CARNEGIE
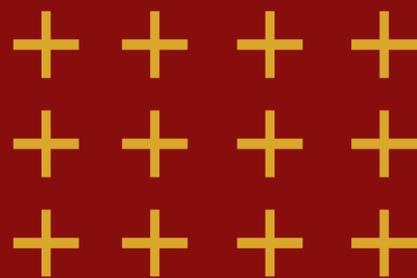
GA4 Events

Using GA4 Events to Understand User Behavior

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Today's Goal

Using GA4 Events to understand how users interact with your website.

+ today's agenda

1. GA4 Set Up

2. Creating Events

3. Reporting on Events

1

GA4 Set Up

GA4 Set Up Audit

The first step to accurately measuring events on your website is making sure your Google Analytics 4 (GA4) property and Google Tag Manager (GTM) settings are correctly configured.

- Ensure there is 1 GTM code on the website on all pages you want to track, including the main domain pages and any subdomain pages

- The GTM container has the Google Tag configured to send events to your GA4 property

- Confirm GA4 data stream is collecting events as expected

- GA4 primary settings:

  - Enhanced measurements are enabled

  - Data retention is set to 14 months

  - Ignore duplicate instances of tracking

Enhanced Measurements

Ensure all Enhanced Measurements are enabled unless you have custom events set up in GTM

+ Page View

Required to be on as part of enhanced measurements. Counts a page view event each time a page loads or the website changes the browser history state

+ Scroll

Counts a scroll events when a user scrolls 90% of the page. Custom events can be set up for scroll events set at different thresholds

+ Click

Counts an event for every click on an external link

+ Site Search

Counts a view search results event each time a visitor performs a search on your site. Verify the Site Search settings

+ Form Interactions

Counts a form interaction event each time a visitor interacts with a form on your website

+ Video Engagements

Counts video play, progress, and complete events as visitors view YouTube embedded videos on your site

+ File Downloads

Counts a file download event each time a link is clicked

Some of these events require specific settings and may not capture all website events. Custom events may be required.

Site Search - Custom Events

Enhanced measurements may not track accurately if:

- Query parameter is not correct in settings

- No use of query parameter in URL

- Multiple search functions you consider separate events
  - i.e. general site search and program search

Video Engagements – Custom Events

Enhanced measurements may not capture all video engagements:

- Any video player that is not YouTube
- Embedded YouTube videos missing *?enablejsapi=1* URL parameter

Form Tracking – Custom Events

Enhanced measurements may not capture all form submissions:

- Multi-page forms
- Advanced html forms
- Forms within an iframe
- Dynamic forms

Custom Dimensions

Ensure relevant parameters are added as custom dimensions to include in GA4 reports

+ Click URL

The URL that was clicked on

+ Click Text

The text that was clicked on

+ Page Location

The complete URL of the webpage that someone visited on your website

+ Page Referrer

The referring URL, which is the user's previous URL and can be your website's domain or other domains

+ Traffic Type

The traffic_type value assigned to a user (useful when internal traffic rules are set up in GA4)

+ Custom from GTM

Event parameter names from GTM GA4 event tags (i.e. the name of the tour/visit/campus event that was registered for)

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Creating Events

Website Review: Create a Measurement Plan
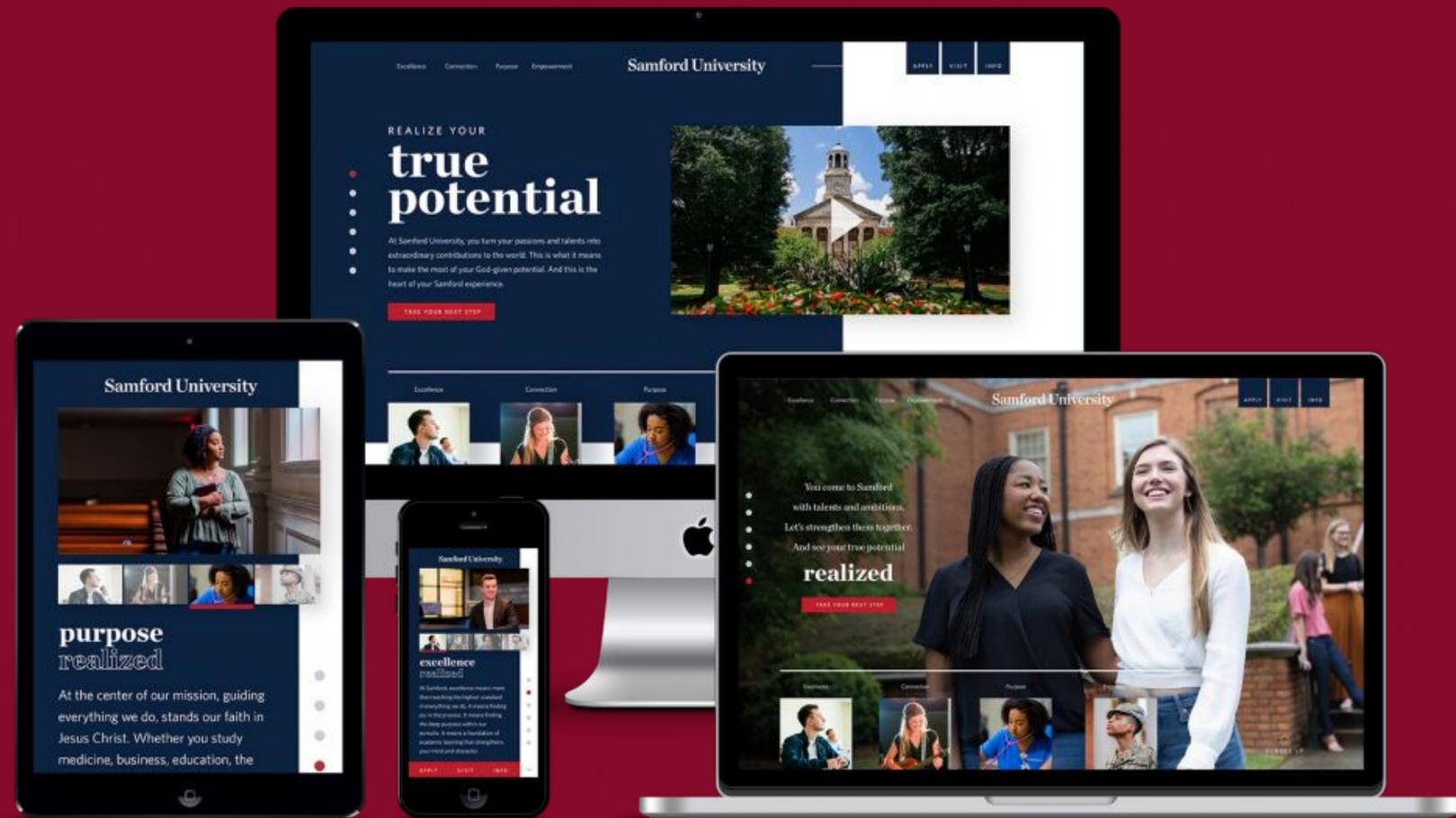
Key events plan to determine high value actions on your website:

- RFI
- Event signup
- Application completion
- Additional important clicks

Determine Key Events on your website

Create a plan to focus on important website events that will provide actionable or insightful data that can be used for measuring marketing activity or understanding user behavior.

- Include the page URL where the event takes place.
- Include the trigger it will take to fire the event; Is it a button click event? Form completion?

