

Axon AI Ethics Board

2020 End of Year Report

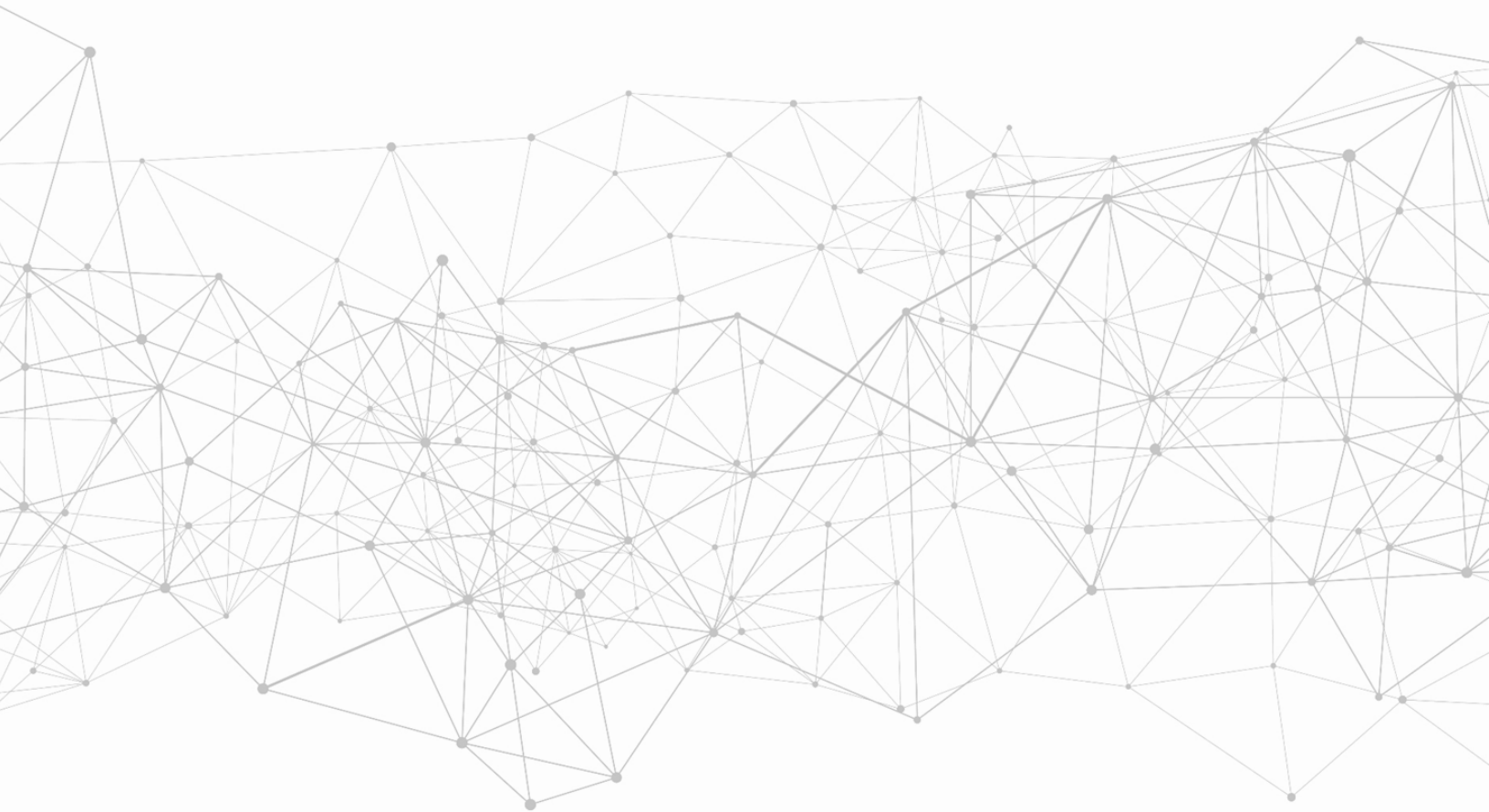


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01

Introduction

2020 was a year of unprecedented challenges, especially in the world of policing. The killings of Breonna Taylor, George Floyd, and others prompted outrage, protests, and a renewed focus on police use of force and accountability. The widespread deployment of new technologies, including aerial surveillance and face recognition, put a spotlight on agencies'

increasing reliance on policing technologies and spurred calls for regulation and reform.

