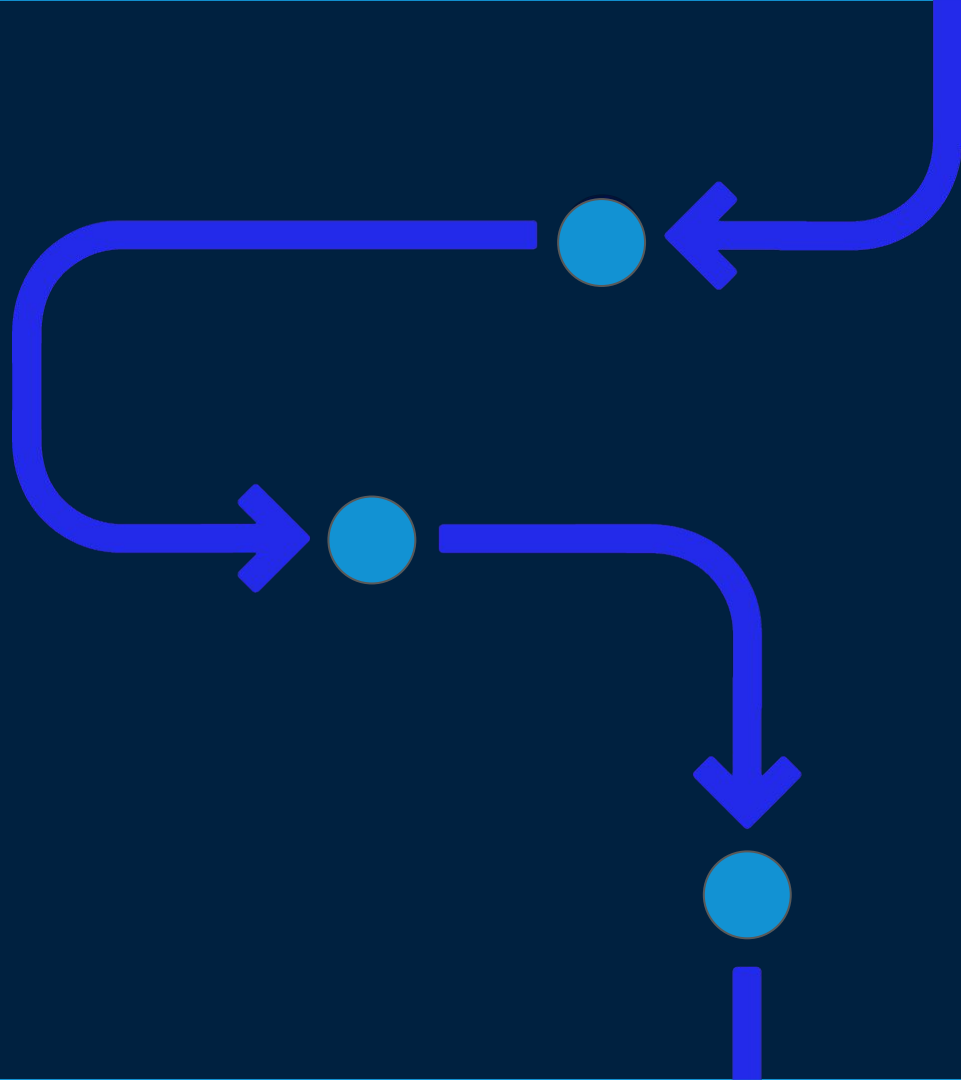




# Common & Not So Common Core Web Vitals Issues (and how to fix them)

Tom Pool

[www.bluearray.co.uk](http://www.bluearray.co.uk) | [@bluearrayseo](https://twitter.com/bluearrayseo)



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

And I love a good  
adventure

A person is sitting on the edge of a large, dark, craggy rock formation that juts out over a vast, rolling landscape. The scene is captured during sunset or sunrise, with a warm, golden light illuminating the sky and the horizon. The sky is filled with soft, wispy clouds, and the sun is visible on the right side, creating a lens flare effect. In the distance, there are layers of mountains and a small body of water. The overall mood is serene and adventurous.

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

Google

# 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.

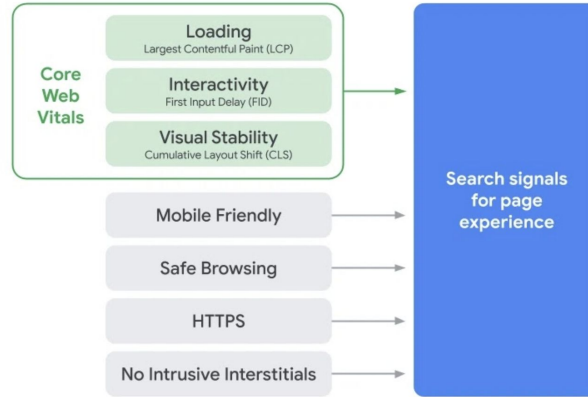
# Timing for bringing page experience to Google Search

