Body-Worn Camera Training and Technical Assistance 2023 Virtual Annual Meeting Summary Report

November 2023

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Executive Summary

On September 12–14, 2023, the Bureau of Justice Assistance (BJA) and the Body-Worn Camera (BWC) Training and Technical Assistance (TTA) team conducted the eighth national meeting of the BWC Policy and Implementation Program (BWCPIP). Because of circumstances surrounding the COVID-19 pandemic and changes made to the BWCPIP grantee requirements, the meeting was held annually virtually for the fourth time. This meeting provided a forum to discuss important issues related to BWC program and policy implementation, such as grant management and reporting responsibilities, policy compliance monitoring, procurement considerations, program cost anticipation, digital evidence management and integration, collaboration with prosecutors, strategic communications, emerging training practices, and BWC technology trends and developments.

This meeting was largely for the benefit of fiscal year (FY) 2022 BWCPIP grantees. In attendance were 237 representatives, including the following:

- 100 representatives from 33 BWCPIP FY 2022 grantee agencies
- 46 representatives from 25 BWCPIP FY 2021 grantee agencies
- 10 representatives from 7 prior BWCPIP grantee agencies
- 8 representatives from 8 law enforcement agencies that are not BWCPIP grantees
- 6 representatives from 6 universities with active interests in BWC operations, policy and research
- 57 representatives from 9 other agencies, including the BWC TTA team, subject matter experts (SMEs), and representatives from BJA
- 10 call-in attendees whose names and agencies could not be immediately identified.

This summary report reviews participant discussions and lessons learned from the meeting, new ideas for TTA, and evaluation feedback from the attendees. It also discusses opportunities and challenges that resulted from the virtual meeting platform.

Opportunities for Technical Assistance

Participant discussions highlighted potential opportunities for technical assistance. Over the coming months, the BWC TTA team will work with BJA to determine how to best meet the needs of the BWCPIP community and develop the following topics into TTA products and resources:

- Organizing peer exchanges between agencies conducting BWC testing and evaluation (T&E) to help each other devise a plan and select a vendor.
- Developing a resource regarding the different uses of narration during BWC activation.
- Providing learning opportunities for managing multiple digital evidence systems.
- Exploring the possibility of returning to in-person forms of technical assistance.
- Investigating the role of BWCs in early-warning and early-intervention systems.
- Providing support and reference resources for digital evidence management.

- Providing continued TTA around redaction.
- Developing resources regarding best practices for presenting the BWC program to the community and specific communities of interest.
- Expanding knowledge beyond the policies and procedures of the past five years.
- Defining digital evidence management (DEM) for our purposes. Agencies do not all rely on a standard definition of DEM, so we must provide a clear definition to avoid confusion when working with agencies.
- Support regional approaches to BWC program planning and operation to leverage economies of scale and to promote greater standardization.

Participant Feedback

Of the 164 law enforcement agency representatives in attendance, 54 (approximately 33 percent) completed the Participant Feedback Form. The form asked attendees to rate various components of the meeting using a five-point Likert scale from "Strongly Disagree" to "Strongly Agree." Attendees also answered two open-ended questions to help the BWC TTA team improve and prepare for future meetings. Overall, the response to the national meeting was positive, with 89% of respondents rating the meeting positively across eight different evaluation questions. The Feedback Summary section summarizes the feedback responses starting on page 42.

Virtual Conference Format

Generally speaking, BJA, the BWC TTA team, and the meeting participants were pleased with the success of the three-day virtual meeting. The TTA team conducted the meeting with few technical problems, and presenters and participants appreciated being able to engage remotely. Any registration errors were easily fixed through the Whova platform, and participants who had initial difficulties logging in were quickly able to join the meeting. Throughout the meeting, participants stayed engaged and maintained a good level of attendance over the course of the three days, usually averaging around 200 participants for sessions using the main Zoom link.

One continued benefit of the virtual platform was that many more participants from BWCPIP sites could participate in the meeting (unless restricted by their schedule requirements). The TTA team could invite all BWCPIP sites, not just those that received their grants in 2022. Fifty-six representatives from seven previous years' BWCPIP grantees participated in the meeting. Because of that, we saw increased participation in the annual meeting once again. Consistent with prior feedback, some attendees suggested that future annual meetings should be held in a hybrid format to allow in-person networking and virtual participation for those who cannot travel. Some participants from this year remarked that the virtual format worked better for information gathering and scheduling than an in-person conference.

The Whova conference website provided multiple opportunities for virtual networking. The BWCTTA team used these functions ahead of time to provide participants with examples of how to use them. While the virtual meeting and conference networking

capabilities available through Whova could not completely replicate the networking and fellowship that occurs during in-person meetings, participants could still chat with one another, post discussion topics, and participate in threads on the community board. Each participant was able to build a personal profile to provide more information about themselves, answer ice breakers to prompt discussions with the rest of the participants, and post resources that they or their agencies found helpful. In total, there were 16 discussion threads that attendees could participate in, "Article Sharing" and "Audit and Compliance" being the most popular with 16 and 12 messages, respectively.

Over the next several months, the BWC TTA team will use the information gathered from the national meeting to develop TTA products and resources for both the BWCPIP sites and other law enforcement agencies and stakeholders implementing BWCs. To access these resources, as well as other TTA products such as webinars, podcasts, BWC policies, and BWC news, please visit the BJA BWC Toolkit website and the BWC TTA website. The TTA team has also posted the slides and recordings from this national meeting on the BWC TTA website.

Meeting Objectives

This was the eighth national meeting and fourth virtual meeting of the Bureau of Justice (BJA) Policy and Implementation Program (PIP) sites facilitated by BJA's Training and Technical Assistance (TTA) partners and several subject matter experts (SMEs) working with the TTA team on this initiative. The TTA team's objectives for this meeting were as follows:

- Reinforce thorough policy development and deliberate, phased implementation as the cornerstones of successful body-worn camera (BWC) programs
- Deliver technical assistance to funded sites on predetermined and site-generated topics
- Review BJA's BWC performance measurement system
- Facilitate peer-to-peer learning and networking
- Explain the array of TTA resources available and how to access them
- Examine new and emerging issues regarding BWCs
- Discuss site progress, accomplishments, common challenges, and forward-looking strategies.

Meeting Agenda

Day 1—September 12, 2023

Time	Description	Presenters
11:30 a.m.–12:00 p.m. ET	*Open the Zoom link and run the break time slides while folks sign on to the meeting.*	• N/A
12:00–12:15 p.m. ET	***Welcome and Introductions*** The BJA and the Body-Worn Camera TTA (BWC TTA) team welcomes participants to the 2023 BWC Virtual Annual Meeting.	• John Markovic • Chip Coldren, PhD
12:15–12:50 p.m. ET	***National Organizations' Perspectives on BWC Implementation and Next Steps*** Representatives from the National Policing Institute (NPI) and the Police Executive Research Forum (PERF) will discuss perspectives on BWC implementation and utilization, as well as the roles BWCs play in public safety.	• Chip Coldren, PhD • Martin Bartness, Police Executive Research Forum • Colby Dolly, National Policing Institute, PhD
1:00–1:50 p.m. ET	***Pilot Testing and Evaluation of BWC Equipment*** During this session, two BWC TTA SMEs will discuss challenges and best practices associated with testing and evaluating BWC equipment prior to procurement. In addition, members of a BWCPIP agency will discuss what they did to test and evaluate equipment and how that informed their camera purchase and BWC program.	• Geoff Smith • Charles Stephenson • Lt. David Elliot, Henderson (NC) Police Department • Sgt. John Smiddy, Cuyahoga (OH) Metropolitan Housing Authority

Time	Description	Presenters
	What Research is Telling Us about Body-Worn Camera Practice In this session, Dr. Michael White and several other researchers will discuss what research has documented about local agency practices regarding BWC use, touching on such issues as activation and de-activation, the impact of BWCs on officer discretion, and the use of BWCs in special policing units.	• Mike White, BWC TTA Co-Director, Professor and Associate Director, Arizona State University, PhD • Dan Lawrence, Research Scientist, CNA, PhD • Jessie Huff, Assistant Professor, University of Nebraska, Omaha, PhD • Nusret Sahin, Assistant Professor, Stockton University, PhD
2:00–2:50 p.m. ET	***Releasing BWC Footage: Critical Incidents and Communicating with the Public*** Communications Strategist Laura McElroy will discuss releasing BWC videos and communicating with the public following a critical incident, including the media perspective.	• Laura McElroy, Principal Consultant, McElroy Media Group
3:00–3:50 p.m. ET	***Digital Evidence Management: What Do We Do with All the Footage?*** This session will focus on BWC footage and the ways it is used within police departments and prosecutors' offices. During the session, participants will learn best practices and considerations for managing digital evidence.	• Craig Uchida, President, Justice & Security Strategies, PhD • Shellie Solomon, Chief Executive Officer, Justice & Security Strategies, PhD • Charles Katz, Professor, Arizona State University, PhD
4:00–4:50 p.m. ET	***Promoting Constitutional Policing Through the Use of BWC Footage*** This session will review the ways in which BWC footage has been helpful in improving police officer conduct and in enhancing the links between BWC footage, police officer training, and performance review.	• Mike White, BWC TTA Co-Director, Professor and Associate Director, Arizona State University, PhD • Arif Alikhan, President, Chief Counsel & Co-Founder, TacLogix • Adrian Martin, Business Intelligence Analyst, Rochester (NY) Police Department

Time	Description	Presenters
		• Clarence Mejia, Sergeant, Los Angeles (CA) Police Department • Christopher Zine, Captain, Los Angeles (CA) Police Department
4:50–5:00 p.m. ET	*Overview of Day 1* BWCPIP and TTA program leadership will provide a brief overview of the day and discuss the sessions coming on Day 2.	• Chip Coldren • John Markovic