Once you have a plan, you can start building GTM tags and triggers to track each event.

Keep in mind what events are already included in enhanced measurement tracking and what events will need to be tracked through a custom GTM tag.

Event Implementation Decision Tree
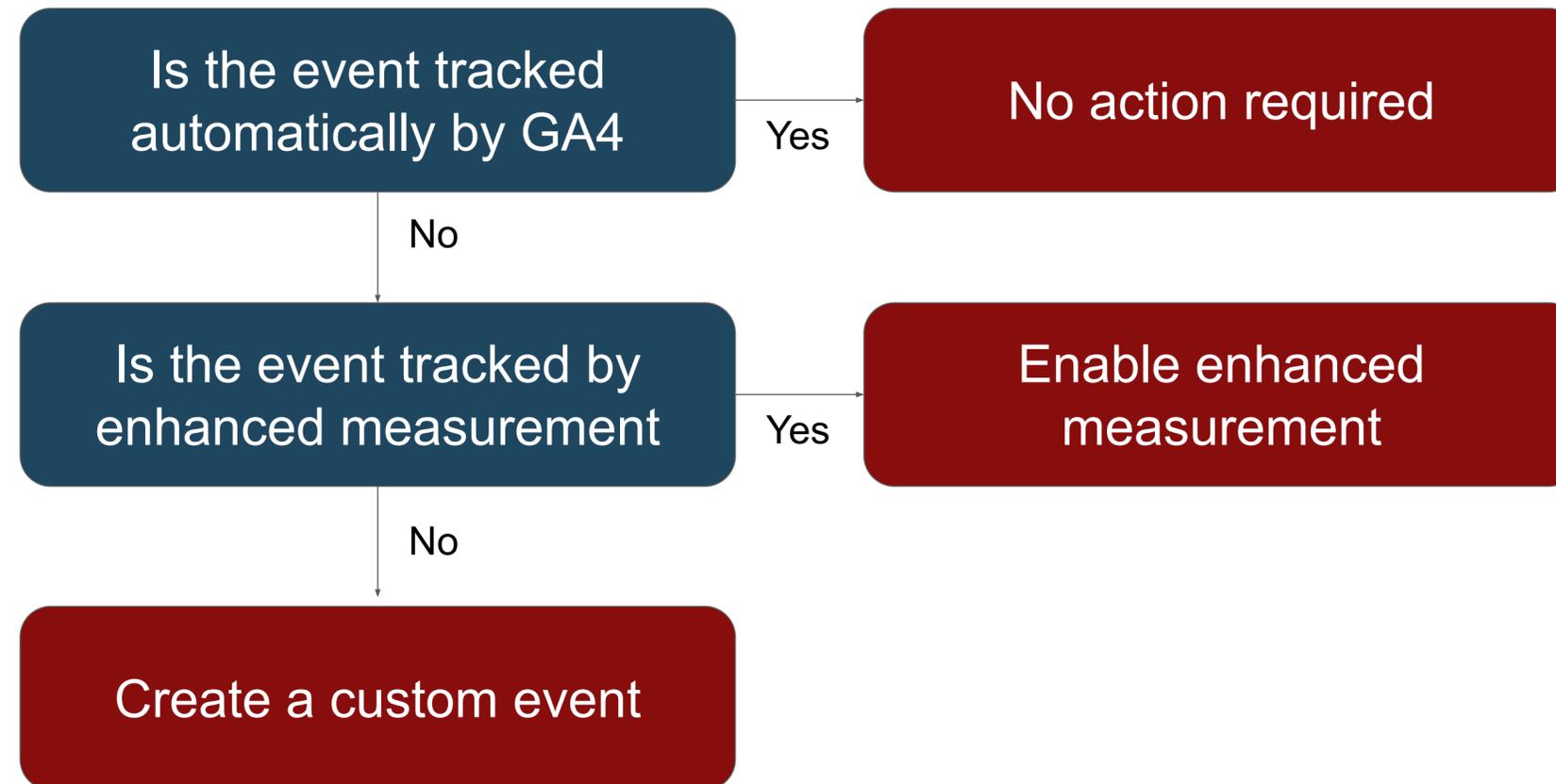
Mark Key Events in GA4

You must manually mark relevant events as key events in GA4.

Option 1:

Mark Key Events in GA4

Option 2:

Thank You
for completing the form.
We will be in touch with you soon.

Tracking Form Completions by Thank You Page

If a form brings a user to a Thank You page after they submit the form, you can set up tracking in GTM based on Thank You Page Views.
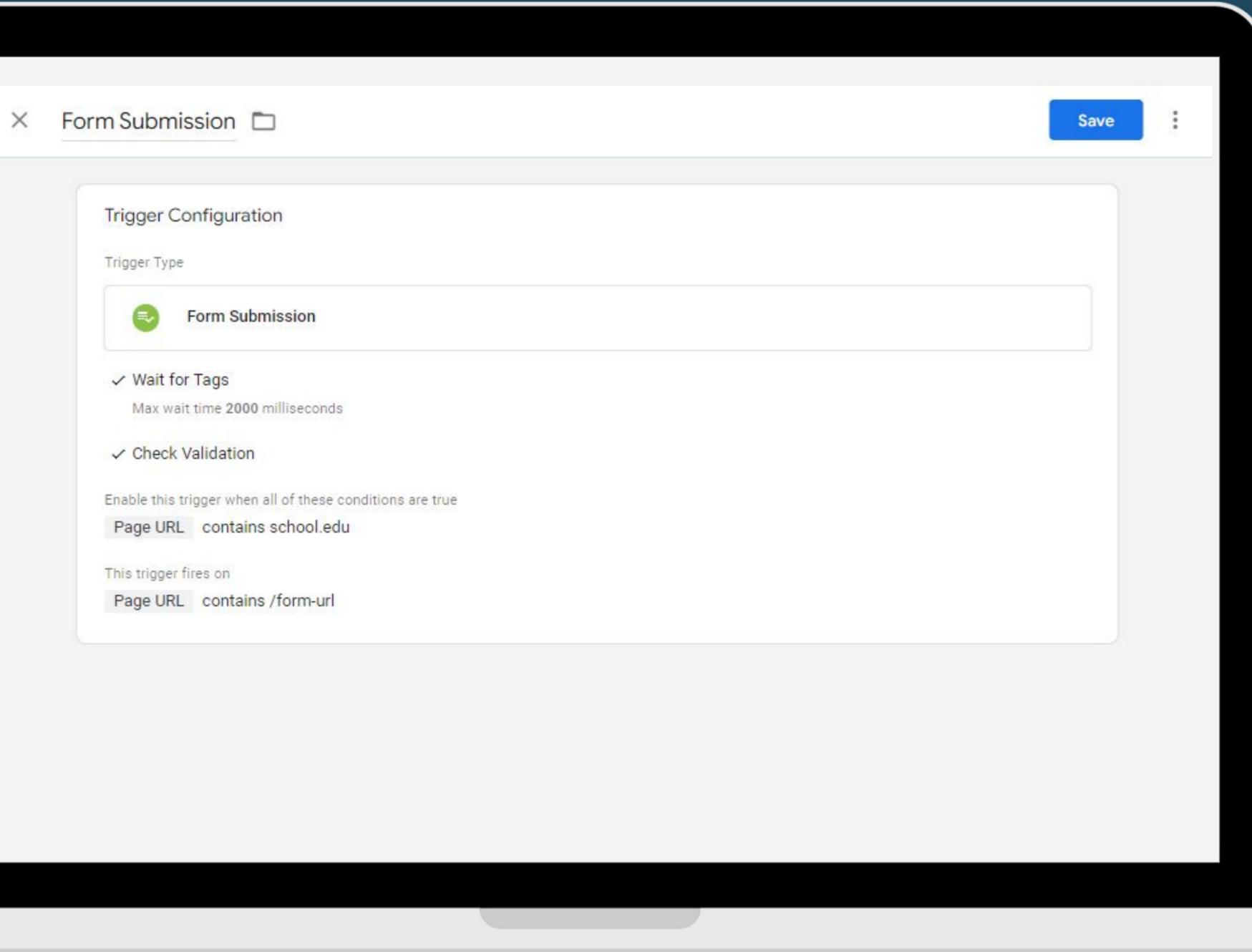
Thank you Page View 📁

