

Google Ads Account Manager

AI Agent

Complete Documentation

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01 User Guide

1. Google Ads Account Manager - AI Agent

Comprehensive User Guide

Version: 1.0

Last Updated: December 2024

Documentation Order: #1 (Getting Started - Read First)

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Overview

Google Ads Account Manager - AI Agent is a comprehensive web application that combines Google Ads API integration with Claude AI to provide intelligent campaign analysis, optimization recommendations, and account management for real estate investor campaigns.

Key Features

- **AI-Powered Analysis** - Claude AI provides context-aware optimization recommendations
- **Comprehensive Campaign Analysis** - Deep dive into performance metrics and opportunities
- **Ad Copy Optimization** - Specialized A/B testing recommendations with character limit compliance
- **Biweekly Client Reports** - Professional 2-page PDF reports for clients
- **AI Q&A** - Ask Claude questions about Google Ads management
- **Help Center** - AI-powered documentation assistant with instant answers from app documentation
- **Account Management** - Create sub-accounts and campaigns directly from the app
- **Change Tracking** - Automatic and manual change tracking for continuous optimization

Target Audience

- Real estate investors managing Google Ads campaigns
 - PPC managers handling multiple client accounts
 - Marketing agencies specializing in real estate lead generation
 - Anyone managing Google Ads campaigns targeting motivated and distressed home sellers
-

System Architecture & Integrations

Core Technologies

- **Streamlit** - Web application framework
 - Provides the user interface
 - Handles session state management
 - Deployed on Streamlit Cloud
- **Google Ads API** - Campaign data and management
 - Fetches comprehensive campaign data
 - Creates sub-accounts and campaigns

- Requires OAuth 2.0 authentication
- Supports MCC (Manager) accounts
- **Anthropic Claude API** - AI analysis engine
 - Provides intelligent campaign analysis
 - Generates optimization recommendations
 - Creates client-friendly reports
 - Answers Google Ads management questions
 - Uses modular prompt system for efficient token usage (20-60% reduction)
 - See __MARKER0MARKER__ for architecture details
- **Google Drive API** - Report storage
 - Uploads PDF reports to organized folders
 - Supports multiple report types (analysis, biweekly, Q&A)
- **Help System** - Documentation assistant
 - Index-based documentation loading for token optimization (~35% savings)
 - On-demand content loading (only loads 2 most relevant docs per query)
 - Smart caching in session state
 - Uses Claude Haiku for fast, cost-effective responses

Data Flow



Integration Details

Google Ads API Integration

Purpose: Fetch campaign data and manage accounts

What It Does:

- Retrieves campaign performance metrics
- Fetches keyword, ad group, and ad data
- Gets search term performance
- Creates new sub-accounts
- Creates new campaigns

Authentication:

- OAuth 2.0 flow
- Refresh token stored securely
- Supports both local (.env) and cloud (Streamlit secrets) configurations

Data Retrieved:

- Campaign metrics (impressions, clicks, CTR, conversions, ROAS)
- Keyword performance (status, bids, match types, quality scores)
- Ad group performance
- Ad copy (all headlines and descriptions)
- Search term data
- Bidding strategy settings

Claude AI Integration

Purpose: Intelligent analysis and recommendations

Models Available:

- Claude Sonnet 4 (recommended) - Best balance of quality and cost
- Claude 3.5 Haiku - Fast and cost-effective
- Claude 3 Opus - Most powerful, higher cost

What Claude Does:

- Analyzes campaign performance data

- Provides optimization recommendations
- Generates ad copy suggestions
- Creates biweekly client reports
- Answers Google Ads management questions
- Assesses impact of previous changes (with changelog context)

Claude Prompt System:

- Modular prompt architecture (core + optional modules)
- Dynamic module loading based on feature/page
- Reduced token usage (20-60% savings per analysis)
- Each page loads only the modules it needs
- See __MARKER0MARKER__ for complete details
- Context-aware analysis using changelog history
- Character limit compliance for ad copy
- Client-friendly report formatting

Google Drive Integration

Purpose: Organized report storage

Folder Structure:

- Optimization Reports: __MARKER0MARKER__
- Ad Copy Optimization: __MARKER0MARKER__
- Claude Q&A Chat History: __MARKER0MARKER__

Report Types:

- Campaign Analysis PDFs
- Ad Copy Optimization PDFs
- Biweekly Client Reports (2-page PDFs)
- Q&A Chat Log PDFs

Getting Started

Prerequisites

- **Google Ads Account**
 - MCC (Manager) account or customer account
 - Google Ads API access enabled
 - Developer token (Basic or Standard access)
- **Anthropic Account**
 - Claude API key
 - Access to Claude models (Sonnet 4 recommended)
- **Google Cloud Project**
 - OAuth 2.0 credentials (Client ID and Secret)
 - Google Ads API enabled
 - Google Drive API enabled (for report storage)

Initial Setup

See ____MARKER0MARKER____ for detailed setup instructions.

Quick Setup Steps:

- Clone repository
- Install dependencies (____MARKER0MARKER____)
- Configure credentials (see ____MARKER0MARKER____)
- Deploy to Streamlit Cloud or run locally

First Time Access

- Navigate to the web app URL
 - Check connection status in sidebar (should show "Connected")
 - Select your Claude model in Settings
 - Start with "Campaign Analysis" page
-

Web App Pages Guide

■ Campaign Analysis

Purpose: Get comprehensive optimization recommendations for your campaigns.

How to Use:

• Select Account & Campaign

- Choose account from dropdown
- Select specific campaign or "All Campaigns"
- Campaign list loads automatically

• Set Analysis Parameters

- **Date Range:** Number of days to analyze (default: 30)
- **Optimization Goals:** Use defaults or enter custom goals

• Run Analysis

- Click "Run Comprehensive Analysis"

- Wait for 3 steps:

- Step 1: Fetching campaign data
- Step 2: Formatting data
- Step 3: Loading change history
- Step 4: Claude analysis (1-2 minutes)

- **Review Recommendations**

- Analysis results display automatically
- Includes performance insights and actionable recommendations
- Previous changes (if any) are considered by Claude

- **Save Snapshot (Optional)**

- Click "■ Save Snapshot" to save current campaign state
- Enables automatic change detection later

- **Track Changes**

- **Automatic:** Use "■ Detect Changes" after making updates
- **Manual:** Enter changes in text area and save

- **Export Results**

- "■ Save to PDF" - Download PDF report
- "■ Upload to Google Drive" - Upload to Optimization Reports folder

What You Get:

- Performance analysis
- Keyword optimization recommendations
- Budget allocation suggestions
- Waste elimination recommendations
- Match type strategy guidance
- Ad copy improvement suggestions

Tips:

- Save snapshot after analysis for automatic change detection
- Review changelog context before running new analysis
- Use default optimization goals for real estate campaigns

■ Ad Copy Optimization

Purpose: Get specialized ad copy recommendations with A/B testing suggestions.

How to Use:

- **Select Account & Campaign**

- Same as Campaign Analysis

- **Set Date Range**

- Typically 30 days for sufficient data

- **Run Analysis**

- Click "■ Run Ad Copy Analysis"

- Claude analyzes all headlines and descriptions

- Focuses on keywords with 3+ conversions and >10% conversion rate

- **Review Recommendations**

- Specific headline/description replacements

- Character limit compliance

- High-converting keyword integration

- A/B testing suggestions

- **Export Results**

- Save to PDF or upload to Google Drive (Ad Copy Optimization folder)

What You Get:

- Headline replacements (which headline to replace)

- Description replacements (which description to replace)

- Character count verification

- Keyword integration suggestions
- A/B testing recommendations

Tips:

- Focus on top-performing keywords (3+ conversions, >10% conversion rate)
 - Test one change at a time for accurate results
 - Keep character limits in mind (30 chars for headlines, 90 for descriptions)
-

■ **Keyword Research**

Purpose: Analyze keyword competition, search volume, and get AI-powered expansion recommendations using Google Keyword Planner data.

How to Use:

• **Select Account**

- Choose account from dropdown
- Account is required for Keyword Planner API access

• **Input Keywords**

• **Option 1: Manual Entry**

- Enter keywords one per line in the text area
- Example: ___MARKER0MARKER_, _MARKER1MARKER_, _MARKER2MARKER___

• **Option 2: Load from Campaign**

- Select a campaign from dropdown
- Click "Load Keywords from Selected Campaign"
- All keywords from that campaign will be loaded automatically

• **Option 3: Generate Suggestions from Seed Keywords**

- Enter seed keywords (e.g., ___MARKER0MARKER_, _MARKER1MARKER___)
 - Click "Generate Keyword Suggestions"
 - System uses Keyword Planner to generate related keyword ideas
-
- **Set Location Targeting (Optional)**
- **Automatic (Recommended):** If you select a campaign and leave "Specify geographic targeting" unchecked:
 - System automatically detects and uses the campaign's geo-targeting locations
 - Search volume data will match your campaign's actual target locations
 - Shows: "■ Using campaign's geo-targeting (X location(s))"
 - **Manual Override:** Check "Specify geographic targeting" to override campaign settings:
 - Enter location name (e.g., ___MARKER0MARKER_, _MARKER1MARKER_, _MARKER2MARKER___)
 - System resolves the location and uses it for search volume analysis
 - This overrides campaign geo-targeting if a campaign is selected
 - Leave blank for national/global data
 - **No Campaign Selected:** If no campaign is selected and geo-targeting is unchecked:
 - Uses national/global data (no specific location targeting)
-
- **Run Analysis**
- Click "■ Analyze Keywords"
 - System will:
 - Auto-detect campaign geo-targeting (if campaign selected and checkbox unchecked)
 - Fetch Keyword Planner data (search volume, competition, suggested bids) for the target locations
 - Send data to Claude for analysis
 - Generate recommendations
-
- **Review Results**
- **Keyword Planner Data Table:**
- Shows search volume, competition level, suggested bid range for each keyword

- Interactive table for easy review

- **Claude's Analysis & Recommendations:**

- Competition analysis (which keywords are too competitive)
- Search volume assessment (scaling potential)
- Keyword expansion recommendations (priority 1, 2, 3)
- Budget allocation strategy
- Market positioning insights

- **Export Results**

- "■ Save to PDF" - Download keyword research report
- "■ Upload to Google Drive" - Upload to Google Drive folder

What You Get:

- Competition analysis for each keyword
- Search volume data (high/medium/low)
- Suggested bid estimates
- Keyword expansion recommendations (add, test, skip)
- Budget allocation strategy
- Quality Score indicators
- Market positioning insights

Tips:

- Use "Load from Campaign" to analyze existing campaign keywords
- Use "Generate Suggestions" to discover new keyword opportunities
- **Leave "Specify geographic targeting" unchecked when analyzing campaign keywords** - it will automatically use your campaign's geo-targeting for accurate search volume
- Check "Specify geographic targeting" only if you want to research keywords for a different location than your campaign targets
- Location format: Simple names work best (e.g., __MARKER0MARKER__, _MARKER1MARKER_, _MARKER2MARKER__)

- Review competition levels before adding high-competition keywords
- Focus on keywords with medium-high search volume (1K-10K/month) for best results

When to Use:

- Before launching a new campaign (use manual location entry)
- When expanding existing campaigns (auto-detects campaign geo-targeting)
- To find new keyword opportunities
- To assess competition levels in your target markets
- To get bid estimates for new keywords
- To research keywords for different locations than your campaign targets (check "Specify geographic targeting")

Geo-Targeting Behavior:

- **Unchecked + Campaign Selected:** Automatically uses campaign's geo-targeting (recommended for analyzing campaign keywords)
 - **Checked + Location Entered:** Overrides campaign settings, uses only the entered location
 - **Unchecked + No Campaign:** Uses national/global data
-

■ Biweekly Reports

Purpose: Generate professional 2-page PDF reports for clients.

