railcar to the network."\textsuperscript{72} "Once a carrier has delivered a railcar to an intermediary—and even before that when the receiver is notified that the railcar is available for delivery—the intermediary is the party who has control over the efficient handling of the railcar."\textsuperscript{73} "To achieve Congress's goals for the system of demurrage that carriers are required to implement, such charges should be assessed

\textsuperscript{68} Norfolk S. Ry. Co. v. Groves, 586 F.3d 1273, 1281 (11th Cir. 2009), cert. denied, 131 S. Ct. 993 (2011).

\textsuperscript{69} Id. at 1282 ("Thus, a party must assent to being named as a consignee on the bill of lading to be held liable as such, or at the least, be given notice that it is being named as a consignee in order that it might object or act accordingly.").

\textsuperscript{70} Id. at 1280-81. Further complicating the potential issues created by Groves are arguments by intermediaries to the effect that they cannot be true "consignees" unless they have a beneficial ownership interest in the freight. These arguments draw force from the historic role played by the bill of lading as a receipt for the freight itself. One step the Board could take to help reduce the burdens carriers face in collecting demurrage would be to clarify that, in the modern transportation world, a "consignee" is the designated receiver of the freight regardless of its ownership interest in that freight.

\textsuperscript{71} Id. at 1281 (alluding to the potential for proving consignee status using "interrogatories or deposition testimony.").

\textsuperscript{72} Surface Transp. Bd., Ex Parte No. 707, Opening Comments of Norfolk Southern Railway Company (2011), available at http://www.stb.dot.gov/filings/all.nsf/6084f194b67ca1c4852567d9005751dc/e0f1ee66c3fbb7f8525784c00783893/$FILE/228957.PDF.

\textsuperscript{73} Id.
against all those who are responsible for ‘return[ing] freight cars to the system.’”74 The Groves rule75—however interpreted and applied—undermines the national need for demurrage because it gives the party who has actual control of the railcar a potential avenue for avoiding demurrage by claiming ignorance or lack of assent.

6. In the Modern World, Receivers Cannot Claim That They Could Not Know the Terms of Participating in the National Transportation System By Accepting Cars from a Railroad

Intermediary receivers cannot—and do not—dispute that they are participants in the rail transportation system.76 They know that they receive railcars. They know the identity of the railroad that delivers those cars to them. They know how to contact that railroad to order cars for the railroad for delivery to their facilities.

Moreover, the demurrage rules established by railroads pursuant to Section 10746 are well known. As required by federal law, they are publicly available on the Internet.77 In many instances, those rules are listed or at least referenced in documents exchanged between the railroad and the intermediary receiver.78 Therefore, when an intermediary receiver accepts cars from a railroad, it is well aware of the applicable terms of participating in the national transportation system, which would include liability for demurrage. Any attempt by the intermediary receiver to claim otherwise is simply a ruse to avoid payment.

74. Id.
77. 49 U.S.C. § 10746.
78. Demurrage rules will usually be an express condition in the contract. Absent an express condition, demurrage rules will be included in the conditions of carriage document. This document is mandated by 49 U.S.C. § 11011(b) (2006) to be publicly available as it is a tariff document. Intermediaries have access to this document and the included demurrage rules that apply to the applicable shipment of goods.
Courts have held that there are other bases for imposing demurrage liability. In *Evans Prods. Co. v. Interstate Commerce Commission*, the Seventh Circuit held that “[l]iability for freight charges may be imposed only against a consignor, consignee, or owner of the property, or others by statute, contract, or prevailing custom.”79 *Evans* was clear that liability could arise by statute.80 Indeed, the *Groves* court quoted this very sentence.81 However, the *Groves* court then ignored the applicable statute – Section 10746;82 relying instead on *Middle Atlantic*.83

*Middle Atlantic* is the case often cited in the modern era as establishing the rules for demurrage.84 “Before such transportation-related assessments as detention charges can be imposed on a party on a prescribed basis there must be some legal foundation for such liability outside the mere fact of handling the goods shipped.”85 However, the case *Middle Atlantic* cites for support is *Smokeless Fuel Company v. Norfolk & Western Railway Company*, which does not stand for this proposition.86 In that case, the railroad and shippers of coal to Lamberts Point entered into an agreement to create the Lamberts Point Coal Exchange.87 That agreement specifically stated the shippers would be responsible for demurrage on coal cars.88 Thus, when the shippers argued the Exchange should be liable for demurrage, the Commission held that the Exchange could not be liable under the agreement.89 Thus, *Middle Atlantic* did not address what was required for an intermediary receiver to become liable for demurrage.

Moreover, *Middle Atlantic* arose in the trucking industry.90 Cases
which address other industries, such as trucking, that do not have a statute that governs demurrage, are also of little use. Even after the adoption of the statutory provision in the 4R Act,\(^1\) the ICC continued to rely on its own case law from the motor carrier world regarding liability for demurrage. For example, in Middle Atlantic, the court reviewed the application of detention charges by truckers.\(^2\) The court held that it agreed with the ICC’s determination “that the proposed tariff was unlawful insofar as it attempted to impose liability for demurrage charges upon an agent who was not a party to the contract of transportation. This finding of unlawfulness was adequately supported by the history of demurrage, the common law and ICC precedent.”\(^3\) However, there was no analogous statute in the trucking world.

Finally, Middle Atlantic, which was decided in 1972, was decided before the enactment of Section 10746.\(^4\) Its relevance is therefore further undermined. The ICC had statutory power to establish a process for enhancing car supply in emergencies pursuant to the Esch Car Service Act of 1917.\(^5\) Under the provisions of that Act, the ICC could act “(a) to suspend . . . rules, regulations, or practices then established with respect to car service” and “(b) to make . . . directions with respect to car service . . . during such emergency as . . . will best promote . . . service . . . [and provide compensation as between carriers].”\(^6\) This ICC regulatory power over demurrage charges was changed by the enactment of the Rail Revitalization and Reform Act of 1976 (“4-R Act”),\(^7\) which added the following provision as Section 10750 to the Interstate Commerce Act:

 Demurrage charges shall be computed, and rules and regulations relating to such charges shall be established, in such a manner as to fulfill the national needs with respect to (a) freight car utilization and distribution, and (b) maintenance of an adequate freight car supply available for transportation of property.\(^8\)

That section exists today as Section 10746; however, the introductory language was changed to command railroads to establish demurrage charges.

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92. Middle Atl., 353 F. Supp. at 1113.
93. Id.
95. I.C.C. v. Or. Pac. Indus., 420 U.S. 184, 190-91 (1975). Prior to the Esch Act, national demurrage rules were adopted by a commission and ratified by the ICC. The provisions provided that “[c]ars held for or by consignors or consignees for loading, unloading, forwarding directions, or for any other purpose, are subject to these demurrage rules, except as follows . . . .” Procter & Gamble Co. v. United States, 225 U.S. 282, 286 (1912).
97. Atchison, Topeka & Santa Fe Ry. Co. v. I. C. C., 687 F.2d 912, 915 (7th Cir. 1982).
This legislative evolution is significant. First, cases that address demurrage prior to the enactment of the 4-R Act and that undermine this statute are likely of little continuing relevance. One court has observed that the policy that an entity that is not party to the contract of transportation over the rail lines and cannot be held liable by the rail carrier for demurrage goes back to the 1920's. Even with the statutory addition of the 4R Act, courts and the agency have continued to cite Middle Atlantic and other pre-Act cases as the applicable precedent.

What changed after Middle Atlantic held that “but where they have not become contractually obligated to pay demurrage because common law principles exonerate them from liability, and they are not made liable by statute or custom, liability cannot then be imposed upon them legislatively through the device of a tariff” Congress enacted Section 10746 in the 4R Act.

Section 10746 is agnostic as to who pays demurrage. It does not use the words “consignee” or “in care of party” because those terms have no bearing on the goals of the section. That section seeks the twin goals of efficient use and distribution of freight cars and maintenance of an adequate supply of freight cars, which can only result from the party who actually sends, receives, loads, unloads, handles, or otherwise take possession of railcars being subject to the incentives created by the demurrage system. The attempt to perpetuate the common law, as it existed prior to the adoption of the rail demurrage provision of the 4-R Act, has led to distorted results that undermine these twin goals.

In essence, the adoption of Section 10746 has been ignored by the agency and the courts. The continued reliance on cases decided prior to enactment and on cases arising in contexts where there was no applicable statute should be readily distinguished. Whereas the Novolog court at least acknowledged that Congress adopted Section 10746, most courts

99. See 49 U.S.C. § 10746. The introductory language was changed to expressly give railroads the power to establish demurrage rules. Several other minor changes were made as well. The phrase “in a manner” was changed to “in a way” and the word “utilization” was changed to “use.” The legislative history reflects the belief of some that these changes were non-substantive.
104. Id.
have ignored it. They fail to even cite it. Instead they try to extrapolate from Middle Atlantic, which: (1) invented a principle by misunderstanding a prior ICC case; (2) arose from a different industry and context; and (3) predated the statute. Thus, the law has evolved by ignoring Section 10746 and its purpose and blindly following Middle Atlantic.

The Board has the power to interpret and to establish the parameters of Section 10746. This section can and should serve as an independent basis for establishing that the party which actually handles the railcars is liable for demurrage charges. Absent Board action, there is precedent in various courts on which intermediaries can claim that they are not the consignee because (1) they were named by the shipper without knowledge; (2) they were named by the shipper without their assent or consent; (3) they were only made consignee by the railroad’s tariff; or (4) they were not made consignee by their acceptance of the railcar. The potential that these arguments could continue to prevail in some courts further illustrates the demurrage gap and the potential for balkanization of the demurrage regime.

Some might argue that Section 10746 does not expressly impose liability on any particular party and therefore cannot be the basis for the intermediary’s liability for demurrage. But: (1) the statute’s aim is efficient car utilization; (2) only those who actually handle the railcars can affect that utilization; (3) the railroad is uninvolved and often unaware of how the intermediary that actually accepts receipt of railcars has been named by the shipper without knowledge, consent, or assent; or (4) they were not made consignee by their acceptance of the railcar.

106. See, e.g., Union Pac. R.R. Corp. v. Ametek, 104 F.3d 558 (3rd Cir. 1997).
107. See supra text accompanying notes 102-03.
109. Chevron, U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 842-44 (1984). Because the issue has not been expressly presented to Congress repeatedly, the Board does not face the congressional ratification exception to the Chevron doctrine.
110. See, e.g., Groves, 586 F.3d at 1282.
111. See, e.g., id.; Union Pac. R.R. Co. v. Carry Transit, Inc., No. 3:04-CV-1095B, 2005 U.S. Dist. LEXIS 45568, at *14 (N.D. Tex. Oct. 27, 2005) (“The Court agrees with the principle enunciated in Masson and CSX that a party’s (here, the shippers’) unilateral decision to name a non-party to the transportation contract (here, Carry Transit) as a consignee without its consent does not render the non-party a consignee liable for demurrage charges.”).
114. Ill. Cent. R.R. Co. v. S. Tec Dev. Warehouse, Inc., 337 F.3d 813, 820 (7th Cir. 2003) (“The IC has not indicated any applicable statute holding non-consignees responsible for demurrage charges.”). Although in this case, it is difficult to tell from the decision whether Section 10746 was presented to the court at all.
designated by the shipper; and (4) there is no more of a relationship created between railroad and intermediary than the act of delivering and exchanging possession of the railcar. Interestingly, these are the themes relied upon in the third line of cases. Between the absence of any mandate of who should pay demurrage and the statute's insistence on a system that generates efficient car utilization for the national good, it certainly implies that the system should place liability on those whose actions most directly affect the achievement of the statute's twin goals. Under the *Chevron* doctrine, "if the statute is silent . . . with respect to the specific issue, the question . . . is whether the agency's answer is based on a permissible construction of the statute."  

Certainly, a construction that makes the receiver of the car liable for demurrage would advance the twin goals and would be consistent with the expert agency's understanding of how the national rail system works.

Assuming the statute itself is insufficient and the Board does not establish the parameters of Section 10746, then the courts may decide to continue to rely on contract law. The *Middle Atlantic* court observed that "[t]he adjudicated cases do not require that there be a specific contract to pay demurrage but it must arise out of contract."  

Contracts come into existence in several ways. One such way is through acceptance by performance. The act of accepting railcars from a railroad whose identity is known and whose terms are required by law to be public and often have been provided to the intermediary should be viewed by the Board and the courts as the creation of a contract.

In sum, between the express language of the statute and a closer look at the relationship between the railroad and the intermediary receiver in the modern world, there is more than an adequate legal basis for making the intermediary liable for demurrage.

II. PRACTICAL APPLICATION AND RECOMMENDATIONS

A. The Existing Demurrage Gap Undermines the Twin National Policy Goals of Section 10746

To function in a way that serves the purposes of the statute, demurrage rules must apply to all parties whose conduct with respect to the

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117. 17A AM. JUR. 2D Contracts § 96 (2012).
119. The other legal relationship to which the railroad is a party is with the shipper. The railroad and the shipper have a contractual relationship by virtue of a bilateral contract for the transportation of goods or by virtue of the shipper tendering traffic for transportation pursuant to the rates and terms of service published by the railroad. Union Pac. R.R. Co. v. Carry Transit, Inc., No. 3:04-CV-1095B, 2005 U.S. Dist. LEXIS 45568, at *14 (N.D. Tex. Oct. 27, 2005).
Demurrage Case Law Undermining the Statute

physical handling of railcars might undermine the “efficient use and distribution” of those cars. The “national needs” that motivated Congress to mandate the collection of demurrage are not served if parties who bear responsibility for the inefficient handling of freight cars can escape responsibility for demurrage charges. Under the present common law and its reliance on how the receiver was designated and whether the receiver knew of (or assented to) the designation undermine those needs.

As the ICC explained, “we cannot ignore the fact that if carriers habitually fail to assess or collect demurrage charges and detention charges, an important economic incentive for shippers and consignees promptly to release cars is destroyed.” The present rules create a situation in which that economic incentive is regularly destroyed. Some cases, such as Groves, regarding whether a railroad can collect the demurrage charges, make it into the public arena whereas others do not because the railroads simply abandon the effort to collect. However, the Groves and Novolog cases have highlighted and expanded a systematic flaw in the law that can result in habitual failures to collect demurrage from intermediary receivers.

For example, whenever the receiver—the party that actually handles the railcars—is listed as the “care of party,” the railroad is unable to collect demurrage. The “care of party” says the railroad cannot collect from them because of the designation and the owner of the freight—to the extent the railroad even knows who that is—claims the railroad cannot collect from it because it did not handle the railcars. In Groves, for example, the rail shipments Norfolk Southern delivered to Savannah Re-Load’s facility typically were unloaded there and subsequently placed on oceangoing vessels bound for overseas ports of call. When Savannah Re-Load was a “care of” party, the owners of the freight often were foreign firms (located in such distant lands as Jeddah, Saudi Arabia) whose only contractual relationships were presumably with the shipper, and perhaps also Savannah Re-Load, but certainly not directly with Norfolk

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124. Groves, 586 F.3d at 1275.
B. THE BOARD MUST ACT AGGRESSIVELY TO FILL THE DEMURRAGE GAP

The Board’s responsibility to establish effective demurrage principles is underscored by the fact that the United States, represented in part by the Board’s counsel, urged the Supreme Court to deny certiorari in Groves on the basis that the Board would be establishing “a default rule (or rules), in the first instance, for demurrage liability,” including through the reexamination of old regulatory precedent. The Board’s counsel joined the Solicitor General (on behalf of the United States) in advising the Court to decline review in Groves because an Board proceeding offered a superior forum for addressing the problem posed by Groves, and potentially establishing “a default rule (or rules) . . . for demurrage liability.” It noted that the Board had already started a proceeding and reminded the Court of the Board’s “longstanding legal and practical expertise in demurrage matters”; its ability to reconsider old administrative precedent; and its ability to adopt, in this proceeding, a solution that could be adapted to evolving market conditions. This position before the Supreme Court, which extinguished Norfolk Southern’s effort to close the loophole that was highlighted and expanded by the Eleventh Circuit’s misguided decision, magnifies the Board’s responsibility to close the regulatory gap that prevents the achievement of the goals in 49 U.S.C. § 10746.

It should not be much of a stretch for the Board to act decisively. In several decisions, the Board has been clearer about what the state of the law should be; courts have simply not heard the message. When the Board examined whether to exempt demurrage from regulation, it did not speak in the foreign language of consignees, consignors, and in care of parties. It spoke in terms of shippers and receivers and the charges they would have to pay “because they must keep the cars for some period of time before they can load or unload them.” In this 1996 decision, the Board seemed to encourage a return to the first line of cases and to a system that can achieve the twin goals of the statute.

125. SURFACE TRANSP. BD., Ex Parte No. 707, OPENING COMMENTS OF NORFOLK SOUTHERN RAILWAY COMPANY (2011), available at http://www.stb.dot.gov/filings/all.nsf/6084f194b67ca1c4852567d9005751dc/0f15ef66e3f677f8525784c00783893/$FILE/228957.PDF.
127. Id. at 12-13.
128. Id. at 14, 16-18.
129. See id. at 13-14.
130. SURFACE TRANSP. BD., Ex Parte No. 462, EXEMPTION OF DEMURRAGE FROM REGULATION (1996).
Reliance by courts on how a third party designates the receiver of a railcar is undermining the twin goals of the statute. The focus must be on the use of the railcar. Accordingly, as the expert agency, the Board should interpret Section 10746 to close the demurrage gap, and accordingly, guide courts to reform the common law to modern railroading and to the statute.
Federal Preemption in Motor Carrier Selection Cases
Against Brokers and Shippers

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I. INTRODUCTION

In the past several years jury awards in personal injury cases have exceeded motor carriers’ financial responsibility minimum limits, causing plaintiffs to look to other parties as sources to fund large personal injury

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awards. Brokers have become a common target. Because brokers merely facilitate the transfer of goods from a shipper to a motor carrier—and do not actually transport the goods themselves—plaintiffs must develop theories of liability to support recoveries from brokers. One of the most common allegations made against brokers is that they have acted negligently in assigning the goods to an unqualified or unsafe carrier for transport (typically asserted as negligent hiring/retention and negligent entrustment claims).\(^1\) The question then becomes whether the carrier selected by the broker was qualified or safe, and how the broker makes that determination.\(^2\) One answer is provided by the federal regulations that provide for the qualification and fitness of motor carriers.\(^3\) Other, often differing answers, are provided by state laws, primarily through the mechanism of common law tort awards.

This article examines the relationship between the federal statutes, regulations, and policies governing interstate transportation and state tort law and concludes that because of the comprehensive regulation of motor carrier safety and fitness by the federal government, state laws—including the common law of torts—imposing differing obligations on brokers’ selection of motor carriers are preempted.

II. PRINCIPLES OF PREEMPTION

Article VI, section 2 of the Constitution contains the Supremacy Clause, which provides that the Constitution and “Laws of the United States” are “the supreme Law of the Land . . . [, the] Laws of any State to the Contrary notwithstanding.”\(^4\) In applying the Supremacy Clause, the Supreme Court has recognized two types of preemption:

Preemption may be either express or implied, and is compelled whether Congress’ command is explicitly stated in the statute’s language or implicitly contained in its structure and purpose. Absent explicit preemptive language, we have recognized at least two types of implied preemption: field pre-emption, where the scheme of federal regulation is so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it, and conflict pre-emption, where compliance with both federal and state regulations is a physical impossibility, or where state law “stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.”\(^5\)


\(^{2}\) See, e.g., Jones, 558 F. Supp. 2d at 642-43.


\(^{4}\) U.S. CONST. art. VI, § 2.

The Supreme Court has also held that state common law, specifically tort actions, may qualify as a state law subject to preemption under the Supremacy Clause, absent a demonstration of a contrary intent by Congress.\(^6\) In analyzing preemption claims, the Court has recognized two governing principles: (1) Congress' intent is the "ultimate touchstone in every preemption case;"\(^7\) and (2) the courts must start with the presumption that the states' plenary police powers are not to be preempted by federal legislation "unless that was the clear and manifest purpose of Congress."\(^8\)

A. **Express Preemption—the FAAA**

In 1980, Congress deregulated interstate trucking so that the rates and services offered by trucking companies and related entities would be set by the market rather than by government regulation.\(^9\) Later, in 1994, to bolster deregulation, Congress included a provision within the Federal Aviation Administration Authorization Act ("FAAAA"),\(^10\) which expressly provides that state regulation of the trucking industry is preempted:

[A] State, political subdivision of a State, or political authority of 2 or more States may not enact or enforce a law, regulation, or other provision having the force and effect of law related to a price, route, or service of any motor carrier (other than a carrier affiliated with a direct air carrier covered by section 41713(b)(4)) or any motor private carrier, broker, or freight forwarder with respect to the transportation of property.\(^11\)

The first question in analyzing whether state tort claims against a broker for negligent hiring/retention and negligent entrustment are preempted is determining whether § 14501(c)(1) expressly preempts these claims.

In interpreting § 14501(c)(1), the Supreme Court has determined:

(1) that [s]tate enforcement actions having a connection with, or reference to carrier rates, routes, or services are preempted; (2) that such pre-emption may occur even if a state law's effect on rates, routes, or services is only indirect; (3) that, in respect to pre-emption, it makes no


\(^8\) Id. (quoting Lohr, 518 U.S. at 485) (internal quotation marks omitted).


difference whether a state law is consistent or inconsistent with federal regulation; and (4) that pre-emption occurs at least where state laws have a significant impact related to Congress' deregulatory and pre-emption-related objectives.¹²

Therefore, under Rowe, FAAAA preemption is broad in scope, and “may occur even if a state law’s effect on rates, routes, or services ‘is only indirect.”¹³ Although the outer limits of FAAAA preemption have not been articulated, the Court has recognized that some state laws, such as those that affect trucking in only a “tenuous, remote, or peripheral . . . manner,” such as [those] forbidding gambling,” might not be preempted.¹⁴ Following Rowe, the courts continue to broadly apply FAAAA preemption against state laws that fall within the preemption clause’s reach.¹⁵ Importantly, the FAAAA preempts not only state statutes and administrative regulations governing the trucking industry, but also state law private causes of action that come within its terms.¹⁶

In determining which state causes of action are preempted by the FAAAA, the lower courts have applied the Supreme Court’s guidance by crafting at least two distinct approaches. Each approach focuses on the type of activity on the part of the airline/motor carrier/broker that forms the basis for the causes of action raised in the plaintiff’s complaint. One approach draws a distinction between activity that is related to “services” furnished by an airline and conduct connected with “operation and maintenance” of the aircraft.¹⁷ Under this view, certain causes of action aris-

¹². Rowe v. N. H. Motor Transp. Ass’n, 552 U.S. 364, 370-71 (2008) (alteration in original) (citations omitted) (emphasis omitted) (internal quotation marks omitted) (quoting and citing Morales v. Trans World Airlines, Inc., 504 U.S. 374 (1992)). In relying on its prior decision in Morales, the Rowe Court noted that because the FAAAA’s preemption provision is identical to a separate preemption provision applicable to deregulated airlines, it is appropriate to look to decisions interpreting the airline preemption provision for guidance. See id. at 367-70. Accordingly, this article cites case law on the airline preemption provision interchangeably with case law on the FAAAA preemption provision.

¹³. Id. at 370 (quoting Morales, 504 U.S. at 386).

¹⁴. Id. at 371 (quoting Morales, 504 U.S. at 390) (alteration in original).

¹⁵. See infra notes 40-47 and accompanying text.


¹⁷. See generally Hodges v. Delta Airlines, Inc., 44 F.3d 334, 339 (5th Cir. 1995) (en banc) The Hodges Court noted that “no strict dichotomy exists” between “services and operation and maintenance of aircraft.” Id. “Generally . . . state tort laws concerning the operation and maintenance of aircraft can be enforced consistently with and distinctly from the services that Congress deregulated.” (emphasis added) Id. However, the Hodges Court also noted that “Congress explicitly preserved airlines’ duty to respond to tort actions, inferentially state law actions, for physical injury or property damage.” Id. “[F]ederal preemption of state laws, even certain common law actions ‘related to services’ of an air carrier, does not displace state tort actions for
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...from the operation and maintenance of an aircraft are not preempted, while causes of action related to airlines’ services are preempted. A second approach rejects the operations/services distinction and focuses on Congress' intent to achieve deregulation of the airline and trucking industries. The courts adopting this approach conclude that Congress used “services” in reference to the “prices, schedules, origins and destinations of the point-to-point transportation of passengers, cargo, or mail.” Thus, under this approach, “service” refers to things such as “the frequency and scheduling of transportation,” and “the selection of markets” for that activity, in short, in a ‘public utility sense.’

In Rowe, the seminal case on FAAAA preemption in the trucking context, the Supreme Court adopted the latter approach. There, the Court examined a Maine statute which forbade licensed tobacco retailers to employ a delivery service unless that service followed particular delivery procedures designed to control the distribution of tobacco products in the interest of public health and safety. The Maine statute required motor carriers to offer a system of services for the delivery of tobacco that verified the licensing of the retailer and provided for certain labeling on the shipments of tobacco. The Court found that these requirements had a “significant and adverse impact” on Congress’ goals in enacting the FAAAA preemption provision. This was so because the Maine statute required motor carriers to utilize certain procedures and to offer a “system of services that ... [they] would prefer not to offer,” and which, in a free and deregulated market, they might not offer. “The Maine law thereby produces the very effect that the federal law sought to avoid, namely, a State’s direct substitution of its own governmental commands for ‘competitive market forces’ in determining (to a significant degree) the services that motor carriers will provide.” In other words, “the effect of the regulation is that carriers will have to offer tobacco delivery services that differ significantly from those that, in the absence of the

personal physical injuries or property damage caused by the operation and maintenance of aircraft.”

18. See id. at 336.
19. Charas v. Trans World Airlines, 160 F.3d 1259, 1263-66 (9th Cir. 1998) (en banc) (amended on denial of reh’g, 169 F.3d 594 (9th Cir. 1999)).
20. Id. at 1261.
24. Id. at 371-72 (quoting Morales v. Trans World Airlines, Inc., 504 U.S. 374, 390 (1992) (internal quotation marks omitted)).
25. Id.
26. Id. at 372 (quoting Morales, 504 U.S. at 378).
regulation, the market might dictate."27 It "thereby . . . regulates a significant aspect of the motor carrier’s package pickup and delivery service."28 Because, under FAAA, the states cannot re-regulate what Congress has chosen to de-regulate, the Court found the Maine statute to be pre-empted by the FAAA.29

Like the Maine law at issue in Rowe, claims against brokers for negligent hiring and negligent entrustment seek to dictate the manner in which the broker provides services (i.e. the selection of a carrier) thereby displacing the market-driven means chosen by brokers. When analyzing whether these claims are preempted as impacting, either directly or indirectly, a broker’s services, courts must look beyond the bare labeling of the causes of action alleged to "the facts underlying the specific claim."30 Although that can be difficult to do in the absence of a specific factual context, negligent hiring/retention and negligent entrustment claims usually assert common facts.

Typically, plaintiffs contend that the broker was negligent in its method of selecting the motor carriers to whom it brokers goods because it has selected a carrier who it knew or should have known was, for some given reason (e.g., the hiring of an unqualified driver, the failure to maintain a driver qualification file, the failure to maintain adequate safety policies) unsafe and dangerous to the public. Of course, plaintiffs’ contentions that brokers should require that the motor carriers they hire comply with certain safety practices, or that brokers should require certain safety practices in excess of those required by federal safety standards, seek to force brokers to alter the manner in which they select carriers by imposing state-law requirements that are not found in federal law, thereby impacting the brokers’ services.

Brokers structure their hiring practices so as to use the advantages of the deregulated interstate trucking and brokerage market for the benefit of themselves, their customers, and the American consumer. As the Supreme Court has noted, this was Congress’ intent when deregulating the trucking industry.31 In Rowe, the Court held that state regulations—including non-economic regulations32—which regulate a company’s activities impermissibly substitute “governmental commands for ‘competitive market forces’ in determining . . . the services that motor carriers will

27. Id.
28. Id. at 373.
29. See id. at 368, 377.
31. See, e.g., Rowe, 552 U.S. at 367-68 (citations omitted).
32. See id. at 374 (rejecting Maine’s argument that Congress intended to only preempt economic regulations).
provide.”

State tort claims for negligent hiring and entrustment impose a similar restraint by forcing brokers to alter their services by engaging in a time-consuming process of verifying the safety status—beyond that determined by the Secretary of Transportation—of each motor carrier they hire. Were brokers to take steps to avoid state regulation through the medium of tort liability, numerous inefficiencies—most importantly a patchwork of competing and unknowable requirements for the selection of a motor carrier—would result and de facto regulation of interstate brokerage of goods would arise. As a result, the efficiencies—which Congress sought to achieve would be hindered or blocked by state regulation. The Supreme Court has made clear that Congress foresaw this and enacted the FAAAA’s preemption provisions to prevent it.

