Introduction

The adoption of internet Zoom meetings allowed many, if not most, AA Group to continue their operation, so essential to those of us in the fellowship, in the face of the corona virus quarantine. As we return to face-to-face meetings, many groups are striving to come back as hybrid meetings, face-to-face operation for those who wish to participate coupled with a Zoom connection to the room for those who, for whatever reason, cannot or choose not to attend in person. Regardless of our love or hatred of technology, I believe the hybrid meeting is with us for the long haul. There are those in the fellowship who, because of immunological sensitivity, cannot risk public exposure who must not be left behind. The hybrid meeting also expands availability of the meeting to members who may be unable to attend in person for reasons other than corona virus. In addition, the hybrid meeting frees us from the constraint of locality, opening us to the richness of participation by Zoom from around the country or around the world which many of us discovered for the first time in the forced Zoom environment.

Corporate conference room teleconferencing is not new and the technology for it is readily available, at a price. The purpose of this work has been to identify the means to set up hybrid meeting technology at minimal cost using mostly equipment readily available to a typical AA group. While there are as many ways to skin this cat as there are autonomous AA groups, we have sought to achieve the goal with minimal disruption to the normal operation of a face-to-face meeting. We wanted to be certain that the opportunity to chair the meeting remained open to any member of the fellowship, in the room or on Zoom, without requiring any specialized knowledge of the technology and without being distracted by its operation. How each group solves the problem will depend upon size of in-person meeting and meeting room, the group's specific goals with regard to in-room and in-Zoom experience, availability of equipment or money to buy the same, and technical expertise within the group. In this discussion, we will try to describe the issues involved in setting up a hybrid meeting, some of the possible approaches, and specific solutions which we have found to work in practice.

The Problem

Many, perhaps most, AA groups have managed to adopt Zoom technology in response to the pandemic. Generally, each Zoom connection has involved each individual member using his computer, laptop, tablet, or smart phone to sign in to the meeting, plus one member of the group managing the Zoom account and serving as Zoom host. The problem of the hybrid meeting is to project a single Zoom connection into a room of multiple people meeting face-to-face.

The microphone and speakers on a personal device are designed to reach one person sitting in front of the device. A little cleverness can extend this further. The basic problem is threefold:

1. projecting sound from the Zoom portion of the meeting throughout the room so in-person participants can hear clearly,
2. picking up the voices of those sharing in the room to transmit to Zoom clearly, and
3. presenting a video representation of the experience to the participants.

Sound

As noted, there are lots of ways to address this problem. The fundamental technical issue for the sound is to project into the room without creating feedback, either a screech or an echo. A number of solutions have been tried with various levels of success. The key requirement is ***that there can be only one active sound device in the room at time***, either one loudspeaker or one microphone. This is essential to avoid the feedback problem. Modern computers automatically regulate the speakers and microphones connected to them to ensure this condition. The easiest thing is to have only one device (computer or phone) in the room connected to Zoom. Any attempt to have a second device in the room connected to Zoom, unless with microphone muted and speakers silenced or limited to inaudible ear buds, greatly complicates the issue and is likely to cause feedback.

Video

Requirements for video presentation have a significant impact on the complexity of the solution to the problem. For our purpose, we would like to have any speaker on Zoom visible to the in-room participants and similarly any speaker in the room visible on Speaker View in Zoom. Other video enhancements are possible, for example an additional Gallery View of Zoom participants visible to in-room participants but are not essential.

Internet Connection

Wifi

To operate Zoom in the room you must have an internet connection. If using a computer or laptop (probably preferred), this means a Wifi connection with sufficient bandwidth to handle the Zoom data stream clearly without breaking up. If the room (often a church social hall) in which you meet has Wifi available, that's great. Be sure your host facility will allow you to use it, make sure you have the password, and test it with the Zoom connection to be sure it is a strong enough signal to handle Zoom. Our experience to date with church hall Wifi has been (a) available but too far from the router to support a Zoom connection in one location, (b) strong but cut off midway through the meeting in another, and (c) not available in a third location. Your experience may vary and we wish you the best of luck.

HotSpot

If you do not have effective Wifi, you can use a cell phone as a Wifi hotspot. We find this means identifying a member of the group who has a cell plan with unlimited data usage and hotspot capability and capacity who is willing to allow its use as service to the group. You may or may not want to compensate the member for this use according to group conscience. It is probably best to have more than one willing and able member for this so no one person is essential at every meeting. Running a hotspot and multiple video data streams is a heavy draw on the battery so it's a good idea to have the hotspot cell phone plugged in during the meeting to prevent the battery running out part way through.