Amidst these challenges, the work of the Axon AI Ethics Board was as vital as ever. This End of Year Report summarizes the work of the Board over the course of 2020.

Background on the Board

The Axon AI Ethics Board was established in 2018. Its purpose is to help guide and advise Axon on ethical issues relating to the development and deployment of new policing technologies. The Board does not formally approve particular products.

The Board's **first report** was released in June 2019 and provided information about how the Board operates, as well as recommendations on the use of face recognition technology in Axon products. The report also included the Board's **Product Evaluation Framework**, which the Board created as a tool to assess how technologies might impact not only police work, but communities and individuals as well.

The Board's **second report** was released in October 2019 and addressed automated license plate readers (ALPRs). That report called for legislative regulation of ALPRs and included a set of recommendations providing guidance both to law enforcement agencies using ALPRs and to Axon as it developed its first ALPR product.

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Updated Board Membership

Since our last report, as part of a regular turnover process, several members have departed the Board. The Board extends its sincerest thanks to Jim Bueermann, Vera Bumpers, Ali Farhadi, Tracy Ann Kosa, Walt McNeil, and Kathleen O'Toole. Their leadership and contributions to the work of the Board have been invaluable.

Four new members joined the Board in 2020:

- **Danielle Citron** is the Jefferson Scholars Foundation Schenck Distinguished Professor in Law at the University of Virginia, where she writes and teaches about privacy, free expression, and civil rights. She joined the Board in March.
- **Chris Harris** is Director of Criminal Justice Programs for Texas Appleseed, a public interest nonprofit that promotes social and economic justice for all Texans, and a former Public Safety Commissioner for the City of Austin. He joined the Board in March.
- **Wael AbdAlmageed** is a research associate professor at the USC Viterbi School of Engineering, where he studies representation learning, debiasing and fair representations, multimedia forensics and visual misinformation, and biometrics. He joined the Board in March.
- **Carmen Best** is the former Chief of Police of the Seattle Police Department. She joined the Board in December.

We are also pleased to announce the addition of several new Board members in 2021, including two from the United Kingdom:

- **Charlie Beck** is the former Chief of Police of the Los Angeles Police Department and the former interim Superintendent of the Chicago Police Department.
- **Rebekah Delsol** is a senior managing policy officer at the Open Society Justice Initiative. Since 2005, she has worked as the project coordinator of Strategies for Effective Stop and Search, a project led by the Justice Initiative that focuses on building collaborative relationships among police and civil society partners to monitor profiling and support accountable and effective use of police powers in Bulgaria, Hungary, and Spain.
- **Giles Herdale** is an associate fellow at the Royal United Services Institute. He has been involved in digital investigation for many years, working on policing issues at the National Policing Improvement Agency, College of Policing, and National Police Chiefs' Council.
- **Warren Stanley** is the former Commissioner of the California Highway Patrol, the largest state police agency in the U.S. with 11,000 employees, making it the fifth largest law enforcement agency in the country.

03

2020 Recap

A. Rethinking Axon's Customer Base

Since its inception, the Board has pushed Axon to rethink who its "customers" are. As we noted in our first report, Axon sells its products to law enforcement and public safety organizations, and naturally markets toward that customer base. But the Board consistently has emphasized that, in fact, the "customers" for Axon products are the communities that those law enforcement and public safety organizations serve.