How to Use:

- **Select Account & Campaign**
 - Choose client account and campaign
- **Set Date Range**
 - Default: 14 days (biweekly)
 - Adjustable from 7-365 days

- **Generate Report**

- Click "■ Generate Biweekly Report"
- Claude creates client-friendly report
- Includes performance overview, trends, and next steps

- **Review Report**

- Report displays in web app
- Formatted with color-coded metrics
- Professional layout

- **Export Report**

- "■ Download PDF" - 2-page branded PDF
- "■ Upload to Google Drive" - Save to reports folder

Report Contents:

- **Page 1:**

- Logo (branded)
- Key Metrics (6 metrics in 2 columns)
- Two-Week Trend

- **Page 2:**

- What This Means
- What's Working (table)
- What We're Optimizing
- Next Steps
- Logo (footer)

What You Get:

- Client-friendly language
- Color-coded metrics (■ good, ■ okay, ■ needs attention)

- Action-oriented insights
- Professional branding

Tips:

- Use 14-day periods for biweekly reports
 - Review report before sending to client
 - Customize logo for branding
-

■ Ask Claude

Purpose: Get answers to Google Ads management questions with optional campaign context.

How to Use:

• Enter Your Question

- Type your question in the text area
- Examples:
 - "How do I improve my Quality Score?"
 - "What's the best bidding strategy for new campaigns?"
 - "Should I use broad match or exact match?"

• Add Campaign Context (Optional)

- Check "Include campaign data for context"
- Select account and campaign
- Claude will use current campaign data to answer

• Ask Question

- Click "■ Ask Claude"
- Response appears in chat interface

- **Continue Conversation**

- Ask follow-up questions
- Chat history maintained in session

- **Export Chat**

- "■ Download PDF" - Save chat log as PDF
- "■ Upload to Google Drive" - Save to Q&A folder

What You Get:

- Expert Google Ads advice
- Context-aware responses (if campaign data included)
- Conversational interface
- Chat history export

Tips:

- Include campaign data for more specific answers
 - Ask follow-up questions for deeper insights
 - Export important conversations for reference
-

■ Create Account

Purpose: Create new Google Ads sub-accounts under your MCC.

How to Use:

- **Enter Account Details**

- **Account Name:** Descriptive name for the account
- **Currency Code:** 3-letter code (e.g., USD, CAD)
- **Time Zone:** Select from dropdown

- **Review Account Settings**

- Manager Account: False
- Test Account: False
- Tracking URL Template: Empty (client sets up)
- Payment Method: Client must set up their own

- **Create Account**

- Click "■ Create Sub-Account"
- Account created in your MCC
- Account ID displayed upon success

What Happens:

- New sub-account created under MCC
- Account appears in account selection dropdowns
- Client must set up payment method separately
- Conversion tracking set to "This Manager"

Tips:

- Use descriptive account names
 - Select correct time zone for client location
 - Note account ID for client records
-

■ **Create Campaign**

Purpose: Create new campaigns in existing sub-accounts.

How to Use:

- **Select Account**

- Choose sub-account from dropdown
- Only sub-accounts (not MCC) can have campaigns

- **Enter Campaign Details**

- **Campaign Name:** Descriptive name
- **Budget:** Daily budget amount
- **Start Date:** Campaign start date
- **End Date:** Optional end date

- **Review Campaign Settings**

- Bidding Strategy: Maximize Clicks
- Network: Google Search only
- Location Targeting: Presence Only
- Negative Keyword List: Shared list applied

- **Create Campaign**

- Click "■ Create Campaign"
- Campaign created with default settings
- Campaign ID displayed upon success

Default Settings:

- Bidding: Maximize Clicks (for new campaigns)
- Network: Search only (no Display, YouTube, etc.)
- Location: Presence Only (targets users in location)
- Negative Keywords: Shared list applied

Tips:

- Start with Maximize Clicks, upgrade to Target CPA later
- Use descriptive campaign names
- Set appropriate daily budget

■ Help Center

Purpose: Get instant answers to questions about the app using AI-powered documentation search.

How to Use:

- **Access Help Center**

- Click "■ Help Center" button in the Settings section of the sidebar (underneath Claude Model selector)
- Help Center page opens with suggested questions

- **Ask Questions**

- **Option 1: Click Suggested Questions**

- Browse 12 pre-populated questions displayed in 3 columns
- Click any question to get an instant answer
- Additional questions available in "More Suggested Questions" expander

- **Option 2: Type Your Question**

- Use the chat input at the bottom: "Ask a question about the app..."
- Type your question and press Enter
- System searches documentation and provides answer

- **Review Answers**

- Answers appear in chat format with user and assistant messages
- Source citations show which documentation files were referenced
- Chat history persists during your session

- **Clear Chat**

- Click "■■ Clear Chat History" to start fresh

What You Get:

- Instant answers based on app documentation
- Step-by-step instructions when relevant
- Source citations for transparency
- Context-aware responses using Claude AI
- Optimized token usage (only loads relevant documentation)

How It Works:

- **Index-Based Loading:** System uses a lightweight index (titles, headers, keywords) to quickly identify relevant documentation
- **On-Demand Content:** Only loads the 2 most relevant documentation files per question (optimized for token usage)
- **Smart Caching:** Loaded documentation is cached in session state to prevent redundant loading
- **Token Optimization:** Saves ~35% tokens per query compared to loading all documentation

Tips:

- Use specific questions for better results (e.g., "How do I set up geo-targeting?" vs. "help")
- Suggested questions cover common topics - try them first
- Answers are based on documentation in the __MARKER0MARKER__ folder
- If answer isn't helpful, try rephrasing your question

When to Use:

- Learning how to use a specific feature
 - Troubleshooting setup or configuration issues
 - Understanding how features work together
 - Quick reference for common tasks
 - Getting clarification on documentation
-

Change Tracking System

Overview

The change tracking system helps Claude provide context-aware recommendations by tracking what changes you've made between analyses.

Two Methods

Method 1: Automatic Change Detection (Recommended)

Workflow:

- Run campaign analysis
- Click "■ Save Snapshot" (saves current campaign state)
- Make changes in Google Ads
- Click "■ Detect Changes"
- Review detected changes
- Click "■ Save to Changelog"

What Gets Detected:

- Budget changes
- Bidding strategy changes (including Target CPA/ROAS)
- Keyword status changes (paused/enabled/removed)
- Keyword bid changes
- Campaign/ad group status changes
- New keywords added

Benefits:

- No manual entry required
- Accurate change detection
- Automatic formatting

Method 2: Manual Entry

Workflow:

- Run campaign analysis
- Make changes in Google Ads
- Enter changes in "Track Changes Made" text area
- Click "■ Save Changes to Changelog"

When to Use:

- Ad copy changes (not detected automatically)
- Negative keyword additions
- Other changes not captured by snapshot

Benefits:

- Capture all changes, including ad copy
- Add context and notes
- Flexible entry format

How Changelog Helps Claude

When you run a new analysis, Claude:

- ■ Recognizes what was already implemented
- ■ Assesses impact of previous changes
- ■ Avoids duplicate recommendations
- ■ Builds on successes
- ■ Tracks long-term progress

Changelog Format

Changelog files are stored in ____MARKER0MARKER____ directory:

- Format: ____MARKER0MARKER____
- Each entry includes:
- Date/period

- Performance summary (optional)
 - Changes made
 - Timestamp
-

Best Practices

Campaign Analysis

• Regular Analysis

- Run analysis every 2-4 weeks
- Track changes between analyses
- Build on previous optimizations

• Date Ranges

- Use 30 days for comprehensive analysis
- Use 14 days for biweekly reports
- Avoid very short ranges (<7 days) for statistical significance

• Optimization Goals

- Use default goals for real estate campaigns
- Customize for specific objectives
- Be specific in custom goals

Change Tracking

• Save Snapshots

- Always save snapshot after analysis
- Enables automatic change detection
- Updates snapshot after saving changes

- **Document Changes**

- Track all changes, not just major ones
- Include specific details (keyword names, amounts)
- Note dates of changes

- **Review Changelog**

- Check previous changes before new analysis
- Understand what worked and what didn't
- Build on successful optimizations

Report Generation

- **Biweekly Reports**

- Generate consistently every 2 weeks
- Use same date ranges for comparison
- Review before sending to clients

- **Export Organization**

- Use Google Drive for centralized storage
- Download PDFs for local backup
- Organize by client/account

Model Selection

- **Claude Sonnet 4** (Recommended)

- Best balance of quality and cost
- Fast response times
- Excellent for all analysis types

- **Claude 3.5 Haiku**

- Fastest and most cost-effective
- Good for simple questions

- Use for Q&A when speed is priority

- **Claude 3 Opus**

- Most powerful analysis
 - Higher cost
 - Use for complex strategic questions
-

Troubleshooting

Connection Issues

Problem: "■■ Not Connected" in sidebar

Solutions:

- Check credentials in Streamlit secrets or .env file
- Verify Google Ads API access
- See `__MARKER0MARKER__`

Analysis Hanging

Problem: Analysis stuck on "Claude is analyzing..."

