GOOGLE'S PAGE EXPERIENCE UPDATE

A COMPLETE GUIDE

BRUCE CLAY

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STAY STRATEGIC IN SEO

Google makes more than 3,000 changes to Google Search each year. That's roughly 10 changes per day. And of those changes are numerous ranking algorithm updates.

There are two types of algorithm updates: those we know about and those we guess about. Major algorithm updates and ones that Google believes are essential to quality will be announced ahead of time.

That brings us to the new algorithm update in 2021: page experience. We believe page experience will have a big impact on overall rankings.

Announced in the midst of the pandemic in 2020, Google gave website publishers time to prepare, and even dangled a carrot in front of those who prepared early by testing a "fast page" label in the search results.

Staying strategic in SEO means beating the competition, not the algorithm. So the question you have to ask is: Will my competition be better prepared for this ranking update than we will? If the answer is "yes" or even "maybe," this ebook is for you.

Bruce Clay
President of Bruce Clay Inc. and "Father of SEO"

1 | USER EXPERIENCE AND SEO: A STRATEGIC MATCH

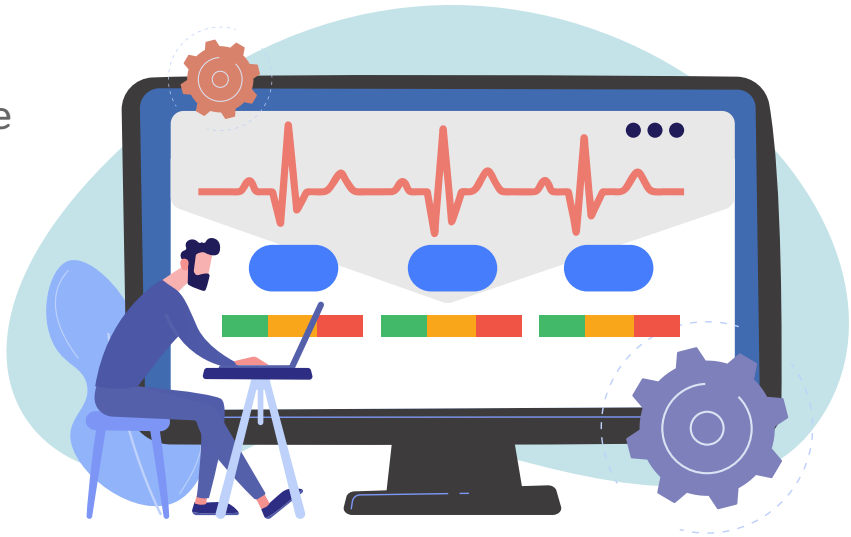
User experience has always been at the heart of good SEO. But on May 28, 2020, Google announced that page experience would become a new ranking signal in 2021. The rollout began in June 2021 and took place through August 2021. Let's look at an overview of the update and how to prepare.

IT'S NEW BUT NOT NEW

One thing that was clear in Google's announcement: it's packaging many of the criteria that the ranking algorithm already uses into a new page experience signal.

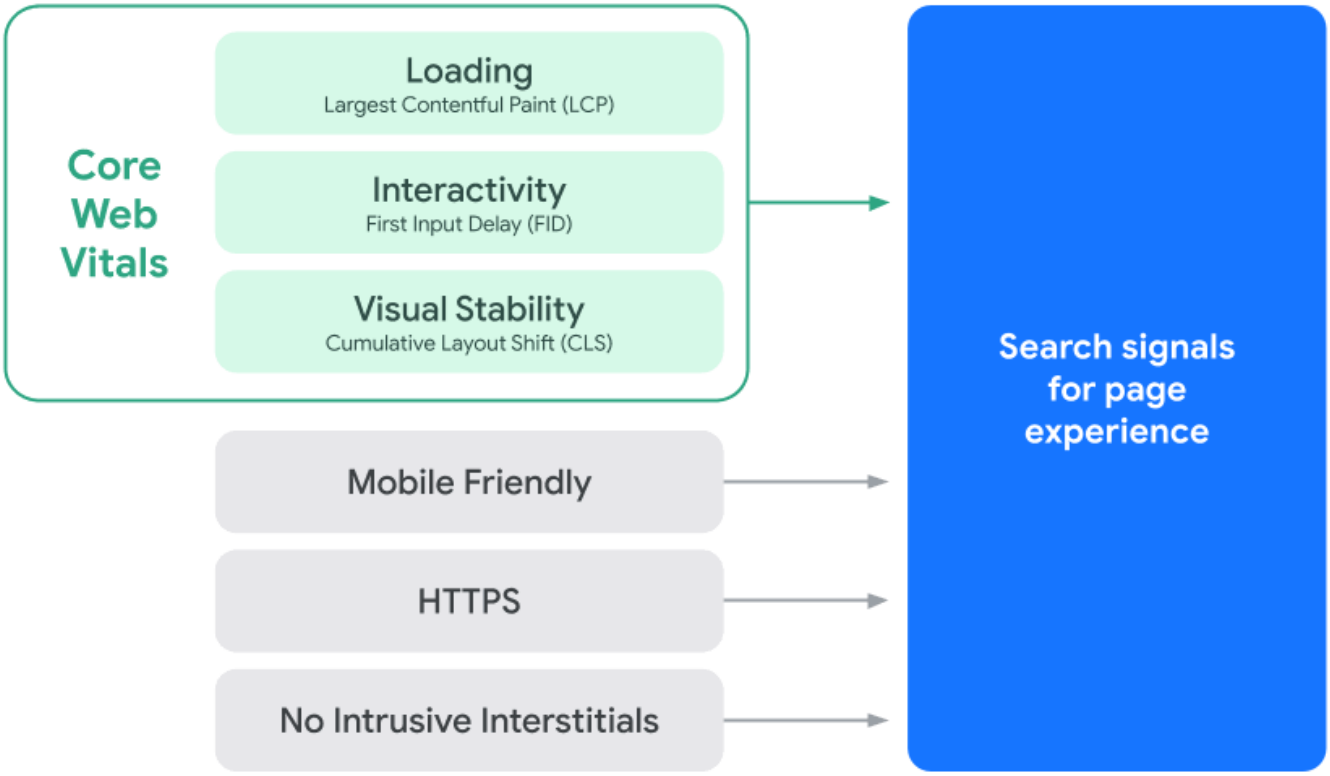
How does that change SEO? Not much. A website that runs well technically and offers a good user experience has always been a best practice.
So this new update is not new news, per se.

> We will introduce a new signal that combines Core Web Vitals with our existing signals for page experience to provide a holistic picture of the quality of a user's experience on a web page.
>
> -*Google*, "Evaluating page experience for a better web"



The combined signal will include things like:

- Page load performance
- Interactivity / responsiveness
- Visual stability
- Mobile-friendliness
- HTTPS
- No intrusive interstitials



"Evaluating page experience for a better web," Google Webmaster Central Blog

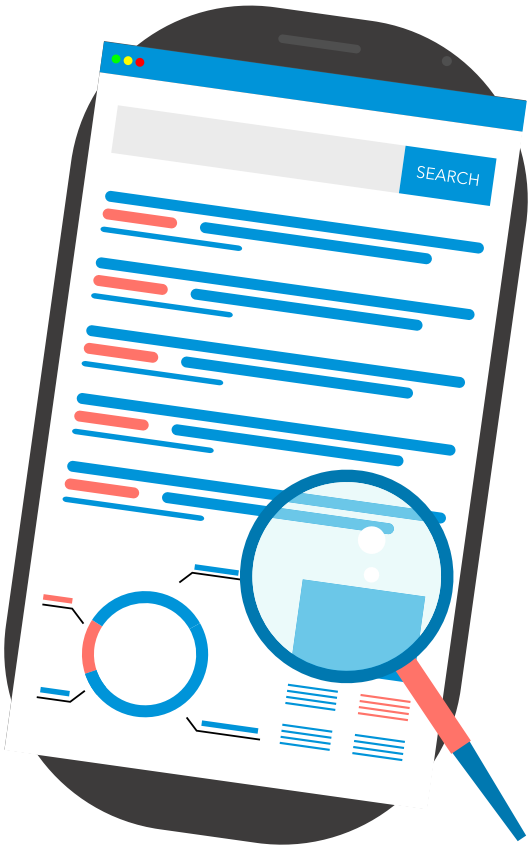
If you have great content but not-so-great page experience factors, then you may still rank well. Google clarified:

> While all of the components of page experience are important, we will prioritize pages with the best information overall, even if some aspects of page experience are subpar. A good page experience doesn't override having great, relevant content. However, in cases where there are multiple pages that have similar content, page experience becomes much more important for visibility in Search.

Simply put, ranking ties in terms of content will go to the best page experience score. But we recommend you start now on your changes.

THE AMP ADVANTAGE IS GOING AWAY (FINALLY)

In 2017 and then again in 2018, Bruce Clay predicted AMP (Accelerated Mobile Pages) would have diminishing value in the future. Overall, it has been a hassle for sites to put in place. Back in 2017, Google's Gary Illyes said that if a site was fast enough, then AMP wouldn't be necessary anyway.



Well, the time has come to say goodbye to AMP. With the new page experience ranking update, news websites won't be required to implement AMP to show up in the Top Stories carousel.

But "top stories" articles will be required to meet page experience standards, said Google:

> As part of this update, we'll also incorporate the page experience metrics into our ranking criteria for the Top Stories feature in Search on mobile, and remove the AMP requirement from Top Stories eligibility. Google continues to support AMP, and will continue to link to AMP pages when available. ...
>
> When we roll out the page experience ranking update, we will also update the eligibility criteria for the Top Stories experience. AMP will no longer be necessary for stories to be featured in Top Stories on mobile; it will be open to any page.
>
> Alongside this change, page experience will become a ranking factor in Top Stories, in addition to the many factors assessed. As before, pages must meet the Google News content policies to be eligible. Site owners who currently publish pages as AMP, or with an AMP version, will see no change in behavior – the AMP version will be what's linked from Top Stories.

The bottom line here is if you can make your pages fast and offer a good user experience, you probably don't need AMP. As a note, in a 5G nation it isn't needed, but some countries are still 2G, and AMP is useful as a solution.

If you cannot focus on page experience factors, then you will want to stick with good content and, reluctantly, AMP implementation for better mobile speed.

You will likely base your decision on how much effort you've already put into AMP, how much effort it will be to optimize page experience factors, what the Top Stories results actually look like after the new ranking signal, and other reasons.

Of course, the ultimate decision isn't really about page experience versus AMP. It's about improving your website in a way that's good for SEO in general. So yes, everyone should look at how to improve their page experience.

