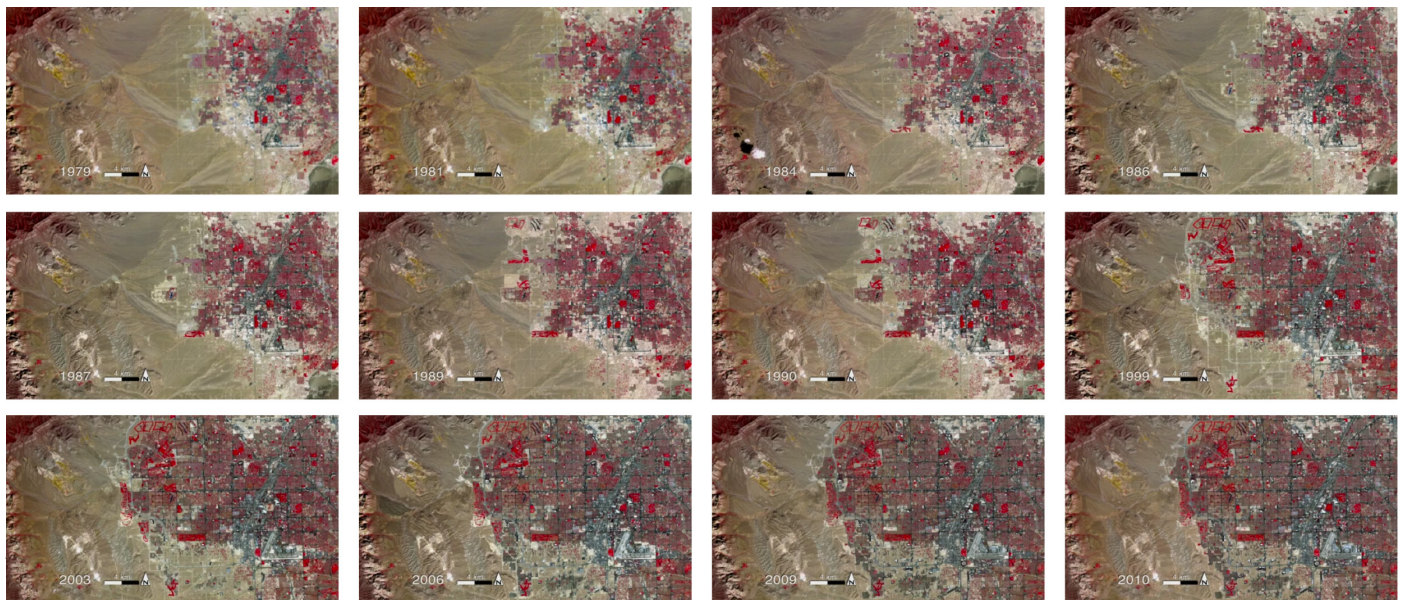# Create a time-lapse video

When it comes to learning, it helps to witness things first hand. But some things happen so slowly or change over time we hardly notice them at all. For example, the growth of a tree, a blooming flower, the sprawling development of a city, or the gradual melting and reforming of polar ice. It's not until we capture these events over time that we can speed them up and see the change occur in a way that's meaningful to us. One way to help visualize these changes is to use time-lapse photography or video.

This document shows how to use Adobe Premiere Pro to create a short time-lapse video from a series of still images captured over time (Figure 1).

Creating a time-lapse movie from a set of still images

To create a time-lapse movie, your digital camera should be in a fixed location and mounted on a tripod. Make sure the shot will not become obstructed as the scene changes over time. The idea is to shoot a series of still images at specific time intervals. You can then string the images together to compress a long event into a short video in which the action occurs more rapidly.

Some digital cameras can be set to take a picture at a preset interval, such as one image every minute. For manual time-lapse shooting, it is best to use a timer or stopwatch to guide you when to shoot your next photo. A more frequent interval and greater number of images produces a smoother looking finished video, but can take more effort to capture the images when shooting manually.