Of course, to use the cell phone data connection you must have cell reception in your location. If you are located in a church basement with no cell reception and no Wifi you are pretty much stuck. Short of relocating or paying to install internet service and a router I can't think of any solution.

Electrical Power

While we're thinking of it, you will need power for the gear you are using for the meeting. I find this means taking my own extension cord and power strip to be certain I can get everything plugged in. Make sure you know where the electrical outlets are and that your extension cord is long enough for your installation.

Zoom Account and Host

The Zoom set up for a hybrid meeting is no different from any Zoom meeting. Someone in the group has to manage a Zoom account and set up and host the Zoom meeting. Presumably groups switching from Zoom to Hybrid have already solved this problem. Being Zoom Host is a service position for the meeting. This can be the same person as the facilitator (more later) or someone else entirely. The Zoom host is necessarily connected to Zoom and can be in the room or can be at home or anywhere else, as for normal Zoom meetings.

Technical Gear Setups

As noted previously, the setup required depends on how many people you want to address in person and what your requirements are.

Smallest, Simplest, and Cheapest

I tested my Google Pixel 3 smartphone in my living room as a speakerphone and found that it appears to have a range of 10 to 12 feet. It is surprisingly effective. One could easily set up 10 to 12 seats with 6 foot social distancing within a circle of 10 foot radius around a cell phone placed on a central table and link in to the existing group Zoom meeting. For a small group of 10 to 12 in person this would provide sound connection to the group Zoom meeting and constitute the simplest hybrid setup. As most of us come ready equipped with a smartphone there is no need to buy any additional equipment. It lacks video connection. However, if the cellphone were on a stand on a central table with a speaker's chair placed in front of it, it would transmit video of whoever was speaking in the in-person meeting to the Zoom attendees. If the chairperson were in the in-person meeting I would expect them to sit within the camera view of the phone so as to be visible to those on Zoom. People in the in-person meeting would not be able to see people on Zoom when they were speaking. I have not personally tried this setup in a group setting and have no feedback on how comfortable attendees find it.

Sound

SpeakerPhone

The next step up is to use a teleconferencing speaker/microphone combination connected to the cellphone or computer. These devices are readily available with a range of price and reach. Your need will be dictated by the size of your in-person group and the size of your meeting room. On September 22, the Inter Group meeting held at Calvary Baptist Church in West Reading used an Anker PowerConf Bluetooth Speakerphone ($129 from Amazon) Bluetooth linked to a cell phone to link the in-person meeting to Zoom as a hybrid. This was able to extend the sound reach to about 30 feet, more optimally to 20 feet. There were about 16 people in the room but up to 25 could have been accommodated with 6 foot social distancing within the range of the speakerphone. Those speaking from the room did so from their seats without moving to a central speaker's chair.

Visual linkage was minimal. With the cell phone located on a table stand in front of the meeting chairperson, his face was visible to the Zoom attendees. In-person attendees were not able see speakers on Zoom. The speakerphone was optimally placed in a central location about 10 feet in front of the chairperson to provide maximum reach without sacrificing clarity. This appears to be the simplest way to bring a normal size meeting within the hybrid sphere.

At Birdsboro Group we have used a less expensive eMeet Luna speakerphone, containing 3 rather than 6 internal microphone units, costing about $90. Performance was quite adequate in picking up sound from the room. This unit is capable of connecting by USB cord, USB dongle, or Bluetooth. I prefer the USB dongle which is how we have been using it.

The eMeet Luna speakerphone output is rated at 3 watts. Both speakerphones were able to project sound clearly throughout the meeting room.

Other Sound Solutions

In the Birdsboro Group, which has been serving as a testbed for hybrid setup development, we have used a set of external speakers connected to the headphone jack of a laptop computer with an omnidirectional USB microphone (CMTECK CM003 - $30 from Amazon). This has worked well. The performance of this microphone is as least as good as the microphone in either combo unit.

Morgantown Group has used a unidirectional hand held wireless microphone, passed from person to person, in place of the central omnidirectional unit with external Bluetooth speaker.

The speakers we used at Birdsboro were a freebie from my basement. Many external speaker options are available connected to the computer by 1/8" headphone jack, USB, or Bluetooth at a wide range of prices. Any stereo/boombox/external speaker with 1/8" stereo jack AUX input will work as long as it has the power to reach your room clearly.