OVERVIEW OF THE PAGE EXPERIENCE RANKING UPDATE

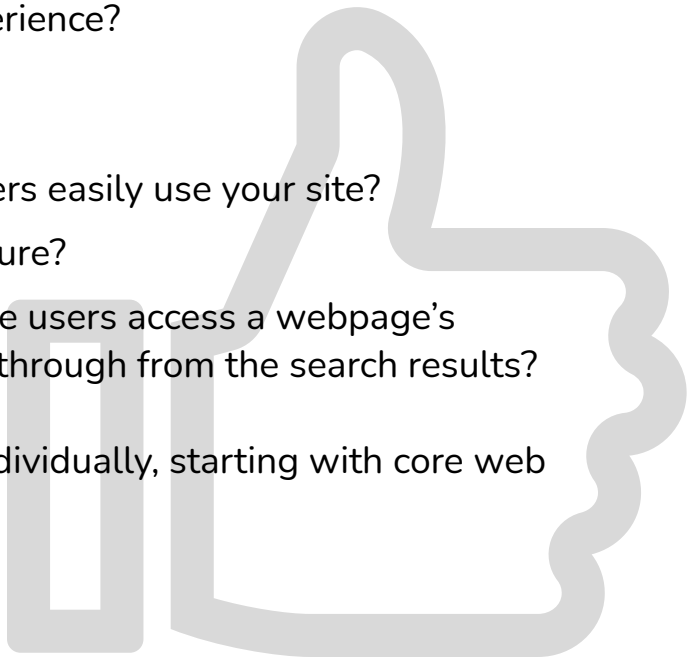
As mentioned, the new page experience ranking signal will be a combination of page experience factors (which are already part of the ranking algorithm) with what Google is calling "core web vitals" (which will be new factors).

Core Web Vitals

- **Largest contentful paint:** Is your webpage load time optimal?
- **First input delay:** Can users easily interact with the page quickly?
- **Cumulative layout shift:** Are the elements on your webpage stable so that it doesn't cause a bad user experience?

Page Experience Factors

- **Mobile-friendliness:** Can mobile users easily use your site?
- **HTTPS:** Is your site's connection secure?
- **No intrusive interstitials:** Can mobile users access a webpage's main content easily when they click through from the search results?



Next, we'll explore all of these factors individually, starting with core web vitals.

2 | CORE WEB VITALS

There are a great many things that go into designing a webpage that offers a good user experience. How fast the page loads and how easy it is to interact with the page are just a couple. And the list is constantly evolving.

Google defines the core elements of a webpage that enhance user experience as “core web vitals.” Core web vitals will become part of Google’s page experience ranking update in 2021. And there is a strong indication that they will significantly impact SEO and how websites rank in Google.

Starting here, we’ll give an overview of core web vitals, and then we’ll take a deep dive into each one of them.

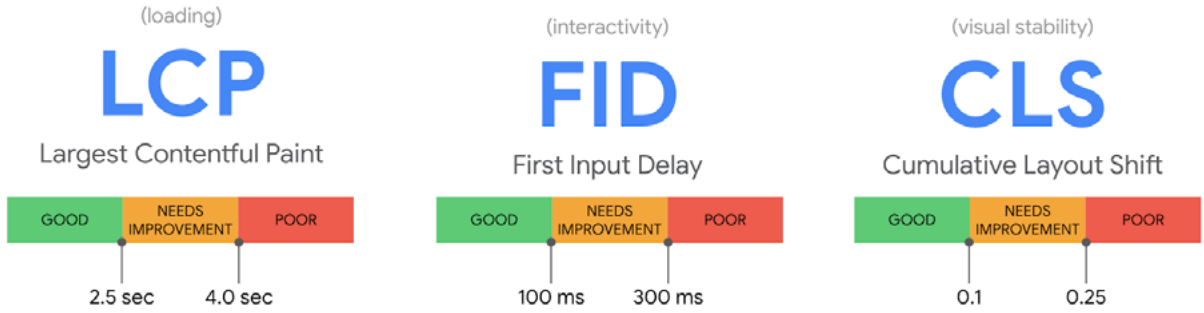
WHAT ARE CORE WEB VITALS?

Core web vitals are a series of signals that help assess the usability of a webpage. These “vital signs” are page quality signals that contribute to a good user experience. And that’s good for SEO.

Core web vitals cover things like page load time, responsiveness, and the visual stability of content. At the time of writing, Google’s current set of core web vitals includes:

- **Largest contentful paint (LCP)**: LCP measures how fast the largest image or text block renders on the webpage. And Google recommends that it happen within the first 2.5 seconds.
- **First input delay (FID)**: FID measures load responsiveness. This refers to how quickly a webpage loads and executes so that the user can interact with the page.
- **Cumulative layout shift (CLS)**: CLS measures unexpected layout shifts on a webpage. One example is when a button or link shifts on the webpage, causing a person to click on something other than what they wanted.

Each of these core web vitals has specific thresholds that must be met — we'll go into in more detail on this later.



"Web Vitals," Google Developers

You can expect the core web vitals to evolve over time, but not without warning. According to Google:

> … Core Web Vitals represent the best available signals developers have today to measure quality of experience across the web, but these signals are not perfect and future improvements or additions should be expected. … developers should expect the definitions and thresholds of the Core Web Vitals to be stable, and updates to have prior notice and a predictable, annual cadence.

HOW MIGHT CORE WEB VITALS IMPACT SEO AND RANKINGS?

Core web vitals help ensure the user experience with your site is fast, responsive and smooth. This is already a goal of a good SEO strategy.

- LCP is one way to measure that webpages load fast. It helps your website visitors have a good user experience and stay on your site.
- FID plays into another good SEO strategy: to allow users to quickly interact with elements on your site, keeping visitors on your site.
- CLS helps ensure that the experience is smooth for your mobile users, a key SEO strategy.

Search Engine Land spoke to a Google rep and reported that Google would not be discussing "how much each factor is weighted," but that "great content with a poor page experience can still rank highly in Google search." Subsequently, Google indicated that each page experience factor would be considered separately as a ranking factor, and that core web vitals count as more than a tie breaker.

What we do know is that a fast site already finds favor in Google's eyes, and page speed is a ranking factor. The most recent news on this was the "speed update" for mobile that rolled out in 2018.

It's also suspected that Google's AI, RankBrain, takes into account how users engage with the search results. RankBrain's goal is to better interpret search queries and serve the most relevant search results. Specifically, RankBrain may consider short engagement times with a webpage when accessed from the search results, paying close attention to users who click a result, then return to the Google for different results.

Core web vitals help ensure users are happy and stay on your site. This, in turn, can impact rankings. See an earlier article we wrote on SEO and the user experience.

ANOTHER REWARD FOR GOOD CORE WEB VITALS: THE ‘FAST PAGE’ LABEL

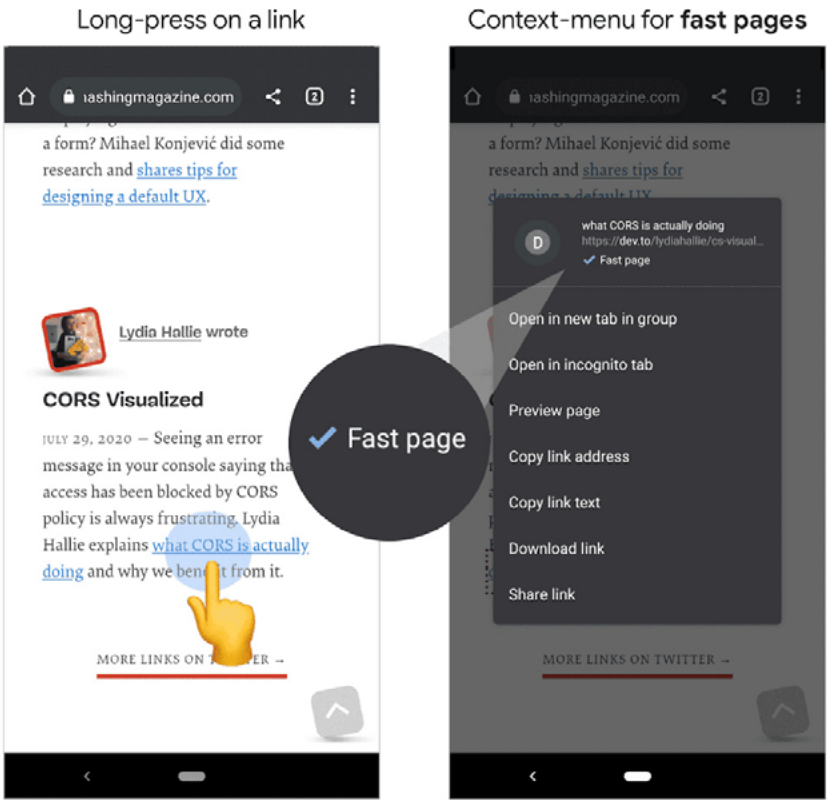
Is your website ready to pass the thresholds for core web vitals? If not, you’re not alone. According to research by Screaming Frog, only 12% of mobile and 13% of desktop results passed the assessment.

It’s likely that Google knows the work that is ahead of website publishers in order to prepare. So Google is enticing people to get a head start.

In August 2020, Google announced that it would test a “fast page” label on Chrome for Android, starting in Chrome 85 Beta.

How can you earn that label for your webpages? Google says that “links to pages that have historically met or exceeded all metrics thresholds for the core web vitals” will get the label.

Fast page labelling in Chrome 85



“Highlighting great user experiences on the mobile web,” Chromium Blog

That means that even though Google said back in May 2020 that “there is no immediate need to take action,” it’s making core web vitals a little more enticing to master.

That’s because sites with a “fast page” label in the results can potentially garner more clicks. This is reminiscent of the ”mobile-friendly” labels Google created back in 2014, when it wanted website publishers to start putting mobile users first.

As we continue core web vitals and how they factor into page experience, next we’ll highlight each of the factors: LCP, FIC and CLS.

3 | LARGEST CONTENTFUL PAINT

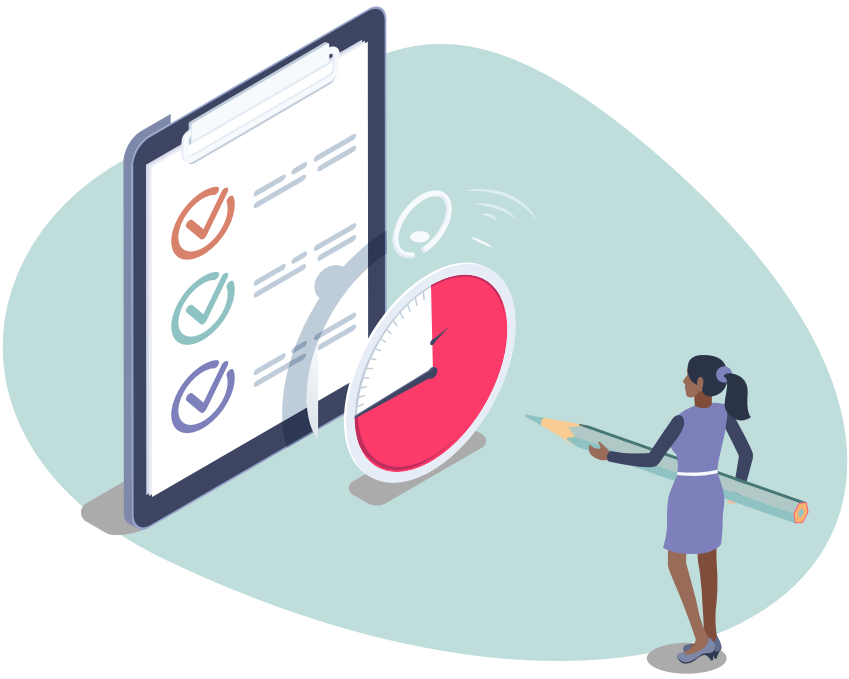
Waiting too long for the content on a webpage to render can create a bad user experience and cause visitors to bounce. This core web vital aims to serve up your web content content faster, so users stay on your site. Let's look closer at what largest contentful paint is and how to improve your LCP score, so you can prepare for Google's page experience ranking update.