Day 2—September 13, 2023

Time	Description	Moderator, Speaker, Panelist
11:00 a.m.–12:00 p.m. ET	*Q&A/Office Hours with BJA State Policy Advisors* BJA State Policy Advisors will hold open office hours to answer questions from BWCPIP grantees. Meeting attendees with questions related to grant management are encouraged to participate as desired.	• Gerardo Velazquez, BJA • Wai Tsang-White, State Policy Advisor, BJA • Gale Farquhar, State Policy Advisor, BJA • John Markovic
12:00–12:50 p.m. ET	*Keynote Speaker* Chief Michel Moore of the Los Angeles Police Department (LAPD) will discuss benefits, mitigating challenges, lessons learned, and the utilization of BWCs as it relates to improving public safety, reducing crime, and improving public trust between police and the citizens they serve.	• Michel Moore, Chief of Police, Los Angeles (CA) Police Department

Time	Description	Moderator, Speaker, Panelist
1:00–1:50 p.m. ET	***Utilization of and Perspectives on Analytical Tools and BWC Footage*** The panel will discuss the innovation and use of analytical tools, such as machine learning, artificial intelligence (AI), natural language processing, and computer vision to advance the utility and analysis of BWC footage.	• Orlando "Ollie" Cuevas, Director of Regional Emergency Training, Camden County (NJ) Regional Emergency Training Center • Ian Adams, Assistant Professor, University of South Carolina • Bryce Peterson, Research Scientist, CNA, PhD • Jon Morgan, Detective, Bergen County (NJ) Prosecutor's Office
	Promising Practices, Lessons Learned, and Advancements in the Use of BWCs by Prosecutors This session will focus on BWC footage and the way it is used within police departments and prosecutors' offices. During the session, participants will hear from panelists on lessons learned, best practices, and considerations for managing and utilizing BWC footage from a prosecutor's perspective.	• Damon Mosler, Deputy District Attorney, San Diego County (CA) District Attorney's Office (ret.) • Jason Lustig, Deputy District Attorney, Los Angeles County (CA) District Attorney's Office • Amy Tallakson, Senior Deputy District Attorney, Orange County (CA) District Attorney's Office Science & Technology Unit • Mark Monaghan, Second Assistant District Attorney, Monroe County (NY) District Attorney's Office

Time	Description	Moderator, Speaker, Panelist
2:00–2:50 p.m. ET	***Understanding the Federal Procurement Process*** The Office of Justice Programs (OJP) Office of the Chief Financial Officer (OCFO) will provide a brief overview of the federal procurement requirements for BWCPIP grantees and will answer questions from attendees.	• Ira Scot Holmes, Training and Policy Manager, Office of Justice Programs, Grants Financial Management Division • Edith Sunga, Financial Monitoring Manager, Office of Justice Programs, Grants Financial Management Division • Angela Wade, Staff Accountant, Office of Justice Programs, Grants Financial Management Division
3:00–3:50 p.m. ET	***Using BWCs to Enhance Field Investigations*** Law enforcement agencies are increasingly recognizing how BWCs and digital evidence can assist with investigations in ways that were not commonly considered during initial implementation. This session will highlight how some agencies have taken advantage of BWCs to enhance their investigations in the field that can be considered by other agencies.	• Tom Woodmansee, Principal Advisor, CNA • Christian Quinn, Managing Principal, Fulcrum Innovation, LLC • Jason Lustig, Deputy District Attorney, Los Angeles County (CA) District Attorney's Office • Chris Johnson, Lieutenant, New Orleans (LA) Police Department
	Voices from the Field: Sustaining BWC Program Success This session will discuss best practices for sustaining a successful BWC program. In this session, we will hear from several BWCPIP sites about the implementation of their BWC programs and how they have sustained success with their programs long after initial implementation.	• Aili Malm, Professor, California State University Long Beach, PhD • Cecilia Ashe, Chief of Police, Milford (DE) Police Department • Kyle Carkhuff, Information Systems Administrator, Houston (TX) Police Department • Brian Ohlin, Chief of Police, Brunswick (OH) Police Department

Time	Description	Moderator, Speaker, Panelist
4:00–4:50 p.m. ET	***Understanding the Benefits of Compliance Checks and Audits*** This session will focus on issues, concepts, and approaches to reviewing BWC videos for policy compliance and program auditing.	• Scot Haug, Police Practices Consultant, Public Safety Insight • Dan Zehnder, President, Principis Group
4:50–5:00 p.m. ET	***Day 2 Closing Remarks*** BWCPIP and TTA program leadership will provide a brief recap of the day and discuss the sessions coming on Day 3.	• Chip Coldren, PhD • John Markovic

Day 3—September 14, 2023

Time	Description	Moderator, Speaker, Panelist
12:00–12:50 p.m. ET	***BJA Performance Measurement*** This presentation will delve into how BJA uses performance measures to assist grantees, improve BJA programs, enhance decision-making, and report to Congress on how funds are spent.	• Angela Balchi, BJA
1:00–1:50 p.m. ET	***Advancements in BWC and Related Technology*** This panel focuses on changes in BWCs and other related technology over the last six years (e.g., dashboard cameras, automated license plate readers). As with other technologies, BWCs evolve and change rapidly. The panel will discuss the current state of BWC technology, the lessons learned from procuring and deploying BWCs, and the realities of integrating BWCs with other technology systems.	• Charles Stephenson, Principal Advisor, CNA • Elliot Harkavy, Technological Advisor, CNA • Thomas Naughton, Sergeant, St. Louis County (MO) Police Department • Christian Quinn, Managing Principal, Fulcrum Innovation, LLC • Adrian Martin, Business Intelligence Analyst, Rochester (NY) Police Department
	BWC Tagging This panel focuses on recent and emerging	• Geoff Smith, Senior Advisor, CNA • Geoffrey Chadwick,

Time	Description	Moderator, Speaker, Panelist
	trends on approaches to BWC tagging, touching on compliance, lessons learned, mitigating challenges, and best practices relevant to tagging of videos. BWCPIP-funded agencies will present on their tools and mechanisms for tagging BWC videos.	Lieutenant, Los Angeles (CA) Sheriff's Department (LASD) • Christopher Harris, Principal Information Systems Analyst, LASD • Christian Meadows, Sergeant, LASD • John Smiddy, Sergeant, Cuyahoga (OH) Metropolitan Housing Authority • Melissa Petrichor, Administrative Commander, Kirkland (WA) Police Department
2:00–3:00 p.m. ET	***Advancements in BWC Programs: Demonstration Site Spotlights*** This session highlights advanced BWCPIP projects from three special BWC Demonstration site categories. Grantees will discuss the evolution of their BWC programs, emphasizing the unique successes and contributions their projects make to the field.	• Mike White, BWC TTA Co-Director, Professor and Associate Director, Arizona State University, PhD • Jesus Valenzuela, Manager III, Forensic Digital Imaging Section, Seattle (WA) Police Department • Bert Lyons, Chief Executive Officer, Medex Forensics • Amy Tallakson, Senior Deputy District Attorney, Orange County (CA) District Attorney's Office Science & Technology Unit • Nana Tsuladze, Special Assistant to The Deputy Commissioner, New York Department of Homeless Services

Time	Description	Moderator, Speaker, Panelist
3:15–3:30 p.m. ET	***Remarks from Director Karhlton Moore:*** BJA Director Moore discusses BJA's evolving commitment to support BWCs in state, local, and tribal law enforcement agencies and adaptations being considered for future grant cycles.	• Karhlton Moore, Director, BJA
3:30–4:30 p.m. ET	***Using BWCs to Improve Organizational Response to Civil Unrest*** This session highlights the benefits and considerations of using BWC footage in civil unrest after-action reviews and provides recommendations for incorporating them in organizational reviews of future significant events.	• Tom Woodmansee, Principal Advisor, CNA • Janne Gaub, Associate Professor, University of North Carolina, Charlotte, PhD • Ed Maguire, Professor, Arizona State University, PhD • Brendon Hooke, Captain, Fairfax (VA) County Police Department
4:30–5:00 p.m. ET	***Meeting Closing Thoughts and Q&A*** The BWCPIP program team leadership will provide a brief summary of the meeting and discuss key takeaways. Leadership will discuss any training and technical assistance needs of participating agencies and will respond to questions and suggestions from attendees.	• Chip Coldren, PhD • John Markovic

Summary of Discussions

This summary includes highlights from the general sessions, topical sessions, and the keynote presentation. Key considerations and challenges are included for each session.

Presentations

<p align="center">Day 1—September 12, 2023</p>

Welcome and Introductions

Introductions:

- Dr. Chip Coldren, BWC TTA Program Director, CNA
- John Markovic, Senior Policy Advisor, BJA

National Organizations' Perspectives on BWC Implementation and Next Steps

Panelists:

- James "Chip" Coldren, Jr., BWC TTA Director, CNA Center for Justice Research and Innovation (JRI)
- Dr. Colby Dolly, Director of Policing Programs, National Policing Institute
- Martin Bartness, Senior Principal, Police Executive Research Forum (PERF)

Summary: Representatives from NPI and PERF discussed perspectives on BWC implementation, utilization, and the roles BWCs play in public safety.

Key Considerations:

- BWCs became a key technology to reinforce trust and accountability between the police and the community.
- BWC footage is pivotal in police training, policy, and procedure, and departments utilize them in various ways.
- There is sometimes an overflow of data. The amount of data collected is so immense the department cannot use it all effectively.
- Police departments must be deliberate and unwavering in their policies and hold officers accountable for proper use, especially regarding camera activation.
- It is important to have complete buy-in from the full command staff; having that buy-in will have a positive impact on implementation.
- With any creative uses of BWC technology, make sure stakeholders are at the table and there is transparency. Always consult prosecutors to make sure methods are admissible in court.

Key Challenges:

- Agencies expressed hesitation when it comes to AI/algorithm use in policing; there is some desire to use AI in sorting BWC footage.

New TTA ideas:

- There was a suggestion about utilizing BWC live-streaming capabilities to allow a virtual "show up" of a suspect across the city.

