

## How to create big signs with your printer (“mosaicking”).



Here are instructions for creating signs of any size using nothing but free software, a regular laser or inkjet printer, regular printer paper, and optionally paste easily made from flour, and a paintbrush to apply it.

### Overview

The “Poster” print option in Adobe Acrobat Reader (free software) is used to divide your image into multiple pages that can be placed next to each other to form a mosaic. “Print to pdf” from the software you use to view or create your sign, then use Acrobat to print that pdf as a mosaic to an actual printer.

## Materials

### Tape or paste?

If your sign board can be covered by just two to four sheets of paper, you might just use clear packing tape along all four edges of each sheet hold them to the sign board and each other. In that case, you don't need paste or brushes.

For larger signs, you'll more likely want to use paste so that all sheets will stay well attached to the board without puffing up or tearing and so you don't have to use up a lot of tape.

### Paste

Paste made from flour, also known as "wheat paste", "flour glue" or "paper mache paste" is a surprisingly effective adhesive. I think there's nothing more effective, cheaper, or healthier for this purpose.

To make enough flour paste for a typical big sign, you'll need about ¼ cup of flour. It is mixed 1 part flour to 4 parts water. Any kind of flour can be used, with white being marginally preferable.

### Brushes

Any material bristle can be used. A wider brush (2 - 4 inches) is preferable to save time.

If possible, procure a second paint brush to be kept dry and used to coax out bubbles and creases that might be trapped as the pages are laid. A short-bristled "chip brush" is most ideal for this.

### Paper

Any paper that your printer can handle will work. Heavier weight i.e. 30 lb is preferable to economy paper, but this is not critical. Larger size (i.e. Legal 8.5 x 14) may save a little time and have fewer seams compared to Letter 8.5 x 11.

### Sign board

I prefer to use broken down delivery boxes, but tape and wheat paste will work with any material including coroplast / plastic.

### Sign post

Consider attaching the sign board to a long sign post (a staple gun is most convenient for this) whose base can be rested on the ground as shown in the above photo. This can greatly reduce fatigue and it will raise your message above crowds and cartops to be more visible to the public. I use "1 x 2" wood that is typically sold in 8 foot lengths at hardware stores. I find that the entire length fits inside my hatchback with the hatch and widows closed when one end is rested on the dashboard.

### "Print" to pdf

Open up your sign's image or graphic in whatever software you use to view or create it. Any application that has a print function can be used.

If possible, compose, crop or stretch the image so that its aspect ratio (height : width) is about the same as that of your sign board.

Select *Print*.

In the Print dialog:

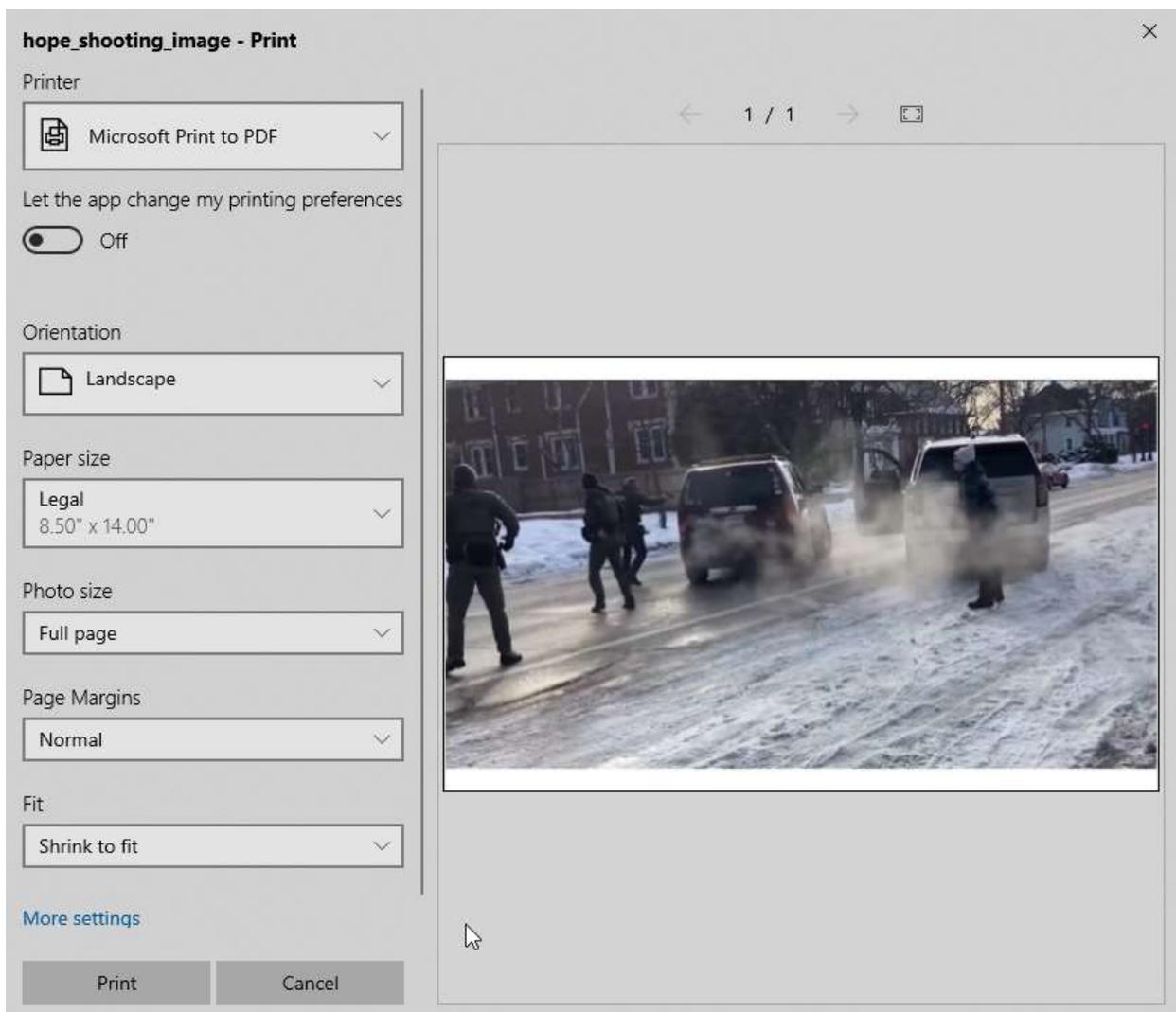
Printer: select “**Print to PDF**” instead of a regular printer.

Orientation: set to **Landscape** if the image is wider than tall, **Portrait** otherwise.

Paper size: Select paper with dimensions whose aspect ratio is closest to that of your image. This is NOT the physical size of the paper that the mosaic will be printed on.

Fit: Select “**Shrink to fit**” or “**Scale to fit**”

Other settings have no effect.



Press Print. Use the dialog to save the file where you can easily find it.

## Use Adobe Acrobat Reader to print the .pdf

If Adobe Acrobat is not already installed on your computer, you can download it for free from [here](#).

Open the .pdf file that you just saved.