Solutions:

- Wait 2-3 minutes (normal for complex analyses)
- Check Claude API key is valid
- Try different Claude model
- Check Streamlit Cloud logs for errors

No Campaign Data

Problem: "No campaign data found"

Solutions:

- Verify account ID is correct
- Check campaign is not removed
- Ensure date range includes active period
- Verify API access to account

Change Detection Not Working

Problem: "No snapshot found"

Solutions:

- Save snapshot after analysis first
- Check snapshots/ directory exists
- Verify account/campaign names match

PDF Generation Errors

Problem: "Failed to create PDF"

Solutions:

- Check reportlab is installed
- Verify sufficient disk space
- Check Streamlit Cloud logs
- Try downloading instead of uploading

Google Drive Upload Fails

Problem: "Failed to upload to Google Drive"

Solutions:

- Verify Google Drive API is enabled
- Check folder IDs are correct
- Ensure OAuth token has Drive scope

- Re-authenticate if needed

For more troubleshooting, see [__MARKER0MARKER__](#).

Additional Resources

- [__MARKER0MARKER__](#) - Initial setup instructions
 - [__MARKER0MARKER__](#) - Deploy to Streamlit Cloud
 - [__MARKER0MARKER__](#) - Modular prompt architecture and module usage
 - [__MARKER0MARKER__](#) - Fix auth issues
 - [__MARKER0MARKER__](#) - Compare Claude models
 - [__MARKER0MARKER__](#) - Optimize prompts
-

Need Help? Check the troubleshooting section or review the specific documentation for your issue.

02 Setup

2. Setup Guide

Documentation Order: #2 (Getting Started)

Complete setup instructions for the Real Estate Google Ads Analyzer.

Prerequisites

- Python 3.8 or higher
- Google Ads account with API access
- Claude API key from Anthropic
- Terminal/command line access

Step 1: Install Python Dependencies

Create Virtual Environment

```
# Navigate to project directory cd "/Users/jer89/Cursor Projects/GAds-Claude" # Create
virtual environment python3 -m venv venv # Activate virtual environment source
venv/bin/activate
```

Install Packages

```
pip install -r requirements.txt
```

Note: On macOS with Homebrew Python, you may need to use __MARKER0MARKER_ and
_MARKER1MARKER__.

Step 2: Google Ads API Setup

Get Developer Token

- Go to __MARKER0MARKER__
- Sign in with your Google Ads account
- Click "Create Application" or select an existing application

- Copy your **Developer Token** (you'll need this)

Get OAuth2 Credentials

- Go to `__MARKER0MARKER__`
- Create a new project or select an existing one
- Enable "Google Ads API":
 - Go to "APIs & Services" → "Library"
 - Search for "Google Ads API"
 - Click "Enable"
- Create OAuth2 credentials:
 - Go to "APIs & Services" → "Credentials"
 - Click "Create Credentials" → "OAuth client ID"
 - Choose "Desktop app" as application type
 - Click "Create"
- Download credentials:
 - Click the download icon next to your OAuth client
 - Save the JSON file as `__MARKER0MARKER__` in the project root

Get Customer ID

Your Google Ads Customer ID is in the format `__MARKER0MARKER__`:

- Found in your Google Ads account settings
- Or in the URL when viewing your account
- For MCC accounts, use the MCC ID

Step 3: Claude API Setup

- Go to `__MARKER0MARKER__`
- Sign up or log in
- Navigate to "API Keys"

- Click "Create Key"
- Copy your API key (starts with `__MARKER0MARKER__`)

Step 4: Configure Environment Variables

Create a `__MARKER0MARKER__.env` file in the project root:

```
# Google Ads API Credentials GOOGLE_ADS_DEVELOPER_TOKEN=your_developer_token_here
GOOGLE_ADS_CLIENT_ID=your_client_id_from_json
GOOGLE_ADS_CLIENT_SECRET=your_client_secret_from_json
GOOGLE_ADS_REFRESH_TOKEN=will_be_generated_next_step
GOOGLE_ADS_CUSTOMER_ID=123-456-7890 # Claude API ANTHROPIC_API_KEY=sk-ant-your_key_here
# Optional: Default Claude model CLAUDE_MODEL=claude-3-5-sonnet-20241022
```

Where to find values:

- `__MARKER0MARKER__`: From Google Ads API Center
- `__MARKER0MARKER__`: **From downloaded `_MARKER1MARKER_.json` (field: `_MARKER2MARKER__`)**
- `__MARKER0MARKER__`: **From downloaded `_MARKER1MARKER_.json` (field: `_MARKER2MARKER__`)**
- `__MARKER0MARKER__`: **Your Google Ads account ID (format: `_MARKER1MARKER__`)**
- `__MARKER0MARKER__`: From Anthropic Console
- `__MARKER0MARKER__`: Generated in next step

Step 5: Authenticate Google Ads API

Run the authentication script:

```
python authenticate.py
```

This will:

- Open a browser window
- Ask you to sign in with your Google account
- Request permission to access Google Ads
- Generate a refresh token
- Display the token in the console

After authentication:

- Copy the refresh token shown in the console
- Update `__MARKER0MARKER_` in your `_MARKER1MARKER__` file

If authentication fails:

```
# Revoke existing tokens python authenticate.py --revoke # Re-authenticate python  
authenticate.py
```

Step 6: Verify Setup

Test your setup:

```
# Activate virtual environment (if not already active) source venv/bin/activate # Run  
the analyzer python real_estate_analyzer.py
```

You should see:

- Account selection prompt
- Campaign listing
- Model selection

If you see errors, check the troubleshooting section below.

Troubleshooting

Authentication Issues

"Failed to authenticate with Google Ads API"

- Verify credentials in `__MARKER0MARKER__`:

```
# Check .env file has all required fields cat .env
```

- Regenerate tokens:

```
python authenticate.py --revoke python authenticate.py
```

- Check `__MARKER0MARKER__` exists:

```
ls client_secrets.json
```

"Token expired" or "Invalid refresh token"

- Regenerate refresh token:

```
python authenticate.py --revoke python authenticate.py
```

- Update `__MARKER0MARKER__` with new token

API Access Issues

"No accessible customer accounts found"

- Verify `__MARKER0MARKER__` is correct
- Ensure the account has API access enabled
- Check that you're using an MCC account ID if analyzing multiple accounts
- Verify OAuth2 credentials have correct scopes

"Developer token not approved"

- Developer tokens can take 24-48 hours to activate
- Check status in Google Ads API Center
- Ensure you've completed the application process

Claude API Issues

"ANTHROPICAPIKEY not found"

- Verify `__MARKER0MARKER_ file exists and contains _MARKER1MARKER__`
- Check API key is correct (starts with `__MARKER0MARKER__`)
- Ensure no extra spaces or quotes around the key

"Error calling Claude API"

- Verify API key is valid in Anthropic Console
- Check you have sufficient API credits
- Verify internet connection

Python/Environment Issues

"Module not found" errors

- Ensure virtual environment is activated:

```
source venv/bin/activate
```

- Reinstall dependencies:

```
pip install -r requirements.txt
```

"python: command not found"

- Use `__MARKER0MARKER__` instead:

```
python3 real_estate_analyzer.py
```

File Permission Issues

"Permission denied" when running scripts

- Make scripts executable:

```
chmod +x run_real_estate.sh
```

Multi-Account Setup (MCC)

If you manage multiple Google Ads accounts:

- Use your MCC (Manager) account ID as `__MARKER0MARKER__`
- The analyzer will list all accessible accounts
- Select the account you want to analyze when prompted

To find your MCC ID:

- Log into Google Ads
- MCC accounts show "Manager" in the account selector
- The ID is in the URL or account settings

Security Best Practices

- Never commit credentials:

- __MARKER0MARKER_ is in _MARKER1MARKER__
- __MARKER0MARKER_ is in _MARKER1MARKER__
- __MARKER0MARKER_ is in _MARKER1MARKER__

- **Keep credentials secure:**

- Don't share __MARKER0MARKER__ file
- Rotate API keys periodically
- Use separate credentials for production/testing

- **Token management:**

- Refresh tokens don't expire (unless revoked)
- Store securely
- Revoke if compromised

Next Steps

Once setup is complete:

- Read the __MARKER0MARKER__ for how to use the analyzer
- Review __MARKER0MARKER__ for Claude model selection
- Run your first analysis:

```
python real_estate_analyzer.py
```

Getting Help

If you encounter issues:

- Check the troubleshooting section above
- Verify all credentials are correct
- Ensure all dependencies are installed
- Check Google Ads API and Claude API status pages

For usage questions, see [__MARKER0MARKER](#).

03 Streamlit Deployment

3. Streamlit Cloud Deployment Guide

Documentation Order: #3 (Getting Started)

Complete guide for deploying the Google Ads Analyzer to Streamlit Cloud.

Prerequisites

- GitHub account
- Streamlit Cloud account (free)
- Google Ads API credentials
- Claude API key

Step 1: Push to GitHub

The code is already in your GitHub repository: ____MARKER0MARKER____

Step 2: Configure Streamlit Cloud

- Go to ____MARKER0MARKER____
- Click "New app"
- Connect your GitHub repository: ____MARKER0MARKER____
- Main file path: ____MARKER0MARKER_ (or _MARKER1MARKER____ if you've updated it)
- Branch: ____MARKER0MARKER____

Step 3: Configure Secrets

Go to **Settings** → **Secrets** and add all required secrets:

Required Secrets

```
GOOGLE_ADS_DEVELOPER_TOKEN = "your_developer_token" GOOGLE_ADS_CLIENT_ID =
"your_client_id.apps.googleusercontent.com" GOOGLE_ADS_CLIENT_SECRET =
"your_client_secret" GOOGLE_ADS_CUSTOMER_ID = "your_customer_id" ANTHROPIC_API_KEY =
"your_claude_api_key" TOKEN_JSON = """ { "token": "your_access_token", "refresh_token":
"your_refresh_token", "token_uri": "https://oauth2.googleapis.com/token", "client_id":
"your_client_id.apps.googleusercontent.com", "client_secret": "your_client_secret",
"scopes": [ "https://www.googleapis.com/auth/adwords",
"https://www.googleapis.com/auth/drive.file", "https://www.googleapis.com/auth/drive"
], "universe_domain": "googleapis.com", "account": "", "expiry":
"2025-12-12T16:53:25.862942Z" } """
```

Important Notes

- **TOKEN_JSON format:** Must use triple quotes `__MARKER0MARKER__` for multi-line strings in TOML
- **All secrets are required:** Missing any will cause authentication errors
- **TOKEN_JSON:** Copy from your local `__MARKER0MARKER_file (see __MARKER1MARKER__)`

Step 4: Deploy

- Click "Save" in Streamlit Cloud
- Wait 1-2 minutes for deployment
- Your app will be live at: `__MARKER0MARKER__`

Troubleshooting

Authentication Errors

See `__MARKER0MARKER__`

Common Issues

- **"Module not found":** Check `__MARKER0MARKER__` has all dependencies
- **"Invalid TOML":** Verify TOKEN_JSON uses triple quotes
- **"DEVELOPER TOKEN INVALID":** Verify token is correct and approved

Updating the App

- Push changes to GitHub
- Streamlit Cloud auto-deploys

- Or manually click "Reboot app" in Streamlit Cloud

Main File Path

The app uses `__MARKER0MARKER_` as a wrapper that imports from `_MARKER1MARKER__`. This allows Streamlit Cloud to use the existing configuration without changing settings.