Pilot Testing and Evaluation of BWC Equipment

Panelists:

- Geoff Smith, Senior Advisor, CNA
- Charles Stephenson, Principal Advisor, CNA
- David Elliot, Lieutenant, Henderson (NC) Police Department
- John Smiddy, Sergeant, Cuyahoga (OH) Metropolitan Housing Authority

Summary: During this session, BWC TTA SMEs Geoff Smith and Charles Stephenson discussed challenges and best practices associated with testing and evaluating BWC equipment prior to procurement. Representatives from the Henderson (NC) Police Department and the Cuyahoga (OH) Metropolitan Housing Authority discussed what they did to test and evaluate equipment, as well as how that informed their camera purchases and BWC programs.

Key Considerations:

- Work with the vendors even after the initial procurement to make sure the technology is working for the agency and develop customization options and tech support.
- Go beyond just cameras in the field—test the policy, review, and redaction process, and more.
- Have a program champion who can explain the technical requirements and features to the average officer and the administrators who make purchase authorizations.

Key Challenges:

- Understanding myriad options in BWC technology and services, the benefits, the costs, and return on investments.
- Being unaware of features available until after a purchase is made.
- Not requesting enough up-front information from the vendor during the testing period.

New TTA ideas:

- Consult with peer agencies who have successfully implemented BWC program and have already experienced "growing pains."
- Create a checklist for side-by-side comparison of brands for cameras, software, and accessories. This list should include features that the equipment can offer and help new departments think of technology they might not have been aware of.
- Assist in ways to explain features of the cameras to the administrators who are not direct users of the equipment and why this is necessary to add on. Create a "cheat sheet" on technology and what it means. This relates to the first point.

What Research is Telling Us About BWC Practice

Panelists:

- Mike White, BWC TTA Co-director, Professor and Associate Director, Arizona State University
- Dan Lawrence, Research Scientist, CNA
- Jessie Huff, Assistant Professor, University of Nebraska, Omaha
- Nusret Sahin, Assistant Professor, Stockton University

Summary: Dr. Mike White, Dr. Dan Lawrence, Dr. Jessie Huff, and Dr. Nusret Sahin discussed what research has documented about local agency practices regarding BWC use, touching on such issues as activation and deactivation, the impact of BWCs on officer discretion, and the use of BWCs in special policing units.

Dr. Huff discussed findings from a study of Phoenix Police Department data regarding whether there is notable variation in officer-level BWC activation rates across officer characteristics, features of officers' assignments, and other indicators of police performance. Dr. Sahin discussed findings from two studies, one involving the impact of BWCs on the adjudication of citizen complaints, and the other on the impact of BWCs on Enhancing Procedural Justice Through Substantiation, or his EPJETS model. Dr. Lawrence discussed findings from three studies.

Key Considerations:

- Activation of BWCs is more dependent on the incident than on officer characteristics; therefore, focusing on incidents resulting in low compliance might be helpful in increasing activation rates.
- In terms of the adjudication of citizen complaints, BWCs may have an impact on minimizing racial disparity in the criminal justice system.
- Motorists who have been stopped generally have stronger perceptions of police professionalism when they are informed about the recording and their access to footage.
- The presence of BWCs provides additional perspectives on officer/citizen interaction, but procedural justice behaviors are more important.
- Officers were more likely to activate their cameras when evidence was going to be collected.
- Educating the community about the BWC program alone is not sufficient for improving police-community relations—it is more important to focus on ways to build views of department legitimacy outside of BWC programs.
- In a study examining BWCs in corrections, jail deputies expressed concerns that residents would not candidly speak with them if they knew they were being recorded and felt that this severely impacted the relationships with residents, making it more difficult to build rapport.

Key Challenges:

- Officer failure to activate BWCs causes several problems:

- It eliminates evidence, undermines the civilizing effect, and creates public suspicion and concerns.
- It also represents an implementation failure.

New TTA ideas:

- An In-View or some other resource premised on the idea of establishing rapport with citizens or residents who know they are being recorded on BWC.

Releasing BWC Footage: Critical Incidents and Communicating with the Public

Panelist:

- Laura McElroy, SME

Summary: In this session, communications strategist Laura McElroy discussed the release of BWC videos, offered strategies for how to communicate with the public following a critical incident, and provided the media perspective.

McElroy discussed her idea of "communicating to build community," leveraging social media and local media and managing critical incidents. She also discussed the importance of developing a preemptive Crisis Communication Plan, which involves 16 steps to achieve those goals.

Key Considerations:

- Most police departments do not have a crisis communication plan and should consider developing one.
- How an agency handles its BWC program has an impact on community relationships.
- Much positive sentiment built with the community can be undermined when critical incidents are not addressed in a timely manner or otherwise mishandled.
- There often is a community expectation that BWC footage of critical incidents will be released publicly in short order.
- Policies regarding the release of BWC footage should convey a commitment to transparency on the agency's part.
- As agency leaders craft and implement BWC policies regarding release of critical incident footage, they should be mindful of the news cycle, as the timing of the incident and the department's response may not be in line with the media's usual timeline.
- Agency leaders should ensure there is a strong process in place for monitoring social media. Public information officers can make use of social media in a monitoring role.
- Information should be pushed out to an agency's internal audience, ensuring that officers are well informed and are receiving their information from leadership rather than the news.
- Agency leaders should connect with leaders of other agencies and establish a good rapport prior to any critical incident ever occurring.

- Agencies have several approaches they can take following a critical incident:
  - Release a well-produced, sophisticated, narrated video (similar to LAPD's Critical Incident Reviews)
    - If this is done, agencies should still have a Q&A session with the public after releasing the video.
  - Hold a day-of incident briefing and publish a news release.
    - This incident briefing and news release should be followed up by a briefing and video release on Day 3.
  - Release a raw, uncut video of the incident.
    - This method allows for less control of the narrative.
    - However, this method can also build more public trust with the organization, as it is seen as more transparent.

Key Challenges:

- When releasing BWC video, organization leaders should discuss several aspects as they develop the BWC policy:
  - When to release the video
  - How to edit the video, including when and if to mute audio
    - Consider providing raw footage to avoid perceptions of secrecy.
  - How to handle interactions with the subject's family
  - How to manage victim sensitivity, department transparency, and potential public backlash in reaction to the footage
- Establish a BWC policy process that the media and public can rely on.

New TTA ideas:

- A resource highlighting key methods of communication and approaches for handling critical incidents.

Digital Evidence Management: What Do We Do with All the Footage?

Facilitators:

- Dr. Craig Uchida, President, Justice & Security Strategies
- Dr. Shellie Solomon, Chief Executive Officer, Justice & Security Strategies
- Dr. Charles Katz, Professor, Arizona State University

Summary: In this session, Dr. Craig Uchida, Dr. Shellie Solomon, and Dr. Charles Katz discussed BWC footage and BWC metadata, focusing on the ways it is used within police departments and prosecutors' offices. They shared insights from three BWC sites: Phoenix, Arizona, and two agencies in South Florida (Broward County Attorney's Office and Fort Lauderdale, Florida).

Key Considerations:

- Digital Evidence is information and data of value to an investigation that is stored on, received, or transmitted by an electronic device. Examples include cell phone data, BWC video, in-car video, and digital data stored in computers.

- The presenters addressed three issues that should be considered when managing digital evidence: how footage is leveraged for management and analytical purposes in different jurisdictions, how much video is accumulated over time, and the issues and challenges agencies face when managing large volumes of digital evidence.
- Presenters reviewed a basic digital evidence flow that starts with reporting an incident, activating BWCs, categorizing incidents, storing data, internal use of data, and external use of data. Internal use includes the use of BWC footage and data for assessing policy compliance as well as for reviewing arrests, complaints, and critical incident events. External use includes how the DAs' offices, defense attorneys, and courts receive and use BWC data and public release records.

Key Challenges:

- Activation/deactivation:
  - Agencies should include specific instructions about activation and deactivation in their policies.
  - The type of event (i.e., categorization or "tagging") should be noted in BWC policies to avoid any issues regarding retention periods.
  - Situational factors, such as the type of crime taking place, have a profound impact on BWC activation.
  - Neighborhood demographics can influence activation of cameras. For example, in Phoenix, officers were less likely to activate BWCs during calls for service in Hispanic communities.

- Retention/deletion:
  - Departments must store large volumes of video footage and related data. The question then becomes which of these videos to keep, and which to delete.
  - Cost factors come into play when negotiating with vendors, as that can affect an agency's choice in storage space and, by proxy, their retention policies.
  - 25–30 percent of departments have tagging categories detailed in their policies.
  - The number of categories, as well as the extent to which they are intelligible and mutually exclusive, vary by agency.
  - Smaller agencies tend to have fewer categories and are less likely to have specific tagging policies. It differs by agency and by what is defined.
  - Tagging categories should be carefully reviewed and adjusted to increase consistency, reliability, and clarity.
  - Tagging categories should have a clear nexus to retention periods.

- Critical incidents (refer to the previous presentation, "Releasing BWC Footage: Critical Incidents and Communicating with the Public"):
  - How is BWC footage used after a critical incident?
    - It is important to indicate what footage to release for the critical

incident.
- o Did this impact the relationship with the community?
    - ▪ Agency leaders must decide this in advance.
    - ▪ Agency leaders also must decide whether the agency has the resources to go through the footage and redact it or to know what is relevant and what is not.

- Transfer of footage to prosecutors:
    - o Smaller departments may have to use DVDs or thumb drives rather than cloud storage, which is more easily accessed, to transfer footage to DA's offices.

- Public release of footage:
    - o Agencies must ensure that they develop formal methods to track their footage so that crucial videos are not deleted and digital chain of custody is maintained.
    - o Agency decision-makers must seek to estimate how many videos they will likely release, given the time and resources involved in the process. Estimates may vary based on state laws, state-level guidelines regarding public access to video. BWC footage requests will vary according to whether a state is considered an open-records or closed-records state.
    - o Agencies must also think of ways to involve the public in the process of accessing or sharing footage.
        - ▪ Researchers provided the example of Fort Lauderdale, where the community wanted to provide videos taken from a Ring© camera. Agencies can allow citizens to share footage like this by having the citizen download that footage and send it to the agency; alternatively, officers can record that footage with their BWCs.

New TTA ideas:

- Meeting participants expressed an interest in learning more about legislation, policy, limitations, concerns, and implementation of facial recognition software.