The downside is that the setup is slightly more complicated and may appear daunting at first glance. It is not that bad, especially if there is someone in your group with a technical bent to help set it up.

Video

Camera

Improving video involves moving to a laptop Zoom connection. A good sized laptop screen (mine is 15 inch) in the front of the room typically shows the person speaking on Zoom to the room with reasonable clarity. Starting out we have used the laptop camera to feed the room video to Zoom. The downside of this, which turned out to be the biggest source of suggestions for improvement (i.e. complaints), is that the speaker has his back to the room limiting sound projection. We added an inexpensive webcam ($30 from Amazon, myriad choices available) on a $20 extendable swing arm, mounted so it could conveniently swing between in-room chairperson and speaker's chair. This was a great improvement and is highly recommended. The speaker was now facing the room and the video quality of the person speaking in room projected to Zoom was greatly improved. Additionally, the webcam includes a dual microphone with a range of about 10 feet which can serve adequately to pick up chairperson, speaker's chair, and out as far as the typical first row in the room, saving the need for additional microphone. The quality of the $20 swing arm was chintzy but adequate.

Screen

As noted above, a laptop screen in speaker view is adequate to show the speaker from Zoom to participants in the room. With an external monitor it is possible to drive dual screens from Zoom. We have found it effective to display speaker mode on the laptop screen and gallery mode on the second monitor. This is not essential but it does give those in the room a better sense of inclusion to see the Zoom participants on the screen. For this purpose, bigger is better. Flat screen monitors are available from Amazon for any price you want to pay but we have been using one that was sitting unused in Starr's basement. Has anyone in your group upgraded his TV during Covid and have an unused unit in the basement?

Computer

New laptop computers are available from Amazon from about $300 and up. In every meeting so far, some interested member has brought an existing laptop from home (I have to disconnect from Netflix in my living room every time I go out to a hybrid meeting). The requirements are pretty generic so once you are set up it makes sense to have more than one member who is willing to bring his laptop for use so you are not dependent on one person's attendance to make the hybrid work. Or, of course, your group could elect to buy a computer that could be dedicated to your use and always available. This is something that each autonomous group will need to work out as best for them.

Meeting Structure

Running a hybrid meeting requires several service positions.

Zoom Host

Someone in the group must maintain and manage the Zoom account, start the Zoom meeting, and serve as Zoom host, managing admittance, muting those who are not speaking as required, ejecting Zoom bombers, etc. This is no different from any other Zoom meeting today so the hybrid meeting does not add any requirements. The Zoom host can be present in person or hosting from home or other location just as for normal Zoom meetings.

Chairperson

The chairperson position is no different from any other AA meeting, conventional in-person or Zoom. With the hybrid technology set up in the room, the chairperson should be free from any but minimal impact of the technology (adjusting webcam position in some setups – could also be done by facilitator) and should be able to chair either from the room or from Zoom. We have demonstrated this capability at Birdsboro successfully.

Facilitator

This is a new service position for the hybrid meeting. It is necessarily an in-person position. The job of the facilitator is to set up the gear and ensure that it is working before the meeting, monitor the meeting as it progresses to ensure that everything is working properly, and to assist the chairperson in monitoring people who want to speak. If the chairperson is in the room this involves keeping an eye on the Zoom gallery view and calling the chairperson's attention to anyone who wants to be acknowledged. If the chairperson is on Zoom it involves a similar monitoring of the room. As a facilitator, I prefer to sign in to Zoom with an additional muted device and monitor the Zoom sound with earbuds but this is not a fundamental requirement. It is possible for the Facilitator to also serve as Zoom Host.

Physical Layout

Every autonomous AA group will find the layout that best serves their purpose. My preference is for the layout we have developed in running the Birdsboro Group meeting.