Recognizing the community as Axon's customer base carries with it a host of practical implications. Product design choices can help ensure that Axon products are not only effective but used in an equitable and transparent way. Axon could encourage or even require law enforcement agencies to have democratic authorization for the deployment of Axon products, as well as adequate use policies. Online tools can be developed to enhance the public's understanding of the tools being used in their communities.

Over the past year, we have seen Axon take a number of steps to implement a community-centered view of its customer base:

First, Axon hired Regina Holloway as Axon's VP of Community Impact. Holloway is a former defense attorney, supervising investigator at the Civilian Office of Police Accountability in Chicago, and most recently, senior program manager at the Policing Project at the New York

University School of Law, where she led the Project's work in Chicago.

Second, Axon launched its **Community Coalition** — a group that will help Axon better understand the viewpoints of those most directly impacted by Axon's products. Led by Holloway, the Coalition will work with product teams to ensure that Axon products are designed in a way that reflects the concerns of the communities in which they are used. The Coalition also will build relationships between Axon's Community Impact Department and community-based organizations. We look forward to seeing the Coalition's work.

Third, last summer, Axon launched Sprint for Justice, a campaign to develop a slate of new features for Axon products with the goal of advancing racial equity, diversity, and inclusion. The features developed include a dashboard with real-time data on use-of-force incidents, hypermedia markers to help identify key events in body-worn camera footage (such as the arming of a TASER or unholstering of a firearm), and a tool to make it easier for agencies to publish public body-worn camera footage to social media.

Finally, Axon began to integrate the Board's **Product Evaluation Framework** into its product development process. The Board asked Axon to take this step in light of the fact that the Board cannot evaluate every aspect of Axon's work. Under Axon's new process, prior to the development of a new product or feature,

product managers will complete a "PRFAQ" — a document that describes the product or feature and answers questions that stakeholders may have, including what problem Axon is trying to solve, pricing, and all of the questions included in the Product Evaluation Framework. Product managers completed PRFAQs for each of the Sprint for Justice features, and will do so for all new products and features going forward. Axon also has set up a process for the Board to review PRFAQs and offer early feedback. The Board views these steps as critical to ensuring that a product's ethical implications are considered before and during development, not just after the fact.

The Board's work to pivot Axon's view of its customer base is part of a larger effort to ensure that the company's products are built on a sound foundation — all Axon products should be designed within a process that accounts for ethical impacts, fosters public engagement, and is responsive to community concerns. The Board will continue to advocate for these structural changes in the coming year.

B. Automated License Plate Readers

In 2020, Axon announced the forthcoming Fleet 3 in-car video system — the company's first product featuring automated license plate recognition. In June 2019, well in advance of the product's launch, the Board issued a public report on ALPRs which included a set of recommendations for Axon to follow as it developed Fleet 3. The Board updated its recommendations in May 2020 in light of new information provided by Axon.

The Board's full set of recommendations is listed in **Appendix A**, but a few bear mentioning here. First, the Board recommended that Axon only sell ALPRs in jurisdictions in which the use of ALPRs has been democratically authorized.

Second, the Board recommended that Axon require agencies to adopt clear ALPR use policies which incorporate the Board's recommendations. Third, the Board recommended that agencies be required to share information about their ALPR use with the public through a transparency portal. Fourth, the Board recommended that Axon design its ALPRs to give agencies the ability to adjust hot lists — for example, to disable alerts related to low-level offenses, civil infractions, or immigration status. And fifth, the Board recommended that Axon study the appropriate retention period for ALPR data and set that period as the default for Fleet 3.

The Board also recommended that the Policing Project perform an audit of Flock Safety, a company that is partnering with Axon on ALPR technology. Board members noted that the company lacked experience in the public sector and expressed concerns about Flock's business model, which is largely based on selling ALPRs to private clients, such as homeowners associations. The Board agreed that a full civil rights and civil liberties audit would enable the Board to provide detailed recommendations regarding the company's partnership with Axon.

