



Committee Video Options and Considerations

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LIS

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Executive Summary

We are presenting options for upgrading our existing committee rooms to enable a streaming video feed. Below are different options that have increasing levels of cost and functionality for consideration.

- 1. Do Nothing:** This option involves continuing to use existing audio streaming without video. It maintains a stable and professional audio quality, keeping costs unchanged and setup simple. However, it lacks innovation and leaves the committee among the few without video streaming, missing out on creating archival footage.
- 2. Stream Video through Zoom onto YouTube with No Production:** Utilizing Zoom to stream video onto YouTube broadens audience reach and integrates high-quality audio and video with ease of setup. However, it presents challenges like technical setup complexity, latency issues, and privacy concerns, which need careful consideration.
- 3. Enable Video Stream through SLIQ with No Production:** Engaging a vendor for streaming video through static cameras ensures professional quality and reliability, with added technical support and scalability for large audiences. Nonetheless, it bears moderate costs, potential privacy concerns, and dependency on vendor services.
- 4. Enable Video Stream through SLIQ with Production:** Hiring full-time video producers ensures consistent, high-quality video production tailored to committee needs, enhancing internal communication and execution. However, it incurs higher overhead costs, potential for employee burnout, and dependence on individual availability, which could affect productivity and flexibility.

Enable Video Stream through SLIQ with Automation: Installing PTZ (Pan-Tilt-Zoom) cameras with active speaker tracking offers extensive coverage and dynamic, cost-efficient video production by reducing the need for multiple cameras. They automatically follow speakers,

enhancing viewer engagement while providing versatility and manual control options for specific monitoring needs. However, PTZ cameras may miss events outside their current view, require complex setup, frequent maintenance, and their accuracy might decrease in crowded environments. Additionally, they are generally more expensive upfront compared to traditional fixed cameras. Balancing these advantages and drawbacks is crucial in deciding their suitability for committee hearing video streaming.

Option 1. Do Nothing

Cost Summary	None	Additional Hardware	None
Second Website	None	Additional Software	None
Production Staff	None	Additional Cameras	None
IT/AV Staff	No Additional	Broadcast to TV	None

This option continues the status quo. Audio will be streamed via SLIQ, and the room camera will be used to display video over Zoom to registered witnesses and remote legislators. However, we are not streaming video to the public.

Pros:

- Same Audience: Streaming audio is used quite a bit
- Professional Quality: Audio Quality is consistent for public record.
- Ease of Setup: Rooms are configured to enable audio streaming with little tech knowledge required.
- Cost: Remains unchanged, we are not paying for storage.

Cons:

- No innovation
- We remain 1 of 2 states without committee room video
- We will not have archival footage of committee work

Option 2. Stream Video through Zoom onto YouTube with No Production

Cost Summary	None to \$	Additional Hardware	None
Second Website	YouTube	Additional Software	Potential small increase
Production Staff	None	Additional Cameras	None
IT/AV Staff	Increased workload	Broadcast to TV	None

Enabling streaming video from Zoom to YouTube offers several advantages and challenges. On the positive side, it significantly broadens audience reach, provides professional-quality video and audio, and integrates easily with YouTube for seamless setup. This feature also allows for continued use of Zoom's interactive tools.

However, there are some drawbacks to consider. The technical setup can be complex, and there may be latency issues that affect real-time interactions. Privacy concerns may arise among participants, and the live streaming capability is exclusive to Zoom, limiting compatibility with other platforms.

Considerations. While a live stream can enhance the availability and transparency of meetings, it is important to weigh the costs, privacy considerations, and potential limitations before making a decision. We need to consider a process that allows for witnesses to maintain anonymity if requested.

Pros:

- Wider Audience Reach: Streaming to YouTube allows you to reach a broader audience beyond just the participants in your Zoom meeting.
- Professional Quality: Zoom offers high-quality video and audio, which can enhance the viewing experience on YouTube.
- Ease of Setup: Zoom provides straightforward integration with YouTube, making it relatively easy to set up live streaming.
- Interactive Features: You can still use Zoom's interactive features like screen sharing, chat, and breakout rooms while streaming to YouTube.