Trigger Configuration

Trigger Type

👁 Page View

This trigger fires on

Page URL   contains /thank-you

Referrer   contains /form-url

Form Submission Trigger

Track simple form completions
- Create a Trigger Configuration with Form Submissions
- Check Wait for Tags
- Check Validation on Page with form
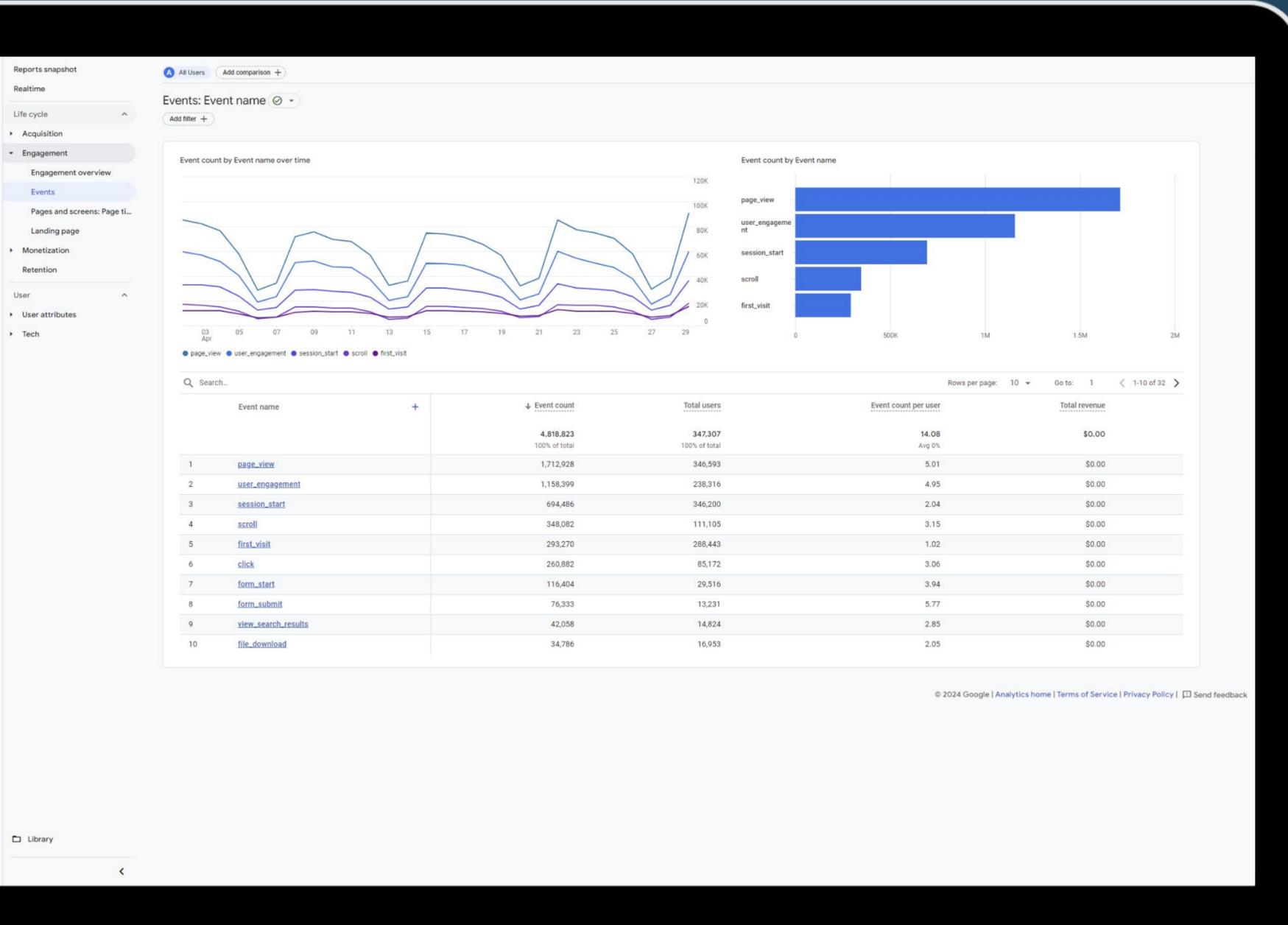- Trigger on Page with form

Advanced Custom Events

You may need advanced GTM knowledge if:

- Tracking multiple button/link clicks as a single event
    - i.e. track all program clicks on the program page as a single event
- Tracking multiple forms as a single event
   - i.e. track all event registrations as a single event

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Reporting on Events

Standard Reports

In the main navigation under "Reports" you can utilize out-of-the-box standard reports in GA4.

Why would you use standard reports?

