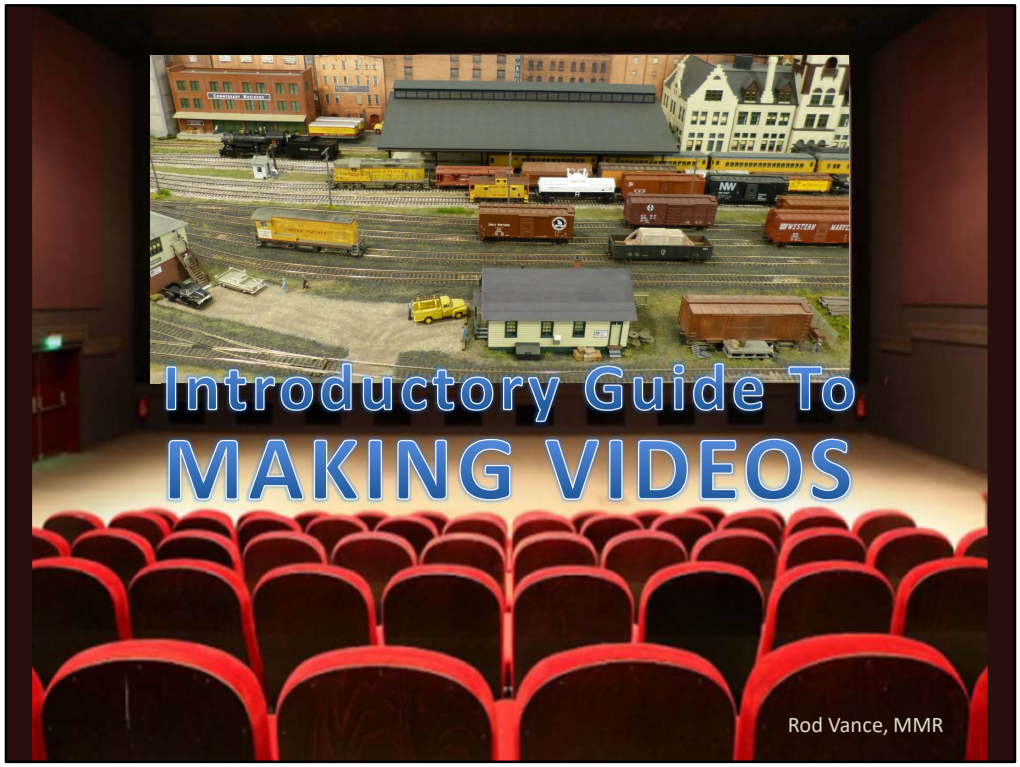


Making videos of your model railroad layout or associated activities, such as model railroad operations, is a great way to share your hobby with others. Earlier this year, a member of the James River Division suggested a clinic dealing with making videos, and I decided to take up the challenge. In the process, I learned a whole lot that I think will make it easier and cheaper for you to begin making videos of your own model railroad layout or other endeavors, if you so desire.

Introduction for the Novice Videographer . . .

- **Choosing a Video Editing Program**
  - **What is a Video Editor?**
  - **Free software**
  - **"Premium" software**
- **Stages of Creating a Video**
  - **Create**
  - **Compose**
  - **Share**

I titled this clinic as an Introductory Guide to Making Videos rather than a "how to" simply because there are so many different types of cameras and software used to make videos that there's no way I could address all of them. There is no one correct way to make a video.

I'm going to first talk about software that you can use to create and edit a video. And then we'll look at what I call the 3 Stages of Creating a Video.

Rod's Credentials, or Lack Thereof . . .

- **Videography Education**
  - *School of Hard Knocks…*
- **Family Vacations – International Travel**
  - *1st Video: 2007*
  - *7 Videos to Date, ~10 Hours Total*
- **Model Railroad Layout Videos**
  - *1st Video: 2015*
  - *26 Videos to Date, ~5.6 Hours Total*
- **YouTube Channel (Vigment13)**
  - *Created: 2015*
  - *Views: 251,700+*
  - *Subscribers: 1,800+*

Just a quick slide or two on my credentials, or lack thereof. My videography education is simply self-taught. My wife and I enjoy taking trips overseas and I typically take 2,000 to 3,000 photos on our trips. In 2007, I learned from a fellow tourist how to take my photos and put them into a video – what I call a video slide show. I've done that for 7 of our international trips, totaling slightly more than 10 hours of video.

In 2015, I decided to apply this experience to my model railroading efforts and began making videos of my layout and posting them on YouTube as a way to share my model railroading experiences with others. To date, I've made 26 videos of my layout and 2 videos of other layouts. My YouTube videos have been viewed more than 251,000 times and I have more than 1,800 individuals monitoring my channel for new videos.

Rod's Credentials, or Lack Thereof . . .

- **Do I know what I'm doing?**
  - ***Probably not . . .***
- **Do I like what I'm doing?**
  - ***Yes.***

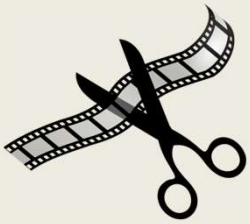
<u>Clinic Goal</u>: If you have access to a digital camera and a computer, you should be able to create a video at no cost! Honest!

So given that information, does that mean that I know what I'm doing? Not necessarily. But I have a lot of fun and I like the results of my video production process. So with that background in mind, I've created this clinic with the goal that you see here. After sitting through this clinic, if you have access to a digital camera and a computer – noting that most Smart Phones meet both criteria – I believe that you should be able to create a video at no cost. With that introduction, let's get on with the clinic.