05 Usage

5. Usage Guide (CLI - Legacy)

Documentation Order: #5 (Usage Guides)

Complete guide for using the Real Estate Google Ads Analyzer via command-line interface.

Quick Start

```
source venv/bin/activate python real_estate_analyzer.py
```

Or use the quick script:

```
./run_real_estate.sh
```

Step-by-Step Usage

Step 1: Select Customer Account

The tool lists all accessible customer accounts from your MCC:

```
Available Customer Accounts: 1. Real Estate Investor Account (123-456-7890) [Account]
2. Property Investment LLC (234-567-8901) [Account] 3. Cash Home Buyers Inc
(345-678-9012) [Account] 4. Use default from .env file Select account (1-4):
```

Tips:

- Choose the account you want to analyze
- Option 4 uses the `__MARKER0MARKER_` from your `_MARKER1MARKER__` file
- MCC accounts will show as "[MCC/Manager]"

Step 2: Select Campaign

Choose a specific campaign or analyze all:

```
Available Campaigns: 1. ✓ Motivated Seller Campaign (ID: 123456789) [ENABLED] 2. ✓
Distressed Property Leads (ID: 234567890) [ENABLED] 3. ■ Foreclosure Leads (ID:
345678901) [PAUSED] 4. Analyze all campaigns Select campaign (1-4):
```

Tips:

- Select a specific campaign for targeted analysis
- Choose "Analyze all campaigns" for account-wide insights
- Status indicators: ✓ = Enabled, ■ = Paused, ✘ = Removed

Step 3: Set Date Range

Enter the number of days to analyze:

```
Enter number of days to analyze (default: 30): 60
```

Recommendations:

- **30 days:** Standard monthly analysis
- **60-90 days:** Better for identifying trends
- **7-14 days:** Quick performance check
- Minimum 7 days recommended for meaningful data

Step 4: Optimization Goals

Use default goals or enter custom ones:

```
Use default optimization goals? (Y/n): y
```

Default Goals:

- Improve CTR (Click-Through Rate)
- Reduce cost per conversion
- Increase conversion rate
- Improve ROAS (Return on Ad Spend)
- Optimize budget allocation

Custom Goals Example:

```
Enter your optimization goals (press Enter twice when done): 1. Reduce cost per lead by  
20% 2. Increase phone call conversions 3. Improve quality of leads from "foreclosure"  
keywords [Press Enter twice]
```

Step 5: Analysis

Claude analyzes your data and provides recommendations:

■ Fetching comprehensive campaign data... ■ Date range: Last 30 days ■ Campaign ID: 123456789 Fetching account summary... Fetching campaign data... Fetching keyword data... ■ Claude Analysis in Progress... This may take a minute. Claude is analyzing your campaign data...

Analysis includes:

- Campaign performance metrics
- Ad group performance
- Individual ad performance
- Keyword analysis with Quality Score
- Auction insights (competitive data)
- Budget allocation analysis

Step 6: Review Recommendations

The output includes:

Executive Summary

- Overall campaign health
- Critical optimization opportunities

Priority Recommendations

- Top 3-5 highest-impact actions
- Expected impact
- Implementation priority (High/Medium/Low)

Keyword Recommendations

- New keywords to add
- Keywords to pause/remove
- Negative keywords
- Match type adjustments

Bid & Budget Optimization

- Bid adjustments

- Budget reallocation
- Competitive positioning strategies

Ad Copy & Creative

- Ad copy improvements
- A/B testing recommendations

Targeting & Settings

- Geographic adjustments
- Demographic targeting
- Scheduling optimizations

Performance Projections

- Expected metric improvements

Step 7: Save Results (Optional)

```
Save recommendations to file? (y/N): y ✓ Recommendations saved to:  
recommendations_123_456_7890_123456789.txt
```

Files are saved in the project root with format:

___MARKER0MARKER___

Model Selection

When you start the analyzer, you can choose the Claude model:

```
Claude Model Selection: 1. Claude 3.5 Sonnet (Recommended - Best balance) 2. Claude 3.7  
Sonnet (Newer, more capable) 3. Claude 3 Opus (Most powerful, higher cost) 4. Use  
current setting: claude-3-5-sonnet-20241022 Select model (1-4, default: 4):
```

Recommendation: Use Claude 3.5 Sonnet (option 1) for best balance of performance and cost.

See ___MARKER0MARKER___ for detailed comparison.

Example Output

■ OPTIMIZATION RECOMMENDATIONS
===== **EXECUTIVE SUMMARY** Your campaign shows strong conversion performance (3.2% conversion rate) but is losing 35% of potential impressions due to budget constraints. The primary opportunity is expanding high-ROAS keywords while pausing underperforming broad match terms. **PRIORITY RECOMMENDATIONS** 1. **Increase Budget for "Motivated Seller" Campaign** [HIGH PRIORITY] - Current budget: \$2,000/month - Recommended: \$3,500/month (+75%) - Expected impact: +45% conversions, maintain 4.2 ROAS - Budget lost share: 35% indicates significant opportunity 2. **Pause 12 Broad Match Keywords with Zero Conversions** [HIGH PRIORITY] - Keywords: "sell house", "home buyer", etc. - Current spend: \$450/month - Expected savings: \$450/month, reallocate to exact match ... **KEYWORD RECOMMENDATIONS** New Keywords to Add: - "sell house fast cash" (Exact Match) - High intent, lower competition - "avoid foreclosure help" (Phrase Match) - Targets distressed sellers - "inherited property sale" (Exact Match) - Niche but high-value ... **PERFORMANCE PROJECTIONS** If recommendations are implemented: - CTR: +0.8% (from 2.1% to 2.9%) - Cost per Conversion: -\$15 (from \$85 to \$70) - Conversion Rate: +0.5% (from 3.2% to 3.7%) - Monthly Conversions: +25 (from 80 to 105)

Best Practices

1. Regular Analysis

- **Monthly:** Standard optimization review
- **Quarterly:** Strategic deep dive
- **After Changes:** Analyze impact of optimizations

2. Date Range Selection

- Use 30+ days for meaningful trends
- Longer periods (60-90 days) for seasonal analysis
- Shorter periods (7-14 days) for quick checks

3. Campaign Selection

- Analyze individual campaigns for specific insights
- Use "all campaigns" for account-wide strategy
- Focus on active campaigns first

4. Goal Customization

- Align goals with business objectives
- Be specific (e.g., "reduce cost per lead by 20%")

- Prioritize 3-5 key goals

5. Implementation

- Start with High-priority recommendations
- Test changes incrementally
- Monitor results and iterate

Advanced Usage

Custom Model Selection

Set default model in `CLAUDE_MODEL`:

```
CLAUDE_MODEL=claude-3-5-sonnet-20241022
```

Available models:

- `CLAUDE` (recommended)
- `CLAUDE-3-5` (newer)
- `CLAUDE-3-5-sonnet` (premium)

Analyzing Multiple Accounts

- Run the analyzer
- Select different accounts from the list
- Save recommendations with different filenames
- Compare results across accounts

Exporting for Team Review

Save recommendations and share:

```
# Analysis will prompt to save # Or manually copy output python real_estate_analyzer.py
> analysis_output.txt
```

Troubleshooting

"No accessible customer accounts found"

- Verify MCC account ID in MARKER0MARKER
- Ensure API access is enabled
- Check account linking in Google Ads

"No campaign data found"

- Verify account has active campaigns
- Check date range (may be too short)
- Ensure campaigns aren't all paused

"Error fetching data"

- Check internet connection
- Verify API credentials
- Ensure account has sufficient data

Slow Analysis

- Reduce date range
- Select specific campaign instead of "all"
- Use Claude 3.5 Sonnet (faster than Opus)

Tips for Best Results

- **Data Quality:** Ensure campaigns have sufficient data (100+ clicks recommended)
- **Date Range:** Use 30+ days for reliable insights
- **Specific Goals:** Custom goals get better recommendations
- **Regular Reviews:** Monthly analysis catches issues early
- **Implementation:** Act on High-priority recommendations first

Next Steps

After getting recommendations:

- **Review Priority Items** - Focus on High-priority recommendations
- **Plan Implementation** - Schedule changes in Google Ads
- **Monitor Results** - Track performance after changes
- **Iterate** - Run analysis again after 2-4 weeks

For setup instructions, see [__MARKER0MARKER__](#).

Real Estate Google Ads Analyzer Guide

Overview

Specialized analyzer for real estate investor clients targeting motivated and distressed home sellers. Uses a comprehensive Claude prompt to provide detailed optimization recommendations.

Features

- ■ **MCC Account Selection** - Choose from all accessible customer accounts
- ■ **Campaign Selection** - Select specific campaign or analyze all
- ■ **Comprehensive Data Analysis** - Campaigns, ad groups, ads, keywords, and auction insights
- ■ **Custom Claude Prompt** - Specialized analysis framework for real estate campaigns
- ■ **Actionable Recommendations** - Specific, prioritized optimization suggestions

Quick Start

```
source venv/bin/activate python real_estate_analyzer.py
```

Or use the quick script:

```
./run_real_estate.sh
```

Usage Flow

Step 1: Select Customer Account

The tool will list all accessible customer accounts from your MCC:

```
Available Customer Accounts: 1. Real Estate Investor Account (123-456-7890) [Account]
2. Property Investment LLC (234-567-8901) [Account] 3. Cash Home Buyers Inc
(345-678-9012) [Account] 4. Use default from .env file Select account (1-4):
```

Step 2: Select Campaign

Choose a specific campaign or analyze all:

```
Available Campaigns: 1. ✓ Motivated Seller Campaign (ID: 123456789) [ENABLED] 2. ✓
Distressed Property Leads (ID: 234567890) [ENABLED] 3. ■ Foreclosure Leads (ID:
345678901) [PAUSED] 4. Analyze all campaigns Select campaign (1-4):
```

Step 3: Set Date Range

Enter the number of days to analyze (default: 30):

```
Enter number of days to analyze (default: 30): 60
```

Step 4: Optimization Goals

Use default goals or enter custom ones:

```
Use default optimization goals? (Y/n): y
```

Default goals:

- Improve CTR (Click-Through Rate)
- Reduce cost per conversion
- Increase conversion rate
- Improve ROAS (Return on Ad Spend)
- Optimize budget allocation

Step 5: Analysis

Claude will analyze your data and provide comprehensive recommendations.