- Excellent for those still learning GA4 and are not yet comfortable creating custom reports
- Basic filtering capabilities for narrower insights
- Can edit and save as a new report for permanent changes that best suit your team's analysis goals
- Standard reports also allow for seeing all your historical data, with no 14-month data retention limit
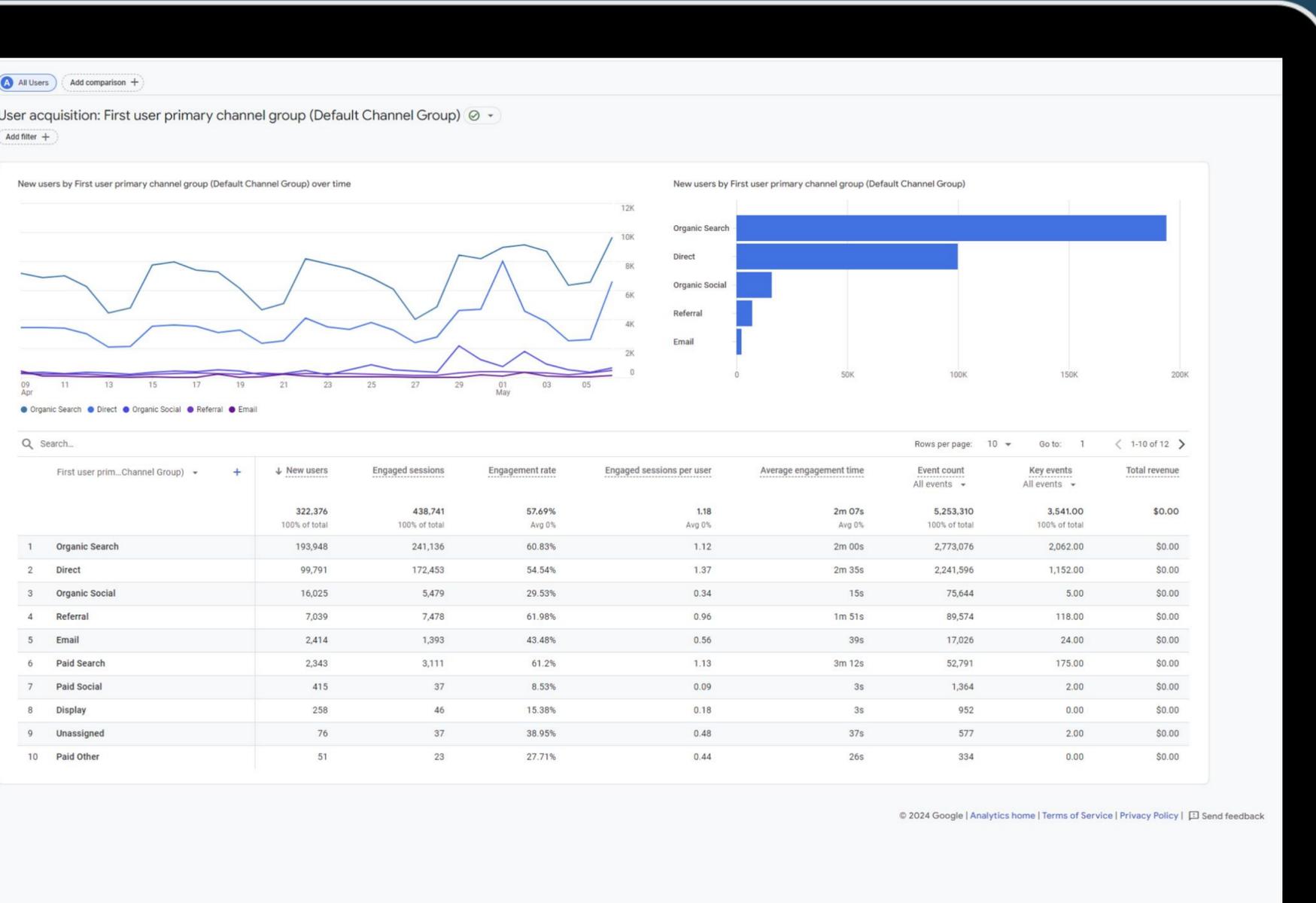
Standard Reports - User Acquisition

- Analyze how users visit your site for the first time
- Answer questions like:
  - "Which channel is the most successful in leading new users to complete a key event?"
 - "Which campaigns are most successful in bringing new users to the site?"
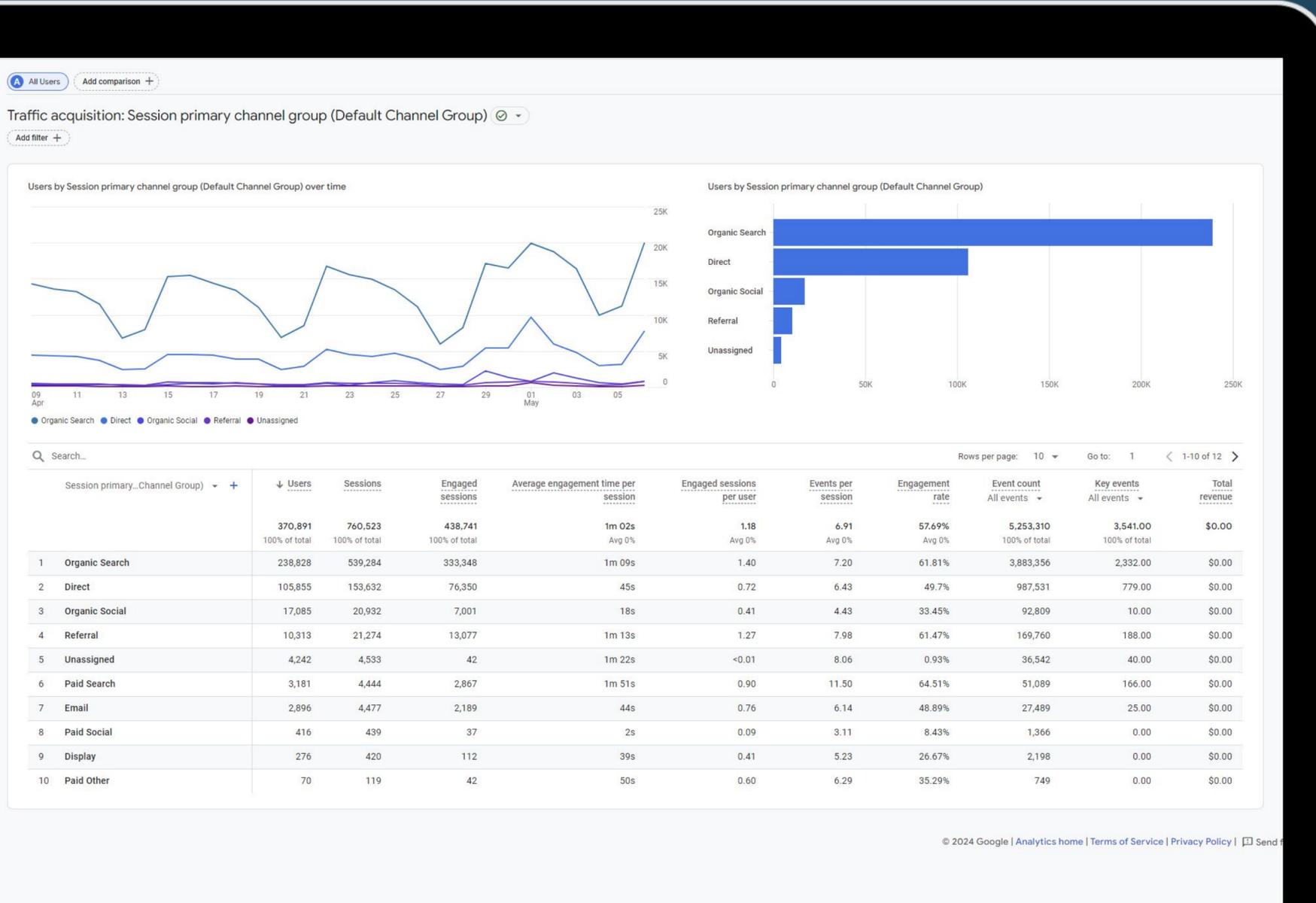
Standard Reports - Traffic Acquisition