Promoting Constitutional Policing Through the Use of BWC Footage

Facilitator:

- Dr. Michael D. White, Professor, Arizona State University

Panelists:

- Arif Alikhan, President and Founder, Taclogix, Inc.
- Adrian Martin, Crime Research Specialist, Rochester (NY) Police Department
- Clarence Mejia, Police Sergeant, Los Angeles Police Department
- Christopher Zine, Captain, Los Angeles Police Department

Summary: This session reviewed the ways that BWC footage has been helpful in improving police officer conduct and in enhancing the links between BWC footage, police officer training, and performance reviews.

Key Considerations:

- The new BJA BWC grant demonstration project categories allow sites to do a deeper dive with their BWC grant depending on their needs (Category 5 focuses on constitutional policing).
- Constitutional policing is policing that is fair, just, and lawful in line with constitutional standards.
- LAPD's training academy is built on a three-part foundation: instilling its core belief systems (i.e., their mission, vision, and values), teaching tactical concepts, and enhancing recruits' cognitive skills.
- The LAPD's goal is to perfect training and share data to help improve the programs of other departments in California.
- Rochester PD is working on creating a machine-learning and auditing program/algorithm to help with future data sets by making viable and relevant footage easier to retrieve. It will be used to track and analyze trends, and for benchmarking, such as identifying officers who inordinately engage in use of force or improper conduct, which will help with training. This data will then reside in a data library and include publicly available data sets. It can also be used in compliance auditing.

Key Challenges:

- Identifying BWC footage that would be appropriate to use in academy training.
- Looking for complex incidents in BWC footage to use in in-service use of force training. Incidents to be used in training should exemplify procedural justice/community engagement efforts, judicious and policy complaint use of force, and de-escalation.

New TTA ideas:

- Expanding illustrative examples and related resources on using BWC footage in academy training and in-service training.

Day 2—September 13, 2023

Open Office Hours with BJA State Policy Advisors

Panelists:

- Gerardo Velazquez, State Policy Advisor, BJA
- Wai Tsang-White, State Policy Advisor, BJA
- Gale Farquhar, State Policy Advisor, BJA
- John Markovic, Senior Policy Advisor, BJA

Summary: BJA State Policy Advisors held open office hours to answer questions from BWCPIP grantees.

Key Considerations:

- Where can I find Frequently Asked Questions on the BWC Program?
    - Link provided by BJA in the session chat: https://bja.ojp.gov/sites/g/files/xyckuh186/files/media/document/BWC_FAQs.pdf.
- What is the BWC Toolkit, and what can it be used for?
    - Link provided by BJA in the session chat: https://bja.ojp.gov/program/bwc. The BWC Toolkit organizes BWC-related resources for criminal justice practitioners who are just beginning their BWC implementation program.
- Where can I find training and guidance on how to accept a BWC award?
    - Link provided by BJA in the session chat: https://justicegrants.usdoj.gov/training/training-grant-award-.
- Where can I find training and guidance on award management?
    - Link provided by BJA in the session chat: https://justicegrants.usdoj.gov/training.
- What is an Award Condition Modification (ACM)? How is it submitted?
    - Link provided by BJA in the session chat: https://justicegrants.usdoj.gov/training/training-grant-award-modifications. ACMs are similar to GAMs (see below).
- What is a Grant Award Modification (GAM)? How is it submitted?
    - Link provided by BJA in the session chat: https://justicegrants.usdoj.gov/sites/g/files/xyckuh296/files/media/document/jarg-grant-award-modifications.pdf. A GAM is a request for modification to a key element of a funded award.
- I budgeted for travel in this grant, but the national meeting is virtual. What are some options for spending that money?
- I am a current grantee; can I still apply for the grant next year?
- What are the specific performance measures for BWCs?
    - Link provided by BJA in the session chat: https://bja.ojp.gov/performance-measures/BWC-Performance-Measures.pdf.
- What are some allowable/unallowable costs?
    - Link provided by BJA in the session chat: https://bja.ojp.gov/funding/O-BJA-2022-171093.pdf.
- "Related Equipment and Equipment Upgrades"—Would expanding a body-worn camera (BWC) program include in-car cameras that will all report to the same recording system fall into this category? My agency is looking to add additional BWCs and start implementing in-car cameras to be used in tandem with a comprehensive recording program.
    - Using the combination of federal and matching funds to support integration of BWC with in-car cams is permissible since they are related

costs. Sites should be mindful that this is a BODY-WORN camera program. When calculating the award cap, only BWCs can be used; in-dash cams cannot be used for the calculation. For example, if your agency is purchasing 50 BWCs and 50 in-dash cameras, your federal award cap would be $100,000 ($2,000 * 50 BWCs), NOT $200,000 ((50 in-dash + 50 BWCs) * $2,000).

- My city has a contract with a BWC vendor from a previous BWC roll-out, and the contract amount will exceed $250,000; are there special things that need to be done to continue with the contract?
  - There may be justification for sole-source because of cost efficiencies. The case should be made in consultation with the SPA using grant financial management guidance BEFORE any contract is signed or funds are obligated. Michael Williams' (from OCFO) presentation at 3:00 on Wednesday, July 20, shed light on this. He shared that the federal awarding agency's approval of sole source is required for procurements over $250,000.
  - Use this in the following situations:
    - If the item or service is available only from a single source
    - If a true public exigency or emergency exists
    - If, after competitive solicitation, the competition's product or services are considered inadequate to meet the grantee's needs.

Keynote Speaker

Presenters:

- Michel Moore, Chief of Police, Los Angeles (CA) Police Department

Summary: Chief Michel Moore of the Los Angeles Police Department (LAPD) discussed benefits, how to mitigate challenges, lessons learned, and the utilization of BWCs as it relates to improving public safety, reducing crime, and improving public trust between police and the citizens they serve. During a question-and-answer session with the audience and Dr. Craig Uchida, Chief Moore answered important questions concerning initial implementations and considerations for a BWC program, the public release of footage, and the new frontier of AI and machine learning with BWC video.

Key Considerations:

- Some research shows that the use of BWCs is related to a decrease in both officer misconduct and use of force.
- BWCs can be used as a tool to build trust with the communities served.
- BWCs offer an additional layer of transparency and accountability for both officers and citizens.
- To make sure BWCs were a good fit for the agency, LAPD first deployed BWCs as part of a smaller trial demonstration site before implementing a department-wide strategic initiative.

- In addition to having the BWC footage for internal review, it is important to have a robust media relations team to work on public release of critical incidents in a timely manner. Community feedback is important in this area; the department should consider that overproduction of video presentations may seem insincere or misguiding.
- AI and machine learning can be useful in helping identify problems with auto-scribing and identifying officer misconduct, like the use of profanity.

Key Challenges:

- There was initial pushback from officers over the level of oversight; however, over time, officers have become some of the biggest supporters of BWCs.
- While community members were originally the strongest advocates for BWCs on officers, Chief Moore mentioned that there has been some community pushback over privacy concerns during interactions with officers.

New TTA ideas:

Agencies can explore partnering with local universities to pursue new approaches to machine learning and video review. New techniques and algorithms will be able to help departments identify alternative citizen engagement methods to improve outcomes and example videos which can be used for officer training, including both officer strengths and weaknesses.

Utilization of and Perspectives on Analytical Tools and BWC Footage

Facilitator:

- Orlando Cuevas, BWC TTA SME

Panelists:

- Ian Adams, Assistant Professor, University of South Carolina
- Bryce Peterson, Research Scientist, CNA
- Jon Morgan, Detective, Bergen County (NJ) Prosecutor's Office

Summary: This session involved a panel discussion on the innovation and use of analytical tools, such as machine learning, AI, natural language processing, and computer vision to advance the utility and analysis of BWC footage.

Key Considerations:

- Digital evidence management can be fiscally taxing on agencies. It takes more than an hour to review one hour of footage, so it is unrealistic to expect a human to audit all of the footage that needs to be reviewed in an agency. Machine learning can be used as a tool to manage and analyze all digital evidence.
  - o Example: There could be 240 hours of footage from 30 officers involved in an 8-hour standoff with a barricaded suspect. Traditional review would involve either reviewing all 240 hours of footage, which is time-consuming, or

prioritizing which videos to view, which comes with a risk that non-priority videos with crucial evidence might be missed.

- Detective Morgan's agency is partnered with the New Jersey Innovation Institute (NJII) on a grant dedicated to AI and machine learning. They are currently working on connecting their DEM portal via API (an Application Programming Interface) to the supercomputing abilities of NJII.
- AI can be used in supervisory review, to facilitate keyword searching of videos, and to produce summary metrics of various language and behaviors.
- Capabilities include natural language processing (NLP) and computer vision.
  - NLP transforms human language into usable data by identifying key features, inferring context, and extracting a summation of language used. Context inference includes:
    - Positive language: formality, explanation, politeness, and gratitude.
    - Negative language: insult, threat, and directed profanity.
  - Computer vision is a less-developed area in BWC work that derives meaningful information from images and video.
    - It can auto-redact, auto-tag, identify weapons, detect aggression, and assist with auditing in general.
- For agencies with limited resources, the academic partners offer a good resource for exploring AI options.

Key Challenges:

- Algorithms must be continually re-trained.
  - Machine learning algorithms can study their own errors, but training can be tedious, so they must be run through many datasets.
- Administrative datasets can introduce bias into algorithms, particularly if they are based on biased data sets.
- There are research limitations for these tools, including limited validation studies, insufficient evidence regarding efficacy, and lack of comprehensive evaluations regarding best practices. Agencies can also face pushback from unions on using these tools.

New TTA ideas:

- Small agencies can utilize algorithms and tools available in the open-source community, but they must test them first.
- Prioritizing the review of BWC digital footage and auditing can potentially be incentivized by highlighting positive interactions captured by the BWC. This is good for the agency's public-facing reputation and image, as well as officer morale.