WHAT IS LARGEST CONTENTFUL PAINT (LCP)?

LCP measures webpage load performance. More specifically, LCP measures how fast the largest image or text block renders on the webpage.

Google discusses LCP here:

> Largest Contentful Paint (LCP) is an important, user-centric metric for measuring perceived load speed because it marks the point in the page load timeline when the page's main content has likely loaded—a fast LCP helps reassure the user that the page is useful. ...



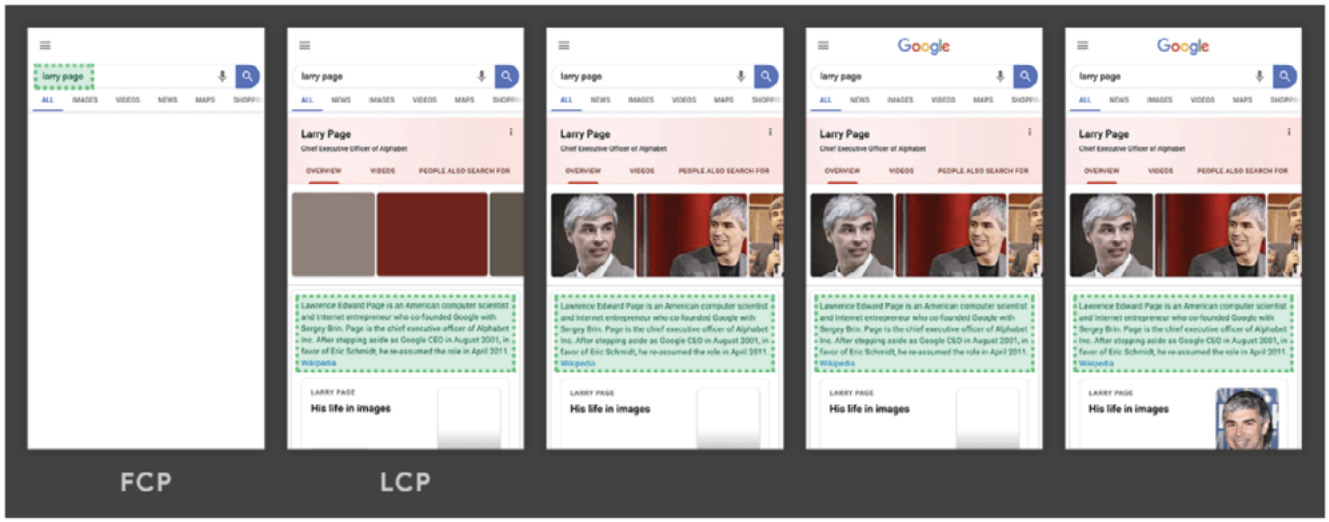
HOW IS LARGEST CONTENTFUL PAINT MEASURED?

Google states that in order to provide a good user experience, the largest image or text block should render on the webpage within the first 2.5 seconds.

LCP documentation specifies which types of elements are considered for LCP, and include:

- Images
- Video
- Background images loaded via CSS
- Heading tags
- Tables
- Lists
- Any other block element with text

Here's an example of when the largest element of the page (a paragraph of text) renders before any other elements on the page:



"Largest contentful paint," Google Developers

The goal is to hit the recommended target loading speed on most of your pages. Google says "if at least 75 percent of page views to a site meet the 'good' threshold, the site is classified as having 'good' performance for that metric." You can learn more about how Google defines its thresholds here.

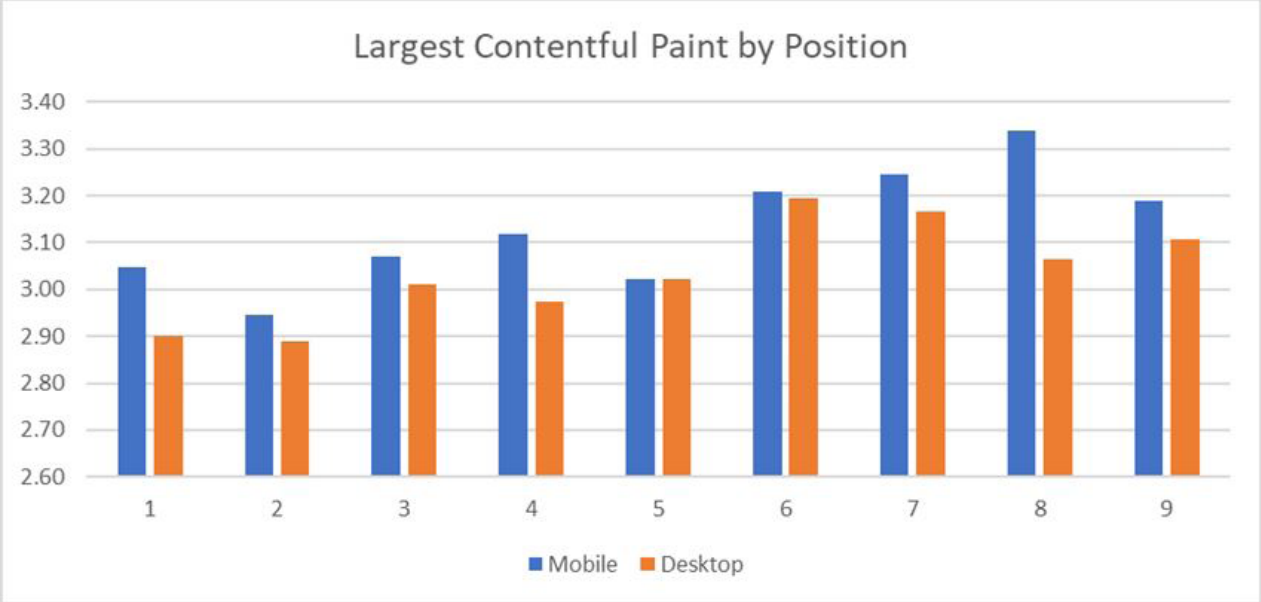
HOW DOES LARGEST CONTENTFUL PAINT IMPACT SEO?

We know that Google values a fast site and that things like page speed are already in its ranking algorithm. LCP is another way to ensure that webpages load fast so your website visitors have a good user experience and stay on your site.

So if you already have a fast site, are you in the clear? Not exactly. According to a study by Screaming Frog, the majority are not prepared for the LCP thresholds.

Data show that less than half of the websites studied (across 20,000 URLs) were considered good. Specifically, 43% of mobile and 44% of desktop URLs had a good LCP. The average render time was 3.13 seconds for mobile and 3.04 seconds for desktop.

In that study, the research correlated LCP and search rankings. The data is interesting, but there are too many factors to be able to say for certain how LCP influences rankings today.



"How Many Sites Pass the Core Web Vitals Assessment?," Screamingfrog.co.uk

It's clear that Google wants website publishers to get a head start. Google announced it would be testing a "fast page" label for websites in its search results that have historically met or exceeded the thresholds for core web vitals, including LCP.

Websites with this label may see an uptick in organic traffic and time on site.

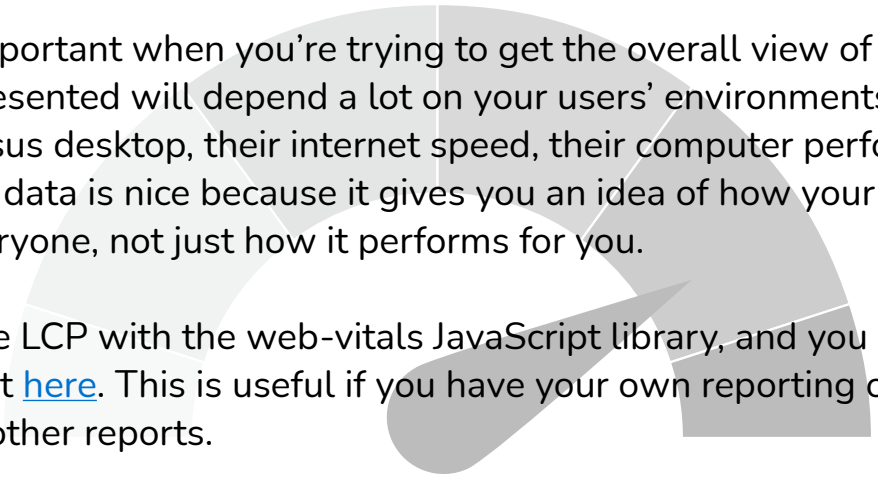
HOW DO I IMPROVE MY LARGEST CONTENTFUL PAINT SCORE?

Google provides tools to measure LCP in a lab and in the field, including:

- Search Console (field)
- PageSpeed Insights (field)
- Web Vitals Extension (lab)
- WebPageTest (lab)
- Chrome UX Report (field)
- Chrome DevTools (lab)
- Lighthouse (lab)

When it comes to lab versus field data, both can be useful. Lab is important for testing and working on improving your scores. You will get a greater variance in results, but lab data provides instant feedback.

Field data is more important when you're trying to get the overall view of your site. The values represented will depend a lot on your users' environments, for example, mobile versus desktop, their internet speed, their computer performance, etc. The field data is nice because it gives you an idea of how your site is performing for everyone, not just how it performs for you.



You can also measure LCP with the web-vitals JavaScript library, and you can learn more about that here. This is useful if you have your own reporting or you want to build it into other reports.

To get started, Google provides a general roadmap for how to use the tools provided to diagnose a core web vital. Out of the following list, the first three are good. I would wrap up after the third bullet by saying to publish your

changes and start seeing the benefits of increased performance. The remaining bullets (fourth to sixth) are “nice to haves.” The last bullet likely won’t apply to 90% of websites.