The courts have begun to recognize the preemptive effects of the FAAAA on state law claims against brokers, beginning in the context of cargo claims. In a recent decision in Huntington Operating Corp. v. Sybonney Express, Inc., the United States District Court for the Southern District of Texas granted summary judgment in favor of a broker sued for damage to cargo on a theory of negligent selection of a motor carrier it hired to transport a shipment of goods. There, the allegation was that the broker failed to ensure the motor carrier had adequate insurance coverage and “failed to disclose information regarding” the motor carrier’s licensing history when hiring the motor carrier. Thus, the allegation was that the broker had negligently selected an independent contractor. In granting summary judgment in favor of the broker on preemption grounds, the court noted that the FAAAA “broadly” preempts state law claims, including those for negligent selection of an independent contractor. Another court applied the same reasoning in Chatelaine, Inc. v. Twin Modal, Inc. and dismissed claims against a broker for negligence, deceptive trade practices, and negligent hiring. The Chatelaine court

33. Id. at 372 (quoting Morales v. Trans World Airlines, Inc., 504 U.S. 374, 378 (1992)).
34. See id. at 373.
35. See id.
36. Id. at 368 (noting that, similarly to when Congress enacted the Airline Deregulation Act to “ensure that the States would not undo federal deregulation with regulation of their own,” Congress enacted the FAAAA with the intent to preempt state law) (quoting Morales, 504 U.S. at 378)).
38. Id. at *1.
39. See id. at *1-2.
40. See id. at *3.
41. 737 F. Supp. 2d 638, 642-43 (N.D. Tex. 2010).
allowed only the claim for breach of contract to proceed, under an ex-
emption to preemption recognized in American Airlines, Inc. v. Wolens.42

There is no logical reason why the holdings of Huntington and Chate-
laine would not extend to preempt personal injury claims. However, it
must be recognized that the Supreme Court has not yet fully addressed
this question.43 Nonetheless, Justice O'Connor (in dissent on other
grounds) has noted that personal injury claims are non-preempted only
when they do not relate to an airline’s “services”:

[M]y view of Morales does not mean that personal injury claims
against airlines are always pre-empted. Many cases decided since
Morales have allowed personal injury claims to proceed . . . [where] . . .
the particular tort claims at issue [do] not “relate” to airline “services,”
much as we suggested in Morales that state laws against gambling and
prostitution would be too tenuously related to airline services to be
preempted.44

Of course, the converse of this is that, under the plain language of
the FAAAA,45 personal injury claims are preempted when they do relate
to a motor carrier’s or broker’s “services.” Indeed, other courts have
found state personal injury claims preempted when they relate to the
“services” a carrier performs.46

Therefore, a court faced with a claim of FAAAA preemption must
undertake an examination of “the facts underlying the specific claim[s]”
raised in each case.47 Where that examination reveals that the facts on
which a plaintiff seeks to impose liability do not relate to a “price, route,
or service” of a motor carrier or broker—or relate only tangentially—no
express preemption will occur.48

The lower federal courts have agreed and have followed this logic
when addressing FAAAA or ADA preemption. For example, in Hodges,
the Fifth Circuit held that a negligence claim arising from a box falling
from an airline’s overhead bin was not preempted because it did not re-
late to a service but was akin to an ordinary negligence claim.49 In
Charas, the Ninth Circuit similarly held that claims such as those arising

43. See Charas v. Trans World Airlines, Inc., 160 F.3d 1259, 1264 (9th Cir. 1998) (en banc)
(amended on denial of reh’g, 169 F.3d 594 (9th Cir. 1999) (noting that the United States Supreme
Court has not directly addressed whether personal injury tort claims are preempted).
44. Wolens, 513 U.S. at 242 (O’Connor, J., concurring in part and dissenting in part) (em-
phasis added).
46. See Rockwell v. United Parcel Serv., Inc., No. 2:99 CV 57, 1999 WL 33100089, at *2 (D.
48. See id. at 257 (citing Morales v. Trans World Airlines, Inc., 504 U.S. 374, 390 (1992)).
from the “provision of in-flight beverages, personal assistance to passengers, the handling of luggage, and similar amenities” were not pre-empted.\textsuperscript{50} Again, these claims of ordinary negligence do not relate to an airline’s “services.”\textsuperscript{51} The Fourth Circuit has adopted this approach as well.\textsuperscript{52} In Smith, the court held that the plaintiff’s state-law claims for false imprisonment and intentional infliction of emotional distress \textit{were} preempted because they arose from the airline’s refusal of permission for the plaintiff to board the aircraft—a “service”—while other claims in the same case that were unrelated to the airline’s services were not pre-empted.\textsuperscript{53}

\section*{B. Objections to Express Preemption}

1. \textit{Preemption is Narrow}

In response to claims of express preemption under the FAAAA, plaintiffs often contend that statutes providing for preemption of state and local laws must be read narrowly based on the principle that the states’ plenary police powers are not to be pre-empted by federal legislation\textsuperscript{54} “unless that was the clear and manifest purpose of Congress.”\textsuperscript{55} However, the Supreme Court has recognized that FAAAA preemption, in contrast with other areas of the law, sweeps broadly and includes state laws whose effect on a carrier’s “rates, routes and services ‘is only indirect . . . .’”\textsuperscript{56} The Court further emphasized that any state law “having a connection with, or reference to . . . rates, routes, or services [is] pre-empted[.]”\textsuperscript{57}

Therefore, under \textit{Rowe}, a state law need not directly impinge on a

\begin{itemize}
\item \textsuperscript{50} Charas v. Trans World Airlines, Inc., 160 F.3d 1259, 1261 (9th Cir. 1998) (en banc) (amended on \textit{denial of reh’g}, 169 F.3d 594 (9th Cir. 1999).
\item \textsuperscript{51} See \textit{id.} at 1265-66.
\item \textsuperscript{52} See Smith, 134 F.3d at 259.
\item \textsuperscript{53} \textit{Id.} at 259 (“[T]o the extent Smith’s claims are based upon Comair’s boarding practices, they clearly relate to an airline service and are pre-empted . . . . [T]o the extent his claims are based on conduct distinct from Comair’s determination not to grant permission to board, his false imprisonment and intentional infliction of emotional distress claims are not pre-empted.”). Some courts have attempted to preserve personal injury actions from preemption by opining that Congress intended to pre-empt only “economic” regulation by the states. See, e.g., \textit{Hodges}, 44 F.3d at 339. However, the Supreme Court expressly rejected this distinction in \textit{Rowe} when it held that Congress did not distinguish between economic and other classes of regulation in enacting the FAAAA preemption provision. \textit{Rowe} v. N. H. Motor Transp. Ass’n, 552 U.S. 364, 374 (2008). This distinction is also inconsistent with some lower court precedent. See, e.g., \textit{Travel All Over The World, Inc. v. Kingdom of Saudi Arabia}, 73 F.3d 1423, 1433 (7th Cir. 1996).
\item \textsuperscript{54} See, e.g., \textit{Kuehne v. United Parcel Serv., Inc.}, 868 N.E.2d 870, 877 (Ind. Ct. App. 2007).
\item \textsuperscript{56} \textit{Rowe}, 552 U.S. at 370 (citing Morales v. Trans World Airlines, Inc., 504 U.S. 374, 384 (1992)).
\item \textsuperscript{57} \textit{Id.} (quoting Morales, 504 U.S. at 384) (internal quotation marks omitted).
\end{itemize}
carrier’s routes, rates, or services to be preempted. Instead, it is enough that the state law only indirectly affects, has “a connection with, or a reference to a carrier’s routes, rates, or services.” In addition, the Rowe Court found that Congress, through the FAAAA, has sufficiently and directly expressed its desire to preempt even state public health laws and regulations if those laws relate to a carrier’s routes, rates, or services. In so doing, the Court rejected Maine’s argument that because its regulations related to tobacco products were not economic but were instead public health regulations enacted pursuant to its police powers they did not come within the FAAAA’s reach. Because Maine’s regulations “produce[d] the very effect that the [FAAAA] sought to avoid, namely, a State’s direct substitution of its own governmental commands for ‘competitive market forces’ in determining (to a significant degree) the services that motor carriers will provide,” the regulations were preempted. In the Court’s analysis, it did not matter whether the regulations were enacted pursuant to a state’s power to regulate public health

2. Savings Clause

In response to claims of FAAAA preemption, it is often argued that personal injury actions are exempt from FAAAA preemption by virtue of the savings clause found in 49 U.S.C. § 14501(c)(2)(A) (2005), which provides that FAAAA preemption:

[S]hall not restrict the safety regulatory authority of a State with respect to motor vehicles, the authority of a State to impose highway route controls or limitations based on the size or weight of the motor vehicle or the hazardous nature of the cargo, or the authority of a State to regulate motor carriers with regard to minimum amounts of financial responsibility relating to insurance requirements and self-insurance authorization.

At least one court, the Louisiana Third Circuit Court of Appeal in Ryes v. Home State County Mutual, has relied on the savings clause to find that personal injury actions are not preempted. However, Ryes is unpersuasive for several reasons, at least in the context of preemption claims by brokers. First and most importantly, Ryes and the cases it relies on all involve the issue of whether negligence claims against a carrier are preempted. None involves a claim of preemption by a broker. This

58. Id. at 370-72.
59. Id. at 370 (quoting Morales, 504 U.S. at 384).
60. See id. at 375.
61. See id. at 374-76.
62. Id. at 372.
63. See id. at 374.
64. 983 So. 2d 980, 984-85 (La. Ct. App. 2008).
distinction between carriers and brokers is vital.

As noted above, not all state-law negligence claims against carriers are preempted by the FAAAA.67 Ordinary personal injury actions that arise from, for example, a driver speeding, generally would not relate to a carrier's routes, rates, or services and, thus, may survive FAAAA preemption.68 However, where a plaintiff seeks to hold a broker liable based on the way it structures its business and the criteria it uses to select motor carriers to whom it assigns loads, the analysis is fundamentally different from that applied by the court in Ryes. The cases cited by the court in Ryes were right to conclude that these acts of spilling an item from an overhead bin, leaving a package in front of a door, and the like did not relate to—or at most only tenuously related to—a carrier's services.69

However, the fact that these state law negligence claims were not preempted does not lead to the conclusion that negligent hiring claims against brokers are non-preempted merely because they also are captioned as negligence claims. As the courts have noted, in analyzing FAAAA preemption, courts must look beyond the mere label assigned to a cause of action to the "facts underlying the specific claim" to determine whether the claim relates to a route, rate, or service of a carrier.70 No court has held that claims against a broker survive FAAAA preemption because they sound in negligence.71 To the contrary, negligence claims against a broker have been dismissed as preempted, as in Huntington and Chatelaine.72 The correct analysis, then, focuses not on how a claim is denominated—e.g., negligence or personal injury—but on whether the claim relates to the rates, routes, or services of the broker.73

The blanket application of the exemption found in 49 U.S.C. § 14501(c)(2)(A) to personal injury actions also fails on the text of the exception itself. The exception provides that preemption will not apply to a state's "safety regulatory authority," the authority of a state to im-

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66. See cases cited supra note 70.
67. See cases cited supra note 69 and 70.
68. See, e.g., Kuehne v. United Parcel Serv., Inc., 868 N.E.2d 870, 872, 876-77 (Ind. Ct. App. 2007) (holding that negligence claim related to fall from tripping over a package placed on front step of home was not preempted).
72. See cases cited supra note 76.
73. See, e.g., Smith, 134 F.3d at 259; Travel All Over The World, Inc. v. Kingdom of Saudi Arabia, 73 F.3d 1423, 1433 (7th Cir. 1996).
pose route or weight limits, and the authority of a state to impose minimum insurance requirements. This language evinces Congress' intent that the exception include state statutes and regulations but not private causes of action, and, as noted, Congress' intent is the "touchstone" of a preemption analysis. First, the term "regulatory authority" more naturally means regulations issued by a state and not a private cause of action brought in state courts. Second, the surrounding statutory language referring to route or weight limits and minimum insurance requirements—all of which are statutory or regulatory enactments—lends support to the conclusion that the general term "regulatory authority" refers to statutes and regulations as well. These surrounding, more specific terms must be employed to aid in the definition of the more general term "regulatory authority." Third, the exemption to preemption in subsection (c)(2)(A) refers narrowly to not restricting a state's "regulatory authority," while, in contrast, the preemption section itself in subsection (c)(1) provides, in broad terms, that a state "may not enact or enforce a law, regulation, or other provision having the force and effect of law." Clearly, the sweep of the preemption found in subsection (c)(1) is broader than the exemption found in (c)(2)(A). Congress' deliberate choice of contrasting terms in these two subsections should be given effect. Fourth, courts examining the application of the exception to private causes of action have readily concluded that it does not apply in that context. In A.J.'s Wrecker Service of Dallas, Inc. v. Salazar, for example, the court concluded:

"[The] safety exception does not apply to [the plaintiff's] causes of action. The safety exception applies only to specific legislation directed at motor carriers. [The plaintiff] attempts to apply the safety exception to

75. Wyeth, U.S. at 565.
77. See sources cited supra note 81.
78. See United States v. Parker, 30 F.3d 542, 553 n.10 (4th Cir. 1994) ("'[T]he principle of ejusdem generis [provides] that a general statutory term should be understood in light of the specific terms that surround it.'" (alteration in the original) (quoting Hughey v. United States, 495 U.S. 411, 419 (1990))).
80. Compare 49 U.S.C. § 14501(c)(1) (preemption provisions express that a state "may not enact or enforce a law, regulation, or other provision having the force and effect of law"), with 49 U.S.C. § 14501(c)(2)(A) (preemption will not "restrict the safety regulatory authority of a State with respect to motor vehicles").
81. See Air Line Pilots Ass'n Int'l v. U.S. Airways Grp., Inc., 609 F.3d 338, 342 (4th Cir. 2010) (noting that where Congress uses two contrasting terms in close proximity, the choice is presumed to be intentional and is to be given effect).
general causes of action as opposed to legislation directed at the towing industry. We conclude the safety exception is inapplicable to [the plaintiff's] claims.82

Similarly, in Huntington, the court found the exception "refers solely to the ability of the several states to define safety standards and insurance requirements. The exception is not read to permit a private right of action."83 Thus, in Huntington, the court found the plaintiff's negligence claim preempted.84 Finally, and importantly, the language in the exemption found in § 14501(c)(2)(A) differs substantially from other "savings clauses" in which Congress has stated its express intent to preserve common law actions.85 If Congress had wanted to preserve common law negligence actions from FAAA preemption, it would have been easy enough for it to say so, as it did in the statutes at issue in Grier v. American Honda Motor Co. and Sprietsma v. Mercury Marine.86

Finally, even if the exception found in § 14501(c)(2)(A) applies to private causes of action, it should not apply to claims against a broker because it cannot be said that a negligence cause of action against a broker arises under a state's regulatory authority "with respect to motor vehicles."87 Where a case against a broker rests on the manner in which the broker conducts its business, how it selects motor carriers to carry loads, and how it structures its operations, imposing liability on the broker cannot, under a fair reading of the statute, constitute the exercise of state regulatory authority "with respect to motor vehicles."88

C. POLICY BEHIND FAAA PREEMPTION

Congress has clearly and expressly stated its purpose in enacting the FAAA preemption clause.89 It did so to create an environment of uniformity of regulation by the market rather than by a "patchwork" of state laws in order to "assure transportation rates, routes, and services that reflect 'maximum reliance on competitive market forces,' thereby stimulating 'efficiency, innovation, and low prices,' as well as 'variety' and

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82. 165 S.W.3d 444, 450 (Tex. App. 2005) (citations omitted).
84. See id.
86. See cases cited supra note 90.
88. Id.
89. See supra pp. 7–8 and note 40.
'quality.'”

Allowing state regulation of a broker’s business and operations impermissibly allows “a State’s direct substitution of its own governmental commands for ‘competitive market forces’” and destroys the uniformity of regulation governing the broker’s activities.

For example, brokered goods typically travel in interstate commerce. If the individual states through which goods travel are permitted to impose various regulations which affect a broker’s selection of a motor carriers to haul loads or to dictate to brokers how they must structure their relationships with customers and carriers, the uniformity and efficiency of market regulation desired by Congress would not be achieved. Instead, brokers would face a patchwork of state laws regarding which carriers they could assign loads to and the routing of shipments, while also affecting broker’s services. Clearly, then, claims of negligent hiring of a carrier have at least an “indirect” “connection with, or a reference to” a broker’s rates, routes, or services. The FAAAA, then, should apply to these claims, given Congress’ intent in this area of law.

B. IMPLIED PREEMPTION

As noted, even where Congress has not expressly provided for preemption, preemption can be implied in certain circumstances:

Field preemption, where the scheme of federal regulation is ‘so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it,’ and conflict preemption, where ‘compliance with both federal and state regulations is a physical impossibility,’ or where state law ‘stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress[.]’

Since the passage of the Interstate Commerce Act of 1887, interstate transportation has been a heavily regulated industry, with regard to both economics and safety. Beginning with the Carmack Amendment to the Interstate Commerce Act, and continuing with the Motor Carrier Act of 1935 and successive amendments, Congress extended federal regula-
tion of transportation to motor carriers.\textsuperscript{96} As early as 1935, Congress declared that it was the federal government’s policy “to regulate transportation by motor carriers in such manner as to recognize and preserve the inherent advantages of, and foster sound economic conditions in, such transportation and among such carriers in the public interest.”\textsuperscript{97}

Thereafter, in the 1950s, Congress sought further regulation of the industry by ensuring that motor carriers were identifiable and financially responsible for accidents.\textsuperscript{98} These goals were further clarified by the federal government with the passage of the Motor Carrier Act of 1980 (“Motor Carrier Act”).\textsuperscript{99}

The Motor Carrier Act achieved economic deregulation of the trucking industry in the United States by abolishing rate, route, and pricing regulations governing interstate trucking companies.\textsuperscript{100} At the same time, however, the Act preserved the authority of the Secretary of Transportation (“Secretary”) to regulate safety.\textsuperscript{101} Thus, under the Act as currently in force, the Secretary is required to “prescribe regulations on commercial motor vehicle safety” in accordance with the National Transportation Policy.\textsuperscript{102} The National Transportation Policy, currently embodied in 49 U.S.C. § 13101, has as its goal achieving an efficient, safe, and uniform system of interstate transportation.\textsuperscript{103} To ensure that the deregulation of the trucking industry and the goals of the National Transportation Policy were not compromised by state regulation, Congress in 1994 enacted the above-mentioned FAAAA, which clarifies and expands the original preemption provisions contained in the Motor Carrier Act.\textsuperscript{104}

The FAAAA stands as an express indicator of Congress’ continued desire for economic deregulation of interstate trucking while preserving federal safety regulations intact.\textsuperscript{105}


\textsuperscript{97} Motor Carrier Act of 1935, 49 Stat. 543.


\textsuperscript{100} Id.

\textsuperscript{101} Id.


\textsuperscript{105} See id.
Pursuant to his authority under the Act, the Secretary has promulgated a comprehensive system of federal regulations governing the safety and qualification of motor carriers.\textsuperscript{106} Compliance with these safety regulations is the exclusive method of obtaining licensure as an interstate motor carrier.\textsuperscript{107} Under the regulations, a carrier is evaluated based on a number of criteria, including:

(a) Adequacy of safety management controls.

(b) Frequency and severity of regulatory violations.

(c) Frequency and severity of driver/vehicle regulatory violations during inspections.

(d) Number and frequency of out-of-service driver/vehicle violations.

(e) Increase or decrease in similar types of regulatory violations discovered during safety or compliance reviews.

(f) Frequency of accidents; hazardous material incidents; accident rate per million miles; indicators of preventable accidents; and whether such accidents, hazardous materials incidents, and preventable accident indicators have increased or declined over time.

(g) Number and severity of violations of safety rules, regulations, standards, and orders [of state or foreign authorities that] are compatible with Federal rules, regulations, standards, and orders.\textsuperscript{108}

After evaluation, the carrier is assigned a safety rating of satisfactory, conditional, unsatisfactory, or unrated.\textsuperscript{109} The assignment of a safety rating is the exclusive means used by the Secretary to determine whether a motor carrier is qualified—from a safety perspective—to operate in interstate commerce.\textsuperscript{110} Once the Secretary determines a motor carrier is qualified under the applicable federal statutes and regulations, he "shall register" the motor carrier to provide interstate transportation.\textsuperscript{111}

\begin{itemize}
\item \textsuperscript{107} 49 U.S.C. §§ 13901-13902 (2006).
\item \textsuperscript{108} 49 C.F.R. § 385.7 (2011). The breadth and exclusivity of the safety regulations in §§ 385.1-.819 is demonstrated by the fact that, unlike safety regulations found in other parts, see, e.g., 49 C.F.R. § 390.9 (2011), the regulations in §§ 385.1-.819 do not contain any provision providing that states may enact additional safety requirements or that state safety requirements are not preempted.
\item \textsuperscript{109} 49 C.F.R. §§ 385.3, 385.9 (2011).
\item \textsuperscript{110} 49 C.F.R. § 385.13 (2011).
\item \textsuperscript{111} 49 U.S.C. § 13902(a)(1) (2006); see Dept. of Transp. v. Pub. Citizen, 541 U.S. 752, 758-59 (2004) (noting Secretary "must grant registration" to qualified motor carriers). Brokers are also regulated by the Act and its accompanying regulations and are required by the Secretary's regulations to use an "authorized motor carrier" for the transportation of property. 49 C.F.R. § 371.2 (2011); 49 C.F.R. § 371.105 (2011) (an authorized carrier is one that has been authorized by the
In promulgating some of the foregoing regulations, the Secretary has noted that the various congressional enactments, including the Motor Carrier Act, were intended to address a lack of uniformity in state regulations, which led to “allegations of disturbing abuses and concerns in both the economic and safety arenas.”\textsuperscript{112} Accordingly, the Motor Carrier Act and these regulations make clear that the federal government has prescribed an exclusive safety credentialing system for interstate motor carriers and has designated the Secretary of Transportation as the exclusive judge of highway safety fitness.\textsuperscript{113} Once the Federal Motor Carrier Safety Administration ("FMCSA") judges a motor carrier fit to operate under the regulations he has issued, he must permit the motor carrier to operate in interstate commerce.\textsuperscript{114} The Act and regulations support the National Transportation Policy of administering a uniform system that encourages competition and efficiency.\textsuperscript{115} Consistent with this Policy, once the FMCSA grants a motor carrier authority to operate in interstate commerce, the inquiry as to the motor carrier’s fitness should be at an end.

Attorneys representing injured parties will argue that finders of facts should consider the FMCSA’s internal safety scoring systems, which include SafeStat (in effect until December of 2010) and the FMCSA’s Compliance, Safety, Accountability ("CSA") initiative, which uses the Safety Management System ("SMS") to collect data.\textsuperscript{116} However, there are numerous reasons why shippers and brokers should not use these internal FMCSA tools to judge carriers. First, unlike the safety rating process, the SMS and CSA methodologies have not been through the rulemaking process of the Administrative Procedures Act.\textsuperscript{117} Thus, they are both the product of FMCSA with none of the protections and due process of rulemaking.\textsuperscript{118} Second, the specifics of the methodology used is undisclosed.\textsuperscript{119} Thus, there is input data but no explanation of how the data is

\textsuperscript{114} Public Citizen, 541 U.S. at 758-59.
\textsuperscript{116} The Motor Carrier Safety Status Measurement System (SafeStat) was an automated analysis system that measured the safety fitness of interstate motor carriers by looking at four Safety Evaluation Areas (SEAs): accident, driver, vehicle, and safety management. It was replaced in 2010 with the Safety Management System. See http://csa.fmcsa.dot.gov (providing information on CSA and SMS).
\textsuperscript{117} See 5 U.S.C. § 553 (2006); cf. SRM Chem. LTD, Co. v. Fed. Mediation & Conciliation Serv., 355 F. Supp. 2d 373, 375-77 (D.D.C. 2005) (holding that a federal agency using three arbitrators instead of only one as required by law was implementing procedural rules which are exempt from the Administrative Procedure Act’s rulemaking process).
\textsuperscript{119} See Federal Motor Carrier Safety Regulations, 49 C.F.R. §§ 350-399 (2011); How Does
Third, the input data is flawed in that it is not uniformly reported or categorized by the state reporting agencies. Fourth, the overall scoring is based on a presumption that there are always carriers who need to be removed from the carrier pool, regardless of safety scoring. Because the carriers are judged against each other, all of the carriers within a peer grouping can be “unsafe,” but only the bottom of the peer group will be eliminated. On the other hand, all of the members of a peer group could perform excellently yet the excellent carrier at the bottom will be eliminated. Fifth, the carriers are judged by peer groups based on miles traveled. However, the peer groups are not broken down into types of transit. For example, short-haul dray carriers, long haul truckload carriers, and less-than-truckload carriers, who have completely different accident exposures, are all grouped together. This is by no means an exclusive listing.

In recent cases discussing implied preemption of state tort suits, the Supreme Court has emphasized that “conflict preemption” will apply where the state standard to be enforced stands as an “obstacle to the accomplishment of a significant federal regulatory objective.” As noted above, the federal regulatory objective, embodied in the National Transportation Policy, is the creation of a uniform system of interstate transportation that is safe and efficient. The Secretary is directed to enact regulations—including safety regulations—to implement this policy and to register motor carriers who are “willing and able” to meet the regulations. In response, the Secretary has enacted a comprehensive safety scheme, in part to address disparity in state laws governing safety. Brokers, in turn, are required to use a carrier authorized by the

120. See supra note 124.
123. See id.
124. Id.
125. Id.
126. Id.
127. Id.
129. See supra text accompanying note 108.
131. See supra note 111.
Secretary for the transportation of goods.132

State laws, including tort suits, that seek to force brokers to discriminate between authorized carriers based on the carriers’ safety practices run afoul of these regulatory purposes. Specifically, state personal injury actions that allege claims of negligent hiring based on a broker’s selection of an authorized motor carrier that is allegedly unsafe in some way would impose a different standard for motor carrier fitness than the one implemented by the Secretary. As a result, a patchwork of state laws would arise that would threaten the congressionally declared purposes of the National Transportation Policy, and transportation would become less uniform and less efficient and competitive. In addition, the Secretary’s finding that a motor carrier is qualified, and his subsequent registration of the carrier, would be meaningless since brokers could not use the carrier without further delving into the carrier’s safety practices. The significant federal regulatory objectives embodied in the Policy and the Secretary’s regulations would thereby be impeded. Accordingly, state laws imposing liability based on a broker’s negligent selection of a motor carrier are preempted.133

III. PRACTICAL APPLICATION

As an example of how state tort actions against brokers for negligent selection of a carrier could impact interstate transportation, consider the following hypothetical:

ABC Brokerage has been requested by a shipper to arrange transportation from South Carolina to Arizona. ABC must select a carrier to haul the freight. It considers 123 Trucking, but 123 has a conditional safety rating. Assume, for illustrative purposes only, that Texas has held that brokers may be held liable for utilizing conditional-rated carriers. Therefore, ABC can assign the load to 123 but may choose to request the carrier travel a route that avoids transit of the State of Texas.

Alternatively, ABC may select 456 Trucking, who has a satisfactory safety rating and agree to a route through Texas. However, 456 has a poor score in one of the BASICS of the FMCSA’s CSA system. Assume, again, that Arkansas has allowed recovery against a broker for selecting a carrier with a poor CSA BASIC score. In that case, ABC may choose to route the shipment around, or not to serve, locations in Arkansas.

To take advantage of this situation, 789 Trucking raises its rates because it has a satisfactory safety rating and BASIC scores below the mini-

132. See supra note 116.
133. Preemption in the field of interstate trucking is not unusual. In the context of cargo damage, the courts have long recognized that federal law preempts the field so that state laws are of no effect. See, e.g., Adams Express Co. v. Croninger, 226 U.S. 491, 505-06 (1913).
mums for CSA and, therefore, considers itself the only viable carrier for ABC's needs.

IV. CONCLUSION

The Eisenhower Interstate Highway System was successful because it was founded upon standardization and uniformity from state to state.\textsuperscript{134} Federal preemption in transportation means that brokers arranging freight for trucks on those highways would have that same uniformity. Deregulation of the airline and trucking industries likewise depends on the same freedom from state regulation—indeed Congress has mandated that freedom in provisions such as the FAAAA. This uniformity of treatment and ease of movement with freedom from state-by-state regulations is consistent with and required by not only the FAAAA but also our National Transportation Policy. Any attempt by the states to regulate the selection of carriers by brokers through the medium of state tort law is not consistent with the goals Congress announced in the National Transportation Policy and should be defeated.