Promising Practices, Lessons Learned, and Advancements in the Use of BWCs by Prosecutors

Panelists:

- Damon Mosler, Deputy District Attorney, San Diego County (CA) District Attorney's Office (ret.)
- Jason Lustig, Deputy District Attorney, Los Angeles County (CA) District Attorney's Office
- Amy Tallakson, Senior Deputy District Attorney, Orange County (CA) District Attorney's Office Science & Technology Unit
- Mark Monaghan, Second Assistant District Attorney, Monroe County (NY) District Attorney's Office

Summary: This session focused on BWC footage and the way it is used within police departments and prosecutors' offices. During the session, participants heard from panelists regarding lessons learned, best practices, and considerations for managing and utilizing BWC footage from a prosecutor's perspective.

Key Considerations:

- For policy development, let the DA advise on the areas in which they have expertise: retention periods, how the footage will be used in trial, etc.
- Having a dedicated point of contact in the DA's office for law enforcement agencies to contact with BWC questions helps facilitate the workflow.

Key Challenges:

- When agencies within a county use different BWC systems, it makes it challenging for the DA's office to sort through and find the evidence they need. Asking the department to send the footage for each case directly is a good work-around.

New TTA Ideas:

- Investigation into how the new "always on" feature impacts release of footage and the discovery process and what it means for cost to the agency.
- Partner with DA to train officers on useful behavior on camera for trial processes.

Understanding the Federal Procurement Process

Facilitators:

- Ira Scot Holmes, Training and Policy Manager, Office of Justice Programs, Grants Financial Management Division
- Edith Sunga, Financial Monitoring Manager, Office of Justice Programs, Grants Financial Management Division
- Angela Wade, Staff Accountant, Office of Justice Programs, Grants Financial Management Division

Summary: This session, led by Ira Scot Holmes, Edith Sunga, and Angela Wade of OJP, provided a brief overview of the federal procurement requirements for BWCPIP grantees and answered questions from attendees.

Key Considerations:

- Ensure that you are following federal, state and local guidelines and procedures.
- Documentation is extremely important. Document everything! Audit trails are important. Your documentation should be sufficient to stand on its own during an audit.
- When grantees have doubt, they should reach out to their BJA Sate Policy Advisor (SPAs). SPAs will consult with OJP's Grants Financial Management Division if necessary.

Key Challenges:

- Agencies often need guidance on when equipment procurement should include competitive bids and when sole-source acquisition is permissible

New TTA Ideas:

- N/A

Using BWCs to Enhance Field Investigations

Panelists:

- Tom Woodmansee, Principal Advisor, CNA
- Christian Quinn, Managing Principal, Fulcrum Innovation, LLC
- Jason Lustig, Deputy District Attorney, Los Angeles County (CA) District Attorney's Office
- Chris Johnson, Lieutenant, New Orleans (LA) Police Department

Summary: Law enforcement agencies increasingly recognize that BWCs and digital evidence can assist with investigations in ways that were not commonly considered during initial implementation. This session highlighted how some agencies have taken advantage of BWCs to enhance their investigations in the field, using methods and approaches that can be considered by other agencies.

This session followed a Q&A format with Tom Woodmansee moderating and participants Christian Quinn, DDA Jason Lustig, and Lt. Chris Johnson participating in discussion topics.

Key Considerations:

- Christian Quinn, retired Fairfax County Police Department investigator, shared his first experience with BWCs in an investigation, in which he had reviewed BWC footage during an investigation of an officer-involved shooting incident. The footage wasn't viewable in the field, so he had to download it at another location.

Quinn highlighted how one can identify tactical and key events based on the footage—this helps find or keep track of things that may get misplaced or shuffled during a pursuit.

- Jason Lustig, DDA, shared that some agencies want to deploy cameras on uniforms. Detectives in plain clothes will wear them during interviews in the field and for evidence collection. BJA stresses development of a comprehensive policy, and those considerations should be included. This way, agencies can avoid re-inventing the wheel. Following an example where an agency used a BWC live streaming component to aid in information collection during a call, Lustig's advice was to try to foresee how the cameras will be used. A better understanding of these contextual factors will help agencies determent when to authorize or not authorize the live streaming capability.

- Lt. Chris Johnson, NOPD, noted that when people notice they are on camera, citizen complaints go down. A lot of the officers were apprehensive and worried that that the footage would be used against them. However, they ultimately realized how beneficial BWCs were during interrogations. A lot more of what suspects say can be verified. NOPD has found that in domestic violence cases, a victim's demeanor can change based on situational factors (for example, if children are present). Using BWC footage in these investigations allows you to see different perspectives from those you may miss in real time.

- An audience member commented that officers once requested a resident's Ring© Camera footage that had captured a homicide. It was an invaluable tool to be able to use the BWC to record the Ring Camera and view this in real time with other officers in the field prior to obtaining the Ring footage file and bringing it into the station to download. Despite officers' initial resistance to BWCs, they are now using them in more often and in more creative ways.

- Quinn spoke about how BWCs can promote good policing. In an example of officers responding to a stabbing victim, BWC footage shows the officers assuring the victim that he is going to be okay. The department wanted to use this footage to showcase the good work that the agency does, but prosecutors were against it. Eventually, they relented and let it be published. To avoid this prosecutors' hesitations, Quinn advised involving the stakeholders early in the process of identifying overarching objectives.

- Lustig noted that "inconsistent statements are a prosecutor's worst enemy." Police officers might make statements in their reports that are inconsistent with what is in a video. Defense lawyers may then use that against them. Even when officers narrate the BWC footage, Brady considerations play a role here, according to Lustig: "You don't want to add to more potential inconsistent statements. If you want to help enhance, everything you do as an officer is great in the field, but it has to get to the prosecutor. If they're looking through a flood of videos stored in the cloud or on local servers, issues may arise. Make sure you tell the prosecutor what footage to focus on. To the extent that officers can bookmark critical portion of videos, they you share that with the prosecutor in a user-friendly way."

Key Challenges:

- Strict compliance reminders can lead to or exasperate officer apprehensions. Officers want to ensure not only that they are following protocol, but also that things look palatable on camera.
- Make sure you tell the prosecutor what footage to focus on. Give them the evidence in a user-friendly way.

New TTA ideas:

- Updated In-View on enhancing field investigations.

Voices from the Field: Sustaining BWC Program Success

Panelists:

- Dr. Aili Malm, Professor, California State University Long Beach
- Cecilia Ashe, Chief of Police, Milford (DE) Police Department
- Kyle Carkuff, Information Systems Administrator, Houston (TX) Police Department
- Brian Ohlin, Chief of Police, Brunswick (OH) Police Department

Summary: This session discussed best practices for sustaining a successful BWC program. In this session, panelists heard from several BWCPIP sites (Brunswick, OH; Houston, TX; and Milford, DE (Chief Ashe was a former BWCPIP grantee when with Wilmington PD) about the implementation of their BWC programs and how they have sustained success with their programs long after initial implementation.

Key Considerations:

- Celebrate wins publicly and utilize social media.
- Biggest wins for sustainability:
  - Set clear expectations for all employees on the processes and uses of BWCs.
  - Try to have one division (or person) be assume ownership and primary responsibility for all aspects of BWC administration to reduce gaps in service and negative consequences of staff turnover.
  - Support from command staff contributes positively to program sustainability by increasing or aiding buy-in across the department.

Key Challenges:

- One challenge in using footage for training purposes is masking the identity of the officer involved. If it is a negative incident, it is most likely known about among the department, and blurring or redaction will not help. Officers should be able to give permission to show their footage in training.

New TTA ideas:

- Create guides for field training officers to use footage for training

Understanding the Benefits of Compliance Checks and Audits

Panelists:

- Scot Haug, Police Practices Consultant, Public Safety Insight
- Dan Zehnder, President, Principis Group

Summary: This session, led by BWCTTA SMEs Scot Haug and Dan Zehnder, focused on issues, concepts, and approaches to reviewing BWC videos for policy compliance and program auditing.

Key Considerations:

- What the process does is more important than what it is called. Define your terminology regarding "audit" versus "compliance check."
- Audits check to verify that the program in in place is doing what it is supposed to do.
- 89 percent of agencies responding to a participant poll conduct compliance checks.
- 68 percent of respondents to the poll say their agencies conduct audits.
- 68 percent of respondents say they are confident and satisfied with current compliance and auditing processes.
- When monitoring compliance, it is important to look at regulations, policies, laws, requirements, rules, and standards operating at the state and local levels.
- Organizational culture is captured on BWCs; this is another good reason to have compliance programs in place.

Key Challenges:

- Session participants did not bring up any key challenges.

New TTA ideas:

- Update the preexisting "Compliance Checks and Audits" resource.

Day 3—September 14, 2023

BJA Performance Measurement

Facilitators:

- Ms. Angela Balchi, Research Analyst, BJA Planning, Performance, and Impact (PPI) Team

Summary: This presentation explored how BJA uses performance measures to assist grantees, improve BJA programs, enhance decision-making, and report to Congress on how funds are spent.

Key Considerations:

- BJA established Performance Management in the form of questionnaires for each

grant program (these are included in the program solicitation).

- BJA collects three types of data: performance measures, narrative questions, and closeout questions.
- Grantees can use the Performance Measures questionnaire as a guide to track relevant data in their files in the time interval that is easiest for them. Grantees report performance measures in JustGrants.
- Grantees report semiannually in January and July. In addition, the last period of the award requires performance measures, narrative questions, and closeout questions to be completed. It is due 120 days after award end date.
- It is recommended that agencies designate staff for coordination of the performance data collection to ensure consistency. It is recommended to designate a backup person to fill in just in case.
- The BWCPIP questionnaire now only asks grantees to report the cumulative total number of BWCs that have been purchased since the beginning of the grant program.