The interval you choose depends on the duration of the event you're trying to capture. For example, a chess game played over a few hours might require taking a new image ever few minutes and then compressing the event into just a few seconds. A flower that takes several days to grow may include a new image every day and result in a one minute video.

In this example, we use a series of images taken by satellite to show the outward expansion around the city of Las Vegas over a thirty year time span.

Importing images to your Adobe Premiere Pro project

Once you've shot your sequence of images for the time-lapse, you need to import them into a new Adobe Premiere project. Before you do this, make sure your images are numbered sequentially. This makes adding them to a Premiere sequence much easier.

To import images in Premiere:

1. Start Adobe Premiere Pro and create a new project.

2. Create a new sequence that matches the dimensions of your still images.

   Note: The images used in this example are 1280 x 720. The sequence preset used is HDV 720p24.

   The Adobe Premiere workspace appears with the new sequence open in the Timelines panel (Figure 2).

3. Choose File > Import to open the Import dialog box.

4. Open the folder that contains your series of images.

5. Select the first file in the series. Hold down Shift and select the last image in the sequence.

6. With the entire series of images selected, click Open to add the images to the project.

   The images appear in the Project panel (Figure 3).

   Note: With so many images in the Project panel, you can keep your project organized by creating a new project bin. To do this, click the New Bin button at the bottom of the Project panel. Enter a descriptive name for the bin. Then drag your images into the bin.
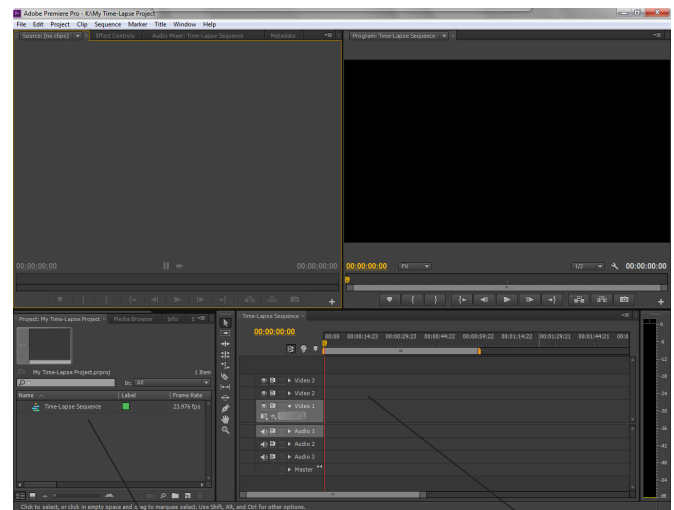
Project panel   Timelines panel
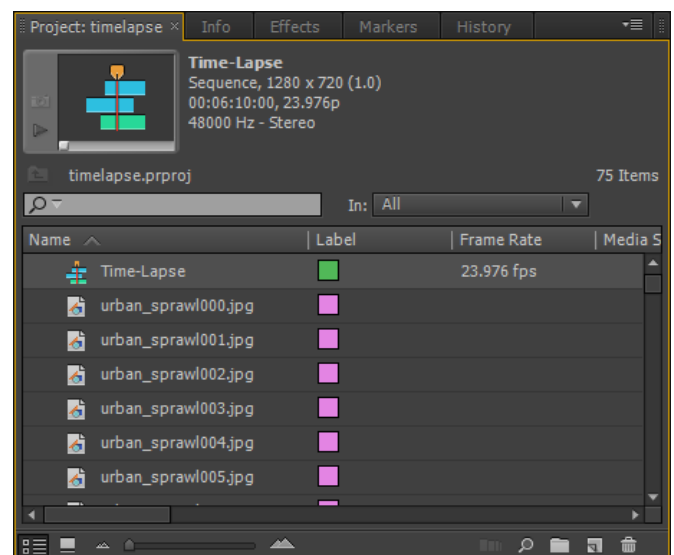
Figure 1 *Adobe Premiere workspace*

Figure 2 *Project panel*

Adding images to a Premiere sequence

You can drag each image into the Premiere sequence timeline. If your images are numbered sequentially, you can select them all in the Project panel and then drag them into the timeline as a group. The Premiere sequence should be the same dimensions as your source images. If it's not, Premiere will ask if you want to modify the sequence to match your images. If prompted, choose yes to match the sequence settings to your images.