During the second half of 2020, the Board twice met with Axon leadership and members of Axon's ALPR team to discuss the Board's recommendations. The Board and Axon came to an agreement on nearly all matters, including the audit of Flock Safety (which is now underway) and the collection of data to facilitate research on retention periods.

Axon did not, however, fully implement all of the Board's recommendations. As discussed, the Board recommended that Axon sell ALPRs only in jurisdictions in which ALPR use has been democratically authorized. Axon believed that implementation of this recommendation

was not commercially feasible, but it agreed to an alternative offered by the Board — the company will put its full support behind a model ALPR statute that the Board will draft in the coming year. Regarding the transparency portal, Axon and the Board ultimately agreed that individual agencies would have the ability to decide whether to make information about their ALPR use public, but Axon would collect the data regardless. Finally, due to market pressures, Axon was hesitant about requiring agency policies to comply with the Board’s recommendations. Axon agreed, however, that agencies must have an ALPR policy.

In most cases, Axon agreed to the Board’s recommendations without any changes. These recommendations included significant limitations on Axon’s ability to use client data, including a prohibition on the company profiting from fines and fees obtained through ALPR use, and the relinquishment of any right to access or share ALPR data.

The Board will continue its work on ALPRs in 2021, drafting a model statute, conducting a series of stakeholder interviews, and providing feedback to Axon as it continues to develop its ALPR technology.

C. Additional Product Feedback

Over the course of 2020, Axon sought the Board’s guidance regarding a number of technologies and features. Many were reviewed by subcommittees of the full Board, which offered feedback to Axon product and design teams. Here are a few examples.

1. *Gunshot Detection*

A subcommittee of the Board weighed in on Axon’s development of Officer Involved Shooting (“OIS”), a gunshot detection feature for Axon’s latest body-worn camera. OIS uses the

body-worn camera’s microphones to detect noises over a specified decibel level. If that threshold is met, OIS uses AI analysis to determine if the noise was a gunshot. When a gunshot is detected, the officer’s body-worn camera begins recording; agencies can also configure the feature to send a notification to dispatch, command staff, or another designated recipient.

The subcommittee found that OIS had several potential ethical impacts. Although it is undoubtedly important that Axon develop features to help ensure that officer-involved shootings are recorded, OIS’s false positive rate was far too high. False activations may result in unnecessary deployments (with officers primed to expect that a critical incident had occurred), leading to a higher risk of unnecessary use of force. False activations also could waste dispatcher resources, result in deployment of officers to locations where they are not needed, and, if frequent enough, lead officers to ignore OIS alerts altogether.

Based in part on the subcommittee’s feedback, Axon determined that OIS will not be ready for launch in the near future. The subcommittee will continue to monitor developments and keep the Board apprised.

2. *Auto-Transcribe*

At Axon’s Accelerate 2020 conference, the company announced Auto-Transcribe, an AI-powered tool that creates transcripts of audio and video files, synced with the original evidence. Users can review transcripts and search by keyword, quickly locating key moments in videos. Auto-Transcribe can generate transcripts for use in judicial proceedings and includes a text-editing tool that allows human editors to make corrections (transcripts are marked as machine transcripts until human reviewers have verified each word).

Auto-Transcribe also is used to generate transcripts for Supervisor Assistant, a feature created during the Sprint for Justice campaign which ranks body-worn camera footage for supervisor review based on the presence of certain keywords.

Although Auto-Transcribe ultimately may prove to be a useful tool, a subcommittee of the Board, in its review of the feature, found potential ethical impacts. In particular, the ability to search across transcripts — a feature Axon intends to introduce later this year — could potentially allow users to search the public’s spoken words at scale, presenting concerns about privacy and misuse. Moreover, Auto-Transcribe’s algorithm is less accurate in transcribing certain ethnic and regional accents, although Axon is working on addressing this issue.

The Board will continue to work with Axon on addressing Auto-Transcribe’s ethical impacts.

