



Consumer Federation of America

Watch Where You're Going:

What's Needed to Make Auto Insurance Telematics Work for Consumers

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Executive Summary

Auto insurance companies are increasingly adopting telematics systems to obtain consumer-generated driving data from a variety of data-gathering instruments – including motor vehicles, third-party sensors, and mobile phones – for insurance pricing. While these programs show substantial promise for reducing the number and severity of insurance accidents and providing information and incentives for loss reduction and mitigation, these personal consumer data harvesting programs also create risks of unfair pricing, racial bias, abuse of personal consumer information, unfair claims settlement practices, and anti-competitive practices among insurers. Effective oversight and regulation are needed to ensure the programs benefit consumers and are not misused.

This paper provides a brief history of telematics, its potential benefits, and significant concerns. With that foundation, we identify several industry practices and regulatory requirements that should be adopted in order to ensure that consumer protections, privacy, and fairness are not sacrificed when insurance companies monitor and evaluate their customers' driving. In order to protect drivers who might participate in telematics programs (and those who choose not to), state insurance departments or, where needed, state law must ensure that:

- Insurers demonstrate and explain the actuarial basis for the data to be collected and used as part of a telematics program;
- Insurers obtain informed consumer consent for use of consumers' data and do not use, sell, rent, or share telematics data for non-insurance purposes;
- Insurers test for and minimize disparate impact on protected classes such as race and ethnicity in the offer and application of telematics programs;
- Consumers can review all collected data and access the data for use in claim settlements;
- If telematics data are shared with or among carriers through a contributory database exchange, the exchange must be subject to the Fair Credit Reporting Act (FCRA) and oversight by both Consumer Financial Protection Bureau and state insurance regulators;
- Third-party telematics algorithm developers are licensed as insurance advisory organizations and subject to state insurance department regulation.

As an overarching finding, this report illustrates that in order for the potential financial and public safety benefits of telematics programs to be realized, consumers need to gain more confidence in these programs. To achieve that, states must establish rules regarding the industry's use of telematics, pricing transparency, and consumer privacy to build trust in these programs.

I. Introduction

The United States automobile insurance market, with over \$250 billion in premium written in 2019,¹ plays a significant role in the financial health of Americans. Every state except New Hampshire requires the purchase of auto insurance and hundreds of firms participate in this market. The largest companies possess significant market share, with the five largest insurers controlling more than half of the national market,² but there are also dozens of smaller carriers, large regional insurers, and a growing number of newer companies with a technology-driven approach.

Since states mandate the purchase of auto insurance, state governments have a special responsibility to ensure that coverage is available and affordable. Supporting that obligation are laws in most states that codify some version of the standard that “rates shall not be excessive, inadequate, or unfairly discriminatory.” Consumers have even more of a vested interest in affordable insurance, as maintaining coverage provides important financial protections, and driving without insurance exposes motorists to significant penalties imposed under state laws. Additionally, drivers rely on robust government oversight of this market, because auto insurance is complicated, aggressively marketed, potentially unfairly priced, and often expensive. In many states, unfortunately, government oversight and consumer protections have been insufficient.

Over the last few decades, and increasingly so in recent years, auto insurers have pursued and promoted new insurance policies and programs that use data captured directly from drivers’ cars and mobile phones while driving. Insurers refer to these programs as “telematics” or “usage based insurance” (UBI)³ and assert that by deploying these data collection programs premiums will be better aligned with individual drivers’ risk levels, allowing lower-risk drivers to save money. While consumer advocates have noted that telematics could replace insurers’ unfair rating tools (that currently rely on socio-economic and other non-driving characteristics) with fairer pricing systems, advocates have also expressed concerns that these initiatives could become new avenues for unfair pricing and invasions of privacy if they are not transparent and well-monitored by regulators and the public.⁴ With a few exceptions, insurance regulators have not developed a systematic method for assessing this new approach to underwriting and pricing auto insurance or ensuring consumer privacy with telematics programs.

¹ National Association of Insurance Commissioners, “2019 Market Share Report for Property/Casualty Groups and Companies By State and Countrywide.”

² Ibid.

³ For clarity, we use the term “telematics” throughout this paper except when citing a source that uses a different term, such as UBI.

⁴ “The Witness Against You: Your Car.” By Ed Leefeldt and Amy Danise. Forbes. March 26, 2021. Available at <https://www.forbes.com/advisor/car-insurance/telematics-data-privacy/>.

Insurance telematics is a broad field that refers to the use of telecommunications, vehicular technologies, and computer science to evaluate driving behavior, insurance claims, and accidents. A growing number of auto insurers are using telematics systems and devices to monitor driving habits and to collect data in order to calculate insurance premiums. The data collected by these instruments are vast and can include vehicle mileage, driving location, road types, driving speeds, cell phone use while driving, length of driving time, hard braking, rapid acceleration, lane changes, left hand turns, the time of day and night driven, and other factors. Conceptually, the collection and analysis of this information will enable safe and infrequent drivers to pay lower insurance premiums while less safe, higher risk drivers will pay higher premiums, so the cost of coverage more closely aligns with driving patterns and behavior.

