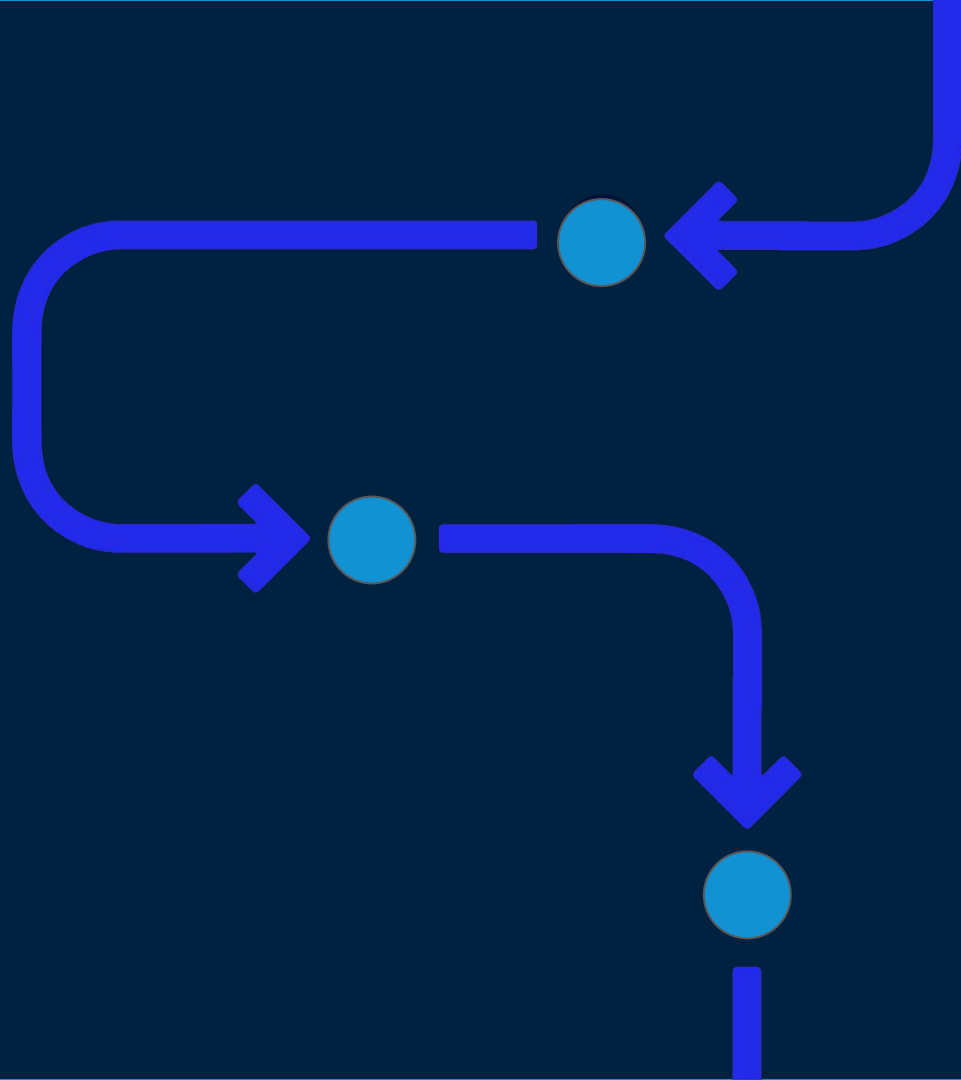


Common & Not So Common Core Web Vitals Issues (and how to fix them)

Tom Pool



I'm Tom - Technical & Training Director at Blue Array

And I love a good
adventure

A person is sitting on the edge of a dark, craggy rock formation that juts out from the left side of the frame. They are looking out over a vast, rolling landscape under a dramatic sky. The sun is low on the horizon to the right, casting a warm, golden glow across the scene. The sky is filled with soft, wispy clouds. In the distance, there are layers of mountains and a small body of water nestled in a valley. The overall mood is one of solitude and adventure.

Like all good
adventures



We're going
to start with
a question

What are the things
that really annoy you
about using the
internet?

No,
Twitter/Reddit/LinkedIn
doesn't count

What are the things
that really annoy you
about using the
internet?

If you had to make a
list of 5 things that
annoy you

The Google logo is centered on the page. It features the word "Google" in its signature multi-colored font: blue 'G', red 'o', yellow 'o', blue 'g', green 'l', and red 'e'.

Pages 'not working' fast enough

Links taking you to irrelevant locations

Pages moving around while interacting (Local News Publishers)

Pages taking ages to load



3 of these areas,
coincidentally

Are all things that
'CWV' aims to track &
monitor

Pages 'not working' fast enough

(Interactivity)

FID

First Input Delay



Pages 'taking ages' to load

(Loading)

LCP

Largest Contentful Paint



Things on pages moving around

(Visual Stability)

CLS

Cumulative Layout Shift



Core Web Vitals are a
set of metrics,
intended to

*‘Help site owners
measure User
Experience on the web’*

CWV were
announced nearly 3
years ago

And lots of sites are
still shit

Especially pages that
are not the main,
'money' pages

Evaluating page experience for a better web

Thursday, May 28, 2020

Through both [internal studies](#) and [industry research](#), users show they prefer sites with a great page experience. In recent years, Search has added a variety of user experience criteria, such as [how quickly pages load](#) and [mobile-friendliness](#), as factors for ranking results. Earlier this month, the Chrome team announced [Core Web Vitals](#), a set of metrics related to [speed, responsiveness and visual stability](#), to help site owners measure user experience on the web.

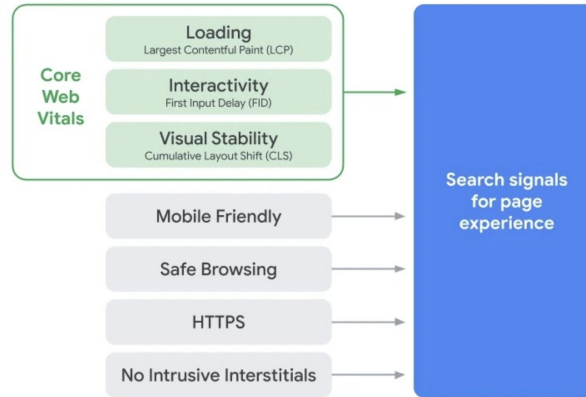
Timing for bringing page experience to Google Search

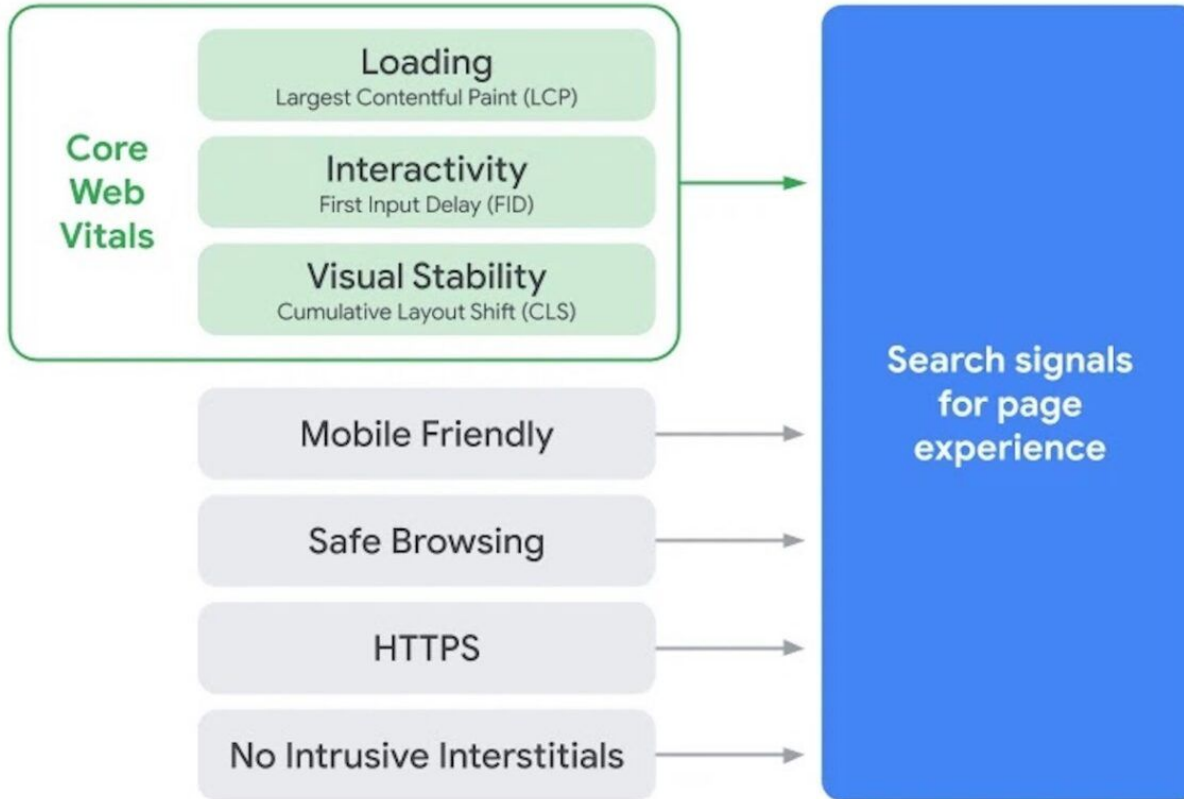
[Send feedback](#)