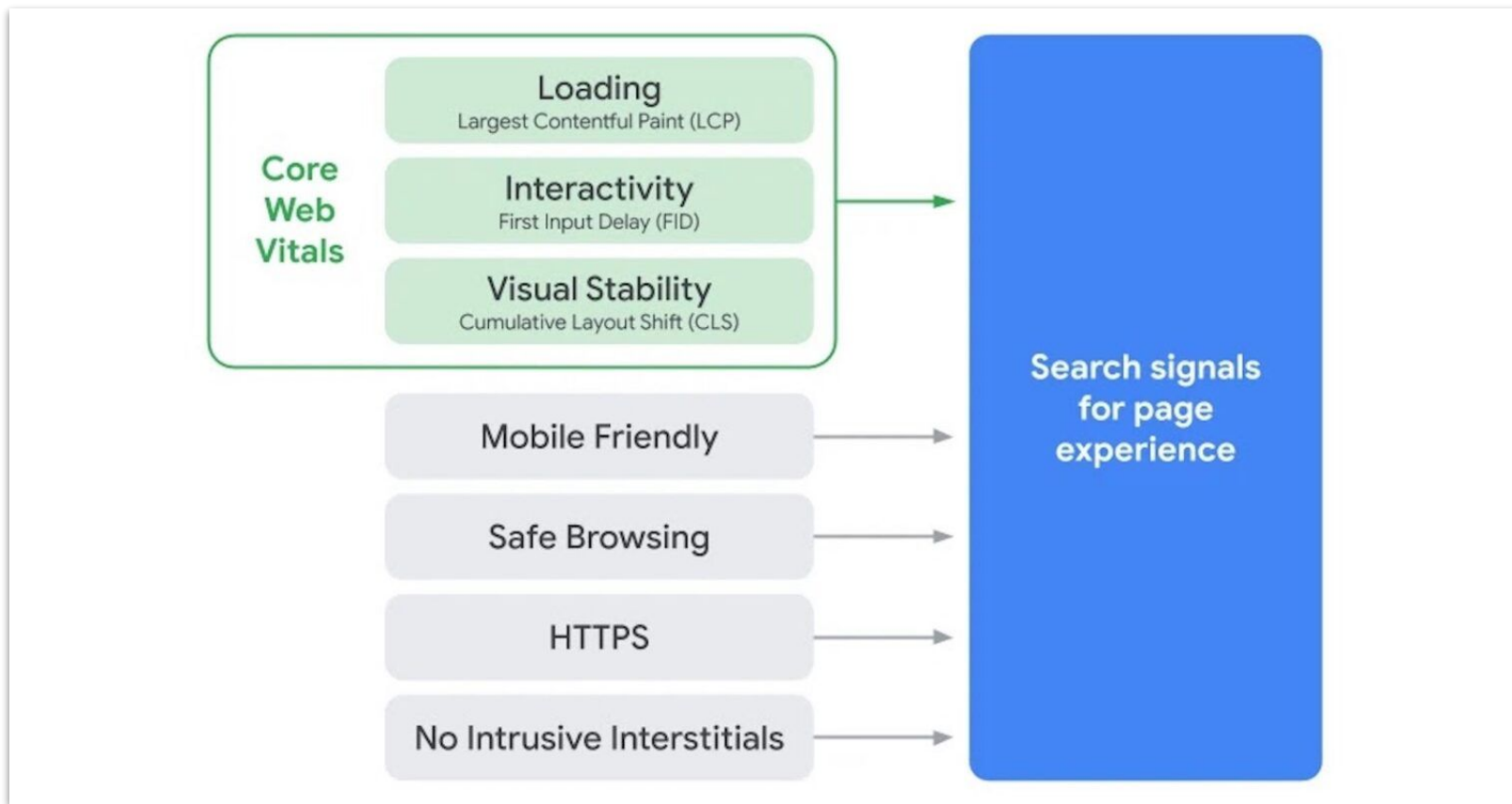
[Send feedback](#)

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](#)

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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



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](http://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 >](#)