Auto insurers have, both before and after the advent of telematics, calculated premiums and costs based on a variety of variables such as driving safety records (accidents and tickets), mileage, vehicle type, credit scores, age, gender, marital status, zip codes, occupation, education level, and others. While some of these variables are quite obviously connected to driving and the associated risks, several have little or nothing to do with driving and frequently lead to unfair discrimination.⁵ In theory, telematics could end the use of those non-driving factors that disproportionately harm lower-income consumers and commonly have disparate impacts on people of color.

In conducting this review of telematics, CFA has come to three overarching conclusions:

- Telematics programs have the potential to usher in a new era in auto insurance pricing that would lower costs for safe drivers and incentivize safer driving generally;
- Insurers and the third-party vendors that develop telematics systems must explain and justify their algorithms, demonstrate that they are fair, and ensure consumer privacy;
- State insurance departments must establish rules regarding use of telematics, pricing transparency, and consumer privacy to build confidence in these programs and hold insurers accountable to state insurance rating laws.

This paper examines telematics, the current state of its adoption in auto insurance markets, and opportunities and problems associated with the deployment of these programs. It then concludes with several recommendations to ensure that these technologies benefit and do not harm consumers.

⁵ See, for example, “Major Auto Insurers Raise Rates Based on Economic Factors: Low- and Moderate-Income Drivers Charged Higher Premiums.” Douglas Heller and Michelle Styczynski, June 2016. Available at https://consumerfed.org/wp-content/uploads/2016/06/6-27-16-Auto-Insurance-and-Economic-Status_Report.pdf

II. History of Telematics

The history of telematics is a story of impressive potential but slow adoption. In a March 2015 report by the Center for Insurance Policy and Research, the research arm of the National Association of Insurance Commissioners (NAIC) explained that:

It was the emergence of satellite-based navigation technology and the opening of the global positioning system (GPS), originally developed by the U.S. Department of Defense for the military, for civilian use that paved the way for the rapid development and successful use of telematics. Through the integration of these new systems, vehicle telematics could provide very detailed driving behavior data, including exact time and location, and communicate it to a remote central location. By the late 1990s, telematics were introduced to the insurance business, first to assist with underwriting decisions and then to help determine premiums more accurately reflecting real risks. However, despite the apparent popularity of the initial programs, the high costs of integrating the new technology temporarily interrupted its use and deterred other would-be early adopters.⁶

The first large insurer to introduce a telematics program was Progressive, which began offering its Snapshot program to consumers in 1998.⁷ While the full set of data that Snapshot gathers is not publicly reported, the company highlights its monitoring of the time of day a customer drives, sudden changes in speed, and miles driven.⁸ Progressive also reports that it now has a mechanism for gauging distracted driving, which it integrates into its pricing algorithm.⁹ Consumers can participate in Snapshot in two different ways. In some states, smartphone users give Progressive access to driving data through a mobile app, while in other states users attach a tracking device to their vehicle which plugs into their car's OBD-II port, typically located under the steering wheel. Users can review their driving score, see their trip logs, and receive driving tips through the company's website and mobile app.

Progressive, in marketing Snapshot (and its corresponding commercial auto telematics program, Smart Haul), claims that the average consumer saves \$146 every six months by

⁶ "Usage-Based Insurance and Vehicle Telematics: Insurance Market and Regulatory Implications." By Dimitris Karapiperis and Birny Birnbaum, Aaron Brandenburg, Sandra Castagna, Allen Greenberg, Robin Harbage, and Anne Obersteadt. National Association of Insurance Commissioners and the Center for Insurance Policy and Research. March 2015. Available at https://www.naic.org/documents/cipr_study_150324_usage_based_insurance_and_vehicle_telematics_study_series.pdf.

⁷ "How Do Those Car Insurance Tracking Devices Work?" By John M. Vincent and Cherise Threewitt. U.S. News & World Report. February 26, 2018. Available at <https://cars.usnews.com/cars-trucks/car-insurance/how-do-those-car-insurance-tracking-devices-work>.

⁸ "Snapshot FAQ." Progressive. Available at <https://www.progressive.com/auto/discounts/snapshot/snapshot-faq/>.

⁹ "Progressive Corp (PGR) Q4 2018 Earnings Conference Call." February 28, 2019. Available at <https://www.fool.com/earnings/call-transcripts/2019/02/28/progressive-corp-pgr-q4-2018-earnings-conference-c.aspx>.

participating.¹⁰ According to the company, only 20% of Snapshot users incur a rate increase.¹¹ In 2019, the company reported that 15% of their customers have, at some point, participated in the Snapshot program.¹²

Allstate has a similar history and has been operating its telematics program Drivewise since 2010. According to Allstate, Drivewise gives participants feedback after each trip and grants discounts for safe driving. Allstate incentivizes participation in the program by providing customers a 3% participation discount on their premiums, regardless of how safely they drive. The company reports publicly that the program calculates insurance premiums based on drivers' safe speeds, safe brakings, and time of day, but it also collects a variety of other information.¹³ In its second quarter 2019 earnings call, Allstate reported that it analyzes over 14 billion miles per month and captures over 400 trips per second.¹⁴ The company also has a program called Milewise, in which it charges customers by the mile.¹⁵ In 2020, Allstate reported that since the beginning of the COVID-19 pandemic, consumer demand for Milewise has increased.