Cons:

- **Technical Setup:** Setting up live streaming can be complex and may require some technical know-how.
- **Latency Issues:** There can be a delay (10-30 seconds) between the live event and the YouTube stream, which might affect real-time interactions.
- **Privacy Concerns:** Participants might feel uncomfortable knowing the meeting is being streamed to a public audience.
- **Limited to Zoom:** The live streaming feature is specific to Zoom, so it won't work with other platforms like Google Meet or Microsoft Teams.
- **Business integration:** LIS would need to reprogram applications to allow Zoom to integrate with the legislature's productivity applications.
- **Data stored on YouTube** is subject to YouTube's terms and conditions; archival would need to be addressed.

Option 3. Enable video stream through SLIQ with no production

Cost Summary	Additional software cost	Additional Hardware	None
Second Website	None	Additional Software	About \$50,000 per year, plus one-time setup fee of \$20,000
Production Staff	None	Additional Cameras	None
IT/AV Staff	No Additional	Broadcast to TV	None

Streaming video through a paid vendor using a static camera for a meeting has both advantages and challenges. On the positive side, our current streaming audio vendor(SLIQ) offers professional-quality audio, ensuring a reliable and high-quality presentation. We would need to pay approximately \$70k for a 2-year contract to enable streaming video for 14 rooms, after which it is expected to be about \$50,000 per year plus growth. This service provides technical support, scalability for large audiences, and additional features such as API (Application Interface) analytics and detailed recording controls and options. Static cameras provide consistent quality without the need for manual adjustments, and the overall ease of use makes the setup process straightforward.

However, there are some drawbacks to consider. We do not currently have streaming cameras pointing at the witness table. For reference an image would look similar to the picture on the title page of this report, possibly a bit closer to the witness table. This was intentional for anonymity. The direction to do this came from leadership over 15 years ago. During the pandemic when legislators began to participate remotely more frequently there was an increase in requests to see people at the witness table. In response, we placed cameras in committee rooms to face the witness table. The Senate recently requested that all witness cameras be removed from Senate rooms for the 2025 session. The House rooms continue to have witness cameras for Zoom. Our audience for the Zoom video has remained limited to registered witnesses or legislators attending remotely.

Considerations. While a live stream can enhance the availability and transparency of meetings, it is important to weigh the costs, privacy considerations, and potential limitations before making a decision. We need to consider a process that allows for witnesses to maintain anonymity if requested.

Pros:

- Professional Quality: Current audio vendor is providing high-quality audio that we can enable video quickly, ensuring a professional live stream presentation.
- Reliability: Current vendor typically offers more reliable streaming with minimal downtime or technical issues.
- Technical Support: Access to customer support and technical assistance can help resolve any issues quickly.
- Scalability: Current vendor can handle large audiences, making it suitable for big events or meetings.
- Ease of Use: User-friendly interfaces and simple setup processes. And we are familiar with it.
- Consistent Quality: Static cameras eliminate the need for manual adjustments, ensuring a consistent view throughout the meeting. The Static feed will not make a viewer feel seasick as it will not jump quickly between cameras.
- Business integration: SLIQ is already integrated with existing legislative productivity applications. We get technical support from SLIQ. SLIQ timestamps, which is used extensively in our committee staffing.
- Alignment with other legislatures: SLIQ aligns with what many other legislatures are doing.
- Customer experience: The customer is used to using the SLIQ interface for committee streaming.

Cons:

- Cost: Paid services can be expensive, especially for smaller agencies.
- Contractual Obligations: requires a multi-year contract with specific hardware requirements.
- Privacy Concerns: Live streaming witness testimony may raise concerns about data privacy and security. This may even vary by policy between committees.
- Dependency: Relying on a vendor means we are dependent on their service availability and performance.
- Latency Issues: There can still be a delay between the live event and the stream, affecting real-time interactions.