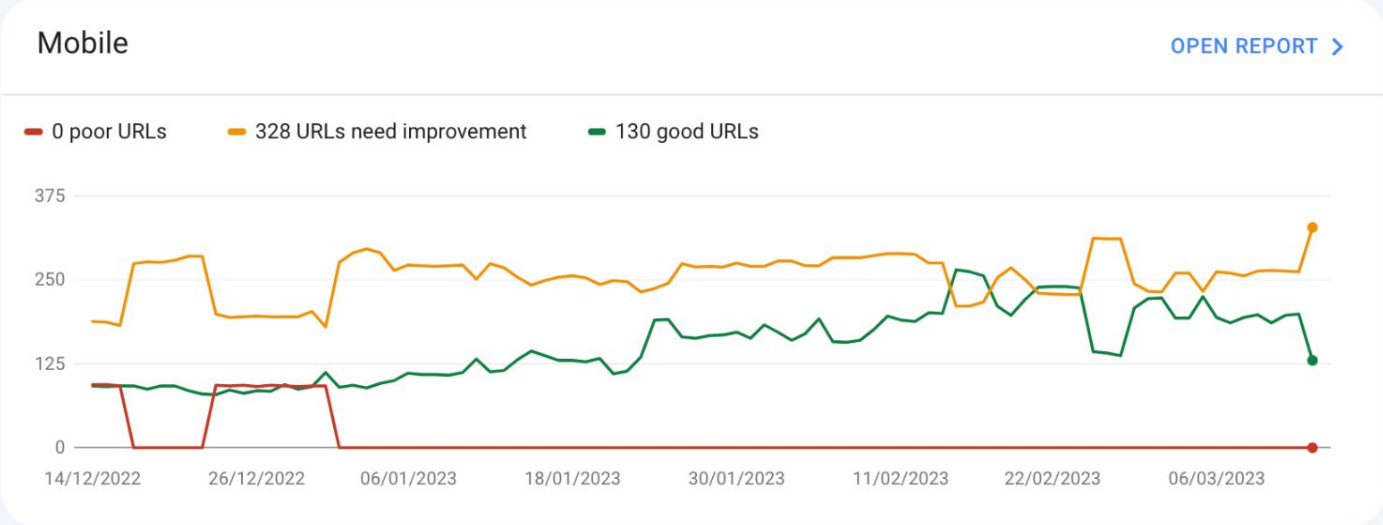
3,436 poor URLs    1,644 URLs need improvement    387 good URLs



# Core web vitals

## Large national food producer

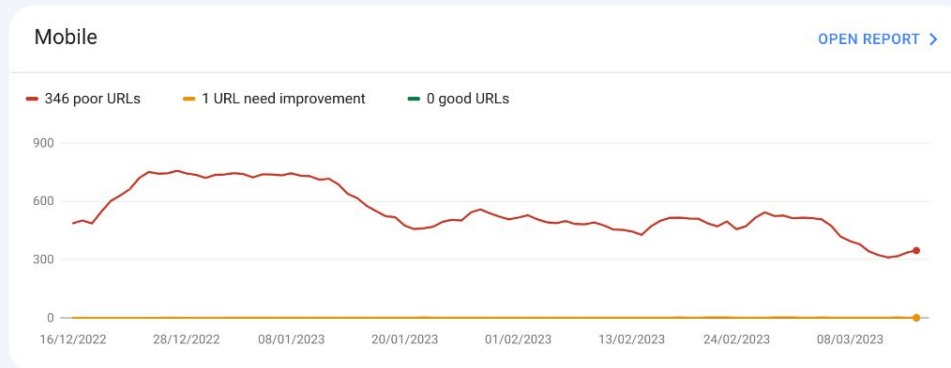
Source: Chrome UX report [?](#) Last updated: 13/03/2023



# Multinational retailer

Core web vitals

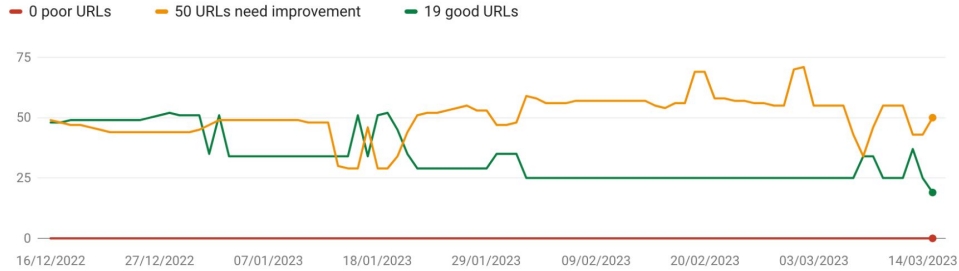
Source: Chrome UX report [?](#) Last updated: 15/03/2023



# Coffee company

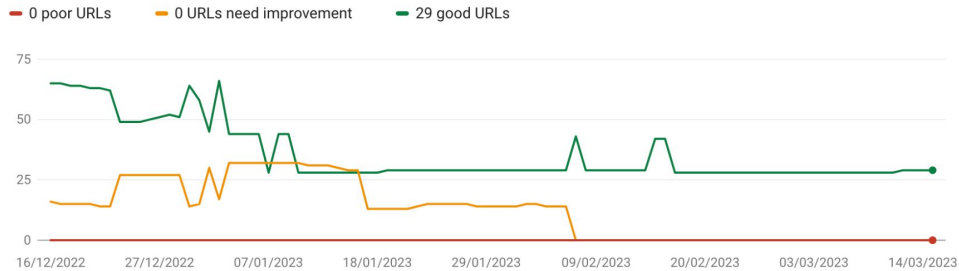
## Mobile

[OPEN REPORT >](#)



