

Display Automated Bidding Guide



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How automated bidding works

AdWords' programmatic bidding algorithm analyzes signals from the context of each ad auction and sets bids based on how likely your ad is to convert. When set up correctly, automated bidding can improve conversion performance beyond manual optimization changes and significantly decrease your time spent on campaign management.

Bid strategies for Display Network campaigns

You can use one of three different bid strategies with automated bidding for your Display Network campaigns:

- **Enhanced cost-per-click (ECPC):** After you define a CPC bid, AdWords will adjust your bid from -100% to +30% based on how likely we think your ad is to convert. You can choose this bid strategy at the campaign level, or select it from your list of flexible bid strategies.
- **Conversion Optimizer/Target CPA:** Our system sets bids to help you get as many **conversions** as possible within your target cost-per-acquisition (CPA) goal. You can choose this bid strategy at the campaign level by selecting "Conversion Optimizer," or select "Target CPA" from your list of flexible bid strategies.
- **Target return on ad spend (ROAS):** Your bids are set to maximize your conversion value, predicting how likely your ad is to convert and its conversion value while trying to reach an average return on ad spend. After setting up [transaction-specific \(or "dynamic"\) conversion values](#) for conversion tracking, you can select this strategy from your list of flexible bid strategies.

Automated bidding in action

When analyzing each ad auction, AdWords not only considers individual signals, but the intersection of these signals, when calculating your bid. Some example signals include:

- **Behavior**
 - How recently a user left your site
 - How many pages a user viewed on your site
 - Value of the products a user has viewed on your site
 - How far through the conversion funnel a user has progressed
 - Sites previously visited by a user
- **Demographics**
 - Age and gender
 - Geographic location
 - Device type
 - Interests

- **Content of the webpage viewed and session context**

- Website content, structure, and keywords
 - Time of day and day of week

- **Ad characteristics**

- Ad format
 - Ad performance

The Conversion Optimizer (CO), Target CPA, ROAS, and eCPC bid strategies use the same underlying programmatic bidding algorithm combined with the signals above to predict the auction's value to you, the advertiser. It then uses those values to calculate your ideal CPC bid for that specific auction in real-time.

The following table shows how this system works step-by-step for each bid strategy for a given auction:

Step 1	<ul style="list-style-type: none">• If you're using Target CPA, you'll set your Target CPA and our system will predict a conversion rate.• If you use choose a Target ROAS instead, the algorithm also predicts an expected conversion value.
Step 2	<ul style="list-style-type: none">• The algorithm uses the Target CPA or ROAS and the predicted conversion rate to calculate your ideal CPC.
Step 3	<ul style="list-style-type: none">• The ideal CPC bid is converted to a CPM and compared with all other advertisers' bids (both on AdWords and demand-side platforms buying on AdX).
Ongoing	<ul style="list-style-type: none">• The algorithm regularly evaluates predicted vs. actual conversion rates and adjusts bids accordingly to hit your target over time.

Set up automated bidding

Part 1: Adjust your campaign settings and targets

We've included a checklist below to help you set up automated bidding for your Display Network campaigns. We recommend that you use these recommended settings for better results when using this feature.

Before you start: Please check your conversion volumes in your AdWords account to be sure that you've set up conversion tracking properly. If you use third-party conversion tracking tools, you can also compare these volumes with your external reports. If the values are not the same, you'll need to account for any differences when calculating your Target CPA or ROAS. Learn more about setting up conversion tracking in our [Help Center](#).