- Analyze how users visit your site whether it's their first or hundredth visit
- Answer questions like:
  - "Which campaign is the greatest contributor to total events?"
 - "Which channel has the highest average engagement time per session?"
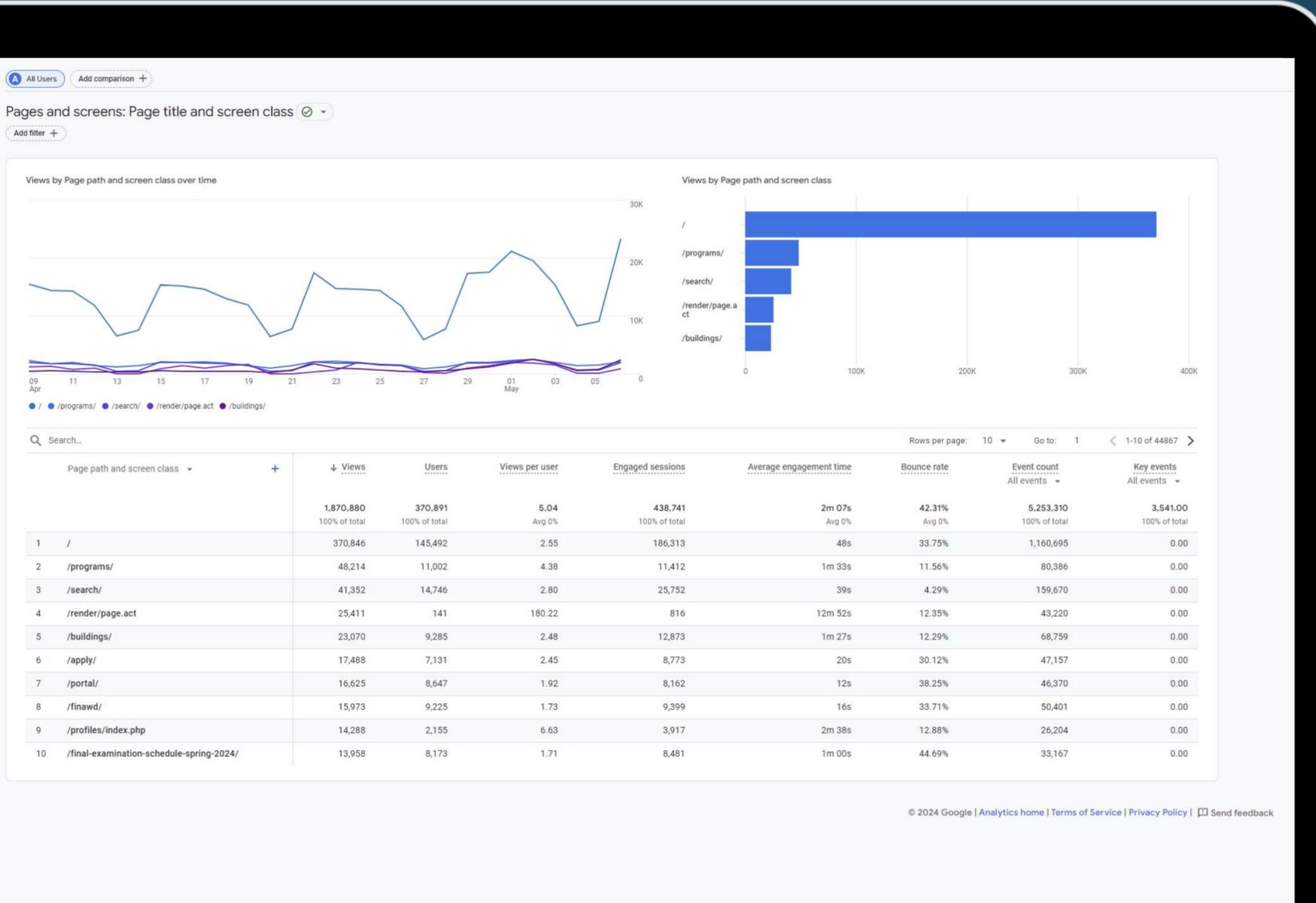
Standard Reports - Pages and Screens

- Analyze metrics based on page location
- Answer questions like:
  - "Which pages are my events mostly occurring on?"
  - "Which pages receive the most views"
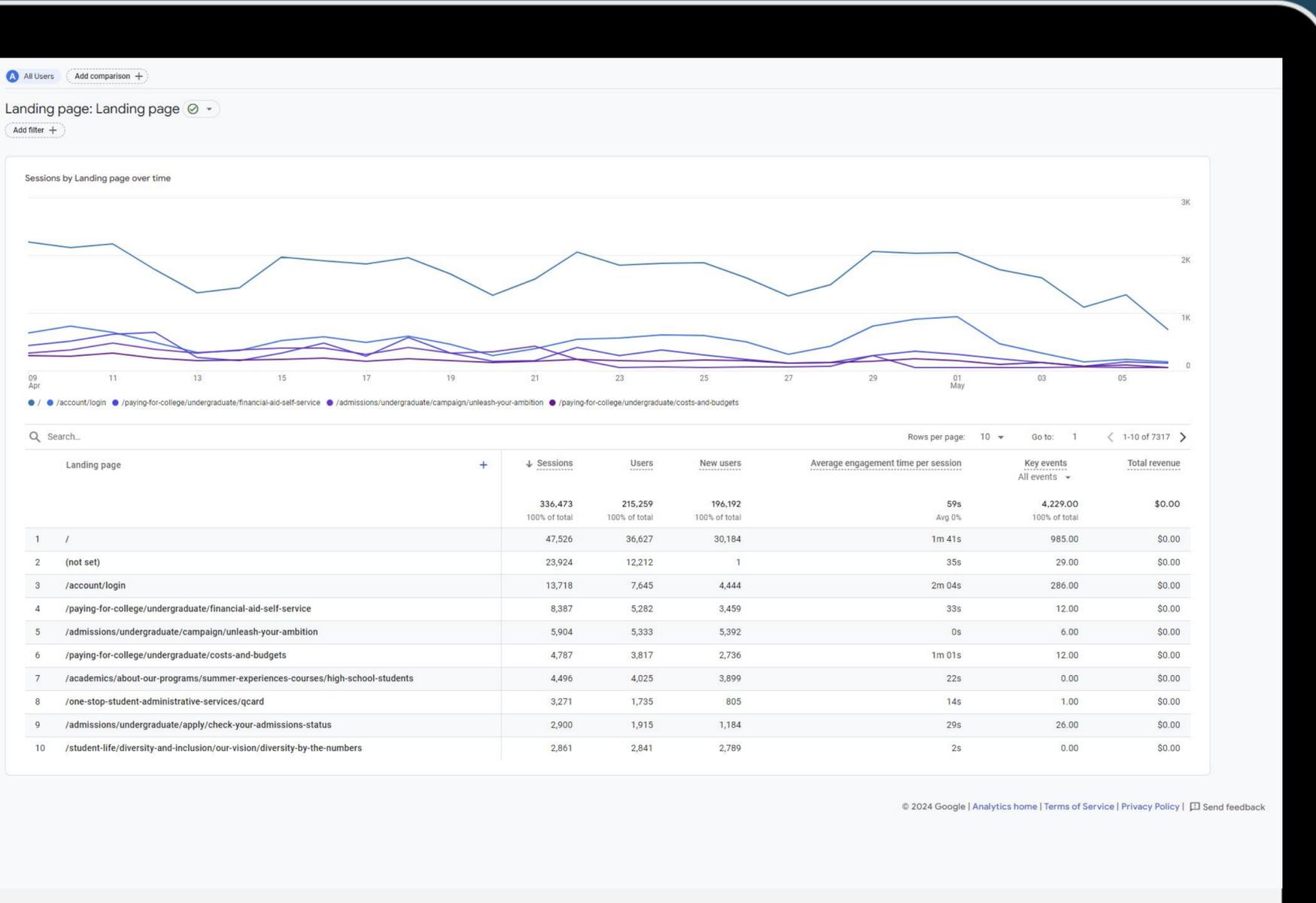
Standard Reports – Landing Page