- Use Search Console’s new Core Web Vitals report to identify groups of pages that require attention (based on the field data).
- Once you’ve identified pages that need work, use PageSpeed Insights (powered by Lighthouse and Chrome UX Report) to diagnose lab and field issues on a page. PageSpeed Insights (PSI) is available via Search Console or you can enter a URL on PSI directly.
- Ready to optimize your site locally in the lab? Use Lighthouse and Chrome DevTools to measure Core Web Vitals and get actionable guidance on exactly what to fix. The Web Vitals Chrome extension can give you a real-time view of metrics on desktop.
- Need a custom dashboard of Core Web Vitals? Use the updated CrUX Dashboard or new Chrome UX Report API for field data or PageSpeed Insights API for lab data.
- Looking for guidance? web.dev/measure can measure your page and show you a prioritized set of guides and codelabs for optimization, using PSI data.
- Finally, use Lighthouse CI on pull requests to ensure there are no regressions in Core Web Vitals before you deploy a change to production.

In general, LCP is impacted by the following:

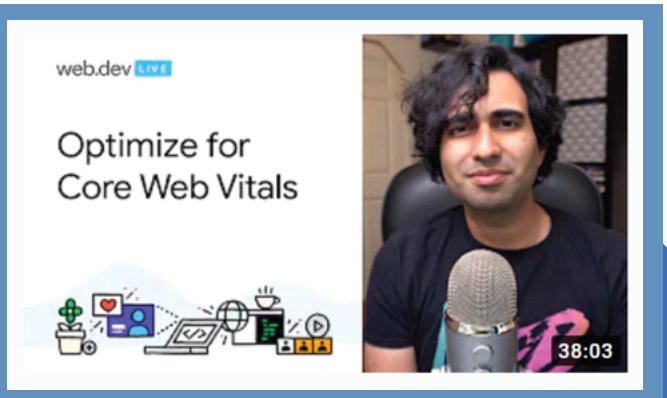
- Server and/or software response times
- Webpage resources and bandwidth
- Browser software and plugins
- Site JavaScript and CSS code

Many of the things Google suggests when it comes to optimizing LCP are things you may already be doing as part of a good SEO strategy to create a faster site.

Some tips to keep in mind as you are optimizing:

1. Text will render faster in most cases than other items that need to be fetched separately (like images). So using things like heading tags as the larger elements is a good idea.
2. Design changes may be needed in some cases where the largest contentful item is just too slow.
3. Optimizing your JS and CSS will help load times. Be wary of including too many third-party scripts.
4. The LCP is in the viewport for mobile or desktop. Things in your footer are not likely to count, so this really is focusing on the top of your page.
5. You should be able to see your LCP element above the fold if you visit the page with JavaScript turned off.
6. If your LCP element is an image, consider inlining it in your HTML with a data URI.

To learn how to optimize for LCP and other core web vitals, see this video from Google:



CLICK TO VIEW VIDEO

4 | FIRST INPUT DELAY

Being able to quickly interact with a webpage creates a good user experience. For example, how fast does your website respond when a user clicks a button? This core web vital aims to make a more responsive website. Let's look closer at what first input delay is and how to improve your FID score, so you can prepare for Google's page experience ranking update.

WHAT IS FIRST INPUT DELAY (FID)?

FID measures the responsiveness of a page to user events. While technically this could happen throughout the lifespan of a user session on a webpage, in practice, most interactivity problems occur during initial page load. That is because this is when most resources are being downloaded, parsed, executed and rendered.

Google discusses FID here:

> First Input Delay (FID) is an important, user-centric metric for measuring load responsiveness because it quantifies the experience users feel when trying to interact with unresponsive pages—a low FID helps ensure that the page is usable.
>
> FID measures the time from when a user first interacts with a page (i.e. when they click a link, tap on a button, or use a custom, JavaScript-

> powered control) to the time when the browser is actually able to begin processing event handlers in response to that interaction.

Google cites two important reasons why the first input delay is important:

> - The first input delay will be the user's first impression of your site's responsiveness, and first impressions are critical in shaping our overall impression of a site's quality and reliability.
> - The biggest interactivity issues we see on the web today occur during page load. Therefore, we believe initially focusing on improving site's first user interaction will have the greatest impact on improving the overall interactivity of the web.

Keep in mind that FID will not apply to every situation, as Google points out here:

> Not all users will interact with your site every time they visit. And not all interactions are relevant to FID … How you track, report on, and analyze FID will probably be quite a bit different from other metrics you may be used to.

HOW IS FIRST INPUT DELAY MEASURED?

FID measures the first impression of your site's interactivity and responsiveness. It analyzes things like clicks, taps and key presses, which fall

under the “responsiveness” category. It does not measure things like scrolling and zooming, which are related to animation.

Google recommends webpages aim for an FID of less than 100 milliseconds, which means the page would be able to respond to an interactive event within that time frame. In order to be considered “good,” Google’s threshold should be met 75% of the time, segmented across mobile and desktop devices. You can learn more about how Google creates thresholds here.

While the official threshold is 75% of pages loaded, Google says that for FID in particular, they “strongly recommend looking at the 95th to 99th percentiles, as those will correspond to the particularly bad first experiences users are having with your site. And it will show you the areas that need the most improvement.” This is true for both desktop and mobile users.

Keep in mind that the 75% is the sample. So, for example, if your site has 1,000 pages and Google indexes all of them, then 750 of them would need to have a good FID for the whole site to be classified as having a good FID. Google is saying that in reality, it should be 98% or 99%.

For developers, it’s important to understand that Google only measures the delay in event processing, not the “event processing time itself nor the time it takes the browser to update the UI after running event handlers.”

In other words, Google only measures how long the browser takes to start executing the event process. So, if you click on a link, it’s the delay between the time you click and the time the browser starts processing that click.

And when you’re ready to start improving FID, you’ll use tools that can help measure real data in the wild.

HOW DOES FIRST INPUT DELAY IMPACT SEO?

Improving FID is another way to speed up your webpages for visitors. Consider that fast page load is already a best practice for SEO and a current ranking

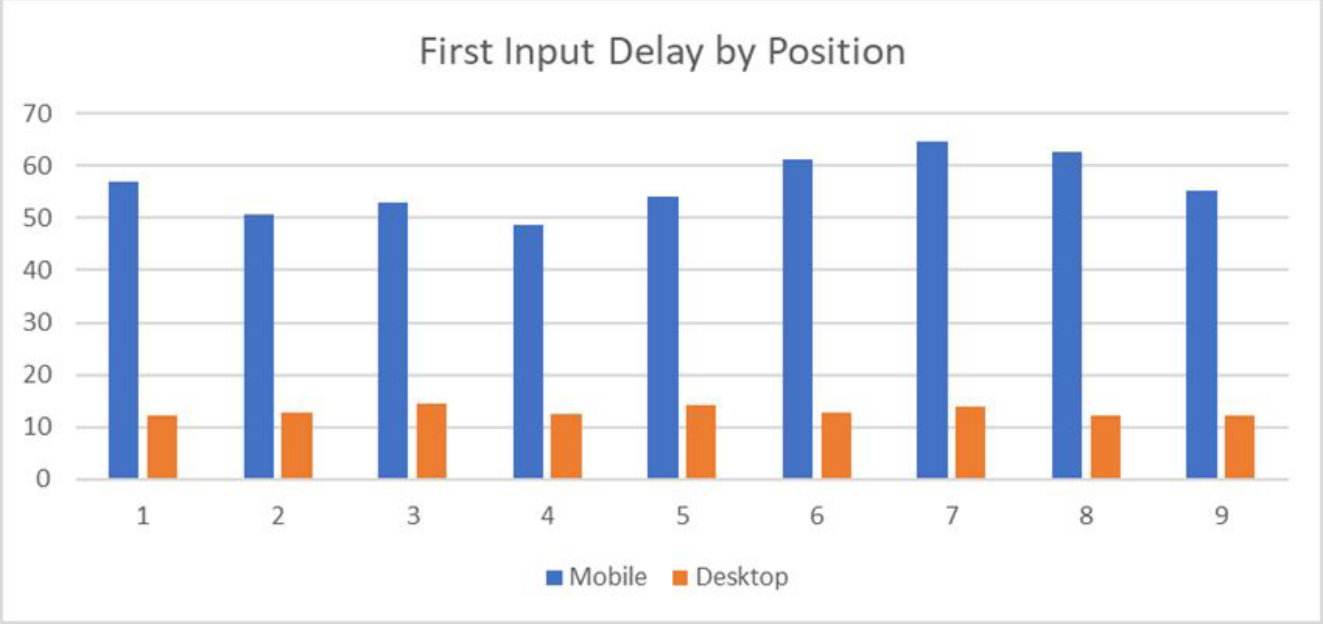
factor. FID helps keep visitors on your site because they can interact with the content faster.

When people bounce from your site, they may never come back and you can lose potential revenue. Not only that, but a sluggish site can also impact your rankings. That's because Google's AI, RankBrain, may take into account how a user engages with the search results.

Over time, if a website has enough visitors who go to the page from the search results and bounce back quickly, this could indicate they didn't find what they were looking for.

The good news is that most sites may already be OK when it comes to FID. In a study by Screaming Frog, 89% of mobile and 99% of desktop URLs fell within the threshold. The average was around 56 milliseconds on mobile and 13 milliseconds on desktop.

When looking at FID and search rankings correlation, Screaming Frog says that there's much less of a correlation than for other core web vitals.



"How Many Sites Pass the Core Web Vitals Assessment?," Screamingfrog.co.uk

HOW DO I IMPROVE MY FIRST INPUT DELAY SCORE?

Google provides tools to measure FID, including:

- Chrome User Experience Report
- PageSpeed Insights
- Search Console (Core Web Vitals report)
- Firebase Performance Monitoring (beta)

You can also measure FID with the web-vitals JavaScript library, and you can learn more about that here. If you are serious about improving CWV, this is the best way to get real-time feedback from actual user sessions to determine how to fix FID in the field.

The primary cause of a bad FID score is heavy JavaScript execution. So be sure to optimize how "JavaScript parses, compiles and executes on your web page will directly reduce FID," says Google. Reducing the amount of JavaScript and/or optimizing the running of JavaScript has always been a good idea for SEO.

> The primary cause of a bad FID score is heavy JavaScript execution.

If a user clicks while a JavaScript file is being processed, the browser can't react and the user feels blocked. If your FID score is in the red, you may need to split up your JavaScript files so the browser can go back and forth between JavaScript processing and reacting to the user.

Optimizing your JavaScript reduces page bloat, improves page performance and also provides Google an easier path to index the correct content. That's because Google will not have to process as much JavaScript to figure out what it needs.

In our experience, the more you can give Google what it needs right away, without having to process too many things, the better Google will index your site the way you think it should be indexed. Indexing is hugely important for SEO as it influences what pages Google determines are valid or not.

To optimize the FID score, Google recommends running a Lighthouse performance audit and looking at the opportunities uncovered, but gives more detail on how to optimize JavaScript here.