Automated bidding: Display Network Campaign Settings Checklist

Step 1	<ul style="list-style-type: none"><input type="checkbox"/> Set your Ad rotation setting to "Conversions" to ensure the system always chooses the ad that's most likely to convert.<input type="checkbox"/> Set your Ad delivery setting to "Standard" to avoid running out of budget early in the day
Step 2	<ul style="list-style-type: none"><input type="checkbox"/> Start with eCPC bidding while you wait for your campaign to generate enough conversions for Target CPA. With eCPC, the algorithm can slightly adjust your CPC bid based on conversion likelihood from the start.
Step 3	<ul style="list-style-type: none"><input type="checkbox"/> When setting your Target CPAs/ROAS, start with targets that align with your historical CPA or ROAS to maintain current volume. If the algorithm realizes current performance differs significantly from your target, it will automatically lower bids, which may decrease your total conversion volume. If you'd like a lower CPA or higher ROAS and don't want to lose volume, adjust the bid gradually over time.
Step 4	<ul style="list-style-type: none"><input type="checkbox"/> When eligible,* select Conversion Optimizer or the flexible bid strategy that matches your business needs at the campaign level. <p>Important: While you can turn on automated bidding after only 15 conversions in a 30 day period, it can be hard to measure ROI and performance with so few conversions. If you'd like to consistently hit your target over a 30 day period using this feature, we recommend that you wait until your campaign has reached 100 conversions instead.</p>
Step 5	<ul style="list-style-type: none"><input type="checkbox"/> Let your campaign run for at least two weeks without making any changes. This provides an initial learning period for AdWords' programmatic bidding algorithm. During this time, your campaign's performance may fluctuate more frequently as the algorithm adjusts its computations and optimizes your bids for the best conversion results.

*Note: You usually need a minimum of at least 15 conversions to be eligible to use Conversion Optimizer or flexible bid strategies, but some advertisers with relevant historical data may be eligible sooner. The programmatic bidding algorithm evaluates all historical performance data at your website domain level.

Part 2: Define your campaign and ad group structure

Automated bidding performs best when it's allowed to evaluate performance and optimize bids across as much traffic as possible. Therefore, **we recommend that you do not over-segment your campaigns into too many ad groups.**

If you're considering creating ad groups, we've included a list of scenarios below for integrating additional ad groups with Display Network campaigns using automated bidding:

Audience considerations

- Remarketing to different user segments: For example, you could create separate ad groups for cart abandoners, product viewers, and homepage visitors.
- Targeting users at different stages in the conversion funnel within the same campaign: You can set a higher CPA or a lower ROAS target for users in the consideration phase.
- Showing an ad that is brand vs. direct response-focused: For example, you'd likely choose to show a brand-focused ad to an upper-funnel user and a direct-response ad to a lower-funnel user.

Goal considerations

- Assigning different conversion values to user attributes: For example, you could choose to pay \$20 for a conversion in France but \$30 for a conversion in the UK. Keep in mind that Target ROAS automatically evaluates conversion values reported by conversion tracking.
- Adjusting for industry signals our algorithm might not anticipate: For example, if you're a travel advertiser and time-to-departure is an important statistic for you, use this metric to segment your ad groups. You can create one ad group targeting only users whose departures are imminent and another for users with trips farther in the future, then tailor your ad content accordingly.

Reporting considerations

- Separating data for your reports: You may want to completely split out reporting between targeting groupings or ad groups. When you have two separate ad groups, you'll receive aggregated statistics for each ad group on a separate line item in the Ad Groups Report. This can make reporting and performance metrics easier for you to analyze.
- Adjusting for attribution discrepancies in third-party reporting: For example, if AdWords reports 50% more conversions than a third-party reporting tool for your keyword-targeted campaign, but only 20% more for In-Market Segments, you should segment to take that into account.

Important: Even if you do choose to segment your campaign into multiple ad groups, you should evaluate your campaign performance towards your goals at the campaign level rather than focusing on ad group fluctuations.

Monitoring your campaign

Limit changes to your campaigns

Once you've enabled automated bidding and monitored your campaign's progress towards your performance goals for or the initial two-week ramp-up period, you'll be able to spend less time managing your campaign bids.

However, making significant changes to your campaign after enabling automated bidding can disrupt your campaign's overall performance. This is because AdWords' programmatic bidding algorithm will need time to learn and adjust for the changes you've made. For example, you might see your campaign's performance negatively affected if you add a lot of new keywords at once or expand your geographic targeting significantly, increasing your eligibility for a significant number of impressions for which automated bidding has no historical data.