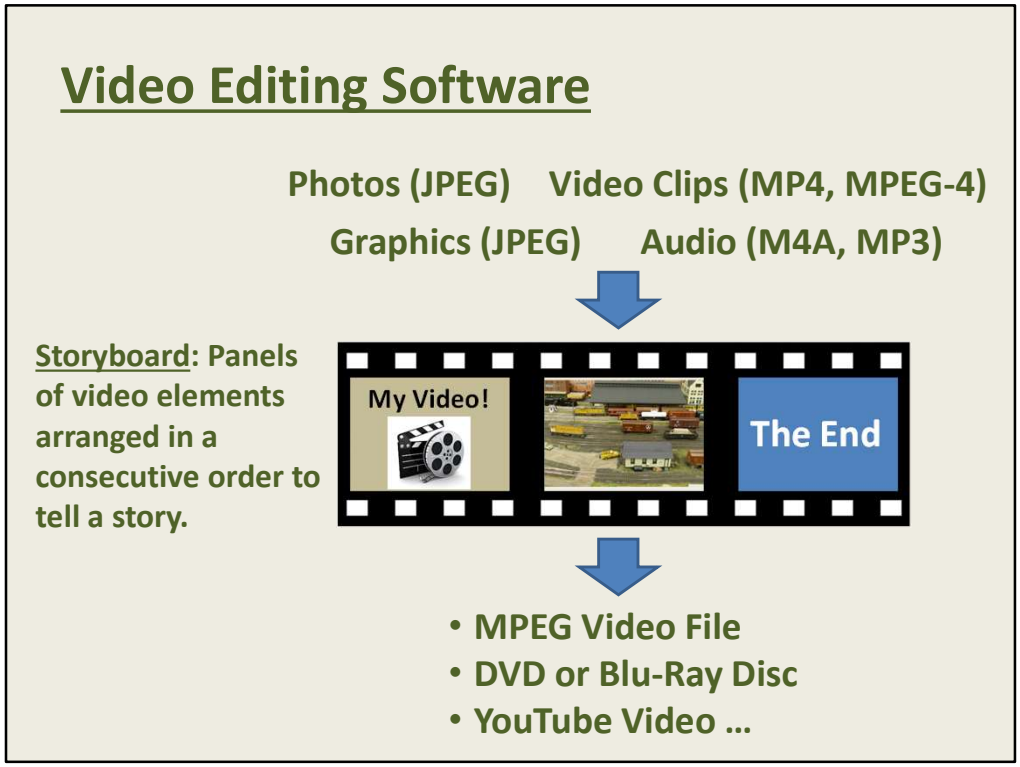
What is a Video Editing Program?

Software used to create a video

- *Build a project library from your inputs*
- *Create and edit a storyboard*
- *Output a video file*



In order to create a video, you need to have a video editing program, which is a software application that helps you build a library of the things you're going to use in your video, enables you to create and edit a video using what's called a storyboard, and then outputs your video to some sort of medium so you and others can view the video.



Hopefully this diagram will do a better job of describing the video editing software. First, you have inputs, typically photos, video clips, maybe graphics such track diagrams, and maybe audio clips such as background music or narrations. On this slide, some of the common file types for each of these elements are shown in parentheses, but these are by no means the only file types you'll encounter. We'll talk more about that later.

These elements are input to the video editing software. Most video editors use a storyboard to create a video. That is, a series of panels arranged in a consecutive order to tell a story. You simply drop your inputs into these panels in the order that you want them to appear in your video.

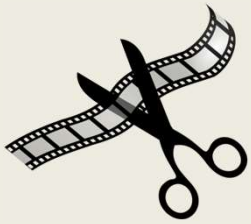
Finally, the video editing software allows you to output your video to some sort of medium so you can watch your video. It might be a video file saved on your computer, perhaps burned to a DVD or Blu-Ray disc, or maybe uploaded directly to YouTube or some other online repository, depending on the capabilities of your video editor.

Choose a Video Editing Program

Software already on your PC?

- Video Editor (Windows 10)
- Movie Maker (Pre-Windows 10)
- iMovie (macOS, iOS, iPadOS)
- Kdenlive (Linux OS)

✓ *Good, basic capabilities*
✓ *Perfect for the novice*
✓ *Free!*



Okay, now that we have some sort of idea what video editing software does, it's time to look at what software is available. The good news is that you may already have a video editing program on your computer. If you have Windows 10, you should have a program called Video Editor already loaded, since it comes with the operating system. I've found that on some Windows 10 systems, the Video Editor might be hidden inside the Microsoft Photo program. For computers running an earlier version of Windows, the software app is called Movie Maker.

If you're running an Apple computer, the included app is called iMovie. If this program isn't already loaded on your computer, you can download it from the Apple Store at no charge.

These programs provide you with good, basic capabilities to create and edit a video … and they're available at no charge. Such a deal!

Choose a Video Editing Program

Free PC Software!!!

- Lightworks (Windows, macOS)
- Hitfilm Express (Windows, macOS)
- Shotcut (Windows, macOS)
- Movie Maker Online (in browser)

Source: Techradar.com

Query: ***Free Video Editing Software***

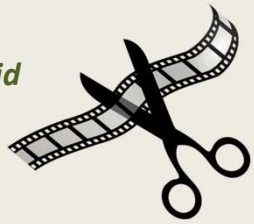
Here's a list of 4 additional video editing applications that I found recommended online that you might also want to consider. I don't have any experience with these other than reading about them when I did my Internet query. On many of these slides, I've noted the query that you can use to find the relevant information.