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Dear Reader:

Volume 39, Issue 3 features an article about intelligent transportation systems and an article about congestion pricing in airport traffic management. We at the TLJ hope that this issue will be informational and practical for anyone interested in these rapidly evolving topics.

Mr. Garry’s article on intelligent transportation systems addresses the privacy issues involved with the personal information being collected by these systems. We hope this piece will educate practitioners and students on the numerous parties and complexities involved in the intelligent transportation systems privacy debate.

Mr. Seigel’s article on congestion pricing explores an interesting solution to the current issues in airport traffic management. We hope this will be a source of authority for practitioners and potential law makers, who wish to make airport traffic management in the United States safer and more efficient.

We hope you enjoy this fall issue of the Transportation Law Journal. Please contact our staff if you have an article you would like considered for publication.

Sincerely,

Jenna Bechtholdt
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Article

Intelligent Transportation Systems: Personal Data Needs and Privacy Law

The recent spread of geolocation technology in intelligent transportation systems ("ITS") raises difficult and important policy questions about locational privacy. However, much of the current public discussion on locational privacy and ITS appears at risk of becoming increasingly disconnected. In one camp are privacy advocates and others who oppose the spread of ITS locational technology on privacy grounds. In the other camp are technologists and the ITS industry who generally view privacy issues as a secondary matter. The net result is that the ITS privacy debate often involves two sides talking past each other, with too little energy spent on finding potential common ground. This disconnect results in part from a lack of basic clarity, on both sides, about just what the needs and interests of those involved in the ITS privacy issue are and how they relate to the betterment of the transportation system. This article sheds

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new light on the ITS privacy debate by identifying just who is involved in the ITS privacy problem and what their goals are with respect to privacy and ITS data. The analysis identifies the types of locational data and the methods for obtaining it that creates privacy conflicts, and in turn recommends general approaches for both policymakers and industry practitioners to better manage these conflicts. This article represents a first effort in mapping the interests of participants in the ITS privacy debate.

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I. Introduction

The last decade has seen a dramatic spread in geolocation technology. Global positioning systems ("GPS") technology, for example, is now commonplace in cellular phones, cars, bicycle computers, and even runners' watches. The ability of this technology to easily and inexpensively
Intelligent Transportation Systems collect vast amounts of personally identifiable information about individuals’ travel behavior is raising difficult, important and controversial questions about locational privacy. When can an individual’s locational information be electronically gathered and by whom? Once collected, for what purposes can that data be used? With whom can it be shared? How long should the data be retained? When can law enforcement access it?¹

The prominence and significance of these questions are readily apparent in the transportation context. The application of geolocation technology in intelligent transportation systems ("ITS") already provides a number of means by which vehicles, and in some circumstances occupants, can be electronically identified and tracked as they move about the transportation network. Furthermore, these means can only be expected to increase as locational technology develops and its potential applications for ITS expand.²

Yet the speed at which ITS and locational technology is developing is outpacing progress on addressing these difficult privacy questions.³ Moreover, much of the current public discussion on locational privacy and ITS appears at risk of becoming increasingly disconnected. In one camp are privacy advocates and others who oppose the spread of ITS locational technology on privacy grounds.⁴ They have raised questions in the courts and alarm among politicians and the general public about the threat such technologies present to privacy “rights.” This has resulted in court decisions, political controversies, and electoral messages that have in some cases prohibited the deployment of ITS technologies, and even the removal of some technologies after deployment.⁵

1. There has been strong public reaction to news about the extent to which many types of mobile devices, and their applications, collect locational data, without the full consent or knowledge of the user. See, e.g., Julia Angwin & Jennifer Valentino-Devries, Apple, Google Collect User Data, WALL ST. J., Apr. 22, 2011, http://online.wsj.com/article/SB10001424052748703983704576277101723453610.html.


3. This is no more apparent than with the U.S. Supreme Court, which stated in City of Ontario v. Quon, 130 S. Ct. 2619, 2629 (2010), that “[t]he judiciary risks error by elaborating too fully on the [constitutional] implications of emerging technology before its role in society has become clear. . . . Rapid changes in the dynamics of communication and information transmission are evident not just in the technology itself but in what society accepts as proper behavior.”


In the other camp are technologists and the ITS industry who generally view privacy issues as a secondary matter, dwarfed by the impressive and tangible benefits these technologies bring to the transportation system. As a result, those on this side of the debate often give too little attention to privacy concerns, both in how they design ITS locational technology and in communicating with the public about what data their devices collect and for what purposes.

The net result of this disconnect is that the ITS privacy debate often involves two sides talking past each other, with too little energy spent on finding common ground where privacy concerns can be addressed while allowing the data collection that ITS locational technology needs to function. This lack of articulated common ground creates uncertainty for the ITS community as whole, and particularly for technology developers as they are pushed by privacy advocates to avoid making products that can collect sensitive locational information and pulled by new technological developments that increase the ability to collect that data.

In part, the disconnect stems from the increasingly murky legal setting in which this debate takes place. Rapid technological change is upsetting what had once been relatively stable legal doctrines and categories used to discuss and manage conflicts over privacy. The resulting legal uncertainty makes it difficult to find even a common conceptual framework and language under which the two sides can meet, let alone set clear lines about what locational information deserves legal protection and what does not.

Related to this legal uncertainty, the disconnect also results from a lack of basic clarity on both sides about just what the needs, goals, and interests of those involved in the ITS privacy issue are and how they relate to the betterment of the transportation system. That is, just what are the data needs for locational technology that further the objectives of ITS and to what extent do they really conflict with the legitimate privacy expectations of transportation users?

6. See HOME!LAND SECURITY NEWS WIRE, supra note 4; Adhikari, supra note 4; Suttell, supra note 4.
7. See Quon, 130 S. Ct. at 2629-30.
8. This issue has been the subject of previous work by one of the authors of this article. See Frank Douma & Jordan Deckenbach, The Challenge of ITS for the Law of Privacy, 2009 U. Ill. J.L. TECH. & POL’Y 295, 325 (2009). See also Frank Douma & Sarah Aue, ITS and Locational Privacy: Suggestions for Peaceful Coexistence, 78 J. TRANSp. L., LOGISTICS & POL’Y 89, 91 (2011).
It is this second source of the disconnect that is the focus of this article. This article will seek to shed new light on the ITS privacy debate by identifying just who is involved in the ITS privacy problem and what their goals are with respect to privacy and ITS data. The analysis will identify the types of locational data and the methods for obtaining it that create such conflicts, and in turn recommend general approaches for both policymakers and industry practitioners to better manage these conflicts. That is, this article will try to find some much needed common ground in the ITS privacy debate.

This article will proceed in six parts. The second part will lay the groundwork for the analysis by providing a short description of ITS, a brief primer on privacy law as it relates to transportation, and a discussion of what type of locational information is at issue in the ITS privacy problem. The third part will contain a description of the methodology used for the analysis of the participants in the ITS privacy problem. The fourth part will contain the participant analysis itself. The fifth part will provide some conclusions that follow from the analysis. The final part will set forth general recommendations for policymakers and the ITS industry.

II. BACKGROUND

A. THE NATURE OF INTELLIGENT TRANSPORTATION SYSTEMS ("ITS")

ITS is a broad, often generic term used generally to refer to any electronic or communication technology used in the transportation system. In the context of privacy issues, ITS nearly always refers to technologies related to ground vehicular transportation. In this article, the discussion will be limited to ITS as it relates to non-public ground transportation.

The type of technologies involved with ITS are wide ranging and include both in-vehicle telematics and roadside data collection devices. Current examples include: vehicle toll tag transponders that automatically identify vehicles for the electronic payment of tolls; roadside systems to measure traffic volume, speed, and congestion; roadside and vehicle mounted cameras that aid law enforcement; and in-vehicle systems that warn drivers of dangerous situations and provide information on route choices.

Though ITS technologies are deployed and operated by both the pri-
vate and public sectors, the core rationale for ITS is generally a public one—to improve the safety, efficiency, cost effectiveness, sustainability, and reliability of the transportation system. Moreover, ITS often involves a large amount of coordination and cooperation between the public and private sectors. ITS technologies are developed in the private sector but generally need to be integrated in some fashion with the government's transportation regulatory system as well as the transportation infrastructure, which is typically (though certainly not always) planned, paid for, and managed by the public sector.

ITS technologies implicate privacy issues because, by their nature, they are generally dependent on locational data. That is, to be useful, these systems typically need to collect data on when and where vehicles are located. While this data often includes little or no information about individual vehicles and transportation users, many ITS applications collect some degree of vehicle and/or user-specific locational data.

B. SUMMARY OF PRIVACY LAW FOR ITS

Unlike the European Union or other countries deploying ITS, the United States does not have a comprehensive legal regime that protects privacy. Instead, the concept of an individual's "right to privacy" has arisen piecemeal, at both the federal and state levels, through court cases and legislation of limited scope. Furthermore, privacy rights are not fixed, but evolving as society's privacy expectations, technology, and the law itself changes. Previous research by one of the authors of this article detailed and analyzed U.S. privacy law in the transportation context and its implications for ITS. The main points of this research are:

1. Sources of Privacy Protection
   - The U.S. Constitution, specifically Supreme Court case law on the Fourth, Ninth, and Fourteenth Amendments, is a core source of American privacy law. With respect to the transportation context, case law on the Fourth Amendment is the most relevant. The basic test for whether a person has a protected privacy interest under the Fourth Amendment comes from the 1967 U.S. Supreme Court case, Katz v. United States. Under Katz, a reasonable expecta-

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12. Id.
14. See Glancy, supra note 2, at 301-11.
15. Douma & Aue, supra note 8, at 90.
16. Id.
17. Id. at 90-91; Douma & Deckenbach, supra note 8, at 300-11.
tion of privacy exists when: (i) a person has an expectation of privacy, and (ii) society deems the expectation to be reasonable.\textsuperscript{19} Clarifying in a later case, the Supreme Court stated “a person traveling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”\textsuperscript{20}

- Rapid technological change, however, is bringing the legitimacy of the \textit{Katz} test into question. The Supreme Court itself has acknowledged that the second part of the \textit{Katz} test, the “societal expectation” prong, is nearly unworkable, as technology is advancing so rapidly that it is almost impossible for a court to determine the corresponding societal expectation of privacy.\textsuperscript{21} Reflecting this to some extent, the Court in a recent Fourth Amendment case on GPS tracking by law enforcement decided the case using an analysis framework other than the \textit{Katz} test, though without necessarily rejecting the primacy of \textit{Katz}.\textsuperscript{22}

- While U.S. constitutional law is the most influential and does much to shape privacy law generally, its direct applicability for ITS is limited to the context of criminal investigations and government employment.\textsuperscript{23}

- A number of existing federal laws create privacy protections, albeit in relatively discrete areas.\textsuperscript{24} Very few of these laws have direct relevance for ITS. Among those that do, the most relevant are the \textit{Driver’s Privacy Protection Act of 1994}, which protects personal information collected by departments of motor vehicles, and the \textit{Privacy Act of 1974}, which regulates how the federal government handles the personally identifiable information it collects.\textsuperscript{25} In addition, the Federal Trade Commission, under Section 5 of the \textit{Federal Trade Commission Act}, has become active in regulating companies’ privacy notices to consumers about how they collect and use consumer data, including locational data.\textsuperscript{26}

- Though there are currently no federal laws that specifically protect an individual’s locational information, there are a number of proposed laws that seek to do so. These include the bipartisan \textit{Geolo-}

\begin{thebibliography}{9}
\bibitem{19} \textit{Id.}
\bibitem{21} City of Ontario v. Quon, 130 S. Ct. 2619, 2629-30 (2010).
\bibitem{23} \textit{See Douma & Deckenbach, supra} note 8, at 302-03.
\bibitem{24} \textit{See id.} at 303.
\bibitem{26} \textit{Federal Trade Commission Act, 15 U.S.C. § 45(a)} (2011) (prohibiting unfair or deceptive acts or practices in or affecting commerce).
\end{thebibliography}
cational Privacy and Surveillance Act which would require law enforcement to get a warrant before using locational technology to track an individual’s location and the Location Privacy Protection Act of 2011 which makes it presumptively illegal for non-government entities to collect an individual's locational information absent consent. These proposed laws reflect the level of political interest and public concern over locational privacy issues.

- Federal law sets the floor of privacy protection upon which states have the ability to build their own privacy regulations. As a result, the extent to which privacy is protected beyond the federal level varies across states. Some state courts have interpreted their state constitutions in a way that expands the privacy rights of their citizens beyond those prescribed by federal constitution. Similarly, some states statutorily extend privacy protections beyond those afforded by federal law. But like federal law, state statutes generally approach privacy in a piecemeal, area-by-area fashion.

- There are not many state laws specifically addressing privacy and transportation technologies. Most laws only address specific technologies whose use is either controversial with the public, such as automated speed enforcement, or where there is a perceived potential for abuse.

- State privacy torts, such as intrusion upon solitude, public disclosure of private facts, "false light" publicity, and misappropriation of likeness, provide an additional source of privacy protection. These torts, though, do not usually create a cause of action on public streets and have not yet been successfully applied in any cases involving ITS technologies.

2. Implications of Privacy Law For ITS

The tangled and unsettled nature of privacy law in the U.S. means its application to ITS is often jurisdiction, technology, and context specific. Nevertheless, several principles can be stated:

- The less personally identifiable the information an ITS application
collects, the less likely the application will encounter legal restrictions that will dictate how that information is collected and used. When the data collected identifies specific vehicles or otherwise includes personally identifiable information, legal issues regarding consent, access, ownership, and protection of information are often triggered.\footnote{Douma & Deckenbach, \textit{supra} note 8, at 318.}

- When an ITS application collects personally identifiable information about an individual, consent to obtain that data generally should be obtained from that individual. Voluntary consent (opt-in) is one way in which consent can be given. Voluntary consent generally requires individuals to manifest willingness to have their personal information collected, and they must be informed of some specific aspects about the information being collected.\footnote{\textit{Id.} at 319.} The other form of consent is to imply consent (opt-out). Courts have found implied consent to be sufficient when the government’s interests in preventing injury, property damage, and loss of life on roadways are served by the practice.\footnote{\textit{Id.} at 320.} However, presumed or implied consent usually must allow for individuals to opt-out of such programs and requires that members of the public be made reasonably aware of to what they are tacitly consenting.\footnote{\textit{Id.} This issue was covered in more depth in a recent report on online privacy from the U.S. DEPT OF COMMERCE, \textit{INTERNET POLICY TASK FORCE, COMMERCIAL DATA PRIVACY AND INNOVATION IN THE INTERNET ECONOMY: A DYNAMIC POLICY FRAMEWORK} (2010), available at http://www.ntia.doc.gov/files/ntia/publications/iptf_privacy_greenpaper_12162010.pdf.}

- Current law typically places much greater restrictions on the collection and use of personally identifiable data by the public sector, than by the private sector.\footnote{Douma & Deckenbach, \textit{supra} note 8, at 321.} Thus, who is collecting and/or using the information gathered by an ITS application often dictates the level of privacy protections triggered.

To help synthesize how privacy law applies to ITS, previous research by one of the authors of this article resulted in an ITS and Privacy Toolbox and Taxonomy, which are included as Appendices A and B to this article. The Toolbox and Taxonomy summarize the level of restrictions that correspond with different kinds of information being collected.\footnote{See \textit{id.} at 330-31.} Together they illustrate two basic principles regarding the intersection of ITS and privacy law: (i) “the more personal the nature of the information that is collected, the greater the number of privacy considerations exist”; and (ii) “the proposed purpose for collecting personal information also triggers different levels of privacy considerations, as information collec-
tion for the administrative purposes of roadway safety and efficiency will raise less of a legal expectation of privacy, compared to when ITS information is being gathered for criminal and law enforcement purposes.40

C. WHAT IS PERSONALLY IDENTIFIABLE LOCATIONAL INFORMATION?

As this summary indicates, much of privacy law analysis in the ITS context is underpinned by the distinction between anonymous and personally identifiable data; the latter implicates privacy interests under the law while the former does not. This article will refer to information that implicates privacy interests as personally identifiable locational information ("PILI").41

Generally, PILI is considered data that could be used to identify an individual (e.g., license plate number) as being at a particular location at a particular time.42 Conversely, anonymous locational information, or non-PILI, cannot be tied back to a specific individual.43 Examples include information from traffic counters or devises that only detect the presences of vehicles in order to control traffic flows, without identifying the vehicle.

As a practical matter, most ITS information is likely to fall within a spectrum of PILI and non-PILI, as opposed to within a strict category of anonymous or personally identifiable. Moreover, data administrators regularly try to convert PILI they have collected into non-PILI by manipulating it to remove identifiers that could link the data to specific individuals, as collecting and using PILI in many instances is not the primary purpose of ITS applications.44

However, the efficacy of these de-identifying or anonymizing practices in terms of protecting privacy, as well as the very distinction between PILI and non-PILI, are increasingly coming into question. Recent advances in re-identification techniques - the process by which seemingly anonymous data is linked with other information in order to associate it with specific individuals - have become surprisingly effective and as a result have significantly eroded the difference between PILI and non-PILI.45 What had previously been thought to be anonymous information

40. Id. at 325.
41. The term "PILI" is used here, as opposed to the term "PII" (personally identifiable information) which is commonly used in the privacy literature, in order to highlight that, in the ITS context, the privacy concerns center on locational information, as opposed to other types of sensitive personal information such as health or financial data.
42. See Douma & Deckenbach, supra note 8, at 318-19.
43. Id.
44. Id. at 319.
Intelligent Transportation Systems can now be combined with other data to connect it with a specific individual.

This blurring of the line between PILI and non-PILI is principally driven by three factors unlikely to abate in the near future: (i) enormous growth in low-cost data processing and storage capabilities that has widely expanded the opportunities for aggregating and integrating data from multiple sources; (ii) targeted advertising and homeland security are creating powerful incentives to obtain and utilize personalized data in both the public and private sectors; and (iii) the increasing availability of publicly available information about individuals is changing notions of acceptable levels of anonymity among the public.46

The diminishing distinction between PILI and non-PILI creates a conceptual problem for privacy law—how to differentiate between which information warrants protection and that which does not. There is clearly a difference-in-kind in terms of privacy concerns between a dataset with traffic counts and one with license plate numbers. The problem is how to draw a conceptual line between the two that has generally applicability, in light of re-identification technology.

This article is not the forum for attempting to resolve this conceptual problem. The Federal Trade Commission ("FTC") in a recent study confronted this problem in the context of consumer privacy and proposed that an inexact but workable line can be drawn between data that can be reasonably linked to a specific individual, computer, or device, including through processes of re-identification, and data that cannot be so linked.47 This article will borrow from the FTC's framework and define PILI collected from ITS applications to mean locational data that can be reasonably connected to a specific individual, device or vehicle, and non-PILI as locational data that cannot be reasonably connected to any individual, device or vehicle.

III. METHODOLOGY

The first objective of this article is to bring clarity to the ITS privacy debate by identifying: (i) who is involved in the creation, collection, use, and regulation of PILI data from ITS sources; (ii) what are their respective goals; (iii) what restraints, if any, there are on achieving their interests; and (iv) where their interests may come into actual conflict. This is largely a descriptive analysis, in effect an assessment of the current state


of affairs with respect to ITS and privacy. This type of study is a basic element in any policy analysis. Surprisingly though, it appears there has been no published analysis of this sort with respect to ITS and privacy to date.48

In many ways, this analysis is similar to a stakeholder analysis in that it involves identifying those institutions, entities, groups, and types of individuals that have a stake in some matter, and their interests and preferences with respect to that matter.49 This article, however, is not what is typically thought of as a stakeholder analysis in that it does not assess the relative power each group has over influencing outcomes or policy with respect to the subject issues, and does not prioritize any group’s involvement. Further, the analysis here does not address the role, interests, and power of advocacy groups (e.g., privacy advocacy groups or ITS industry trade organizations). The positions of these groups are, for the type of analysis here, treated as derivative of their constituents’ views. In this regard, this article is less a stakeholder analysis and more of what may be called a “participant analysis.” That is, it examines who are the direct, “on the ground” participants in the ITS privacy problem.

For purposes of this analysis, a “participant” is defined broadly to capture parties that have a direct role in the ITS privacy issue, not just those involved in ITS data collection and use. Doing so expands the list of participants to include the government (in its regulatory capacity), as well as transportation users who are the subjects of ITS data.

In identifying participants and their interests for this article, input was sought from a panel of experts in relevant fields including ITS, telecommunications technology, transportation, and privacy law. Specifically, initial drafts of the analysis were circulated among these experts, who in turn provided commentary that resulted in extensive revisions to the analysis.

One of the basic issues on which a number of experts commented was how to best organize the discussion of participants. Because public and private actors are treated differently under privacy law, using the public-private distinction as the main organizing framework seemed useful and logical. However, feedback from panelists and the content of the analysis itself suggested that the public-private distinction was secondary, and that more instructive was a first-order grouping of participants based on their functional role with respect to ITS data collection, use, and pol-


49. See Andrew L. Friedman & Samantha Miles, Stakeholders: Theory and Practice 4-9 (2006).
Policy development. Table 1 lists the participants identified and the categories in which they were organized. The analysis in the following Part 4 will follow the organizational structure shown in Table 1.

**Table 1. Participants and Constituent Groups**

<table>
<thead>
<tr>
<th>Participant Groups</th>
<th>Participant Sub-Groups</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. ITS Developers</td>
<td>Firms without a direct relationship with transportation users</td>
<td>Firms in the ITS technology and application supply chain firms (e.g., hardware and software developers)</td>
</tr>
<tr>
<td></td>
<td>Firms with a relationship with transportation users</td>
<td>Auto-Manufacturers</td>
</tr>
<tr>
<td>B. Transportation Users (Subjects of ITS Data Collection)</td>
<td>Individuals</td>
<td>Vehicle Owners, Drivers, Passengers</td>
</tr>
<tr>
<td></td>
<td>Commercial Firms</td>
<td>Freight Haulers; Commercial Bus Lines; Taxi Firms</td>
</tr>
<tr>
<td>C. Government (not as data collector or user)</td>
<td>Role as Protector of Privacy</td>
<td>Legislatures; Courts; Regulatory Agencies (e.g., Federal Trade Commission)</td>
</tr>
<tr>
<td></td>
<td>Role as Facilitator of Economic Development</td>
<td>Legislatures; Regulatory Agencies (e.g., economic development agencies)</td>
</tr>
<tr>
<td></td>
<td>Role as Regulator</td>
<td>Legislatures; Regulatory Agencies (e.g., consumer protection agencies)</td>
</tr>
<tr>
<td>D. Data Collectors &amp; Users</td>
<td>Private Sector</td>
<td>Subscription-Based ITS Providers (e.g., in-vehicle navigation services); Car Rental Companies; Employers; Auto Insurance Companies; Market and Traffic Analysis Firms</td>
</tr>
<tr>
<td></td>
<td>Public Sector/Government</td>
<td>Operators of Transportation Systems; Law Enforcement; Public-Sector Employers</td>
</tr>
<tr>
<td></td>
<td>Quasi-Public</td>
<td>Toll-way Authorities</td>
</tr>
<tr>
<td>E. Secondary Data Users</td>
<td>Marketers</td>
<td>Geo-locational advertisers</td>
</tr>
<tr>
<td></td>
<td>Litigants</td>
<td>Civil Plaintiffs and Defendants; Criminal Defendants; Private Investigators</td>
</tr>
</tbody>
</table>
IV. PARTICIPANT ANALYSIS

A. ITS DEVELOPERS

ITS developers are the private-sector firms that design and produce the devices, networks, and software that collect and manage ITS locational data. As private-sector actors, their goals with respect to ITS are driven principally by profit and market considerations. For these participants, ITS represents a marketplace for new products and services, and to the extent that ITS expands, these firms stand to gain.

With respect to PILI, as a general matter, the basic interest of these firms is that the fewer restrictions on collecting and using PILI the better. More opportunities to collect PILI and more opportunities to use PILI translate into increased demand for their products. Underlying this interest is the principle in information technology that the more personally identifiable information a set of data contains, the greater utility it has for an end user, as well as the inverse, the more anonymous information in a dataset, the less utility it has. Thus, all other things being equal, products that collect and use PILI represent a larger potential market for developers, than those that collect non-PILI.

But all other things are not equal. A number of factors constrain this basic interest of ITS developers. These factors include:

- Lack of market demand for PILI collecting products in a given setting due, for example, to public opposition to the collection and use of PILI, the additional costs or risks associated with protecting and sharing PILI, or privacy laws regulating the use and collection of PILI.

- Strategic positioning by firms in response to whether they think addressing privacy considerations with their products will be beneficial for them in the market or in public discussions on privacy.

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50. Ohm, supra note 45, at 1752-55.

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(e.g., can proactive steps be taken to forestall public policies that limit data collection).52

- The firm’s business and marketing model have incorporated principles of corporate responsibility with respect to privacy.53

The relative influence of these constraining forces for a given firm is to some extent a function of whether that firm sells their products directly to the subjects of ITS data collection. For example, a company that makes tracking devices for car rental companies will likely have a different perspective on PILI, as compared to an auto-manufacturer building a GPS-equipped vehicle that is sold directly to the public. Accordingly, the analysis here is split between these two types of firms.

1. Firms without a direct relationship with the subjects of ITS data collection

These are private-sector firms in the ITS supply chain (e.g., hardware and software developers). Typically, they do not collect data themselves and therefore do not have any direct relationship with transportation users. Neither do they generally use the data themselves. Thus, their position on PILI is largely shaped by the nature of their clients (i.e., the party to whom they are selling their ITS products) and their clients’ position on the need for PILI.54 That is, the extent to which these firms will or will not design their products to collect PILI or include privacy enhancing features is largely driven by whether there is client demand for doing so. For instance, a firm that makes transponders for an automated toll road will incorporate privacy enhancing technology within those devices to the extent the operator of the toll road wants them and, practically speaking, can pass their additional cost on to road users.

2. Firms with a relationship with the subjects of ITS data collection

There are a number of types of ITS developers that sell their products directly to the subjects of ITS data collection. Auto-manufacturers

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52. See Pollach, supra note 52, at 90-91 (discussing instrumental reasons why companies may self-regulate with respect to data collection and use).

53. See id. at 90 (discussing the impact notions of corporate social responsibility may have on data privacy).

54. For example, traffic-data collection systems employing Bluetooth® technology have been developed for those data collectors who want systems that are less expensive to operate than conventional infrastructure-based technology and that do not collect PILI. See e.g., DARRYL D. PUCKETT & MICHAEL J. VICKICH, UNIV. TRANSP. CTR. FOR MOBILITY, BLUETOOTH®-BASED TRAVEL TIME/SPEED MEASURING SYSTEMS DEVELOPMENT (June 2010), available at http://utcm.tamu.edu/publications/final_reports/Puckett_09-00-17.pdf. Developers of this technology specifically market their privacy-enhancing advantages for those clients that do not want to collect PILI, such as public agencies. See, e.g., Privacy Concerns, TRAFFAX, INC., http://www. traffaxinc.com/content/privacy-concerns (last visited October 20, 2012).
are an example in that they include ITS technology as value added features in their vehicles.\textsuperscript{55}

These developers have additional considerations that arise from their direct relationship with the subjects of data collection. These include:

- They may be a developer of technology as well as a collector and user of PILI.\textsuperscript{56} Thus, their interest in PILI is more direct, both in terms of the risks and benefits in collecting and using such information.

- These firms must navigate and manage consumer expectations about privacy with regard to their products, particularly as these expectations and the related economic costs (e.g., costs of data security) change over time. They must do so in order to earn or maintain consumer trust, both with respect to their firm generally and privacy specifically. This is particularly the case where ITS technology is secondary to a firm’s principal business. The main business of auto-manufactures, for instance, is selling cars. They do not want privacy concerns generated by the inclusion of ITS features in their vehicles to harm their overall brand. Accordingly, these types of firms must weigh the commercial opportunities that greater levels of PILI collection allows against the associated risks presented to consumer trust.

Regardless of whether or not they have a direct relationship with the subjects of data collection, ITS developers are an essential pivot point in the ITS privacy debate because of their ability to build privacy enhancing features directly into devices. Early ITS devices often relied on generic, off-the-shelf, technology. Today, however, many ITS applications employ technologies specifically designed for ITS applications.\textsuperscript{57} This presents opportunities to engineer privacy considerations into ITS architectures from the outset, so-called “privacy by design.”