Tuesday, November 10, 2020

[This past May](#), we announced that [page experience](#) signals would be included in Google Search ranking. These signals measure how users perceive the experience of interacting with a web page and contribute to our ongoing work to ensure people get the most helpful and enjoyable experiences from the web. In the past several months, we've seen a median 70% increase in the number of users engaging with Lighthouse and PageSpeed Insights, and many site owners using Search Console's Core Web Vitals report to identify opportunities for improvement.

Today we're announcing that the page experience signals in ranking will roll out in May 2021. The new page experience signals combine Core Web Vitals with our existing search signals including [mobile-friendliness](#), [safe-browsing](#), [HTTPS-security](#), and [intrusive interstitial guidelines](#).





Timeline for bringing page experience ranking to desktop

[Send feedback](#)

Thursday, November 4, 2021

★ **Update on February 22, 2022:** The page experience update is now slowly rolling out for desktop. It will be completed by the end of March 2022.

★ **Update on January 17, 2022:** Search Console now has a dedicated 'Desktop' section in the [Page Experience report](#).

At I/O 2021, we [previewed](#) our plans to bring page experience ranking to desktop. Today we're announcing more details, including the timeline for these changes. This work builds on top of the [page experience update](#) we rolled out on mobile between June and August 2021.

Rollout will begin in February 2022

We'll begin using page experience as part of our desktop ranking systems beginning in February 2022. The rollout will be complete by the end of March 2022. This ranking launch will be based on the same [page experience signals](#) that we rolled out for mobile earlier this year. We are also planning to help site owners understand how their desktop pages are performing with regards to page experience using a Search Console report which will launch before desktop becomes a ranking signal.

This means the same three [Core Web Vitals metrics](#): [LCP](#), [FID](#), and [CLS](#), and their associated thresholds will apply for desktop ranking. Other aspects of page experience signals, such as HTTPS security and absence of intrusive interstitials, will remain the same as well. While the mobile-friendliness signal continues to be a part of mobile ranking, it won't be a factor for desktop. When a site has [separate desktop and mobile URLs](#) with an appropriate configuration, the desktop signal is based on the URLs that desktop users see.

Factor	Mobile	Desktop
Largest Contentful Paint (LCP)	✓	✓
Cumulative Layout Shift (CLS)	✓	✓
First Input Delay (FID)	✓	✓
HTTPS Security	✓	✓
Absence of intrusive interstitials	✓	✓
Mobile friendliness	✓	⛔ (Not applicable)

We hope this blog post provides you with details for you to [understand and optimize your page experience](#) in preparation for the upcoming changes, and in turn help you build better websites.

If you have questions or feedback, please visit our [help forums](#) or let us know through [Twitter](#).

Posted by Jeffrey Jose, Product Manager on Search

Was this helpful?



[Send feedback](#)

Except as otherwise noted, the content of this page is licensed under the [Creative Commons Attribution 4.0 License](#), and code samples are licensed under the [Apache 2.0 License](#). For details, see the [Google Developers Site Policies](#). Java is a registered trademark of Oracle and/or its affiliates.

On this page
Rollout will begin in February 2022

Factor	Mobile	Desktop
Largest Contentful Paint (LCP)	✓	✓
Cumulative Layout Shift (CLS)	✓	✓
First Input Delay (FID)	✓	✓
HTTPS Security	✓	✓
Absence of intrusive interstitials	✓	✓
Mobile friendliness	✓	⊘ (Not applicable)

What about now?

A lot of sites still struggle with Core Web Vitals

Microsoft Bing

what are the cwv

ALL CHAT IMAGES VIDEOS MAPS NEWS MORE

About 9,150,000 results Date ▾

Welcome to the new Bing
Your AI-powered answer engine
Ask anything

Catholic War Veterans

What does CWV stand for? All Acronyms has a list of 27 CWV definitions. Updated April 2020. Top CWV acronym meaning: **Catholic War Veterans**

[CWV Meanings | What Does CWV Stand For?](#)
www.allacronyms.com/CWV

What is their history? How can I join them? What do they do? How many...

Type a message...