State Farm's program, called Drive Safe and Save, uses a mobile app and a small device that sits on a car's dashboard. The device uses a consumer's cell phone to transmit the required telematics information to the insurer. According to State Farm, the program measures consumer acceleration, braking, speed, sharp turns, phone use, and the time of day traveled.¹⁶

GEICO, which was not an early adopter of telematics, began testing a smartphone app called DriveEasy in 2019. The program is still in its early stages and relies on a mobile app that measures distracted driving (handheld phone calls and phone use), miles driven, hard braking, and the time of day of driving, though a full accounting of what data are collected has not been made public.¹⁷

There are also some newer, smaller insurers that have entered the market with telematics as central to their business model. They include companies such as Root, which has said that the

¹⁰ Progressive. "Get Snapshot from Progressive." Accessed on August 31, 2020. Available at <https://www.progressive.com/auto/discounts/snapshot/>.

¹¹ "Progressive Snapshot Review." By Mary Van Keuren. Bankrate. July 14, 2020. Available at <https://www.bankrate.com/insurance/car/progressive-snapshot/>.

¹² "Progressive Corp (PGR) Q3 2019 Earnings Transcript Call." November 7, 2019. Available at <https://www.fool.com/earnings/call-transcripts/2019/11/07/progressive-corp-pgr-q3-2019-earnings-call-transcr.aspx>.

¹³ Allstate. "Detailed List of Data that the Drivewise Device Collects." Accessed on August 31, 2020. Available at <https://www.allstate.com/landingpages/drivewisedevice.aspx>.

¹⁴ "Allstate Corp (ALL) Q2 2019 Earnings Call Transcript." July 31, 2019. Available at <https://www.fool.com/earnings/call-transcripts/2019/07/31/allstate-corp-all-q2-2019-earnings-call-transcript.aspx>.

¹⁵ "Allstate Corp (ALL) Q1 2020 Earnings Call Transcript." May 6, 2020. Available at <https://www.fool.com/earnings/call-transcripts/2020/05/06/allstate-corp-all-q1-2020-earnings-call-transcript.aspx>.

¹⁶ State Farm. "Have Drive Safe and Save Questions? We've Got Answers." Accessed on August 31, 2020. Available at <https://www.statefarm.com/customer-care/faqs/drive-safe-save>.

¹⁷ "Geico DriveEasy Review: How Does It Work?" By Alison Tobin. Clearurance. January 17, 2021. Available at <https://clearurance.com/blog/geico-driveeasy-review>.

use of telematics can help wean insurance companies off of credit-history based insurance rates,¹⁸ and Metromile, which offers pay-per-mile insurance via a driving app.

Auto insurers also work with third party telematics vendors in the development of these programs. Cambridge Mobile Telematics (CMT) has telematics partnerships with, among others, State Farm, Liberty Mutual, and Plymouth Rock, the latter of which offers gift card rewards to customers who earn points for safe driving. In 2020, CMT launched a new product line called Claims Studio, which also gives insurers access to contextual crash data after an auto accident occurs.¹⁹ In 2017 Octo Telematics, a European provider of telematics programs, acquired the UBI assets of insurance consulting firm Willis Towers Watson²⁰; the company claims to maintain a database “with over 267 billion miles of driving data collected.”²¹

Car manufacturers have also announced telematics-based partnerships with insurance companies. General Motors, Honda, and Hyundai have entered into agreements with Verisk to supply driving data for a telematics product sold by Verisk.²² GM has also partnered with Octo Telematics to try and improve insurance for commercial vehicles.²³ Ford entered into a telematics partnership with Allstate subsidiary Arity²⁴ and Tesla has announced plans to offer its own telematics-based insurance program by the end of 2021.²⁵

¹⁸ “Root Insurance Hopes Others Join Its Vow to End Use of Credit Scoring.” By Mark Hollmer. Insurance Journal. August 18, 2020. Available at <https://www.insurancejournal.com/news/national/2020/08/18/579400.htm>.

¹⁹ “Auto Insurers Can Now Use Smartphones to Reconstruct Crashes.” Business Wire. January 9, 2020. Available at <https://www.businesswire.com/news/home/20200109005096/en/Auto-Insurers-Smartphones-Reconstruct-Crashes>.

²⁰ “Octo Telematics to Buy Usage-Based Insurance Assets of Willis Towers Watson; Partnership Announced.” Insurance Journal. October 11, 2017. Available at <https://www.insurancejournal.com/news/international/2017/12/04/472971.htm#:~:text=Octo%20Telematics%20Buy%20Usage%2DBased%20Insurance%20Assets%20of%20Willis%20Towers%20Watson,-December%204%2C%202017&text=Octo%20Telematics%2C%20the%20the%20London,11%2C%202017>.

²¹ “Press Kit.” Octo. Available at <https://www.octotelematics.com/company-2/press-kit/>.

²² “Hyundai Becomes Third Major OEM to Join the Verisk Data Exchange.” April 24, 2018. Available at <https://www.verisk.com/insurance/visualize/hyundai-becomes-third-major-oem-to-join-the-verisk-data-exchange/>

²³ “Octo Telematics Partners With General Motors to Provide Fleet Services to OnStar Users.” Fleet News. June 11, 2015. Available at <https://www.fleetnews.co.uk/news/fleet-industry-news/2015/11/06/octo-telematics-partners-with-vauxhall-to-provide-fleet-services-to-onstar-users>.