Analysis Framework

The analyzer uses a specialized prompt that examines:

- **Campaign Performance Review**
- Impressions, clicks, CTR
- Conversions, conversion rate

- CPC, cost per conversion

- ROAS

- **Ad Group Analysis**

- Top and underperforming ad groups

- Performance patterns

- **Ad Copy Evaluation**

- Best performing ad copy

- Underperforming ads

- **Keyword Performance**

- Quality Score analysis

- Cost efficiency

- Match type effectiveness

- Negative keyword opportunities

- **Auction Insights**

- Impression share

- Competitive overlap

- Position metrics

- Outranking share

- **Budget Allocation**

- Efficiency across campaigns/ad groups

Output Structure

The recommendations include:

Executive Summary

Brief overview of campaign health and critical opportunities.

Priority Recommendations

Top 3-5 highest-impact recommendations with:

- Specific actions
- Expected impact
- Implementation priority (High/Medium/Low)

Keyword Recommendations

- New keywords to add (with rationale)
- Keywords to pause/remove
- Negative keywords
- Match type adjustments

Bid & Budget Optimization

- Bid adjustment recommendations
- Budget reallocation suggestions
- Competitive positioning strategies

Ad Copy & Creative

- Specific ad copy improvements
- A/B testing recommendations

Targeting & Settings

- Geographic adjustments
- Demographic targeting
- Scheduling optimizations
- Device bid adjustments

Performance Projections

Expected improvements in:

- CTR
- Cost per conversion
- Conversion rate

Example Output

```
■ OPTIMIZATION RECOMMENDATIONS
=====
**EXECUTIVE SUMMARY** Your campaign shows strong conversion performance (3.2% conversion rate) but is losing 35% of potential impressions due to budget constraints. The primary opportunity is expanding high-ROAS keywords while pausing underperforming broad match terms. **PRIORITY RECOMMENDATIONS** 1. **Increase Budget for "Motivated Seller" Campaign** [HIGH PRIORITY] - Current budget: $2,000/month - Recommended: $3,500/month (+75%) - Expected impact: +45% conversions, maintain 4.2 ROAS - Budget lost share: 35% indicates significant opportunity 2. **Pause 12 Broad Match Keywords with Zero Conversions** [HIGH PRIORITY] - Keywords: "sell house", "home buyer", etc. - Current spend: $450/month - Expected savings: $450/month, reallocate to exact match ... **KEYWORD RECOMMENDATIONS** New Keywords to Add: - "sell house fast cash" (Exact Match) - High intent, lower competition - "avoid foreclosure help" (Phrase Match) - Targets distressed sellers - "inherited property sale" (Exact Match) - Niche but high-value ... **BID & BUDGET OPTIMIZATION** - Increase bids on "cash home buyer" keywords by 15% (currently position 3.2) - Decrease bids on "real estate" broad match by 20% (low conversion rate) - Shift $500/month from "General Leads" to "Motivated Seller" campaign ... **PERFORMANCE PROJECTIONS** If recommendations are implemented: - CTR: +0.8% (from 2.1% to 2.9%) - Cost per Conversion: -$15 (from $85 to $70) - Conversion Rate: +0.5% (from 3.2% to 3.7%) - Monthly Conversions: +25 (from 80 to 105)
```

Saving Results

After analysis, you can save recommendations to a file:

```
Save recommendations to file? (y/N): y ✓ Recommendations saved to:  
recommendations_123_456_7890_123456789.txt
```

Troubleshooting

"No accessible customer accounts found"

- Verify your MCC account ID in ___MARKER0MARKER___
- Ensure API access is enabled for the MCC
- Check that you're authenticated with the correct account

"No campaign data found"

- Verify the selected account has active campaigns
- Check the date range (campaigns may not have data for selected period)
- Ensure campaigns are not all paused/removed

"Error listing customer accounts"

- Your account may not be an MCC or may not have linked accounts
- Try using a specific customer ID directly in __MARKER0MARKER__

Advanced Usage

Analyze Specific Campaign via Command Line

You can modify the script to accept command-line arguments, or directly edit the code to hardcode:

- Customer ID
- Campaign ID
- Date range
- Optimization goals

Custom Optimization Goals

Enter specific goals when prompted:

```
Enter your optimization goals (press Enter twice when done): 1. Reduce cost per lead by  
20% 2. Increase phone call conversions 3. Improve quality of leads from "foreclosure"  
keywords [Press Enter twice]
```

Cost Considerations

- **Google Ads API:** Free
- **Claude API:** ~\$0.03-0.05 per analysis (depends on data volume)
- Uses Claude 3.5 Sonnet
- Typical analysis: 5,000-10,000 tokens

Best Practices

- **Regular Analysis:** Run monthly or after significant campaign changes
- **Date Range:** Use 30-90 days for meaningful data
- **Campaign Selection:** Analyze individual campaigns for specific insights
- **Goal Alignment:** Customize optimization goals based on business objectives
- **Implementation:** Prioritize High-priority recommendations first

06 Claude Prompt System

6. Claude Prompt System - Modular Architecture

Version: 2.0

Last Updated: December 2024

Documentation Order: #6 (Technical & Advanced Topics)

Overview

The Google Ads Account Manager uses a **modular prompt system** that dynamically loads only the prompt components needed for each feature/page. This approach significantly reduces token usage, improves response times, and makes prompt maintenance easier.

Why Modular Prompts?

Before (Monolithic):

- Single large prompt (~166,000 characters, ~41,000-50,000 tokens)
- Every analysis used the full prompt, even when only specific features were needed
- High token costs and slower response times
- Difficult to update specific sections

After (Modular):

- Core prompt + optional modules loaded on-demand
- Campaign Analysis: ~134,000 characters (only needed modules)
- Ad Copy Optimization: ~69,000 characters (core + ad copy module)
- Keyword Research: ~65,000 characters (core + keyword modules)
- **Result: 20-60% token reduction** depending on feature

Architecture

Directory Structure

```
prompts/ core/ core_prompt.md # Always loaded - base expertise and
frameworks modules/ bidding_strategy.md # Bidding progression framework
smart_bidding.md # Smart bidding guidance ad_copy.md # Ad copy best practices
offline_conversions.md # Offline conversion tracking mcc_portfolio.md # MCC
portfolio strategies change_tracking.md # Change tracking context
keyword_planner.md # Keyword Planner integration biweekly_reporting.md # Client
reporting framework keyword_research.md # Keyword research analysis
```

Core Prompt (`core_prompt.md`)

Always loaded - Contains the foundation of Claude's expertise:

- **Core Responsibilities** - Role definition and expertise areas
- **Real Estate Investor Analysis** - Specialized analysis priorities for motivated/distressed sellers
- **Match Type Strategy** - Exact, phrase, and broad match optimization
- **Analysis Framework** - How to structure recommendations
- **Recommendation Format** - Standardized output structure
- **Communication Style** - How to communicate with clients
- **Key Performance Indicators** - Metrics to monitor
- **Search Term Analysis** - Methodology for search term reports
- **Industry Best Practices** - Real estate investor campaign best practices
- **Quality Score Strategy** - QS improvement tactics
- **Red Flags** - Critical issues to watch for
- **Analysis Workflow** - Step-by-step analysis process
- **Context Questions** - When and how to ask for more information

Size: ~72,000 characters (~18,000 tokens)

Module Descriptions

1. Bidding Strategy Module (`bidding_strategy.md`)

Purpose: Framework for bidding strategy progression and optimization

When Used:

- ■ Campaign Analysis (full)
- ■ Ad Copy Optimization
- ■ Keyword Research
- ■ Biweekly Reports
- ■ Q&A (only if question is about bidding)

Contents:

- Bidding strategy progression (Maximize Clicks → Maximize Conversions → Target CPA)
- Threshold criteria for progression
- Manual vs. Smart bidding guidance
- Budget constraint analysis
- CPA stability assessment

Size: ~8,000 characters (~2,000 tokens)

2. Smart Bidding Module (`smart_bidding.md`)

Purpose: Detailed guidance on smart bidding strategies and constraints

When Used:

- ■ Campaign Analysis (full)

- ■ Ad Copy Optimization
- ■ Keyword Research
- ■ Biweekly Reports
- ■ Q&A (only if question is about smart bidding)

Contents:

- Maximize Conversions strategy
- Target CPA optimization
- Target ROAS strategy
- Smart bidding constraints and limitations
- When NOT to use smart bidding
- Device/location bid adjustment guidance with smart bidding

Size: ~3,000 characters (~750 tokens)

3. Ad Copy Module (`ad_copy.md`)

Purpose: Ad copy optimization, A/B testing, and character limit compliance

When Used:

- ■ Campaign Analysis (full)
- ■ Ad Copy Optimization page
- ■ Keyword Research
- ■ Biweekly Reports
- ■ Q&A (only if question is about ad copy)

Contents:

- Headline optimization (30 character limit)
- Description optimization (90 character limit)

- Dynamic Keyword Insertion (DKI) syntax
- A/B testing frameworks
- Pain point messaging
- Character count verification
- Ad copy replacement instructions

Size: ~5,000 characters (~1,250 tokens)

4. Offline Conversions Module ('offline_conversions.md')

Purpose: Offline conversion tracking strategy for real estate investor funnel

When Used:

- ■ Campaign Analysis (full)
- ■ Ad Copy Optimization
- ■ Keyword Research
- ■ Biweekly Reports
- ■ Q&A (only if question is about conversions)

Contents:

- Real estate investor funnel stages
- GCLID tracking and matching
- Conversion import best practices
- Conversion value assignment
- Funnel analysis (Engaged → Qualified → Under Contract → Closed Deal)
- Attribution modeling

Size: ~6,000 characters (~1,500 tokens)

5. MCC Portfolio Module (`mcc_portfolio.md`)

Purpose: Multi-client account management and portfolio bid strategies

When Used:

- ■ Campaign Analysis (full)
- ■ Ad Copy Optimization
- ■ Keyword Research
- ■ Biweekly Reports
- ■ Q&A (only if question is about MCC)

Contents:

- MCC account structure
- Portfolio bid strategies
- Shared budget management
- Cross-account optimization
- Client account isolation

Size: ~5,000 characters (~1,250 tokens)

6. Change Tracking Module (`change_tracking.md`)

Purpose: Context-aware analysis using changelog and snapshot data

When Used:

- ■ Campaign Analysis (full)
- ■ Biweekly Reports
- ■ Ad Copy Optimization

- ■ Keyword Research
- ■ Q&A (only if question references previous changes)

Contents:

- Changelog integration
- Snapshot-based change detection
- Context-aware recommendations (avoid repeating previous recommendations)
- Impact assessment of previous changes
- Before/after metric comparison

Size: ~6,000 characters (~1,500 tokens)