5 | CUMULATIVE LAYOUT SHIFT

When a webpage shifts unexpectedly, it can create a bad user experience. One example is when something on a webpage shifts and the visitor accidentally clicks an ad that takes them off the page. This core web vital aims to create a more stable website. Let's look closer at what cumulative layout shift is and how to improve your CLS score, so you can prepare for Google's page experience ranking update.

WHAT IS CUMULATIVE LAYOUT SHIFT (CLS)?

CLS measures the formatting changes to a webpage after the initial rendering in a browser, usually by the dynamic insertion of content above what is already being shown.

It is generally annoying to be clicking on a link and have that link "move," resulting in a click to an unexpected location. This kind of instability of content on a webpage creates a bad user experience.

Google discusses CLS here:

> Cumulative Layout Shift (CLS) is an important, user-centric metric for measuring visual stability because it helps quantify how often users experience unexpected layout shifts—a low CLS helps ensure that the page is delightful.

Unexpected page layout shifts hurt the user experience. One example is when a button or link shifts on the webpage, causing a person to click something else. This can be really bad if it means they accidentally made a purchase, as you can see in this demo from Google.

Importantly, Google clarifies that not all layout shifts are considered bad:

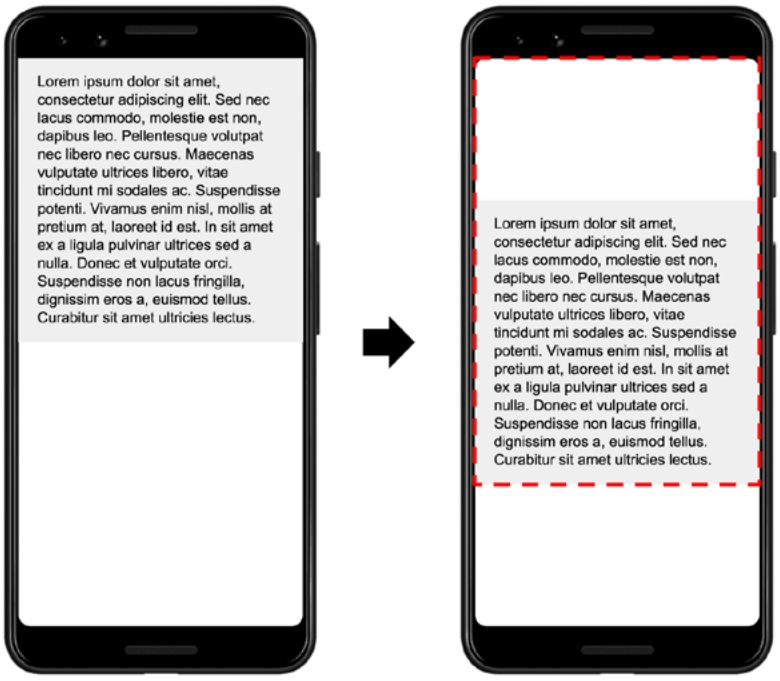
> A layout shift is only bad if the viewer is not expecting it. On the other hand, layout shifts that occur in response to user interactions (clicking a link, pressing a button, typing in a search box and similar) are generally fine, as long as the shift occurs close enough to the interaction that the relationship is clear to the user... Layout shifts that occur within 500 milliseconds of user input will have the hadRecentInput flag set, so they can be excluded from calculations.

HOW IS CUMULATIVE LAYOUT SHIFT MEASURED?

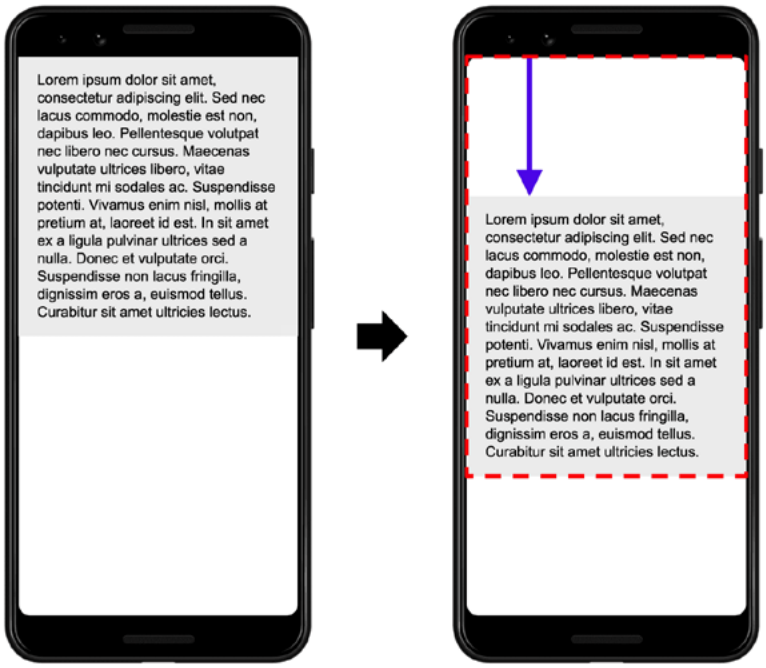
CLS is measured by the total of all individual layout shift scores for every unexpected layout shift that occurs during a pageview's worst "session window."

A session window is any 5-second span of shifts that occur while a user visits a page. Google looks for the 5-second interval that has the most shift penalties, and that's the score for that pageview.

To calculate a layout shift score, Google multiplies the impact fraction and the distance fraction. We'll break these down.



Example of layout shift between two frames, Google Developers



Example of distance shift in the viewport, Google Developers

Impact fraction is how much viewport area an unstable element takes up between two frames.

In the example on the previous page, you can see that the element takes up 50% of the original viewport, but then is moved down by 25%. Between both frames, the element takes up 50% plus 25% of the viewport, causing the impact fraction to be 75%.

Distance fraction is the distance that an unstable element has moved. The example above shows that the element has moved 25% of the viewport height.

So to sum up: CLS is measured by the layout shift score, which is calculated like so:

Impact fraction * distance fraction = layout shift score

Taking the examples above, the calculation would go like so: 0.75 * 0.25 = 0.1875. Google says a webpage should maintain a CLS of less than 0.1 across all pages on your site. This example would be over that goal, so it would score poorly.

One illustration to give you a clearer idea of how CLS is scored: If everything inside of the viewport shifted out of the viewport in a single frame, that would have a layout score of 1.0.

The more elements you have on your page that shift in the viewport, the worse your score could be.

Google's CLS score target

You can read more about the layout shift score here and how Google defines its thresholds here.

HOW DOES CUMULATIVE LAYOUT SHIFT IMPACT SEO?

As with the other core web vitals, CLS helps ensure that the page experience is smooth for your visitors — on both mobile and desktop.

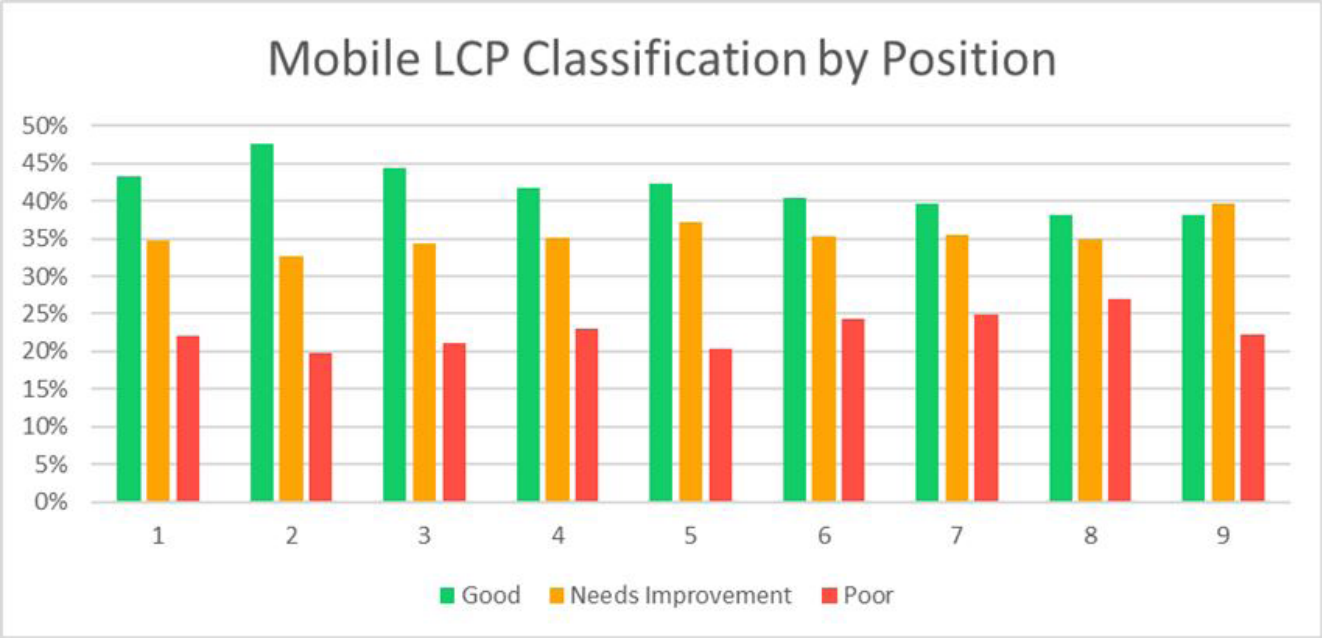
A good layout shift score can help ensure users don't get frustrated with your webpage, don't accidentally click and get taken to another page, and don't mistakenly make a purchase. A good user experience helps you achieve all the outcomes we like to see in SEO: rankings, traffic, conversions and revenue.

According to Screaming Frog research, URLs in Position 1 of the search results were 10% more likely to pass the core web vitals assessment than URLs in Position 9. Of course, this relates to the existing pages — which may not comply with core web vitals yet — even before these factors apply to the ranking algorithms.

> There is room for CLS improvement on most sites.

Looking at CLS, less than half (46%) of mobile URLs and less than half (47%) of desktop URLs had "good" CLS scores. The average CLS score was 0.29 on mobile and 0.25 on desktop. In other words, there is room for CLS improvement on most sites.

Screaming Frog segmented pass rates by position, and found a decline in the percentage of "good" URLs as you move down the positions on the search results page. The following example is mobile results, but they also graphed the data for desktop.



"How Many Sites Pass the Core Web Vitals Assessment?," screamingfrog.co.uk

HOW DO I IMPROVE MY CUMULATIVE LAYOUT SHIFT SCORE?

Google offers lab tools and field tools to help you measure, then optimize, your CLS score. For CLS, lab tools may not be as useful as the real data captured in the wild for your webpages.

Tools provided include:

- Chrome User Experience Report (field)
- PageSpeed Insights (field)
- Search Console (Core Web Vitals report) (field)
- Chrome DevTools (lab)
- Lighthouse (lab)
- WebPageTest (lab)
- WaterFaller.dev (lab)

You can also measure CLS with the web-vitals JavaScript library, and you can learn more about that here.

