

## Long Exposure Case Study #1

# VEHICLES IN MOTION

by Kent DuFault

A mainstay of the long exposure genre is the 'vehicle in motion' photograph.

It's become so popular that photographers are looking for alternative ways to make their image stand out from the rest of the competition.

The image below is an excellent example of this type of mutated long exposure photograph.

As a new photographer or a photographer that is new to long exposure photography, you might look at this image and ask, "How is a shot like this possible?"

The short answer is that it isn't possible... not without the aid of layered post-production editing or the use of graduated neutral density filters. The contrast range, especially with a long exposure, would be impossible for a camera to record.

This observation is one of the many reasons that case studies are fun, informative, and a great learning tool. By putting on our detective caps, we are better at being able to learn how to create our own unique images (such as the one below).





One way to analyze a photograph is to carefully observe along the lines of contrast. This photograph can be divided into two distinct areas that are segregated by a line of contrast.

If a photographer composites multiple images without paying particular care to these lines of contrast, you will often find telltale artifacts, such as those that are visible by the purple arrow, marked in the image above.



Do you see the 'ghosting' that has occurred along the line of contrast? On one side of the purple line, the ghosting is bright red. On the other side of the purple line, that same ghosting is now just off-white. This is indicative of one image being 'pasted into' a selection on the other image.

I believe that this photograph was created using three images of the same scene. All three photos used in the combination were likely long exposures.





The first image was created for the best lighting and exposure on the foreground forest areas. This exposure would have rendered the sky and distant background areas as overexposed light tones. On this exposure, the road areas were lightened slightly using an adjustment brush or a similar spot editing tool. That's why the roadway pops out from the much darker surrounding landscape.

The second frame in the combination would have been exposed for the area in yellow (as outlined in the image above). For this shot, a graduated filter was used to balance out the contrast between the sky and the mountainous regions. Even so, it appears that the mountainous areas (within the purple triangle) were also lightened using a brush tool, as they are weak in tone and color in comparison to the hue and saturation of the sky.

The third frame would have been taken when the sky and landscape were very dark.

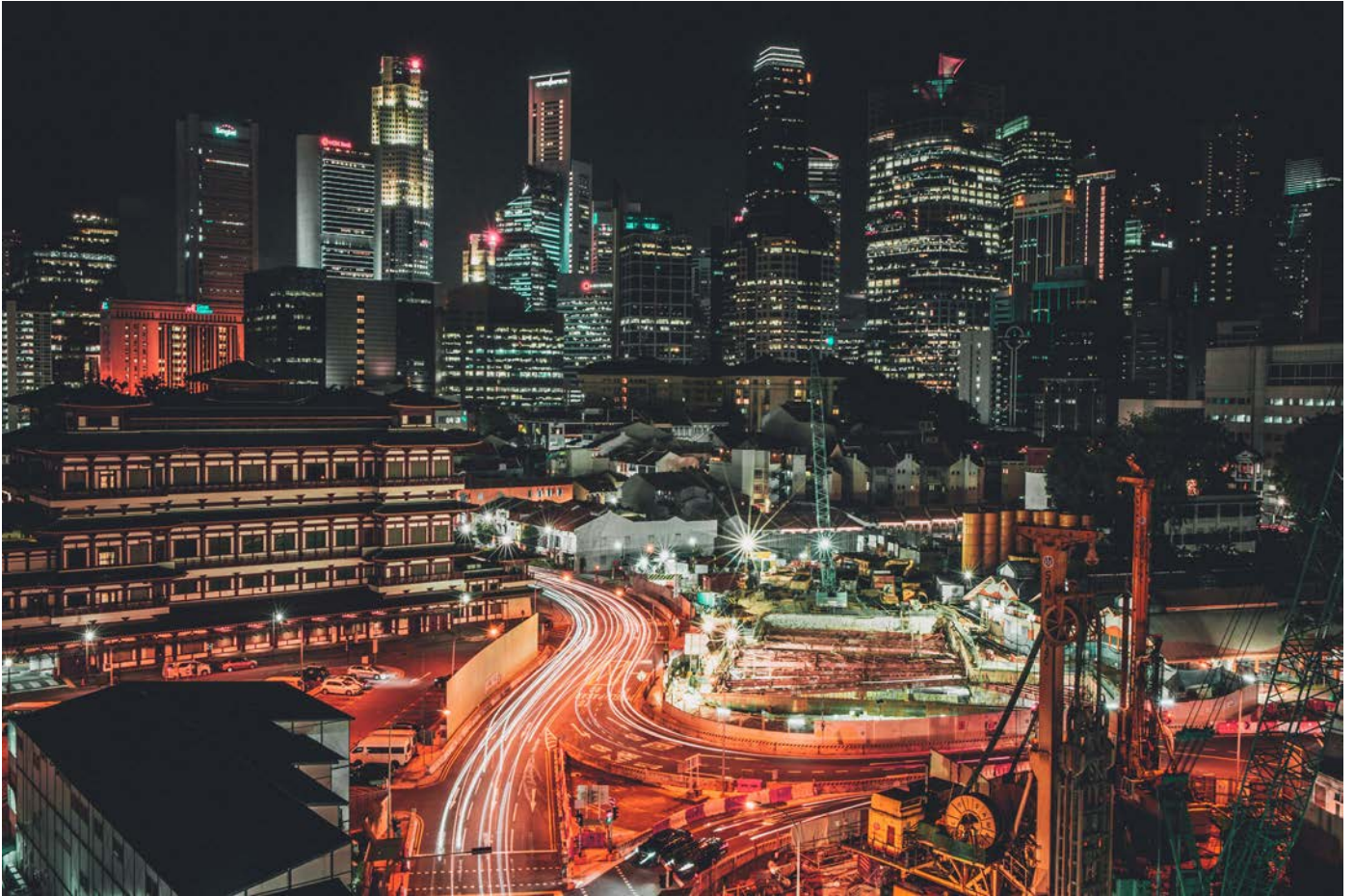
This would have been a long exposure to create light trails from the moving vehicles. Depending upon how dark it was, the light trails may also have been from several different frames that were exposed.