Option 4. Enable video stream through SLIQ with production

Cost Summary	Staff, software, and equipment, amount depends on the level of production.	Additional Hardware	\$\$\$; significant up front cost.
Second Website	None	Additional Software	About \$50,000 per year, plus one-time setup fee of \$20,000; Plus additional production software.
Production Staff	7 session-only	Additional Cameras	\$\$\$; significant up front cost
IT/AV Staff	2 permanent	Broadcast to TV	None

Hiring a full-time video producer for a committee hearing has its advantages and disadvantages. On the positive side, a full-time employee provides consistent and high-quality video production, is always available for urgent tasks, and can develop a strong understanding of the committee's preferences and goals. This can lead to better internal communication and cohesive project execution. Additionally, for high volumes of video work, it might be more cost-effective compared to hiring freelancers or contractors in the industry.

However, there are notable drawbacks as well. Higher overhead costs, including benefits and equipment, come into play. There is limited flexibility with a full-time employee as their costs remain constant regardless of workload fluctuations. Ultimately, the decision should be based

on balancing these factors against the committee's specific needs and the consistency of the video production workload. There will be a need for additional desks in each committee room where a producer could sit and control the cameras to 'produce' the video. This has the potential to be rather costly as not only is there an FTE per committee, there will be additional hardware and software, training, and programming.

Considerations. While a live stream can enhance the availability and transparency of meetings, it is important to weigh the costs, privacy considerations, and potential limitations before making a decision. We need to consider a process that allows for witnesses to maintain anonymity if requested.

Pros

- **Consistency and Quality:** A full-time employee would be dedicated to maintaining and improving the quality of the videos. They would have a deeper understanding of the project requirements, audience expectations, and be able to provide consistent output.
- **Availability:** They would be available as needed, especially for last-minute changes or urgent projects. Their availability could ensure that all video needs are met promptly without delays.
- **Institutional Knowledge:** Over time, a full-time employee would develop a thorough understanding of the committee's goals, preferences, and members. This knowledge can enhance the relevance and impact of the videos.
- **Cost-Effectiveness for High Volume:** If there is a high volume of video production work, having a full-time employee might be more cost-effective compared to hiring freelancers or agencies on a per-project basis.
- **Team Integration:** A full-time video producer would become a part of the team, contributing to the culture and collaborating more effectively with other staff members. This can lead to better communication and more cohesive project execution.
- **Business integration:** SLIQ is already integrated with existing legislative productivity applications. We get technical support from SLIQ. SLIQ timestamps, which is used extensively in our committee staffing.
- **Alignment with other legislatures:** SLIQ aligns with what many other legislatures are doing.
- **Customer experience:** The customer is used to using the SLIQ interface for committee streaming.

Cons

- **Higher Overhead Costs:** Hiring a full-time employee involves additional costs beyond salary, such as benefits, and equipment.

- **Limited Flexibility:** Unlike freelancers or agencies where you can scale up or down based on project needs, a full-time employee means a fixed cost regardless of the workload. This can be a drawback if the volume of video work fluctuates.
- **Recruitment and Training:** The process of finding, training, and retaining the right candidate can be time-consuming and costly. There's always a risk that the new hire might not meet expectations or leave after a short period, requiring the process to start over.

Option 5: Enable video stream through SLIQ with automation

Cost	Staff, software, and equipment, amount depends on the level of production.	Additional Hardware	\$\$\$; significant up front cost
Second Website	None	Additional Software	About \$50,000 per year, plus one-time setup fee of \$20,000; Plus additional production software.
Production Staff	up to 7 session-only, depending on the level of production	Additional Cameras	\$\$\$; significant up front cost
IT/AV Staff	2 permanent	Broadcast to TV	None

Installing automatic PTZ (Pan-Tilt-Zoom) cameras with active speaker tracking offers several notable advantages. These cameras can cover large areas by moving and zooming in on specific points, which significantly reduces the number of cameras needed. The active speaker tracking feature enhances viewer engagement by automatically following speakers, ensuring a dynamic and focused video feed. Additionally, PTZ cameras are cost-efficient since they eliminate the need for multiple stationary cameras, and their versatility allows them to adapt to various view angle needs. The manual control options also offer flexibility in monitoring specific areas of interest as needed.