## Desktop

[OPEN REPORT >](#)



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

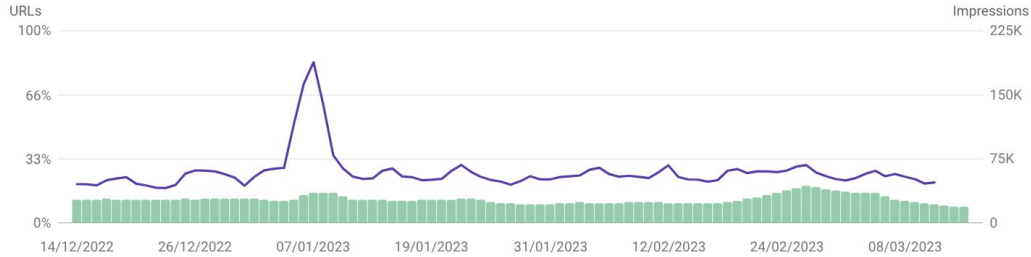
# Local Ebay competitor

## Mobile

Good URLs <sup>?</sup>  
**7.8%**

Total impressions of good URLs <sup>?</sup>  
**5.22M**

<sup>?</sup> About chart



## Page experience signals for mobile

Core web vitals <sup>?</sup> >  
**19.5K**  
Failing URLs

Mobile Usability <sup>?</sup> >  
**5**  
Failing URLs

HTTPS <sup>?</sup> >  
**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

Various mobile devices

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

Full visit durations

Various network connections

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.com

Month  
Apr 2020



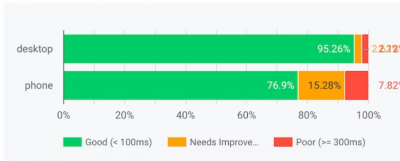
### Largest Contentful Paint (LCP)

LCP reports the render time of the largest content element that is visible within the viewport.  
[web.dev/lcp](https://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](https://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](https://web.dev/cls)



Questions or concerns? Visit the [CrUX forum](#).

Create your own dashboard at [g.co/chromeuxdash](https://g.co/chromeuxdash)



Device

## Largest Contentful Paint (LCP)

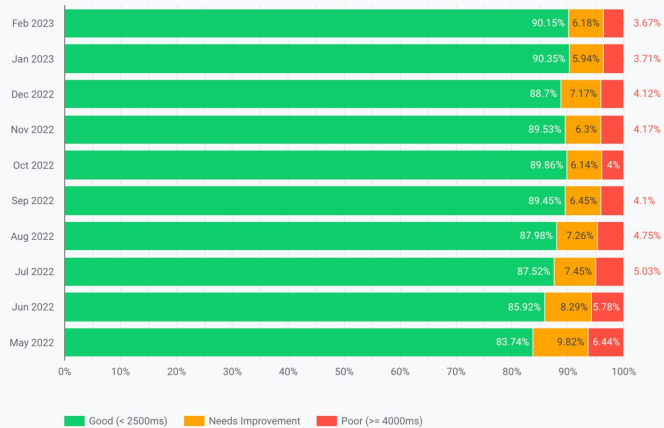
Origin  
<https://developer.chrome.com>

Source  
Chrome UX Report

Good LCP  
**90.15%**  
↓ -0.2%

P75 LCP (All Devices)  
**1,500**  
0

Poor LCP  
**3.67%**  
↓ -1.1%



New datasets are released on the second Tuesday of each month.  
Questions or concerns? Visit the [CrUX forum](#) and the [CrUX documentation](#).

Create your own dashboard at [g.co/chromeuxdash](https://g.co/chromeuxdash).  
See the [CrUX Dashboard guide](#) for more information.

Data Last Updated: 3/21/2023 9:54:05 AM | [Privacy Policy](#)

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



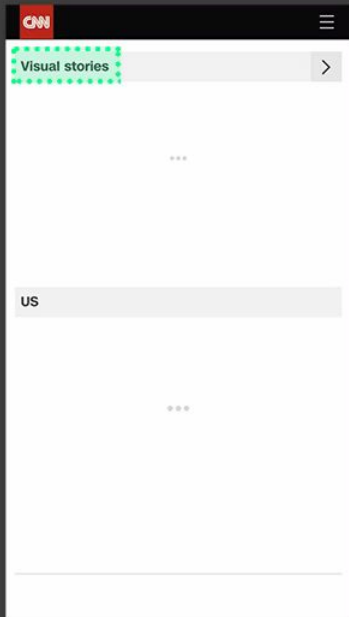
The most common  
issue that we see is  
usually with LCP