²⁴ “Ford, Arity Enter UBI Data Partnership.” By Nathan Golia. Digital Insurance. February 19, 2021. Available at https://www.dig-in.com/news/ford-allstates-arity-enter-ubi-data-partnership?position=editorial_1&campaignname=LIVE_DIG_Weekly_Analytics%2020201110-02242021&utm_source=newsletter&utm_medium=email&utm_campaign=LIVE_DIG_Weekly_Analytics+20201110%2B%27-%27%2B02242021&bt_e=Qkzh7xAPkWFVDQGLnDhapURCWnB11WOHoobRm0BuZkYI%2B16Jt74g%2B%2BkocupnqyWK&bt_ts=1614186086079.

²⁵ “Tesla Telematics Program Review for 2021.” By Chris Tepedino. AutoInsuranceEZ. March 30, 2021. Available at <https://www.autoinsuranceez.com/tesla-telematics-program-review/>.

III. Key Concerns About Telematics

While the telematics market has been estimated to be worth about \$34 billion,²⁶ the fact that it has not grown faster reveals some of the challenges faced by insurers and highlights some of the concerns expressed by consumer advocates and privacy groups. Indeed, the public reaction has been lukewarm, likely due to privacy concerns and worries about corporate misuse of the collected data.²⁷

When drivers choose to participate in telematics programs, data capturing devices are fitted to their cars or drivers are asked to download a mobile app, or a combination of the two are used. Irrespective of the platform, the programs gather real-time driving data, collect various pieces of information, and transmit the information to insurers. Depending upon the company and program, the data are used to price new policies, adjust premiums when policies are being renewed, or offer prices that adjust on a more regular basis according to a dynamic usage-based score. The deeper details about the operations of telematics programs are less known. Insurance companies and their vendors have generally withheld the full scope of their programs, especially concerning the algorithms that make use of the gathered data and the role of artificial intelligence. This lack of transparency has been a key factor driving consumer advocates' concerns about the actuarial justification of telematics, program fairness, and consumer privacy and personal data rights. Insurers have, for decades, argued that greater algorithmic transparency (both with respect to telematics and general pricing practices) could harm competition and, asserting a trade privilege, generally refuse to disclose their algorithms or data sets.^{28,29}

Americans, however, are skeptical of telematics and worried about privacy violations, which affects their willingness to participate in these programs.³⁰ In 2016, Insurance Business Magazine noted that “Progressive reports that while 80% of its customers could benefit from its

²⁶ “Usage-Based Insurance Market to Hit \$107 Bn by 2024.” Global Market Insights, Inc. December 3, 2018. Available at <https://www.globenewswire.com/news-release/2018/12/03/1660531/0/en/Usage-based-Insurance-Market-to-hit-107bn-by-2024-Global-Market-Insights-Inc.html>.

²⁷ “More Americans Reject Telematics Over Privacy Concerns.” By Caitlin Bronson. Insurance Business Magazine. January 12, 2016. Available at <https://www.insurancebusinessmag.com/us/news/breaking-news/more-americans-reject-telematics-over-privacy-concerns-27554.aspx>.

²⁸ Karapiperis, D., Birnbaum, B., Brandenburg, A., Castagna, S., Greenberg, A., Harbage, R., & Obersteadt, A. (2015). Usage-based insurance and vehicle telematics: insurance market and regulatory implications. CIPR Study Series, 1, 1-79, Available at https://www.naic.org/documents/cipr_study_150324_usage_based_insurance_and_vehicle_telematics_study_series.pdf.

²⁹ “Minority Neighborhoods Pay Higher Car Insurance Premiums Than White Areas With the Same Risk.” By Julia Angwin, Jeff Larson, Lauren Kirchner, and Surya Mattu. ProPublica and Consumer Reports. April 5, 2017. Available at <https://www.propublica.org/article/minority-neighborhoods-higher-car-insurance-premiums-white-areas-same-risk>.

³⁰ “More Americans Reject Telematics Over Privacy Concerns.” By Caitlin Bronson. Insurance Business Magazine. January 12, 2016. Available at <https://www.insurancebusinessmag.com/us/news/breaking-news/more-americans-reject-telematics-over-privacy-concerns-27554.aspx>.

telematics device, Snapshot, only about 25% participate. Similarly, the rate of adoption of Allstate’s new, smartphone-based tracker is just 30%.”

Similarly in 2016 the Federal Insurance Office (FIO) wrote, “The lack of transparency by – or oversight of – big data vendors is another area of concern because of the significant effect these vendors have on consumers...Consumers have little power to control how data is collected or used by data brokers and vendors, and many state insurance regulators have only limited authority over the ways that insurers use big data. As noted above, in most cases, state insurance regulators do not directly regulate third-party vendors used by insurers.”³¹ It is not simply the use of the data but also the potential for systemic biases in the collection of the data, as FIO noted: “certain big data methodologies may hide intentional or unintentional discrimination against protected classes...”³²