Data presented:

- As of December 2022, among active awards, BWC PIP sites had purchased 28,136 BWCs using BJA funds since the beginning of their grant.
- 13,807 officers received training in calendar year 2022.
- The sites reported 35,162 total hours of formal, in-person BWC training during calendar year 2022.
- Field, in-service/classroom, and web/computer were the most popular training methods.
- **Resources/Contact info:**
- The BJA PMT help desk helps with the following tasks:
    - Questions about required items in performance reports.
    - Collecting grant data
    - Scheduling a "welcome to BJA performance management" session
- The JustGrants Support Team helps with different tasks:
    - JustGrants access and help with passwords.
    - Navigating JustGrants to completing performance reports
    - Roles and permissions
    - Error messages
    - Uploading and attaching documents
- **Chat:**
- Link to JustGrants resources related to performance management: https://justicegrants.usdoj.gov/training/training-performance-reporting.
- John Markovic from BJA offered an explanatory note:
    - "Just to clarify, the funds reflected here are for direct awards under BWCPIP—the funds and program under which you have received your awards. This does not account for funds to provide TTA, nor for funds carved out to support the Small, Rural, and Tribal Microgrant program. In the FY 2021,

appropriation for the BWC program overall increased from $22.5 million to $35 million."

- Madi March from CNA added two notes:
    - Webinar sessions from last year and additional webinars are uploaded to YouTube here: https://www.youtube.com/@body-worncameratta768.
    - They can also be accessed from the CNA BWCTTA website here: https://bwctta.com/training-and-technical-assistance/webinars.
- Angela Balchi from BJA made one announcement:
    - "Be on the lookout for later November or December; we will be having another training for new grantees on performance measures."

Key Challenges:

- Several participants reached out about having access to the recording and slides from this presentation.

New TTA Ideas:

- No new TTA ideas were presented as a result of this session.

Advancements in BWC and Related Technology

Facilitators:

- Charles Stephenson, Principal Advisor, CNA
- Elliot Harkavy, Technology Advisor, CNA
- Christian Quinn, Managing Principal, Fulcrum Innovation LLC
- Thomas Naughton, Sergeant, St. Louis County (MO) Police Department
- Adrian Martin, Business Intelligence Analyst, Rochester (NY) Police Department

Summary: This session presented a panel discussion on changes in BWCs and other related technology over the last six years. As with other technologies, BWCs evolve and change rapidly. Discussion focused on the current state of the BWC technology, the lessons learned from procuring and deploying BWCs, and the realities of integrating BWCs with other technology systems.

Key Considerations:

- New BWC features being tested and used by law enforcement agencies include GPS, live-streaming, officer down notifications, shot detection, CAD/RMS links, and video analytics. One unique BWC trigger connects with dispatch and prompts the 911 operators to remind officers to turn on their BWCs.
- With advancements in technology come policy and ethical considerations for AI-enhanced searchability, universal integration, sentiment analysis, and biometric identification.
- Agencies can run into privacy concerns when trying to link people or places together. For example, 'controversial' locations or ones that generate opinionated discussions—such as mental health clinics, places of worship, reproductive health clinics, etc.—may spark contention in the community.

- The St. Louis County Police Department (SLCPD) had in-car camera (ICC) systems installed in more than 400 vehicles. The department's SWAT team uses BWCs on robots that allow for live-streaming. It also leverages mapping and geofencing by securing memoranda of understanding (MOUs) with neighboring agencies.
  - GPS mapping allows for greater resources management on large events, searches, critical incidents, etc., and the After-Action Reports are streamlined by using the collected GPS data.
  - The ICC systems also have messaging capabilities, which allow them to send messages directly to individual officers or a group of officers on scene.
- The Rochester Police Department (partnered with Rochester Institute of Technology) combines an analysis of written reports with programmatic analysis of BWC footage; it also conducts a trend analysis of patterns of de-escalation, as well as a comparative analysis of use of force incidents.
  - The department is working to create publicly available datasets and build an index of footage to be used for training purposes.

Key Challenges:

- SLCPD initially encountered some agencies that were hesitant to sign an MOU because they were concerned about what information would be shared. The team met with these agencies to talk through what exactly is shared and the benefits to the department and the scene commanders.
- Christian Quinn, a retired major for Fairfax County (VA) Police Department (FCPD), talked about some initial challenges with buy-in for the BWC program.
  - FCPD learned that it is best to streamline communications and engage employees and all stakeholders.
  - There are usually many stakeholders involved, so the goal is not to aim for consensus, but rather to engage everyone early on and give them an opportunity to be heard.
- Quinn also discussed a drone program that FCPD launched. Because of the lessons learned from the BWC program, the department had created a task force and facilitated community meetings, digital Q&A, hosted media engagements, and developed an internal working group.
  - As a result, no one opposed the program by the time the department presented it publicly.
- Sgt. Thomas Naughton and his team created a working group that had people directly working with the system.
  - Individuals from 12 agencies had a chance to raise challenges and compare notes with others who had mastered those challenges and troubleshoot. Eventually, Naughton would like to bring in prosecutors to streamline things on their end.

New TTA Ideas:

- Create a resource that focuses on expansive or innovative uses of BWC technology, interconnectedness of different systems, and the pros and cons of using new

technologies. Having a technology advisor from one or two site teams co-author the piece can aid in site involvement and provide the depth of knowledge needed for the resource.

- Further explore and support regional efforts such as the example in St. Louis County.

BWC Tagging

Panelists:

- Geoff Smith, Senior Advisor, CNA
- Geoffrey Chadwick, Lieutenant, Los Angeles (CA) Sheriff's Department
- Christopher Harris, Los Angeles (CA) Sheriff's Department
- Christian Meadows, Sergeant, Los Angeles (CA) Sheriff's Department
- John Smiddy, Sergeant, Cuyahoga Metropolitan Housing Authority (OH)
- Melissa Petrichor, Administrative Commander, Kirkland (WA) Police Department

Summary: This panel focused on recent and emerging trends in approaches to BWC tagging, touching on compliance, lessons learned, mitigating challenges, and best practices relevant to the tagging of videos. BWCPIP-funded agencies presented information about their tools and mechanisms for tagging BWC videos.

Key Considerations:

- Los Angeles Sheriff's Department (LASD)
    - Automated emails go out to deputies who fail to tag consistently, and to investigators whose cases may be related to videos that are not tagged correctly.
    - This is a way to keep everyone on the same page and keep officers and investigators responsible for following up.
    - They use Power BI to track this information.
- Kirkland Police Department (KPD)
    - Created BlueTube, an internal video hosting and playback platform similar to YouTube. Videos are less than three minutes long and cover one topic.
        - Videos are kept light in tone and funny by adding clips from pop culture. These videos can be made in PowerPoint or Canva.
- Cuyahoga Metro Housing Authority (CMHA)
    - CMHA officers had felt that there are too many categories for BWC video tagging, making it too confusing to know when videos should be removed. In response, the department's current retention schedule is as follows:
        - Category 1: Sex crimes and homicides—indefinitely
        - Category 2: All felony crimes, MT crash, use of force, vehicle pursuits
        - Category 3: Misdemeanors, CFS
        - Category 4: Tests, inadvertent activation or administrative functions—90 days

Key Challenges:

- There was a difference in opinions regarding the use and success of auto-tagging videos. As CMHA stated, there can be too many categories for BWC tagging, which leads to confusion as far as retention periods and whether videos should be kept.

New TTA Ideas:

- There were no TTA ideas from participants during this session, though there may be an opportunity to create a resource that looks at the pros and cons of auto-tagging.

Advancements in BWC Programs: Demonstration Site Spotlights

Facilitators:

- Mike White, BWC TTA Co-Director, Professor and Associate Director, Arizona State University

Panelists:

- Jesus Valenzuela, Manager III, Forensic Digital Imaging Section, Seattle Police Department
- Bert Lyons, Chief Executive Officer, Medex Forensics
- Amy Tallakson, Senior Deputy District Attorney, Orange County (CA) District Attorney's Office Science & Technology Unit
- Nana Tsuladze, Special Assistant to the Deputy Commissioner, Department of Housing, NYC

Summary: This session highlighted advanced BWCPIP projects from three special BWC demonstration site categories *(*Category 3: Digital evidence management, Category 4: Prosecutor or DA office, and Category 5: Focus on constitutional policing). Grantees discussed the evolution of their BWC programs, emphasizing the unique successes and contributions their projects make to the field. Jesus Valenzuela discussed the process of transitioning from one DEM platform to another. Bert Lyons talked about the collaboration between Seattle PD and a vendor to achieve integration goals. Amy Tallakson shared some of the Orange County DA's office's experiences as they work towards integrating DEMs, and Nana Tsuladze discussed the New York City Department of Housing's PD's (NYCDHSPD) constitutional policing efforts through training.

Key Considerations:

- **Jesus Valenzuela** (Seattle PD and Category 3 site)
  - The department has had two legacy systems stored on local servers for a long time and is trying to migrate to a modern cloud system.
  - The department has recognized the advantages of using cloud technology through its BWC program.
  - Some old servers are at constant risk of losing data.
    - DEMS (Digital Evidence Management Systems) were replaced by a capture app in 2020.
    - Early on there was not a lot of tagging occurring; Valenzuela

reiterated the importance of tagging.

- o Early on, Seattle PD partnered with Bert and Medex Forensics, who took a deep dive into the department's data.
- o Their vision is to create a seamless experience for anyone using evidence.com.
- o Key things learned:
  - ▪ Agencies should engage internally with some of their detectives and with people responsible for looking into media on evidence.com, using a test environment and doing a manual integration as a proof of concept to show people in the department what the data library will look like post-migration. In the past, doing this has been important in identifying any weaknesses or things that could be improved on.
  - ▪ Agency leaders should place emphasis on the importance of partnerships with forensic data experts; it is helpful to have the expertise of someone who has done this migration.
  - ▪ Agencies may have to have difficult conversations with vendors about moving in a different direction; consultants can help with this process.

- **Bert Lyons** (Medex Forensics):
  - o One of the key goals for Medex was to make sure that Seattle PD would not simply dump terabytes of useless data into evidence.com.
  - o A first step was understanding the data (what data is in the legacy system, how to move it, etc.).
  - o After evaluating what data exists, Medex Forensics, Seattle Police Department, and the IT team worked on evidence migration plan as a group.
  - o Key things learned:
    - ▪ It became clear that a small portion of data was not going to make it into the system due to workflow functionality. They were able to decide early on that a certain amount would migrate and come up with plan for the remaining data. This helped to reduce obstacles in the process.

