Improve Your Google PageSpeed Insights Score For Images

1. Serve images in next-gen formats

- WebP, JPEG2000, and JPEG XR are modern image formats supported in the browser providing better compression and visual quality than the older JPG and PNG formats

- **WebP - has the maximum adoption. Over 80% of devices support it.**
- JPEG2000 and JPEG XR has lower browser support, 13%, and 4%, respectively. With such low adoption numbers, you can skip doing these entirely to save some effort.

How to do it? Use Image Delivery services like ImageKit to automatically deliver in the right format. Image delivery Services can save you a lot of time and give you more than just delivery. For example, ImageKit considers other factors like image content type, compression level, etc., to deliver the best format that returns the smallest possible image size.

2. Properly size images

Inefficient resizing is often the biggest contributor to image weight on a web page

We often need images in different sizes for different placements, such as the product detail page, the listing page, or the website home page. Now to load different sizes of images across different devices, you need to be implementing the srcset and sizes attributes of the img tag instead of the plain src tag.

How to do it? It is common for a website design to change or for a new device to come in and require a different image dimension. It is best to use a real-time image resizing solution like ImageKit for this, which allows you to resize and crop your image to any dimension just by specifying it in the URL. This has two advantages -

- No manualy resizing / code writing
- Real time solution to changing layouts

3. Efficiently encode images

After converting the image to the right format and dimension, you need to compress it to bring it down to the right size. Compression levels are defined on a scale of 1-100, with 100 being the best quality (or lowest compression). Lighthouse, which is used in Google PageSpeed, tests the image against a compression level of 85.

It is usually safe to deliver your images at a quality level between 75-90

How to do it? ImageKit provides real-time compression directly from the URL. You can set the desired quality parameter in the URL to get the image at that compression level, or you can set the default quality level for every image directly from your dashboard.

4. Defer offscreen images

These days, it is common to have long webpages stretching over multiple scrolls, but when a user first loads the page, he will not see the entire page & is just looking at the website's first fold.

This would mean you need only to **load images or banners visible to the user when the page first loads**. We reduce the amount of images needed to be downloaded at the very beginning, freeing up the device's resources (network and computational capacity) to process other webpage assets like JS, CSS, etc., in turn making the page load faster.

How to do it? Simple. Use Lazy Loading. This is an excellent guide demonstrating how lazy loading can be applied to your website for different kinds of images using different Javascript techniques. It also gives you methods to balance between user experience and performance when lazy loading the images.

5. Serve static assets with an efficient cache policy

The fastest way to load a website is not to load it at all.

We must avoid requests that go over the network resulting in a fresh download of a resource. Images do not change for long periods. This makes it a strong candidate for storing it locally in the user's browser cache for a long period and then re-using the cached copy.

How to do it? You can set the cache time of any resource with the Cache-Control header. You can read more about it here.

Images should be cached for a long period (usually a year or more). PageSpeed insight looks for a cache time of at least 180 days for this particular warning. ImageKit takes care of this automatically, and all the images are always served with the right cache-control headers with a 180-day expiry time.

imagekit.io

The right way to manage & deliver images on the web