The vulnerabilities and concerns that FIO identified related to the insurance industry’s growing reliance on big data generally, but they can be mapped directly onto the massive data gathering and use involved in deploying telematics offerings in auto insurance. Without strong oversight, telematics systems may contain factors with a primarily non-risk related purpose, such as cross-marketing or price optimization, or the algorithms may have a disparate impact on protected classes of people. CFA’s past reports show that auto insurers unfairly discriminate against people based on socioeconomic status, gender, occupation, credit history, homeownership, and other factors.³³ While telematics may supplant those controversial pricing factors, some of the telematics tools may perpetuate unfair discrimination by other means. One such concern, for example, is that some telematics systems reportedly consider the time of day a customer drives.³⁴ If the telematics algorithms tend to penalize night-time drivers, it could be that employees required to work the night shift would find themselves paying a higher premium, irrespective of their measurable driving safety. Moreover, while it is plausible that telematics could eventually supplant controversial non-driving factors, the current practices appear to simply incorporate a telematics factor into systems that continue to rate based on socioeconomic characteristics of drivers.

Another concern arises around whether telematics would be mandatory or optional for consumers, and whether they would be penalized for not participating in these programs. If

³¹ “Report on Protection of Insurance Consumers and Access to Insurance.” Federal Insurance Office. November 2016, pg. 6. Available at https://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/2016_FIO_Consumer_Report.pdf.

³² Ibid.

³³ See <https://consumerfed.org/cfa-studies-on-the-plight-of-low-and-moderate-income-good-drivers-in-affording-state-required-auto-insurance>.

³⁴ “Allstate Drivewise Review.” By Michael Evans. Bankrate. April 17, 2020. Available at <https://www.bankrate.com/insurance/car/allstate-drivewise/#:~:text=The%20Drivewise%20app%20monitors%20your,when%20more%20road%20accidents%20occur>.

telematics is required insurers might deny customers who value their privacy full access to the market, forcing them to make a choice between that privacy and their ability to obtain affordable auto insurance. Or insurers could (and some already do) offer incentives to get consumers to participate, even if that means giving up personal information. The savings provided to consumers who participate in a telematics program should accrue due to their driving safety measurements and not merely for their participation in a program.

Consumer and privacy groups agree that transparency is critical to building both public policy approval and consumer adoption of telematics. Given this overview of the concerns, we have identified several overarching questions that firms that develop and deploy telematics programs should answer to address the key concerns.

1) What data do auto insurers collect from consumers?

Insurers and third-party developers freely acknowledge some of the data points that their telematics systems collect, often including the following: miles driven, driving speed, use of mobile phone while driving, sharp turns and hard braking, and the time of day driven. But it is very likely that many telematics programs use other factors that are not clearly disclosed. Consumers and regulators need a comprehensive list of variables that each insurance company or vendor collects. In 2015, Allstate received a patent for using sensors and cameras to record "potential sources of driver distraction within the vehicle (e.g. pets, phone usage, unsecured objects in vehicle)" as well as information on the number and type of passengers.³⁵ When a company wants to use that tool or any other mechanism or metric as part of its telematics program, it should be both revealed and subject to public scrutiny before its implementation.

2) How are the data relevant to driving and auto insurance?

The actuarial utility of some data collected through telematics programs is well established, most notably miles driven. Other factors may seem intuitively relevant while others seem less so. In either case, actuarial justification should be required of any data collected and used for underwriting and rating of auto insurance policies to ensure that telematics systems are not arbitrary or unfairly discriminatory. Regulators and the public should be able to evaluate the claim that hard braking, for example, is a sign of risky driving and not alert accident avoidance. Most importantly, telematics providers should provide an actuarial justification for the use of each component of the system and not simply support for an aggregated telematics score. Otherwise, the efficacy of some

³⁵ "'Spy Car' Worries Raised By New Allstate Patent." By Becky Yerak. Chicago Tribune. August 27, 2015. Available at <https://www.chicagotribune.com/business/ct-allstate-car-patent-0827-biz-20150826-story.html>.

components, such as mileage, could be masking the fact that other components are not actuarially justified and are only included for other non-risk purposes.

3) Are there causative explanations for the relationship between each type of data collected and a risk of loss?

Insofar as telematics is meant to reduce the reliance on surrogates for risk of loss and capture actual causative factors related to a driver's risk, companies should be able to explain why any selected data are used in an algorithm. It also means that insurers should not be allowed to defer to artificial intelligence as the justification for the selection of data to include and should be required to explain both mathematically and substantively why a relationship to risk exists with each data set included in a telematics program. In the United Kingdom, there are certain protections related to the use of AI in deploying telematics. Insurers need to be able to explain their processes and must "take reasonable care to make and retain adequate records of matters and dealings." They are expected, as explained by a British regulator, to disclose anything of which the regulator would reasonably expect notice.³⁶

4) Do telematics programs contain unintended biases or otherwise result in disparate impacts?

Rigorous testing should be required to ensure that the flaws and unfairly discriminatory impacts of one system are not replaced by systemic biases of another system. Companies should test their algorithms for unintended bias and disparate impacts and make efforts to eliminate them. Referring back to time-of-driving, if a telematics system included such a factor, there would have to be a way of showing that it was not serving as a proxy for race or ethnicity and disproportionately penalizing drivers of color.

5) Will telematics products developed by third party (non-insurance) vendors be subject to less scrutiny because the developers are not regulated entities?