The key aim of privacy-by-design is to use engineering to limit the

\textsuperscript{55} For example, General Motors factory-installs the OnStar system into a number of its vehicle models. OnStar provides drivers with vehicle communication services such as stolen vehicle tracking, automated crash response, and navigation guidance. See OnSTAR, https://www.onstar.com/web/portal/home (last visited Oct. 20, 2012).


\textsuperscript{57} See Dorothy Glancy, Privacy and Intelligent Transportation Technology, 11 SANTA CLARA COMPUTER & HIGH TECH. L.J. 151, 156-60 (1995) (discussing the early history of ITS technologies and their use of off-the-shelf technologies); see also Hoh, et al., supra note 51 (discussing current efforts to design technologies for specific ITS applications).
potential to connect locational data with an individual, while also maximizing the informational value of the data for end users. Further, in privacy-by-design, privacy considerations and data protection are built into the ITS architectures from the outset, as opposed to as an afterthought and add-ons after systems are already in place. Examples include: (i) cryptography methods that increase the anonymity of toll-way transponder data but still permit the toll-way authority to allocate toll charges to individual vehicles; and (ii) the separation of the processing of identity and locational information from in-vehicle GPS units so that no one entity has both locational and vehicle identity data.58

Privacy-by-design is, however, not a win-win silver bullet. Building privacy-enhancing features into ITS applications can make the applications more expensive. More importantly, as advances in re-identification technology and relational databases have shown, even when identifying information is removed, data can still yield PILI when combined with other information sets. Privacy-by-design can thus mitigate ITS privacy concerns, but not necessarily solve them.

For developers themselves, to the extent they can show privacy-by-design technologies improve privacy protection but preserve locational data utility, they can reduce the restraint privacy concerns put on their market. Thus, privacy-by-design can advance developers’ own economic interests and do so in a manner that furthers privacy considerations.59

An increasing cognizance among ITS developers of privacy considerations is evident in the efforts by trade groups and other industry organizations to develop industry-wide privacy principles, and otherwise take steps to self-regulate with respect for privacy.60 This reflects recognition among some portions of the industry that if the public’s privacy concerns with respect to PILI are left unaddressed, particularly in the design and development stages, such concerns could be a significant impediment to the deployment of ITS markets over the long term. In this respect, the presumed preference of developers for the ability to collect and use PILI may be secondary to a desire to avoid unfavorable public policies and public sentiment with regard to PILI data collection.


59. See Blumberg & Eckersley, supra note 58.

B. TRANSPORTATION USERS: SUBJECTS OF DATA COLLECTION

Two kinds of groups are the subjects of PILI collection by ITS applications: individuals and private commercial firms.

1. Individuals

Individuals are the subjects of ITS data collections as vehicle owners, drivers, and passengers. As transportation end users, their goals with respect to ITS are to secure the improvements it can bring to the transportation system such as increased mobility, reduced congestion, improved safety, and more efficient use of resources.

With regard to PILI, individuals have two basic kinds of interests. First, they have a strong interest in the protection of PILI for privacy reasons. Significant harms can result from the unauthorized collection, use, and sharing of an individual's PILI. These harms can be wide-ranging in nature, including economic, dignitary, reputational, political, loss of civil liberties, and sometimes even physical harms (e.g., as a result of stalking). Moreover, these harms to individuals are also harms to society as a whole, in that they can impede or have a chilling effect on socially beneficial behavior and otherwise have a negative effect on civil society.

Second, in addition to this harm-avoidance or privacy-protection interest, individuals also have an interest in securing the benefits that can be obtained from sharing their PILI. Advances in locational technology have, in effect, made PILI a valuable asset for individuals, which they can trade for services and conveniences.\(^6^1\) Pay-as-you-drive car insurance and GPS navigational guidance are just two of the many examples that illustrate this dynamic.

In the context of ITS, both these interests (harm-avoidance and benefit-securing) are restrained by a number of factors. These restraints include:

- To the extent the two interests are in opposition, they restrain each other. That is, the harm-avoidance interest can weigh against the benefit-securing interest, and vice-versa. Sharing PILI to gain some benefit may increase the risk that an individual can suffer a privacy related harm related to information.
- Either of these interests can be restrained by ITS architecture. An ITS application that requires an individual’s PILI may provide a valuable benefit to a transportation user, but it may not allow for the secure sharing of that PILI.
- Individuals' cognitive biases limit their ability to pursue their harm-prevention interest.\(^6^2\) Research shows that people often

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62. See Alessandro Acquisti & Jens Grossklags, Privacy and Rationality in Individual Deci-
overly discount future privacy risks in exchange for immediate benefits.\textsuperscript{63} This is due to a number of factors, including that: protecting privacy is typically a secondary consideration for individuals that arises in the context of some other primary objective; and PILI is often collected in small increments and individuals often do not perceive a significant privacy threat with respect to each incremental piece of such data, but in the aggregate such data can amount to a significant privacy invasion.\textsuperscript{64}

- The pursuit of these interests can be restrained by the law, particularly with regard to the harm-prevention interests. The law may not protect PILI from unauthorized collection or use, or it may not require an adequate or sufficiently clear notice of the privacy risks involved with sharing PILI in a given circumstance.\textsuperscript{65}

There is a complicated interplay among these interests and restraints that shapes how individuals behave with respect to their PILI.

Most individuals having a strong stated preference for maintaining the privacy of their movement and travel habits. When the government engages in the collection of PILI, it raises longstanding concerns about widespread government surveillance and overbearing scrutiny of private lives for law enforcement or political purposes. When private sector firms collect the data, individuals have concerns about unaccountable private parties knowing “too much” about them, as well as to whom such information may eventually be sold.

However, most individuals’ stated preferences do not match their actions.\textsuperscript{66} Studies indicate an apparent dichotomy between individuals’ stated privacy preferences and their actual behavior.\textsuperscript{67} Research shows that “individuals are willing to trade privacy for convenience or bargain the release of personal information in exchange for relatively small rewards.”\textsuperscript{68} In short, individuals say they value their privacy much more than they do in practice.

As a result, it is difficult to determine or measure what individuals’ actual privacy preferences are for their PILI in many situations. Furthermore, whatever individuals’ privacy preferences are, they are not static. They can shift rapidly over time as changes in technology, the law, and government and corporate behavior influence social norms about

\textsuperscript{63} Id. at 26-27.
\textsuperscript{64} Daniel J. Solove, Fourth Amendment Pragmatism, 51 B.C. L. REV. 1511, 1523 (2010).
\textsuperscript{65} See id. at 1519-20.
\textsuperscript{66} Id. at 1522-23.
\textsuperscript{67} Acquisti \& Grossklags, supra note 62 at 26.
\textsuperscript{68} Id.
privacy.\textsuperscript{69}

Despite these complexities, the characteristics of some categories of individuals in the ITS context do lead them to have objective differences in the relative weight they put on privacy protection. These differences stem from the basic characteristics of the individuals in each category, the way certain ITS technology benefits or interacts with them, and how the law treats them.

\textit{a. Vehicle Owners}

Many types of ITS technology only gather information that is tied to a specific vehicle (e.g., via license plate numbers) rather than an individual driver or occupant.\textsuperscript{70} Through vehicle registration databases, this vehicle locational data can be positively linked to the owner of the vehicle.\textsuperscript{71} It can as also be used to infer the possible driver of the vehicle.\textsuperscript{72} Consequently, such vehicle data is PILI.

This ability to positively identify the owner but not necessarily the driver is unimportant in some circumstances as the owner and driver/passengers may be treated as one-in-the-same. Toll collectors, for example, do not necessarily care who is driving a given car on their roadway. Similarly, in the case of automated traffic enforcement systems (e.g., red-light cameras) owners are sometimes held liable, as a matter of law, for the offense regardless of who is driving the car.\textsuperscript{73}

There are, however, circumstances where this owner-driver distinction is important, most notably in the case of criminal law enforcement. Courts have placed limits on the extent to which vehicle owners can be held vicariously liable for acts committed by a user of their car.\textsuperscript{74} Furthermore, in criminal and civil cases, evidence from ITS networks that a particular car was at a given location at a certain time is only circumstantial evidence that the owner herself was there.\textsuperscript{75} Accordingly, all other

\textsuperscript{69} Solove, supra note 65, at 1517-18.
\textsuperscript{70} Glancy, supra note 2, at 301-02.
\textsuperscript{71} Id. at 304-05.
\textsuperscript{72} Id.
\textsuperscript{73} For a list of whom states with traffic law enforcement cameras and other automatic enforcement devices hold responsible for violations, see Automated Enforcement Laws, Ins. Institute for Highway Safety, http://www.iihs.org/laws/automated_enforcement.aspx (last visited October 13, 2011).
\textsuperscript{74} E.g., State v. Guminga, 395 N.W.2d 344, 346 (Minn. 1986) (holding statute imposing vicarious liability violates substantive due process because of penalties that may include jail time and because, even if prison sentence is not imposed, a conviction would affect the defendant's criminal history score should he “be convicted of a felony in the future”).
\textsuperscript{75} Briggs & Walton, supra note 48, at 13. Cf. John W. Bagby & Gary L. Gittings, Litigation Risk Management for Intelligent Transportation Systems (Part Two), ITS Quarterly, Fall 1999, at 53, 64 (discussing how time and date stamped information of a person's bridge crossings, tunnel use, and tollway use “can be strong circumstantial evidence in criminal or civil
things being equal, vehicle owners as a group have a different and lesser privacy-protection interests in their vehicle’s locational data, as compared to drivers’ interest in their locational data. The privacy-protection interest of owners is lesser because of the legal and practical limits on what actions by an unidentified driver can be attributed to a vehicle’s owner.76

b. Drivers

In the ITS context, individual drivers have the strongest interests in their PILI, both in terms of privacy protection and in benefit gaining. ITS devices that can positively identify and locate individual drivers at a particular moment in time (e.g., roadside face recognition cameras and in-vehicle biometric devices) pose the greatest potential to undermine their interest in privacy protection.

Moreover, the capacity of ITS applications to compile large amounts of PILI, in electronic form, presents a more significant privacy risk than information about a discrete or individual trip. Such aggregate data enables the drawing of an intimate picture of a person’s life, creating the capacity to tell third parties “where that individual works, sleeps, worships[,] and recreates with others.”77 In turn, though, such detailed PILI also has the greatest value to drivers in terms of the ability to exchange it for ITS benefits and services.

There are several sub-categories of drivers that, given their circumstances, may have a lesser interest in their PILI than drivers generally (e.g., teen drivers), or otherwise warrant special consideration. Employees fall in this latter category. ITS technology provides the means for employers to monitor in detail the travel behavior of their employees.78 This may, for example, occur when employees are utilizing employer-provided vehicles (e.g., sales people), and thus provide employers the opportunity to track their employees both in the course of performing their duties as well as outside their employment. In turn, such information may then be available to third parties, including law enforcement. Given the typically inferior bargaining position of most employees vis-à-vis their employer, the privacy-protection interest of employees with respect to PILI warrants special consideration.79

In addition, the collection of the PILI of public employees, such as

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76. See Douma & Deckenbach, supra note 8, at 316-18.
77. Id. at 299.
78. See Roseberg, supra note 33, at 144-46.
79. Employees who are part of a union may be an exception to this, as they may have sufficient leverage with their employer to include locational privacy protection in their collective bargaining agreement.
police officers, probation officers, agency administrators, and judges, may raise distinctive concerns as such data may be considered public records, subject to freedom of information requests.\textsuperscript{80} Accordingly, public employees may have distinct interests with respect to the collection of their PILI by their employers.

c. Passengers

Drivers are not the only occupants of vehicles who can have their identity and location captured by ITS technology. Voice command systems and in-vehicle cameras can be used to identify vehicle passengers.\textsuperscript{81} As with drivers, such technologies trigger a heightened level of privacy concerns because they collect PILI with which passengers may be readily identified. Furthermore, in certain circumstances such as when passengers are in a vehicle that is not their own or with which they are not familiar, passengers may have an even greater privacy interest than drivers, in that they may have no knowledge or reason to know their PILI is being captured.

2. Commercial Firms

Private-sector businesses that own and operate commercial vehicles are also the subject of ITS applications that collect PILI. For these companies, ITS has the potential to bring a wide range of benefits by improving the flow of information among their vehicles, company managers, and the transportation system. This improved flow of information can raise productivity, reduce administrative costs, and increase profits.\textsuperscript{82}

Many of the same types of ITS applications that can collect PILI about individuals also collect PILI about commercial vehicles (e.g., tollway tag transponders and GPS navigation services). However, there are also two additional ways in which PILI about commercial vehicles can be collected, that do not apply to individuals: compliance with vehicle regulatory regimes; and vehicle fleet management systems.\textsuperscript{83}

a. Data from Regulatory Compliance

Companies that own and operate commercial vehicle owners are

\textsuperscript{80} The federal Freedom of Information Act and many state equivalent statutes contain exceptions under which the requested information will not be made public because it is an “unwarranted invasion of personal privacy.” See 5 U.S.C. § 552(b)(6) (2011). The PILI of public employees may fall within this exception.

\textsuperscript{81} There are a number of products on the market that allow the video recording of a vehicle’s passenger compartment, and thus the identification of passengers. See, e.g., DRIVECAM, Inc., http://www.drivecam.com/ (last visited June 1, 2012).

\textsuperscript{82} Intelligent Transp. Sys. Joint Program Office, supra note 11.

\textsuperscript{83} BRIGGS & WALTON, supra note 48.
generally subject to a number of state and federal regulations that do not apply to drivers and owners of passenger vehicles. These regulations stem from the nature of commercial vehicles such as their weight and size, the cargo or number of passengers they carry, the borders they cross, etc.

The administration of some of these regulations and compliance with them by businesses can often be facilitated and improved by ITS technology. An example of this is electronic clearance technology that automates the inspection process of freight haulers at weigh stations and border crossings. Such systems involve in-vehicle transponders and roadside technologies for vehicle identification and weighing.

Generally, both the regulator and regulated benefit from the collection of PILI through these technologies. Typically such systems only automate existing regulatory processes, that is, they only generate locational information regulators already gather through manual collection processes. However, the greater reliability and coverage of the automated collection process and the immediate digital format of the information, raises concerns for regulated firms that such information could be used by the parties collecting the data for tracking individual vehicles and other secondary purposes, including speed enforcement.

b. Data from Internal Management Systems

Many businesses that operate commercial vehicles have internal management systems that employ ITS applications to track the movement and location of their vehicles. These systems allow businesses to do things like better control and assess fuel usage, plan delivery schedules, and evaluate driver performance. Businesses typically take measures to protect this information from outside parties, for a number of practical and business reasons (e.g., employee safety, protection of trade secrets etc.). Some firms, however, sell the locational data from their fleets to third parties, such as traffic-reporting services, but only after it has been anonymized.

Regardless of how it is generated, commercial firms generally have the same general interests in PILI that individuals do. They have an interest in (i) protecting it from unauthorized uses (i.e., harm avoidance) and (ii) employing it for certain benefits or services. However, the na-

84. See, e.g., id. at 33-34.
85. Id. at passim.
86. Id. at 37-41.
87. Id.
88. Id. at 80.
89. Ryan Fries, Mashrur Chowdhury & Mostafa Reisi Gahrooei, Maintaining Privacy While Advancing Intelligent Transportation Systems Applications – An Analysis, TRANS. RESEARCH
ture of these interests for businesses, in comparison to those of individuals, differs in two important respects.

First, unlike individuals, the privacy-protection interest for businesses is also driven by concerns about competitors accessing their PILI. Some businesses consider the movement and position of their company vehicles to have value in their industry. Within the trucking industry, for example, a competitive advantage can be gained if the positioning and routing of a firm’s fleet is optimized relative to the geographic flows of freight. As a result, many freight movers view their shipping routes and vehicle positions as trade secrets. Similarly, business people across many industries do not want their travel behavior in company vehicles to be captured and disclosed to competitors, lest they reveal information about who their potential new customers or takeover targets are. Thus, any ITS technology that can identify and track individual vehicles raises the concern that competitors may gain access to such information. However, some businesses, such as commercial bus services, may see competitive advantages in the dissemination of their PILI and thus may take different stances on locational privacy.

Second, with respect to their benefit-seeking interest, businesses want ITS technologies to improve and streamline the commercial vehicle regulatory regimes to which they are subject. This interest can provide a significant impetus to the spread of ITS technology, as the example of electronic clearance technology above illustrates.

The restraints on commercial firms’ interests in PILI are also similar to the restraints on individuals’ interests, but again with two notable exceptions. First, the interest of businesses in protecting their PILI from competitors falls within the protections afforded by trade secret laws. As a result, this interest, unlike many aspects of the harm-avoidance interest of individuals, is generally covered by a well-developed area of the law. Second, when weighing the advantages and disadvantages of sharing their PILI, companies do not generally suffer from the same cognitive biases that individuals do.

Beyond these descriptive differences between individuals and commercial firms as the subjects of PILI data collection, it is also important to

90. Id.
91. Briggs & Walton, supra note 48, at 60.
93. Id.
95. Id. at 2-3.
separate businesses because they represent a powerful political constitu-
ency, who may use their influence to attempt to shape the ITS privacy
debate (and any resulting regulations) in ways that differ from the inter-
est of individual drivers. This role of businesses in the privacy debate,
though, is complicated by the variability of concerns about ITS privacy
across industries.

Furthermore, commercial firms are distinctly important to ITS pri-
vacy issues because, as a practical matter, they are often in the best posi-
tion to be early adopters of ITS technology. To the extent they view ITS
applications as possibly creating privacy problems for them down the
road, they may be reluctant to embrace and drive the development of ITS
technologies. For example, many businesses likely want to avoid ITS ap-
plications that involve the sharing of PILI with government planners or
vehicle regulators, unless they can be assured that such information will
not end up being used for other purposes, such as law enforcement, or
being made publicly available through freedom of information act
requests.

C. GOVERNMENT AS AN INSTITUTIONAL PARTICIPANT
(BUT NOT AS A COLLECTOR OR USER OF DATA)

The government has a clear stake in whether PILI can be collected
and, if it is collected, to whom it is available and for what purposes. It
likewise has a strong stake in the development of ITS for the benefits it
brings to the transportation system. However, the government’s perspec-
tive on these issues is not uniform. It varies depending on the level of
government being discussed, whether federal, state, or local. It also var-
ies across the number of roles government has, from that of a collector
and user of ITS data for law enforcement and transportation planning, to
that of being an institutional defender of privacy. In this section, the fo-
cus is on the government’s interests when it is not involved in collecting
or using ITS data, and the perspectives this generates on PILI and ITS
generally.

1. Government Institutional Interests in Privacy

The federal and state governments, through their judicial and legisla-
tive capacities, play a central role in defining the formal privacy rights on
which many of the privacy concerns about the collection of PILI are
based. In this respect, the government has a strong institutional interest
in the protection of these rights and the prevention of harms resulting
from the violation of these rights. Similarly, the government has a polit-

96. See generally Douma & Deckenbach, supra note 8; Glancy, supra note 2.
97. Glancy, supra note 2.
ical interest in being responsive to the public's concerns about protecting PILI, particularly as technological changes alter privacy expectations and necessitate the redefining of formal privacy rights to fit contemporary circumstances.

In comparison to the federal government, state governments are by their nature often more responsive to constituent and advocacy groups' demands, and thus can be expected to be the place where concerns over privacy and PILI are most likely to find legislative expression.98

2. Facilitator of Economic Development

In promoting public welfare, the government regularly acts to encourage economic development and innovation. At the federal level, this involves using public policy to promote the economic competitiveness of the U.S. relative to other countries.99 Many ITS applications clearly have the potential to increase economic efficiency and output, for example, by reducing traffic congestion.100

Some commentators and ITS industry representatives have expressed concern that the U.S. has fallen behind other countries in the development and deployment of ITS, and that this has a negative impact on the economic well-being of the U.S.101 Accordingly, to the extent that privacy concerns over the collection of PILI are an impediment for ITS in the U.S., relative to other countries, the federal government has an interest in lessening those impediments.102 In the same vein, to the degree that disparate state privacy laws create obstacles for ITS, the federal government has a stake in establishing a measure of legal uniformity across states with respect to the handling of PILI.

At the state level, one of the principal drivers of government decision making is the state's economic competitiveness, relative to other states as well as internationally.103 Hence, to the extent that the development and deployment of a given ITS technology is viewed as improving a

98. For example, New Hampshire has a statute limiting when state actors can use ITS technology to determine the ownership of a motor vehicle or the identity of a motor vehicle's occupants on public roads. N.H. REV. STAT. § 236.130 (2012).
100. This may account, in part, for the large amount of funds and energy the U.S. Department of Transportation has spent on ITS research. Glancy, supra note 2, at 301.
102. See EZZELL, supra note 100, at 2-3, 5.
103. See id., at 16.
state’s economic performance, this will weigh against a state taking measures to limit the use of that technology on the basis of privacy considerations.

Similarly, economic competitiveness is an important consideration for local government, and the quality and nature of the transportation system in a given local area plays a central role in its economic competitiveness relative to other areas. Given the potential of ITS to reduce congestion and otherwise improve transportation systems in a cost-effective manner, local governments can generally be expected to lean against restricting ITS due to concerns over PILI.104

3. Regulatory Activities

Federal and state governments are the central regulators of economic life in the U.S. Through their regulatory and administrative activities, they promote certain public policies, such as fairness, consumer safety, competitive markets, pollution control, efficient tax collection, the free flow of information, and so on. ITS has the potential to help the government pursue a number of these objectives more effectively and efficiently by, for instance, improving public safety by reducing the number of car accidents through better vehicle and infrastructure designs.

Given the advantages ITS collection brings to achieving a number of various policy objectives, government as regulator now regularly confronts issues at the intersection of privacy and ITS. Recent examples include the Federal Trade Commission being asked to investigate whether an ITS data collector is adequately disclosing their locational data collection and use practices to consumers,105 the National Highway Traffic Safety Administration considering rules regarding whether car manufacturers must include event data records (more commonly known as black boxes) in all new cars and what type of information these devices will record,106 and the U.S. Department of Transportation’s research into usage-based vehicle taxes that may involve the measurement of distance travelled with in-vehicle GPS and telematic devices.107

In its regulatory capacities, the government often has to balance competing public policy objectives. Its role is no different in the case of ITS and privacy. The government as a regulator will frequently need to weigh how privacy considerations should shape and limit the use of ITS technology that collects PILI in particular circumstances. From this perspective, the government cannot generally be presumed to favor or disfavor the collection of PILI, but rather can be seen as a key player in mediating the relationship between privacy and ITS.

D. Data Users and Collectors

This category of participants consists of those actors involved in the collection and use of PILI from ITS. They operate ITS technology and then manage, store, and use the resulting PILI. Participants in this category may be involved, to different degrees, in the collection or use of PILI from ITS, but to some extent they do both (participants that are only involved in the use of PILI are discussed in the following section).

Participants in this section will be organized based on whether they are private, public, or quasi-public actors. This is a useful arrangement given that privacy law treats collectors and users of PILI somewhat differently depending on which of these sub-categories they are included in. Moreover, the purposes for which these participants collect and use PILI are, to some extent, distinguishable along these lines.

1. Private-Sector Participants

For private-sector data collectors and users, their goals with respect to ITS are principally driven by economic considerations. In broad terms, these firms gather and use, or want to have the ability to gather and use, PILI because it improves their bottom line. It can reduce costs through improved decision-making. It can also generate profits, either through the firm's own use of the data or by selling it to other parties.

The private sector's involvement in the collection and use of PILI from ITS is rapidly evolving. The data has a wide range of applications and there are a variety of private firms that can benefit from it. The strength of each firm's interest in PILI varies depending on industry and data needs. Some of the most notable current PILI collectors and users include the following.

a. Subscription-Based ITS Providers

Subscription-based ITS providers are companies that collect PILI from the vehicles of owners with whom they have a contractual relation-
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ship to provide some service related to that data. Examples include companies like OnStar, which provides vehicle communication services such as stolen vehicle tracking, automated crash response, and navigation guidance. These companies have a direct economic interest in PILI as its collection and use is a core part of their business.

Outside of fraud and consumer disclosure requirements, there are generally no existing legal constraints on the PILI these companies can collect. In principal they could try and collect as much PILI information as is technologically and commercially feasible. In practice, however, these firms have considerations beyond the law that restrain their collection of PILI. These include (i) the cost and time involved in protecting the data from security breaches or having to produce it for law enforcement or civil litigants, (ii) principles of corporate responsibility, and (iii) the privacy preferences of their customers and the public at large, given that the use of their services is voluntary and they are presumably seeking as wide a customer base as possible.

This dynamic reflects the policy position that the market can best determine the extent to which PILI should be protected—consumer choice, profit incentives, and cost considerations will drive firms towards an optimal level of privacy protection. In this light, when determining the extent to collect and use PILI, subscription-based participants can be understood as weighing (a) the privacy preferences of their users (and prospective users) and the cost of collecting, managing, and protecting PILI, against (b) the commercial advantages that can be gained from PILI.

To the extent this calculus results in companies self-imposing restraints on their collection and use of PILI, this may be evidenced by the customer contracts or their privacy policies. Privacy policies, generally speaking, are an organization's statement about how it collects, uses, pro-

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112. See Clarke, supra note 93.
tects, and shares a customer or client’s data.\textsuperscript{113} For the most part, private-sector companies are not required to have privacy policies, apart from select circumstances.\textsuperscript{114} Compared to customer contracts, privacy policies tend to be more specific about a company’s privacy practices, but the policies are typically not legally binding.

Nevertheless, privacy policies can play an important role in enhancing privacy. They can create certain expectations among customers which companies may feel compelled to honor in order to maintain customer trust and market competitiveness. In this regard, the policies can promote transparency and competition among companies on privacy issues.\textsuperscript{115} Moreover, to the extent companies engage in a deliberative process to develop their privacy policies, doing so can help identify where privacy-enhancing steps can be cost-beneficial, such as improving internal data security to reduce the risk of costly data breaches.

\textit{b. Car Rental Companies}

Many businesses that operate commercial vehicles have internal management systems that employ ITS to track the movement and location of their vehicles.\textsuperscript{116} These companies have a strong economic interest in the collection of this data for the purpose of improving the ability to manage their assets. The PILI collected by these businesses raises privacy concerns for three groups: the employees of these businesses who drive the vehicles (discussed \textit{supra} with respect to individuals in Section 2.A); the company itself to the extent the data can be accessed by third parties (discussed \textit{supra} with respect to commercial transportation users in Section 2.B); and third-party drivers of these vehicles. Car rental companies are those businesses that allow third-party drivers to use their vehicles, and they are the subject of this subsection.

Car rental companies have found a number of uses for GPS and telematic technology in their vehicles.\textsuperscript{117} These uses mainly involve the monitoring

\begin{footnotesize}
\begin{enumerate}
\item[113.] The form and content of privacy policies vary, but there are widely-recognized concepts on which they are typically built. \textit{See Fair Information Practice Principles, CIPP GUIDE} (Jan. 18, 2010), https://www.cippguide.org/2010/01/18/fair-information-practices-principles/.
\item[114.] For example, under federal law, financial institutions and health care service providers are required to have privacy policies. Gramm–Leach–Billey Act of 1999, 15 U.S.C. § 6801(a)-(b) (2011); Health Insurance Portability and Accountability Act of 1996, 42 U.S.C.A. §§ 1320a-7(a)(3)(B)(ii), 1320a-7e(b)(3) (2011). In addition, some states have broader laws requiring companies to have privacy policies, most notably of these is California’s “Shine the Light” law, \textit{CAL. CIV. CODE} § 1798.83(b)(1)(a) (2006).
\item[115.] \textit{FEDERAL TRADE COMMISSION, supra} note 47.
\item[117.] \textit{Id}.\end{enumerate}
\end{footnotesize}
of, compliance with, and, in some instances, enforcement of rental contracts. Examples include:

- **Geographic restrictions.** Rental companies often place geographic restrictions on a vehicle’s use. When a customer drives a vehicle across a restricted boundary, in-vehicle GPS and telematic devices can alert the rental company. The company can then disable the vehicle using a remote ignition interlock that prevents the vehicle from being started, or more commonly, use the telematic systems to calculate distance penalties.\(^{118}\)

- **Ensuring use by only the authorized driver.** Car rental agreements typically only authorize named individuals to drive the rented vehicle. Some rental companies, when they suspect unauthorized use, will monitor the car’s movements to check whether it is being driven in areas where they would expect the authorized driver to be, such as where they work or live, or where they indicated they were going to travel.\(^{119}\) If the vehicle is not there, the company may take measures to disable and recover the vehicle.

Each of these uses requires at a minimum that the rental company be able to track the location of individual vehicles. In this respect, car rental companies can be viewed as having a legitimate business interest in the ability to collect and use PILI from their ITS systems—doing so helps manage and protect their vehicles.