Choose a Video Editing Program

Android Apps – Free!

- FilmoraGo
- VivaVideo
- Quik
- KineMaster
- Funimate
- Magisto
- WeVideo
- …and more!

Query: *Best Free Video Editing Apps for Android*



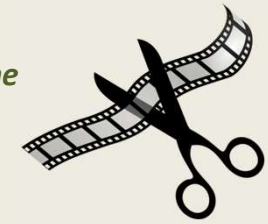
If you have an Android device, there are lots of video editing apps available to you at no cost. Simply query the Internet for free video editing apps for Android devices. Note that many of these free applications mean that you'll be subjected to advertisements. On some of them, you can pay to avoid the advertisements, if you so desire.

Choose a Video Editing Program

iPhone and iPad Apps – Free!

- iMovie
- Splice
- Videorama
- Quik
- Adobe Premier Clip
- Magisto
- …and more!

Query: *Best Free Video Editing Apps for iPhone*



For iPhone and iPad users, there are also a number of free apps available. Again, simply query the Internet for free video editing apps for iPhone. Many of these free apps will also subject you to advertisements, just like the Android apps.

Choose a Video Editing Program

"Premium" PC Software

- Adobe Premier Pro CC ($19.99/month)
- Cyberlink Power Director ($99.99)
- Corel Video Studio Ultimate ($69.99)
- Pinnacle Studio Ultimate ($99.99)
- Adobe Premiere Elements ($99.99)

Source: PCMag.com (2021 ranking)

Query: ***Best Video Editing Software***

If you want more features and capabilities in your video editing software, there are lots of applications you can purchase. This slide shows 5 applications that PC Magazine recommended. These prices are for current versions of these applications. You might be able to find older versions of the software available at significantly lower costs.

Choose a Video Editing Program

Why "Premium" PC Software?

- *Larger number of tracks to edit videos*
- *Additional editing features (transitions, sound mixer, audio editing, motion tracking, 360-degree VR support, etc.)*
- *Support for more output options (e.g., 4K)*
- *…and much more*

As I said, these video editors give you more features and capabilities over the free software applications. You'll be able to do more with your videos such as create special effects and have more control over what's happening in your videos. If you want to incorporate some of the high-end capabilities, such as virtual reality support or outputting 4K video, you'll need to invest in a premium video editor.

Choose a Video Editing Program

Recommendation to the Novice…

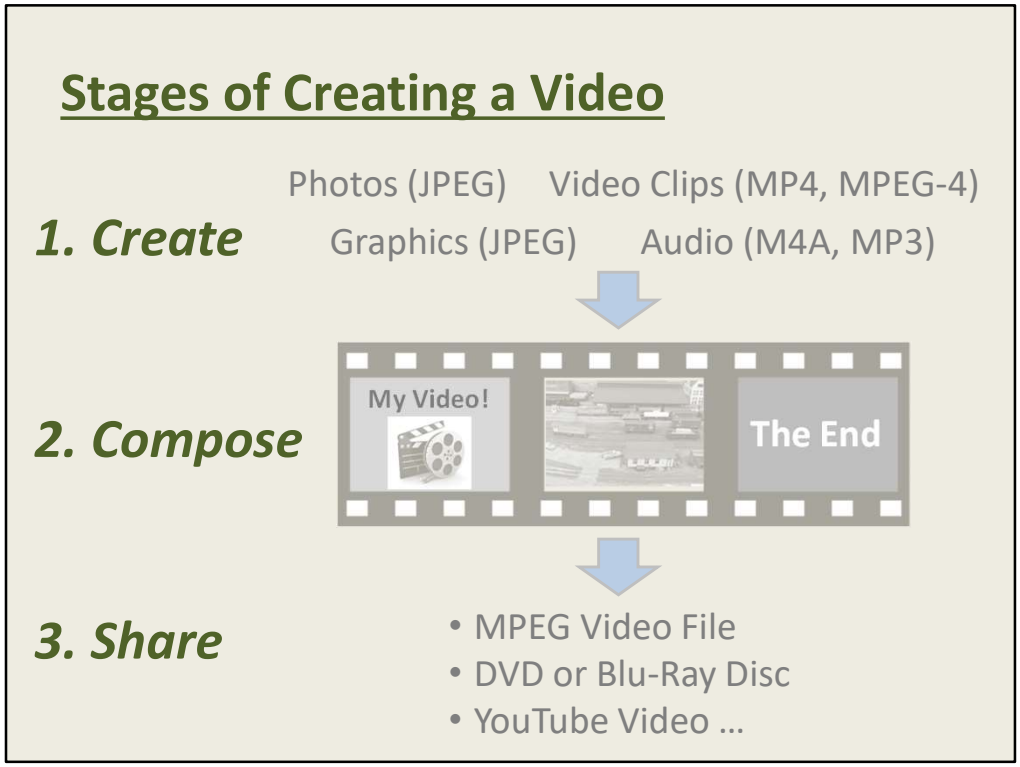
- ✓ ***Take one of the "Free" video editing programs for a test drive and see how you like it.***
- ✓ ***If you're hooked, consider one of the "Premium" packages if you want the additional capabilities.***

Having looked at the different types of software available, here's my recommendation. I suggest you pick one of the free software applications and take it for a test drive. Create a short video and see what you think. If you find yourself getting hooked on creating videos but you want more features and capabilities, then you can look at spending money on one of the premium packages. We'll talk about this more later.