The light trails were added onto the roads using masking in a post-production program with layering, such as Photoshop.

The background and sky areas were then pasted into the frame.

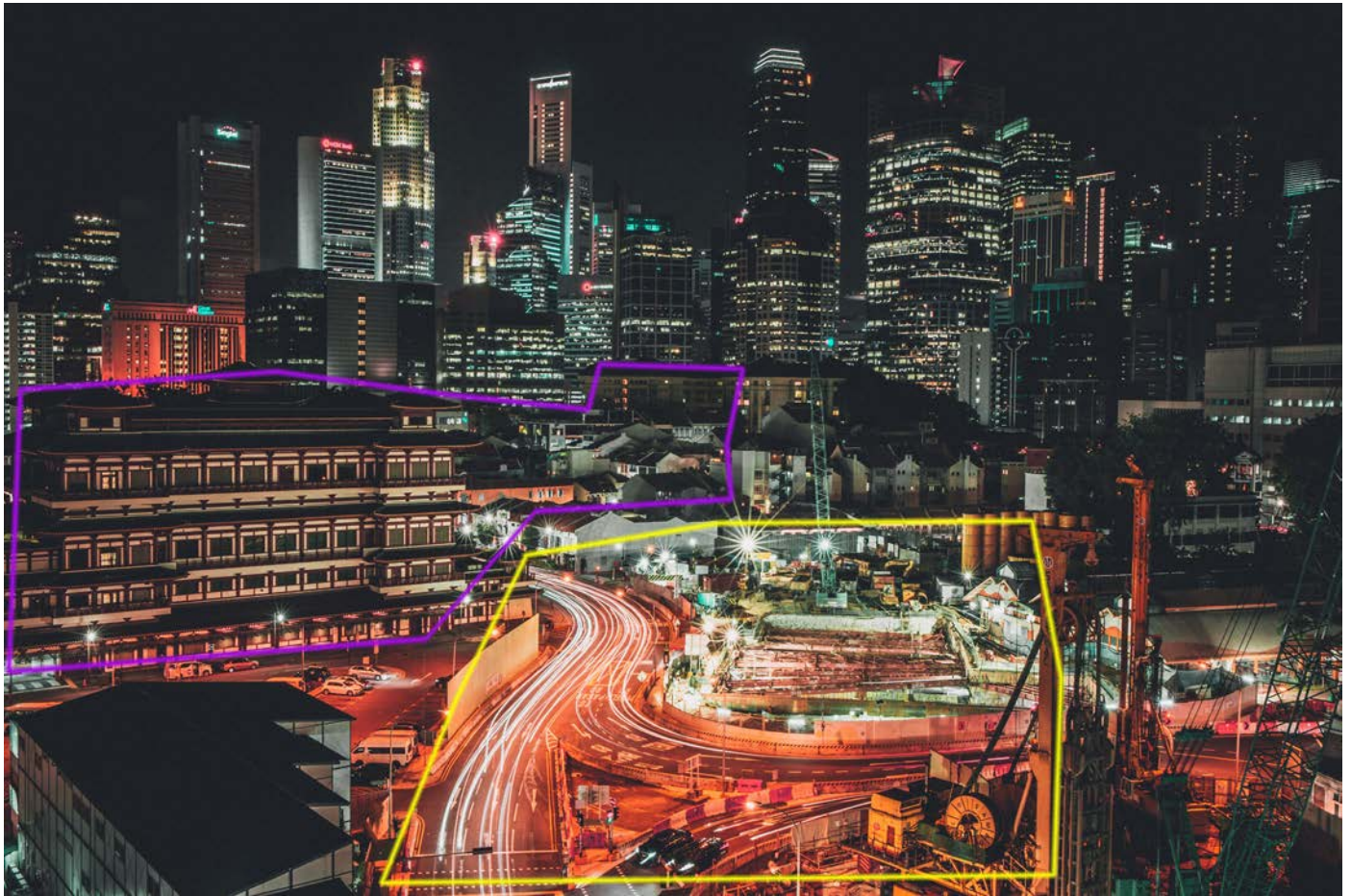
Once all of the elements were combined, there was likely some tweaking that went on to balance out exposure, color balance, and saturation levels.