Regulators and the public should be able to fully understand the telematics models that are used by insurers. Insurance laws and regulations should emphasize transparency and oversight regarding telematics systems whether the system developer is the insurance company seeking to deploy it or a third-party vendor. CFA believes that these entities (and other entities supplying data that impacts pricing) should be regulated as advisory organizations just as the Insurance Services Office (a provider of statistical, actuarial, underwriting, and claims information and analytics) is.

³⁶ Email from Financial Conduct Authority to CFA Staff, February 1, 2021.

6) Will insurers use the data for advertising, attempt to monetize it, or sell it to third parties?

Large technology companies are notorious for saying one thing and doing another.³⁷ For example, firms may claim they will protect consumer privacy when rolling out new products but then change policies, or find loopholes or escape clauses so they can monetize each data point they collect. Auto insurers could use telematics data to track drivers' routes and the locations at which they stop, collect that information, and then sell it to other companies who target drivers with geographically specific advertisements. Or insurers could provide the data they collect to their own affiliates for marketing other financial services. When drivers agree to provide data for improved risk management purposes, they should not be required (or incentivized) to also allow the data to be used for purposes other than appropriate auto insurance underwriting and rating decisions.

At a 2015 conference, Allstate CEO Thomas Wilson said, "Could we, should we sell this information we get from people driving around to various people and capture some additional profit source and perhaps give a better value proposition to our customers? It's a long-term game."³⁸ Telematics should not be allowed to become a platform from which a company's customers are turned into its product.

7) How protected are telematics devices and the information they transmit from hackers, thieves, and other malicious actors?

If safeguards are not strong, malicious actors could break into telematics devices or insurers data storage systems, steal the information, and use it for their own purposes. The list of privacy breaches leading to consumer data being leaked is long and growing longer every year. Data protection standards for telematics must be strong and ensure that consumers have rights to hold companies accountable should their data be compromised.

8) What safeguards are in place at the state and federal level to protect consumers with respect to their privacy and their rights related to use of their personal data?

Telematics regulation is still in its infancy, and there is a distinct lack of consumer protections addressing customer privacy. In certain cases, state insurance commissioners may be able to fill some of the gap, but it is likely that statutory privacy protections are needed as well. Legislators and regulators should ensure that telematics systems are

³⁷ "The Five Biggest Little Lies Tech CEOs Told Congress—And Us." By Geoffrey A. Fowler. Washington Post. July 29, 2020. Available at <https://www.washingtonpost.com/technology/2020/07/29/big-tech-ceo-hearing-lies/>.

³⁸ "Allstate Sees Profit in Selling Customer Driving Data." By Dan Kraut. Insurance Journal. May 28, 2015. Available at <https://www.insurancejournal.com/news/national/2015/05/28/369871.htm>.

governed by robust privacy and consumer protection standards that can account for the technologies' differences from other rating tools.

With respect to the use of data, there are, currently, contributory databases that allow insurers to share rating and underwriting data, such as the Comprehensive Loss Underwriting Exchange (CLUE). If a similar exchange is created for telematics data, as Verisk appears to be developing (discussed above), it must be made clear that the Fair Credit Reporting Act (FCRA) applies and that the database is subject to Consumer Financial Protection Bureau and state regulatory oversight.

IV. Regulatory Approaches to Telematics in Five States

Below is a review of the regulatory approach to telematics taken by state insurance departments in five states: **California, New York, Florida, Washington State, and Ohio.**

California, as CFA has reported over the years,³⁹ has been the auto insurance consumer protection leader in the nation due to the insurance reform initiative Proposition 103, which voters approved in 1988. This strongest-in-the-nation law, among other reforms, requires insurance companies to obtain “prior approval” from the California Department of Insurance before implementing insurance rate changes and provides that all information and data relevant to insurance ratemaking and pricing are public and cannot be deemed confidential. Proposition 103 also requires that automobile insurance premiums be determined primarily according to a customer’s driving safety record, number of miles driven annually, and the number of years of driving experience. Beyond that, insurers can only use factors that “have a substantial relationship to the risk of loss”⁴⁰ and have been adopted by regulation by the Commissioner. At the time of writing, there are fifteen such factors. This law has guided the development of rules related to telematics in California.

In 2009, California adopted regulations for the creation of “verified actual mileage” programs, informally dubbed “pay as you drive,” which allow insurers to use “technological devices” to collect mileage information.^{41,42} Such a program must be voluntary for consumers

³⁹ See, for example, “Auto Insurance Regulation-What Works 2019: How States Could Save Consumers \$60 Billion A Year” by J. Robert Hunter and Douglas Heller. Consumer Federation of America. February 11, 2019. Available at <https://consumerfed.org/wp-content/uploads/2019/02/auto-insurance-regulation-what-works-2019.pdf> and an earlier version at http://www.consumerfed.org/pdfs/whatworks-report_nov2013_hunter-feltner-heller.pdf.

⁴⁰ California Insurance Code Section 1861.02 (a)(4).

⁴¹ “California Gets Pay-As-You-Drive.” By Timothy F. Kirn. Insurance Journal. October 19, 2009. Available at <https://www.insurancejournal.com/news/west/2009/10/19/104627.htm>.