To add images to a sequence:

1. In the Project panel, select the entire sequence of images for the time-lapse.

2. Drag the selection onto the Video 1 track in the sequence timeline (Figure 34).

   The images appear in sequential order as separate clips in the timeline. By default, each image displays for five seconds. To speed up and smooth out the time-lapse, you may want to reduce the duration of each clip.

3. Choose Edit > Select All to select every clip in the timeline. With every clip selected, you can change their durations all at once.

4. Choose Clip > Speed/Duration to open the Clip Speed/Duration dialog box (Figure 5).

5. Click in the Duration field and change the duration of the clips. To play each clip for less than one second, change the seconds to zero and enter a value for the number of frames. For example, if the sequence is set to play at 24 frames per second, changing the frames value to 12 will display each clip for one-half second.

6. Select Ripple Edit, Shifting Trailing Clips. This will close the gaps created by shortening the clips.

7. Click OK.

   The duration of each clip changes and the duration of the overall sequence is shorter (assuming you reduced the duration of your clips).

8. In the Program Monitor, position the Current Time Indicator (CTI) at the beginning of the sequence and click the Play button to preview the time-lapse video (Figure 6).

   In this example, we've compressed thirty years of change into a thirty second video time-lapse.
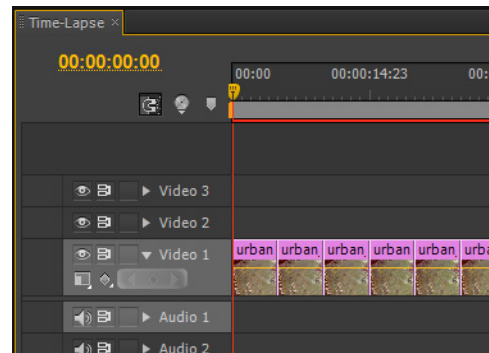

Figure 4 Sequence timeline
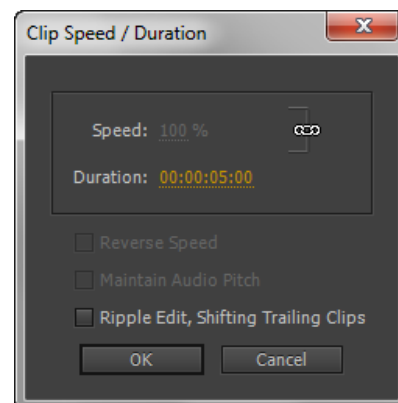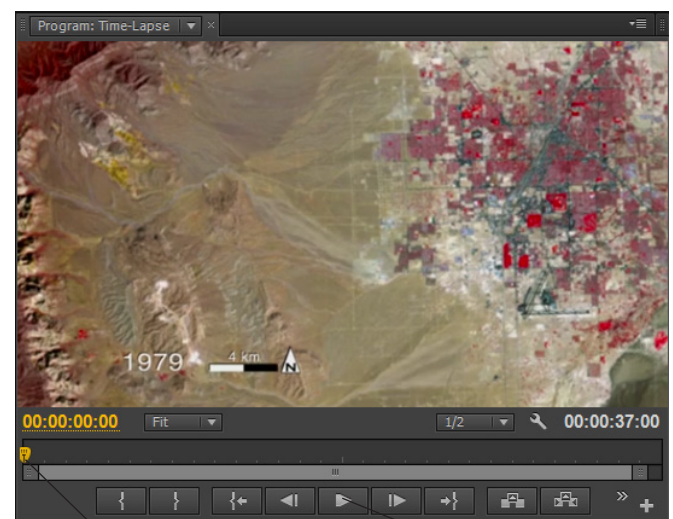

Figure 5 Clip Speed/Duration dialog box

CTI   Play button

Figure 6 Program Monitor

Exporting the time-lapse sequence as a motion picture

Once you're happy with the timing of your time-lapse, you can export the finished sequence as a new video file.