feedback

A quick look through Search Console

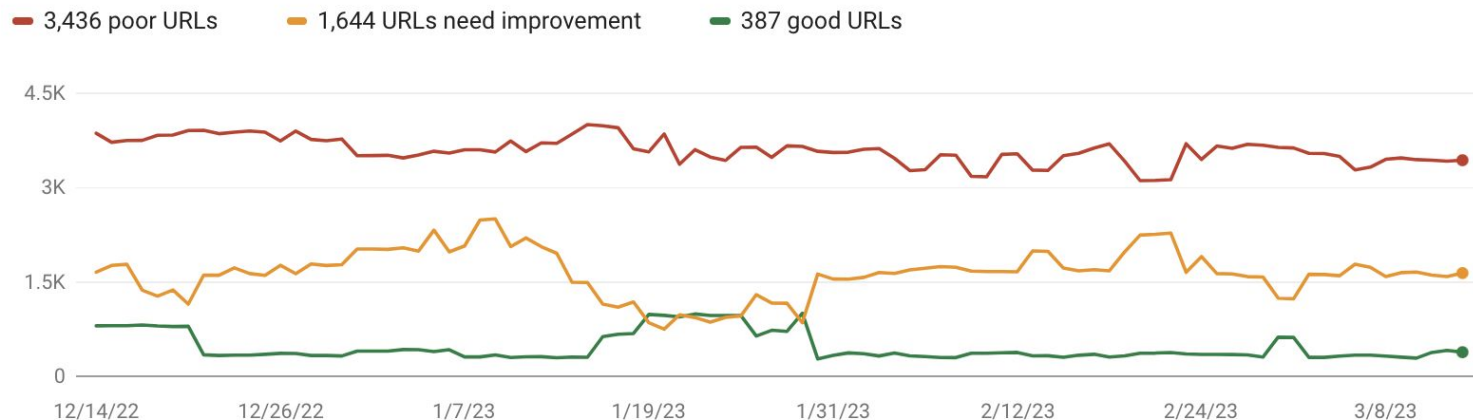
Core Web Vitals

Student Discounts

Source: Chrome UX report [?](#) Last updated: 3/13/23

Mobile

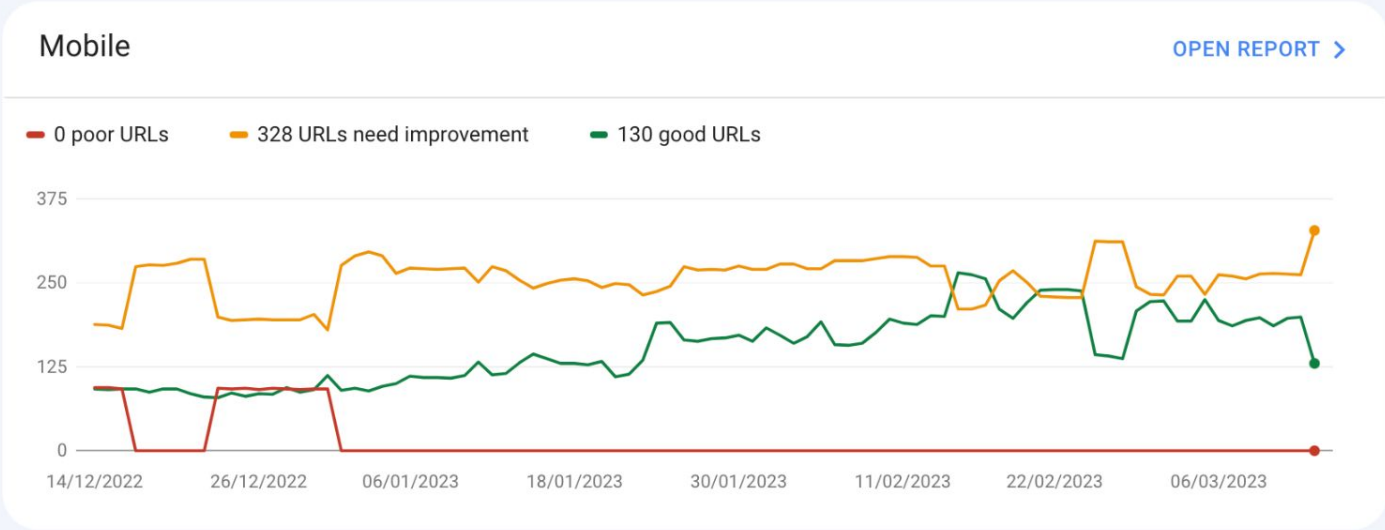
[OPEN REPORT >](#)



Core web vitals

Large national food producer

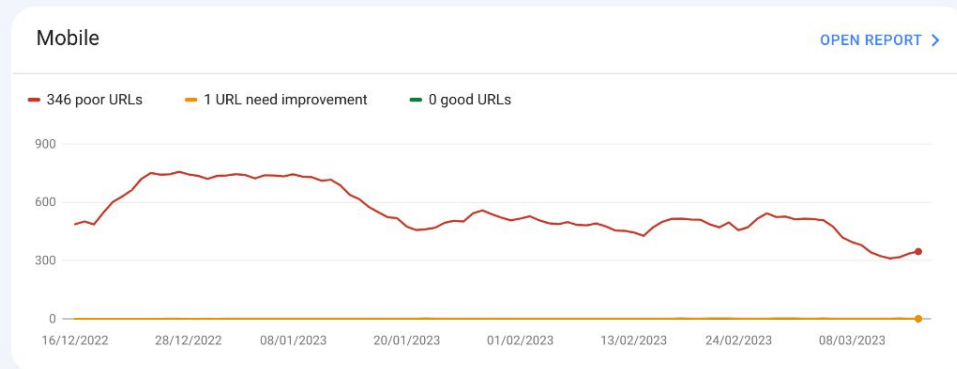
Source: Chrome UX report ⓘ Last updated: 13/03/2023



Multinational retailer

Core web vitals

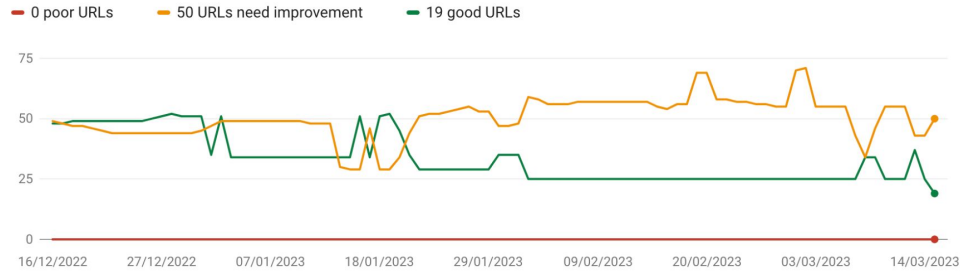
Source: [Chrome UX report](#) ⓘ Last updated: 15/03/2023



Coffee company

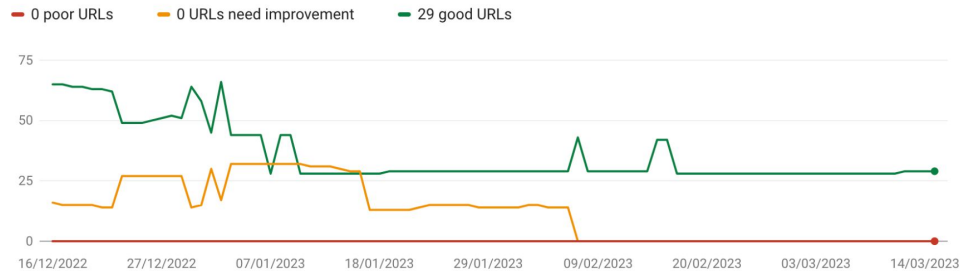
Mobile

[OPEN REPORT >](#)



Desktop

[OPEN REPORT >](#)



There's also the more
general 'Page
Experience' report

Local Ebay competitor

Mobile

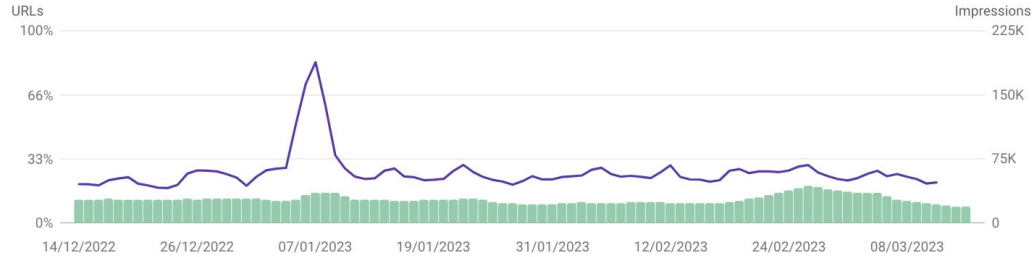
Good URLs ?

7.8%

Total impressions of good URLs ?

5.22M

ⓘ About chart



Page experience signals for mobile

Core web vitals ? >

19.5K

Failing URLs

Mobile Usability ? >

5

Failing URLs

HTTPS ? >

3

Non-HTTPS URLs

No site is safe from
the judgement of
CWV

The report shown in
Search Console is
built from the CrUX

This is also what the
first view in Page
Speed Insights is
built from



Discover what your real users are experiencing

Learn how your site has performed, based on data from your actual users around the world.

This URL

Origin

<https://www.greenandblacks.co.uk/>



Core Web Vitals assessment: **Failed**

Computed from the [Core Web Vitals](#) metrics over the latest 28-day collection period.

[Learn more](#)

[Expand view](#)

■ First Contentful Paint (FCP)

2.4 s



● First Input Delay (FID) ■

59 ms



▲ Largest Contentful Paint (LCP) ■

4.5 s



● Cumulative Layout Shift (CLS) ■

0.03



Latest 28-day collection period

Full visit durations

Various mobile devices

Various network connections

Many samples ([Chrome UX Report](#))

All Chrome versions

*The Chrome User Experience
Report is powered by real user
measurement of key user
experience metrics across the
public web*

*You have to be using Chrome
(not Chromium), (not on iOS),
and be opted in to syncing
browser history*

The CrUX report
collects a lot of
different data

First Paint
First Contentful Paint
First Input Delay
Largest Contentful Paint
Cumulative Layout Shift
Time to First Byte
Connection Type
Device Type
Country

<https://developers.google.com/web/tools/chrome-user-experience-report>

You can explore this
data in more depth
within the CrUX
dashboard in Looker
Studio



Month: Apr 2020 (1)

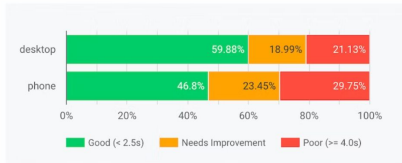
Device

Core Web Vitals

Origin
https://developers.google.comMonth
Apr 2020

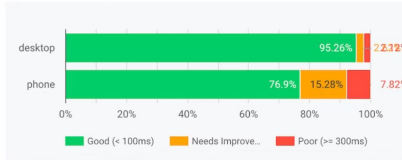
Largest Contentful Paint (LCP)