⁴² 10 California Code of Regulations (CCR) §2632.5 (c)(2). Available at <https://govt.westlaw.com/calregs/Document/I359674A0D49211DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=StatuteNavigator&contextData=%28sc.Default%29>.

and collecting any information other than mileage is prohibited. Regulatory changes would be needed to allow insurers to collect and use any consumer data beyond mileage. Notably, the voter approved initiative underlying these consumer protections places the authority to set these rules squarely in the Department of Insurance and prohibits the state legislature from altering or legislating around these protections.

California's consumer protections put the state, and its Insurance Commissioner, in a strong position to ensure that any expansion of telematics beyond verified mileage is guided by principles of transparency and fairness. In addition to the protections against unfair and unjustified rating factors, Proposition 103 ensures that "[a]ll information provided to the commissioner pursuant to this article shall be available for public inspection..."⁴³ This means that both in order to craft rules for expanded use of telematics and before any insurer deploys a telematics algorithm, the industry and individual companies must disclose and explain what data are gathered, why the data are appropriate, and how the data are used.

Lastly, a 2020 California ballot measure created a new consumer privacy regime that will almost certainly impact the use of telematics in the state, and further study of its implications is needed.

New York has issued guidelines for plug-in telematics programs and smartphone apps.⁴⁴ Companies using telematics must note the kind of devices used to track the data, cannot gather any data unrelated to calculating discounts or generally rating insurance policies, and cannot use the data to negatively impact policyholders (i.e., by increasing premiums or nonrenewing policies). Additionally, telematics programs, including the algorithms, cannot be changed without the Department's prior approval, and the data must not be used or sold for non-rating purposes until the personally identifiable information has been de-linked.

The guidelines also state: 1) No data will be collected prior to the policyholder's signed acceptance of the telematics program's terms and conditions, 2) The terms and conditions agreement needs to be filed with the Department of Financial Services, and 3) The agreement does not require policyholders to waive their rights or for disputes about data breaches or defective devices to be handled by arbitration.

⁴³ California Insurance Code Section Article 10, 1861.07. Available at

https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=INS§ionNum=1861.07.

⁴⁴ "Updated Guideline for New York UBI Programs (Plug-in Telematics Devices and Smartphone Apps)." New York Department of Financial Services. For all filings (new or existing programs) submitted on or after April 25, 2019. Available at https://aicp.net/wp-content/uploads/2020/12/NY_DFS_UBI_PC_Guidelines_including_Smartphone_Apps_25_April_2019.pdf.

Florida regulates UBI policies according to the same standards it uses for auto insurance regulation generally. The Office of Insurance Regulation (OIR) requires that auto insurers disclose the data collected and used in determining the rates. OIR then conducts an actuarial review of the data and examines the methodology used to determine the rates. The extent of the OIR review of telematics algorithms is unclear. Information collected for telematics programs is included under Florida’s definition of personally identifiable financial information.

Florida’s administrative code does offer some consumer transparency. [Rule 690-128.007\(1\)](#) of the Florida Administrative Code requires that auto insurers with telematics programs disclose to their policyholders the following items: 1) the information that is being collected by the programs, 2) the information that is being disclosed, and 3) to whom the information is being disclosed.

In **Washington State**, there are several laws that specifically govern the use of telematics. [RCW 48.19.040\(5\)\(b\)](#) states that the usage-based information in rate filings is withheld from the public, but another code section, [RCW 48.18.600](#), states that if telematics devices collect location data, the consumers must be informed and must consent to the collection.

Washington’s Department of Insurance requires two separate filings for telematics/UBI programs – one public filing with telematics information redacted and a private filing with the complete information. Auto insurers must provide actuarial support for telematics rating factors and the algorithms that convert observed driving events into premium rating factors must also be included in the confidential rate filing.

Most individual data elements collected for telematics are not subject to any actuarial review. However, Washington law forbids information recorded or transmitted by a recording device from being accessed by someone other than the car’s owner without their consent, and another law requires insurers to provide clear and conspicuous notices about their privacy policies to consumers.

While the states discussed above have proactively considered and addressed the use of telematics in various ways, the approach that appears to be far more common is the approach taken in **Ohio**.⁴⁵ Ohio has no specific laws or regulations governing the use of telematics. As a “file and use” state, insurance companies can use new rates and rating systems without state review and approval. According to the Ohio Department of Insurance,⁴⁶ the same laws and regulations that apply to a standard auto insurance filing apply to a telematics filing with no

⁴⁵ In the course of our research, CFA also spoke with officials from the Arizona Department of Insurance, the Louisiana Department of Insurance, and the Minnesota Department of Commerce, who stated there are no special laws or bulletins regulating telematics.

⁴⁶ November 24, 2020 conversation between author and Ohio Department of Insurance staff.

additional guidance or constraints. However, a telematics filing may receive more in-depth questions from the Department.⁴⁷

In the absence of laws, one department has provided informal guidance about telematics. In a short September 2020 report, the Maryland Insurance Administration wrote that “while there are no statutory or regulatory prohibitions to use-based automobile insurance, any such program must operate within the confines of Maryland law.” It did, however, identify a series of obstacles and considerations that should be taken into account when reviewing these programs.⁴⁸ Of course, informal assessments such as this do nothing to ensure that telematics are used in a manner consistent with consumer expectation and protection.