To export the time-lapse sequence as a motion picture:

1. Choose File > Save to save the project.

2. Choose Sequence > Render Entire Work Area.

    Premiere renders the sequence. This can take several minutes, depending on the size and complexity of the movie.

3. In the Project panel, click to select the sequence you want to export.

    Note: If you don't select a sequence in the Project panel, Premiere exports the current sequence you have open in the Timelines panel.

4. Choose File > Export > Media to open the Export Settings dialog box (Figure 7).

5. Open the Format menu, and select a format for the video, such as H.264 (Figure 8).

6. Open the Preset menu, and select a preset that matches the dimensions of your movie and the preferred device on which most people will view the video.

    Note: In this example, we output the file using the H.264 format and the preset used was Apple TV, iPad, iPhone 4 and newer - 720p 23.976.

7. Click the Output Name link to open the Save As dialog box. Enter a file name and navigate to the location where you want to save the file.

8. Click Save.

9. Click Export to create the video.

    Premiere encodes the video. This may take several minutes. When the encoding is done, the video appears in the location you selected.
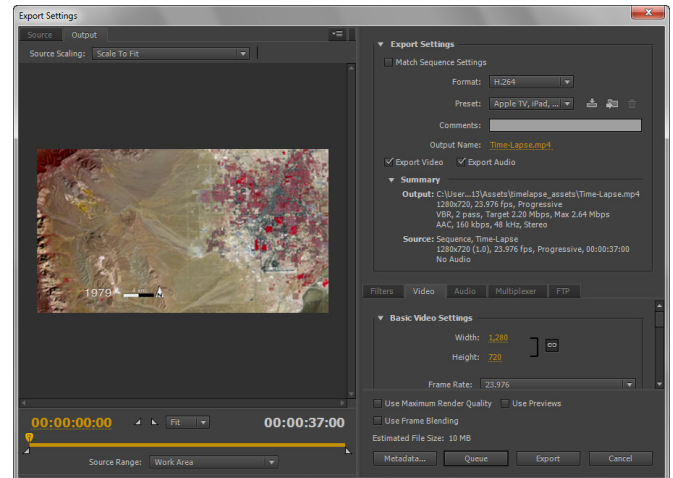

Figure 7 *Export Settings dialog box*

Format	Common Use
AVCHD	A high-definition (HD) format for home theaters. It's not for sharing due to the large file sizes.
AVI	These are large and not great for sharing, but can be used in projects under development (being edited). Most non-linear editors and players will import and/or play AVI files.
FLV	Flash video (FLV) is common for sharing on the web. Virtually everyone (99%) has the Adobe Flash player installed in their browser. YouTube, Yahoo! Video, and many other sites support FLV.
H.264	The recommended codec for publishing web video. When you choose this format Premiere creates an MPEG4 file using the H.264 codec.
MPEG4 (MP4)	A small file that looks great. It's the video format used by many cameras and is recommended for uploading to the web. YouTube recommends that users upload using MP4 format. YouTube then converts files to FLV or MP4 for distribution.
WMV	Windows Media Video is used for both streaming and downloading content via the Internet.
Quick-Time (MOV)	MOV is an extremely common sharing format, especially among Mac users. It is considered one of the best looking file formats. While MOV files do look great, the files sizes are extremely big.

Figure 8 *Common export formats*

For more information

Find teaching materials for using Adobe software in your classroom on the Adobe Education Exchange: http://edex.adobe.com/.