An open question is whether car rental companies should get the consent of their customers to collect this data, or at least disclose their PILI collection practices. Unlike subscription-based ITS providers, PILI collection is not part-and-parcel of the service rental companies provide their customers. The data’s principle purpose is for the protection of the car rental companies’ property.

Currently, there is no clear consensus within the rental car industry on whether the collection and use of PILI should be disclosed to customers.\(^{120}\) Some disclose to encourage compliance with the rental contract while others do not for, among other reasons, fear customers may disable the equipment.\(^{121}\) To the extent the industry does not have a recognized disclosure practice, this limits the argument that consumer choice can be used to manage privacy issues.

The industry does have considerations that restrain its collection of PILI beyond consumer choice. One is liability exposure for the conduct

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119. Lubinsky, *supra* note 118.

120. *Id.*

121. *Id.*
of rental car drivers. Given that rental companies have the ability to monitor speed and location, they want to avoid scenarios where they have a responsibility to disable vehicles or inform the authorities when drivers are known to be engaging in reckless or suspected unlawful behavior. Another consideration is the expense of responding to requests for this data from law enforcement and civil litigants.

In addition, a few states have imposed legal constraints on the collection of PILI by car rental companies. This has been principally driven by consumer concerns about abuse. New York and California, for example, now prohibit the use of tracking devices by rental companies except for limited purposes, such as the loss of a vehicle. These laws represent one of the few instances where the collection of PILI has been legally restricted for a particular industry.

c. Employers

Private-sector employers now regularly outfit their company vehicles with GPS and telematic devices. Employers do so to increase the productivity and safety of their employees and vehicles, as well as to encourage responsible behavior among employees. Freight companies, for example, can use real-time locational data from their fleet to coordinate vehicles over the course of a day as pick-up and delivery needs change, and many different kinds of employers can use locational data to cross-check employee timesheets with vehicle movements.

The locational information collected by employers is necessarily PILI. Employers typically know which employee is driving which of their vehicles. Moreover, for locational information to be of value to employers, it must be personally identifiable. Accordingly, employers can be seen as having a legitimate interest in being able to gather the PILI of their employees while they are in company-owned vehicles for bona fide business reasons.

While employers find a number of benefits in outfitting their vehicles with location monitoring devices, employees can see it as overly intrusive surveillance of their activities and invasion of their privacy, particularly to the extent they are monitored during non-work periods. The employer-

122. Id.
126. Id.
employee relationship is the subject of much government regulation, but currently there are no federal or state laws that prohibit private employers from using locational monitoring devices in their company-owned vehicles. At least one state, though, has a law requiring an employee’s consent before such devices can be used.

State privacy laws and common law tort principles may place limits on private employers’ use of tracking devices, especially with respect to off-duty monitoring. However, because of the relatively recent deployment of these technologies, there have been few reported cases so far applying privacy laws or tort principles to employee locational tracking. In the cases that have been reported, courts have generally given preference to employers’ interest in the protection and productivity of their vehicles, over the privacy interests of employees. Nevertheless, given the lack of legal certainty, the practice among many private companies now is to seek the consent of their employees and to develop written polices about when the location of employees can be monitored and for what purposes. Furthermore, employers may be subject to union contracts that place limits on when they can collect PILI about their union employers.

d. Insurance Companies

The ability to collect PILI is having a significant impact on how auto insurers underwrite drivers. Conventional car insurance typically assess the risk of drivers based on a number of generic risk profiles, including age, sex, location, and type of car, along with driving history. These categories are based upon risk averages and generally over or underestimate the risk of a given driver. PILI about an individual driver allows insurers to create a more accurate risk profile of that driver, and in turn better match the price of coverage to the actual risk presented. This rationale creates a strong business interest in PILI for insurance companies. A societal interest is also served by insurance companies having this data, as it allows them to more fairly price an individual driver’s risk to the transportation

127. See id., at 153. An exception to this is when a collective bargaining agreement prevents an employer from using location-monitoring devices with respect to union employees, since collective bargaining agreements are covered by the National Labor Relations Act. See Unfair Labor Practices, 29 U.S.C. § 158 (2011).
129. Roseberg, supra note 33, at 151-52.
130. Id. at 146, 148.
131. Id. at 150-52.
The simplest form of this new type of insurance, often generically referred to as usage-based insurance, is based on the amount of miles actually driven. More sophisticated forms include additional variables to gain a more complete risk profile, such as elapsed driving time, duration of driving periods, during what time day or night a car is driven, where the car is driven, the driver’s acceleration and braking patterns, and driving at excessive speeds (e.g., over 80 mph). Some forms of usage-based insurance are targeted at the parents of teenage drivers and offer features that alert parents if their teenager has violated certain conditions, including curfew, geographic and speed restrictions, or whether they have not arrived at school within a certain time.

Usage-based insurance appeals to consumers because it offers the possibility of lower rates. To take of advantage of it, though, drivers have to outfit their cars with telematic devices to record and transmit information about their driving behavior to insurers. For insurers, the ITS data they collect must be personally identifiable—they need to be able to link driving behavior to a particular driver, or at least a particular vehicle.

However, for some forms of usage-based insurance, locational information is not necessary. And some insurers have begun to differentiate themselves in the marketplace based on whether they require locational tracking for their usage-based insurance. An executive from Progressive Insurance Group described his company’s position on privacy and locational tracking this way:

"The most sensitive [privacy] issue is location tracking . . . . We’ve been at this for quite some time, and we’ve concluded there are arguments on the benefits of location, but concluded we didn’t need it for purposes of rating risk."

In this regard, insurance companies can be understood as viewing consumer choice as the best manager of privacy issues, given that the type of insurance a consumer purchases is voluntary and the market can offer insurance options that do not require PILI. In line with this, insurers can be expected to disfavor public policies that place restrictions on the collection and use PILI, as that may restrict current and future market

134. Id.
135. Id.
137. Lachnit, supra note 134.
opportunities.\textsuperscript{138}

On the other hand, auto insurance is highly regulated at the state level. These existing regulatory platforms could be used to address concerns about the secondary uses of PILI collected by insurance companies, as well as require the market to provide products that do not require PILI so that those policies that do require PILI remain effectively opt-in.

e. Market and Traffic Analysis Firms

Market and traffic analysis firms are interested in ITS information because it can help them understand consumer travel behavior and the traffic characteristics around particular locations.\textsuperscript{139} This information, for instance, can improve decision-making with regard to real estate valuation and the siting of businesses and buildings. While this type of location data has long been collected by such firms through travel surveys and traffic counters, ITS technology increases the volume, scope, and accuracy of this information.\textsuperscript{140}

ITS applications that collect PILI increase the granularity, and thus utility, of traffic data, improving the modeling of origin-destination patterns and the behavior of particular kinds of travelers in given areas. Further, some applications that collect PILI for traffic and market analysis purposes, such as GPS-equipped vehicles, have the potential to collect data less expensively than applications that collect non-PILI.\textsuperscript{141}

However, despite the advantages of PILI, many of this industry’s data needs can be met through anonymous geodemographic data sets. For instance, measuring the amount and timing of traffic flows does not require PILI.\textsuperscript{142} Thus, while collecting and using PILI does provide a marginal benefit for these participants, non-PILI is often an adequate or equivalent substitute.

f. Operators of transportation systems (e.g., government contractors)

In an effort to save money and improve efficiency, governments regularly outsource the operation of transportation services and infrastructure management to private sector companies. As a result, some private-sector firms collect PILI data on behalf of the government or in the process of carrying out what has been traditionally thought of as a govern-

\textsuperscript{138} Virginia is one of the few states to address the use of ITS data by auto insurers. It has a statute that generally prohibits insurers from treating consumers differently, if they refuse to provide the insurer ITS generated data. \textit{Va. Code} § 38.2-2213.1 (2012).
\textsuperscript{139} \textsc{Briggs} & \textsc{Walton}, \textit{supra} note 48, at 90-91.
\textsuperscript{140} \textit{See id.}, at 1, 3, 9.
\textsuperscript{141} Hoh et al., \textit{supra} note 52, at 1-2.
\textsuperscript{142} \textsc{Briggs} & \textsc{Walton}, \textit{supra} note 48, at 10-11.
ment service. Examples include private firms that operate speed cameras that identify vehicles for purposes of enforcing traffic regulations.\textsuperscript{143}

Such private companies have an obvious interest, principally economic, in the collection and use of PILI. This interest though is circumscribed, in that it is essentially derivative of the government’s interest in that data. That is, the contractor’s interest in collecting and using the PILI does not extend beyond the legitimacy of the government’s own interest in that data.\textsuperscript{144} For example, a company operating red-light cameras on behalf of a local jurisdiction does not have a legitimate interest in using the data it collects for purposes other than enforcing the traffic rules.

A conceivable exception to this lies when the contractor is purposefully given some degree of ownership of the PILI it collects on the government’s behalf. This could arise when the government engages a contractor to collect PILI for it, and part of the payment to the contractor for doing so is a concession to use the PILI for some other purposes, such as advertising. Such a scenario would raise difficult policy questions about the obligations of the contractor with respect to such data.

2. Public Sector Participants

Public-sector entities collect and use PILI from ITS sources. They do so in three main capacities: (a) as managers of transportation systems, (b) as law enforcement, and (c) as employers.

\textit{a. Manager of Transportation Systems}

In their role as managers of public transportation systems, the government has its most widespread involvement in the collection and use of PILI from ITS. This involvement mostly occurs at the state, regional, and local levels of government through a mix of actors, such as state-level agencies (e.g., departments of transportation and departments of motor vehicles), metropolitan planning organizations, as well as regional, county, and city agencies.\textsuperscript{145}

Traffic monitoring and transportation planning are two of the princi-
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Pal activities for which these actors use ITS data. The very purpose of many ITS applications are to provide information to the public sector about traffic flows and infrastructure use. Such data increases the efficiency and safety of transportation systems, by enabling and improving such things as the modeling and management of traffic congestion, analyzing future infrastructure needs, performing safety analysis using driver and vehicle behavior characteristics, and monitoring air quality and its relationship to traffic patterns.\(^{146}\) This information generally comes from infrastructure based technology (as opposed to vehicle based) and measures things like vehicle counts, travel times, road speeds, and route patterns.\(^{147}\) While much of this data is location specific, it is not personally identifiable in that the devices do not identify individual vehicles or drivers. Accordingly, for most traffic monitoring and transportation planning activities, anonymous information is sufficient.

However, these activities are not completely shielded from the ITS privacy debate. Technological developments, such collecting data from in-vehicle GPS units, raise the prospect of more accurate and fine-grained travel data for traffic monitoring and transportation planning, as well as less expensive data collection.\(^{148}\) But these technologies also involve collecting PILI, raising the attendant privacy issues.\(^{149}\)

For some other purposes, transportation agencies already regularly collect PILI. These are generally cases in which for some reason individual vehicles need to be identified at particular locations in the transportation system. Examples include identifying commercial vehicles at weigh stations and border crossings and identifying vehicles using roads subject to usage charges (e.g., toll-ways, HOT lanes, and congestion pricing). Identification of this nature is typically done through the detection of in-vehicle devices by roadside systems and the use of cameras or video technology to capture license plates. This type of information is personally identifiable in that the vehicle locational data can be linked to customer accounts, including credit card and vehicle registration information, in order to process usage charges.\(^{150}\) Technical steps are often taken to try and minimize the extent to which this information can be personally identifiable, for instance by stripping data pieces of unique identifiers.\(^{151}\) In addition, sometimes there are legal or policy requirements that PILI be purged from databases after a defined period. But these measures are

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\(^{146}\) Briggs & Walton, supra note 48, at 2, 5, 80-81.

\(^{147}\) Id. at 82, 145.

\(^{148}\) Hoh et al., supra note 52, at 1-2.

\(^{149}\) Id. at 2-5 (describing a possible approach to increasing the privacy protection of traffic data collected from in-vehicle GPS units).

\(^{150}\) Douma & Deckenbach, supra note 8, at 318.

\(^{151}\) Fries et al., supra note 91, at 4-6.
not always successful in completely anonymizing or protecting the data and, in any event, they create additional costs for agencies. ¹⁵²

As a general legal matter, the privacy concerns with the government’s collection of this type of PILI are mitigated by the fact that transportation users voluntarily elect to use the roadways these ITS applications monitor and, if applicable, voluntarily install the relevant in-vehicle devices. Thus they ostensibly consent to such data collection. However, this consent-based solution to the privacy problem has several vulnerabilities. First, to the extent the sharing of PILI becomes a de facto requirement for driving, the notion of voluntary consent may no longer be a viable remedy to the privacy problem. Second, there remains some uncertainty about the secondary, non-ITS related uses to which this data can be put (i.e., uses not necessarily implicitly or explicitly consented to). Warrants, subpoenas, as well as freedom of information acts, provide potential avenues of access to this information by secondary uses.¹⁵³

Despite these privacy complications, as road user taxes and congestion pricing systems gain more acceptance as policy tools and sources of government revenue, there will likely be greater demand for public-sector actors to collect this type of PILI.

The state departments of motor vehicles (“DMV”) are another area in which the government already handles personally identifiable data related to transportation. The information they collect includes vehicle ownership information and the social security numbers, photographs, addresses, and medical information of drivers. DMVs use this information to perform their vehicle and driver licensing functions.

DMV data is relevant for ITS as it is often used to link ITS locational data to a specific vehicle owner or driver, for purposes of charging usage fees or identifying who has committed a traffic offense. For example, a license-plate reader camera will capture the license plate number of a vehicle that has run a red light. The license plate number is then run through the DMV database to match it with the vehicle owner and obtain the owner’s address for citation purposes.

Importantly, the DMV information that connects ITS locational data to a particular individual is protected by the Driver’s Privacy Protection Act (DPPA).¹⁵⁴ As a result, this DMV identification information can only be used for select purposes, such as processing traffic violations,

without the consent of the person who is the subject of the data.\textsuperscript{155} Thus, to the extent DMV information is needed to convert ITS locational data into PILI, the DPPA functions as privacy bulwark. Notably, it does so without undermining the effectiveness of ITS applications, such as automated enforcement. In this regard, the DPPA may be a model for erecting other privacy walls at strategic places in ITS architecture, where locational information can be held separate from identification information.

\textit{b. Law Enforcement}

Law enforcement is a core function of the government. It has a strong interest in the effective and efficient prevention and investigation of possible legal violations, as well as the prosecution of actual violations. PILI is often directly relevant to these undertakings, from tracking the movements of suspected criminals to identifying the driver of a speeding vehicle.\textsuperscript{156} ITS technology dramatically increases the availability, reliability, and scope of such information, as well as the ease with which the government can acquire it.

Countervailing the government’s strong interest in PILI for law enforcement are the privacy interests of transportation users. The government’s use of their PILI for law enforcement can result in legal sanctions, loss of liberty, and a chilling effect on otherwise legal and socially beneficial behavior.

It is for these weighty reasons that the government’s collection of PILI faces the highest level of legal scrutiny. The government’s ability to acquire, use, and internally share PILI about individuals for law enforcement purposes is constrained by principles of the federal and state constitutions and a number of federal and state statutes.\textsuperscript{157}

However, most of the laws and court cases relevant for ITS in this regard were written well before the advent of many ITS technologies. As a result, just how these constraints apply to the collection of PILI from ITS in particular circumstances is currently a matter of some uncertainty. Moreover, this uncertainty may remain for some period as technological changes rapidly alter the practicalities of the collection and use of PILI by law enforcement.\textsuperscript{158}

This uncertainty, when combined with the strong interest the government has in using PILI for law enforcement, means it is likely that government, in its law enforcement role, can be expected to push to define

\begin{thebibliography}{99}
\bibitem{155} Id.
\bibitem{156} Douma & Deckenbach, \textit{supra} note 8, at 296-97.
\bibitem{157} See id., at 300; Glancy, \textit{supra} note 2, at 299.
\end{thebibliography}
these constraints in a manner that allows it the greatest possible flexibility in obtaining and using PILI from ITS. 159 Specifically, this means such things as a greater ability to employ private firms as surrogate data collectors. 160

One of the most active areas of policy debate, at the state and local level, has been the use of ITS to enforce traffic safety laws. Often referred to as automated enforcement, this involves using roadside cameras to identify vehicles, and sometimes the drivers, that have committed a traffic offense such as exceeding a posted speed limit or driving through a red light.

The government’s interest in the use of automated enforcement is principally twofold: (i) increase public safety through more effective enforcement of traffic laws and (ii) reduce the cost of enforcement through the use of technology. This latter rationale is particularly strong for local governments as they spend a relatively significant amount of their resources on traffic enforcement.

The privacy interests implicated in the use of target automated enforcement are less than the privacy interests implicated in use of ITS by the government for mass surveillance. Automated enforcement systems are generally designed so that the cameras are only activated when a violation is detected. That is, the cameras do not indiscriminately capture everything in view. 161

Nevertheless, automated enforcement allows the government to collect significant amounts of PILI about transportation users, which has the potential for uses beyond traffic enforcement. This concern, in part, has led in some instances to public resistance to the use of ITS to enforce traffic laws. 162 And in response, several states have passed laws prohibiting automated enforcement and others have passed laws limiting its use. 163 Moreover, the use of automated enforcement to enforce more than minor traffic offenses faces constitutional limitations. 164

Despite these countervailing factors, the fiscal and administrative attractiveness of using ITS to enforce traffic rules means that it will likely

160. See, e.g., Company v. United States, 349 F.3d 1132, 1144 (9th Cir. 2003) (holding FBI could not require a telematic service provider to use their system to intercept in-vehicle conversations of a suspect because doing so would interfere with the provider’s service to the customer).
164. See Douma & Deckenbach, supra note 8, at 301.
continue to remain a relevant objective for state and local governments and a key issue in the ITS privacy debate.

c. As Employer

The government employs a large number of people and, just as with private-sector employers, it has a strong interest in the productivity and behavior of its employees and in the protection of its property. And also like private-sector employers, the government installs GPS and other telematic devices in its vehicles. In doing so, the government confronts many of the same employee privacy considerations discussed above with respect to private employers.

The government as an employer, though, is subject to additional legal constraints that do not apply to private employers. Most notably of these are the privacy protections afforded by the Fourth Amendment, as well as state constitutional equivalents, which apply to the government when it acts as an employer. These protections limit when and how the government can collect information about its employees, including PILI from vehicles. In addition, public-sector employers are subject to statutes that limit the extent to which they can share data they have collected about their employees with other parts of the government.

Thus, while public-sector employers, as a general matter, have the same interest in collecting PILI about their employees as private employers do about their employers, the government's ability to do so faces more legal restraints.

3. Quasi-Public Entities

Recent years have seen an increase in organizations that perform public functions but do not fit clearly in the mold of public-sector actors. These so-called quasi-public entities take on a variety of forms, but their commonality is that they perform what would generally be referred to as public functions, such as operating bus systems or carrying out regulatory responsibilities.

Typically these organizations are formed pursuant to legislation and

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166. See, e.g., Cunningham v. N.Y. State Dep't of Labor, 933 N.Y.S.2d 432, 433-36 (N.Y. App. Div. 2011) (holding the government could permissibly install a GPS device on an employee's vehicle for purposes of investigating whether the employee was submitting false timesheets).
are controlled by government-appointed boards.\textsuperscript{169} They are not fully public in that they are independent of the legislature and executive branches and generally do not depend on state general funds for their operation.\textsuperscript{170} They are, however, not fully private because they are run by government appointed officials and are often endowed with powers to collect fees and revenues in the course of performing traditional public functions.\textsuperscript{171} These types of quasi-public entities are often found managing transportation infrastructure systems such as toll roads.

There are also other types of quasi-public entities that result from partnerships between public bodies and private firms. These organizations may not be specifically authorized by legislation and may be managed by both government officials and industry representatives, and thus may have more of a private character to them than the type of organizations discussed above. These types of entities can often be found in the transportation sector where industry and the public sector want to formalize their cooperation in the delivery of some nominally public service or function. A notable example is Heavy Vehicle Licenses Plate, Inc., or HELP, Inc.\textsuperscript{172} This is a non-profit organization operated by government transportation officials and representatives of the trucking industry.\textsuperscript{173} Its mission is to develop, deploy, and manage ITS systems in the trucking industry that allow for automated compliance with commercial vehicle regulations, such as weigh stations, driver log requirements, cargo inspections, and controlled-access to certain types of facilities.

The rationale of quasi-public entities is that they can deliver public services more effectively and efficiently than traditional public organizations. This can be due to their ability to self-finance and operate without legislative oversight, their freedom from civil service and contract bidding requirements, their ability to geographically bridge traditional jurisdictional boundaries, or their capacity to directly involve industry in decision-making.\textsuperscript{174}

These quasi-public organizations have a high relevance for ITS in that they often build and operate transportation facilities that may benefit from ITS technology or, in the case of organizations like HELP, Inc., they bring industry and government together on using ITS technology to improve the regulatory compliance process.\textsuperscript{175} In this regard, the objec-

\textsuperscript{169} \textit{Id.} at 4-9.
\textsuperscript{170} \textit{Id.}
\textsuperscript{171} \textit{Id.} at 4-9, 16.
\textsuperscript{172} HELP, Inc., http://helpinc.us/ (last visited June 1, 2012).
\textsuperscript{173} \textit{Id.}
\textsuperscript{174} Baxandall, Cummings & Wohlschlegel, \textit{supra} note 169, at 9-11.
\textsuperscript{175} HELP, Inc., \textit{supra} note 173.
tives of many of these organizations are aligned with the mission of ITS—to improve the transportation system.

Because these organizations are typically mission specific, their interest in collecting and using PILI is generally limited to the extent that having PILI serves that mission. For example, the collection of PILI by a toll-way authority to efficiently charge drivers for toll-way use furthers the objective of efficiently operating the toll-way. On the other hand, the use of the PILI for some secondary purpose, such as sharing it with unrelated organizations or for advertising, does not follow from that mission.

To the extent these organizations do collect and use PILI, their legal obligation with respect to that data is sometimes unclear. Their quasi-public status complicates the analysis of what statutory and constitutional restrictions they are subject to, in both their collection practices and secondary uses of the data. The question in effect is whether they are treated as public or private sector entities. For example, is their data subject to freedom of information requests? Does law enforcement need to have a warrant to access information from them? Can they share or sell their information with private firms?

This ambiguity creates uncertainty, but also opportunities for innovation. For example, with regard to those quasi-public entities created by statute, the legislature can specifically prescribe the obligations that a particular entity has with respect to collecting and using PILI, as opposed to the more complicated task of creating statutory privacy obligations that apply across the government as a whole or to a specific agency that has a wide set of responsibilities. Examples of this can be seen with statutorily created toll-way authorities whose authorizing statutes detail what they may and may not do with the PILI they collect.

E. Secondary Data Users

This final category consists of participants who use PILI from ITS sources but are not involved in its collection. The interest of these participants in PILI, and ITS generally, are distinguishable from those participants that both collect and use PILI. As a general matter, these participants do not have a direct stake in improving the transportation system through ITS. For them, ITS is principally only a source of locational data.

177. BRIGGS & WALTON, supra note 48, at 3, 103.
The two main types of participants in this category are marketers (advertisers) and civil litigants. They are sometimes referred to as secondary data users since their use of PILI is often outside the primary purpose for which the data was original collected.  

1. Marketers

PILI from ITS sources have considerable value for marketers. Consumer locational information is what one commentator has described as the third pillar of the "holy trinity" of advertising data, after demographic data and information about the day/time someone is viewing something. PILI allows marketers to identify when and where consumers travel and how far they are willing to travel for certain purchases. In turn, it allows marketers to develop sophisticated models of consumer behavior on which advertising strategies can be built.

Further, when PILI data comes from an in-vehicle ITS device that permits two-way communication, marketers have the ability to target and customize their efforts towards particular customers, with a specific offer at a specific time and at a specific place. This creates a valuable opportunity to influence desirable consumers at the moment they are most likely to make the decision of where to stop for gas, coffee, etc. Moreover, it provides the potential for marketers to "manage" the traffic to a particular business over the course of the day, by increasing location-based incentives efforts at those times when demand is low.

Marketers may also aggregate this locational data with other non-ITS data, such as data on age, gender, income, and lifestyle, to further refine targeted advertisements with those messages then delivered through a number of possible media. For example, advertisers may send emails to consumers with advertisements or sale information, with those materials tailored based on each consumer's travel history (e.g., what stores they like to visit, when they go to those stores, etc.). All of this is part of the broader shift in marketing, from mass advertising to targeted approaches based on consumer-specific data.

Beyond fraud or other deceptive trade practices, marketers generally have no legal restraints on their use of PILI. They do face some restric-

182. Id.
183. Id.
tions on the medium of their marketing using PILI. For example, there are legal limits on marketing via emails or faxes. However, these restrictions do not in and of themselves regulate the use of PILI. The most significant restraint marketers may face is negative consumer reactions to advertisements using PILI based on the consumer’s privacy concerns.

Most marketers do not collect ITS locational data themselves; rather they purchase it from a data collector, such as vehicle navigational services. Marketing is thus typically a secondary use of ITS data. This raises the problematic issue of the extent to which the subjects of the data have, explicitly or implicitly, consented to the use of their PILI by marketers. Where there is no such consent, marketers cannot be said, from both a privacy and transportation-system perspective, to have a strong interest in the data.

While marketers are generally a secondary user of data, they do often provide a critical source of revenue for ITS data collectors. As a result, the type of data that marketers want and what they are willing to pay for it, influences the decisions by data collectors about what locational information they will obtain and store, and the extent to which that information is personally identifiable.

For many marketing purposes, locational data does not need to contain PILI to have considerable value—anonymized data is often sufficient. Marketers can still advertise products and services to an individual based on his or her travel patterns, even if they do not know who that person is. Nevertheless, PILI is clearly more valuable to marketers than non-PILI, as it allows them to relate an individual consumer to a specific travel pattern and allows them to link a given customer’s travel behavior to other consumer information, thus permitting even further targeting of advertising efforts.

Generally speaking, marketers can be understood as preferring the availability to obtain PILI. However, this is not an all or nothing preference, as it is for car rental companies for example. Decoupling identity from locational information does not entirely negate the value of ITS data to marketers. Marketers can still gain considerable value from anonymized and aggregate data.

2. Litigants

When a party’s travel behavior or location at a particular time is relevant in litigation, litigants are increasingly seeking to use information

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gathered from ITS systems as evidence. Examples include divorce cases where the travel habits of one of the parties may be used as evidence of infidelity, or in car accident cases where information about the speed and position of a vehicle at a particular moment may help reconstruct the accident.\textsuperscript{187} By definition, what is sought in these cases is PILI, otherwise the information would likely not be of value to the seeking party.

The question in the context of litigation is not whether PILI should be collected – it already has been – but whether the information should be available in the litigation discovery process. If the data is public information this question has already been answered. If, however, the data is non-public this becomes an open question.

There are three distinct interests in this question. First is the party who is seeking such information. They presumptively favor the discoverability of such information. Second is the party whose locational information is at issue. They presumably disfavor the discoverability of such information, otherwise they would consent to its discovery. And third is the holder of such information in cases where there is a non-party to the litigation. These non-party holders are typically ITS data collectors. They presumably disfavor the discoverability of such information for a number of reasons, such as the burdensome and costly production of such information for litigation, it creates an expectation that they must archive such information, disclosure may conflict with existing contractual or policy commitments they may have to the party whose locational information is at issue, and disclosure may deter the use of their service by prospective customers.\textsuperscript{188} Non-party holders may be either public or private-sector parties and this will influence the strength of their interest in disclosing the information, as well as legal responsibilities they may have in not-disclosing the information.

The legal rules of discovery mediate these competing interests, determining whether the information should be available to the party seeking it in a given case.\textsuperscript{189} While the general rules of discovery are well established, their application to ITS information is not. As a general matter, in litigation among private parties such information will likely be available if it is relevant to the dispute, absent a specific statute or common law prin-

\begin{footnotes}
\item[188] See, e.g., In re Fannie Mae Sec. Litig., 552 F.3d 814, 816-21 (D.C. Cir. 2009) (discussing how non-party incurred $6 million in fees and costs in complying with subpoena for data). The Federal Rules of Civil Procedure provide some protection to non-parties in terms of the cost and burden of producing data. See FED. R. CIV. P. 45(c)-(d). Requests for information from non-parties are not to impose an undue expense or burden on non-parties, and non-parties are to be protected from “significant expense” in producing the data.
\item[189] See, e.g., FED. R. CIV. P. 26, 34, 45.
\end{footnotes}
Courts do have the discretion to assess, in a given case, whether privacy interests should limit the discovery of certain kinds of information or whether the burden of its production outweighs the benefits of the information to the case. Though, as a general rule of thumb, if the location of a party is directly relevant to the dispute in the case, it is likely that the court will permit the discovery of the information.