Stages of Creating a Video

1. Create
2. Compose
3. Share

Now, let's look at how we actually create a video. I like to look at the process as 3 stages: Create, Compose, and Share.



If we overlay those 3 Stages onto the video editing software graphic that we saw earlier, you can see how they relate. You create the photos, video clips and other inputs that you're going to use in your video, you compose your video using the video editing software, and you share your video using the output capabilities of the video editor and perhaps other software.

Stage 1: Create

Generate the graphics and capture the photos and video clips desired for the intended video.

Now let's look at each of the 3 Stages, starting with Create. In this stage, we're going to create all the inputs that we want to use in our video, including photos, video clips, graphics, voice recordings, music, and whatever else we desire.

Paramount to your efforts to create a video masterpiece is access to a digital camera of some sort. And there are lots of sorts to choose from. From a high-end, expensive digital SLR, to a lower-cost point-and-shoot camera, or perhaps something in between, like what I use. Many of these cameras used to take photographs, also have a movie capability that produces acceptable results. Perhaps you have a dedicated digital movie camera, or maybe even one of those ultra-small spy cameras that can ride along with your scale trains. And then, of course, is the ubiquitous smart phone, which comes with photo and video capabilities. The key is to have one or more digital cameras that can take the photos and videos you desire.

I'm not going to give you a lot of photography tips in this clinic. There are plenty of YouTube videos that do that. But I will give you two tips appropriate for the Create stage. First, keep your camera steady as much as possible. While free-handed shots work at times, if you've ever seen a YouTube video where the individual is really bouncing around filming something, you know how sea-sick you can become. You might choose a full-sized tripod that raises your camera up maybe 5-feet or more, or a mini-tripod that stands only about 3 or 4-inches tall. You can even buy a device for about $10 that attaches to a tripod and holds your smart phone.

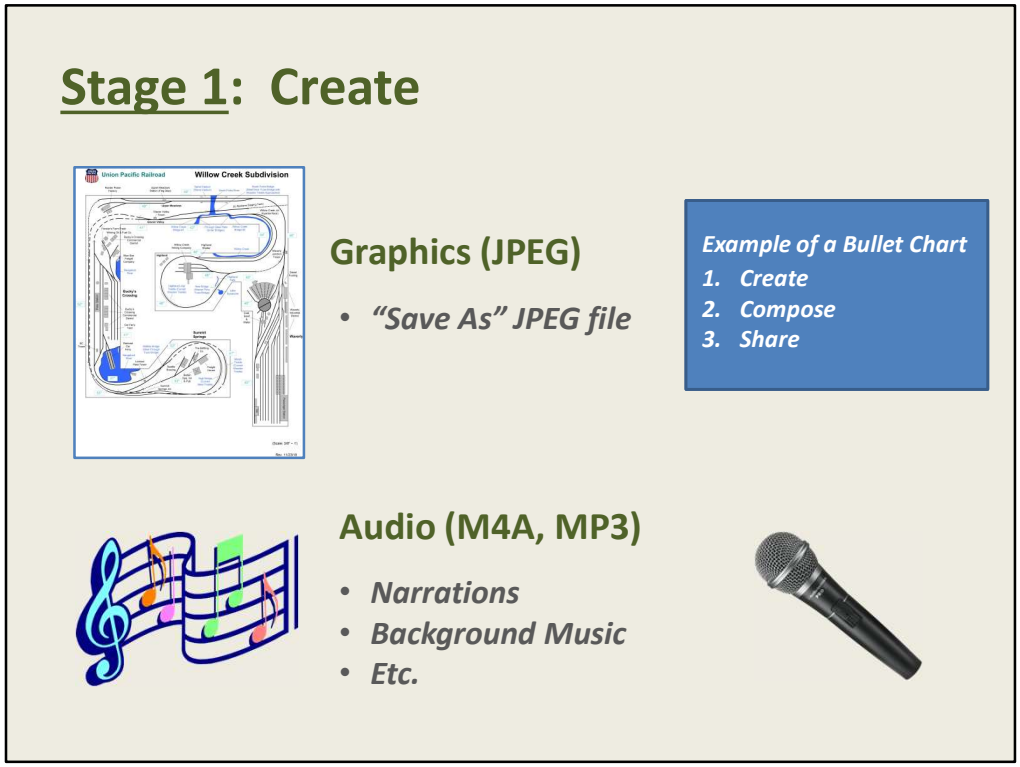
Stage 1: Create

Photos (JPEG) Video Clips (MP4, MPEG-4)

- ***Aspect Ratio: 16:9 or 4:3 ?***

4:3 ratio photo projected on a 16:9 ratio screen = Black Bars

The second tip deals with aspect ratios. I won't go into detail, but most photographs are shot at what we call a 4:3 aspect ratio – that's the ratio of the image's width to its height. Our wide screen TVs today, and hence most videos, typically use a 16:9 aspect ratio. The point is that if you project a typical photo on a wide-screen device like a TV, you most likely get black bars on the sides of the photo. Things look much better if you match the aspect ratio of your photos with that of your video clips by adjusting the settings in your camera. All is not lost if you don't' do this. You can always live with the black bars, or perhaps your video editing software can help get rid of the bars. Not a big deal, but just something to think about.

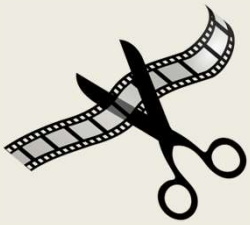


If you want to create graphics – perhaps a track diagram, an elevation chart, or just a simple bullet chart – you can use just about any software package you desire. The key is to save your graphic in a format that your video editor accepts, such as a JPEG file, which is the most common format. When you click on the "Save As" option in your graphics program, it should show you the different formats in which you can save your file.

