

Page Speed Optimization Checklist 2025

Actionable techniques to make your website load faster.

Based on [Page Speed Optimization Techniques That Actually Work In 2025](#) by Casey's SEO

1. Understand Page Speed Importance

Recognize why fast loading times are crucial for user experience and SEO.

- Prioritize Core Web Vitals (LCP, FID, CLS) for SEO rankings.
- Aim for Largest Contentful Paint (LCP) under 2.5 seconds (ideally under 2).
- Achieve First Input Delay (FID) under 100 milliseconds.
- Minimize Cumulative Layout Shift (CLS) for a stable user experience.
- Understand that 53% of mobile users abandon sites that load over 3 seconds.
- Recognize that users can feel the difference between 1.5s and 2.5s load times.
- Leverage page speed as a competitive advantage in search results.

2. Leverage AI for Performance

Utilize artificial intelligence tools to analyze and improve site speed.

- Implement AI tools that predict user behavior and preload content.
- Use AI-driven Real User Monitoring (RUM) to spot performance issues proactively.
- Explore Chrome's AI Performance Panel in Dev Tools for diagnostics.
- Act on AI recommendations for render-blocking scripts and other issues.
- Set up a performance budget similar to a financial budget.
- Cap image file sizes within your performance budget.
- Limit HTTP requests as part of your performance budget.
- Establish strict load time targets for your site.

3. Implement Compression Dictionary Technology

Reduce file sizes for repeat visitors using shared vocabularies.

- Enable compression dictionaries for CSS, JavaScript, and HTML.
- Utilize modern compression tools like Brotli or Zstandard.
- Benefit from reduced file sizes for repeat visitors (up to 60-70%).
- Apply this technique especially for e-commerce sites with repetitive content.

4. Optimize Core Web Vitals

Focus on the key metrics Google prioritizes for user experience.

- Optimize your largest image or text block for LCP.
- Use a Content Delivery Network (CDN) to serve content faster.

- Preload critical resources to ensure they are ready quickly.
- Eliminate JavaScript that blocks initial page rendering.
- Break up long JavaScript tasks (no single task over 50ms) for FID.
- Set explicit width and height attributes for all images.
- Reserve space for ads, embeds, and dynamic content to prevent CLS.
- Avoid inserting content above existing content after loading begins.

5. Advanced Image Optimization

Employ modern formats and smart loading strategies for images.

- Use AVIF image format for superior compression (where supported).
- Implement the HTML <picture> element for AVIF fallbacks.
- Use WebP as a modern fallback format.
- Employ intelligent, priority-based image loading.
- Lazy load images that are below the fold.
- Use 'preload' hints for critical images.
- Serve appropriately sized images using srcset and sizes attributes.
- Consider decorative images for late loading.

6. JavaScript Optimization Strategies

Manage JavaScript execution to avoid performance bottlenecks.

- Implement code splitting to break large JS files into smaller chunks.
- Utilize tree shaking to remove unused JavaScript code.
- Use the 'async' attribute for non-critical scripts.
- Use the 'defer' attribute for scripts that can wait until HTML parsing is complete.
- Strategically choose between 'async' and 'defer' based on script criticality.
- Identify and remove render-blocking scripts.

7. Server-Side and Network Optimization

Ensure your server and network infrastructure are fast and efficient.

- Enable HTTP/3 and the QUIC protocol if supported by your host.
- Leverage edge computing to serve content from locations closer to users.
- Optimize your database performance.
- Ensure your hosting provider offers efficient infrastructure.

8. Identify and Fix Common Speed Problems

Address frequent issues that negatively impact page load times.

- Diagnose and fix render-blocking resources.
- Optimize oversized images.
- Reduce the number of HTTP requests.

- Use Real User Monitoring (RUM) data alongside lab data.
- Compare RUM data with lab data for a complete picture.
- Implement performance budgets to control resource usage.

Resources & Further Reading

Use these pages while working through the checklist:

■ Colorado Springs SEO Blog

<https://caseysseo.com/seo-blog>

■ Find Your Local Results

<https://caseysseo.com/>

■ Colorado Springs Local SEO Company

<https://caseysseo.com/colorado-springs-local-seo/>

■ AI SEO Tools Comparison: 2025 Software Rankings – Casey's SEO

<https://caseysseo.com/ai-seo-tools-comparison-2025-software-rankings/>

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Prioritize speed for a better user experience and higher search rankings in 2025.