Given the wide range of litigation scenarios in which a driver or a vehicle's locational information may be relevant, it is difficult to identify singular participant positions for potential litigants with respect to the privacy aspects of such information. For a given participant, in some cases the discoverability of such information may be advantageous while in others it may not. Insurance companies, for example, may favor the discoverability of such information when they represent the plaintiff, but not when they are defending liability claims.

The participants with the clearest interest in this context are the non-party holders of PILI. As a general matter, they will have a strong preference for the non-discoverability of such information for the reasons discussed above. In this respect, to the extent PILI from ITS sources is discoverable, it creates a strong incentive for collectors to anonymize the data they collect in order to reduce its potential use as evidence in litigation, or to avoid collecting PILI altogether. For the same reason, they may limit the time they keep the data, purging it from their systems after a certain period.

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190. See, e.g., id. 26(b)(1) ("Relevant information need not be admissible at the trial if the discovery appears reasonably calculated to lead to the discovery of admissible evidence.").
191. See, e.g., Pearson v. Miller, 211 F.3d 57, 65 (3d Cir. 2000) ("The court, in its discretion, is authorized by [Fed. R. Civ. P. 26(c)] to fashion a set of limitations that allows as much relevant material to be discovered as possible, while preventing unnecessary intrusions into the legitimate interests - including privacy and other confidentiality interests - that might be harmed by the release of the material sought.").
192. In 2006, the Federal Rules of Civil Procedure were revised to facilitate electronic discovery. There is evidence that this has increased the number of discovery requests, to both public and private organizations, to produce stored electronic data for litigation. For an overview, see John H. Beisner, Discovering A Better Way: The Need for Effective Civil Litigation Reform, 60 Duke L.J. 547, 564-69 (2010) (discussing how electronic discovery has increased the costs and volume of material associated with discovery).
193. Paul Spinrad, Big Network is Watching You, Innovations (Feb. 2009), http://innovations.berkeley.edu/vol3-issue2-feb09/johncanny. Under the Federal Rules of Civil Procedure, it is not clear when a non-party's duty to preserve potential evidence for litigation begins. Gary M. Pappas, Guidelines for Nonparty E-Discovery under Rule 45, Am. Bar. Ass'n. (2012), http://apps.americanbar.org/litigation/committees/businessstorts/articles/041510_pappas.html. However, data holders do not have a broad duty to preserve data that may, generically, have relevance to some future unknown case. Rather, the duty is triggered when the non-party has notice, or has a reasonable basis to know, that data in their possession is relevant for a case.
194. Deleting data does not necessarily free data holders from the burdens of producing
There are certain professional groups who also have an interest in the availability of PILI from ITS sources in court cases. Plaintiff and criminal defense attorneys, for instance, have an interest in the availability of PILI data. But again the circumstances of the particular case will dictate whether they favor its discoverability in that case. Vehicle forensic experts who analyze vehicle data recorders and private investigators, on the other hand, may have a consistent interest in the availability and discoverability of PILI data as it creates demand for their business.

It is noteworthy, though, that many of the interests litigants have in using PILI from ITS sources are unrelated to the purposes of ITS. That is, the furtherance of their interests in using PILI generally does not benefit the transportation system. An exception to this may be that PILI from ITS sources may assist in the adjudication of traffic accident disputes.

V. Conclusions

The participant analysis points to four main conclusions about the actors involved in the ITS privacy debate, the dynamics among them and possible approaches to moving the debate forward. First, given the heterogeneity of the interests involved and rapid technology change, policymakers cannot expect to find one-off, grand solutions to the ITS privacy problem. Second, the use of PILI for purposes not directly beneficial to the transportation system may warrant different policy treatment. Third, ITS developers will play a central role in addressing privacy concerns. Finally, a number of conflicts between participants on privacy issues are not zero-sum, and thus there exists potential areas for common ground between them.

A. Policymakers Cannot Expect to Find One-Off, Grand Solutions

The participant analysis reveals that the ITS privacy debate involves a latticework of conflicting and congruent interests. This structure means there are few clear and stable divisions in the debate where policymakers can draw broad, hard and fast lines about when, where, and how PILI should be protected. This dynamic is driven by three features of the debate: (i) the debate involves few black and white participant positions, (ii) individual participants have multiple interests that are sometimes themselves in tension, and (iii) there is uncertainty in the very structure of the ITS privacy debate.

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See, e.g., Tener v. Cremer, 2931 N.Y.S.2d 552, 552-56 (N.Y. App. Div. 2011) (deciding even though the non-party had “overwritten” the relevant data a number of times, the non-party still had an obligation to see if it could retrieve the ostensibly deleted data using forensic software).
(i) Few black and white participant positions. Among participants, there is no clear divide between a pro-privacy camp and a pro-collection/use camp. Rather, participant views are collectively more nuanced and multifarious. For example, it cannot be said that transportation users are simply pro-privacy and that data collectors/users are anti-privacy. Individuals exhibit a willingness to share their PILI in exchange for real benefits across a variety of circumstances (e.g., GPS navigation guidance, electronic tolling). There are limits to this willingness, albeit unclear, and open questions as to what extent the sharing is fully informed. Nevertheless, the widespread sharing of PILI by transportation users reflects that, for them, the protection of PILI does equate with not sharing PILI.

Similarly, for most participants that are collectors or users of PILI, more PILI is not necessarily better for their interests. Both in the private and public sector, PILI can have significant disadvantages in terms of greater costs for its protection, management, and possible production for law enforcement or litigants. The relative advantages and disadvantages of collecting and using more or less PILI vary across a wide range of actors. This makes it difficult to find blocks of PILI collectors and users, across industries, whose interests are clearly aligned over a single privacy enhancing policy. An exception to this generalization may be the large number of PILI collectors and users that would favor limitations on when they must produce data for litigation, when they are a non-party to the case.

The multifaceted and heterogeneous nature of participant interests and the number of different participants involved makes the ITS privacy debate difficult to map and navigate. On the other hand, it creates multiple pivot points in the debate where participants can match or leverage their interests with other participants in seemingly unexpected ways to find solutions to the privacy problem. In this respect, it is better to see the ITS privacy debate not as having two competing sides, but rather as having a web of interlaced interests with participants having both competing and congruent interests with respect to each other. Figure 1 shows a schematic drawing of this web.
(ii) Individual participants have multiple interests that are often in tension. As the Figure 1 web analogy suggests, many participants have interests in PILI that pull them in different directions to one degree or another with regard to privacy. This is not only evidenced in the tension between the harm-prevention and benefit-pursuing interest of individuals or the cost-benefit analysis of data collectors and users, but also with the government. Regulatory and transportation agencies, for example, are pushed and pulled to various extents by the goals of protecting transportation-user privacy, improving the safety and efficiency of the transportation system through PILI-collecting ITS, and encouraging the economic benefits that come with increasing the flow of information in the transportation network. The tensions between these interests can be found both among regulatory agencies and within individual agencies.

These internally competing interests mean participant positions are likely to move, to some degree, over time as the balance between these interests shifts. Such shifts will be driven by technological, cultural, and economic changes, forcing participants to recalculate the perceived benefits and risks associated with each interest. This suggests that the future of the ITS privacy debate will be marked less by the consolidation of
participant positions and more by uncertainty as to what the relative strength of each participant’s interests are.

(iii) There is uncertainty in the very structure of the ITS privacy debate. The unsettled nature of the ITS privacy debate is reflected not only in changeability of participant interests but also the basic categories of the debate. As outlined at the outset of this article, the foundational categories of PILI and non-PILI themselves have become unstable due to technologies changes and shifting social norms about locational privacy and anonymity. Re-identification technology is turning what was once thought to be non-PILI into PILI.195 Likewise, technological changes and privacy debates occurring largely outside the transportation sector (e.g., smart phones with GPS units, Facebook, etc.) are challenging traditional categories of what constitutes acceptable levels of locational anonymity. In the not too distant future, it is conceivable that the sharing of PILI may become so ubiquitous outside the transportation system, that the public may have far different expectations about the sharing of PILI within the transportation system than they currently do.196 The public may in fact come to expect from the transportation system the benefits that may come with sharing large amounts of PILI. In other words, several foundational assumptions about privacy protection policy are in a period of seismic change.

Similarly, the divide between private and public-sector participants is being challenged. The law treats these participants differently with respect to their collection and use of PILI from ITS. Yet, in the context of the transportation system, the roles played by public and private actors are become increasingly blurred. It can no longer simply be assumed that given elements of the transportation system will be either managed or financed by the public sector. This reflects the historical trend, both within and outside the transportation arena, of the lessening of the divide between private and public actors. It also reflects the fiscal challenges that the traditional public sector faces. Privately owned, as well as privately financed, transportation infrastructure is now commonplace as governments seek to reduce costs and find other sources of revenue.

For ITS, this raises difficult questions about what privacy responsibilities does the private sector has when it collects PILI for a traditional public purpose and who owns the economic value of that data. Private-sector firms already operate ITS applications that collect PILI on behalf of the public sector, even in areas once thought the core domains of the

public sector, such as law enforcement (e.g., red-light cameras).\textsuperscript{197}

Moreover, it raises the prospect that resource-strapped public-sector actors may use the economic value of PILI collected by ITS sources, to help pay for the cost of the transportation system. Scenarios can now be envisioned where ITS applications that exclusively serve and benefit the public transportation system are operated by private-sector companies and paid for by the value those companies can extract from the PILI collected by those applications. For example, an ITS service provider could be contracted by a public agency to install ITS infrastructure along a section of public roadway for some public transportation purpose, with the payment for doing so coming from the value the provider can gain from using the PILI collected by that infrastructure (e.g., through marketing or market analysis uses). In such scenarios, the conventional categories for assessing what data should be protected become increasingly incomplete and problematic.

However, the heterogeneous and somewhat fluid nature of the ITS privacy debate does not mean it is simply an impenetrable jumble of interests for policymakers. The participant analysis, in fact, suggests a number of dichotomies to help policymakers organize the ITS privacy debate, and in turn develop policies for what types of PILI should be protected, what types of actors should be able to collect PILI and for what uses. The dichotomies include:

(i) Collecting and using PILI for commercial versus non-commercial purposes;
(ii) Collecting and using PILI for purposes related to the core rationale of ITS technology (i.e., improving the safety, efficiency and sustainability of the transportation system), as opposed to collecting for some other purpose;
(iii) Collecting and using PILI for law enforcement versus non-law enforcement purposes;
(iv) Primary versus secondary uses of PILI;
(v) PILI whose collection and use has been consented to by the subject of the data, as opposed to not having been consented to; and
(vi) Collected data that still is useful in terms of its original purpose, versus data that is no longer needed for its original purpose.

These categories in many ways correspond with those identified in Appendix B, the "Taxonomy of Privacy Expectations and Legal Protections." These categories can be useful for policymakers in thinking about potential regulatory frameworks regarding the protection and collection

\textsuperscript{197} Baxandall & Madsen, \textit{supra} note 144, at 5.
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of PILI from ITS sources—ones that make choices about when PILI is protected and when it is not. We offer an illustrative example:

Divide PILI between:

(1) data collected and used for purposes directly related to the core rationale for ITS technology (i.e., improving the safety, efficiency and sustainability of the transportation system) and for which express consent cannot be reasonably obtained (e.g., red-light cameras); and

(2) data collected and used for purposes unrelated to this transportation rationale, or for which consent can be reasonably obtained (e.g., toll road tag transponders).

For data in the first category, PILI can be collected without the explicit consent of the transportation user. But for data in the second category, express consent is required. PILI collected in this first category may only be used and retained by the collecting party for as long as needed for its original purpose, and thereafter deleted in a transparent fashion. The data should not be available to any other third parties for uses beyond its original purpose. The use of the PILI in the second category, collected via the consent route, is handled by the terms of the consent.

Such an example framework is attractive in its simplicity. It is, nevertheless, problematic in its details as it leaves many thorny privacy issues unaddressed. How broadly can the justification of the core rationale for ITS technology be extended? Does it include law enforcement? Does it include collection by private actors? If data in the first category is to be deleted after some period, can it be retained beyond that period if it has been anonymized? Furthermore, what is the scope of the consent regime? To what degree must consent be informed and how is it manifested?

The point here, though, is not the specific merits of this proposal, but that these dichotomies, while useful in defining boundary positions, are also problematic in that they can lead to absolutist thinking and notions that there is a grand, one-off framework with hard and fast rules that will solve the ITS privacy problem. As the participant analysis shows, there are a number of competing and heterogeneous interests in the ITS privacy debate and the strengths and merits of those interests vary by industry, participant role in the transportation system, and circumstances. As a result, policy solutions to the ITS privacy problem, for the foreseeable future, will likely be industry and sector specific, rather than having general applicability across all of ITS.

Thus, to the extent there is a single “best” approach to addressing the ITS privacy problem, it will be one that is highly contextual and iterative, that asks: When is the collection of PILI necessary in a certain set-
ting? Are there non-PILI alternatives, if PILI has to be collected? How should it be handled? These dichotomies listed can help frame these questions in a given circumstance, but they do not necessarily provide broad, generalized solutions.

B. THE USE OF PILI FOR PURPOSES NOT DIRECTLY BENEFICIAL TO THE TRANSPORTATION SYSTEM MAY WARRANT DIFFERENT POLICY TREATMENT

While the participant analysis does not point to clear divides in the ITS-privacy debate, which policymakers can target for broad solutions, it does highlight that there are a number of uses of PILI from ITS that provide little direct benefit to the transportation system.

At its core, the rationale for ITS technology is the benefits it brings to the transportation system in terms of improved safety, efficiency, and mobility. In many ways, this is what justifies the privacy risks associated with the collection of PILI.

In turn, though, where PILI from ITS is used for purposes not directly serving the transportation system, the rationale for permitting that data use, at least from a privacy perspective, is greatly diminished. In such cases, the remaining rationale for such data use is often simply the general economic benefits that come from the free flow of information.198

In many circumstances, this remaining economic rationale may not outweigh the privacy risks associated with such data use. In addition, it may also not outweigh the negative spillover consequences such use of PILI may have in terms of the public opposition it engenders for ITS data collection generally.

These considerations can be most clearly seen in the use of PILI from ITS sources by marketing firms and litigants. In the case of marketing, the use of PILI to refine and target advertisements generally provides no direct benefit to the transportation system. And while the use of PILI by litigants can benefit the transportation system in the adjudication of transportation related disputes (e.g., car accidents), there are a wide variety of circumstances where the use of PILI from ITS by litigants brings no benefit to the transportation system.

Moreover, the use of PILI from ITS by marketing firms and litigants can be a deterrent to the use or sharing of PILI for purposes that do benefit the transportation system. For example, individuals may be less likely to support mileage-based usage charge systems if they believe that

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198. To be sure, there are some non-transportation and non-economic benefits of PILI collection from ITS sources, such as use by intelligence agencies and law enforcement to identify and prevent threats to public order.
the PILI needed to operate such systems results in unwanted advertise-
ments or could be used against them in legal disputes.

This idea of separating out what uses of PILI do not serve the trans-
portation system does not simply result in drawing lines between public
and private-sector data users. There are a number of private-sector data
users whose interest in PILI is beneficial to the transportation system.
For example, the use of PILI by auto insurers to more accurately price
the risks of individual drivers has transportation safety and efficiency
benefits. Likewise, there are public sector uses of PILI that do not serve
the transportation system. For instance, the use of PILI from ITS by law
enforcement for non-transportation reasons (e.g., investigation of non-
transportation related crimes) does not improve the operation of the
transportation system, and also chills the use of ITS applications that do
benefit the transportation system.

Accordingly, it is often difficult to identify, a priori, when a given use
of PILI benefits the transportation systems and when it does not. Never-
theless, some of the initial efforts to regulate PILI from ITS can be un-
derstood as attempting to draw this line. For example, several states have
enacted laws that prevent toll-way authorities from selling the PILI they
collect and limiting the circumstances in which it may be released to liti-
gants involved in legal disputes.\footnote{CAL. SIS. & HIGH. CODE § 31490 (2011); 605 ILL. COMP. STAT. 10/19.1 (2011).} That is, policymakers may find identi-
fying where the use of PILI from ITS sources benefits the transportation
system a useful tool for sifting out what data uses warrant regulation in
particular contexts.

There is, though, a large caveat to this analysis. The analysis ignores
the economic reality that uses of PILI, unrelated to the transportation
system, sometimes drive and pay for the collection of the PILI in the first
place. This is most notable in the marketing and advertising uses of PILI.
The type of data that marketers and advertisers want and what they are
willing to pay for it, influences the decisions by data collectors about what
PILI information they will obtain and store. Accordingly, to the extent
that secondary uses unrelated to the transportation system pay for or oth-
wise enable the operation of ITS applications that do serve the trans-
portation system, labeling a particular use of PILI as unrelated to the
transportation system may not be a useful criteria for determining what
uses of PILI to permit.

C. ITS DEVELOPERS WILL PLAY A CENTRAL ROLE IN
ADDRESSING PRIVACY CONCERNS

The participant analysis points to there being three main methods for
mediating the intersection of participant interests: (i) legal rules; (ii) an opt-in or market structure; and (iii) technological architecture.

The first two methods have been well identified and much discussed in the ITS privacy debate. Laws can be used to prohibit or dictate the fashion in which PILI can be collected, used, and stored. Opt-in or market mechanisms rely on the subjects of data collection to choose what data they want to share and what data they want to protect. Both of these approaches have their disadvantages. Laws in the privacy context can often be clumsy and inefficient, either too broad or too narrow to tackle the heterogeneous nature of the privacy problem. Opt-in or market mechanisms are undermined by the often enormous information asymmetries between the collector/user of the data and the one sharing that data.

The third approach has received less attention. It involves designing ITS applications to tackle privacy in the very nature of how they operate, so-called privacy-by-design. The key objective here is to design applications that do not collect PILI, but try to provide the same level of data utility that identified users need. Examples of this approach include using advanced cryptography to eliminate the connection between an individual's locational information and the individual before it is collected in a database, while at the same time not eliminating the unique locational qualities of that information.

There are limits to privacy-by-design. First, building privacy-enhancing features into ITS applications can make those applications more expensive, particularly to the extent they are added in later in the design process. Second, as the advances in re-identification technology and relational databases have shown, engineered fixes are not necessarily guaranteed long-term privacy solutions. Nevertheless, privacy-by-design represents one of the promising tools to help mediate the conflicts between transportation users and data collectors and users.

Furthermore, the prospect of the privacy-by-design approach brings technology developers to the forefront in the privacy debate and makes them a central player. In this role, developers are no longer simply reactive to privacy concerns but one of the drivers in resolving them.

D. MANY CONFLICTS BETWEEN PARTICIPANTS ON PRIVACY ISSUES ARE NOT ZERO-SUM

Not surprisingly, the participant analysis reflects that the principle conflicts over privacy are between transportation users and the collectors

201. See Federal Trade Commission, supra note 47, at 22-34.
202. Id.
and users of PILI. However, the analysis also shows that the relationship between these two sets of participants is a complicated one. While their interests with respect to PILI are conflicting in certain aspects, they are congruent in others. Moreover, the analysis shows there are multiple opportunities, or possible measures that can be taken, to maximize these congruent interests and minimize the conflicting interests. Table 2 outlines this dynamic with respect to several of the relationships between transportation users and the collectors/users of PILI from ITS.
<table>
<thead>
<tr>
<th>Participants</th>
<th>Congruent Interests</th>
<th>Conflicting Interests</th>
<th>Measures to Maximize Congruent Interests/Minimize Conflicting Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Users</td>
<td>• Improved efficiency and cost-effectiveness of the transportation system.</td>
<td>• Prevent privacy-harms resulting from sharing PILI, including the sharing of the data with third parties, including law enforcement.</td>
<td><strong>Rules</strong>&lt;br&gt;• Time limits on data retention.&lt;br&gt;• Prohibition on secondary uses of data.&lt;br&gt;&lt;br&gt;<strong>Technology Architecture</strong>&lt;br&gt;• Offer opt-out option by accommodating pre-paid usage credits purchased anonymously.&lt;br&gt;• Only collect data on vehicles, not drivers or vehicle occupants.</td>
</tr>
<tr>
<td>Operators of Transportation Systems</td>
<td>• Identifying vehicles with ITS to impose usage charges in order to better manage the traffic system (e.g., toll charges, HOT lanes, congestion pricing).&lt;br&gt;• Collecting PILI creates risks and expense, including having to produce data for litigation and law enforcement.</td>
<td>• PILI is needed to manage customer accounts to process usage charges (e.g., credit card, vehicle registration information).&lt;br&gt;• Money that can be made by selling data to secondary users.</td>
<td></td>
</tr>
<tr>
<td>Participants</td>
<td>Congruent Interests</td>
<td>Conflicting Interests</td>
<td>Measures to Maximize Congruent Interests/Minimize Conflicting Interests</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Transportation Users</td>
<td>• Want technologies that improve transportation safety, efficiency, and mobility with minimal loss of locational privacy.</td>
<td>Prevent privacy-harms resulting from sharing PILI, including the sharing of the data with third parties, including law enforcement.</td>
<td>Rules&lt;br&gt;• Increased privacy notice requirements will favor developers who include privacy-enhancing features. Technology Architecture&lt;br&gt;• Potential for “privacy-by-design” products that use ITS architecture to protect privacy of PILI or avoiding collecting PILI.</td>
</tr>
<tr>
<td>ITS developers</td>
<td>• Want to expand market for ITS technologies.&lt;br&gt;• Competitive advantage in marketplace for those developers that include privacy-enhancing features in their products.</td>
<td>• Product design driven by client needs and PILI has greater utility for clients than non-PILI.&lt;br&gt;• Incorporating privacy enhancing in products features is more expensive.</td>
<td></td>
</tr>
<tr>
<td>Participants</td>
<td>Congruent Interests</td>
<td>Conflicting Interests</td>
<td>Measures to Maximize Congruent Interests/Minimize Conflicting Interests</td>
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</tbody>
</table>
| 3 Transportation Users | • Vehicle tracking reduce costs for car rental companies, which in turn reduces rental costs for consumers. | • Privacy harms that may result if PILI transferred to third parties or law enforcement, or otherwise used for some secondary purpose.  
• Privacy expectation of no PILI being collected by the car rental company. | Rules  
• Time limits on data retention.  
• Prohibition on secondary uses of data or using data for uses unrelated to rental contract enforcement.  
• Data collection must be conspicuously disclosed in rental contracts. Doing so may allow market to price different data collection practices among car rental companies.  
• Car rental companies prohibited from collecting PILI, as there are other means for adequately protecting their interests in contract enforcement.  
Technology Architecture  
• Data retention/transmission only begins when certain conditions are triggered (e.g., vehicle goes outside geographic limits or vehicle is not returned). |
| Car rental companies | • Vehicle tracking reduces costs through improved contract enforcement and increased efficiencies in vehicle fleet management.  
• Collecting PILI creates risks and expense, including having to produce data for litigation and law enforcement, or an obligation to inform law enforcement of suspected unlawful activities by drivers. | • Money that can be made by selling data to secondary users.  
• PILI can be used by car rental companies for purposes other than rental contract enforcement. Disclosure of tracking devices to consumers may increase likelihood devices are removed or damaged by consumers. |  

<table>
<thead>
<tr>
<th>Participants</th>
<th>Congruent Interests</th>
<th>Conflicting Interests</th>
<th>Measures to Maximize Congruent Interests/Minimize Conflicting Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Transportation Users</td>
<td>• Permitting the collection of PILI lowers insurance premiums.</td>
<td>• Privacy harms that may result if PILI transferred to third parties or law enforcement, or otherwise used for some secondary purpose.</td>
<td>Rules</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Time limits on data retention.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Prohibition on secondary uses of data or using data for uses unrelated to underwriting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Data collection and retention practices must be conspicuously disclosed in insurance agreement, to allow market differentiation of practices with respect to PILI.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Insurers are already highly regulated and thus may be more receptive to regulations of PILI practices.</td>
</tr>
<tr>
<td>Auto-Insurance Companies</td>
<td>• More accurate underwriting of drivers.</td>
<td>• Money that can be made by selling data to secondary users.</td>
<td>Technology Architecture</td>
</tr>
<tr>
<td></td>
<td>• Market advantage if insurer can underwrite usage based insurance without collecting locational data.</td>
<td>• PILI can be used by insurers for purposes other than underwriting decision-making.</td>
<td>• Data collected does not need to include location information to underwrite all forms of usage-based insurance. Thus, ITS devices that collect data relevant for measuring usage (e.g., miles travelled, excessive speeds) but not location.</td>
</tr>
<tr>
<td>Participants</td>
<td>Congruent Interests</td>
<td>Conflicting Interests</td>
<td>Measures to Maximize Congruent Interests/Minimize Conflicting Interests</td>
</tr>
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</tbody>
</table>
| 5 Transportation users        | • Improved design and management of the transportation system and its traffic flows. | • Increased privacy expectations with respect to PILI collected because they are unaware data is being collected. | Rules  
• Prohibit the collection of PILI since most data needs can be met with non-PILI.  
Technology Architecture  
• Potential for "privacy-by-design" products that use ITS architecture to protect privacy of PILI or avoiding collecting PILI, while providing the same data benefits.  
Industry Practice  
• Do not collect PILI since most data needs can be met with non-PILI. |
| Market and Traffic Analysis   | • Most data needs can be met through anonymous data sets.  
• PILI data only has marginal value.  
• Collecting PILI creates risks and expense, including having to produce data for litigation and law enforcement. | • Collecting PILI increases the granularity of the analysis, and thus has greater utility.  
• Money that can be made by selling data to secondary users. |
In short, the analysis suggests that for a number of the conflicts between transportation users and data collectors/users, there are several avenues for finding common ground. These solutions vary from the straightforward (not collecting PILI since it is not necessary for the user's data needs or its costs outweigh its benefits), to the regulatory (laws limiting how long data is held and whether it can be transferred), to the engineered (building privacy into the architecture of ITS applications). In other words, many of the ostensible conflicts within the ITS privacy debate are not entirely intractable, there are tools available to address and mitigate them.

The participant analysis does not of course paint an entirely optimistic picture. There are conflicts for which the extent of potential common ground is far less and for which there are no clear possible paths forward. For example, in-vehicle navigation services, whose business model to some extent relies on being able to sell PILI they collect from users, are dependent both on collecting PILI and being able to deploy it for secondary uses. Thus, a simple prohibition of secondary uses amounts to a one-sided solution. On the other hand, relying on notices and consumer choice to protect privacy is problematic, given the practical limitations on how well the consumer consent mechanism can be considered fully informed.

Moreover, the value of PILI, economic and otherwise, to data collectors should not be underestimated. Despite the risks associated with it, for many data-collecting participants, PILI is viewed as an enormous asset, for which the potential uses have yet to be fully identified. In other words, there is a perception among data collectors that the opportunity costs of not collecting PILI, even if not fully known at this point, outweigh the current costs in terms of data protection, responding to subpoenas, reputation risk, etc. As a result, even where there is potential for common ground, getting data collectors to move there will often be no small undertaking.

VI. SUMMARY RECOMMENDATIONS

This article represents a first effort in mapping and assessing the participant interests in the debate about privacy and the locational data collected about transportation users by ITS technology. The participant analysis shows that there is no simple divide among participants, between those who favor privacy protections and those who favor the ability to collect and use personally identifiable locational data (PILI). Rather, the analysis indicates that the ITS privacy debate involves a web of interlaced interests among participants, some conflicting and some congruent. This debate structure results not only from a diverse set of participants but
also from the piecemeal nature of American privacy law and the variety of transportation settings in which PILI is collected by ITS.

Importantly though, participant positions in this debate are not entrenched or settled, due to forces both within and outside the transportation arena. Most significant of these are rapid technology changes and shifting privacy norms. The confluence of these two forces is redefining what locational privacy means. Re-identification technology is, for instance, making locational data once thought anonymous, into personally identifiable data. Similarly, the public now accepts as commonplace certain ITS applications that regularly collect PILI and put it in the hands of others.

The net result is that participant interests in the privacy debate are notable for their context dependence and changeability. Participant positions vary with circumstances (e.g., where, when, and how the data is collected) and over time, given how fast technology and society's privacy expectations are changing. As a result, from a participant perspective, finding policy solutions to the ITS privacy debate becomes a more nuanced and iterative endeavor. Is the collection of PILI necessary in a certain setting? Are there non-PILI alternatives? If PILI has to be collected, how should it be handled? Do the answers to these questions change over time?

For policymakers, this means that for the foreseeable future policy approaches to the ITS privacy problem will necessarily be sector and context specific. Attempts at broad, single-shot solutions will be undermined by the mix of heterogeneous participant interests, new technologies, and shifting privacy norms.