3. Sprint for Justice

As discussed above, Axon launched its Sprint for Justice initiative with the goal of developing new features to advance racial equity, diversity, and inclusion. Prior to launch, the Policing Project reviewed these features and their ethical implications. The Policing Project reported its findings to the Board and the Sprint for Justice products were discussed during the Board’s December meeting.

The Board offered Axon feedback regarding several Sprint for Justice features, including Video Recall, an 18-hour forensic buffer for AB3 body-worn cameras, and Social Media and Webpage Evidence. The latter allows members of the public to capture online content, such as websites or social media posts, and submit it as evidence directly to policing agencies via Axon Citizen, Axon’s platform to collect and manage

evidence solicited from the community. The full list of Sprint for Justice products reviewed by the Board can be found in **Appendix B**. The majority of these — such as a dashboard to analyze use-of-force data and a tool to assist supervisors in reviewing body-worn camera footage — are features that would achieve the purpose of increasing equity in policing in notable ways.

With respect to the Social Media and Webpage Evidence feature, however, Board members expressed serious reservations at the December meeting. Some members voiced concern that the feature could be used to share other people’s personal social media content with great ease. Board members also flagged the risk that people might share deceptive or manipulated "deep fake" videos with agencies. Another issue was over-policing, and the possibility that creation of a direct online portal for individuals to share web content with law enforcement could undermine efforts to shift the response to some public safety problems to entities other than the police. Finally, there were concerns about anonymity and protections for individuals submitting evidence of police misconduct.

In response to the Board’s concerns, Axon made the decision to disconnect the feature from Axon Citizen — a decision which the Board commends. The Board intends to take a closer look at Axon Citizen in the coming year.

D. Data-Sharing Agreements

To improve its AI algorithms, Axon relies on training data derived from law enforcement agencies. Axon has expressed concern that its current data-sharing agreements with agencies provide insufficient data to meet the company’s performance, accuracy, and ethical expectations for its AI capabilities.

In 2020, Axon proposed major changes to the way it collects and uses agency data. Under the company's "Ring's Data Framework," data will be accorded different treatment depending on whether it is deemed "non-customer data," "telemetry data," "transformed segments" of agency data, or "deep access" to agency data. The use of "transformed" data is a significant change — Axon, with the agency's consent, will use agency data that it previously has not had access to, technically manipulating the data to remove any clearly identifiable personal information. For example, a short snippet of audio containing the sound of a gunshot or a single frame of video with all imagery removed except for a car's license plate would potentially be considered transformed data.

In June, Axon consulted the Board's Data-Sharing Subcommittee and consequently issued a revised version of the Rings Data Framework incorporating the Subcommittee's feedback. These changes include the ability for agencies to exclude specific data elements from use, the creation of a transparency hub disclosing information about Axon's use of customer data, and a governance process to ensure that data transformation techniques have undergone adequate review. Axon's adoption of the Subcommittee's recommendations is an important step towards ensuring that the company has the tools it needs to build an ethical AI, while at the same time safeguarding personal information.

E. Export Philosophy

Axon sells its products in over 100 countries around the world, and the company is keenly aware of the possibility that without adequate safeguards, certain foreign governments potentially could use Axon products in a manner inconsistent with civil and human

rights. Accordingly, the Board and Axon have been in vigorous discussions regarding the company's export philosophy.

In 2020, the Board offered a set of recommendations regarding the exportation of Axon products. Among other things, the Board recommended that Axon, through an internal corporate export board, develop a framework to evaluate the company's export decisions. The export board also would conduct pre-sale and post-sale diligence to ensure that Axon products are being deployed in an ethical manner, wherever they are used. Axon will provide an update regarding its export philosophy at the next Board meeting.

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Conclusion

Technological progress holds great promise for improving public safety but carries with it the potential for great harms. It is incumbent upon vendors such as Axon to assess the benefits and costs of policing technologies, minimize ethical impacts, and do so in a manner that is transparent and responsive to the public.