# What is LCP?

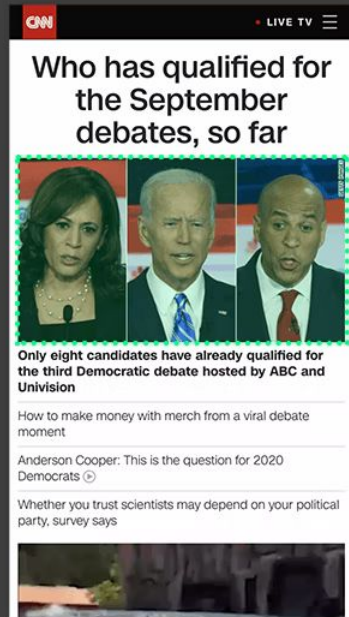
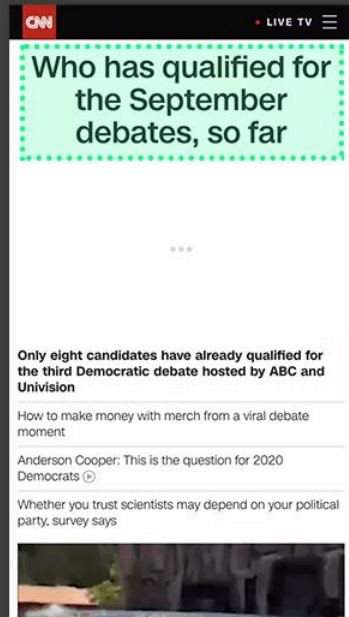
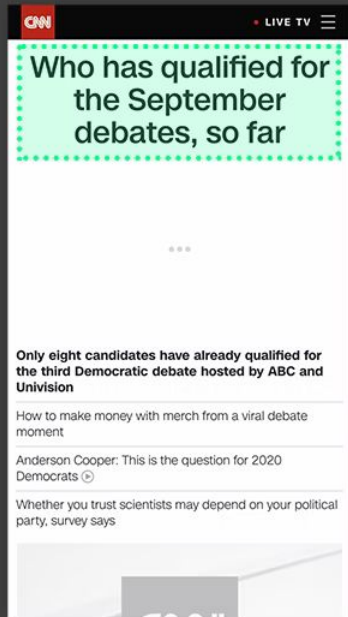
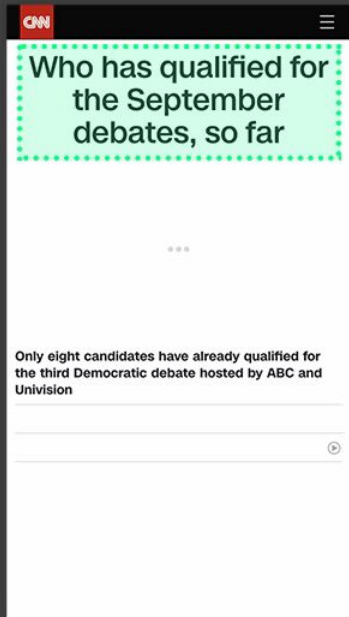
*The Largest Contentful Paint (LCP) metric reports the render time of the largest image or text block visible within the viewport, relative to when the page first started loading.*