Changes that could impact your campaign's performance include but aren't limited to:

- Target changes
- Ad content or URL changes
- Location and audience targeting changes (including audience lists)

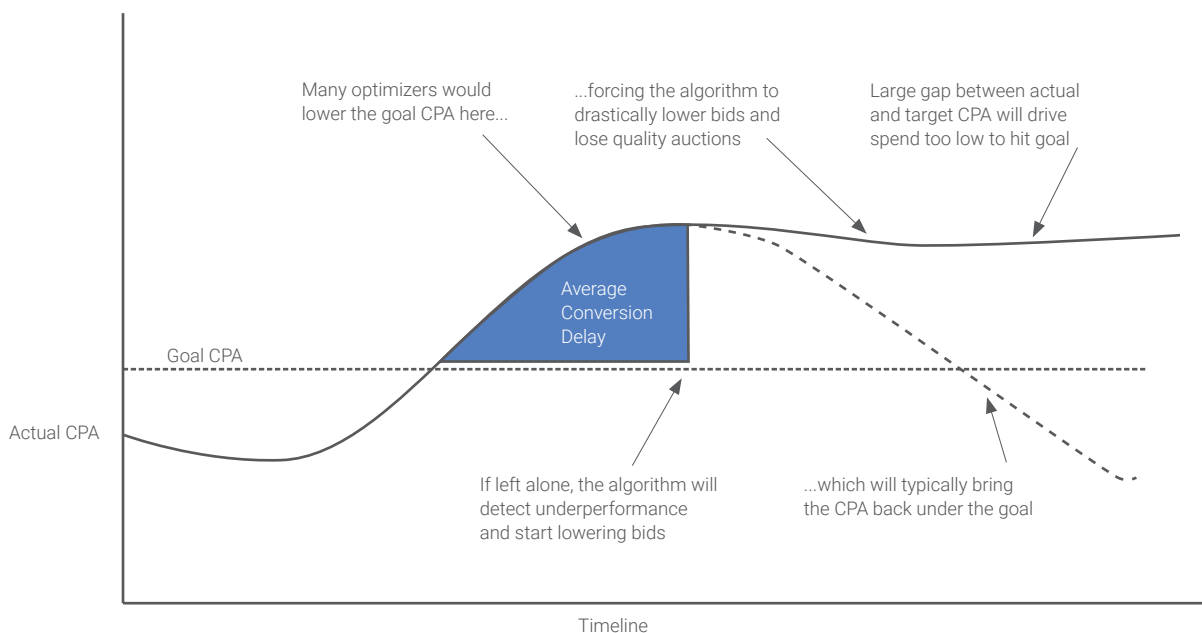
Follow these best practices when updating your campaigns

If you need to make major changes to a campaign with automated bidding enabled, we recommend that you follow these best practices:

- **Make all of your changes at one time:** This decreases the amount of time needed for the programmatic bidding algorithm to learn and adjust its computations to include new signals when optimizing your bids.
- **Try to limit target changes to +/- 20% and wait a week before evaluating results:** Small, infrequent Target CPA or ROAS changes aren't likely to cause a noticeable problem. If you make a big change, expect temporary volatility while we adjust to the new target level. Wait a week before evaluating the impact of your target change to ensure you're looking at enough data.
- **Use the "Status" column to check on your progress if you're using Target ROAS or Target CPA:** If you're using a flexible bid strategy (Target ROAS or Target CPA), you can add the "Bid strategy" and "Bid strategy type" columns to your campaign view to check on the progress of the algorithm's analysis of your changes.
- **Avoid adjusting your targets immediately after making significant changes to your campaign:** If you see what appears to be poor performance results after making changes to your campaigns, you should avoid immediately lowering your Target CPA or increasing your Target ROAS. Lowering your Target CPA or increasing your Target ROAS immediately within the two weeks after you've made initial changes can significantly hurt your conversion volumes and campaign performance as shown in the chart below.