- Internet connection is provided via cell phone hotspot contributed by a member whose cell plan includes unlimited data and hot spot capability. Should have alternate available.
    - o Alternatively, facility WiFi available
    - o Alternatively, group compensates member for internet access
- Zoom site is hosted by a contributing member as a service position using personal Zoom Pro site
    - o Alternatively, group acquires and pays for a Zoom Pro site
- Zoom connection via laptop computer provided by contributing member. Should have alternate available
    - o Alternatively, group purchases a laptop computer
- Main video screen to room is 15" laptop screen on Zoom Speaker View placed at the front center of the room
- "T" table projects into center of room.
    - o Webcam ($30) on extendable swing arm ($20) clamps to the corner of the table, connected to laptop via USB cable.
    - o Chairperson (or Facilitator if chairperson is on Zoom) sits at table at 90 degrees to room.
    - o Speaker's chair is position on opposite side of table, socially distanced, facing room
    - o Webcam is adjusted to face chairperson or speaker with 90 degree rotation of the swing arm. Chairperson (or Facilitator) is responsible for rotating swing arm as needed.
- Microphone with 10 foot range integral to webcam is active
- External speaker (prices vary, as needed to reach room) connected to laptop and active
    - o Alternatively, speakerphone ($90) connected to laptop by USB dongle centrally located at the end of the "T" table and active as loudspeaker and/or microphone.

In operation, the chairperson positions the webcam on the swing arm for a view of himself when he is talking, rotates the swing arm 90 degrees for a view of the speaker's chair when occupied, or 270 degrees for a view of the front row if the speaker prefers not to come forward. So far, we have found people very accepting of and positive about the speaker's chair.

Additional

I prefer to add

- A second monitor connected to the laptop by VGA or HMDI cable at the front of the room showing Zoom Gallery View.
- As Facilitator, my personal cell phone signed in to the Zoom meeting, muted with ear buds so it does not cause feedback. This allows me to monitor the Zoom sound, including from the room to be certain that the set up is correct and working.
    - o Once set up is confirmed, the cell phone can be set on a stand at the front of the room to project a camera view of the room to the Zoom participants - not necessary but it doesn't cost anything to do.

The Hybrid Meeting and Covid 19

As groups return to face-to-face meetings there are a number of concerns surrounding the Covid 19 virus and safety protocols. Many of these apply to any in-person gathering; a few are specific to hybrid meetings. First, two simple rules:

1. As a minimum, follow the requirements of the church or other meeting hall owner with regard to safety protocols
2. Follow your group conscience with regard to any additional health and safety protocols and practices.

Maintaining a safe meeting place will typically involve a set of pretty standard requirements:

- Wear masks
- Maintain social distancing including in seating
- No drinks or food provided
- Avoid personal contact – no handshakes, hugs, etc.
- Disinfect all surfaces after use
- Limit group size to specified maximum occupancy
- Etc.

This may look daunting at first but AA principles guide us. Most of this is easily accomplished if we all remember to do the right thing, with gentle reminder to anyone who forgets. The work required to set the meeting up in the proper safe configuration, disinfect and put away afterwards, etc. is service work, analogous to making and cleaning up after coffee, or emptying and cleaning ashtrays, both of which are no longer required.

What to do when person number 26 shows up, especially if it is a newcomer with desperate need? Cannot one of the 25 whose need is not so extreme yield his seat voluntarily? One of the advantages of the hybrid meeting is that anyone who cannot be accommodated in the room can retire to another location – outdoors, his car, etc. – and join the meeting on Zoom as an alternative.

Remember that sensitivities to Covid exposure vary from person to person. One of the key reasons for holding the in-person meeting as a hybrid is so that those who are more sensitive for any reason and are not comfortable with the protocols and practices of the group conscience can still participate from a safe location on Zoom.

Hybrid Specific Concerns

The easiest way to effect good video presentation from speakers in the room to Zoom participants is to have a speaker's chair placed centrally in the room positioned in front of the webcam and microphone and facing the in-person group. This raises the issues of multiple people using the same chair. Each group will have to determine its own practice with regard to this but there are a couple of possible approaches:

1. Provide wipes so each user disinfects the chair after use
2. Allow those who choose not to use the common chair to stand in front of the webcam in the central location. (Actually, standing while sharing may be useful in helping to limit sharing time to 5 minutes. This is a technique sometimes used in corporate meeting environments.)

3. Ask those who choose not to come forward to select seats towards the front of the room. The webcam can be rotated (by the chairperson or facilitator) to view the room, showing the person speaking, albeit not as clearly as if they were to come forward. If the webcam is not rotated, sound can still be shared without video.
   a. The speakerphones tested with a range of 20+ feet are generally able to pick up speech from throughout the room clearly.
   b. The webcam microphone tested with a nominal range of 10 feet was able to pick up speech from those sitting towards the front of the room.