The same goes for audio, whether background music, narrations, or whatever. You want to save your audio file in a format acceptable to your video editor, such as an MP3 file.

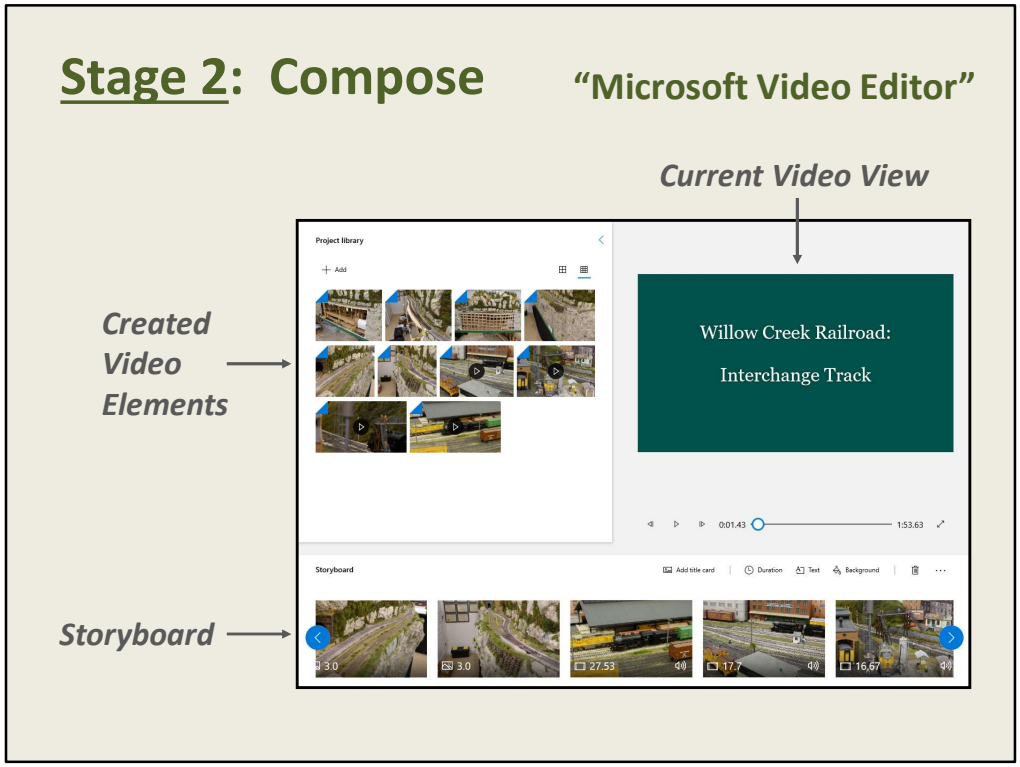
If you don't save your work in an acceptable file format, all is probably not lost. There are no-cost utilities available for your PC that will convert most file formats. Just query the Internet for the types of files you want to convert.

Stage 2: Compose

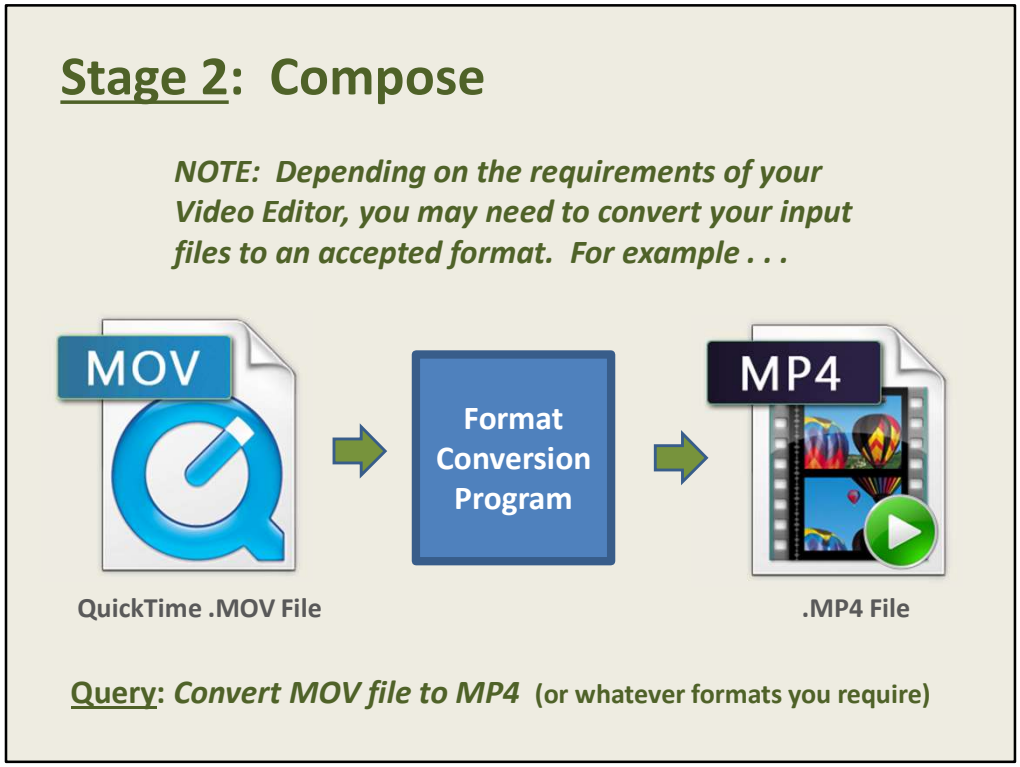


Combine the created graphics, photos, and video clips into a storyboard and edit the resulting video as desired.

