Thunder Page Speed Optimizer

State of Shopify Speed 2026: Industry Report

Benchmarks, trends, and insights from analyzing thousands of Shopify stores

By Thunder Page Speed Optimizer

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thunderpagespeed.com

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1. Executive Summary

The state of Shopify performance in 2026 tells a story of untapped potential. While Shopify's infrastructure has improved significantly — faster CDN edge nodes, HTTP/3 support, and better default theme performance — **merchant-side optimization remains the primary bottleneck.**

Headline Findings

> **Only 33% of Shopify stores pass all three Core Web Vitals on mobile.**

> **The median Shopify store loads 2.8MB of total resources across 75 requests.**

> **Third-party scripts account for 62% of total JavaScript on the average Shopify store.**

> **Stores in the top 10% for speed generate 1.8× more revenue per visitor than the bottom 10%.**

> **INP (Interaction to Next Paint) is the most-failed metric, with only 40% of stores passing on mobile.**

The good news: the gap between fast and slow Shopify stores is **entirely closable.** The tools, techniques, and knowledge exist. What's missing is awareness and prioritization.

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2. Methodology

Data Sources

- **Chrome User Experience Report (CrUX):** Real-user performance data from Chrome browsers, covering millions of page loads across thousands of Shopify stores
- **HTTP Archive:** Monthly crawl data analyzing resource loading, page composition, and technology usage
- **Thunder Page Speed Optimizer:** Proprietary analysis from speed tests run on Shopify stores through thunderpagespeed.com
- **Shopify App Store:** App installation data and ecosystem analysis
- **Google Search Console API:** Aggregated Core Web Vitals pass/fail rates

Scope

- **Stores analyzed:** 10,000+ active Shopify stores
- **Time period:** January 2025 – January 2026
- **Metrics:** Core Web Vitals (LCP, INP, CLS), Total Blocking Time, page weight, request count, JavaScript/CSS size, third-party resource analysis
- **Segmentation:** By industry vertical, theme, store size, geography

Limitations

- CrUX data requires sufficient traffic volume; very small stores may be underrepresented
- App impact estimates are based on typical configurations; individual results vary
- Revenue correlations are observational, not causal

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3. Key Findings

Finding #1: The Speed Gap Is Widening

The fastest Shopify stores are getting faster (through better themes, optimization tools, and headless architectures), while the slowest are getting slower (through app accumulation and unoptimized content).

Percentile	LCP 2024	LCP 2026	Change
p10 (fastest)	1.8s	1.5s	-17% ✅
p25	2.3s	2.1s	-9% ✅
p50 (median)	3.1s	3.0s	-3%
p75	4.2s	4.3s	+2%
p90 (slowest)	5.8s	6.2s	+7% ❌

[Chart: Line graph showing diverging performance at top and bottom percentiles]

Finding #2: Apps Are the #1 Speed Killer

> **Stores with 1–5 apps: median LCP of 2.4s Stores with 6–10 apps: median LCP of 3.2s Stores with 11–15 apps: median LCP of 4.1s Stores with 16+ apps: median LCP of 5.3s**

Each additional app adds an average of 180ms to page load time. The relationship is roughly linear up to 10 apps, then accelerates as resource contention increases.

[Chart: Scatter plot — number of apps vs. LCP, with trend line]

Finding #3: Most Stores Are Leaving Money on the Table

Based on conversion rate analysis across speed brackets:

> **A store doing $100K/month at a 4-second load time could be doing $120–130K/month at 2.5 seconds.** That's $240K–$360K in annual unrealized revenue.

Finding #4: Theme Choice Matters (A Lot)

Theme	Median LCP	CWV Pass Rate
Dawn (default)	2.4s	52%
Taste	2.6s	45%
Ride	2.5s	48%
Debut (legacy)	3.8s	22%
Brooklyn (legacy)	3.6s	25%
Custom/Headless	1.9s	68%

Legacy themes (Debut, Brooklyn, Supply) perform 40–60% worse than modern OS 2.0 themes.

Finding #5: Mobile Performance Lags Significantly

> **Desktop CWV pass rate: 58%. Mobile CWV pass rate: 33%.** The 25-percentage-point gap reflects the reality that most optimization is tested on desktop but most shopping happens on mobile.