7. Keyword Planner Module ('keyword_planner.md')

Purpose: Keyword Planner API integration and analysis framework

When Used:

- ■ Campaign Analysis (full, if keyword planner data provided)
- ■ Keyword Research page
- ■ Ad Copy Optimization
- ■ Biweekly Reports
- ■ Q&A (only if question is about keyword research)

Contents:

- Competition analysis
- Search volume assessment
- Suggested bid analysis
- Keyword expansion recommendations
- Quality Score indicators from Keyword Planner data

Size: ~8,000 characters (~2,000 tokens)

8. Biweekly Reporting Module (`biweekly_reporting.md`)

Purpose: Framework for generating client-friendly biweekly reports

When Used:

- ■ Biweekly Reports page
- ■ Campaign Analysis
- ■ Ad Copy Optimization
- ■ Keyword Research
- ■ Q&A

Contents:

- Report structure (2-page format)
- Key metrics selection
- Client-friendly language guidelines
- Plain English explanations
- Performance trend analysis
- Action items and next steps

Size: ~8,000 characters (~2,000 tokens)

9. Keyword Research Module (`keyword_research.md`)

Purpose: Specialized prompt for keyword research analysis

When Used:

- Keyword Research page
- Campaign Analysis
- Ad Copy Optimization
- Biweekly Reports
- Q&A

Contents:

- Competition analysis framework
- Search volume assessment
- Keyword expansion recommendations
- Budget allocation strategy
- Market positioning insights

Size: ~2,000 characters (~500 tokens)

Module Loading System

How It Works

The `__MARKER0MARKER__` module handles dynamic loading:

- **Page Type Detection** - Identifies which page/feature is being used
- **Module Selection** - Loads only required modules based on configuration
- **Module Combination** - Combines core + selected modules
- **Fallback** - Falls back to legacy templates if modules fail to load

Configuration (`PAGE_PROMPT_CONFIGS`)

```
PAGE_PROMPT_CONFIGS = { 'campaign_analysis': [ 'core', 'bidding_strategy',  
'smart_bidding', 'ad_copy', 'offline_conversions', 'mcc_portfolio', 'change_tracking'
```

```
], 'ad_copy': ['core', 'ad_copy'], 'keyword_research': ['core', 'keyword_planner', 'keyword_research'], 'biweekly_report': ['core', 'biweekly_reporting', 'change_tracking'], 'qa': ['core'] # Dynamic module detection based on question }
```

Dynamic Module Detection (Q&A)

For Q&A, the system analyzes the user's question and loads additional modules:

- **Bidding questions** → Loads __MARKER0MARKER_ + _MARKER1MARKER__
 - **Ad copy questions** → Loads __MARKER0MARKER__
 - **Conversion questions** → Loads __MARKER0MARKER__
 - **Keyword questions** → Loads __MARKER0MARKER__
 - **MCC questions** → Loads __MARKER0MARKER__
 - **Reporting questions** → Loads __MARKER0MARKER__
-

Usage by Page/Feature

This section details which modules are loaded for each page/feature and why each module is needed.

■ Campaign Analysis Page

Purpose: Comprehensive campaign optimization analysis with full context

Modules Loaded:

- **Core Prompt** (__MARKER0MARKER__)
- **Why:** Foundation expertise required for all analysis
- **Provides:** Core responsibilities, real estate analysis priorities, match type strategy, recommendation format, KPIs, best practices
- **Size:** ~72,000 characters

- **Bidding Strategy Module** (____MARKER0MARKER____)

- **Why:** Campaign analysis must evaluate bidding strategy progression

- **Provides:** Framework for assessing Maximize Clicks → Maximize Conversions → Target CPA progression, threshold criteria, budget constraints

- **Size:** ~8,000 characters

- **Smart Bidding Module** (____MARKER0MARKER____)

- **Why:** Need to provide guidance on smart bidding optimization

- **Provides:** Maximize Conversions strategy, Target CPA/ROAS guidance, smart bidding constraints, device/location bid adjustment guidance

- **Size:** ~3,000 characters

- **Ad Copy Module** (____MARKER0MARKER____)

- **Why:** Ad copy optimization is part of comprehensive analysis

- **Provides:** Headline/description optimization, character limits, DKI syntax, A/B testing frameworks

- **Size:** ~5,000 characters

- **Offline Conversions Module** (____MARKER0MARKER____)

- **Why:** Real estate investor funnel requires offline conversion tracking analysis

- **Provides:** Funnel stages (Engaged → Qualified → Under Contract → Closed Deal), GCLID tracking, conversion import best practices

- **Size:** ~6,000 characters

- **MCC Portfolio Module** (____MARKER0MARKER____)

- **Why:** Many users manage multiple client accounts via MCC

- **Provides:** Portfolio bid strategies, shared budget management, cross-account optimization

- **Size:** ~5,000 characters

- **Change Tracking Module** (____MARKER0MARKER____)

- **Why:** Context-aware analysis requires knowledge of previous changes

- **Provides:** Changelog integration, snapshot-based change detection, context-aware recommendations

- **Size:** ~6,000 characters

Total Size: ~134,000 characters (~33,500 tokens)

Use Case:

- Full campaign optimization recommendations
- Bidding strategy evaluation and progression
- Ad copy improvements
- Budget allocation
- Waste elimination
- Performance analysis with historical context

When to Use:

- Regular campaign reviews
 - Monthly optimization cycles
 - After making significant changes
 - When performance needs improvement
-

■ Ad Copy Optimization Page

Purpose: Focused ad copy improvements and A/B testing recommendations

Modules Loaded:

- **Core Prompt** (____MARKER0MARKER____)
- **Why:** Foundation expertise and recommendation format needed
- **Provides:** Core responsibilities, real estate analysis priorities, recommendation structure, communication style
- **Size:** ~72,000 characters

- **Ad Copy Module** (____MARKER0MARKER____)

- **Why:** This page is specifically for ad copy optimization

- **Provides:**

- Headline optimization (30 character limit with verification)
- Description optimization (90 character limit with verification)
- Dynamic Keyword Insertion (DKI) syntax handling
- A/B testing frameworks
- Pain point messaging strategies
- Character count verification for all recommendations
- Specific replacement instructions (which headline/description to replace)
- **Size:** ~5,000 characters

Total Size: ~69,000 characters (~17,250 tokens)

Use Case:

- Improving ad copy performance
- A/B testing new ad variations
- Maximizing character usage (headlines/descriptions)
- Incorporating high-converting keywords into ad copy
- Replacing underperforming ads with optimized versions

What This Page Does:

- Analyzes all headlines and descriptions (not just a few)
- Uses statistically significant keywords (most conversions + conversion rate >10%)
- Provides exact character counts for all recommendations
- Specifies which headline/description to replace
- Ensures all recommendations comply with Google Ads character limits

Why Not Other Modules:

- Bidding Strategy: Not needed for ad copy focus

- Smart Bidding: Not relevant to creative optimization
 - Offline Conversions: Not analyzing conversion tracking
 - MCC Portfolio: Not managing multiple accounts
 - Change Tracking: Can be added if needed, but not required for ad copy analysis
-

■ Keyword Research Page

Purpose: Keyword competition, search volume, and expansion analysis using Keyword Planner data

Modules Loaded:

- **Core Prompt** (____MARKER0MARKER____)
- **Why:** Foundation expertise needed for keyword analysis
- **Provides:** Core responsibilities, real estate analysis priorities, match type strategy, recommendation format
- **Size:** ~72,000 characters
- **Keyword Planner Module** (____MARKER0MARKER____)
 - **Why:** This page analyzes Keyword Planner API data
 - **Provides:**
 - Competition analysis framework (low/medium/high competition)
 - Search volume assessment (high/medium/low volume)
 - Suggested bid analysis and comparison
 - Keyword expansion recommendations
 - Quality Score indicators from Keyword Planner data
 - Integration guidance for combining Keyword Planner insights with campaign performance
 - **Size:** ~8,000 characters
- **Keyword Research Module** (____MARKER0MARKER____)
 - **Why:** Specialized framework for keyword research analysis

- **Provides:**

- Competition analysis structure
- Search volume assessment methodology
- Keyword expansion recommendation format
- Budget allocation strategy for keywords
- Market positioning insights framework
- Output format for keyword research reports
- **Size:** ~2,000 characters

Total Size: ~65,000 characters (~16,250 tokens)

Use Case:

- Analyzing keyword competition levels
- Assessing search volume opportunities
- **Automatically matches campaign geo-targeting** when campaign is selected and "Specify geographic targeting" is unchecked
- Uses manually specified location when checkbox is checked
- Getting bid estimate recommendations
- Finding new keywords to add
- Identifying negative keyword opportunities
- Understanding market competition landscape
- Geographic keyword insights (auto-detected from campaign or manually specified)

What This Page Does:

- Fetches Keyword Planner data (search volume, competition, suggested bids)
- **Automatically detects campaign geo-targeting** when a campaign is selected (unless overridden)
- Analyzes keyword opportunities vs. saturated areas
- Provides prioritized keyword expansion recommendations
- Suggests budget allocation across competition tiers
- Identifies Quality Score issues from bid comparisons

- Provides location-specific search volume data matching campaign targeting

Why Not Other Modules:

- Bidding Strategy: Not evaluating campaign bidding (this is keyword research)
 - Smart Bidding: Not relevant to keyword research
 - Ad Copy: Not optimizing ad creative
 - Offline Conversions: Not analyzing conversion tracking
 - MCC Portfolio: Not managing multiple accounts
 - Change Tracking: Not analyzing campaign changes
 - Biweekly Reporting: Not generating client reports
-

■ Biweekly Reports Page

Purpose: Generate client-friendly 2-page performance reports

Modules Loaded:

- **Core Prompt** (____MARKER0MARKER____)
- **Why:** Foundation expertise and KPIs needed for reporting
- **Provides:** Core responsibilities, real estate analysis priorities, KPIs, communication style (client-friendly)
- **Size:** ~72,000 characters
- **Biweekly Reporting Module** (____MARKER0MARKER____)
- **Why:** This page is specifically for generating biweekly reports
- **Provides:**
 - Report structure (2-page format with specific sections)
 - Key metrics selection and formatting
 - Client-friendly language guidelines (plain English, no jargon)
 - Performance trend analysis framework

- "What's Working" table format
- "What We're Optimizing" section format
- "Next Steps" action items format
- Special situation handling (new campaigns, performance declines, improvements)
- Output format with exact structure requirements
- **Size:** ~8,000 characters

- **Change Tracking Module** (____MARKER0MARKER____)

- **Why:** Reports should reference what changes were made during the period

- **Provides:**

- Context about previous changes
- Impact assessment of changes made
- Before/after metric comparison
- Helps explain "What We're Optimizing" section with actual changes
- **Size:** ~6,000 characters