When tackled at this smaller scale, the ITS-privacy debate reveals a number of potential avenues or tools for finding common ground for at least some of the most significant participant conflicts—those between transportation users and data collectors and users. These tools for common ground include:

**Rules**
- Time limits on data retention. This involves purging PILI in its entirety from databases, or at least removing its personally identifiable elements, after some defined period of time.
- Prohibition on secondary uses of data unrelated to the primary use or not consented to by the subject of the data collection.

**Technology Architecture**
- "Privacy-by-design" techniques that use ITS architecture to increase the privacy of PILI or avoid collecting PILI, while still providing the needed level of data utility for identified end users.
Industry Practice

• The practice of not collecting PILI where data needs can be met with non-PILI. This is particularly applicable where non-PILI is sufficient and the additional costs of collecting PILI, in terms of its protection and production for law enforcement and litigation, are considered.

• Implement privacy policies that call for: (i) the use of best practices for internal data management and security; and (ii) the use of clear privacy notices, where applicable, so transportation users can make informed decisions about sharing PILI, which in turn encourages market differentiation among private-sector data collectors and ITS developers.

These measures can maximize, to some degree, the congruent privacy-enhancing interests of participants who are otherwise seemingly in direct conflict over privacy. In effect then, these tools amount to ways to move the privacy-debate forward with respect to certain participant conflicts.

While the participant analysis shows there are opportunities for progress in select areas of the ITS privacy debate, it also shows that there are substantial obstacles overall. These obstacles are essentially driven by the inescapable tension between, on the one hand, the utility of PILI and the means to collect vast amounts of it cheaply and easily from ITS and, on the other hand, the harms that PILI can cause to both individuals and companies given the permanence of such information and the ease with which it can be shared. This tension is unlikely to abate any time soon. Better managing of the tension will require a legal framework that better reflects the reality of locational technologies, as well as an ITS architecture with increased privacy capabilities. But more importantly, it will require better tools for sifting out under what conditions the transportation user wants his or her privacy protected and under what conditions the user is willing to forego privacy for the benefits that come with sharing PILI.
APPENDIX A
TOOLBOX FOR IDENTIFYING PRIVACY ISSUES

FIGURE A-1: TOOLBOX FOR IDENTIFYING PRIVACY ISSUES

What kind of information needs to be collected?

Anonymous Information

The more anonymous, the fewer restrictions

Consent Issues

Limitations on Use

Public Agency

Private Company

Voluntary Consent Options

More Easily Accessed by State and Local Law Enforcement

Stronger Protections from Private Parties

Less Legal Liability

Informed Consent Required

Presumed Consent, Opt-Out

Requires Warrant or Subpoena to be Used in Court

Risk of Being Sold

Statutory Default

Heightened Legal Liability
### Appendix B – Taxonomy of Privacy Expectations and Legal Protection

#### Table B-1: Taxonomy of Privacy Expectations and Legal Protections

<table>
<thead>
<tr>
<th>Type of Observation</th>
<th>Purpose of Observation</th>
<th>Vehicle Information / Identification</th>
<th>Occupant Driver Information / Identification</th>
<th>Privacy Expectation &amp; Legal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Flow (i.e. Traffic Counter, Traffic Classifier)</td>
<td>Information about System Use</td>
<td>No Individual Vehicle Information Obtained</td>
<td>None</td>
<td>Low</td>
</tr>
<tr>
<td>Anonymous Individual Vehicle Observation (i.e. Loop Detector at Intersection to Control Traffic Signal)</td>
<td>Managing System Use</td>
<td>No Individual Vehicle Information Obtained</td>
<td>None</td>
<td>Low</td>
</tr>
<tr>
<td>Individual Vehicle Observation (i.e. License Plate Reader, Toll Transponder)</td>
<td>Regulating Operation of Specific Vehicle Administrative Regulation of Vehicle Access to System (Also Two Above Purposes)</td>
<td>Vehicle Identification Obtained; License Plate Observation RFI Signal from Vehicle with Vehicle ID Info</td>
<td>Possible Thru Accessing Vehicle Registration System</td>
<td>Medium</td>
</tr>
<tr>
<td>TYPE OF OBSERVATION</td>
<td>PURPOSE OF OBSERVATION</td>
<td>VEHICLE INFORMATION / IDENTIFICATION</td>
<td>OCCUPANT DRIVER INFORMATION / IDENTIFICATION</td>
<td>PRIVACY EXPECTATION &amp; LEGAL PROTECTION</td>
</tr>
<tr>
<td>---------------------</td>
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<td>----------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>OCCUPANT OBSERVATION ANONYMOUS (I.E. INFRA RED CAR POOL LANE SCANNER)</td>
<td>SYSTEM USE INFORMATION (ALSO THREE ABOVE PURPOSES)</td>
<td>ABOVE INFORMATION</td>
<td>ANONYMOUS INFORMATION ABOUT DRIVER &amp; PASSENGERS (I.E. # OF OCCUPANTS, GENDER, AGE)</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>OCCUPANT OBSERVATION: DRIVER IDENTIFICATION CAMERA, BIO-METRIC (FINGER PRINT TOUCH PAD VOICE ID)</td>
<td>ABOVE PURPOSES AND ADMINISTRATIVE AND CRIMINAL REGULATION OF DRIVER</td>
<td>ABOVE INFORMATION</td>
<td>ACTUAL OR ASSUMED (REGISTERED OWNER) ID OF DRIVER VACARIOUS CRIMINAL LIABILITY</td>
<td>CIVIL: HIGH CRIMINAL: HIGHEST</td>
</tr>
</tbody>
</table>
## Article

**Attention Passengers: Your Flight Will Be Delayed—Congestion Pricing as a Solution to Airport Traffic Management**

Gregory M. Seigel

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</table>

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1. Gregory M. Seigel, May 2013 J.D. candidate at the University of Miami School of Law. Thanks are expressed to his advisor, Rachel H. Smith, for her assistance in the writing process. This article is dedicated to the Seigel family for all of their love and support.
I. INTRODUCTION TO TODAY'S AIR TRAFFIC CONGESTION PROBLEMS

Many airline passengers have become accustomed to the hassles associated with air travel. Whether it is the intrusiveness of security or additional baggage fees and taxes, air travelers experience numerous inconveniences even before getting on the airplane. Yet, the largest inconveniences stem from the over-congestion of flight arrivals and departures, which lead to widespread delays across the country.

By 2007, air travelers were experiencing record delays. Nearly a quarter of all flights were delayed, with roughly two percent of flights being cancelled. Airplane arrivals were also delayed by a total of 4.3 million hours in 2007. As of 2010, the United States National Airspace System was handling 787 million passengers, a two percent increase from the previous year. Experts predict passenger loads to increase to a billion passengers by 2015.

Furthermore, flight delays have increased in the past decade, with an economic impact of $40.7 billion. Over the last decade, delayed flights have increased by nearly 150,000. More than twenty percent of flights were delayed in 2011, and more than two percent of flights were cancelled. Causes for the flight delays stem from extreme weather, air traffic control issues, air carrier delays, and late plane arrivals. Contributors

5. Final Brief for Respondents at 10, Air Transp. Ass'n of Am., 613 F.3d 206.
6. Barkowski, supra note 2, at 262-63.
8. Id.
9. Airline On-Time Statistics and Delay Causes, RESEARCH & INNOVATIVE TECH. ADMIN.
to National Aviation System delays include weather, flight volume, equipment, and closed runways.\textsuperscript{10} While the airline industry is facing a passenger increase in demand, airport operators have struggled to off-set the increased demand by establishing new airport runways.\textsuperscript{11} By 2025, fourteen major United States airports will have their capacity for expansion fully constrained.\textsuperscript{12} For example, New York’s LaGuardia Airport is constrained from increasing its runway space due to a lack of available land, while Long-Beach Daugherty Field is constrained due to environmental policies.\textsuperscript{13}

In addition to problems with airport growth, many of the airports that are subject to these physical and environmental constraints are also the airports experiencing the most congestion. Thirty-seven of the country’s airports have been defined as currently congested.\textsuperscript{14} For example, delays from the three major airports in the New York metropolitan area “[C]an account for up to one-third of the delays throughout the entire national system.”\textsuperscript{15}

Thus, the Department of Transportation (“DOT”) has sought to remedy the problem of airport congestion by providing airport operators with tools to change the economic incentives of airlines to more efficiently and effectively utilize airport runways.\textsuperscript{16} The 2008 Amendment to the Policy Regarding Airport Rates and Charges clarifies that airport operators can charge airlines a two-part landing fee during peak hours of airport operation.\textsuperscript{17} While airport operators currently charge airlines based upon the weight of the plane, the DOT has explained that a second fee, a surcharge for landing during peak hours, may be charged to air carriers.\textsuperscript{18}

\begin{itemize}
  \item \textsuperscript{11} See Policy Regarding Airport Rates and Charges, 73 Fed. Reg. 40430-02, 40432 (July 14, 2008).
  \item \textsuperscript{12} Id.
  \item \textsuperscript{13} Id.
  \item \textsuperscript{15} Final Brief for Respondents, supra note 5, at 10.
  \item \textsuperscript{16} Id. at 40430-31.
  \item \textsuperscript{17} Id. at 40430-31.
  \item \textsuperscript{18} See id. at 40433.
\end{itemize}
This article examines the decision in *Air Transport Association of America, Inc. v. Department of Transportation*, in which the airline industry challenged the 2008 Amendments to the Policy Regarding Airport Rates and Charges. Part II examines the economic model behind congestion pricing through examples demonstrating congestion pricing on the roadways. Part III surveys the history of government policies addressing airport congestion along with the story of the short-lived but successful congestion pricing scheme of the Massachusetts Port Authority’s PACE program. Part IV analyzes the 2008 Amendments in conjunction with the litigation that followed these amendments. Part V addresses the current state of airport congestion pricing in the United States following the D.C. Circuit Court’s ruling on the 2008 Amendments. Last, Part VI concludes this article with practical suggestions for implementing congestion pricing.

II. CONGESTION PRICING ON THE ROADWAYS

A. THE ECONOMIC MODEL FOR CONGESTION PRICING

While many of the nation’s busiest airports suffer from congestion, passengers are likely to encounter congestion while driving to the airport. Like airports, one of the major reasons for congested roadways is a lack of physical capacity. On average, roughly two thousand cars pass through a freeway lane each hour, but rush hour conditions cluster roads beyond capacity. Over the last thirty years, the miles driven on roadways have increased to more than 2.5 trillion miles. Coupled with increasing population growth, passenger vehicle travel is expected to increase by twenty-five percent in the next few years.

The economic basis of congestion helps to explain the reasons for congestion on the roadways. Traffic occurs when the externalized costs to drive on the road exceed the costs for drivers to use the road. The willingness of a person to pay for the use of a road represents the demand

19. See *Air Transp. Ass'n of Am.*, 613 F.3d at 208.
20. See infra text accompanying notes 24-106.
21. See infra text accompanying notes 107-73.
22. See infra text accompanying notes 174-213.
23. See infra text accompanying notes 214-43.
for the road.\textsuperscript{29} The costs levied upon drivers to use the road represent the marginal private costs.\textsuperscript{30} These costs include tolls, gasoline, licenses, and corresponding taxes, such as gasoline tax. The marginal social costs reflect the aggregate costs to drivers plus the externalized costs that a driver imposes onto society during each drive.\textsuperscript{31} Thus, when the marginal social costs are greater than the marginal private costs, congestion ensues.\textsuperscript{32}

To promote a socially optimal usage of the roadways, an additional road cost must be assessed on drivers to offset the hidden or internalized costs of driving that are imposed on other users of the roadways, but not felt by the driver—the marginal external congestion costs.\textsuperscript{33} Levying this added road cost to consumers will promote optimal usage of the road system during times of congestion.\textsuperscript{34} In short, such an additional charge will account for the true cost of driving on the roadways.

Traffic congestion also highlights the negative externalities that result from congestion.\textsuperscript{35} As each driver enters a congested roadway, the driver increases the travel delays for others, which in turn adds to the costs of utilizing the roadway.\textsuperscript{36} These externalities arise because the perceived costs to use the roadways by drivers are less than the actual total costs of driving on the road.\textsuperscript{37}

The effect of these negative externalities is the inefficient allocation of roadway space to drivers who undervalue the cost of driving on the roadway. When any scarce good is sub-optimally valued, consumers who undervalue the scarce good will gravitate toward the good.\textsuperscript{38} Furthermore, the ability for drivers to externalize the hidden costs of using the roadway allows for drivers to over-utilize roadway space.\textsuperscript{39} Thus, to promote the optimal usage of the roadways, drivers must internalize some portion of the externalized costs being passed on to other drivers.\textsuperscript{40}

B. TRAFFIC CONGESTION SOLUTIONS

Traffic congestion imposes numerous hazards on the community, in-
cluding an increase in noise and air pollution, an increase in pedestrian accidents with the accompanying hospitalization costs and vehicular damage costs, the clustering of the traffic grid and its resulting delay times, the increase in gasoline consumption while stuck in traffic, and the widespread financial losses in economic productivity, among other hazards.\textsuperscript{41}

To alleviate the problem of traffic congestion, major cities around the world have implemented congestion pricing plans. Congestion pricing serves to decrease drivers’ demand to use the roadways during peak hours, while encouraging travelers to either drive on the roadways during off-peak hours, to share rides with others, or to use alternative forms of public transportation.\textsuperscript{42} Furthermore, congestion pricing creates revenue that can be used to expand or build roadway infrastructure, while shifting driver behavior toward alternative forms of public transportation, such as buses or subways.\textsuperscript{43} The removal of five percent of vehicles from congested roadways can have a large impact in alleviating congestion.\textsuperscript{44}

Congestion pricing systems differ from other toll systems because they use dynamic pricing, which varies the price based upon the amount of traffic.\textsuperscript{45} The three types of congestion pricing for roadways are facility pricing, road pricing, and cordon pricing.\textsuperscript{46}

\textit{1. Facility Pricing}

The first pricing scheme is facility pricing, which levies a toll for the entire use of a bridge, tunnel, or roadway.\textsuperscript{47} These tolls vary depending upon the time of day the driver uses the roadway. The goal of facility pricing is to encourage motorists to shift their use of the facility to off-peak hours, allowing traffic to flow more freely during peak hours.\textsuperscript{48} Facility pricing can effectuate price fluctuations on current toll roads, or implement a new toll on congested segments of toll-free roads.\textsuperscript{49} As of spring 2010, there were facility pricing tolls in California, New Jersey, Florida, Illinois, and New York.\textsuperscript{50}

\begin{itemize}
\item \textsuperscript{41} CONG. BUDGET OFFICE, USING PRICING TO REDUCE CONGESTION 1 (2009), available at http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/97xx/doc9750/03-11-congestionpricing.pdf.
\item \textsuperscript{43} Id. at 4.
\item \textsuperscript{44} Id. at 1.
\item \textsuperscript{45} See CONG. BUDGET OFFICE, supra note 41, at 5.
\item \textsuperscript{46} Schuitema, supra note 24, at 93-94.
\item \textsuperscript{47} Id. at 93.
\item \textsuperscript{48} FED. HIGHWAY ADMIN., supra note 42, at 3.
\item \textsuperscript{49} Id.
\item \textsuperscript{50} CONG. BUDGET OFFICE, supra note 41, at 6; see also Value Pricing Pilot Program Project Reports, FED. HIGHWAY ADMIN., http://ops.fhwa.dot.gov/tolling_pricing/value_pricing/projects/allprojects.htm (last visited Nov. 23, 2012).
\end{itemize}
A prominent example of facility pricing in the United States is the Bay Bridge in Northern California, connecting Oakland to San Francisco. Drivers pay $6 from 5am to 10am and from 3pm to 7pm during weekdays, while only paying $4 for all other times during the week. After implementation in 2010, traffic on the Bay Bridge decreased by fifteen percent, while ridership on the BART public transportation system increased by 4,000 passengers in the first month of operation. Congestion pricing has helped decrease the $2 billion worth of congestion delays imposed upon the city of San Francisco.

In addition, the Port Authority of New York and New Jersey (PANY) has implemented variable pricing on six of its tunnels and bridges that connect New York City to New Jersey. In 2001, the PANY installed a system in which peak-hour tolls using the EZ Pass electronic transponder were more expensive. As a result, morning traffic decreased by seven percent and evening traffic decreased by four percent, while overall traffic remained the same. These results highlight the impact that congestion pricing can have on driver behavior to more efficiently utilize the roadways during peak hours.

2. Road Pricing

Road pricing assesses a fee to drivers for using a specific portion of the roadway. Road pricing includes both the use of express toll lanes, and the conversion of high-occupancy vehicle lanes (HOV)—requiring two or more passengers in the car—into high-occupancy toll lanes (HOT). Express lanes, which are separated by pylons from adjacent lanes, are designated lanes in which tolls are levied onto users. The price for driving in express lanes is displayed in real-time on overhead

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54. CONG. BUDGET OFFICE, supra note 41, at 24.
55. Id. at 8.
56. Id.
58. See CONG. BUDGET OFFICE, supra note 41, at 5, 10.
signs just before the express lane, which gives drivers the option of whether to use the express lane at a given time.\textsuperscript{60} Drivers using the non-express lanes do not pay the toll. In addition, HOV lanes can be converted into HOT lanes, serving the same purpose as express lanes. The difference between HOT lanes and express lanes is that some drivers are exempt from the tolls in HOT lanes.\textsuperscript{61} Exemptions for the HOT lanes vary depending upon the road, but can include buses and emergency vehicles.\textsuperscript{62}

The most prominent example of the use of road pricing is the FasTrak program in San Diego.\textsuperscript{63} Starting in December 1996, single occupant vehicles pay a per-trip fee along an eight mile stretch of HOT lanes on I-15.\textsuperscript{64} Fees along this HOT lane vary depending on real-time traffic conditions.\textsuperscript{65} By the first year of the program, users of the HOT lanes increased by five percent.\textsuperscript{66} The FasTrak program led to a two to three percent decrease in the non-HOT lanes, while factoring into an eighteen percent decrease in the economic costs of congestion along the I-15 corridor to the San Diego region.\textsuperscript{67} Half of the $2 million dollars of revenue generated from the FasTrak program funds other transit services along the I-15 corridor.\textsuperscript{68} As of spring 2010, the conversion of HOV lanes into HOT lanes has occurred in Texas, Florida, Minnesota, Utah, Colorado, and Washington.\textsuperscript{69}

Another variation of road pricing that has yet to be implemented in the United States is the Fast and Intertwined Regular (FAIR) lanes.\textsuperscript{70} While similar to the express lanes, drivers using the non-express lanes would be subsidized by express lane drivers. A portion of the toll on FAIR lanes would be credited to drivers with electronic transponders between twenty-five and fifty percent of the toll.\textsuperscript{71} These credits could then

\begin{itemize}
\item \textsuperscript{60} Id. at 19.
\item \textsuperscript{61} See Fed. Highway Admin., supra note 42, at 6.
\item \textsuperscript{62} Id. at 2.
\item \textsuperscript{63} See Schuitema, supra note 24, at 105.
\item \textsuperscript{64} Id. at 105.
\item \textsuperscript{65} Id. at 104.
\item \textsuperscript{66} Cong. Budget Office, supra note 41, at 10.
\item \textsuperscript{67} Schuitema, supra note 24, at 105.
\item \textsuperscript{68} Fed. Highway Admin., supra note 42, at 10.
\item \textsuperscript{71} Id.
\end{itemize}
be redeemed for either use of the express lane at another time or for another mode of transportation.\textsuperscript{72} The only FAIR program currently under consideration is in California.\textsuperscript{73}

3. \textit{Cordon Pricing}

The third form of congestion pricing is cordon pricing, in which a fee is levied onto drivers to enter the city-center.\textsuperscript{74} A form of cordon pricing uses a series of toll collection stations in a ring surrounding a city.\textsuperscript{75} Cordon-style toll rings exist in three of Norway’s largest cities: Bergen, Oslo, and Trondheim.\textsuperscript{76} While these tolls were originally created to generate revenue, a byproduct was a decrease in traffic congestion.\textsuperscript{77} Trondheim has experienced a ten percent reduction in traffic during peak-hours, while only ten percent of fees are needed to cover operating costs.\textsuperscript{78} The remaining portion of the tolls have been used to finance additional infrastructure improvements to roadways while subsidizing public transit and bicycle pathways.\textsuperscript{79}

A more common variant of cordon pricing is the use of an enclosed congestion zone, in which a toll is charged to any driver who passes through the congestion zone.\textsuperscript{80} In 2003, London began a cordon-style congestion pricing system by requiring a daily fee for driving into the city-center between 7:00 am and 6:30 pm on weekdays.\textsuperscript{81} Drivers do not have to stop at toll booths or gentries because enforcement is based on a system where license plates are checked against a list of registered drivers.\textsuperscript{82} Unless the charges are paid in advance or on the day traveled by midnight, the registered owner of the automobile will receive a fine.\textsuperscript{83} In addition, residents within the congestion zone receive a ninety percent discount.\textsuperscript{84} The results of the congestion charge led to a fifteen percent decrease in traffic within the congestion zone, along with average travel

\begin{itemize}
\item \textsuperscript{72} \textit{Id.} at 6-7.
\item \textsuperscript{73} \textit{See Value Pricing Pilot Program Projects Involving Tolls: Priced Lanes, supra note 69} (follow “CALIFORNIA: FAIR Lanes with Dynamic Ridesharing in Alameda County” hyperlink).
\item \textsuperscript{74} \textit{Fed. Highway Admin., supra} note 42, at 6.
\item \textsuperscript{75} Schuitema, \textit{supra} note 24, at 93-94.
\item \textsuperscript{76} \textit{Id.} at 100.
\item \textsuperscript{77} \textit{Id.} at 100-01.
\item \textsuperscript{78} \textit{Id.} at 101.
\item \textsuperscript{79} \textit{Congestion Pricing Has Promise, supra} note 70, at 13.
\item \textsuperscript{80} \textit{See Fed. Highway Admin., supra} note 42, at 6.
\item \textsuperscript{82} \textit{Fed. Highway Admin., supra} note 42, at 11.
\item \textsuperscript{83} Georgina Santos & Blake Shaffer, \textit{Preliminary Results of the London Congestion Charging Scheme}, 9 PUB. WORKS MGM’T & POL’Y 164, 169 (2004).
\item \textsuperscript{84} \textit{Fed. Highway Admin., supra} note 42, at 11.
\end{itemize}
delays decreasing by nearly a third. Annual revenues generated from the London cordon pricing are $216 million U.S. dollars.

Another major European city that has implemented cordon pricing is Stockholm, Sweden. Beginning in January of 2006, Stockholm began a six-month trial of cordon pricing. Fees to enter central Stockholm ranged from 20 kronor (roughly $3) during peak hours to 10 kronor (roughly $1.50) during off-hours. During the trial period, traffic was reduced by twenty-two percent, while public transit ridership increased by nine percent. The congestion pricing was re-instated permanently in 2007. Annual revenue of approximately $100 million U.S. Dollars is generated from the Stockholm congestion fee.

C. CONGESTION PRICING CRITICISMS AND SUBSEQUENT RESPONSES

While congestion pricing has been effective in reducing traffic delays, the general public remains unenthusiastic about tolls. Many people feel that road pricing is taxing the use of something that had previously been free. The new surcharges for use of the roadways are characterized as an additional tax, which spawns public disapproval. Motorists feel that the revenue from gasoline taxes, in addition to other general taxes, sufficiently covers the costs associated with road construction. In essence, many objectors see the additional congestion fee as a form of “double taxation.”

However, these congestion fees do not function to offset the economic costs of roadway infrastructure. Rather, congestion fees are implemented to offset the costs associated with traffic delays. The revenue obtained from congestion surcharges may indirectly be used for the same purposes that drivers have already paid taxes, but only to offset the costs related to traffic delays.

Currently, the conversion of a portion of I-85 in Atlanta into a HOT lane has encountered public backlash, forcing the governor of Georgia to

85. Id. 86. S.F. CNTY. TRANSP. AUTH., supra note 53, at 1-3. 87. Schwartz et al., supra note 81, at 597. 88. Id. 89. FED. HIGHWAY ADMIN., supra note 42, at 11. 90. Id. 91. S.F. CNTY. TRANSP. AUTH., supra note 53, at 1-3. 92. CONGESTION PRICING HAS PROMISE, supra note 70, at 9. 93. Nash, supra note 35, at 728. 94. FED. HIGHWAY ADMIN., supra note 42, at 17. 95. Id. 96. Id. 97. See id. at 7, 17.
Congestion Pricing

slash tolls by forty percent within the first month of its use. Yet, initial public disapproval is not new. Many congestion pricing schemes in the United States appear without much public awareness, garnering minimal support from local residents. These residents are often not informed about the purpose of congestion pricing as well as its benefits for all roadway travelers during rush hour. However, as the public becomes aware of the benefits of congestion pricing, a majority of residents support the additional tolls. Public opinion surveys show that seventy percent of the public opposes congestion pricing prior to its implementation, but only thirty percent of the public objects to congestion pricing following its implementation. However, public officials must continue to explain to constituents the benefits of congestion pricing—increased revenue for mass transport and reduction in overall traffic times—for the public to embrace this model.

In addition, others argue that the express lanes created through congestion pricing are simply “Lexus lanes” that disproportionately favor those people with the disposable income to pay the additional tolls. Critics argue that there is inherent unfairness because the surcharge imposes a greater financial burden onto low-income persons who cannot afford the tolls.

However, proponents of congestion pricing enumerate the benefits that congestion pricing can have for low-income drivers. First, a San Francisco Mobility, Access and Pricing Study proposed fifty percent discounts in tolls for low-income individuals who use the Focus Area discussed in the study. In addition, the number of low-income motorists who use congestion pricing facilities makes up a small percentage. Only five percent of the motorists traveling to the Focus Area were categorized in the low-income or “lifeline” category.

Congestion pricing can also subsidize poorer drivers through the creation of FAIR lanes, which would credit low-income drivers a portion of the toll charges. Additionally, the revenue from congestion fees could help low-income persons utilize more efficient means of public transportation that have benefited from these congestion fees. Studies also show

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101. See Schuitema, supra note 24, at 106-07.


103. Id.

104. Id.

105. Schuitema, supra note 24, at 108.
that low-income drivers support congestion pricing, such as the seventy percent of low-income drivers who support the HOT lanes in San Diego.106

The numerous examples of congestion pricing on the roadways in the United States and Europe highlight the benefits of these programs. Although public sentiments towards congestion pricing remain questionable, the overarching benefits of reducing traffic while generating additional revenues shows the viability of implementing congestion pricing in the airline industry.

III. CONGESTION PRICING ON THE RUNWAYS

A. THE HISTORY OF CONGESTION PRICING FOR AIRLINES

Beginning in the 1960s, airports began experiencing problems associated with airport congestion.107 Airports were being forced to manage the requests for runway use. During this period, airports operated under the first-come, first-served rule.108 Under the first-come, first-served rule, a plane would depart based upon where it lined up in the queue, without any consideration given to the scheduled departure time.109

After recognizing the inefficiencies and increased congestion from the first-come, first-served rule, the Federal Aviation Administration ("FAA") in 1968 implemented the High Density Rule ("HDR") at five congested airports: LaGuardia, O'Hare, JFK, Newark, and Reagan National.110 These airports were limited in the number of hourly arrivals and departures based upon FAA guidelines from 6 A.M. to midnight.111 The "perimeter rule," established at Reagan and LaGuardia, placed an additional limitation by prohibiting departures of flights over a specific distance.112 The FAA maintained that HDR was not a permanent solution for the air congestion problem, yet continued to extend the HDR until 1973, when it was permanently adopted.113

As a means to circumvent the HDR, airlines began parking planes in

106. FED. HIGHWAY ADMIN., supra note 42, at 16.
108. See Barkowski, supra note 2, at 310.
109. Levine, supra note 107, at 51.
111. Brown, supra note 110.
112. Levine, supra note 107, at 56-57 (noting the perimeter rules originally prohibited flights over 1200 miles in distance from Reagan and 1800 miles in distance from LaGuardia).
slots without using them, a system known as “pocket slots.” Combined with the major scheduling impasse at Reagan Airport in 1980 over the coveted New York to Washington flight, the FAA intervened by implementing a reduction in slots at twenty-two of the nation's busiest airports. The FAA incentivized airlines to use their slots under the “use it or lose it rule” requiring that the slot be used 80% of the time or be subject to re-allocation through a lottery system.

Under the HDR, airline carriers were required to secure reservations for scheduling flights. These reservations were allocated with minimal issues, for the number of airlines prior to deregulation was limited. However, the Deregulation Act in 1978 enabled new airlines to enter the field, making available slot reservations scarcer. The benefits underlining the Deregulation Act were to enable new airlines an easier access into the airline industry, along with allowing airlines to compete freely based upon airline ticket pricing and route selection. However, hindrances for new airlines under the HDR—the inability to buy or otherwise obtain slots from incumbent airlines that were hoarding the slots—increased resentment by new airlines.