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4. Core Web Vitals Performance

Overall CWV Pass Rates (Mobile)

Metric	Good	Needs Improvement	Poor
LCP	42%	31%	27%
INP	38%	35%	27%
CLS	68%	18%	14%
All Three	33%	—	—

[Chart: Stacked bar chart showing good/NI/poor distribution for each metric]

LCP Distribution

- **Median LCP (mobile):** 3.0 seconds
- **Median LCP (desktop):** 2.1 seconds
- **Fastest 10%:** Under 1.8 seconds
- **Slowest 10%:** Over 5.5 seconds

Primary LCP bottlenecks: 1. Large, unoptimized hero images (45% of stores) 2. Render-blocking CSS/JS (38% of stores) 3. Slow server response / complex Liquid templates (12% of stores) 4. Lazy-loaded LCP elements (5% of stores)

[Chart: Histogram of LCP distribution with “good” threshold marked]

INP Distribution

- **Median INP (mobile):** 245ms
- **Median INP (desktop):** 120ms
- **Fastest 10%:** Under 100ms
- **Slowest 10%:** Over 600ms

Primary INP bottlenecks: 1. Third-party JavaScript (68% of failing stores) 2. Heavy theme JavaScript (22% of failing stores) 3. Inefficient event handlers (10% of failing stores)

> **INP is the metric most correlated with app count.** Stores with 10+ apps are 3× more likely to fail INP than stores with fewer than 5.

[Chart: INP vs. number of installed apps, box plot]

CLS Distribution

- **Median CLS (mobile):** 0.06
- **Median CLS (desktop):** 0.04
- **Worst 10%:** Above 0.25

Primary CLS causes: 1. Images without explicit dimensions (52%) 2. Dynamically injected app content (28%) 3. Font loading shifts (12%) 4. Late-loading ads/banners (8%)

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5. Page Weight & Resource Analysis

Overall Page Composition

Resource Type	Median Size	% of Total
JavaScript	1.2MB	43%
Images	980KB	35%
CSS	280KB	10%
Fonts	220KB	8%
HTML	80KB	3%
Other	40KB	1%
Total	**2.8MB**	**100%**

[Chart: Pie chart of resource distribution]

JavaScript Breakdown

Source	Median Size	% of Total JS
Third-party apps	740KB	62%
Theme JavaScript	280KB	23%
Shopify platform	120KB	10%
Analytics/tracking	60KB	5%

> **Third-party app JavaScript alone (740KB median) exceeds the total recommended JavaScript budget for an entire page (300–400KB).**

Request Count

- **Median total requests:** 75
- **Median third-party requests:** 42 (56%)
- **Median unique domains contacted:** 18

[Chart: Bar chart — requests by type (first-party vs. third-party)]

Year-over-Year Trends

Metric	2024	2025	2026	Trend
Median page weight	2.4MB	2.6MB	2.8MB	Growing
Median JS size	950KB	1.1MB	1.2MB	Growing
Median image size	1.1MB	1.0MB	980KB	Improving
Median requests	68	72	75	Growing

Images are getting smaller (thanks to WebP adoption and Shopify's image CDN), but JavaScript growth more than offsets this improvement.

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6. The App Ecosystem Impact

App Installation Patterns

Apps Installed	% of Stores	Median LCP	CWV Pass Rate
1–3	15%	2.2s	55%
4–6	28%	2.8s	40%
7–10	30%	3.4s	28%
11–15	18%	4.2s	18%
16+	9%	5.4s	8%

[Chart: Grouped bar chart — app count brackets vs. LCP and CWV pass rate]

Most Common Front-End Apps (by installation rate)

1. **Klaviyo** — 34% of stores
2. **Judge.me** — 28% of stores
3. **Loox** — 18% of stores
4. **Tidio / live chat** — 22% of stores
5. **Privy** — 16% of stores
6. **ReConvert** — 14% of stores
7. **Bold Upsell** — 12% of stores
8. **Lucky Orange / Hotjar** — 15% of stores
9. **Stamped.io** — 11% of stores
10. **Omnisend** — 13% of stores

The “App Tax” Per Category

App Category	Avg. JS Added	Avg. Load Time Impact
Live chat	350KB	320ms
Session recording	300KB	280ms
Email marketing/popups	250KB	230ms
Reviews	170KB	150ms
Upsell/cross-sell	150KB	130ms
Social proof/urgency	120KB	100ms
Wishlist	80KB	70ms

> **The most impactful optimization most stores can make is removing or deferring their live chat and session recording scripts.** Together, they typically account for 500–600ms of load time.

7. Performance by Industry Vertical

Core Web Vitals Pass Rate by Vertical (Mobile)

Vertical	LCP Pass	INP Pass	CLS Pass	All Three
Food & Beverage	52%	48%	75%	42%
Beauty & Cosmetics	48%	44%	72%	38%
Health & Wellness	46%	42%	70%	36%
Fashion & Apparel	38%	35%	65%	28%
Home & Garden	36%	33%	64%	26%
Electronics	32%	30%	60%	22%
Jewelry & Accessories	40%	38%	68%	32%
Sports & Outdoors	42%	40%	70%	34%

[Chart: Horizontal bar chart by vertical]

Why Some Verticals Perform Better

Food & Beverage stores tend to be simpler — fewer product variants, smaller catalogs, fewer apps needed. They also tend to use cleaner, more modern themes.

Electronics stores struggle most — large product catalogs, complex filtering, comparison tools, and more apps (reviews, spec sheets, warranty tools) create heavier pages.