- Analyze metrics based on the page Users first view when they visit your site
- Answer questions like:
  - "Which campaign landing page is performing the best?"
  - "Which campaign landing pages need to be optimized based on average engagement time per session?"
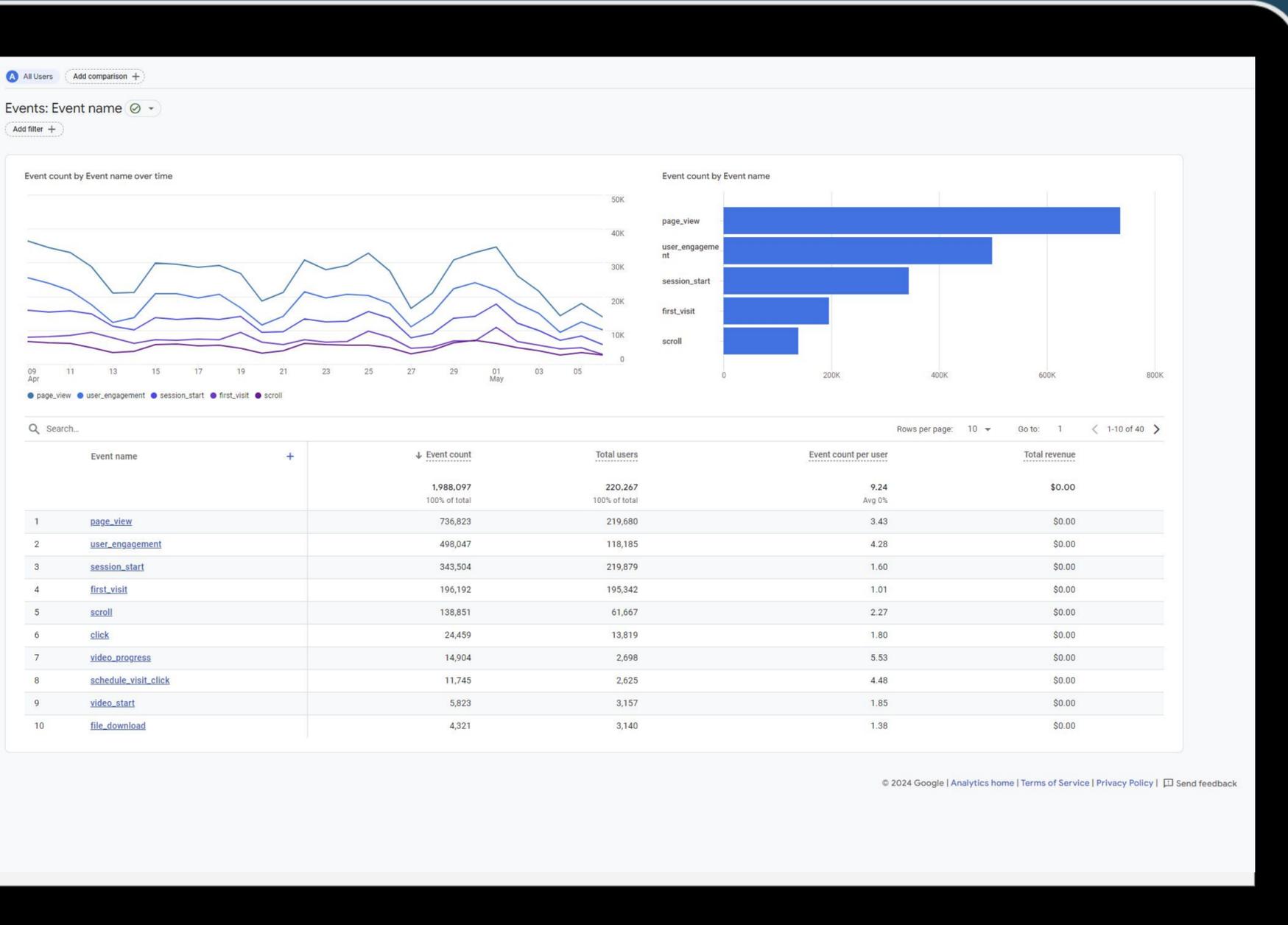
Standard Reports - Events

- Analyze event metrics
- Answer questions like:
  - "How many events occurred last month compared to the same month last year?"
  - "What are the most common click URLs with the Enhanced Measurement click event?"

Standard Reports - Key Events

- **Google is in the process of rolling out a Key Events Report**
- **In the meantime, your team can use:**
  - Key events page under Admin
  - Event report with added filters
  - Explore reports

Customize Standard Reports: Add Secondary Dimension

Add a secondary dimension to standard reports to add more context. This is where the custom dimensions may be helpful.

Example:
When viewing the Events report, it may be helpful to add session campaign as a secondary dimension to see additional information about how the user got to your site.

	Event name	+
1	page_view	
2	user_engagement	
3	session_start	
4	first_visit	
5	scroll	
6	form_start	
7	click	
8	form_submit	
9	view_search_results	
10	file_download	

🔍 campaign	✕
Traffic source	Name
Session-scoped	Session **campaign**
Session-scoped	Session **campaign** ID
Session-scoped	Session manual **campaign** ID
Session-scoped	Session manual **campaign** name
User-scoped	First user **campaign**
User-scoped	First user **campaign** ID
User-scoped	First user manual **campaign** ID
User-scoped	First user manual **campaign** name

Customize Standard Reports: Add Filters and/or Comparisons

Quickly add up to 5 filters and 5 comparisons to a standard report.

Filter Example:
You may want to create a filter so it only shows data from a specific school's hostname or subfolder

Comparison Example:
You may want to compare traffic types (internal vs external)

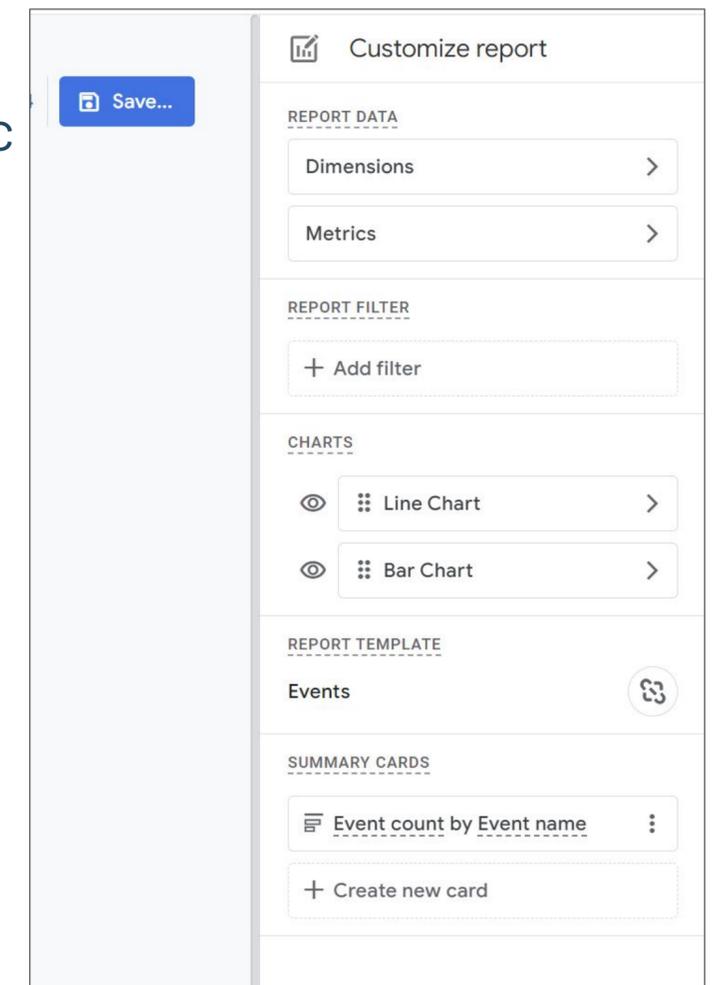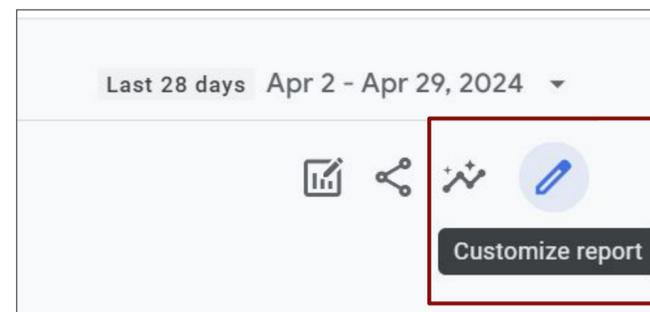## Customize Standard Reports: Edit and Save as New Report

Unlike the last few tips that apply temporary changes to reports, you can use the "Customize Report" function to permanently change an existing report or save as a new report for all GA4 accessors.