Common causes of layout shifts include:

- Images without dimensions
- Ads, video and other embedded objects or iframes without dimensions
- Dynamically injected content
- Late-loading CSS where styles are applied after other items have been loaded
- Web fonts causing flashes of invisible or unstyled text
- Elements on the page that wait for other items to be loaded over the network before appearing
- Animating elements by “height” and “width” instead of CSS’s “transform: scale()”
- Animating elements by “top”, “right”, “bottom” or “left” instead of CSS’s “transform: translate()”

Basic principles that will improve CLS include:

1. Always use size attributes for images, videos and other embedded items or iframes. If an element is dynamically loaded, use CSS to style any container elements to the same size or aspect ratio before the content is loaded. Then, when the content is loaded into those container elements, the page will not shift.
2. Never insert content dynamically above existing content.
3. If using CSS to animate elements, prefer “transform” animations.

As we continue our exploration of the page experience ranking update, we’ll take a look at other signals outside of core web vitals, including mobile friendliness, HTTPS and intrusive interstitials.

5 | MOBILE FRIENDLINESS

It's no secret that the majority of Google's search engine users are mobile users. That fact is the driving force behind Google's focus on making sure websites like yours serve them well. And if you don't comply? Your search engine rankings might suffer. Mobile friendliness is a way to better prepare for Google's page experience ranking signal.

WHAT IS A MOBILE-FRIENDLY WEBSITE?

A mobile-friendly website creates a good experience for people who visit a website from a smartphone or tablet.

There's a lot that goes into having a mobile-friendly website. Some of the factors include:

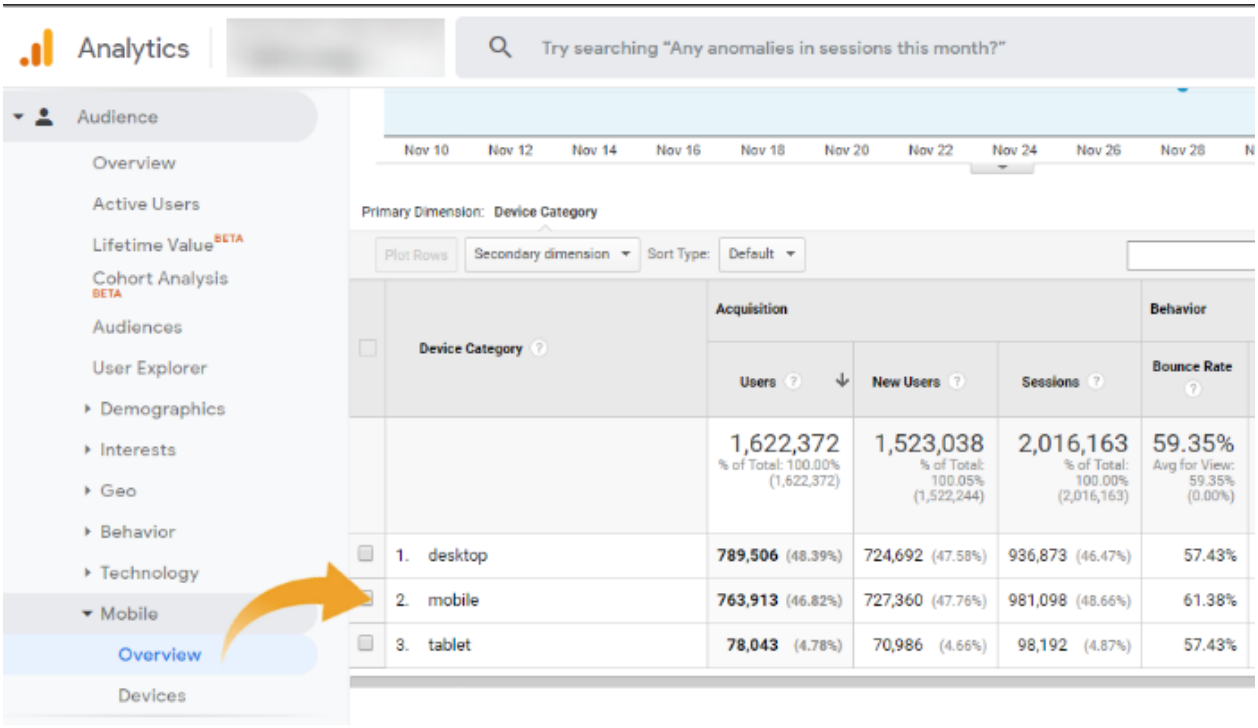
- Using mobile-compatible plugins
- Ensuring the webpage fits different screen sizes
- Configuring the size of the text for mobile viewing
- Making sure that it's easy for mobile users to click on buttons and links
- Having fast-loading webpages (Although not talked about much in Google's mobile-friendly guide, it is a core web vital that is a part of page experience ranking and is a best practice for mobile anyway.)

WHY DOES A MOBILE-FRIENDLY WEBSITE MATTER?

A mobile-friendly website matters to your visitors, first of all. It also matters to your search engine rankings because Google wants to include websites in its search results that offer a good experience to mobile users.

After all, about 63% of visits to Google's search engine on average in 2019 were from mobile users.

You can confirm how many mobile users are coming to your own site through your Google Analytics account. (Go to: Audience > Mobile > Overview)



Screenshot in Google Analytics

Recognizing the growing trend in mobile web browsing, in 2016, Google started testing a mobile-first index. In March 2020, Google announced it would be "switching to mobile-first indexing for all websites starting September 2020," though they pushed the full rollout back to March 2021.

> Mobile-first indexing means Google predominantly uses the mobile version of the content for indexing and ranking. Historically, the index primarily used the desktop version of a page's content when evaluating the relevance of a page to a user's query. Since the majority of users now access Google Search with a mobile device, Googlebot primarily crawls and indexes pages with the smartphone agent going forward."
>
> -*Google*, "Mobile-first indexing best practices"

When Google announced the page experience ranking update, it affirmed that the existing mobile friendliness signal would be a part of it. This is another confirmation that having a website set up for mobile users is key if you want to compete in Google's search results.

HOW DO YOU MAKE A SITE MOBILE FRIENDLY?

You can make a website mobile friendly by following best practices outlined by Google and a seasoned SEO expert. One size does not fit all when it comes to a mobile strategy.

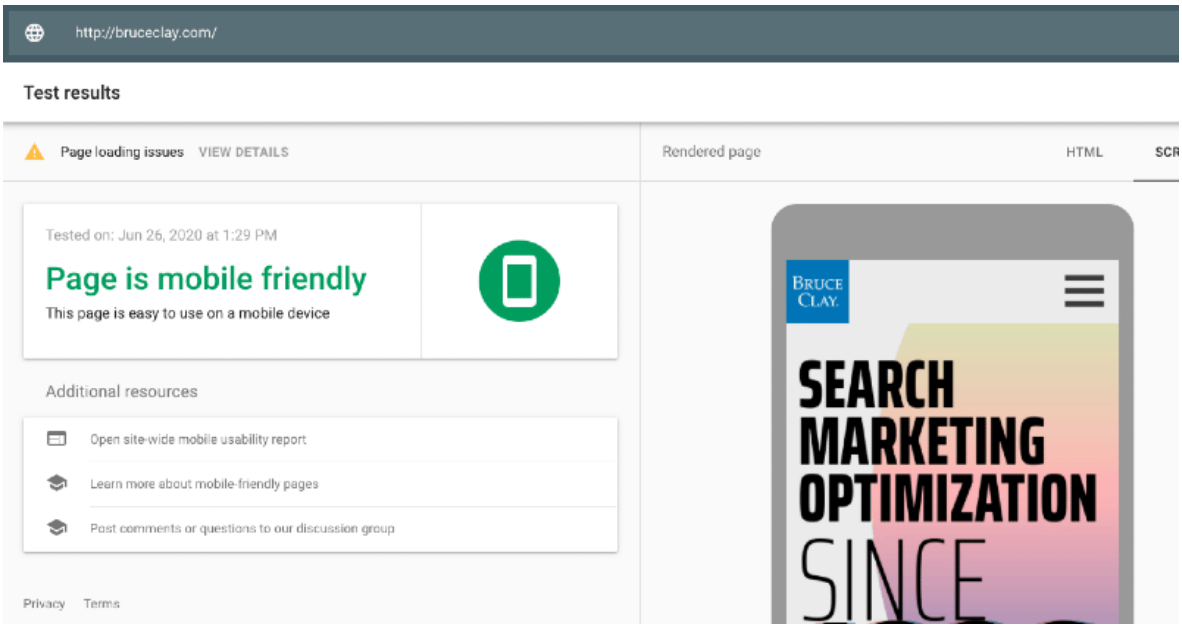
If you're getting ready to make your site more friendly to mobile users, you have four basic steps:

1. Test your current site
2. Learn about mobile-friendly best practices
3. Implement changes
4. Watch for common mistakes

1. Test Your Current Site

One of the first things Google recommends is to run pages through its mobile-friendly test. You can also use the mobile usability report in Search Console.

Depending on what stage you're at in your mobile journey, the next steps will vary. The goal is to address the main issues uncovered in the testing phase.



Screenshot of Google's mobile-friendly test results

2. Learn About Mobile-Friendly Best Practices

Addressing the issues will require learning more about mobile-friendly best practices. You can do so by reviewing Google's guide here and our guide on mobile SEO and UX optimization as well for more information.

Again, an experienced SEO professional can help you make good choices here.

3. Implement Changes

Of course, implementing mobile-friendly updates is the next step.

WEBSITE CONFIGURATIONS
One big decision you may be facing is what type of website configuration you should have to support mobile users.

Google supports three types of mobile website configurations: responsive web design, dynamic serving and separate mobile URLs. (Check out this cheat sheet on mobile design.)

In general, a responsive website is going to be the easiest to create and maintain. A responsive website uses the same URL and HTML code no matter what device the visitor has (versus a separate mobile site). But it serves up the content in a slightly different format depending on the screen size — so it's friendly for mobile users.

Be sure to check out these seven mobile navigation best practices for more.

WEBSITE CONTENT
Remember that a responsive website does not automatically mean a mobile-friendly website. How you serve and display the content is one thing. But what you actually prioritize in the content is another.