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

# The LCP can change as a page loads



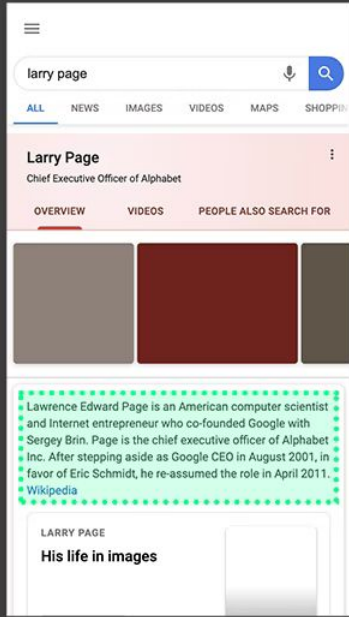
FCP



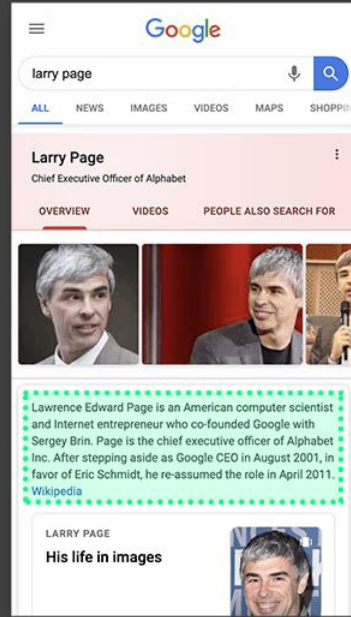
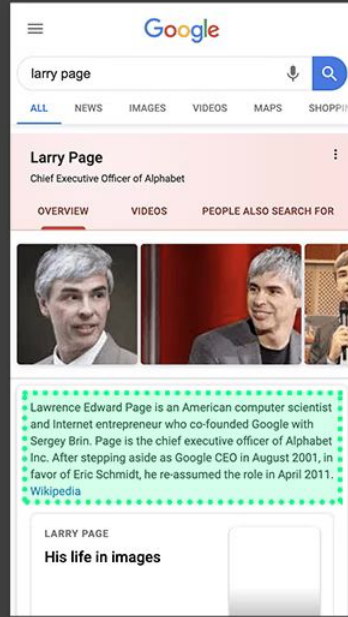
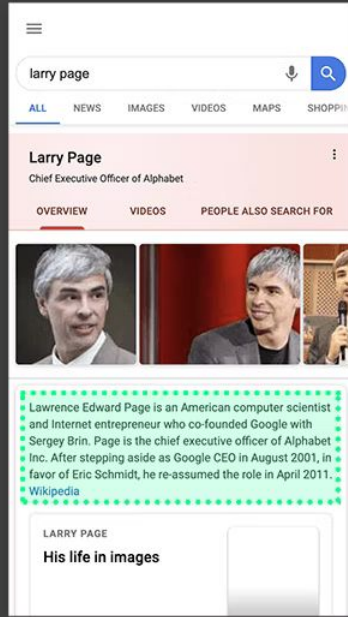
LCP



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

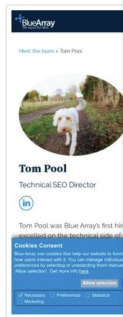


65

### Performance

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

### OPPORTUNITIES

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

#### 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 	1,394.3 KiB	1,336.6 KiB

▲ Serve images in next-gen formats 1.80s v

▲ Reduce unused JavaScript 1.11s v

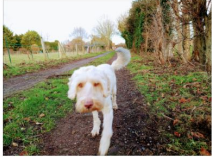
■ Eliminate render-blocking resources 0.52s v

■ Reduce unused CSS 0.15s v

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:

Caption:

Description:

File URL:   
[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:

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



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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

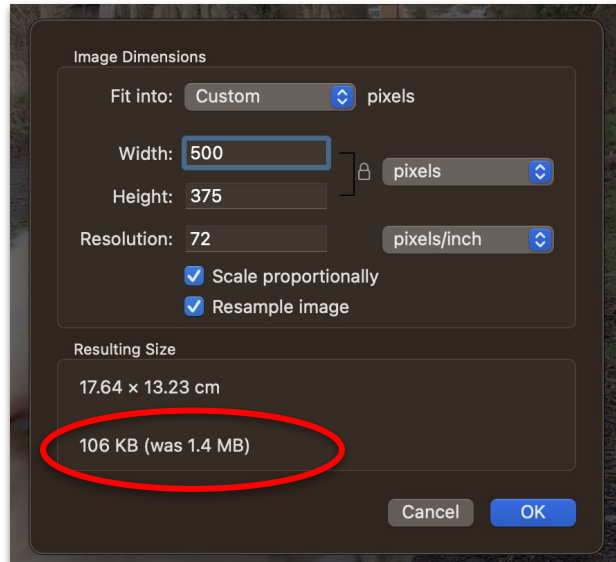
New dimensions:

×

**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/pr  
eview/prvw2015/mac](https://support.apple.com/en-gb/guide/pr<br/>eview/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



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Meet the team > Tom Pool



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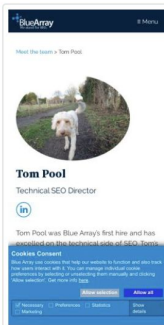
If I could visit anywhere, it would have to be Switzerland for the mountains, or somewhere north, where you can see the Northern Lights. I'm slowly ticking off each European country, and absolutely loving the different cultures!



## 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

📱 Emulated Moto G Power with Lighthouse 10.0.2

🔗 Single page load

🕒 Initial page load

📶 Slow 4G throttling

🖥️ Using HeadlessChrome

🗺️ [View Treemap](#)

OPPORTUNITIES

Opportunity

Estimated Savings

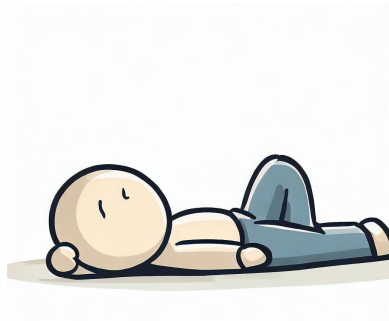
- ▲ Reduce unused JavaScript **1.47s**
- ▲ Eliminate render-blocking resources **0.94s**
- Minify JavaScript **0.15s**