Dimensions and Metrics:

You can add additional dimensions to be used as the primary dimension as well as add additional metrics to be viewed in the table. For example, you may want to add engagement rate as a metric to the landing page report or remove revenue from the Events report.
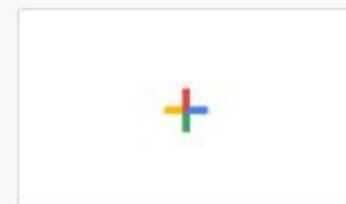
Filter:

You can add up to 5 permanent filters to your report. This can be useful if you'd like to create permanent reports filtered to display data only from specific hostnames or subfolders.

Exploration Reports

In the Explore menu you can create a custom Exploration report to review metrics further, including the custom events you set up.
Why would you create a custom report?

- View more than 2 dimensions in 1 report
- View User path on a website
- Group events together to create a Funnel report
- Create a Segment Overlap report to see how User groups overlap
- Save Explore Reports to view later (without modifying standard reports)
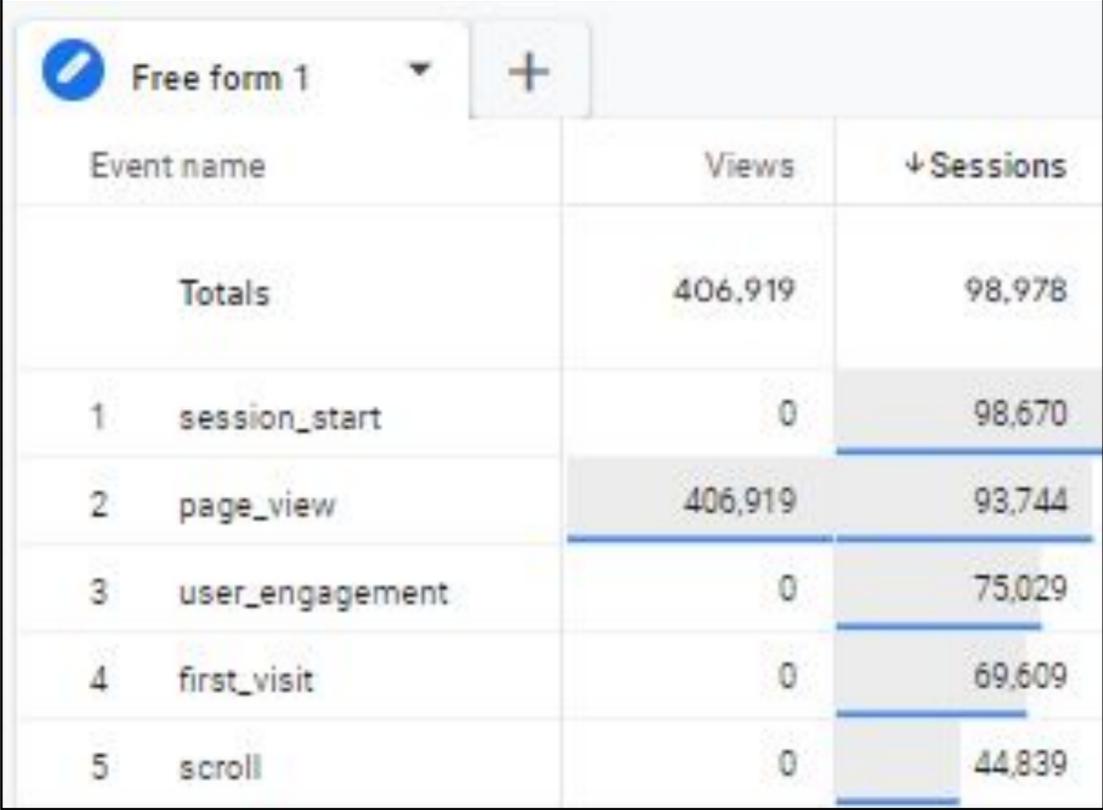
Compatible Dimensions and Metrics

When adding dimensions and metrics be sure to use compatible combinations

Examples:
Event names are measured by event count.

Page locations can have metrics with sessions, Views, or Users

Event name measured by Views will only show the page_view event count, therefore is not a good combination of dimensions and metrics

Free form 1		
Event name	Views	↓ Sessions
Totals	406,919	98,978
1 session_start	0	98,670
2 page_view	406,919	93,744
3 user_engagement	0	75,029
4 first_visit	0	69,609
5 scroll	0	44,839

Free Form Explorations

Free Form Explorations allow you to add multiple dimensions and metrics to view at one time to draw deeper insights

For Example: Creating an Exploration for Search Term and Page Referrer can show you what page users are searching for information.

In this example, searches for programs are high on the /academics page. A search bar in the program finder section may help students find the program they are looking for rather than using the main search bar.


search_term	page_referrer	Device category		
			desktop	mobile
			Event count	Event count
Totals			3,056 76.5% of total	952 23.5% of total
1 nursing	https://www.website.edu/academics		76	7
2 online	https://www.website.edu/academics		37	1
3 exploratory studies	https://www.website.edu/academics		33	0
4 study abroad	https://www.website.edu/academics		32	1
5 Nursing	https://www.website.edu/academics		10	21
6 pre med	https://www.website.edu/academics		28	0
7 tuition	https://www.website.edu/academics		28	0
8 physical therapy	https://www.website.edu/academics		26	0
9 athletics	https://www.website.edu/academics		19	2
10 scholarships	https://www.website.edu/academics		20	1