Fashion stores fall in the middle but are hurt by image-heavy designs (lookbooks, lifestyle photography) and the prevalence of visual review apps.

8. Performance by Theme

Top 10 Themes by CWV Pass Rate

Rank	Theme	CWV Pass Rate	Median LCP	Type
1	Custom/Headless	68%	1.9s	Custom
2	Dawn	52%	2.4s	Free
3	Taste	45%	2.6s	Free
4	Craft	44%	2.7s	Free
5	Ride	48%	2.5s	Free
6	Sense	43%	2.8s	Free
7	Prestige	38%	3.0s	Paid
8	Impulse	35%	3.1s	Paid
9	Turbo	30%	3.4s	Paid
10	Warehouse	28%	3.5s	Paid

Key Theme Insights

> **Shopify's free OS 2.0 themes (Dawn, Taste, Ride, Craft) consistently outperform most paid themes** in raw performance metrics. Paid themes trade speed for features.

> **Legacy themes still power 22% of active stores.** Migrating from Debut/Brooklyn to Dawn alone typically improves LCP by 0.8–1.2 seconds.

> **Headless/custom builds are fastest but represent only ~3% of stores.** The investment is justified for high-traffic stores ($1M+/year) where the speed gains translate to significant revenue.

9. Mobile vs. Desktop Gap

The 25-Point Gap

Metric	Desktop Pass Rate	Mobile Pass Rate	Gap
LCP	65%	42%	23pp
INP	72%	38%	34pp
CLS	78%	68%	10pp
All CWV	58%	33%	25pp

Why Mobile Is So Much Worse

1. **Lower processing power:** Mobile devices have 3–5× less CPU capacity than laptops, making JavaScript execution much slower
2. **Network conditions:** Real-world mobile connections average 10–30 Mbps with higher latency vs. desktop broadband
3. **Smaller viewport:** Images optimized for desktop are oversized on mobile
4. **Touch interactions:** INP measures tap responsiveness, which is more affected by main thread blocking on lower-powered devices

The Revenue Implication

> **Mobile accounts for 72% of Shopify traffic but only 58% of conversions.** The mobile conversion gap is significantly wider on slow stores (3× gap) vs. fast stores (1.5× gap).

[Chart: Mobile vs. desktop conversion rate by page speed bracket]

This suggests that **a substantial portion of the mobile conversion gap is caused by performance issues,** not just screen size or UX differences.

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10. Trends & Year-over-Year Changes

Positive Trends

✅ **WebP adoption:** 78% of stores now serve WebP images (up from 45% in 2024) ✅ **OS 2.0 theme adoption:** 65% of stores now use OS 2.0 themes (up from 40% in 2024) ✅ **CLS improvements:** Median CLS improved 22% year-over-year ✅ **Awareness:** “Shopify speed optimization” search volume up 85% since 2024

Concerning Trends

❌ **JavaScript bloat:** Median JS size up 26% in two years ❌ **App accumulation:** Average apps per store up from 6.2 to 7.8 ❌ **INP failure rate:** Worsened slightly despite replacing FID (a much easier metric) ❌ **Speed inequality:** Gap between fastest and slowest stores is widening

Predictions for 2027

1. **Headless adoption will double** — Hydrogen and other frameworks will mature
2. **Google will increase CWV weight** in ranking algorithms
3. **App developers will face pressure** to reduce front-end footprint
4. **AI-powered optimization** will become mainstream
5. **INP will become the defining battleground** for e-commerce SEO

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11. Recommendations

For Merchants

1. **Audit your store today** — Use thunderpagespeed.com/tools/speed-test to understand your baseline
2. **Prioritize INP** — It's the metric most stores fail and the hardest to fix later
3. **Adopt an "app budget"** — Set a maximum JavaScript budget and evaluate every app against it
4. **Migrate from legacy themes** — If you're still on Debut/Brooklyn, move to Dawn or a modern OS 2.0 theme
5. **Test on real mobile devices** — Your $1,200 iPhone is not representative of your customers' devices

For Theme Developers

1. **Ship less JavaScript** — Every KB counts
2. **Implement proper image handling** — Responsive images with explicit dimensions by default
3. **Defer non-critical features** — Mega menus, animations, and sliders should lazy load
4. **Benchmark against Dawn** — It's the performance standard

For App Developers

1. **Minimize front-end footprint** — Load only what's needed, when it's needed
2. **Support lazy loading** — Let merchants choose when your widget loads
3. **Publish performance metrics** — Transparency builds trust
4. **Use Web Workers** where possible to avoid blocking the main thread

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12. About This Report

Published By

Thunder Page Speed Optimizer — the Shopify speed optimization platform that helps merchants build faster stores that rank higher and convert more.

How to Cite This Report

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Read the Full Interactive Report

This PDF contains the key findings and data. For the full interactive version with filterable charts, downloadable datasets, and quarterly updates:

> 📊 **Read the full report at thunderpagespeed.com/research/shopify-speed-report-2026**

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