In 1985, the FAA amended the HDR by creating a “buy-sell rule,” which allowed airlines to buy, sell, or lease slots on the free market. In addition, the FAA implemented a one-time five percent withdrawal of slots at Reagan, O'Hare, and LaGuardia from incumbent airlines that were then distributed by a lottery system to new airlines. This withdrawal intended to counteract the windfall that incumbents would receive by being “grandfathered” into the slot. The FAA required that a minimum number of slots be released for each hour to prevent incumbents from giving up less-desirable slots to new entrants.

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114. See id. at 882.
115. Id. at 882-83.
116. See Levine, supra note 107, at 57.
117. Barkowski, supra note 2, at 310.
118. Id.
119. See id. at 310-11. Based on 49 U.S.C. §§ 41716(b) and 41717(c), a “new entrant carrier” is a “commuter operator or air carrier which does not hold a slot at a particular airport and has never sold or given up a slot at that airport after Dec 16, 1985.” 14 C.F.R. § 93.213(a)(1) (2012). A “limited incumbent carrier” includes those air carriers that “hold[ ] or operate[ ] fewer than 12 air carrier or commuter slots. . . .” 14 C.F.R. § 93.213(a)(5).
121. See Levine, supra note 107, at 57.
122. Id. at 58.
123. Barkowski, supra note 2, at 311 n.303.
125. See id. at 890-91.
However, the buy-sell rule contained two major flaws in attempting to open up slots for new entrants. First, the buy-sell rule did not take into account the long-term terminal leases of incumbent airlines. The only way new entrants could obtain terminal space was through subleases, for which incumbents would charge an extravagant fee. Even if new entrants could gain access to terminal space, "majority in interest" clauses gave veto power to prevent new entrants from building new airport facilities.

Second, incumbent airlines became hesitant to sell slots to airlines that would become eventual competitors. Because incumbent airlines had actual knowledge of the airline buying the slot, incumbent airlines were reluctant to sell the slots because they could not project the extent to which new entrants could compete with them. Prospective sellers would essentially compare the revenue generated from the sale of the slot to the loss in potential revenue from the entry of a low-cost competitor into the market.

In 2001, Congress included a provision within the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21) that phased out the High Density Rule (HDR) at O'Hare after July 1, 2002 and at LaGuardia and JFK after January 1, 2007. Once the HDR was repealed, each airport began experiencing major congestion delays. Incumbent airlines had the ability to increase the number of scheduled flights, while the repeal of the HDR enabled new airlines to more easily obtain access to slots.

Following the elimination of the HDR at O'Hare, airport delays began to significantly increase, leading to the worst performance levels of any major airport in America with only a 57% on-time arrival rate. As a result, the FAA placed a cap on arrivals at O'Hare to eighty-eight

126. Barkowski, supra note 2, at 311.
128. Id.
129. Levine, supra note 107, at 58.
130. Id.
131. Id.
133. Barkowski, supra note 2, at 312.
flights during most hours of the day.\textsuperscript{136}

Between 1999 and 2007, New York experienced an eight percent increase in flight departures without any increase in runway space.\textsuperscript{137} The resulting congestion led the FAA to begin placing flight caps at JFK, LaGuardia, and Newark in 2008.\textsuperscript{138} However, the FAA set caps at levels of maximum capacity at times of optimal weather conditions, which overstated the airports' actual capacity to accommodate the capped number of flights.\textsuperscript{139} The FAA extended the caps until October 29, 2011.\textsuperscript{140} Although the FAA decreased the capped number of flight operations at LaGuardia from seventy-five to seventy-one flights per hour, New York still experienced critical airport congestion concerns.\textsuperscript{141}

With the expiration of the flight caps looming, the FAA proposed a market-based mechanism to retrieve a percentage of its slots from airlines operating at JFK, LaGuardia, and Newark, and to then auction these slots to the highest bidder.\textsuperscript{142} The Air Transportation Association filed suit, with the D.C. Circuit Court of Appeals granting a motion to stay these proposed slot auctions.\textsuperscript{143} Critics opposing the slot auctions argued that the airlines could still circumvent the intended benefits of the slot auctions by keeping the purchasers of the new slots from obtaining gate-facility leases.\textsuperscript{144}

\section*{B. A Possible Solution: The Massport PACE Experiment}

In 1987, Boston's Logan Airport was suffering from severe congestion problems.\textsuperscript{145} The number of passengers had nearly doubled over the past decade and poor weather conditions limited the number of flights it could accommodate to one-third.\textsuperscript{146} The Massachusetts Port

\begin{thebibliography}{999}
\bibitem{136} Id. On August 18, 2004, the FAA issued the order to limits U.S. and Canadian air carriers to eighty-eight arrivals during most hours of the day. The two largest airlines at O'Hare, United Airlines and American Airlines, also made a voluntary agreement to reduce the number of their scheduled flights to help alleviate the congestion.
\bibitem{137} Memorandum from Lou E. Dixon, \textit{supra} note 134.
\bibitem{138} \textit{Id.} The FAA approved 81 operations per hour for scheduled flights for JFK and Newark and 75 operations per hour for flights at LaGuardia.
\bibitem{139} \textit{Id.}
\bibitem{141} Memorandum from Lou E. Dixon, \textit{supra} note 134.
\bibitem{142} Barkowski, \textit{supra} note 2, at 313.
\bibitem{143} \textit{Id.} at 313-14.
\bibitem{144} \textit{Id.} at 315-16.
\bibitem{146} \textit{Id.} Total enplanements at Logan Airport between 1976 and 1987 increased from eleven to twenty-three million passengers. While ideal weather conditions enabled Logan Airport to
Authority ("Massport"), the airport proprietor of Logan Airport, faced mounting pressures to alleviate the congestion, often a result of small, regional flights backlogging traffic.\footnote{147}

In March 1988, Massport introduced a new program entitled "Program for Airport Capacity and Efficiency" ("PACE") for implementation at Logan Airport.\footnote{148} The PACE program created a landing fee schedule that was based on two components: (1) the weight of the aircraft, and (2) a fixed landing fee for all aircraft at all times of the day.\footnote{149} The fixed landing fee was roughly $90.00 per landing and was charged during both peak and off-peak hours.\footnote{150} As a result, the landing fees for small aircrafts greatly increased (from $25 to $105), while the landing fees for the large commercial and freight airplanes decreased (from $936 to $451) to keep the landing fees revenue neutral.\footnote{151} In addition, PACE exempted the fixed landing fee for several regional airlines, allowing these airlines to pay the pre-PACE minimum landing fee of $25.\footnote{152}

On the same date that Massport approved the change in the landing fee structure, a complaint was filed with the FAA on behalf of the National Business Aircraft Association,\footnote{153} alleging that PACE violated federal statutes by not setting "fair and reasonable" rates.\footnote{154} A month later, a suit was filed by the New England Legal Foundation as well as various groups representing general aviation and commuter aircraft against Massport in federal court.\footnote{155} The District Court for the district of Massachusetts upheld the fee structure on the basis of a three-part test.\footnote{156} First, the District Court held that the new fees were reasonable and "non-excessive in comparison with the governmental benefit conferred."\footnote{157} Furthermore, the fees were not unjustly discriminatory, for "[t]he goal . . . was to promote a fair and reasonable landing fee which would recover

\begin{itemize}
  \item handle 120 flights per hour, poor weather conditions limited Logan's capacity to handle only 40 flights per hour.
  \item Id.
  \item Id. at 807.
  \item FLAVIO LIO, MASSPORT, BOSTON LOGAN INTERNATIONAL AIRPORT'S PEAK PERIOD SURCHARGE REGULATION – OVERVIEW 1, 3 (2007), available at http://www.isr.umd.edu/NEXTOR/Conferences/200706_Airport_Access_Rights/Leo.pdf.
  \item Polsby, supra note 145, at 807.
  \item The National Business Aircraft Association is a non-profit association of owners, operators, and users of business aircraft. About NBAA, NAT’L BUS. AVIATION ASS’N, http://www.nbaa.org/about/ (last visited Nov. 23, 2012).
  \item Id. at 159.
  \item Polsby, supra note 145, at 807-08.
  \item Id. at 162.
  \item Id.
\end{itemize}
from each user the cost incurred by the proprietor in providing the fees and facilities."

Last, the District Court found that the landing fees were not preempted because under section 1305(a) of the Deregulation Act, Congress intended airport proprietors authority to set landing fees.

Five months later, the Administrative Law Judge ("ALJ") in the complaint filed with the FAA reached a decision contrary to that of the district court. On appeal, the Secretary of the Department of Transportation ("Secretary") affirmed the ALJ's decision on the basis that small planes were allocated a disproportionate amount of the airport costs. In addition, the Secretary determined that charging higher fees for small planes did not bear any relationship with the actual periods of congestion. Facing the risk of losing federal funds by continuing PACE, Massport terminated the program on December 27, 2008.

For the six months that PACE was in effect airport congestion at Logan greatly improved. On-time performance went from twenty-first to twelfth, with September 1988 seeing on-time flights at 86.4%, up from 69.5% for the previous September. The landing fees shifted one-third of aviation traffic away from Logan field to Hanscom Field, a small Boston regional airport. Furthermore, regional commuter flights at Logan decreased by 3.1 percent.

The PACE example highlights the benefits of congestion pricing within the airline industry. However, many critics of PACE mischaracterize the Secretary's ruling as a blanket prohibition of any peak-time pricing systems. The Secretary overturned PACE because it mixed weight-based pricing with "the inappropriate use of opportunity costs considerations." In essence, the PACE congestion pricing raised rates during all hours of the day, rather than specifically during peak hours. Thus, the additional landing fees were inappropriate to levy against small aircrafts during times when there was no shortage of runway capacity that was not imposing congestion related costs onto other users. Had

158. See id.
159. Id.
160. Polsby, supra note 145, at 808.
161. Id.
162. New Eng. Legal Found., 883 F.2d at 165.
163. Id. at 166; Polsby, supra note 145, at 808.
164. Polsby, supra note 145, at 809.
165. Id.
166. Id.
167. Id.
168. Id. at 810.
170. Policy Regarding Airport Rates and Charges, 73 Fed. Reg. 40430-02, 40432 (July 14,
Massport only raised the landing fees during peak hours, the DOT would likely have upheld the pricing formula. In fact, the Secretary's opinion stated that "it is within an airport proprietor's authority to impose reasonable (nondiscriminatory) [sic] landing fees... even if such fees may result in the declined usage by a class of users or other indirect effects on users." In sum, the Massport case shows that a properly structured peak pricing system could be deemed reasonable.

IV. AIRLINE INDUSTRY CHALLENGES TO THE POLICY REGARDING AIRPORT RATES AND CHARGES

A. POLICY REGARDING AIRPORT RATES AND CHARGES

In 1994, Congress enacted section 113 of the Federal Aviation Administration Authorization Act, requiring the Secretary of Transportation to publish guidelines for determining whether an airport fee is reasonable. On June 21, 1996, the DOT issued its Final Policy Regarding Airport Rates and Charges ("1996 Policy"). The 1996 Policy adhered to two statutory requirements for landing fees. The first statutory requirement is the Airport Improvement Act, requiring airports that receive federal assistance to "be available for public use on reasonable conditions and without unjust discrimination." The second statutory requirement is the Anti-Head Tax, which allows airport operators to collect reasonable landing fees, but does not allow airport operators to collect fees or charges on "an individual traveling in air commerce." Under the 1996 Policy, airport proprietors' fees for airfield use were calculated using a historic cost accounting method. However, the D.C. Circuit Court of Appeals vacated this portion of the 1996 Policy, leaving airport operators the discretion to use any reasonable methodology in setting fees, so long as they were justified and applied on a consistent basis.

2008 (referencing Investigation into Massport's Landing Fees, Opinion and Order, FAA Docket 13-88-2 (Dec. 22, 1998)).

171. Id.
178. Goldberg, supra note 174, at 361-362 (quoting 49 USC § 40116(e)(2) (2006)).
179. Kemp, supra note 175, at 17.
In January 17, 2008, the DOT issued a Notice of Proposed Rule Making to address whether airport operators of congested airports could use pricing mechanisms to discourage airline carriers from operating at these congested airports during peak times. The basis for these amendments was to address the increased congestion at major U.S. airports while also exploring potential benefits of congestion pricing.

The 2008 Amendments to the Policy Regarding Airport Rates and Charges made three significant changes from the 1996 Policy. First, the 2008 Amendments clarified the position that airport proprietors can impose a two-part landing fee that is based upon a weight-based charge and a per-operation charge during peak hours, as long as the fee reasonably allocated the cost on a rational and economically justified basis. In addition, the total revenues from the landing fee must not exceed the costs of operating the airfield by the airport operators. Second, congested airports can include in their landing fees the costs of secondary airports that are owned and operated by the same proprietor during peak hours. Third, congested airports can include in the landing fees a portion of the costs of airfield projects under construction. In addition, the 2008 Amendments provided further guidance by revising the definitions of a congested airport and a congested hour.

As stated by the DOT in the 2008 Amendments, raising the cost of airfield usage at congested airports during peak hours, would incentivize airlines to (1) adjust their flight schedules to operate during less congested times if possible, (2) use less congested secondary airports to relieve congested airports, and (3) use the airport more efficiently through the use of large aircrafts during peak hours.

B. The ATA's Challenge to the 2008 Amendments

On September 5, 2008, the Air Transport Association of America, Inc. ("ATA") filed a petition to the D.C. Circuit Court of Appeals, challenging the 2008 Amendments to the Policy Regarding Airport Rates and Charges.
Charges. The ATA opposed the 2008 Amendments, arguing that they (1) "allow airports to charge unreasonable and discriminatory fees," (2) are preempted by federal law, and (3) "provide inadequate guidance to airports on how the DOT" evaluates the reasonableness of their landing fees.

However, the ATA only brought a facial challenge of these amendments because no airport operator had implemented the system of congestion pricing encouraged by the 2008 Amendments at the time of filing. Due to the difficulties of prevailing on a facial challenge, the ATA's decision to challenge these amendments prior to any airport operator's implementation shows the airline industry's preemptive response to the DOT's amendments to the Policy Regarding Airport Rates and Charges.

1. Reasonableness and Unjust Discrimination

On the issue of the reasonableness of the two-part landing fee, the court held that a congestion pricing scheme that would make airlines pay a premium to land during peak hours is reasonable. While the court mentioned that some operation charges might not be deemed reasonable, a two-part landing fee that is appropriately executed can satisfy the statutory requirement of reasonable landing fees set forth in the Anti-Head Tax Act.

Regarding the claim that the fees were unjustly discriminatory, the ATA argued that by allowing airport operators to include a cost related to secondary airports, the net effect would unfairly subsidize the secondary airports, whose landing fees would be lowered due to the revenue neutral requirement of the landing fees. The court found that a two-part landing fee is not unjustly discriminatory since users of the runway space are paying a premium to efficiently allocate the resource. In essence, the operational charge is necessary to promote an optimal level of efficiency to maximize the scarce resource of airport capacity. Furthermore, the two-part landing fee serves to enable the free market to dictate whether a particular airline is willing to pay an additional charge.

190. Final Brief for Respondents, supra note 5, at 2.
192. Id. at 213.
193. See id. at 216. A facial challenge can prevail only when the party challenging the amendment can "establish that no set of circumstances exists under which the [Amendments] would be valid." (quoting United States v. Salerno, 481 U.S. 739, 745 (1987)).
194. Id. at 214.
195. Id. at 210, 215-16.
196. Id. at 215.
197. Id.
198. Id.
2. Preemption Under the Deregulation Act

On the issue of preemption, the court held that the Airline Deregulation Act did not preempt the 2008 Amendments. The Airline Deregulation Act mandates that airport operators "may not enact or enforce a law, regulation, or other provision having the force and effect of law related to a price, route, or service of an air carrier...." The ATA argued that because the imposition of a two-part landing fee would force airlines to make scheduling changes regarding their air services, the Airline Deregulation Act would preempt the landing fees.

However, this statute was not intended to be interpreted so broadly, for all airport charges invariably affect the price airline carriers charge. The basis for this section of the Airline Deregulation Act was to eliminate state or other political authorities from being meddled in the airline's decision of pricing to its consumers. Furthermore, the Airline Deregulation Act contains a preemption provision that permits airport proprietors the right to exercise their proprietary powers and rights. Other courts have ruled on the issue of preemption for landing fees that "it is... within an airport proprietor's authority to impose reasonable [, nondiscriminatory,] [sic] landing fees... even if such fees may result in a decline in usage by a class of user or other indirect effects on users." Therefore, the airport proprietor is within its scope to charge fees, so long as they are reasonable and are not a "head charge."

199. Policy Regarding Airport Rates and Charges, 73 Fed. Reg. 40430-02, 40439 (July 14, 2008). While the ATA contests the two-part landing fee by arguing that certain airline carriers will be better suited to pay the additional landing fees, this does not make the fees as a whole discriminatory. Rather, the landing fees provide a free-market model that enable airlines to determine the value of flying during peak hours. "This is the market working, not an indiscriminate side-effect of higher charges."

202. Air Transp. Ass'n of Am., 613 F.3d at 216.
206. New Eng. Legal Found. v. Mass. Port Auth., 883 F.2d 157, 165 (1st Cir. 1989). The Court stated that airport operators should have a wide range of options to recover airport expenses, including through the use of operational landing fees. See also W. Air Lines, Inc. v. Port Auth. of N.Y. & N.J., 817 F.2d 223, 226 (2nd Cir. 1987) (upholding an airport operator's use of a perimeter rule to address airport congestion).
207. Goldberg, supra note 174, at 361-62.
3. **Guidance to Evaluate the Reasonableness of Landing Fees**

As required by law, the DOT is required to establish "standards or guidelines . . . in determining . . . whether an airport fee is reasonable." The ATA argued that the 2008 Amendments are written to be self-defining: it is reasonable unless it unreasonable.\(^{208}\) Previously, the D.C. Circuit vacated portions of the 1996 Policy for failing to provide adequate guidance to airport operators for having a different fee structure between airfield and non-airfield fees.\(^{209}\) However, the 2008 Amendments were written with proper guidance, for airport operators only have two variables to determine landing fees: cost per landing and cost based upon the weight of an aircraft.\(^{210}\) Because the 2008 Amendments clearly delineate the standards for operation-charges, which can include a fee for secondary airports or for airfield construction, along with a fee based on a proportion of the weight of an aircraft, the DOT provided adequate guidance to ascertain the reasonableness of landing fees.\(^{211}\) In sum, the D.C. Circuit upheld the 2008 Amendments, allowing airport operators the ability to charge airlines a two-part landing fee.\(^{212}\)

V. **Impact of Landing Fees Following the DC Circuit's Ruling**

While the D.C. Circuit upheld the 2008 Amendments to the Policy Regarding Airport Rates and Charges, airport operators had the opportunity to recalculate their landing fees by including a peak hour surcharge.\(^{213}\) Currently, no congested airport has incorporated the two-
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part landing fee for commercial airlines.\textsuperscript{215} For instance, the Port Authority of New York and New Jersey only imposes a two-part landing fee for non-commercial aviation.\textsuperscript{216}

Although congestion pricing has yet to be implemented, the gradual introduction of the Next Generation Air Transportation System ("NextGen") may help to alleviate congestion on the runways. NextGen is the new generation of air traffic control, replacing the archaic radar-based air traffic management system used since World War II to a "satellite-based aircraft navigation system."\textsuperscript{217} By enabling pilots the freedom in real-time to determine the plane's flight path and speed, NextGen will create more efficient air travel, allowing for an increase in capacity for air travel.\textsuperscript{218} Through NextGen's performance-based navigation, airplanes will have the flexibility to use multiple paths to determine their arrival.\textsuperscript{219} NextGen estimates that by 2018 it will reduce air traffic delays by thirty-five percent, providing $23 billion in economic savings.\textsuperscript{220} At Atlanta-Hartsfield and Dallas/Fort Worth International, this equipment is already in use, providing savings of over $100 million.\textsuperscript{221}

While NextGen had an intended completion date by 2025, delays have postponed this timeline.\textsuperscript{222} Additionally, the estimated costs of NextGen will run between $15 and $22 billion by 2025.\textsuperscript{223} Thus, wide-scale reductions in air traffic delays through NextGen may not be felt for years to come based on the increased delays and budget concerns.\textsuperscript{224} Although NextGen will provide a well-needed transformation to air traffic control, the implementation of NextGen may not be sufficient to combat the increased volume of air traffic expected over the next decade.\textsuperscript{225}

In addition, the revenue-neutral requirement for airport landing fees

\textsuperscript{215} Id. at 213.
\textsuperscript{216} See Port Authority of N.Y. & N.J., Schedule of Charges for Air Terminals LaGuardia Airport 5 (2012), available at http://www.panynj.gov/airports/pdf/scheduleofcharges-lga.pdf. Subsection 1(c) of The Public Landing Area Charges states that the additional $100 fee for landing or taking-off does not apply to helicopters or scheduled airlines.
\textsuperscript{217} Barkowski, supra note 2, at 264, 271.
\textsuperscript{220} Fed. Aviation Admin., supra note 218, at 20.
\textsuperscript{221} Baer, supra note 219, at 22.
\textsuperscript{223} Baer, supra note 219, at 20.
\textsuperscript{224} See Hoover, supra note 222.
\textsuperscript{225} See Barkowski, supra note 2, at 250-52, 289, 295, 334-35.
is an obstacle for implementing a two-part landing fee. To prevent an airport operator from abusing its powers, the 2008 Amendments provide that “[r]evenues from fees imposed for use of the airfield . . . may not exceed the costs to the airport proprietor of providing airfield services . . ..” In essence, the revenues generated from landing fees cannot exceed the cost to airport operators to utilize the airfield. This provision serves as a disincentive for airport operators to institute a two-part landing fee, because smaller weight-based fees would have to offset the additional operational charges. While the premise behind these landing fees is to curb potential abuses by airport operators, this provision hamstrings airport operators from instituting policies to alleviate congestion. A congestion pricing fee is not being used as unfair leverage by the airport operator to obtain above-market leases. Rather, the congestion fee is used to alter the behavior of airlines to more optimally schedule flights. In fact, the D.C. Circuit states that “its creativity should be welcomed on its merits, not spurned for its novelty.”

Another stronghold preventing airport operators from establishing congestion pricing is that airport operators are still contractually bound to airport-wide flight fee agreements. Until these flight fee agreements end, airport operators must continue to operate under only the weight-based landing fee. Airlines do not have any incentive to re-negotiate or otherwise change the fee agreements, for congestion pricing is

226. Lewis et al., supra note 14, at 3.
227. Goldberg, supra note 174, at 362 (quoting Policy Regarding Airport Rates and Charges, 73 Fed. Reg. 40430-02, 40345 (July 14, 2008)). The 2008 Amendments revise this section by allowing fees that are in accordance with paragraph 2.5.3, which allows for a fee based upon an airfield project under construction and paragraph 2.5.4(a), which allows for a fee from secondary airports. The secondary airport must be “(1) designated as a reliever airport for the first airport in the FAA's National Plan of Integrated Airport Systems” and (2) determining if the added “airfield costs of the second airport to the rate base of the first airport during congested hours would have the effect of reducing or preventing congestion . . . .” Policy Regarding Airport Rates and Charges, 73 Fed. Reg. at 40444-45.
228. Goldberg, supra note 174, at 362.
231. See id.
233. Air Transp. Ass'n of Am., 613 F.3d at 220. In the holding, Justice Ginsburg supports the proposition that new and creative policies that can alleviate congestion should be allowed, provided they adhere to statutory regulations.
234. E-mail from David Kagan, Assistant Dir. of Bus. & Properties, Aviation Dep't at the Port Authority of N.Y. & N.J., to author (Feb. 7, 2012, 12:02 EST) (on file with author). The peak hour surcharges do not apply to signatories of the airport-wide flight landing fee agreements, in which all major airline carriers are signatories.
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yet, congestion pricing could be most beneficial to major air carriers since regional airlines and non-commercial aviation would be reluctant to pay the additional fee, driving away these aircrafts from operating during peak hours.\textsuperscript{236} By reducing the clutter of small aviation aircraft during peak hours the operating costs for large airlines would decrease, offsetting the added congestion fee.\textsuperscript{237} However, the airlines are extremely hesitant about congestion pricing because it signals a large change to the status quo, which may lead to larger changes in the relationship between airlines and airport operators.\textsuperscript{238}

In spite of the obstacles in the United States that hinder the implementation of congestion pricing for airport operators, major airports across Europe and Central America have instituted landing fees.\textsuperscript{239} A sampling of seventy major airports throughout the world showed that European landing fees are more than double the landing fees in the Americas.\textsuperscript{240} European airports such as Frankfurt and London Heathrow have introduced landing fees based on airplane noise levels, incentivizing airlines to optimally utilize their fleet of varying aircrafts.\textsuperscript{241} Mexico City has landing fees during peak hours that are 27.5\% greater than normal hours.\textsuperscript{242} Another variation of landing fees takes into account peak hours, noise levels, and seasonal differences, such as at London Gatwick.\textsuperscript{243} Thus, while many European airports have utilized congestion pricing for environmental and congestion-related reasons, the United

\begin{itemize}
\item \textsuperscript{235} Policy Regarding Airport Rates and Charges, 73 Fed. Reg. at 40437, 40439 -40.
\item \textsuperscript{236} Amedeo R. Odoni, Congestion Pricing for Airports and for En Route Airspace, in NEW CONCEPTS AND METHODS IN AIR TRAFFIC MANAGEMENT 31, 38 (Lucio Bianco et al. eds., 2001).
\item \textsuperscript{237} Id.
\item \textsuperscript{238} Id. at 38-39.
\item \textsuperscript{239} George Saounatsos, Airport Aeronautical Charges, AIRPORT INTERNATIONAL, Oct. 2007, at 60.
\item \textsuperscript{240} Id. This article surveyed seventy major airports across the world (26 in Europe, 22 in North and South America, and 22 in Africa/Asia/ Australia). Percentages of total airport charges are broken down into seven categories: 1) airport landing fees; 2) airport parking fees; 3) terminal use and other charges; 4) terminal NAVID charges; 5) declared airport fees on pax ticket; 6) declared security charges; 7) declared state taxes on pax tickets. The average landing fees in the Americas is only 11\% of total airport charges, compared to 24\% in Europe and 29\% in Africa/Asia/Australia.
\item \textsuperscript{242} LEWIS ET AL., supra note 14, at 3; LANDING TARIFFS, BENITO JUAREZ INTERNATIONAL AIRPORT, http://www.aiem.com.mx/ClientesInversionistas_en/Tarifas/index.php?Publication=1528 (last visited Nov. 23, 2012). The peak landing hours at Benito Juarez Airport in Mexico are from 9 AM to 11 AM, 1 PM to 3 PM, and 7 PM to 10 PM.
\item \textsuperscript{243} GATWICK AIRPORT LTD., CONDITIONS OF USE INCLUDING AIRPORT CHARGES 1ST
States only moves sluggishly toward any actual implementation of congestion pricing.

VI. CONCLUSION

In road and air travel, passengers experience burdensome and costly delays that are a byproduct of congestion. While the model for congestion pricing on the roadways and the runways varies, they share the same problem: the scarcity of an in-demand commodity. By tailoring the cost of runway space and roadways to match the actual costs imposed upon the consumer, the decision to consume the product will shift to those willing to pay for its increased cost. Furthermore, the revenues generated from congestion pricing will provide additional revenues to expand infrastructure, whether it be more highways or runways.

With systemic congestion imposing higher costs to the airline industry and its passengers, it is imperative to enact policies that lead to a more efficient use of airport runways. Past experiments such as the Massport PACE program have shown that congestion pricing can alter the behavior of small aircrafts and major air carriers to use runway space more efficiently by either flying through alternative airports or paying a premium to land/take-off from a congested airport during peak hours.244

However, the adoption of a two-part landing fee appears far away. Airport operators are limited in their ability to change the status quo due to current landing fee agreements with airlines as well as the statutory requirement that landing fees be revenue neutral.245 Even if these obstacles are addressed in the future, landing fees may not be expensive enough to incentivize major air carriers to alter their flight schedules during peak hours.

Therefore, the DOT and FAA must do more to encourage the use of congestion pricing as a solution to airport congestion. This may include creating a landing fee schedule similar to Gatwick, in which landing fees are determined by both the time of season and by aircraft noise levels.246 If airport operators cannot implement congestion pricing in the near future, passengers will remain waiting on the ground.

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244. See Polsby, supra note 145, at 806-07, 809.
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