Performance Impact of CPA & ROAS Goal Changes Over Time

(For Display Network campaigns with automated bidding enabled)



How to evaluate conversion delays and poor performance

What you may see as poor performance in your account can actually be caused by a **conversion lag**. It can take several weeks for some users to see an ad before they convert, and while advertisers pay the CPC cost for an ad click almost immediately, the conversions for those clicks are reported over time based on the advertiser's chosen conversion window. To better understand your average conversion lag, you can check your search funnels (specifically the [Time Lag Report](#)) or your web analytics data.

For example, if you make major changes to your campaign June 15th and your conversion window is 30 days, your performance for June 15th – 30th may initially appear poor. However, your campaign performance will improve as more users convert over your true conversion window time period (30 days) and those conversions are attributed back to the day the user clicks actually took place.

Due to the potential for performance issues caused by conversion lag after you make significant changes, we recommend that you allow at least two weeks for the performance bidding algorithm to learn from your changes and compensate for poor performance.

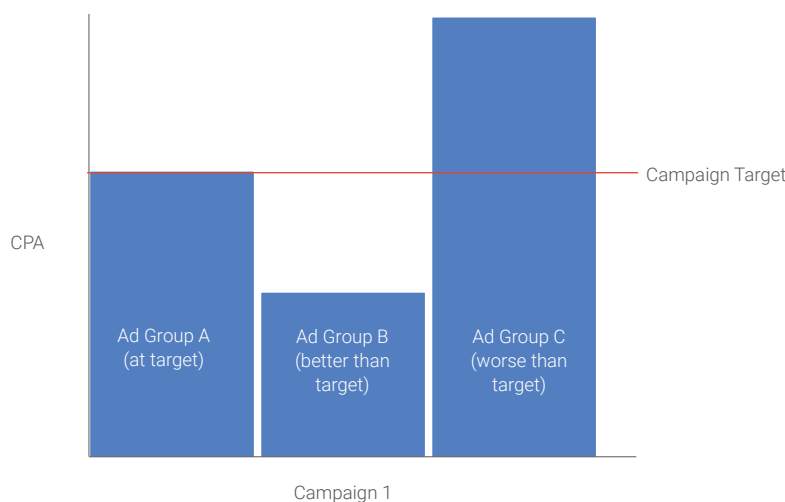
Note: If you have a limited budget and your campaign performance is worse than your Target CPA or ROAS, we recommend that you either lower your Target CPA or raise your Target ROAS **by only 20%** until your target performance is reached or you're no longer constrained by budget. Feel free to **exclude sites** with significant spend and no conversions as long as you have a history of statistically significant performance data accrued for these sites.

Analyze your campaign performance

We recommend that you evaluate your campaign's overall performance to minimize statistical noise. Don't focus too narrowly on individual ad groups or short time periods (such as performance on a specific day), especially if you set a target at the campaign level.

Example: Performance Evaluation for Campaign #1

(For Display Network campaigns with automated bidding enabled)



Example: Performance evaluation methodology for Campaign #1

Overall performance results

In the chart above, Ad Group C is performing above the Target CPA while Ad Groups A and B are hitting or below the Target goal.

Recommendations:

1. Since the campaign is hitting the Target goal, the advertiser should not pause Ad Group C or overall conversion volume will suffer. The programmatic bidding algorithm will learn attributes about Ad Group C that will lead to exceeding the Target CPA and will compensate with lower bids.
2. Combine Ad Groups A, B, and C to maximize shared learning and allow automated bidding to optimize across all campaign traffic (unless you need to create multiple ad groups per the scenarios explored earlier in this guide).
3. Expand the date range considered to include multiple weeks. When evaluating performance, set a date range that accounts for conversion lag. For example, if you have a 24 hour average conversion lag, you should not include the previous day when looking at performance statistics.

Calculating accuracy and conversion volume

Automated bidding is more likely to meet your Target CPA or ROAS if you evaluate a time period with more conversion volume. The chart below shows expected accuracy given the conversion volume in a time period or campaign hierarchy evaluated.