List of Items Needed for Exemplary Hybrid Meeting Setup

1. Extension Cord $12.96

For example:

https://www.amazon.com/GE-Extension-Lighting-Insulated-36825/dp/B078NQ52VJ/ref=sr_1_10?dchild=1&keywords=Extension+cord&qid=1602789319&sr=8-10

2. Power Strip $10.99

For Example:

https://www.amazon.com/AmazonBasics-6-Outlet-Surge-Protector-Power/dp/B00TP1C1UC/ref=sxin_9?ascsubtag=amzn1.osa.9cc15ec8-a21a-4e07-b1ca-ba57f5ab9e1d.ATVPDKIKX0DER.en_US&creativeASIN=B00TP1C1UC&cv_ct_cx=power+strip&cv_ct_id=amzn1.osa.9cc15ec8-a21a-4e07-b1ca-ba57f5ab9e1d.ATVPDKIKX0DER.en_US&cv_ct_pg=search&cv_ct_wn=osp-single-source-gl-ranking&dchild=1&keywords=power+strip&linkCode=oas&pd_rd_i=B00TP1C1UC&pd_rd_r=bc014f2f-21ce-4f98-a6a0-c1c8e9bf565f&pd_rd_w=CeNCO&pd_rd_wg=9I72x&pf_rd_p=26c7e498-3189-4918-a321-ec25e32964ce&pf_rd_r=23DANXEKER790JDPNQJ9&qid=1602789715&sr=1-3-d9dc7690-f7e1-44eb-ad06-aebbef559a37&tag=scripps-spellingbee-20

3. Laptop Computer $252

For example:

https://www.amazon.com/Lenovo-S150-81VS0001US-A6-9220e-Bluetooth/dp/B081ZGN8JQ/ref=sr_1_3?crid=3V2VNLIV4X60G&dchild=1&keywords=laptop+computers+under+200+dollars&qid=1602789886&sprefix=laptop+computer%2Caps%2C162&sr=8-3

4. Speakerphone $89.99

Tested:

https://www.amazon.com/Bluetooth-Speakerphone-Microphone-Reduction-Algorithm/dp/B08DNTXYCT/ref=asc_df_B08DNTXYCT/?tag=hyprod-20&linkCode=df0&hvadid=459536823286&hvpos=&hvnetw=g&hvrand=4348509058286838072&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9007392&hvtargid=pla-942605552070&psc=1

5. Webcam $30.99

Many options available at this price range or lower

Tested:

https://www.amazon.com/Webcam-Microphone-Autofocus-Conferencing-Streaming/dp/B087LNF2TB/ref=sr_1_1_sspa?dchild=1&keywords=webcam+jelly+comb&qid=1602790485&s=electronics&sr=1-1-spons&psc=1&smid=A3CI8NX3RGQTFS&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyTlBDMTBSRDkxQlZHJmVuY3J5cHRlZElkPUEwMTE1NTczMjJJWkhaUEkxVVRNSSZlbmNyeXB0ZWRBZElkPUEwNjYzODQzUE42QVRIMzkyVjg4JndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==

6. Camera Stand

Tested but chintzy: $18.99

https://www.amazon.com/Webcam-Stand-Suspension-Built-Pipishell/dp/B081V35ZK5/ref=redir_mobile_desktop?ie=UTF8&aaxitk=I6RJvENEiBo.Fjii5tbqSg&hsa_cr_id=1865767680101&ref_=sbx_be_s_sparkle_mcd_asin_0

Tested, much better quality: $49.99

https://www.amazon.com/gp/product/B08747QB9P/ref=ppx_yo_dt_b_asin_title_o00_s00?ie=UTF8&psc=1

7. USB Hub $7.99
For example:

https://www.amazon.com/JIUCAIE-Individual-Switches-Splitter-Computer/dp/B08BYK29CS/ref=sr_1_2_sspa?dchild=1&keywords=usb+hub&qid=1602791364&sr=8-2-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEyUzg0MFhMMkUwUDImZW5jcnlwdGVkSWQ9QTAzNTI5MTE2UkJJSDVEWk5UN1YmZW5jcnlwdGVkQWRJZD1BMDA1NDk4MTFPVFBYSTJXR1JIMDMmd2lkZ2V0TmFtZT1zcF9hdGYmYWN0aW9uPWNsaWNrUmVkaXJlY3QmZG9Ob3RMb2dDbGljaz10cnVl