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 16th, 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](#)



**W**hen 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:

span 550x550



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

CAMERAS AND PHOTOGRAPHY

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



**W**hen 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

Layout Shift Score  
=  
Impact Fraction \*  
Distance Fraction



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

PADDYPOWER

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

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

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

mirror.co.uk

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**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](#)

of the best in the UK just

Find things to do

to do in YourArea

▼ All events ▼ All dates Location Search

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

# Good documentation on GTMetrix shows

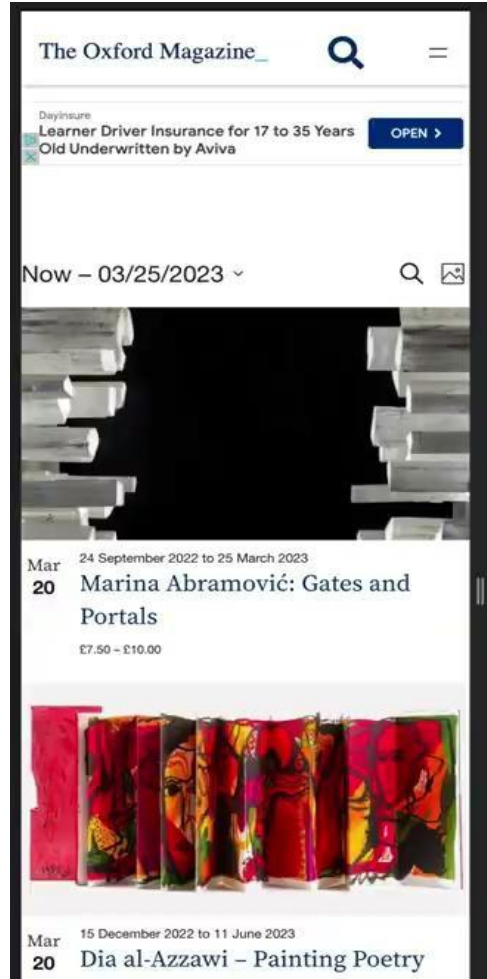
Bad CLS



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



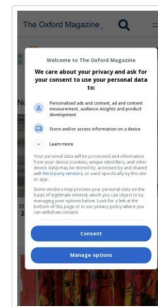
SEO



### 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

📱 Emulated Moto G Power with Lighthouse 10.0.2

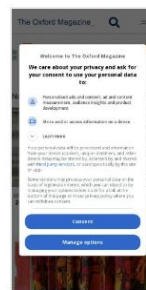
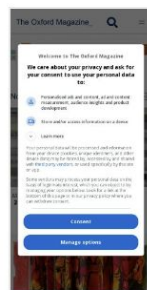
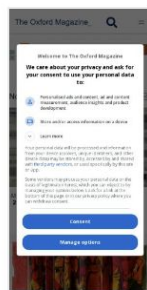
👤 Single page load

🕒 Initial page load

🌐 Slow 4G throttling

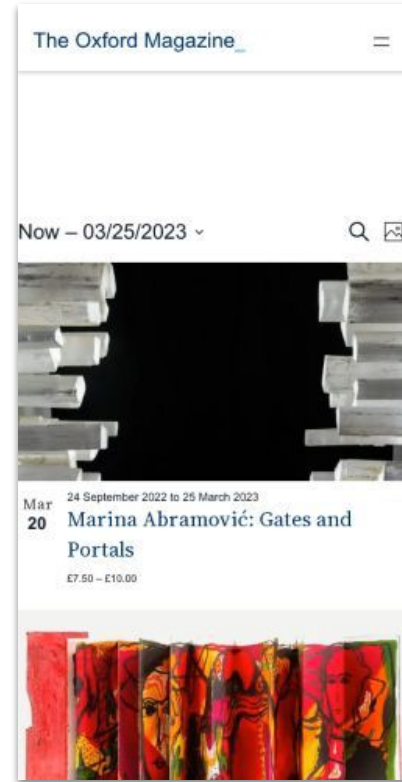
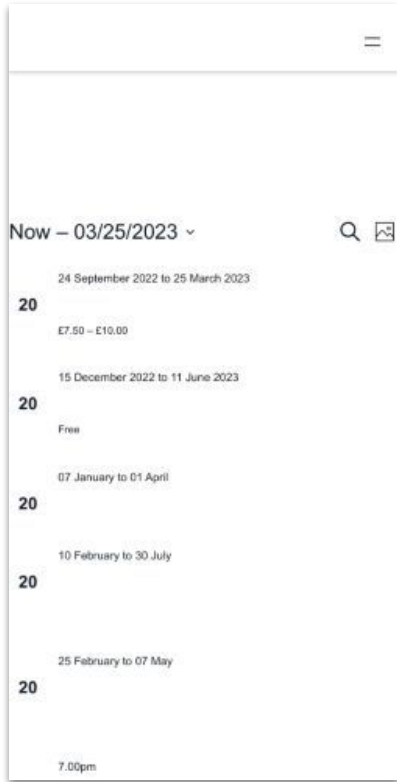
🔗 Using HeadlessChromium 111.0.5563.64 with I...