Page Path Explorations

Page Path Report by events or page to see user journey through the website

Tip: Click on Start over to create a Path Exploration report to see how users arrived at a ending point page or event
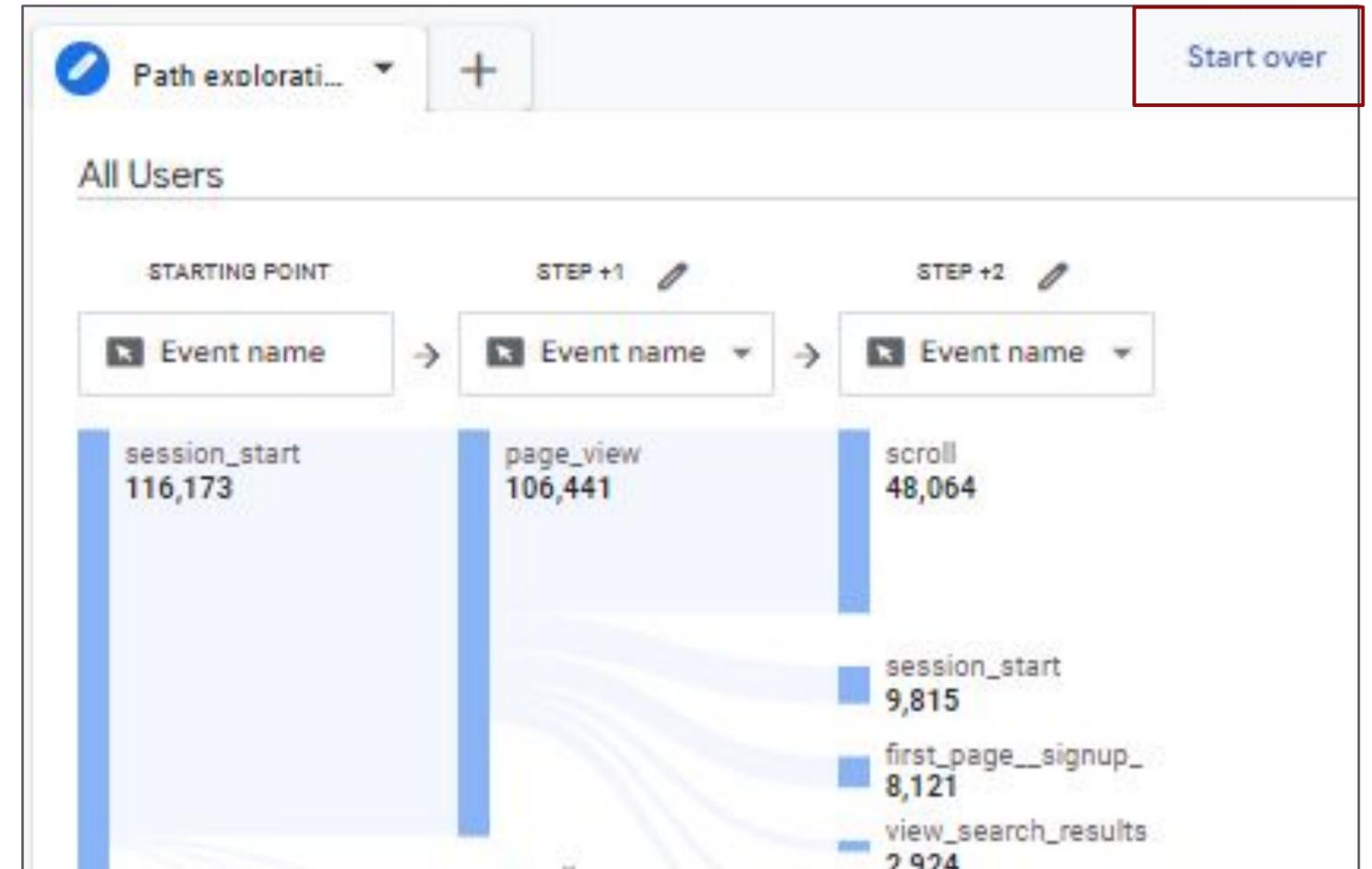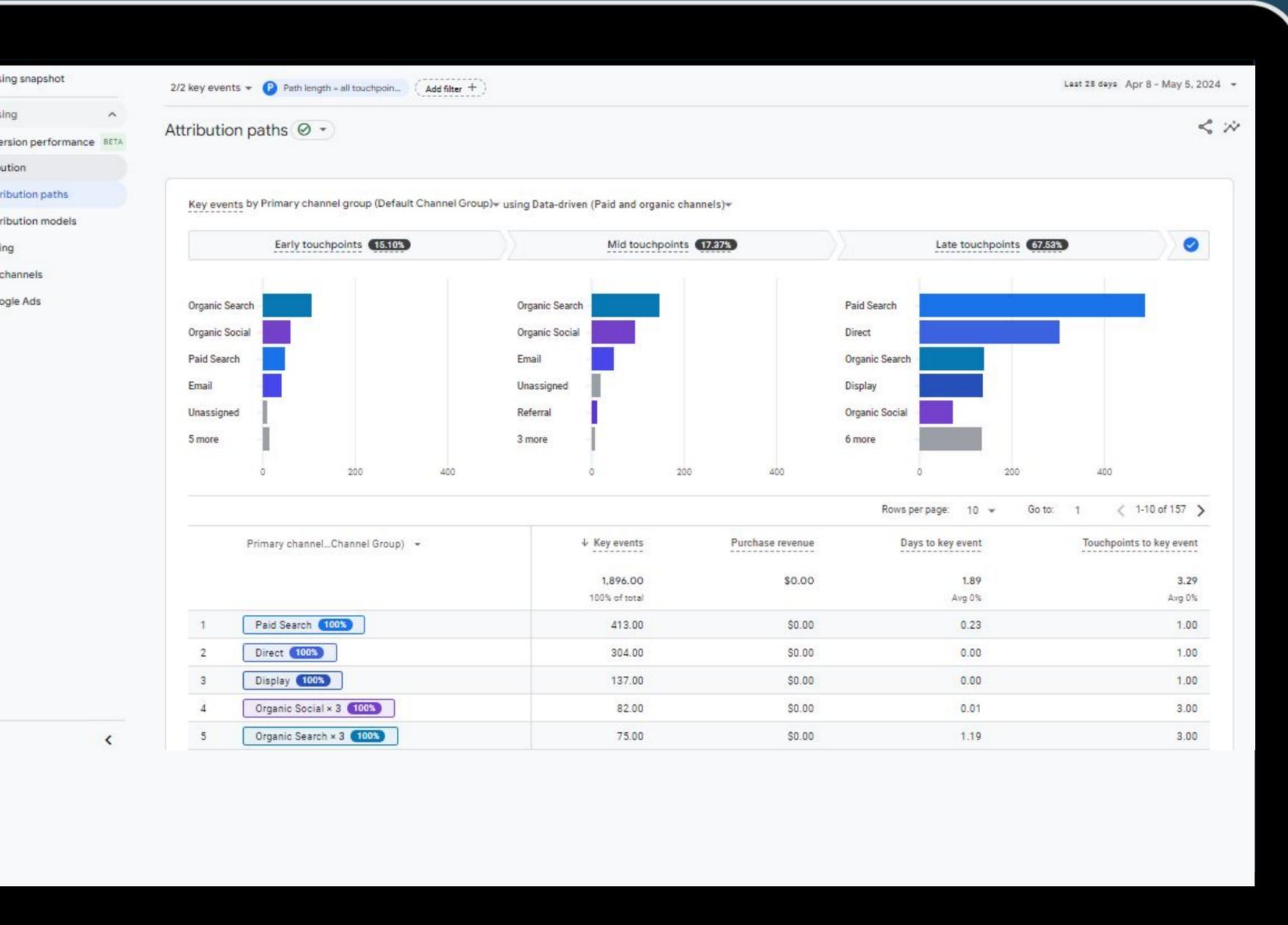
Advertising Reports

Do you need to answer the question "Are my Paid Search campaigns directly affecting key events?"

- The Advertising Reports show the Attribution path by Primary Channel group
- Early, Mid, and Late touch points can show the performance of Paid Search campaigns
- Metrics such as how many days it took users from Early touch point to completing a key event and how many touchpoints to the key event

This report shows Paid Search has been a main contributor to key events over the past 30 days.

Resources

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