LCP reports the render time of the largest content element that is visible within the viewport.
web.dev/lcp



First Input Delay (FID)

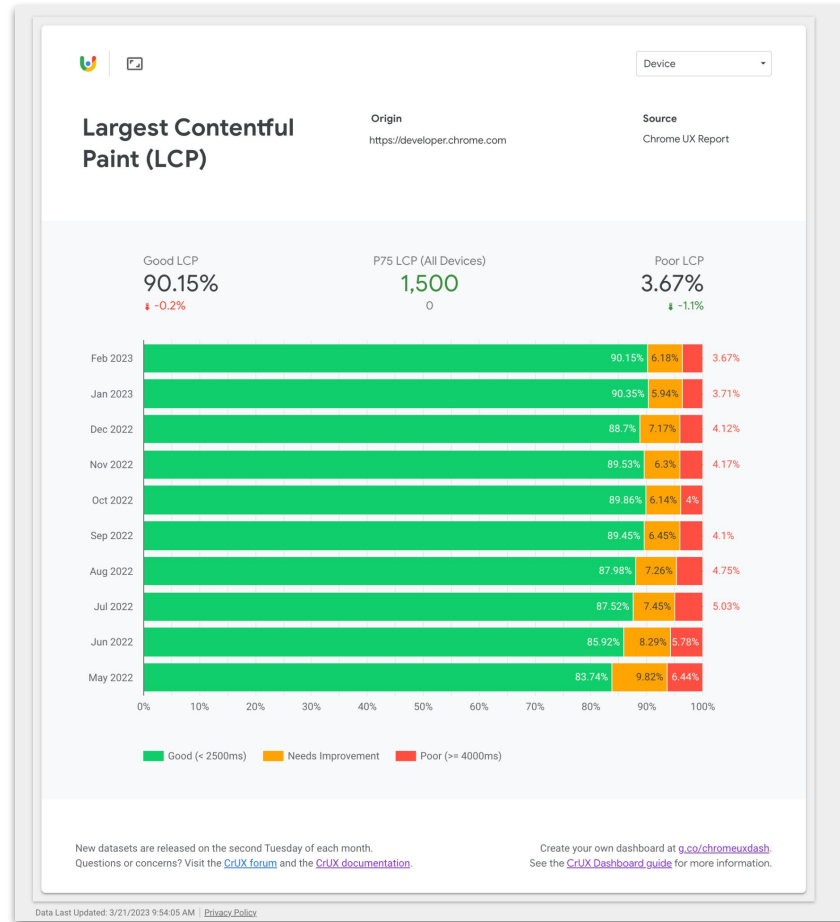
FID measures the time from when a user first interacts with a page (i.e. when they click a link, tap on a button, or use a custom, JavaScript-powered control) to the time when the browser is actually able to respond to that interaction.
web.dev/fid



Cumulative Layout Shift (CLS)

CLS measures the sum total of all individual layout shift scores for every unexpected layout shift that occurs during the entire lifespan of the page.
web.dev/cls

Questions or concerns? Visit the [CrUX forum](#)Create your own dashboard at g.co/chromeuxdash



There's a lot of useful insight

You can use it with
{any domain} - ideal
for competitor
analysis

← SELECT CONNECTOR



Chrome UX Report

By The Chrome UX Report Team

Explore user experience stats about an origin in the Chrome UX Report. Terms of Service: <https://policies.google.com/terms>

Privacy Policy: <https://policies.google.com/privacy>

It is your responsibility to review and comply with all applicable third party TOS.

[LEARN MORE](#)

[REPORT AN ISSUE](#)

Parameters

Enter origin URL:

e.g. <https://developer.chrome.com>



Allow "Enter origin URL:" to be modified in reports. [?](#)

'<https://>' is added by default. If needed, add '<http://>' at the URL beginning (e.g. <http://example.com>)

Click "CONNECT" to continue.



Use report template for new reports

This is provided by the connector's creator.

[Learn more](#) about how your data is being shared when allowing report editors to modify parameter values.

A few moments ago
we mentioned the 3
main CWVs

Largest Contentful Paint First Input Delay Cumulative Layout Shift

The most common
issue that we see is
usually with LCP

What is LCP?

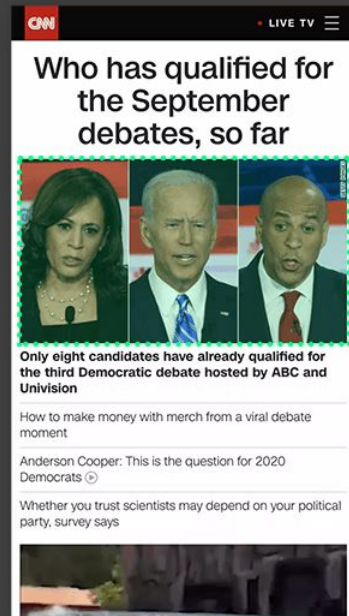
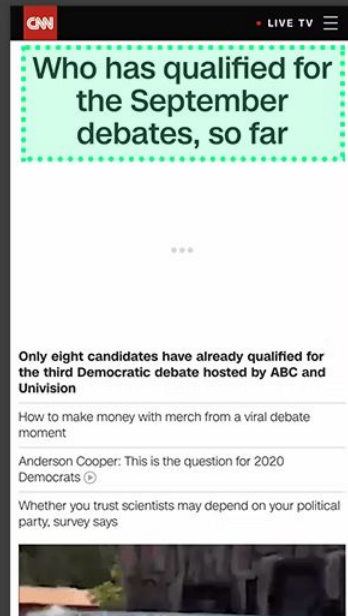
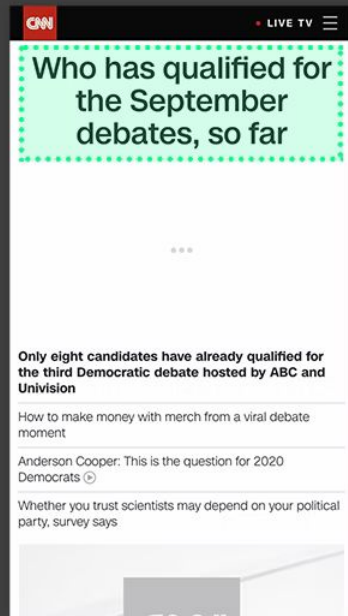
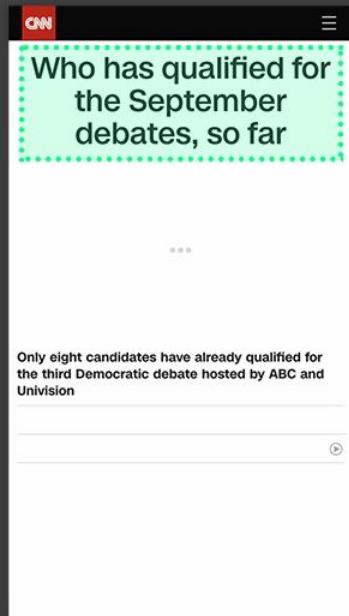
The Largest Contentful Paint (LCP) metric reports the render time of the largest image or text block visible within the viewport, relative to when the page first started loading.