The Axon AI Ethics Board has played a role in helping Axon meet these obligations, and we look forward to continuing this critical work in 2021 and beyond.

Appendix A:

Board's May 2020 ALPR

Recommendations to Axon

Recommendation 1. It is essential that Flock Safety undergo a full civil rights and civil liberties audit before Axon integrates Flock's data or services into the Evidence.com platform.

During the Ethics Board meeting, Flock's management team exhibited a commendable willingness to learn about ethical principles. We were likewise impressed that Flock is adhering to a 30-day retention period and recognizes the importance of democratic control as the only possible exception. Still, the Board has concerns regarding Flock's inexperience in the public sector, as well as the company's reliance on a pay-to-play model of public safety. A full civil rights and civil liberties audit would allow the Board to provide detailed recommendations on next steps. Our assumption is that Flock would welcome this input.

Recommendation 2. Axon should not sell ALPRs in jurisdictions that do not have legislative, regulatory, or otherwise democratically produced authorization for ALPR use.

To the extent competitive forces in the ALPR industry proscribe full implementation of this recommendation, the Board considers it imperative that Axon nonetheless offer full-throated support for the principle and promote the development of these processes. Although Board members differ on whether they individually support allowing the pervasive use

of ALPRs, the Board is developing a model statute regarding the regulation of ALPRs.

Recommendation 3. Axon should require that all agency customers develop and publish a clear use policy for ALPR technology. Each agency's policy should, at a minimum, address the concerns raised in the Ethics Board's Second Report on ALPRs, and in these recommendations.

The Board recognizes it will be difficult for Axon to patrol the exact content of an agency customer's ALPR policy. However, the Board believes that Axon should, at a minimum, require that each customer provide a current ALPR use policy that Axon will post in an appropriate publicly accessible place. The Board will assist Axon by providing a model policy that ensures robust protection of civil liberties, and which it can share with customers.

Recommendation 4. Axon's ALPR should include a portal to facilitate transparency about each agency's ALPR use, including all agency settings on issues relating to data retention and offenses for which alerts will be provided.

Because the Board understands it will be difficult for Axon to require agencies make this "transparency portal" public, we suggest the portal have a few configurations—e.g., public, internal only, internal with limited access. Axon

should consider incentivizing agencies to make the transparency portal public. Incentives could include, for example, discounts on specific services. At a minimum, however, Axon should require agencies engage the portal internally so that use records are generated and subject to FOIA requests.

Recommendation 5. Axon should condition moving forward in the ALPR market on investing in, or working with partner agencies to develop, a rigorous analysis of the shortest possible retention period for ALPR data that will serve public safety needs sufficiently, as weighed against competing concerns. Axon should then set that period as the default retention setting on its ALPRs. Axon’s ALPR should also be designed to facilitate data-gathering and the impartial study of ALPR usage, so that communities and the country are aware of how ALPRs are being used, what is required to make that usage effective, and ways to eliminate or mitigate any harms that may arise.

Although we understand Axon cannot require an agency to study its ALPR use, it can take steps to encourage it. For example, Axon can and should encourage partner agencies to implement additional record keeping and auditing in existing databases; develop tools to facilitate the collection and auditing of this information; and educate agencies in the value of shorter retention in terms of data storage costs, avoiding over-enforcement of low-level offenses, and other benefits.

Recommendation 6. Axon should design its ALPRs so that agencies can adjust their hot lists to include only those offenses or reasons most of concern to that agency and its community.

Although communities must decide the contours of their own alert lists, as a general matter we believe that these lists should not be used to enforce civil infractions, immigration

violations, parking and minor traffic offenses, offenses enforceable by citations, fines and fees enforcement, or outstanding warrants arising from a failure to pay fines and fees. Axon should incorporate these principles into its default settings.