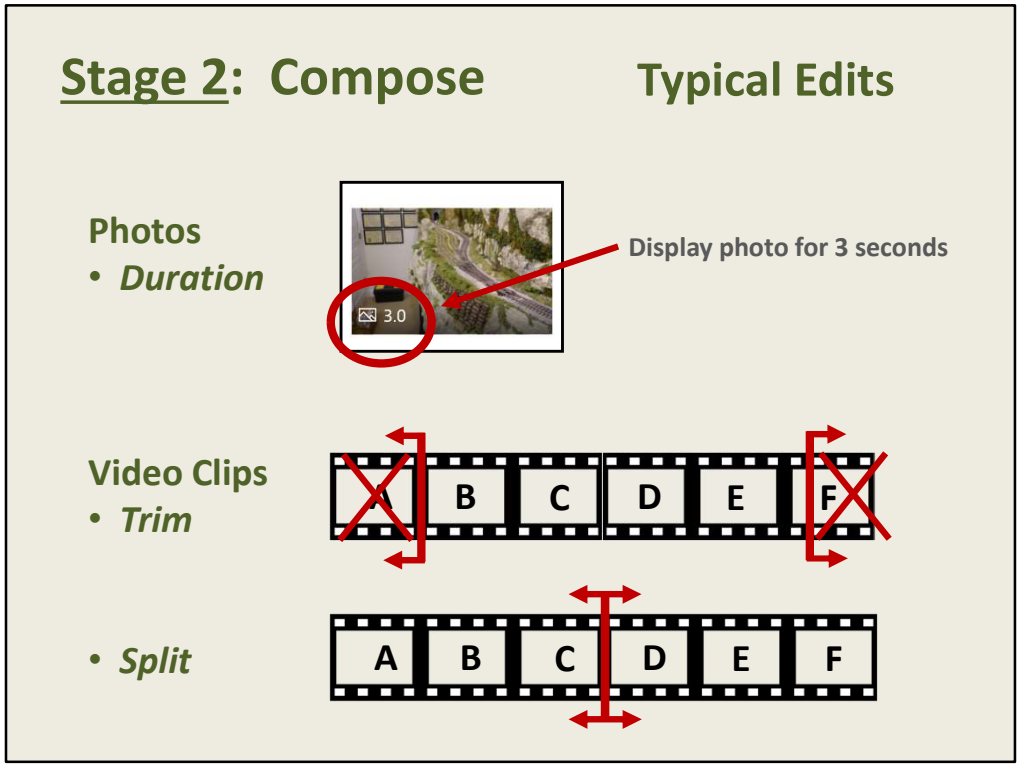
Okay. You've created the inputs to your video masterpiece. The Compose stage is where you get to actually put things together and adjust them to create your video.



Here's a screen shot of the no-cost Microsoft Video Editor program that shows the key elements of the Compose stage. In the upper left corner of the screen, you see the various photos, video clips, and other items that you've identified as possible inputs to your video. At the bottom of the screen is the actual storyboard. As I said before, it's a series of panels running left to right, in which you place your inputs in the order that you desire for your video. One panel might be a photograph, and the next panel might be a video clip. In the upper right corner of the screen, you see an image that shows what your video actually looks like. This will make more sense when I demonstrate the actual creation of a short video.



I mentioned this before, but if you have an input file that you want to use in your video editor, but the editor doesn't accept that file's format, you may be able to use utility software to convert the file. For example, let's say you've created a video clip using your iPhone and that clip was saved as a QuickTime movie file. Later you find that your video editor wants an MPEG file format and won't accept the QuickTime format. On the Internet, you'll find there are a number of no-cost utility programs that will convert the QuickTime file into an MPEG file. Again, simply query the Internet for the types of files you want to convert. By the way, for this specific example, the export feature of the QuickTime Viewer program will allow you to save an MOV file as an MP4 MPEG file.



In your video editing software, you'll find several ways to adjust your inputs. For example, when you display a photo in your video, you can tell the editor how long you want that photo to appear on screen. In the top example, I've told the editor that I want the photo to appear for 3 seconds. This is just one of the types of edits your software may allow you to do on photos.

There will be other edits available for your video clips. The most common edits are called trim and split. It's very common to have part of the beginning or ending of your video clip that you want to delete. Maybe you shot a video clip of an oncoming train, but the clip runs for several seconds before the train actually appears on camera. If you want to delete the portion of the video clip before the train appears, you simply identify where that happens in your video clip, and then tell the editor to trim off that part of the clip. You can do the same for the end of your video clip, if needed.

You may also decide that you don't want to use all of a video clip, or maybe you want to cut a clip apart and use one section now and another section later in your video. You simply tell the video editor where you want to split the video clip, and the software takes care of the rest. Of course, your editor may have lots of other editing capabilities. These are just a couple examples of the most common types of edits.

One final note about editing, which I've found to be true with any video editors I've played with. When you edit your inputs in the video editor, you aren't making any changes to the original files. The editor will leave them untouched, so don't be afraid of messing up your

original photos, video clips, or other files. Even deleting one of your inputs in the video editor won't delete the original file from your PC or smart phone.