<https://web.dev/lcp/#what-is-lcp>

The LCP can change as a page loads



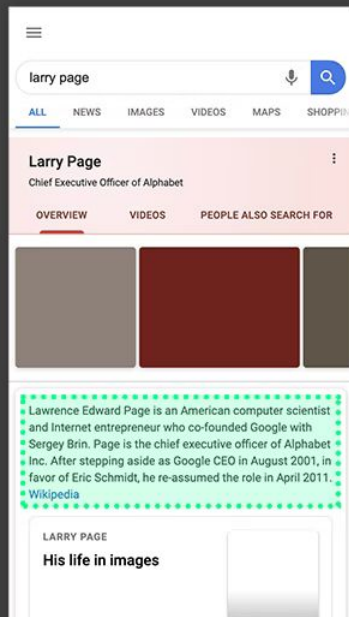
FCP



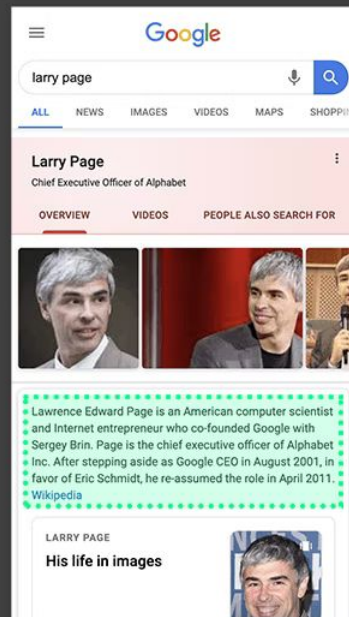
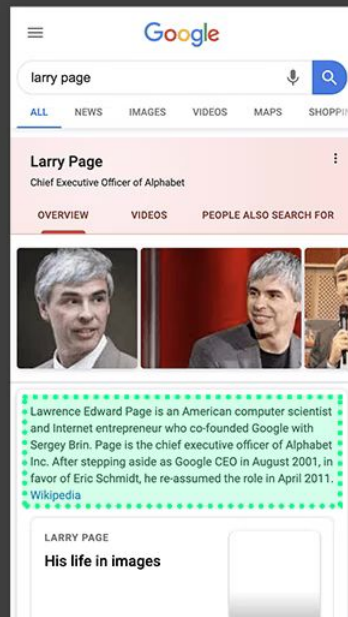
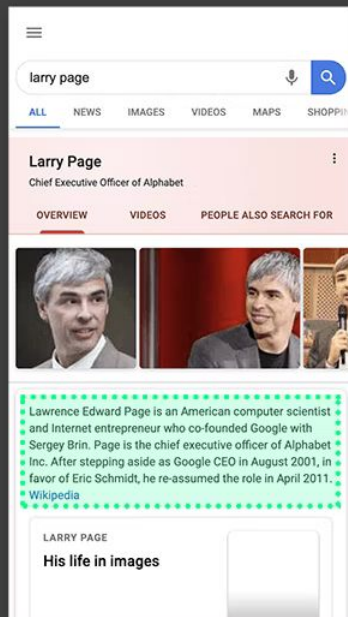
LCP



FCP



LCP



As soon as a user
interacts with a page,
no new LCP
classifications can occur

What can impact LCP?

Slow server response times
Render blocking resources
Resource load times
Large files
Client side rendering

One of the most
common issue that
we see with LCP

(And we do a lot of
CWV investigations)

Is large imagery

It's also one of the
easier areas to fix,
too

For example, take
this URL on the
BlueArray Website

[Meet the team](#) > Tom Pool



Tom Pool

Technical SEO Director



Tom Pool was Blue Array's first hire and has excelled on the technical side of SEO. Tom's engineering BTEC level has proven to be a solid foundation and he's excited about pursuing his career with Blue Array.

We asked Tom "If you could visit any place in the world, where would you choose to go and why?";

If I could visit anywhere, it would have to be Switzerland for the mountains, or somewhere north, where you can see the Northern Lights. I'm slowly ticking off each European country, and absolutely loving the different cultures!

Page Speed Insights shows



Diagnose performance issues

65

Performance

98

Accessibility

83

Best Practices

77

SEO

65

Performance

Values are estimated and may vary. The [performance score](#) is calculated directly from these metrics. [See calculator.](#)

▲ 0-49 ■ 50-89 ● 90-100

METRICS

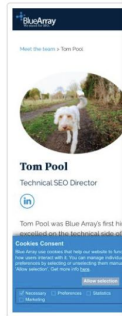
■ First Contentful Paint
2.4 s

■ Total Blocking Time
360 ms

● Speed Index
2.8 s

■ Largest Contentful Paint
3.1 s

▲ Cumulative Layout Shift
0.342



Show audits relevant to: [All](#) [FCP](#) [LCP](#) [TBT](#) [CLS](#)

OPPORTUNITIES

Opportunity

Estimated Savings

▲ Properly size images 6.60s

Serve images that are appropriately-sized to save cellular data and improve load time. [Learn how to size images.](#)

Upload images directly through the [media library](#) to ensure that the required image sizes are available, and then insert them from the media library or use the image widget to ensure the optimal image sizes are used (including those for the responsive breakpoints). Avoid using Full Size images unless the dimensions are adequate for their usage. [Learn More.](#)

	URL	Resource Size	Potential Savings
	Tom Pool 64738-sca..." class=" lazyloaded" src="https://www.bluearray.co.uk/wp- content/uploads/2023/03/20230301_164738-sca..." data-bbox="521 529 591 585"/>	1,394.3 KiB	1,336.6 KiB

▲ Serve images in next-gen formats 1.80s

▲ Reduce unused JavaScript 1.11s


■ Eliminate render-blocking resources 0.52s

■ Reduce unused CSS 0.15s

The Blue Array
website is hosted on
WP

(So it's easy to fix this
one!)

Edit Image



20230301_164738-scaled.jpg

16 March 2023

1 MB

2560 by 1920 pixels

Original image: [20230301_164738.jpg](#)

[Edit Image](#)

[Delete permanently](#)

Alt Text

[Learn how to describe the purpose of the image.](#) Leave empty if the image is purely decorative.

Title

20230301_164738

Caption

test_profile_image_tom_pool_fos

Description

File URL:

https://www.bluearray.co.uk/wp-content/uploads/2023/03/20230301_164738-scaled.jpg

Copy URL to clipboard

Smush

4 images reduced by 242.5 KB (7.3%)

Image size: 1.4 MB

[View Stats](#)

Envira Tags

Custom URL

Custom Target

Default

Custom Class

Crop Position

☐

☐

☐

☒

☐

☐

☐

☐

Update Image

Edit Image



20230301_164738-scaled.jpg

16 March 2023

1 MB

2560 by 1920 pixels

Original image: [20230301_164738.jpg](#)

[Edit Image](#)

[Delete permanently](#)

2560 x 1920 pixels

[Meet the team](#) > Tom Pool



Tom Pool

Technical SEO Director



Tom Pool was Blue Array's first hire and has excelled on the technical side of SEO. Tom's engineering BTEC level has proven to be a solid foundation and he's excited about pursuing his career with Blue Array.

We asked Tom "If you could visit any place in the world, where would you choose to go and why?";

If I could visit anywhere, it would have to be Switzerland for the mountains, or somewhere north, where you can see the Northern Lights. I'm slowly ticking off each European country, and absolutely loving the different cultures!

It's surprising to see
how many sites just
upload images & roll
with them

Simple scaling can really help

SCALE IMAGE ?

Original dimensions 2560 × 1920

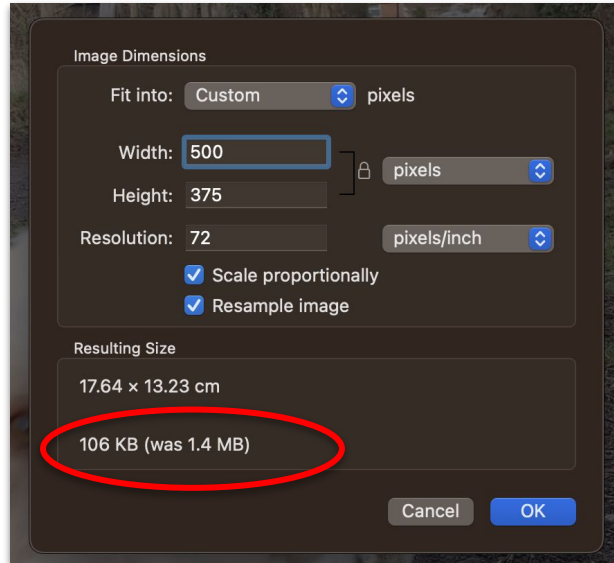
New dimensions:

×

Scale

You can also do this
easily on Mac

Preview > View >
Show Markup
Toolbar > Resize



You can also resize multiple images

<https://support.apple.com/en-gb/guide/prview/prvw2015/mac>

When you've resized,
don't forget to upload

Edit Image



20230301_164738-1-min-1.jpg

16 March 2023

32 KB

500 by 375 pixels

[Edit Image](#)

[Delete permanently](#)

[Meet the team](#) > Tom Pool



Tom Pool

Technical SEO Director



Tom Pool was Blue Array's first hire and has excelled on the technical side of SEO. Tom's engineering BTEC level has proven to be a solid foundation and he's excited about pursuing his career with Blue Array.