🗺 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** →

URL: <https://theoxfordmagazine.com/events/> DATE: 20/03/2023, 11:23:22

## Webpage Performance Test Result

SETTINGS: MOTOG4 v111 4G Virginia USA More Share

View: Performance Summary Tools: Export Re-Run Test

### Performance Summary

#### Is it Quick?

**Not bad...** This site took little time to connect and deliver initial code. It began rendering content with little delay. There were 7 render-blocking requests. The largest content rendered later than ideal.

Opportunities 11 Tips 11 Experiments 17

#### Is it Usable?

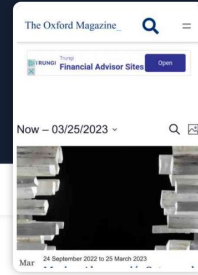
**Needs Improvement.** This site had major layout shifts. It took a long time to become interactive. It had 1 accessibility issues, none serious. Some HTML was generated after delivery, potentially delaying usability.

Opportunities 4 Tips 4 Experiments 4

#### Is it Resilient?

**Not bad...** This site had no render-blocking 3rd party requests that could be a single point of failure. It had no security issues. Some HTML was generated after delivery, which can cause fragility.

Opportunities 1 Tips 1 Experiments 3



### Page Performance Metrics (Based on Median Run by: Speed Index)

Note: Metric availability will vary

First View (Run 2)

Time to First Byte

1.442s

When did the content start downloading?

Start Render

2.800s

When did pixels first start to appear?

First Contentful Paint

2.790s

How soon did text and images start to appear?

Speed Index

4.024s

How soon did the page appear usable?

Largest Contentful Paint

3.442s

When did the largest visible content finish loading?

Cumulative Layout Shift

.317

How much did the design shift while loading?

Total Blocking Time

5.784s

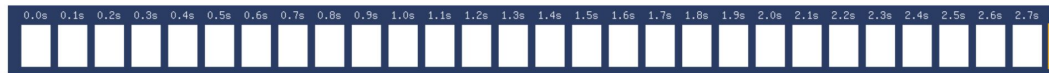
How long was content blocked from user input?

Page Weight

3,939 KB

How many bytes were downloaded?

Visual Page Loading Process (Explore)



## 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!](#)

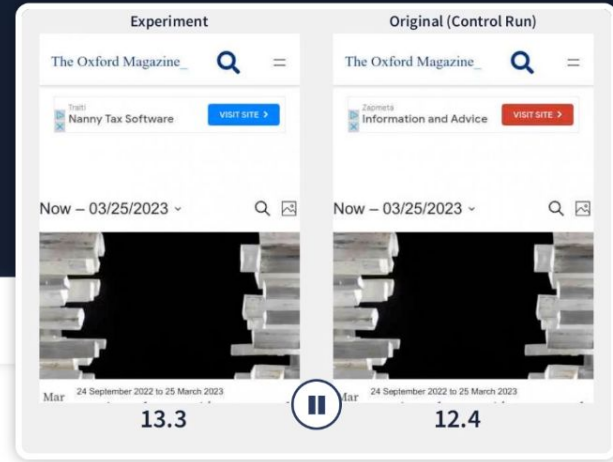
Running the  
experiment takes a  
minute

# 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
<b>0.1s</b> <b>SLOWER</b>	<b>0.11s</b> <b>SLOWER</b>	<b>0.3s</b> <b>FASTER</b>	<b>0.07s</b> <b>SLOWER</b>	<b>0.334</b> <b>BETTER</b>	<b>0.03s</b> <b>SLOWER</b>	<b>0.9s</b> <b>SLOWER</b>	<b>0.24s</b> <b>SLOWER</b>	<b>18 KB</b> <b>LIGHTER</b>
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: 3996 KB Control: 4014 KB

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

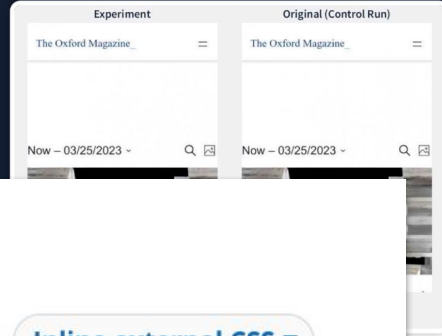
WebPageTest can  
also highlight other  
issues & allow for  
immediate testing



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

## WebPageTest Pro Experiment

Experiment SETTINGS: MOTO G4 v111 4G Virginia USA More Share



# 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

**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

Weight

159KB

Render

1s

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/>