The end result is a pretty spectacular photograph! (Despite some minor flaws.)



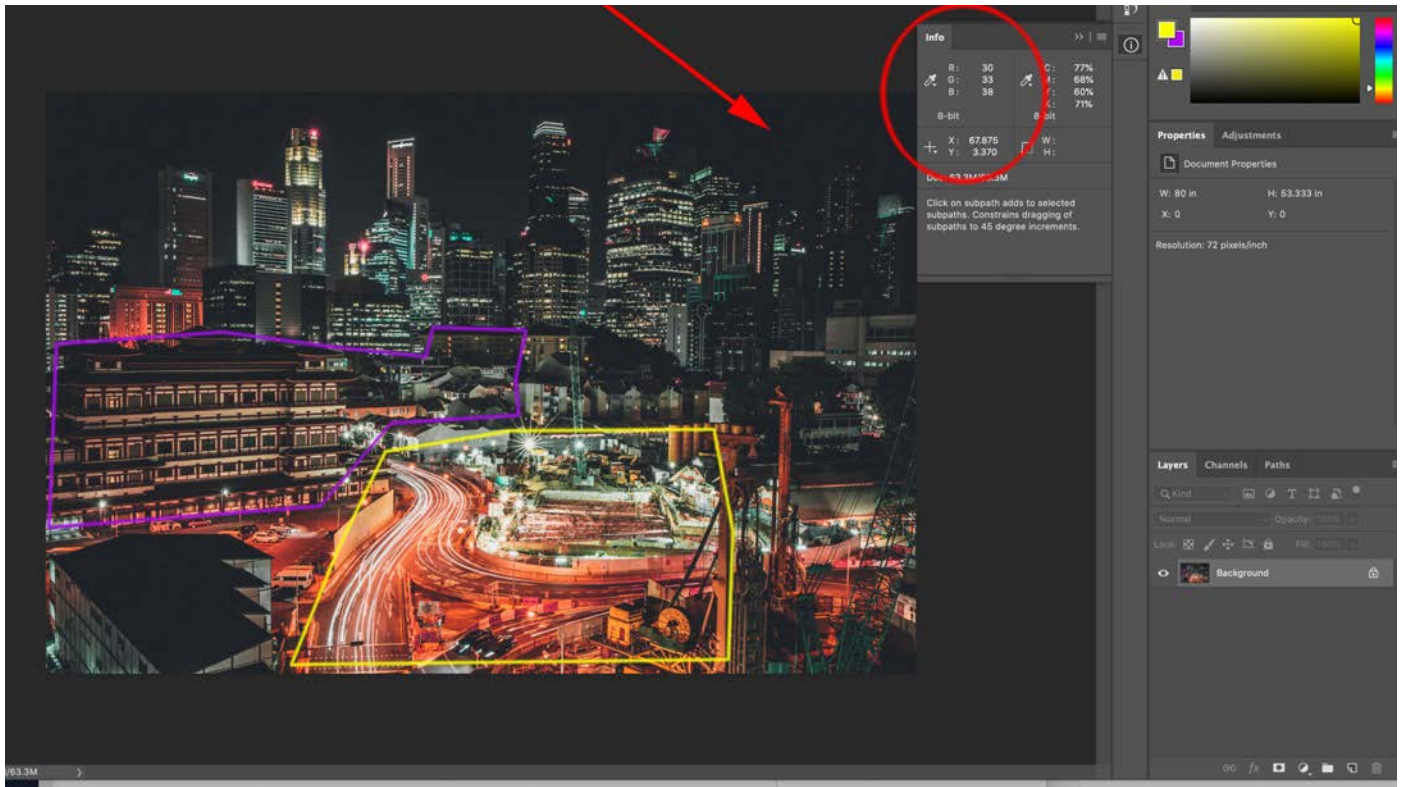
In comparison, the image above appears to be from one single long exposure. How can I tell this? When profiling (doing your own case study analysis) on long-exposure photographs, pay special attention to contrast and brightness levels.