We asked Tom "If you could visit any place in the world, where would you choose to go and why?";

If I could visit anywhere, somewhere north, where European country, and a

[Meet the team](#) > Tom Pool



Tom Pool

Technical SEO Director



Tom Pool was Blue Array's first hire and has excelled on the technical side of SEO. Tom's engineering BTEC level has proven to be a solid foundation and he's excited about pursuing his career with Blue Array.

We asked Tom "If you could visit any place in the world, where would you choose to go and why?";

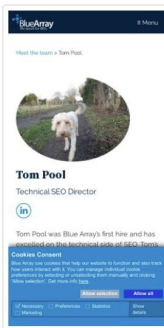
If I could visit anywhere, it would have to be Switzerland for the mountains, or somewhere north, where you can see the Northern Lights. I'm slowly ticking off each European country, and absolutely loving the different cultures!



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0–49 ■ 50–89 ● 90–100



METRICS

■ First Contentful Paint
2.3 s

■ Total Blocking Time
410 ms

● Speed Index
2.6 s

■ Largest Contentful Paint
2.8 s

▲ Cumulative Layout Shift
0.315

📅 Captured at Mar 16, 2023, 3:09 PM GMT

⌚ Initial page load

📱 Emulated Moto G Power with Lighthouse 10.0.2

🔋 Slow 4G throttling

🔗 Single page load

🖥️ Using HeadlessChrome

🗺️ [View Treemap](#)

Visualizations of the page load process, showing the sequence of requests and the resulting layout shifts.

Show audits relevant to: [All](#) [FCP](#) [LCP](#) [TBT](#) [CLS](#)

OPPORTUNITIES

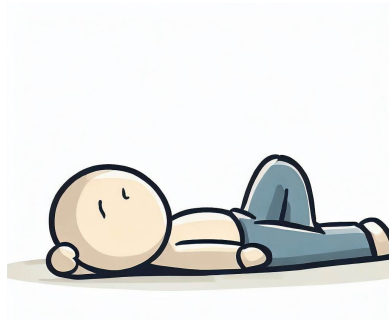
Opportunity	Estimated Savings
▲ Reduce unused JavaScript	1.47s
▲ Eliminate render-blocking resources	0.94s
■ Minify JavaScript	0.15s

These suggestions can help your page load faster. They don't [directly affect](#) the Performance score.

Improvement!
But there's still more
actions to take

Moving on to
another example,
where the issue is
not as commonly
seen

Relating to Lazy Loading



The developers were
very 'keen' with the
lazy-loading
implementation

And all images had
loading="lazy"

Even the images that
appear above the
fold



Venus beside a crescent Moon on July 15th, 2018. Image: NASA / Bill Dunford

CAMERAS AND PHOTOGRAPHY

The night sky is always getting faked

We've been getting fooled by photos of the night sky for years; now, tech is making it even easier.

By EMMA ROTH

Mar 16, 2023, 3:00 PM GMT | [2 Comments](#) / [2 New](#)



When astronomer Tyler Nordgren first got involved in astrophotography in the '90s, he noticed something very off about the postcards, posters, and other photos he'd see when living and traveling in the American Southwest.

"One of the big things that struck me at that time was the number of pictures I'd see that show the buttes in Monument Valley with a full moon rising behind them," Nordgren recalls. Nordgren had been to that exact location in Monument Valley, and he knew the Moon didn't rise in the position shown in the photos. "And even if it did, the shadows on the Moon are utterly different from the shadows on the buttes." Even in a time before widespread Photoshop use, it was clear that something was

*Sample site -
The Verge
doesn't have
lazy loading
issues (they
have other
ones...)*

So instead of seeing
rich, valuable
content

Using lazy loading
meant that the
resource would not
load until after the
layout was confirmed

In practice, it would
look something like:



When astronomer Tyler Nordgren first got involved in astrophotography in the '90s, he noticed something very off about the postcards, posters, and other photos he'd see when living and traveling in the American Southwest.

"One of the big things that struck me at that time was the number of pictures I'd see that show the buttes in Monument Valley with a full moon rising behind them," Nordgren recalls. Nordgren had been to that exact location in Monument Valley, and he knew the Moon didn't rise in the position shown in the photos. "And even if it did, the shadows on the Moon are utterly different from the shadows on the buttes." Even in a time before widespread Photoshop use, it was clear that something was up: the photos were fake.

Again, it's a pretty straightforward fix

Make sure that all
in-viewport images
are not using lazy
loading

Or if they are, that
the site is using an
Intersection
Observer

This watches for
changes to the
visibility of each
image



When an image enters the user's view, the Intersection Observer detects this and triggers a JavaScript function that loads the image

We can also take this further, and help the LCP element (if it's an image) load faster



With something
called 'Priority Hints'

Priority Hints indicate the relative priority of resources to the browser. They can enable optimal loading and improve Core Web Vitals.

<https://web.dev/priority-hints/>

*You can hint to the browser as to
which resources are most
important via the fetchpriority
attribute for resources that could
benefit from a higher priority*

For example, if you specify
'fetchpriority="high"' on a
main image, LCP can
happen sooner

There's a wide range of
other issues that can affect
LCP



Clear & optimised caching is
useful; more so for
returning users

Be aware of preloading, too



Preloaded resources are fetched at a high priority, delaying the arrival of other resources in the page

In the case where a preloaded resource is never actually used by the page, that means potentially critical requests will be delayed, slowing down the initial loading of your site.

In addition to this, there's a couple of other things to be aware of

Slow Server Response Time -
Make sure you're using a
good, trustworthy host



Slow Server Response Time - Using a CDN is also valuable (Cloudflare)

Caching

- Make sure you're using smart caching rules

Look at the resources that
make up your site, and work
out best possible cache
times

Beyond LCP, CLS is the thing that can really affect User Experience

What is CLS?

CLS is a measure of the largest burst of layout shift scores for every unexpected layout shift that occurs during the entire lifespan of a page.

<https://web.dev/cls/#what-is-cls>

A layout shift occurs any time a visible element changes its position from one rendered frame to the next.

<https://web.dev/cls/#what-is-cls>

The Layout Shift Score is
based on
the size of a shifting element
in comparison to the
viewport

–

Impact Fraction

The distance the element
moves in comparison to the
viewport

-

Distance Fraction

$$\begin{aligned} &\text{Layout Shift Score} \\ &= \\ &\text{Impact Fraction} * \\ &\text{Distance Fraction} \end{aligned}$$

The way that CLS was
calculated was
updated mid 2021

To account for pages
with lots of small
changes over a
longer period of time
(a sports scoring page)

Google takes
readings every
second for 5 seconds

And assigns each
bracket it's own CLS

The bracket with the
highest CLS is what
represents the page
in PSI

The most common issue for CLS

Not including size
attributes on images
& videos

I'm sure we've all
seen the local 'news'
publisher sites

CHELTENHAM '23
WE'RE PAYING 4 PLACES INSTEAD OF 3
3:30PM CHELTENHAM GOLD CUP

18+ BeGambleAware Retail extra places may vary. See paddypower.com for full T&Cs. Please Gamble Responsibly.

PADDYPOWER

Manchester Evening News NEWS ▾ IN YOUR AREA MAN UTD MAN CITY WHAT'S ON ▾ SPORT ▾ MORE ▾

GRACE INSPIRATIONAL WOMEN'S STORIES

BUY A PAPER JOBS VOUCHER CODES ADVERTISE WITH US DIRECTORY FUNERAL NOTICES MARKETPLACE DATING BOOK AN AD PUBLIC NOTICES NEWSLETTER SIGNUP

AD FEATURE

- 1 How to save money on top days out during National Lottery Open Week**
- 2 The man who had his life changed forever after taking 'wrong turn' in Manchester**
- 3 Residents thrown out of block of flats given just DAYS to collect belongings**
- 4 Night & Day music venue back in court over row about noise**
- 5 Police arrest gunman, 27, on Greater Manchester street in early hours**

mirror.co.uk

of the best in the UK just

Subscribe to our daily What's On newsletter to keep up with what's happening around Greater Manchester

Enter your email...