Number of Conversions	CPA or ROAS Performance Fluctuation	Reaction Time to Changes	Initial Learning Period
15	Medium to High	Slow (up to 2 weeks)	Up to 4 weeks
50	Medium	Medium	Up to 3 weeks
100	Low	Fast	Up to 2 weeks
500	Very Low	Very Fast (as few as 6 hrs)	Up to 2 weeks

This chart applies to any reasonable account hierarchy or time period analyzed. If one ad group out of a large campaign only has 15 conversions during a time period analyzed, we'd expect volatility in that ad group. However, the overall campaign could be consistently hitting the CPA in this case, though! This chart does not apply for longer time periods (like "All time" or across multiple months).

Again, we recommend that you focus on overall campaign performance trends rather than individual ad groups or short date ranges with more volatility. The programmatic bidding algorithm is designed to adjust to meet the target over time.

Takeaways

Automated bidding operates very much like a human optimizer.

- It can greatly improve your ROI or increase volumes — but this won't necessarily happen overnight.
- It doesn't overcompensate based on short term changes.
- It takes action based only on statistically significant data.
- It lowers bids if your campaign performance does not meet your goal.

Setting campaigns up properly before enabling automated bidding delivers better results.

- While automated bidding takes ad performance history into account, it doesn't decide which ad to show, so we recommend that you choose to rotate your ads based on performance.
- Automated bidding doesn't consider budget constraints. If you're limited by budget and your campaigns are not consistently meeting your goal, you can switch to a lower CPA or higher ROAS to use your budget more effectively.

You should only create multiple ad groups when necessary.

- If a campaign is segmented into too many ad groups, these ad groups may experience performance fluctuations and limit the programmatic bidding algorithm's ability to learn from all traffic across your campaign.
- You'll find it easier to track your campaign performance by removing unnecessary ad groups.

Our algorithm works better with more conversion data.

- Campaigns with frequently occurring conversions and significant conversion volume offer enough data for AdWords' programmatic bidding algorithm to learn from, and they have fewer performance fluctuations over time.
- If you're looking at a date range for a campaign or set of ad groups with less than 100 conversions, you should expect to see more performance fluctuations.
- More seasonal volume only improves automated bidding. As long as your conversion rate isn't changing drastically on a daily basis due to short-term sales or other factors, Target CPA or ROAS bid strategies are the best way to achieve your CPA and ROI goals.

Your campaign performance will fluctuate with frequent or significant changes.

- It's ideal to avoid too many changes to your campaigns to limit evaluation periods from our algorithm that could temporarily impact your campaign's performance.
- If you do decide to make changes, it's important to evaluate performance at the campaign level to get a more accurate view of a campaign's true profitability.

FAQs

Can I restart automated bidding to replace the data it's already collected?

While it isn't possible to do this, it also isn't necessary. Automated bidding is always learning and therefore it continually adjusts to include changing auction environments – and your performance data – in its calculations.

[Learn more](#)

How do I make adjustments for specific conversion events or issues?

Issues like site or pixel problems that affect your conversion tracking data or events that trigger a significant change to your conversion rates (like a sale) may require you to exclude certain dates or information from automated bidding calculations.

While it isn't possible to make adjustments for situations like these at this time, we look forward to offering this functionality in the future. For now, it will likely take 1–2 weeks after the event for the programmatic bidding algorithm to normalize due to the fluctuation in conversion rates. If you need to quickly course-correct, we recommend that you switch to the eCPC bid strategy during the sale and up to 2 weeks after.

How can I enable automated bidding as quickly as possible?

Automated bidding can only be enabled when there's enough campaign performance data available for the programmatic bidding algorithm to effectively calculate ideal bids. This means you'll usually need a minimum of at least 15 conversions to be eligible to use automated bidding.

To allow the AdWords system to collect enough relevant data most quickly, you can use the eCPC bid strategy. (Do **not** use CPM bidding.) In some cases, advertisers can become eligible for automated bidding sooner than expected because we have significant prediction data based on their previous advertising campaigns, or there is enough relevant historical data about their website domain within AdWords overall.