However, PTZ cameras come with certain drawbacks. Their movement can create blind spots, potentially missing events occurring outside their field of view. The initial setup and configuration can be cumbersome compared to fixed cameras, and the higher number of moving parts may require more frequent maintenance. Furthermore, the accuracy of the active tracking feature may diminish in crowded or highly dynamic environments. While PTZ cameras

are cost-efficient for covering large areas, they are usually more expensive upfront compared to traditional fixed cameras.

Considerations. While a live stream can enhance the availability and transparency of meetings, it is important to weigh the costs, privacy considerations, and potential limitations before making a decision. We need to consider a process that allows for witnesses to maintain anonymity if requested.

Pros:

- **Enhanced Coverage:** PTZ (Pan-Tilt-Zoom) cameras can cover large areas by moving and zooming in on specific points, reducing the number of cameras needed.
- **Active Speaker Tracking:** This feature ensures the camera follows speakers automatically, providing a dynamic and focused video feed that improves viewer engagement.
- **Cost Efficiency:** By covering extensive areas with fewer cameras, it reduces the overall cost compared to installing multiple stationary cameras.
- **Versatility:** PTZ cameras can switch between different areas and zoom in for closer views, making them adaptable to various surveillance needs and environments.
- **Manual Control Options:** Users can take manual control to focus on specific areas of interest, offering flexibility in monitoring.
- **Business integration:** SLIQ is already integrated with existing legislative productivity applications. We get technical support from SLIQ. SLIQ timestamps, which is used extensively in our committee staffing.
- **Alignment with other legislatures:** SLIQ aligns with what many other legislatures are doing.
- **Customer experience:** The customer is used to using the SLIQ interface for committee streaming.

Cons:

- **Blind Spots:** Since PTZ cameras move, they can miss events happening outside their current field of view, creating potential blind spots.
- **Complex Setup:** Initial installation and configuration can be more complicated and time-consuming compared to fixed cameras.
- **Higher Maintenance:** With more moving parts, PTZ cameras may require more frequent maintenance and have a higher chance of mechanical issues over time.
- **Limited Active Tracking Accuracy:** Active speaker tracking relies on algorithms that may not always accurately follow the intended target, especially in crowded or dynamic environments.

- Cost: While cost-efficient for large area coverage, PTZ cameras themselves can be more expensive upfront compared to traditional fixed cameras.
- PTZ cameras with active speaker tracking bring both significant benefits and potential challenges, making it crucial to consider specific needs and environments before deciding on their installation.

Option 6. Enable video stream through either Zoom or SLIQ with production by Colorado Channel Staff

Cost Summary	Staff, equipment, potentially software. Amount depends on the level of production from the CO Channel staff.	Additional Hardware	Yes, depends on needs as determined by CO Channel staff.
Second Website	OMF Colorado Channel	Additional Software	Yes, potentially for SLIQ video streaming, or additional production software.
Production Staff	No additional legislative employees required; the Colorado Channel will require additional staff.	Additional Cameras	Yes, if more than one camera is desired in a committee room.
IT/AV Staff		Broadcast to TV	Yes, depending on implementation by CO Channel staff.

This option would utilize the Colorado Channel staff to produce videos from each committee room by sending the video signals from each room up to the channel so that the staff there can produce each video stream and put it on live television and the web for immediate consumption. This removes a producer out of each committee room and places the responsibility of production in the hands of the channel staff. The Channel producers are

responsible for placing the graphics on the screen and what is called lower thirds to the screen to display names and topics.

Pros

- Centralized production and management, which would produce a similar product to and would be distributed in the same way as what is produced for the floors
- Staffing through Colorado Channel staff, which specializes in this type of production
- The Colorado Channel staff could potentially stream committees on the television channel

Cons

If they use Zoom, LIS would need to program existing committee integration software processes to enable integration between the calendar and committee video production. This is not a con if they use SLIQ.

- Colorado Channel staff would need to be trained by LCS to effectively staff committees
- Data stored on YouTube is subject to YouTube's terms and conditions; archival would need to be addressed.