Recommendation 7. Axon should provide agencies with the option to turn off immigration-related alerts from the National Crime Information Center so that jurisdictions that choose not to participate in federal immigration enforcement can do so.

Recommendation 8. Axon should design its ALPRs in ways that ensure alert lists are checked routinely for errors and kept up to date.

Recommendation 9. Axon should design its ALPRs to minimize the consequences of false-positive alerts by requiring officers to visually verify that a license plate matches an alerted hot-listed plate before executing a stop. If the offense at issue is associated with the registered owner of the vehicle (as opposed to the vehicle itself), Axon’s technology should ensure the officer ascertains whether the driver is consistent with the description of the registered owner.

Recommendation 10. Axon should design its ALPRs to create audit trails of both real-time ALPR alerts and agency accessing of historical ALPR data. The model policy Axon provides to its agency customers should require regular auditing of ALPR usage.

Recommendation 11. Axon should encrypt and secure stored ALPR data against outside access and breach.

Recommendation 12. Axon should relinquish the right to access or share ALPR data, and should exhort its law enforcement partners to never share ALPR data with for-profit third parties.

Recommendation 13. Axon should ensure that any agency data-sharing via Evidence.com is governed by specific, formal, and lawful data-sharing agreements on file with Axon. Axon should make this information transparent to the public.

We think there are complicated issues to work out regarding data retention periods when agencies share data. Our view is that Axon should implement a "lowest common denominator" principle – in other words, an agency should only be able to view shared data for the shorter of the agency's own retention period and the retention period of the sharing agency.

Recommendation 14. Axon should never profit from fines and fees obtained through law enforcement use of ALPRs.

Recommendation 15. Axon should provide adequate training materials for agencies and officers using its ALPRs, including about default settings and why they are set the way they are, and about the policy considerations governing these recommendations.

The Board is eager to work with Axon on these training materials, particularly to include some information about the civil rights and civil liberties concerns surrounding ALPR use.

Appendix B:

Sprint for Justice Features

Reviewed by the Board

1. Use of Force Dashboard: New dashboards in Axon's records management system will assist agencies in analyzing use-of-force trends and outcomes. The dashboards will also facilitate the creation and filing of use-of-force reports.

2. Publish to Social Media: Publish to Social Media will make it easier for agencies to publish video content to agency social media channels. Authorized agency users can enter titles and descriptions, add tags and content warnings, and publish videos to multiple social media channels simultaneously.

3. Hypermedia Markers: Axon is adding markers to its video interface to indicate exactly when an officer arms, arcs, and deploys a TASER, or draws a firearm. This will help reviewers to identify these critical moments, even if they are not visible in the video footage.

4. LED Auto Brightness: Axon body-worn cameras are equipped with front LEDs that illuminate during recording. Axon states that when there is a large police presence, these LED lights can be distracting or, in certain environments, be an officer safety issue, causing some agencies to switch them off altogether. Auto Brightness addresses this problem by adjusting the LED's brightness based on the ambient lighting environment.

5. Priority Ranked Video Audit: Priority Ranked Video Audit helps supervisors identify meaningful body-worn camera footage to review by providing a ranked list of videos based on certain signals, such as TASER or firearm use, or the presence of spoken keywords. Over 600 keywords drawn from a hate speech database are included and additional keywords can be configured by the agency.

6. Video Recall: Video Recall is a continuous 18-hour forensic buffer for Axon's AB3 body-worn cameras, enabling recording through an entire shift. This helps to ensure that all critical incidents are recorded. Video Recall operates whenever an AB3 is not recording, not docked, and not turned off. This feature was not released during Sprint for Justice.

7. Social Media and Webpage Evidence: Social Media and Webpage Evidence allows members of the public to capture online content, such as websites or social media, and submit it as evidence directly to law enforcement agencies via Axon Citizen. Agencies use Axon Citizen to open evidence portals for individual cases and can solicit evidence from particular individuals or groups, or the public at large.