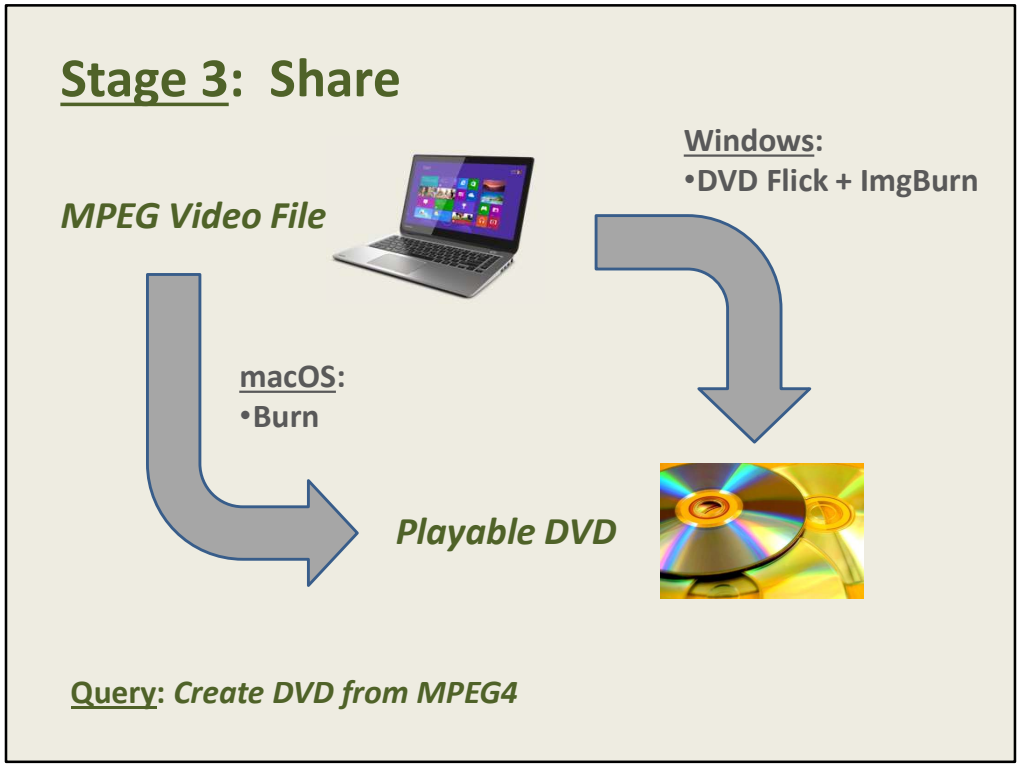
Stage 3: Share

Save the composed video to the medium desired for the intended audience/purpose.

Okay. You've used the video editor to create your video masterpiece. Now you want to save your video so you can enjoy it and hopefully share it with others. This brings us to Stage 3 – Share.

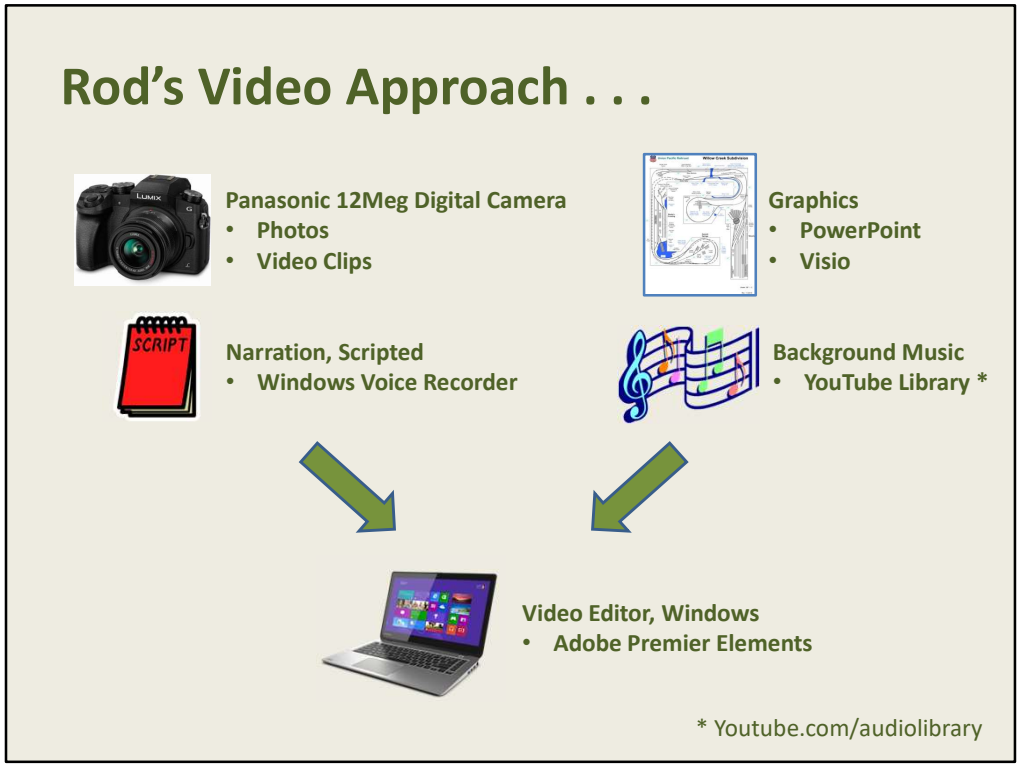
By the way, if you get to any of these stages and decide that you want to make changes to your video, you can always go back and add additional photos or video clips to your inputs, for example, or do some more editing of your video in the video editor. You can go forward and backward in the video creation process as much as you want to create the video you desire.