8. Video Monitor $169.99
For example:

https://www.amazon.com/Acer-EZ321Q-31-5-Monitor-White/dp/B07YGY3RLN/ref=sr_1_3?dchild=1&keywords=32%22+monitor&qid=1602791549&sr=8-3

9. HDMI Cable $12.99
For example:

https://www.amazon.com/Cable-iVANKY-Speed-18Gbps-Ethernet/dp/B07RKJKJGC/ref=sr_1_1_sspa?dchild=1&keywords=hdmi+cable&qid=1602791644&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUEzVkg1MUFCWUREWVVKJmVuY3J5cHRlZElkPUEwOTAyNDY3MkcwWURZUzFMMDVKUCZlbmNyeXB0ZWRBZElkPUEwMjY5NzU1MTE4OU02UjhVMzhTUCZ3aWRnZXROYW1lPXNwX2F0ZiZhY3Rpb249Y2xpY2tSZWRpcmVjdCZkb05vdExvZ0NsaWNrPXRydWU=

10. Earbuds $8.99
For example:

https://www.amazon.com/Tangle-Free-Ergonomic-Headphones-Compatible-More-Black/dp/B07S82CYLR/ref=sxin_10_ac_d_rm?ac_md=0-0-ZWFyYnVkcw%3D%3D-ac_d_rm&cv_ct_cx=earbuds&dchild=1&keywords=earbuds&pd_rd_i=B07S82CYLR&pd_rd_r=3fbdd6c1-7c3a-4184-8da2-c139f4730386&pd_rd_w=MaTGN&pd_rd_wg=a7lrh&pf_rd_p=fe2d64f9-a0d4-4c62-b195-55e240bc5b7e&pf_rd_r=6KV2K36E9QCTPAYKPVCE&psc=1&qid=1602791770&sr=1-1-12d4272d-8adb-4121-8624-135149aa9081

Notes:

Items 1&2: Get whatever extension cord and power outlet suits your room and setup. St Mark's needs about a 15 foot cord, St. Paul's can get by with about 6. Frankly, I have been doing all of the development and demonstration using cord and power strip that I had on hand in my basement at no cost.

Item 3: The laptop computer is by far the most expensive item on this list. I have done all of the development and demonstration using a personal laptop that I brought from home. So far, in every instance I have seen some group member has been able and willing to use his personal laptop to run the hybrid meeting thus saving this expense. For this, you really need more than one group member who is able and willing to bring his laptop and use it in case one or the other is not available at some time. Generally, I would expect each of these to be trained as facilitator for the meeting so they would be able to set the equipment up as well. Remember, this too is service work!

Item 4: If your group has the $90, the speakerphone is generally the preferred setup.

The alternative is to use a set of external speakers coupled with the internal microphone built in to the webcam. The downside to the this is that the range on the webcam mic is about 10 feet. If anyone tries speaking from the back of the room it will not be heard clearly on Zoom. This has been a source of complaints. The obvious solution is not let people speak from the back of the room or, if it's something brief like announcing an anniversary, have the chairperson repeat it into the microphone. It depends on what is most important in your meeting format. There is also then the need for an external speaker suitable for the room. This might cost $60 or so. I did the original development work using a set of speakers that my son picked up at a pawn shop in 2015 for about $10. It's the sort of thing that someone may have unused and donatable in the basement. If I were trying to save the $90 I would definitely look for a freebie on this. Using an external speaker with 1/8" stereo plug instead on USB eliminates the need for Item 7 also.

Meanwhile, there are two downsides to the speakerphone:

1. If you are connecting through the USB dongle or Bluetooth, the speakerphone battery needs to be recharged so you will need some procedure or practice to be sure this is happening. Alternatively, you can connect the speakerphone to the laptop with USB cable during the meeting, which should provide power.
2. If you are using the dongle, you have to keep track of it. It needs to stay with the speakerphone and not go home in the USB port of someone's laptop! Having the webcam and speakerphone dongle plugged in to the USB hub, which unplugs from the computer and stays with the webcam helps solve this problem.

Item 6: $20 does the job but $50 really is nicer. You just have to choose.

Item 8: The second video monitor is optional depending upon your requirements but I think it adds greatly to quality of the integration between the Room and Zoom so I recommend it highly. This is the second most expensive item on the list. So far, we have found two cases where a group member had an unused monitor or digital TV in the basement which they were willing to contribute. You only need the cable (Item 9) if you have the monitor. Monitor may come with cable so check before buying Item 9.