V. Standards for Oversight of Telematics and Auto Insurance

Based on our review of current telematics programs and regulation of the programs, consumer protections need to be adopted in order to ensure that telematics programs encourage and benefit consumers in a manner that is fair, transparent, and does not threaten consumer privacy. Toward that objective, oversight of telematics should have the following components:

- **Transparency of Data Collection**

Often regulators, consumer advocates, and consumers are unable to determine the entire set of data that telematics devices are collecting. Mileage and a few other datapoints are often cited by carriers and vendors in their public statements and consumer facing disclosures, but our analysis of regulatory oversight and other research indicates there may be several other factors, including driving location, time of day of driving, weather during a commute, the types of roads used, and other data that may be gathered without full and clear disclosure. Consumers and regulators need to know all of the data points that insurers and third-party vendors collect.

- **Standards for Data Collected and Used**

There should be strict limits on the data that companies can collect and use. Specifically, regulators should allow, after regulatory review, only data that are demonstrably related to risk of loss for use in telematics programs. Short of that, where prior approval is not required of auto insurance rates and rules, companies should at least be required to provide the actuarial justification and a causative

⁴⁷ April 20, 2021 conversation between author and Thomas Botsko, Property and Casualty Actuary at the Ohio Department of Insurance.

⁴⁸ This report, it should be noted, appears to be directed primarily at assessing the likelihood that usage-based insurance programs will help meet statewide greenhouse gas reduction objectives. See, “Use-Based Automobile Insurance in Maryland-2020 Annual Report.” Maryland Insurance Administration, Commissioner Kathleen A. Birrane. September 2020. Available at <https://insurance.maryland.gov/Consumer/Appeals%20and%20Grievances%20Reports/2020-Use-Based-Automobile-Insurance-in-Maryland-Annual-Report-MSAR-10685.pdf>.

explanation for each point of data they use in a program. This means that it is not enough to say that a final aggregate scoring model is sound; instead, each component of the score – whether it is hard braking or apparent phone use, or any other factor – must be demonstrably related to risk. Further, third-party developers of telematics programs or algorithms should be subject to state insurance department oversight in a manner akin to advisory organizations and their products subject to review.

- **Transparency of Algorithms**

Regulators, policymakers, consumer advocates, and the public should be able to see how the algorithms work, what goes into the calculations and what comes out. In order to make this transparency meaningful, telematics-based rating algorithms should also be presented to consumers in plain language, while still clearly identifying all the inputs and the weight given to each component of the telematics program.

- **Disparate Impact Tests**

Insurers should also produce a disparate impact analysis of their telematics algorithms to identify the possibility that protected classes face less access or higher rates when the algorithms are applied in the market. Additionally, insurers and vendors must be required to take steps to obviate any disparate impacts of their telematics programs.

- **Restrictions on Data Usage**

Any data collected by telematics devices and compiled by companies should only be used for evaluating risk. Telematics data should not be used for anything else; it should not be sold or shared, except insofar as it is shared with the drivers themselves for the purpose of transparency or risk mitigation education. Consumers should have ultimate control over their information, and they should not be pressed to release their private data in order to realize their full savings.

- **Oversight of Contributory Databases**

If telematics data become available to insurers through an exchange or contributory database, the data should be treated as consumer reports subject to the FCRA, CFPB oversight, and state regulatory oversight. The full range of consumer rights available under the FCRA should apply to any contributory telematics database that insurers use for rating and underwriting.

- **Freedom for Consumers**

Once approved, telematics programs should be available to those who want to participate, but consumers should also be able to get coverage without participating in

the telematics program. Consumers should be made aware of this right and be able to change their use of telematics whenever they want. Consumers should not be penalized for non-participation, and companies should not be allowed to provide a participation discount, though discounts for safer driving should be allowed. At least once per year customers should receive an accounting of what information has been collected and how it has been used to rate their policy as well as any other uses of the data.

- **Telematics Programs Should Provide Ongoing Signals and Benefits to Consumers**

Some programs collect data about a consumer during an initial test period, determine the rate, and then don't update the "driving score" with any regularity. The most profound potential public benefit of telematics is its ability to signal to drivers the value of improved and safer driving. That means consumers should be able to learn from their mistakes and get better pricing as they improve their driving. If telematics programs just use, for example, one 90-day measurement every three years, then the consumer incentive to drive more safely is too tenuous to improve public safety, dramatically reducing the value of telematics.

VI. Conclusion

While telematics has great potential to help consumers, promote better driving, and make auto insurance more affordable, it also has significant potential for misuse, violations of consumer privacy, and poorly explained premium impacts. CFA and other consumer advocates have raised these concerns with state regulators, telematics developers, and auto insurers themselves. Generally, insurers have been unwilling to disclose their telematics algorithms and the full scope of data they collect, and most states do not have comprehensive regulations or laws specifically focused on telematics.

These obstacles must be confronted in order for telematics programs to reduce insurance prices, increase road safety, and gain public trust. States should adopt thorough and thoughtful rules and exercise careful oversight of these programs. We expect that telematics will grow more complex and widespread in the coming years. It is, therefore, all the more important that these rules and principles be adopted now to ensure the technologies improve the auto insurance market and benefit drivers.

[The Consumer Federation of America](#) is an association of more than 250 nonprofit consumer organizations that was established in 1968 to advance the consumer interest through research, advocacy, and education.