Sign Up [No thanks, close](#)

We use your sign-up to provide content in the ways you've consented to and improve our understanding of you. This means that we may include adverts from us and third parties based on our knowledge of you. We also may change the frequency you receive our emails from us in order to keep you up to date and give you the best relevant information possible. As always you can unsubscribe at any time. [More info](#)

Find things to do

▼ All events ▼ All dates ▼ Location **Search**

ADVERTISEMENT

MANY ISSUES;
Banners, ads, ads,
ads, images not
having dimensions

Good documentation on GTMetrix shows

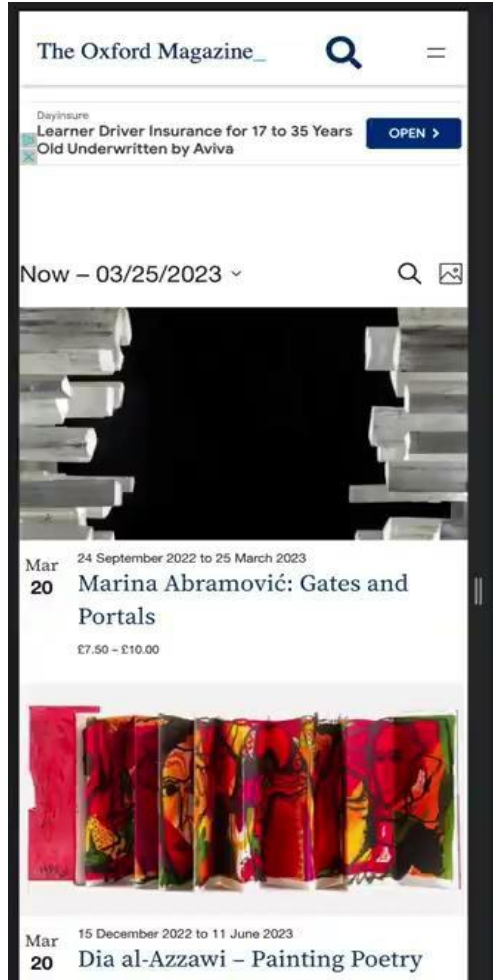
Bad CLS



Let's look at a
specific example

<https://theoxfordmagazine.com/events/>

If we have a look at
the page loading



Using Page Speed Insights highlights the issue



Performance



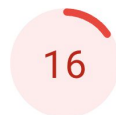
Accessibility



Best Practices



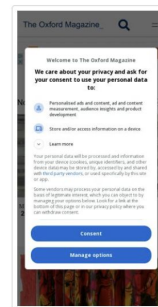
SEO



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator](#).

▲ 0-49 ■ 50-89 ● 90-100



METRICS

[Expand view](#)

■ First Contentful Paint
2.3 s

▲ Total Blocking Time
1,130 ms

▲ Speed Index
13.2 s

▲ Largest Contentful Paint
10.2 s

▲ Cumulative Layout Shift
0.678

Looking at the
timeline view shows
the visual progress

📅 Captured at Mar 20, 2023, 10:34 AM GMT

🕒 Initial page load

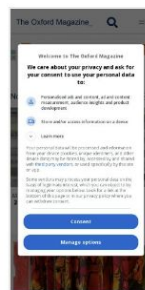
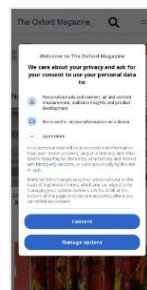
📱 Emulated Moto G Power with Lighthouse 10.0.2

🌐 Slow 4G throttling

🔗 Single page load

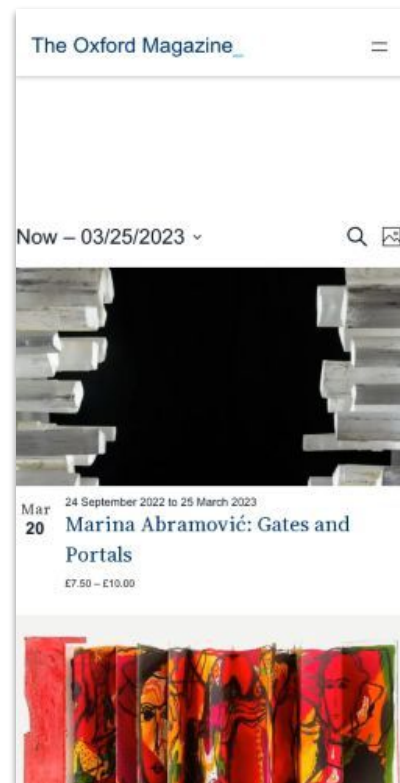
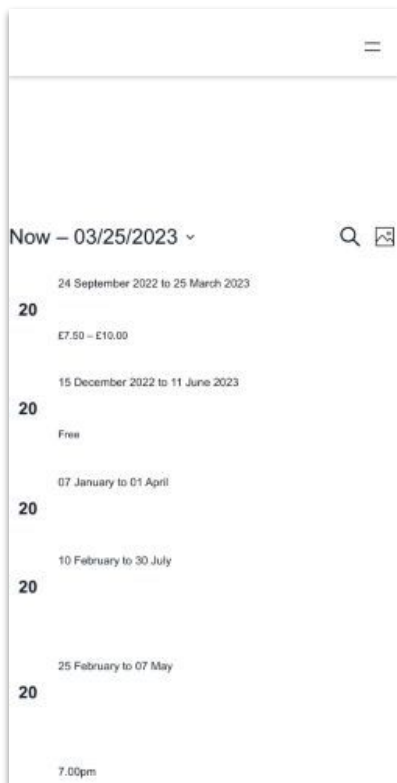
🦋 Using HeadlessChromium 111.0.5563.64 with lr

🗺 View Treemap



Show audits relevant to: **All** FCP LCP TBT CLS

OPPORTUNITIES



There's some quite
obvious immediate
wins

Now, I don't have
access to this website

But I do have access to
WebPageTest

Welcome to **WebPageTest** Pro


You're ready to go! Enjoy premium locations, bulk runs, test priority, our API, & No-Code Experiments!

Start a **Site Performance** ▼ **Test!**

<https://theoxfordmagazine.com/events/>

▼ **Simple Configuration** 3 test runs from recommended location and browser presets

☒ **MOBILE**   4G  Virginia, US

☐ **DESKTOP**   Cable  Virginia, US

☐ **MOBILE**   3G  Mumbai, IN

☐ **DESKTOP**   Cable  Toronto, CA

☐ **DESKTOP**   Cable  Frankfurt, DE

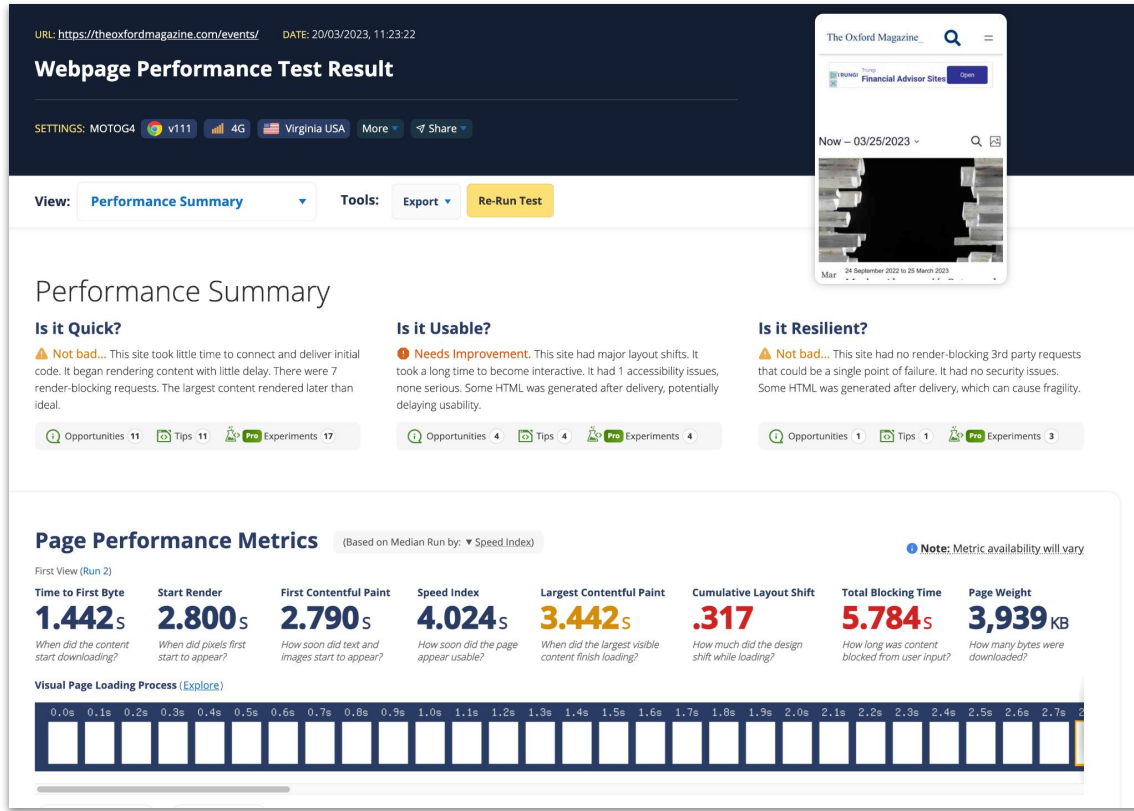
☐ **Include Repeat View**
(Loads the page, closes the browser and then loads the page again)