You'll need to check your video editor to see what type of output it supports. A no-cost editor, like the Microsoft Video Editor, may only have one output format available to you, such as creating an MPEG file on your PC. Your video editor may also have the capability to burn a DVD or Blu-Ray disc, or directly upload your video to an online repository, such as YouTube. Again, check your video editor to determine what options you have.



As in the Compose stage, if your video editor only produces an MPEG file on your PC, for example, but you want to burn it to a DVD so you can play it in your DVD player and watch your video on your wide-screen TV, there are no-cost utilities available to do the necessary conversion and burn the DVD for you. Again, just query the Internet for what you want to do.

By the way, if you have a Smart TV with a USB port, you can simply copy your MPEG video file to a Flash Drive, and then insert the Flash Drive into your TV's USB port. Your TV should automatically recognize the drive and guide you to your video. Select the video, and you'll be able to instantly view your movie on your wide-screen TV.



Using the video creation stages we just talked about, here's the actual process I use. The videos I create are typically 5 to almost 30 minutes in length. I have a Panasonic Lumix 12 Mega-pixel camera that takes both photos and videos. I typically use PowerPoint for bullet charts and Visio for track diagrams to create any graphics that I want to use in my video. I record the narrative for my video separately from my video clips. I never narrate as I shoot my video clips since that drastically limits my ability to edit my clips and narrative recordings. I simply use the voice recording utility in Windows 10 to record my narratives. Finally, I choose background music from the online YouTube library of royalty-free music. I find that low-volume background music is a nice touch in videos, especially when I'm not narrating a scene.

I combine all of these inputs using Adobe Premier Elements, my choice of video editors. I've been using the Premier Elements software for more than 15 years and it does what I want to do. I output my video to an MPEG file and typically burn a DVD. If I want to upload my video to YouTube, I usually do that outside of the Premier Elements software.

That's just the way I do things. If you've ever watched any of Cam Green's videos about how he's building his layout, you'll know that he shoots his video using a hand-held smart phone and he narrates the video at the same time. For his short videos, this process works well for him and produces an enjoyable video. You'll have to decide what process works best for your videos.

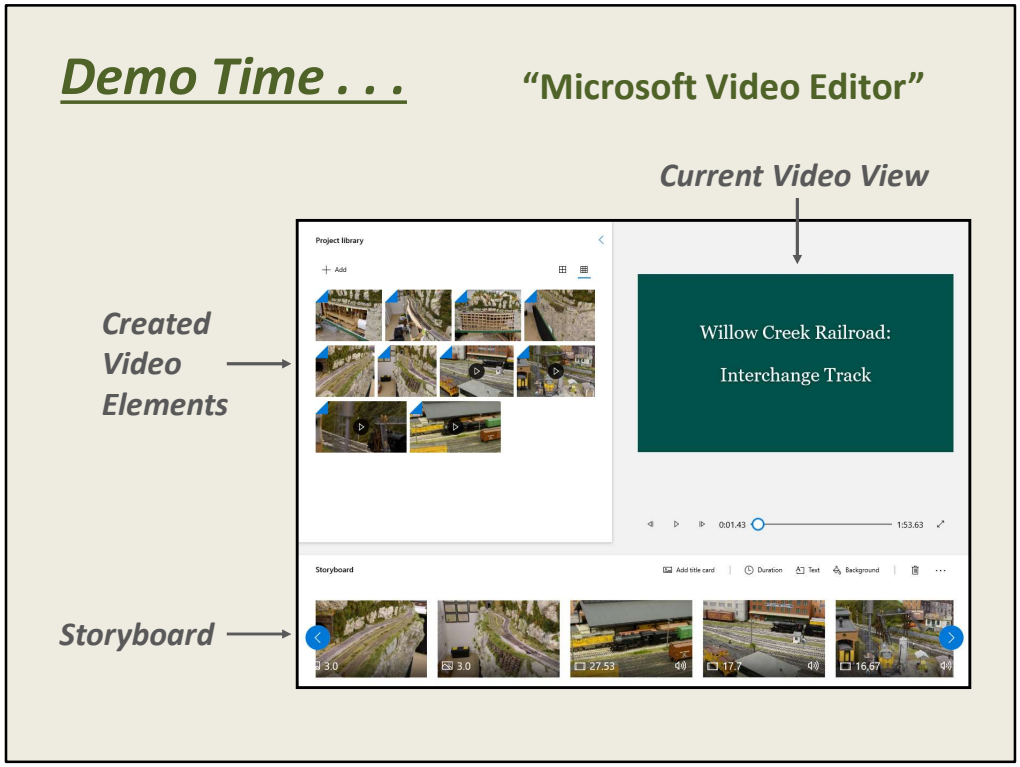
Suggested Game Plan

- ✓ *Take a few photos and/or video clips of your layout or model railroading efforts*
- ✓ *Access one of the free video editors*
- ✓ *Compose your first video, playing with the editing capabilities of the video editor*

So if you're interested in creating a video, here's my suggested game plan:

Grab your camera and take a few photos and/or video clips.
Choose one of the no-cost video editing programs, input your photos and video clips, and create your first video. Play with the various editing capabilities of your video editor to see what happens.

As long as you have a digital camera and a PC, or smart phone if you choose to do your work there, you should be able to create your first video at no cost other than some of your time. If you don't like the results, throw it out and start over, or re-edit it. And if you do like the results and find that you enjoy the video creation process, perhaps you're on the road to creating your own YouTube channel.



In just a second, I'm going to give you a short demonstration using the Microsoft Video Editor program in Windows 10 to create a short video, just to show you how easy it is.

But before I do that, are there any questions?