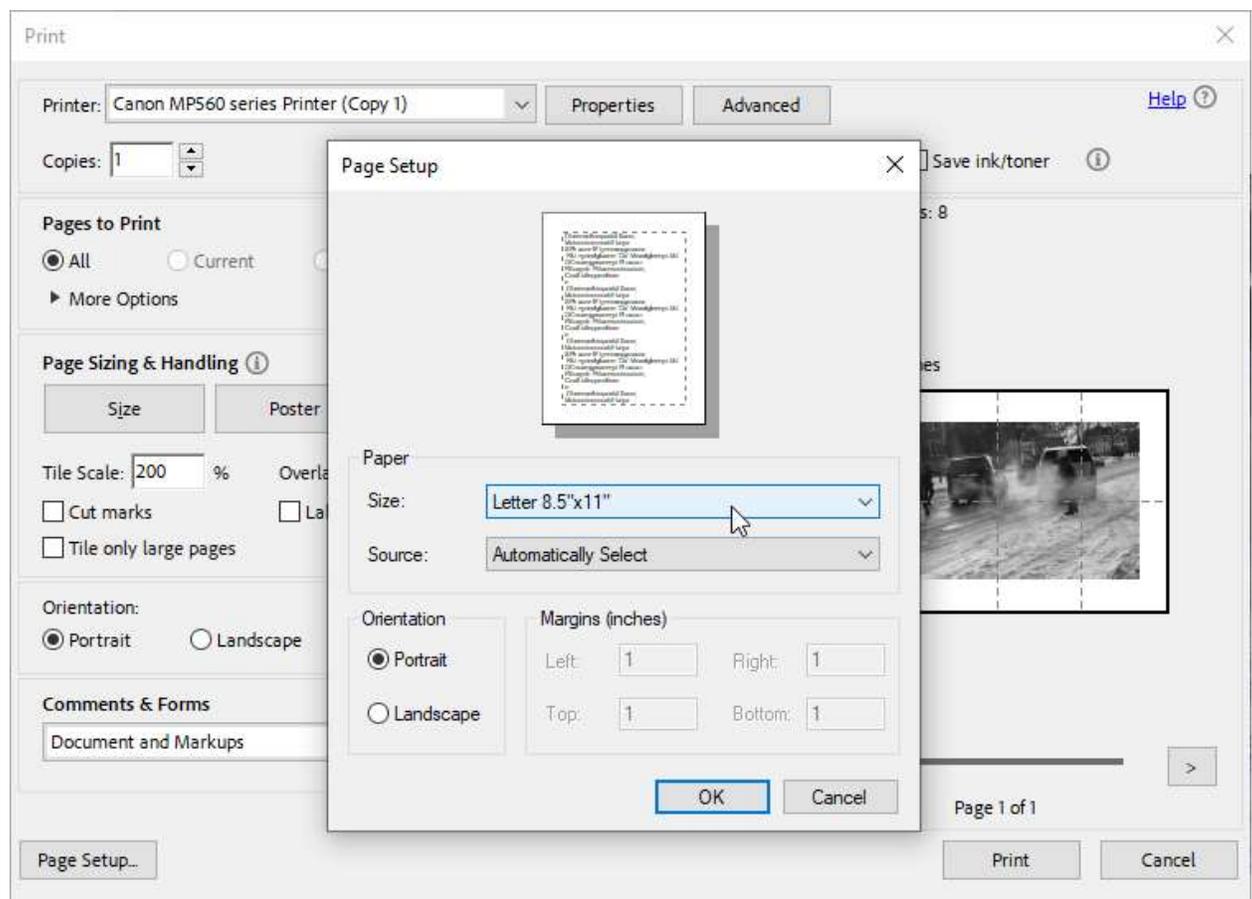
Press the Print button at top of window.

In the Print dialog:

Printer: Select the printer to be used.

Press Page Setup... at bottom of the window and select the paper size that you will be printing to.

Orientation and Margins settings are ignored. They will be set automatically by the poster function for optimal tiling.



Under *Page Sizing and Handling*:

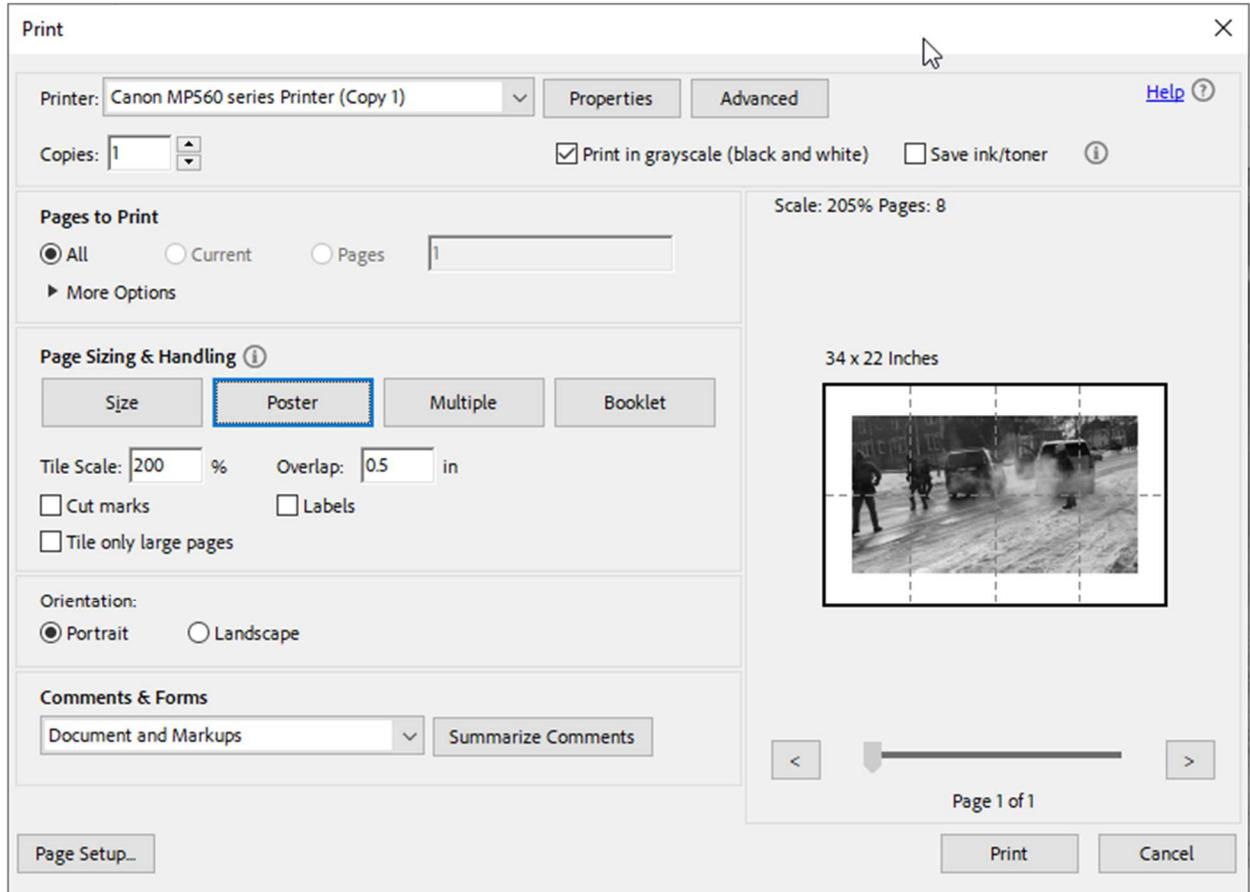
Select the *Poster* button.

Overlap: Set to 0.5 inches.

Tile Scale: Adjust until the dimensions above the preview image on the right approximately match those of your signboard.

Cut marks, Labels, Tile only large pages: Leave all unchecked.

Set other settings such as “Print in grayscale” and “Save ink/toner” as preferred.



## Trimming the pages

Completely trim the left margins off all but the leftmost pages of the mosaic. Likewise, trim off the top margins of all but the topmost row of pages. Trim right up to the edge of the print, otherwise white gaps will be visible in the image.

Note this trimming is much easier to do with a box cutter or xacto knife and straightedge than with scissors.

## If using paste

Thoroughly mix one part flour with one part water to remove all lumps. Then slowly mix into 3 parts of boiling water while whisking constantly. Keep stirring for 3-5 minutes, then remove from heat.

Use a big brush to cover the signboard with a coat of paste.

## Mounting the pages

Mount top left page on the paste or by taping along the edges.

Apply tape or paste along the left side of the next page (the one that will be overlapped on top of the mounted page).

Carefully align the next page with the mounted so that the printed features match without overlap or gap.

Repeat across the top row.

Repeat for subsequent rows, applying paste to the overlapping top as well as left sides of each page.

## Cleanup

If you used paste, to preserve your brush for your next sign, rinse it thoroughly in water before the paste dries.

## Feedback

Let me know of any additions or modifications that should be made to these instructions at [jim@bumperbanner.org](mailto:jim@bumperbanner.org).