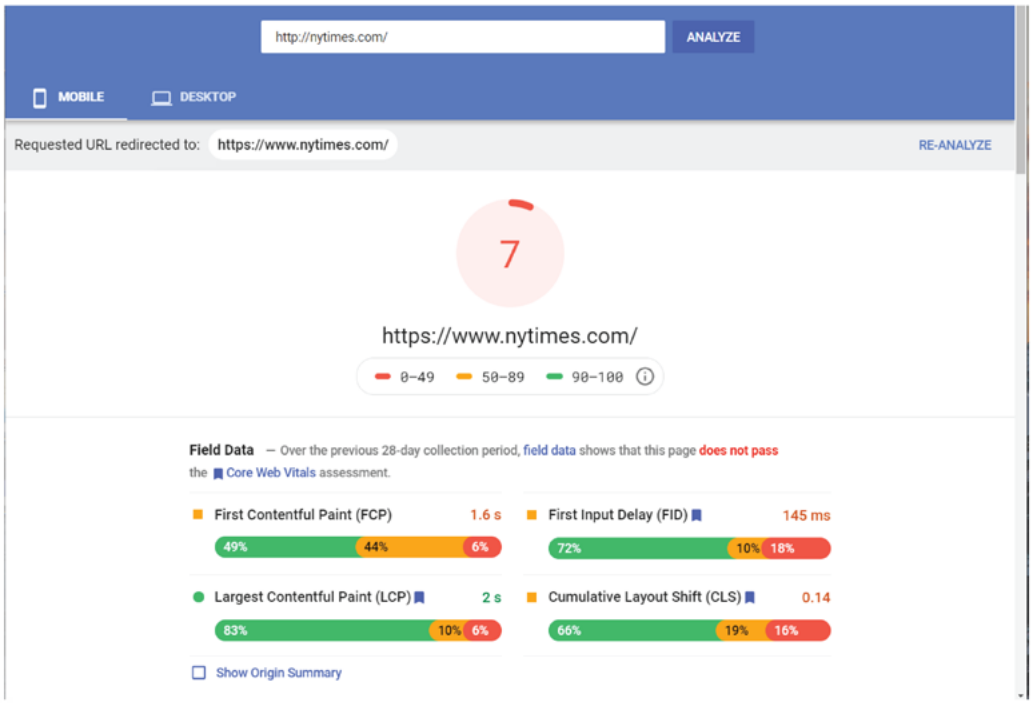
You see, people using mobile phones tend to search differently than those on a desktop. User intent is different, and that means that the information you want to serve may be different.

You can learn more about this concept in our article on understanding Google's mobile-first index. And read the mobile SEO checklist for ideas on mobile content and more.

WEBSITE SPEED
Mobile friendliness and fast webpage loading go hand in hand.

Mobile users do not want to wait around for content to load. Google once found that 53% of mobile site visits were abandoned when webpages took more than three seconds to load.

You can test page speed on your key pages through [Google's PageSpeed Insights](#) tool.



Screenshot of Google's PageSpeed Insights results

You can also view data in your Google Analytics on site speed (go to: Behavior > Site Speed). And the [Core Web Vitals report](#) in Google Search Console is going to give data on load times, as well. Read more about the need for speed in Google's mobile-first index.

4. Watch for Common Mistakes

One pitfall to avoid is sacrificing necessary content for the sake of speed. Reducing content or using things like client-side Javascript or lazy loading to delay the load of content to improve page speed could impact rankings in a mobile-first world, as we've [written about](#) in the past:

What is currently being served as your mobile site is what Google would consider for indexing and ranking in its mobile-first index. If the mobile version of your site only displays a portion of all available content, then Google will only consider that part in its ranking calculations (and not any additional resources available in the desktop version of a site).

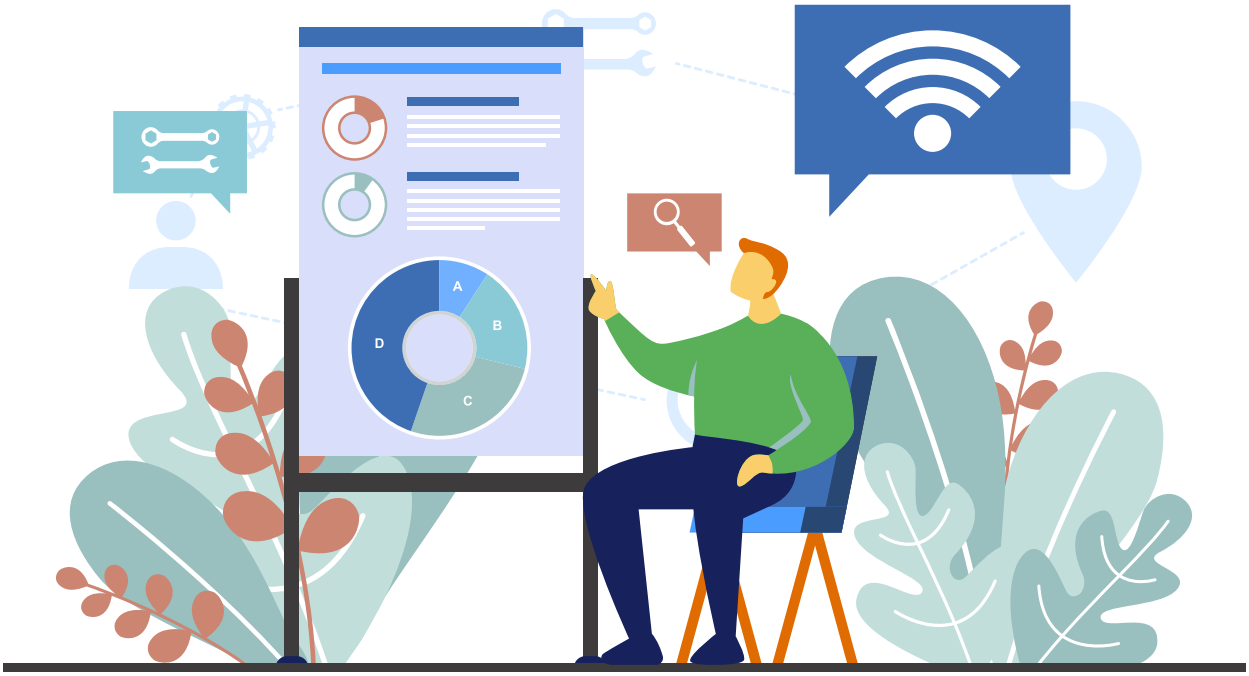
If a site has a responsive design configuration, as Google recommends, everything on both the desktop version and the mobile version should be accounted for by Google, right?

Not exactly. In responsive design, you tell the site not to display blocks of text or certain images in a mobile device.

Traditionally, Google would index the desktop version of your site. Whatever the desktop image was, that's what Google would index and use to rank. Then, when a person loaded that page on a mobile device, at that point, you could control what was displayed. However, the index was based on the full desktop version of the content. Responsive design just decided what was displayed or not for a mobile or tablet device.

> Now Google is moving to a mobile-first index. Whereas the desktop version of the site used to matter most for search engine optimization, now it's the mobile UX that counts. If the mobile version of your site is not displaying certain content or images, Google will no longer consider it in ranking and indexing.
>
> For example, on your desktop site in your footer, you might have 50 links. But in the mobile version, you don't want to clutter it up so you only display 10. When Googlebot crawls your page, it's not going to count 50 links, it'll only consider the 10.

Because there are so many variables when creating a mobile-friendly site, it's important to have an expert SEO working with your developers to make important decisions about mobile configuration.

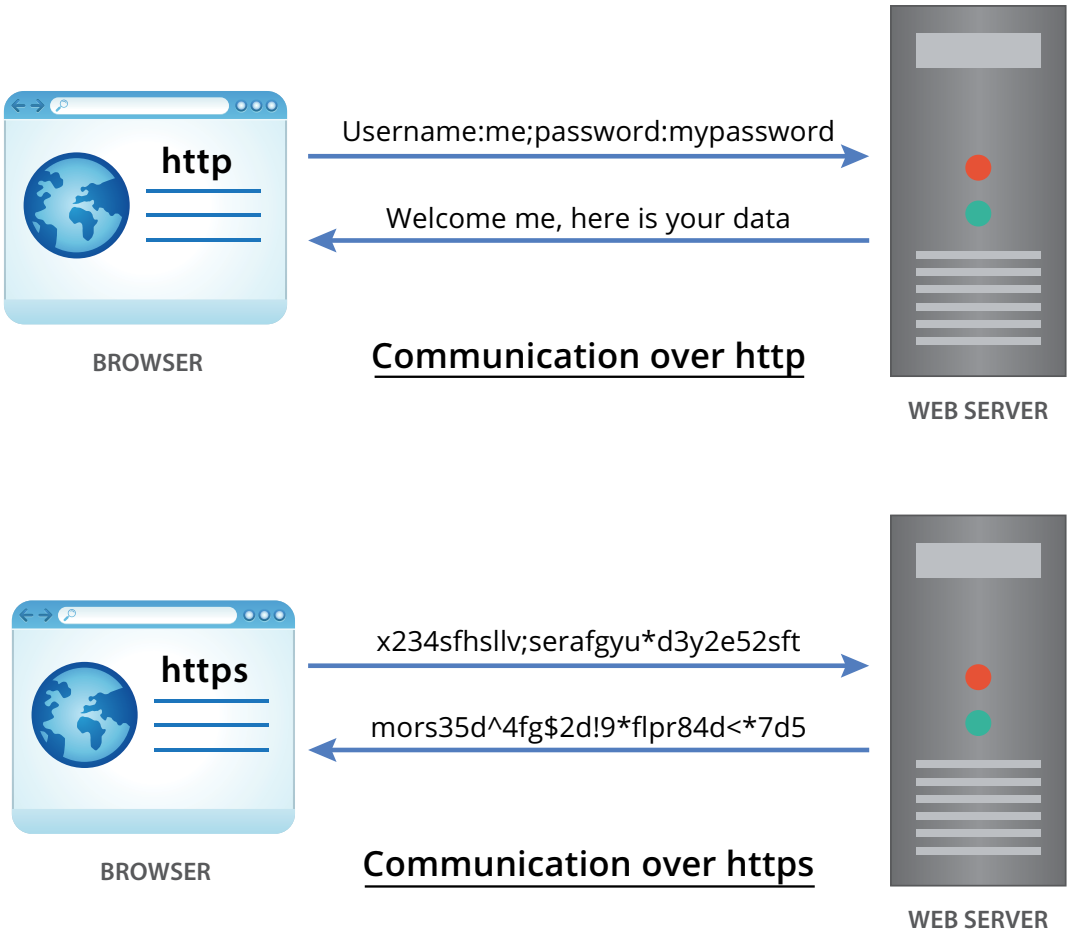


6 | HTTPS

Did you know that more than 95% of U.S. webpages loaded in Google Chrome are now encrypted? That's good for websites and users. But not so good for the 5% that have not migrated from HTTP to HTTPS. Let's look at why HTTPS is important for everyone, but especially so you can better prepare for Google's page experience ranking signal.

WHAT IS HTTPS?

HTTPS, or hypertext transfer protocol secure, secures the data that's exchanged between a web browser (such as Chrome) and a web server (which stores, processes and delivers your webpages to a user).



"What Is https?" Concept by TutorialsTeacher.com

As the illustration shows, the difference between HTTP and HTTPS is that the data is not encrypted on HTTP. HTTPS helps protect against attacks that can happen while data is in transit.