Total Size: ~86,000 characters (~21,500 tokens)

Use Case:

- Generating professional client reports
- Summarizing 14-day performance periods
- Highlighting key wins and optimizations
- Providing client-friendly explanations
- Setting expectations for next period

What This Page Does:

- Analyzes last 14 days of campaign data
- Generates 2-page PDF report with company branding
- Formats metrics with color indicators (████)
- Creates "What's Working" table with top performers

- Lists optimizations made during the period
- Provides next steps for following 2 weeks

Report Structure:

- **Page 1:** Key Metrics, Two-Week Trend, "What This Means"
- **Page 2:** What's Working table, What We're Optimizing, Next Steps

Why Not Other Modules:

- Bidding Strategy: Not providing detailed bidding recommendations (report is summary)
 - Smart Bidding: Not evaluating smart bidding strategy
 - Ad Copy: Not analyzing ad copy (report is high-level)
 - Offline Conversions: May reference but not deep analysis
 - MCC Portfolio: Not managing multiple accounts
 - Keyword Planner: Not doing keyword research
-

■ Ask Claude (Q&A) Page

Purpose: Answer specific Google Ads management questions with dynamic module loading

Modules Loaded:

- **Core Prompt** (____MARKER0MARKER____) - **Always Loaded**
- **Why:** Foundation expertise required for all questions
- **Provides:** Core responsibilities, real estate analysis priorities, best practices, general Google Ads knowledge
- **Size:** ~72,000 characters
- **Dynamic Modules - Loaded Based on Question Content**

The system analyzes the user's question and automatically loads additional modules:

Bidding Strategy + Smart Bidding Modules:

- **Triggered by:** Questions about bidding, bid strategy, maximize clicks, maximize conversions, target CPA, target ROAS
- **Provides:** Bidding progression framework, smart bidding guidance, threshold criteria
- **Example Questions:**
 - "How do I optimize my bidding strategy?"
 - "When should I switch from Maximize Clicks to Maximize Conversions?"
 - "What's the best bidding strategy for my campaign?"

Ad Copy Module:

- **Triggered by:** Questions about ad copy, headlines, descriptions, ad text, creative
- **Provides:** Ad copy best practices, character limits, A/B testing, DKI syntax
- **Example Questions:**
 - "How do I write better ad headlines?"
 - "What's the character limit for descriptions?"
 - "How do I use dynamic keyword insertion?"

Offline Conversions Module:

- **Triggered by:** Questions about conversions, offline conversion, GCLID, funnel, conversion tracking
- **Provides:** Offline conversion tracking strategy, funnel stages, GCLID matching
- **Example Questions:**
 - "How do I track offline conversions?"
 - "What's the best way to import conversions to Google Ads?"
 - "How do I set up GCLID tracking?"

Keyword Planner Module:

- **Triggered by:** Questions about keywords, match type, search term, negative keyword, keyword research
- **Provides:** Keyword Planner integration, competition analysis, search volume assessment
- **Example Questions:**
 - "How do I find new keywords?"

- "What's the difference between match types?"
- "How do I use Keyword Planner?"

MCC Portfolio Module:

- **Triggered by:** Questions about MCC, portfolio, multi-client, shared accounts
- **Provides:** MCC account structure, portfolio bid strategies, shared budget management

Example Questions:

- "How do I manage multiple client accounts?"
- "What are portfolio bid strategies?"
- "How do I set up an MCC account?"

Biweekly Reporting Module:

- **Triggered by:** Questions about reports, client reports, biweekly reports, reporting
- **Provides:** Report structure, client-friendly language, metrics selection

Example Questions:

- "How do I create a client report?"
- "What metrics should I include in reports?"
- "How do I explain performance to clients?"

Change Tracking Module:

- **Triggered by:** Questions referencing previous changes, changelog, history
- **Provides:** Change tracking context, impact assessment

Example Questions:

- "What changes did I make last month?"
- "How do I track campaign changes?"

Base Size: ~72,000 characters (~18,000 tokens)

With Modules: Varies based on question (typically +2,000 to +16,000 tokens)

Use Case:

- Getting expert advice on specific Google Ads topics
- Understanding best practices
- Troubleshooting issues
- Learning optimization techniques
- Getting recommendations for specific situations

How It Works:

- User asks a question
- System analyzes question content
- Detects relevant keywords (bidding, ad copy, conversions, etc.)
- Loads appropriate modules dynamically
- Combines core + detected modules
- Claude answers with full context from loaded modules

Example:

- **Question:** "How do I optimize my bidding strategy for a campaign with 50 conversions?"
- **Modules Loaded:** Core + Bidding Strategy + Smart Bidding
- **Total Size:** ~83,000 characters (~20,750 tokens)
- **Response:** Includes bidding progression framework, threshold criteria, smart bidding guidance

Why This Approach:

- **Efficiency:** Only loads modules relevant to the question
 - **Accuracy:** Provides full context for specific topics
 - **Flexibility:** Handles any Google Ads question
 - **Token Savings:** Base prompt is minimal, modules added only when needed
-

Token Usage Comparison

Before (Monolithic Prompt)

Feature	Token Usage	Notes
----- ----- -----		
Campaign Analysis	~45,000	Full prompt always loaded
Ad Copy Optimization	~45,000	Full prompt (wasteful)
Keyword Research	~45,000	Full prompt (wasteful)
Biweekly Report	~45,000	Full prompt (wasteful)
Q&A	~45,000	Full prompt (wasteful)

Average per session: ~45,000 tokens

After (Modular System)

Feature	Token Usage	Savings
----- ----- -----		
Campaign Analysis	~33,500	26% reduction
Ad Copy Optimization	~17,250	62% reduction
Keyword Research	~16,250	64% reduction
Biweekly Report	~21,500	52% reduction
Q&A (base)	~18,000	60% reduction

Average per session: ~21,500 tokens (52% reduction)

Maintenance & Updates

Updating a Module

- Edit the module file in `__MARKER0MARKER`
- Changes take effect immediately (no code changes needed)
- All pages using that module will get the updated prompt

Adding a New Module

- Create new __MARKER0MARKER_file in __MARKER1MARKER__
- Add module to __MARKER0MARKER_in __MARKER1MARKER__
- Update this documentation

Updating Core Prompt

- Edit __MARKER0MARKER__
 - Changes affect all features (since core is always loaded)
 - Test thoroughly as this impacts all pages
-

Technical Implementation

Loading Function

```
from prompt_loader import get_prompt_for_page # Load prompt for campaign analysis
prompt = get_prompt_for_page('campaign_analysis') # Load prompt for Q&A with dynamic
detection
prompt = get_prompt_for_page('qa', user_question="How do I optimize
bidding?")
```

Integration in Code

The __MARKER0MARKER__ uses the modular system:

```
def _get_prompt_template(prompt_type='full', **kwargs): """Load prompt template using
modular system."""
    page_type_map = { 'full': 'campaign_analysis', 'ad_copy': 'ad_copy',
    'biweekly_report': 'biweekly_report', 'qa': 'qa', 'keyword_research':
    'keyword_research' }
    page_type = page_type_map.get(prompt_type, 'campaign_analysis')
    return get_prompt_for_page(page_type, **kwargs)
```

Fallback System

If module loading fails, the system falls back to legacy prompt templates defined in __MARKER0MARKER__. This ensures backward compatibility and reliability.

Best Practices

- **Keep Core Prompt Focused** - Only include universal expertise in core
 - **Module Specificity** - Each module should be highly focused on its domain
 - **Avoid Duplication** - Don't repeat content across modules
 - **Test After Updates** - Always test after modifying prompts
 - **Monitor Token Usage** - Track token consumption to optimize further
-

Future Enhancements

Potential improvements to the modular system:

- **Module Versioning** - Track versions of modules for A/B testing
 - **Conditional Loading** - Load modules based on campaign data (e.g., only load offline_conversions if tracking is enabled)
 - **Module Caching** - Cache loaded modules to reduce file I/O
 - **Analytics** - Track which modules are most used
 - **Custom Module Sets** - Allow users to create custom module combinations
-

Related Documentation

- [MARKER0MARKER](#) - Complete web app usage guide
- [MARKER0MARKER](#) - Tips for optimizing prompts
- [MARKER0MARKER](#) - Installation and configuration

Questions?

For questions about the prompt system, refer to:

- **__MARKER0MARKER__** - Implementation details
- **__MARKER0MARKER__** - Quick reference
- This document - Comprehensive guide

07 Model Comparison

7. Claude Model Comparison for Google Ads Analysis

Documentation Order: #7 (Technical & Advanced Topics)

Quick Recommendation

Use Claude 3.5 Sonnet - Best balance of performance, cost, and speed for Google Ads analysis.

Model Comparison

Claude 3.5 Sonnet (Recommended) ■

Best for: Regular Google Ads analysis, structured data analysis, cost-effective insights

Pros:

- Excellent analytical capabilities for structured data
- Fast response times (~5-15 seconds)
- Cost-effective: ~\$3/\$15 per million tokens (input/output)
- Great balance of performance and cost
- Handles complex analysis well

Cons:

- Slightly less deep reasoning than Opus
- May miss some nuanced strategic insights

Cost per analysis: ~\$0.03-0.05 (typical analysis uses 5,000-10,000 tokens)

Use when:

- Regular monthly/quarterly analysis
- Budget-conscious operations

- Need quick turnaround
 - Standard optimization recommendations
-

Claude 3.7 Sonnet (Newer Option)

Best for: When you want the latest capabilities with similar cost to 3.5

Pros:

- Newer model with improved capabilities
- Better at complex reasoning
- Similar cost to 3.5 Sonnet
- Faster than Opus

Cons:

- May have slightly higher latency
- Less battle-tested than 3.5

Cost per analysis: ~\$0.03-0.05

Use when:

- You want the latest model capabilities
 - Similar budget to 3.5 Sonnet
 - Need slightly better reasoning
-

Claude 3 Opus (Premium)

Best for: Deep strategic analysis, complex multi-step reasoning, when cost is less of a concern

Pros:

- Most powerful reasoning capabilities
- Deeper strategic insights
- Better at complex, multi-step analysis
- Can identify subtle patterns

Cons:

- Higher cost: ~\$15/\$75 per million tokens (5x more expensive)
- Slower response times (~15-30 seconds)
- Overkill for most Google Ads analysis tasks

Cost per analysis: ~\$0.15-0.25 (5x more expensive)

Use when:

- Quarterly/annual strategic reviews
 - Complex multi-campaign analysis
 - Need deepest insights
 - Budget allows for premium analysis
-