- **Amy Tallakson** (Orange County DA Office and Category 4 site)
  - o For Orange County, it was not so much that they had trouble sharing data or accessing it as it was that they had evidence in a several different places. They receive criminal referrals through an electronic system, but anything BWC-related arrives through evidence.com, and Orange County still has evidence in a legacy media format.
  - o Before, DAs would receive a file that had everything (police reports, evidence, complaints, etc.), but now they have to go into three or four systems to gather all the evidence.
  - o Orange County applied for this grant to virtually integrate all of those things.
  - o The DA Office needed to move legacy media storage into the online environment, then marry it all with case information.
  - o First steps involved migrating data from relational databases into the cloud

system, purchasing extra storage space, and moving some applications and data into it.

- **Nana Tsuladze** (NY City Department of Housing Services (DHS) PD and Category 5 site)
  o This is the first grant for NYCDHS PD. A legacy grant came from the NYPD shelter, which started using BWCs in 2019.
  o Officers are mandated to use BWCs during any contact with program staff and residents.
  o Data is scattered across different systems. Whenever an incident occurs, it is reported in one system, and the system is rigid.
  o The current data system is based on Axon. BWC data is stored on evidence.com, which can be accessed by DHS PD higher-ups and executives.
  o Data/evidence sharing is usually manual, as NYCDHS does not have the ability to grant access to third-party users.
  o Before applying for the grant, the agency started having conversations with various vendors to conduct discovery meetings so that both the DHS and vendors could identify their critical needs in order to better serve residents.
  o NYCDHS started collaborating with their legal unit so that they have stable grounds to negotiate the procurement of an integrated data system.
- The agency is using BWC footage to improve its internal training processes, and the DHS police academy is using it to create a better curriculum.
- New York state requires officers to be trained on certain skills periodically, and the agency is working with special populations to be aware of trauma-informed issues.
- This data integration will give NYCDHS components of a personnel database with information about conducted trainings, upcoming deadlines, and the ability to schedule automated training.
- The vision was to derive good and bad practices based on footage reviewed by experts and officials, so that they have a database of training curriculum developed. 90 percent of activity for officers in shelters is indoors, limiting the approach to what the training can entail.
- Mike White:
  o The other three Category 5 sites are also focused on using BWCs to enhance training. Rochester PD is partnered with Rochester Institute of Technology to use machine learning to identify useful video for training purposes.
  o LAPD is doing it in a targeted and manual way, reaching out to each district.

Key Challenges:

- The Department of Housing Services struggles with finding training that applies to their population group and use-case-scenarios.
- Amy Tallakson:
  o "We have 22 agencies that have BWC, only four of them using Watchguard. We have developed portals for the other 18 agencies, so we purchased cloud storage, [and] created portals so they can get evidence to us. We've also given this to agencies without BWC."

- o "We go out and train agencies all the time on naming convention and how they need to share things with us—how it looks on our end. Adopted a unique case ID, so we don't have them give us all the evidence on an individual paste. We ask agencies to do two separate shares" (e.g., if there was a theft case, one share would be evidence involving the theft, and the other share would be evidence involving the recovery); "this allows us to collect all the evidence we need in case other factors come into play (another person involved, another crime was committed, etc.)."
  - o Orange County uses REDJEX in Axon, forced agencies to name the department and place in a small amount of code.
  - o The county also hired paralegals who are responsible for putting everything in the right environment.

New TTA Ideas:

- N/A

Using Body-Worn Cameras to Improve Organizational Response to Civil Unrest

Facilitators:

- Tom Woodmansee, Principal Advisor, CNA

Panelists:

- Dr. Janne Gaub, Professor, University of North Carolina, Charlotte
- Dr. Ed Maguire, Professor, Arizona State University
- Brendan Hooke, Captain, Fairfax (VA) County Police Department

Summary: This session highlighted the benefits and considerations of using BWC footage in civil unrest after-action reviews and provided recommendations for incorporating them in organizational reviews of future significant events.

Key Considerations:

- **Dr. Janne Gaub**
  - o Gaub remarked on her experience seeing BWCs become a public expectation and how the public expects the camera to capture the full picture.
  - o She also noted that there is a gap between what the general public understands versus what the camera is actually capable of.
- **Captain Hooke**
  - o Hooke entered the realm of BWCs when BWCs were in their second phase for Fairfax County PD (FCPD). This second phase entailed a BWC model upgrade with auto-activation triggers.
  - o FCPD began BWC deployment in 2020. The initial plan was an incremental rollout over districts over time, but political leadership wanted to accelerate the program.

- o For Hooke's department, the events on January 6 led to the development of a "protest versus riot" protocol.
- **Ed Maguire**
  - o Maguire noted that although some agencies have clear policies for when to activate BWCs during civil unrest, others don't. Some officers do not fully understand what is required of them.
  - o He also raised the problem of technical issues arising during these events—issues related to mounting or cameras falling off.
  - o In his research, Maguire observed issues with supervisors ensuring BWC policy compliance—some supervisors even violated those policies. Officers, meanwhile, violated those policies with impunity. When coupled together, the result is an environment with no accountability.
  - o Maguire recommended that agencies make a checklist to ensure that there are clear guidelines of accountability in these types of events.
- Strategies that can be used to prevent civil unrest:
  - o Hooke offered an example where the first step is leadership identifying if they have a problem or not. In this example, the chief would check on-scene footage and provide a quick assessment of what needs to be prepared for.
    - ▪ A real-life example of this took place when FCPD invited the media in and provided a packaged reel with some graphics and information to help provide a bigger picture of the situation. Las Vegas and Los Angeles police departments do this as well. The data package includes in-car video, BWC video, and more to make sure the public understands that the department is not hiding anything and that they are focused on the investigation.
  - o Maguire emphasized the importance of having clear language in your policy and having the capacity built in to have the camera turned on the whole time, as well as having backup cameras to turn on if needed.

Key Challenges:

- Public expectations of the presence of BWCs can cause difficulties. BWC presence at these events generates a significant amount of video to be sorted through afterwards, and the cameras themselves may not be able to stay on for the duration of the event.
- Educating community members on what BWC footage is can also be complicated; it is important to emphasize that it is not the police department hiding anything from the public, but that different BWCs may show different views of an incident.
- Battery life issues can cause problems as well. Most cameras cannot withstand prolonged use on extended shifts, so it may look bad if a camera battery goes out, especially in situations of civil unrest.
- Officers may not be clear on what to do even with a policy in place. Training modules or some kind of assurance that the officers understand what is expected of them can help mitigate these issues.

- It can be difficult to manage internal and external expectations of the quality of footage and use of BWCs.

New TTA Ideas:

- Agencies that have specific language regarding civil unrest issues should offer training materials to agencies that are currently shaping their own policies.
- The Role of Body-Worn Cameras (BWCs) in Recent Public Protests in Larger Agencies: Benefits, Challenges and Solutions by Maguire emphasizes that dialogue and de-escalation are at the forefront of civil unrest issues.

Key Technical Assistance Takeaways

All meeting materials are posted on the BWC TTA website, which will be beneficial for agencies that are current sites, future sites, and sites that were unable to attend the meeting.

The information below highlights some of the TTA that may be reviewed and developed in response to the annual meeting discussions and needs of participating agencies. The material and the sessions recorded during the meeting will be posted on the BWC TTA website.

- Research on the ways BWCs influence police proactivity.
- A resource to help agencies understand the state and local legislation affecting BWCs and digital media.
- A resource to help agencies identify how to ensure and improve officer compliance with BWC use and activation.
- A resource to help agencies increase transparency and minimize negative narratives related to BWC video redaction and release.
- A resource to help communicate with patrol members about ways to enhance digital evidence collection to assist investigations.
- More resources tailored to the unique considerations of BWC use in correctional settings, including sample BWC policies and best practices specific to corrections.
- A possible webinar at the beginning of the grant cycle that covers the BJA- and grant-related topics that are covered in the annual meeting.
- A checklist for grant recipients to assist with post-award requirements.
- An expansion of the annual meeting to include all law enforcement and non-law enforcement stakeholders involved in BWC implementation (e.g., grant managers, IT, purchasing, vendors)
- Resources on BWC metadata and the role of AI in BWC digital evidence management

If you are unable to find a TTA resource on a topic of interest or wish to request TTA, please contact the BWC TTA team at BWCTTA@cna.org or visit our website at www.bwctta.com.

Feedback Summary

This section summarizes evaluation responses from the participant feedback survey distributed following the BWC TTA Annual Meeting. Attending the meeting were 164 representatives from BWCPIP sites and 73 from other law enforcement agencies, as well as members of the BWC TTA team, SMEs, and representatives from BJA (for a total of 237 meeting participants). A total of 54 attendees completed the participant feedback survey (a 33 percent response rate. Only representatives from BWCPIP sites and other law enforcement agencies or universities are sent feedback surveys (in this case 164), making the response rate 54/164, or 33 percent. The participant feedback survey asked attendees to rate eight components of the meeting using a five-point Likert scale from "Strongly Disagree" to "Strongly Agree." Attendees were also asked to answer two open-ended questions to help the BWC TTA team improve and prepare for future meetings.

Participant Feedback Survey Results

This section includes the results from the eight questions asking participants to rate specific components of the meeting, as well as the responses to the open-ended questions. Overall satisfaction with the meeting was high, as it has been in recent years. Feedback was slightly more mixed compared to last year, indicating that while satisfaction is high, attendees may be open to a change in format or meeting content.
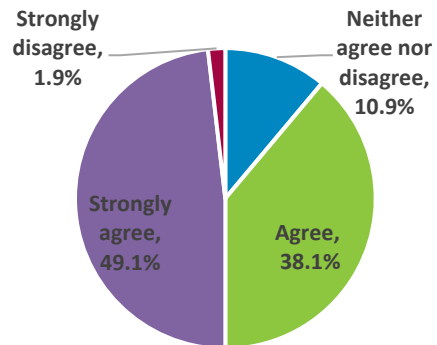
Rated Questions

"The content presented at the conference was useful."