☐ **Run Lighthouse Audit**
(Runs on Chrome, emulated Moto G4 device, over simulated 3G Fast connection)


☐ **Make Test Private**
Private tests are only visible to your account

967 Runs Left | [Upgrade](#)


Start Test →



Is it Usable?

 **Needs Improvement.** This site had major layout shifts. It took a long time to become interactive. It had 1 accessibility issues, none serious. Some HTML was generated after delivery, potentially delaying usability.

WebPageTest ran 5 diagnostic checks related to this category and found 4 opportunities.

▼  **Layout shifts exist and may be caused by images missing aspect ratio.**

 **1 experiment selected.**

Experiment Runs: (6 total runs)

Each experiment run uses 2 test runs (1 experiment, 1 control) for each first & repeat view

Re-Run Test with Experiments

Relevant Experiments

Add Aspect Ratio to Images

This experiment adds `width="..."` and `height="..."` attributes to specified images, matching their natural width and height, to provide an aspect ratio.

► **Assets included in experiment:**

☐ **Run This Experiment!**

Running the
experiment takes a
minute

URL: <https://theoxfordmagazine.com/events/> DATE: 20/03/2023, 11:45:10

WebPageTest Pro Experiment

Experiment SETTINGS: MOTOG4  v111  4G  Virginia USA More ▾ Share ▾

View: Experiment Results & Filmstrip ▾

Tools: Export ▾

Experiment Results

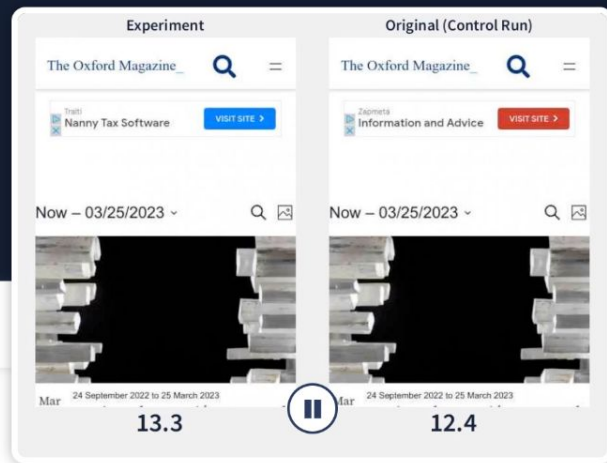
EXPERIMENTS APPLIED: Add Aspect Ratio to Images ▾ Experiment More

LINKS: Experiment Results Experiment Control Original

Experiment Impact

(Notable changes between experiment and control)

Start Render	First Contentful Paint	Speed Index	Largest Contentful Paint	Cumulative Layout Shift	Total Blocking Time	Visual Complete	Fully Loaded	Page Weight
0.1s SLOWER	0.11s SLOWER	0.3s FASTER	0.07s SLOWER	0.334 BETTER	0.03s SLOWER	0.9s SLOWER	0.24s SLOWER	18 KB LIGHTER
Experiment: 2.9s Control: 2.8s	Experiment: 2.92s Control: 2.81s	Experiment: 3.74s Control: 4.04s	Experiment: 3.62s Control: 3.55s	Experiment: 0.001 Control: 0.334	Experiment: 5.27s Control: 5.23s	Experiment: 13.3s Control: 12.4s	Experiment: 17.89s Control: 17.65s	Experiment: 3996KB Control: 4014KB



We can then compare
the visual loading

Now – 03/25/2023 ▾



Mar 24 September 2022 to 25 March 2023

20 Marina Abramović: Gates and Portals

£7.50 – £10.00

Mar 15 December 2022 to 11 June 2023

20 Dia al-Azzawi – Painting Poetry

Free

Now – 03/25/2023 ▾



Space For Image - Reserved

24 September 2022 to 25 March 2023

WebPageTest can
also highlight other
issues & allow for
immediate testing

URL: <https://theoxfordmagazine.com/events/> DATE: 20/03/2023, 13:32:25

WebPageTest Pro Experiment

Experiment SETTINGS: MOTOG4 v111 4G Virginia USA More Share

View: Expe

Experiment Results

EXPERIMENTS APPLIED:

- Defer Render-Blocking Scripts
- Inline external CSS
- Preload LCP Image
- Add Priority Hint
- Add loading="lazy" to images
- Add font-display: swap
- Self-Host 3rd Party Files
- Remove Unused Preloads
- Add Aspect Ratio to Images
- Experiment More

Experiment	Start Render	0.3s	Weight	1
SLOWER	Experiment: 3.2s	Control: 2.9s		
SLOWER	Experiment: 3.18s	Control: 2.89s		
FASTER	Experiment: 4.09s	Control: 4.18s		
FASTER	Experiment: 3.59s	Control: 3.71s		
BETTER	Experiment: 0.001	Control: 0.334		
SLOWER	Experiment: 5.3s	Control: 5.03s		
FASTER	Experiment: 13.3s	Control: 13.5s		
FASTER	Experiment: 18.46s	Control: 18.54s		
LIGHTER	Experiment: 3800KB	Control: 3970KB		

If you can, I'd
recommend playing
around with this

It can be really useful
if you'd like to prove
the potential impact
of changes

It can also be useful
for pitches, too

Cookie Banners can cause CLS issues, too



As well as other CWV
problems

If not properly
implemented

Consent Management
Platforms often rely on a fair
number of 3rd party scripts
& resources

“If a CMP is configured to load before other critical resources on a webpage, it can delay the loading of those resources and negatively impact CWV metrics.”

It's worth checking
implementation to
ensure best possible
performance

We've got one more
CWV to look at

First Input Delay

What is FID?

“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.”

<https://web.dev/fid/#what-is-fid>

What can impact FID?

Lots of third party code (JS etc)
Long JS execution times
High levels of main thread work
High numbers of requests
Unused code

Optimising & Minifying code

“Minify JS/CSS”

If using WordPress



Divi (theme) can do this for you

Cloudflare can also do this,
as well as other hosts
(Siteground, in particular)

There's plugins
available for most
platforms

(or you could do it
yourself)

“Reduce the impact
of 3rd party code”

This is around reduction of
render blocking resources,
to ensure users get the main
content faster

Deferring 3rd party scripts can benefit. Some plugins can aid with this, or some themes have functionality built in to defer

Tying it all
together



Testing sites - particularly large ones

Especially pages that
are not the usual
'money' pages



Can reveal a number of different issues

It's important to
understand what
causes these issues

As well as how to fix (*or at least understand some of the detail behind*) these issues

There may be many,
many, many things
that annoy us about
using the internet

Don't let Core Web
Vitals be one of
them.

Thanks!

Appendix:

<https://web.dev/optimize-long-tasks/>

<https://support.google.com/webmasters/thread/86521401?hl=en&msgid=86521401>

<https://support.google.com/webmasters/thread/104436075/core-web-vitals-page-experience-faqs-updated-march-2021>

<https://developers.google.com/search/docs/appearance/page-experience>

<https://web.dev/fast/>