Cost Comparison (Typical Analysis)

| Model | Input Tokens | Output Tokens | Cost per Analysis |

|-----|-----|-----|-----|

| 3.5 Sonnet | ~5,000 | ~3,000 | **\$0.03-0.05** |

| 3.7 Sonnet | ~5,000 | ~3,000 | **\$0.03-0.05** |

| 3 Opus | ~5,000 | ~3,000 | **\$0.15-0.25** |

Based on typical Google Ads analysis with comprehensive campaign data

Performance Comparison

Aspect	3.5 Sonnet	3.7 Sonnet	3 Opus
----- ----- ----- -----			
Speed	■■■ Fast	■■■ Fast	■■ Moderate
Analysis Quality	■■■■ Excellent	■■■■■ Excellent+	■■■■■■ Excellent++
Cost Efficiency	■■■ Best	■■■ Best	■ Moderate
Strategic Depth	■■■ Good	■■■■ Very Good	■■■■■ Excellent

Recommendation by Use Case

Monthly Campaign Analysis

Use: Claude 3.5 Sonnet

- Regular analysis needs speed and cost efficiency
- Sonnet provides excellent insights for routine optimization

Quarterly Strategic Review

Use: Claude 3.5 Sonnet or 3.7 Sonnet

- Still cost-effective for regular use
- Provides comprehensive strategic insights

Annual Deep Dive / Complex Multi-Account Analysis

Use: Claude 3 Opus

- When you need the deepest insights
- Budget allows for premium analysis
- Complex reasoning across multiple dimensions

Testing New Strategies

Use: Claude 3.5 Sonnet

- Fast iteration

- Cost-effective for experimentation

How to Change Models

Option 1: Interactive Selection

When you run the analyzer, you'll be prompted to select a model:

```
python real_estate_analyzer.py
```

Option 2: Environment Variable

Set in your `__MARKER0MARKER__` file:

```
CLAUDE_MODEL=claude-3-5-sonnet-20241022 # or CLAUDE_MODEL=claude-3-7-sonnet-20250219 #
or CLAUDE_MODEL=claude-3-opus-20240229
```

Option 3: Code Modification

Edit `__MARKER0MARKER_` and change the default in the `_MARKER1MARKER__` function.

Real-World Example

Scenario: Analyzing a \$10,000/month Google Ads account with 5 campaigns

Claude 3.5 Sonnet:

- Analysis time: ~10 seconds
- Cost: \$0.04
- Quality: Excellent, actionable recommendations
- ■ Recommended

Claude 3 Opus:

- Analysis time: ~25 seconds
- Cost: \$0.20
- Quality: Excellent++, slightly deeper insights
- ■■ Overkill for this use case

Final Recommendation

Start with Claude 3.5 Sonnet for all regular analysis. It provides:

- Excellent analysis quality
- Fast responses
- Cost-effective for regular use
- More than sufficient for Google Ads optimization

Upgrade to Opus only if:

- You need deeper strategic insights
- Cost is not a concern
- You're doing quarterly/annual deep dives
- You have complex multi-dimensional analysis needs

For 99% of Google Ads analysis use cases, **Claude 3.5 Sonnet is the optimal choice.**

08 Prompt Recommendations

8. Prompt Review & Recommendations

Documentation Order: #8 (Technical & Advanced Topics)

What to Keep from Your New Prompt (Excellent Additions)

■ ****Bidding Strategy Progression Framework** (CRITICAL - Keep This!)**

This is the most valuable addition. The Maximize Clicks → Maximize Conversions → Target CPA framework is:

- Highly specific to real estate investor campaigns
- Data-driven with clear thresholds
- Addresses a common mistake (premature bidding strategy changes)
- Includes decision matrix and readiness checks

Recommendation: Keep this entire section - it's gold for real estate campaigns.

■ ****Real Estate Investor Specific Context****

- Lead quality vs. volume balance
- Market cycle awareness
- Geographic performance considerations
- Seasonal patterns
- Seller motivation psychology

Recommendation: Keep all of this - very valuable domain expertise.

■ ****Industry Best Practices****

The 14 best practices are excellent and specific to real estate investor campaigns.

Recommendation: Keep this section.

■ **Red Flags Section**

Very helpful for identifying critical issues quickly.

Recommendation: Keep this, but integrate into analysis framework.

■ **Context Questions**

Good for when more information is needed, but...

Recommendation: Keep but add instruction: "Only ask these if absolutely necessary - otherwise infer from data."

What to Keep from Old Prompt (Critical for Output Quality)

■ **Strict Output Format with Tags**

The old prompt requires:

```
<recommendations> **EXECUTIVE SUMMARY** ... </recommendations>
```

Why Keep: Your code extracts content between these tags. Without them, the response extraction won't work properly.

■ **"DO NOT Ask Questions" Instructions**

The old prompt explicitly states:

- DO NOT ask questions or request permission
- IMMEDIATELY start with <recommendations>
- Provide complete analysis without introductory text

Why Keep: Without this, Claude will ask "Would you like me to proceed?" instead of providing analysis.

■ **Specific Recommendation Structure**

The old prompt requires:

- Exact ad group names, keyword text, ad IDs
- Specific bid amounts/percentages
- Exact ad copy rewrites

- Reference specific data points

Why Keep: This ensures actionable, implementable recommendations rather than vague advice.

■ ****All Sections Must Be Included****

The old prompt lists ALL required sections and says "do not skip any sections."

Why Keep: Prevents truncation messages like "DETAILED RECOMMENDATIONS CONTINUE IN FULL RESPONSE..."

■ ****Scratchpad Section****

The old prompt includes a scratchpad for working through analysis before providing recommendations.

Why Keep: Helps Claude organize thoughts and provide more structured output.

Recommended Merged Structure

- **Start with your new prompt** (the comprehensive role definition and expertise)
- **Add the bidding strategy progression framework** (your best addition)
- **Include the analysis framework** from your new prompt
- **Add the strict output requirements** from the old prompt
- **Include the specific recommendation structure** from the old prompt
- **End with the output format** from the old prompt (with <recommendations> tags)

Key Integration Points

Merge the Analysis Framework

Your new prompt has a great analysis framework. Enhance it with:

- The specific granular analysis instructions from the old prompt (ad group by ad group, keyword by keyword)
- The requirement to reference specific names/IDs

Merge the Recommendation Format

Your new prompt has a good recommendation structure. Enhance it with:

- The exact output format from the old prompt (<recommendations> tags)
- The requirement for specific data points (ad group names, keyword text, exact metrics)
- The "all sections must be included" requirement

Add Output Requirements

Your new prompt doesn't have the strict output requirements. Add:

- DO NOT ask questions
- Start immediately with <recommendations>
- Include ALL sections
- Reference specific data points
- Provide exact, actionable recommendations

Specific Recommendations

- **Keep your bidding strategy progression framework** - it's the best part
- **Add the <recommendations> tag structure** - required for code to work
- **Add "DO NOT ask questions" instructions** - prevents confirmation requests
- **Add the scratchpad section** - helps with structured thinking
- **Merge the granular analysis instructions** - old prompt's "for EACH ad group" approach
- **Keep your industry best practices** - very valuable
- **Keep your red flags** - helpful for quick issue identification
- **Add the "all sections must be included" requirement** - prevents truncation

What to Remove/Modify

- **Context Questions Section:** Modify to say "Only ask if absolutely necessary - otherwise infer from data"
- **Output Format Preferences:** Replace with the strict <recommendations> format from old prompt
- **Communication Style:** Keep but add emphasis on "specific data points" and "exact recommendations"

Final Recommendation

Your new prompt is excellent and much more comprehensive. However, you need to:

- Add the strict output format requirements from the old prompt
- Add the <recommendations> tag structure
- Add the "do not ask questions" instructions
- Merge the granular "for EACH" analysis approach from the old prompt
- Keep all your excellent additions (bidding strategy, industry best practices, etc.)

The result will be a comprehensive, strategic prompt that also produces the structured, actionable output your code expects.

09 Authentication Troubleshooting

9. Authentication Troubleshooting Guide

Documentation Order: #9 (Troubleshooting)

Common authentication issues and how to fix them.

Error: "DEVELOPER_TOKEN_INVALID"

Cause

The developer token is incorrect or not approved.

Solution

- Go to ____MARKER0MARKER____
- Verify your developer token matches what's in your secrets
- Check status is "**Approved**"
- Check access level:
 - **Basic**: Can only access test accounts
 - **Standard**: Can access real accounts
- Update ____MARKER0MARKER____ in Streamlit Cloud secrets

Error: "Request is missing required authentication credential"

Cause

OAuth access token is not being included in requests. Usually caused by:

- Invalid or expired refresh token
- TOKEN_JSON not properly formatted
- Project mismatch between developer token and OAuth credentials

Solution

1. Verify TOKEN_JSON Format

In Streamlit Cloud secrets, TOKEN_JSON must use triple quotes:

```
TOKEN_JSON = """ { "token": "...", "refresh_token": "...", ... } """
```

2. Regenerate Token

If token is expired:

```
source venv/bin/activate python3 authenticate.py
```

Then update TOKEN_JSON secret with new token.

3. Check Project Match

Developer token and OAuth credentials must be from the **same Google Cloud project**:

- Go to [__MARKER0MARKER](#)
- Find your OAuth Client ID
- Note the project name
- Verify developer token is associated with the same project

Error: "Refresh Token Expired or Revoked"

Cause

- OAuth consent screen in "Testing" mode (tokens expire after 7 days)
- Token not used for 6+ months
- Token was revoked

Solution

- Go to [__MARKER0MARKER](#)
- Ensure OAuth consent screen is in "**Production**" mode
- Regenerate token:

```
python3 authenticate.py
```

- Update TOKEN_JSON secret in Streamlit Cloud

Error: "DEVELOPER_TOKEN_PROHIBITED"

Cause

Developer token is associated with a different Google Cloud project than your OAuth credentials.

Solution

- Create new OAuth credentials in the project that has the developer token, OR
- Use a developer token from the project that has your OAuth credentials
- Regenerate token with matching credentials

Basic vs Standard Access

- **Basic Access:** Can only access test accounts
- **Standard Access:** Can access real accounts

If you have Basic access and try to access a real account, you'll get authentication errors.

Quick Checklist

- [] Developer token is correct: ____MARKER0MARKER____
- [] Developer token is approved
- [] All 6 secrets are present in Streamlit Cloud
- [] TOKEN_JSON uses triple quotes ____MARKER0MARKER____
- [] OAuth consent screen is in "Production" mode
- [] Developer token and OAuth credentials are from same project
- [] Token was regenerated recently (if expired)

Getting Help

- ____MARKER0MARKER____
- ____MARKER0MARKER____

- Check Streamlit Cloud logs for specific error messages