The area in the yellow box contains the brightest highlights. That area is right on the edge of becoming overexposed and thus lacking detail.

The photographer set their exposure in a manner to preserve detail in the areas within the purple box. This is what caused the slight overexposure in the highlighted area (yellow box).



Another telltale sign that this was a single exposure is the compression of tone. Look at the area where the red arrow is pointing. This is a deep black area. In a normally exposed photograph, a deep black area would read around

8 to 12 on the RGB histogram scale. However, in this shot, notice what the area is reading: 30,22,28. This indicates that the photographer was squeezing the contrast range by raising the black point.



This image is also an example of a single frame, long exposure, with minor or no manipulation. This shot could have easily been created on film.

In this long exposure, all the lighting was present at the point of the picture being created.

Was the red light natural to the location, or did the photographer create it?

I'm guessing the photographer created it.

The exposure probably went as follows.

- 1) The camera was set up on a tripod, and the shutter was locked open. (At this point, the long exposure begins.)
- 2) The area was completely dark except for the illumination of the two lights in the upper left corner of the frame.
- 3) The photographer popped an electronic flash that was covered with a red gel.

- 4) A car was then directed to slowly drive through the frame with the headlights on.

Take notice of a couple of things...

- You can just barely see the car in a couple of places along the light trail. This would indicate that the car was moving quite slowly.
- The light path is mostly white light, which suggests that the vehicle was moving from left to right versus the right to left. Why do we see a red trail in the lower right corner of the frame? At that point, the camera could see the taillights of the car.

**Critical Thought:** When using the extended exposure technique with moving vehicles... The traveling speed of the cars will play a massive role in how it is recorded onto your frame. If the vehicles are traveling very fast, you will need many cars to pass through the frame to get a light trail registered.





How is this shot possible (see above)? You can create this in one of two ways.

- 1) The camera inside the car is locked down on a tripod, and the car is sitting still, while traffic moves past the non-moving camera car.
- 2) One frame of the interior of the vehicle is created. A second frame of the light trails is created. Finally, the light trails are pasted

into a selection of the windows and mirrors of the car in post-production.

I think this photograph was created using technique number two.

Why? The lighting was very low intensity, and the interior image of the car is very sharp. Even the slightest movement created by passing traffic could have blurred the picture slightly.



What happened with the light trails in the image above? Why are they cut off within the scene?

1. The vehicles started and stopped during the exposure.

2. Also, the exposure began and ended while the cars were still moving through the frame.





Based upon our discussion throughout this case study, do you believe that this photograph (refer to image above) was created from a single frame or multiple frames combined?



## Your Challenge

---

Create three different 'vehicle in motion', long exposure photographs. For your first try, find a road that has an exciting composition not only in how it moves through the scene but also with the surrounding elements. Plan your time of day. This will be a single shot. No blending in post-production allowed. Your goals are to attain a proper exposure, create an interesting composition in a single shot, and use a vehicle in motion blur combined with a long exposure timeframe. For your second try, plan two shots that you will blend in post-production. Use the examples and guidelines in this case study to help you. For your third challenge, create the scene in which the vehicle in motion will occur. Think of the images on page 8 and page 10. Make the placement of the long exposure car motion integral to your creative idea.

## Evaluation

---

For your first try, did you have areas of your image that were sharp? Did you have difficulty determining proper exposure? If so, why? For your second try, did you combine at least 2 separate scenes without leaving telltale artifacts? If you're not sure, go back and review your image at 200%. Slowly scroll across the entire shot. Did you spot anything that should be corrected? For your third try, did your use of long exposure light trails, along a road, make your composition enjoyable? Did you use a start and stop technique? Did you come up with some of your own ideas on how to add visual interest?