Examples of attacks could be:

- A breach of sensitive data like passwords, credit card numbers and health information
- Malware installation onto the user's computer
- Fake content served up to the user instead of the content they wanted
- Studying the overall browsing activities of users to ultimately discover a user's identity

HTTPS came about in the '90s and originally applied to processing credit card information. But as companies like Google began to push for secure web browsing, HTTPS has become a gold standard for websites.

Google's goal is to achieve 100% encryption across its products and services.

WHY IS HTTPS IMPORTANT?

HTTPS is important because it helps to protect your website and your website visitors from potential bad actors. HTTPS creates a good user experience, helps instill trust in your website, and protects your revenue.

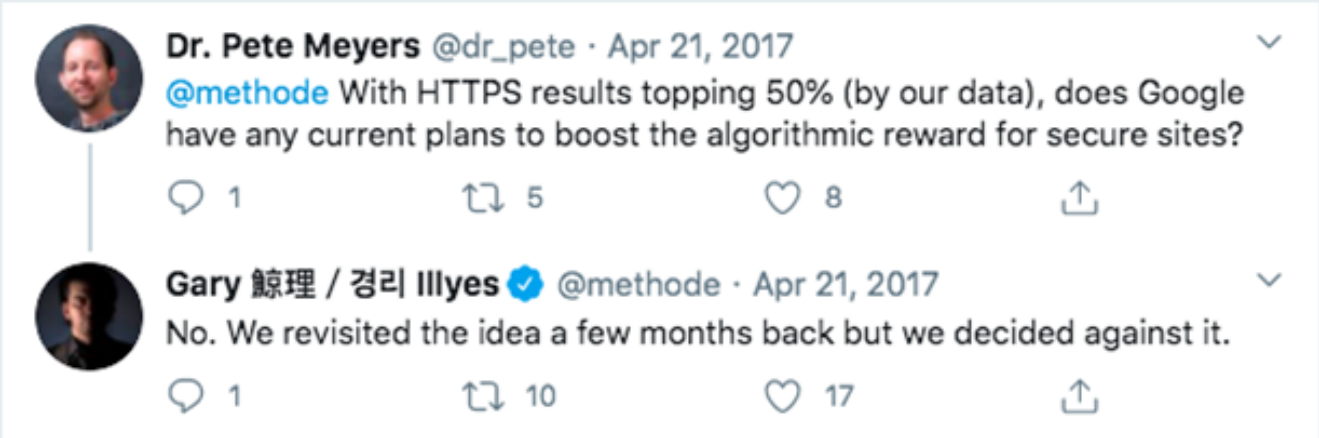
HTTPS is also necessary when pursuing new web platform features, including progressive web apps (for more on what that is, see this article on Medium).

Google announced back in 2014 that sites with HTTPS would receive a ranking boost albeit a small one. In other words, if your site was not secure but a competitor's was, their website may rank better, all else being equal.

Will HTTPS be a stronger signal in the future? Maybe.

In its 2014 announcement, Google said that “over time, we may decide to strengthen it, because we’d like to encourage all website owners to switch from HTTP to HTTPS to keep everyone safe on the web.”

But in 2017, Google rep Gary Illyes said they didn’t have plans to make it a stronger signal:



Screenshot of Twitter Conversation

Another announcement coming from Google in 2015 said it would index HTTPS pages by default:

> … we’re adjusting our indexing system to look for more HTTPS pages. Specifically, we’ll start crawling HTTPS equivalents of HTTP pages, even when the former are not linked to from any page.

A secure website can also protect website visitors and revenue. When people reach a webpage that is not secure, they may receive a message that labels it as such. This may cause a person to bounce from the site or abandon their cart.

"A secure web is here to stay," Google Security Blog

Plus, once you enable HTTPS, you can implement HTTP/2 on your site. This is the first major upgrade to HTTP since its inception, and it can improve page load time. Remember that site speed is a signal in Google's ranking algorithm.

Screenshot of Twitter Conversation

So it's a good idea to implement HTTPS for security — and to do it ahead of Google's page experience ranking update in 2021.

An additional note: We believe HTTPS is a strong trust signal, especially for ecommerce sites. But if everyone is finally HTTPS, then everyone is tied. That means *not* being HTTPS becomes a disqualifier.

HOW DO YOU MOVE TO HTTPS?

If you're ready to move your site to HTTPS, Google offers some good resources to start:

- Secure your site with HTTPS
- HTTPS migration FAQs
- What is a site move?

Just like any site migration, it's common to see fluctuations in rankings and traffic for a period of time. Depending on the size of the site, this can take weeks or more. Traffic should resolve itself after things settle (and you may even see a ranking and traffic boost afterwards).

To avoid pitfalls that could impact your site during the migration, make sure that you:

- Do the migration when website traffic levels are lowest.
- Monitor your rankings before and after — there will be some flux but it should work itself out.
- Don't block HTTPS with robots.txt.
- Don't forget to 301 redirect all the old URLs to the new ones.
- Make sure your internal links and tags (canonicals, etc.) aren't referencing the old HTTP URLs.
- Avoid the noindex meta tag on important pages.
- Look for excessive redirects that may cause slow page load times.
- Ensure the content on HTTPS webpages is the same as on HTTP pages.
- Crawl the site after and make sure you get the 200 status code on all pages.

Google offers its best practices for an HTTP > HTTPS move here.

7 | INTRUSIVE INTERSTITIALS

You're searching for a product on your phone. You find a listing in the search results, select it and — fail! A pop-up has dominated the entire screen on your mobile device. And you can't press the little "x" because it's too close to the screen's edge. All that's left to do is leave the site. Has something like this ever happened to you? Aside from the fact that it's annoying as a user, think about what it's doing to your business as a site owner. That's why avoiding intrusive pop-ups is an SEO best practice. Let's explore intrusive pop-ups so you can better prepare for Google's page experience ranking signal.

WHAT ARE INTRUSIVE INTERSTITIALS?

An intrusive interstitial is essentially a webpage pop-up that makes it hard for a mobile user to access the content they want.

An example of an intrusive popup

Two examples of intrusive standalone interstitials

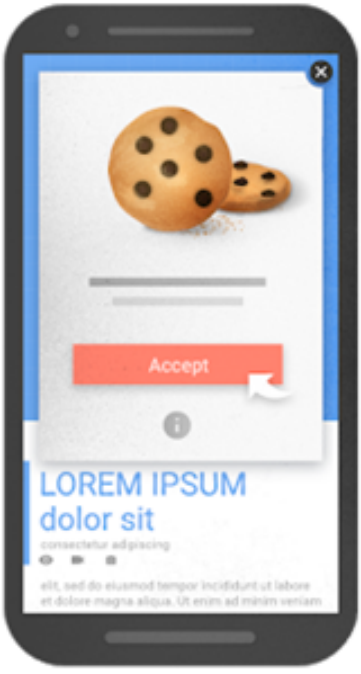
"Helping users easily access content on mobile," Google Webmaster Central Blog

When Google first talked about this issue in 2016, it gave some examples of intrusive interstitials:

- A pop-up that covers the main content immediately after a person navigates to a webpage from the search results or while they are looking through the page.
- A standalone interstitial that a person has to dismiss before accessing the main content.
- A webpage with above-the-fold content similar to a standalone interstitial where the original content is inline underneath.

Pop-ups that are OK include:

- Interstitials for legal obligations (like cookie usage notices or age verifications).
- Login dialogs on sites, such as to access private content.
- Banners that are easily dismissible and don't take up too much space on the webpage.



An example of an interstitial for cookie usage

An example of an interstitial for age verification

An example of a banner that uses a reasonable amount of screen space

"Helping users easily access content on mobile," Google Webmaster Central Blog

WHY DO INTRUSIVE INTERSTITIALS MATTER?

Intrusive website pop-ups create a bad user experience for mobile users. Since this can harm your website rankings, they're also bad for SEO.

In 2017, Google rolled out an intrusive interstitial penalty. Google explained that:

> Starting today, pages where content is not easily accessible to a user on the transition from the mobile search results may not rank as high.

This applies only to pages that mobile users visit directly from a Google search result (not subsequent webpages visited on the same site from the original page). Regardless, it's a good best practice to avoid annoying your visitors.

Google reminded readers that this is just one signal and, as always, great content will prevail:

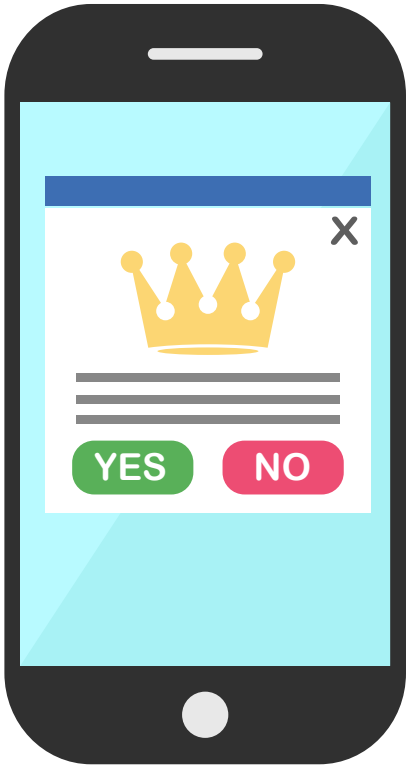
> As we said, this new signal is just one of hundreds of signals that are used in ranking and the intent of the search query is still a very strong signal, so a page may still rank highly if it has great, relevant content.

With interstitials being a factor in Google's new page experience ranking signal, it's a reminder that intrusive pop-ups have no place in a mobile-first world.

HOW TO AVOID INTRUSIVE INTERSTITIALS

Avoid intrusive pop-ups by aligning your website with the mobile user experience. Google offers in-depth guidance on creating a mobile-friendly site here, including how to avoid common mistakes with pop-ups.

Luckily, you can still achieve your website goals without hindering people's page experience. Keep these mobile-friendly navigation practices for pop-ups in mind:



1. Use pop-up banners that don't take a lot of space. This may mean reducing the size of the elements or placing a banner on the side or bottom of the page.
2. Make sure users can easily dismiss the pop-up. That "x" should be clearly visible and easy to press.
3. Apply a delay before the pop-up renders. Make sure visitors can access the main content right away when they come from the search results. This can be a time delay or a scrolling delay. Or you can show the pop-up on exit instead of entry to the page.
4. Segment your pop-ups by audience to make the message more relevant to them. For example, new versus returning visitors.
5. If a user closes a pop-up once, make sure that it doesn't continue to display or follow them around the website. Showing it to them again at a later date (like a week later) should be fine.
6. Make sure your pop-up doesn't slow your page load time.

It comes down to courtesy. When designing website elements like interstitials, make sure your site delivers the kind of page experience that satisfies visitors and Google.

WHAT'S NEXT?

Now that you have a basic understanding of each of the page experience factors in Google's ranking update, you can begin to fine-tune your website.

As with anything worth doing, it takes time. Expect to put in months of work. That means, it's time to get started.

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