Answer	Response Frequency
Strongly agree	26
Agree	24
Neither agree nor disagree	4
Disagree	0
Strongly disagree	0
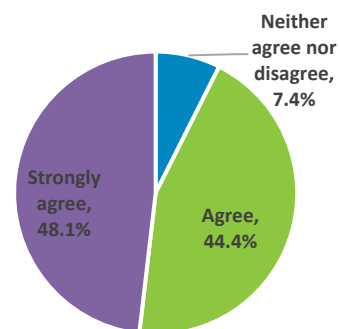
"The conference met my expectations."

Answer	Response Frequency
Strongly agree	27
Agree	21
Neither agree nor disagree	6
Disagree	0
Strongly disagree	1

"The online format was conducive to learning."

Answer	Response Frequency
Strongly agree	27
Agree	16
Neither agree nor disagree	4
Disagree	4
Strongly disagree	2
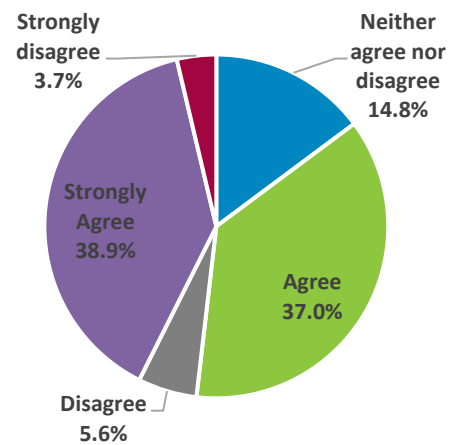
"The length of the sessions was appropriate."

Answer	Response Frequency
Strongly agree	20
Agree	22
Neither agree nor disagree	10
Disagree	2
Strongly disagree	0
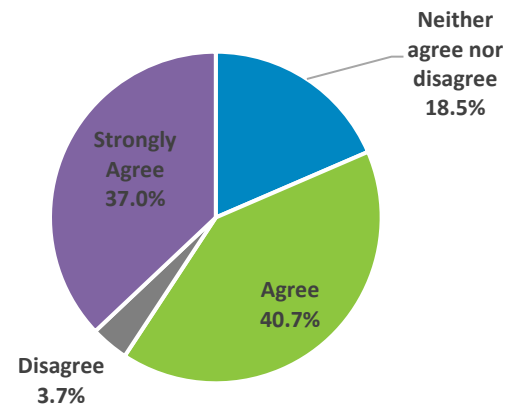
"The half-day schedule worked well for me."

Answer	Response Frequency
Strongly agree	25
Agree	17
Neither agree nor disagree	10
Disagree	2
Strongly disagree	0

Disagree
3.7%

Neither agree nor disagree
18.5%

Strongly agree
46.3%
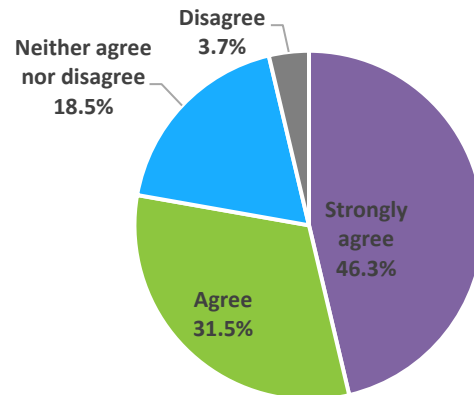
Agree
31.5%

"I feel better informed about BWC TTA after attending this meeting."

Answer	Response Frequency
Strongly agree	27
Agree	19
Neither agree nor disagree	7
Disagree	1
Strongly disagree	0

Neither agree nor disagree
13.0%

Strongly agree
50.0%

Agree
35.2%
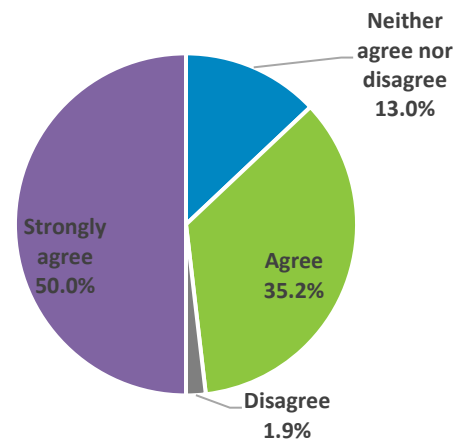
Disagree
1.9%

"I feel better informed about BJA expectations as a result of this meeting."

Answer	Response Frequency
Strongly agree	21
Somewhat agree	22
Neither agree nor disagree	11
Somewhat disagree	0
Strongly disagree	0

Neither agree nor disagree 20.4%

Strongly agree 38.9%

Agree 40.7%
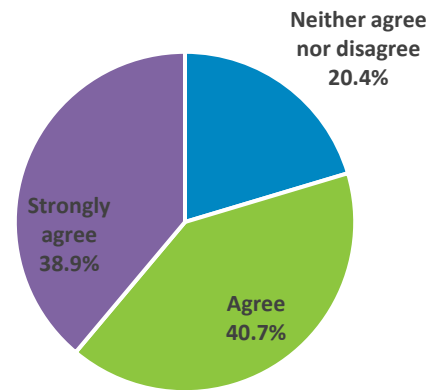
"The technology platforms worked well."

Answer	Response Frequency
Strongly agree	24
Somewhat agree	22
Neither agree nor disagree	7
Somewhat disagree	1
Strongly disagree	0

Neither agree nor disagree 13%

Strongly agree 44%

Agree 41%

Disagree 2%
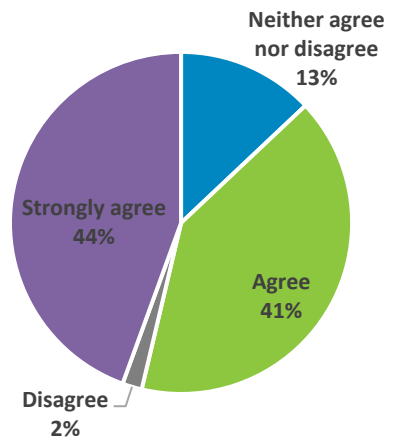
Open-Ended Questions

Overall, the response to the meeting was positive. Many respondents compared the benefits and challenges of a virtual meeting to those of an in-person conference. Suggestions for future presentations included adding a training demonstration or "how-to" section on reporting, including speakers from smaller departments, and hosting the meeting shortly after the grant is awarded. Participants made no specific requests for TTA in the open-ended questions.

What suggestions do you have for technical assistance that would be helpful to you and your project?

- "Overall great meetings. Also, none, at this time."
- "The timing of this conference should be shortly after grants are awarded. A lot of this information would have been useful during the first year and implementation."

- "I do not like that there were a few times that two classes were at once. I can understand in an in-person situation where this might happen but online it would seem that isn't helpful for those that want to hear and or interact with other agencies. This is the second year that i have had issues with getting notifications and also my login information not working."
- "More instruction about the breakdown of sessions"
- "I like the convenience of online platform. It is obviously easier to fit into schedules. The only problem is by being in my office I am still constantly interrupted by co-workers who aren't recognizing that I am listening to something online. The benefit of in-person is undivided attention."

If you have any other questions or comments, please note them here.

- "I would prefer an in-person event part of conferences such as these is agencies can meet people in person and build contacts and interact whereas online platform I often find myself not really engaged in the meeting. Staring at a screen with minimal interaction is rather boring and not super conducive to a productive learning environment. Also with BWCs there is not a lot of trainings out there so having a group of people who are needing to learn meet in person would go a long way."
- "Perhaps fewer simultaneous sessions in the virtual environment; or ensure we can access the recorded version of the one we were not able to attend."
- "Educational"
- "I'd like to have the contact info for John Smiddy as he would be a resource for MA DOC"
- "I believe it would be more beneficial to have the conferences in person. While having the online format is flexible, I found that I was interrupted many times for a variety of work-related reasons. Attending a conference in person allows me to focus solely on the topics being presented. It also allows me to make connections with other departments implementing BWC. I would like to add that CNA is the best TTA and I have worked with them for many years."
- "I would like to have heard from a small agency (20 officers or less) and their experience of how they have implemented and monitor the BWC program with limited resources."
- "Conference was very good. The most engaging presentation were ones that included BWC footage. That was awesome to see."
- "The LAPD Chief keynote because he talked about some key issues that were very relevant, other sessions National Perspectives on BWC Implementation, What Research is telling us about Body Worn camera, Releasing BWC Footage: Critical Incidents (Really good!), and Advancements in BWC and Related Technology. I skipped a few of the others because we are beyond that, such as the grants and acquiring BWCs."
- "The perspectives on what BWC grants were meant to achieve and how they seem to have fallen short. However, the consequences (massive amounts of BWC and

DEM) of the original mission has led to other opportunities and possibilities which may still be able to give us the accountability, transparency, and training / compliance that was originally intended."

- "Personally, I regarded speakers Chief Michael Moore and Laura McElroy, as well as the sessions about "BWC tagging" and "Voices from the Field" as very fascinating. Learning about the massive experience of the LAPD and the technical approaches from different agencies was exceptionally impressive and enlightening. The meeting about procurement process did not fully appeal to me."

- "I want to implement the newly learned information in our annual policy review and see what needs to be adjusted or taken into consideration using other agencies as an example. Plus, it was mentioned numerous times how successful the release of positive BWC videos turned out. I'll use that input for our grant program as soon as we start our release."

Conclusion

Overall, the fourth virtual body worn camera annual meeting received positive feedback. Attendees found the range of topics discussed at the meeting valuable. The majority of attendees reported that the sessions were beneficial and still appreciated the unique benefits of a virtual event. Like last year, some attendees would have preferred an in-person event; while some cited the lack of networking opportunity, others mentioned that it was hard to focus on in-person work obligations and the virtual conference simultaneously. One major benefit of the virtual setting was the ability to more easily bring in a wide variety of speakers. An additional benefit was that individuals could attend the sessions that they felt were most relevant to them and have other individuals from their agency attend sessions selectively. Over the next several months, the BWC TTA team will use the information gathered from the national meeting to develop TTA products and resources for both the BWCPIP sites and the law enforcement agencies and stakeholders implementing BWCs. We will also use this information to plan future BWC TTA meetings and workshops.