IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

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Denver, CO 80203

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STATE OF WYOMING
2320 Capitol Ave.
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Plaintiffs,

v.

GOOGLE LLC
1600 Amphitheatre Parkway
Mountain View, CA 94043

Defendant.

COMPLAINT

1. The States of Colorado, Nebraska, Arizona, Iowa, New York, North Carolina, Tennessee, Utah, Alaska, Connecticut, Delaware, Hawaii, Idaho, Illinois, Kansas, Maine, Maryland, Minnesota, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Ohio,

Oklahoma, Oregon, Rhode Island, South Dakota, Vermont, Washington, West Virginia, and Wyoming; the Commonwealths of Massachusetts, Pennsylvania, Puerto Rico, and Virginia; the Territory of Guam; and the District of Columbia, by and through their respective Attorneys General, bring this civil antitrust law enforcement action against Defendant Google LLC (Google) under Section 2 of the Sherman Act, 15 U.S.C. § 2, to restrain Google from unlawfully restraining trade and maintaining monopolies in markets that include general search services, general search text advertising, and general search advertising in the United States, and to remedy the effects of this conduct.

NATURE OF THIS ACTION

2. Google, one of the largest companies in the world, has methodically undertaken actions to entrench and reinforce its general search services and search-related advertising monopolies by stifling competition. As the gateway to the internet, Google has systematically degraded the ability of other companies to access consumers. In doing so, just as Microsoft improperly maintained its monopoly through conduct directed at Netscape, Google has improperly maintained and extended its search-related monopolies through exclusionary conduct that has harmed consumers, advertisers, and the competitive process itself. Google, moreover, cannot establish business justifications or procompetitive benefits sufficient to justify its exclusionary conduct in any relevant market.

3. Today, Google enjoys virtually untrammeled power over internet search traffic that extends to every state, district, and territory in the United States, and, indeed, into nearly every home and onto nearly every smartphone used in the United States.

4. Google's monopoly position derives principally from its overwhelming and durable monopoly in general internet searches. Close to 90 percent of all internet searches done

in the United States use Google. No competing search engine has more than 7 percent of the market, and, over the past decade, no new entrant in the general search market in the United States has accounted for more than 1 percent of internet searches in a given year.

5. A central foundation of Google's business and its resulting monopolies is its collection of vast amounts of data about the people who use Google's search engine. General search results are not paid for with cash, but in exchange for users' attention and extremely valuable data. Google closely tracks and analyzes virtually every internet search and click performed by users. In 2010, Google's then-CEO Eric Schmidt boasted: "We know where you are. We know where you've been. We can more or less know what you have been thinking about."

6. This "attention economy" differs from Industrial Age markets of the 19th and 20th centuries. Cash is no longer the only form of currency, and rather than mining and monetizing a scarce resource such as oil, the attention economy is based on mining and monetizing knowledge about what is inside the minds of individual users. Google uses its gargantuan collection of data to strengthen barriers of expansion and entry, which blunts and burdens firms that threaten its search-related monopolies (including general search services, general search text advertising, and general search advertising).

7. Google converts its general search services monopoly into monopoly positions in extremely lucrative markets for general search-based advertising. As a Google executive recently put it, [redacted]

8. The revenue Google generates from its dominance of general search advertising is astounding. Within the last decade, Google's revenue from search advertising has grown 300 percent and accounts for 61 percent of Google's total revenue. In 2019, Google made more

revenue in what it characterizes as search advertising—$98 billion—than the GDP of 129 countries and the budgets of 46 States.

9. Steadily and over the years, Google has expanded and refined the tactics it uses to harm competition. Instead of simply producing a better service that keeps consumers and advertisers loyal, Google focuses on building an impenetrable moat to protect its kingdom.

10. As Google perceives potential threats to its hegemony, it blunts and burdens those competitive threats. Google recognizes, for example, that voice-based internet searching could easily emerge as the future of search. If freed from Google's monopolistic grasp, companies could offer new and innovative ways to navigate the internet. But such innovation—such as voice-based home speakers and internet-connected cars—would bring to life the threat that [redacted] After all, if consumers began relying on home-based smart speakers and internet-connected car platforms not controlled by Google, those devices could support and enable competition in the search-related markets by mixing and matching different search engines for different purposes.

11. This Complaint focuses on three forms of such anticompetitive conduct.

12. First, Google uses its massive financial resources to limit the number of consumers who use a Google competitor. For example, according to public estimates Google pays Apple between $8 and $12 billion per year to ensure that Google is enthroned as the default search engine on Apple devices, and it limits general search competition on Android devices with a web of restrictive contracts. Google pursues similar strategies with other devices, such as voice assistants and internet-connected cars.

13. Second, Google's Search Ads 360 ("SA360") service, a search advertising marketing tool used by many of the world's most sophisticated advertisers, has long pledged to

offer advertisers a “neutral” means for purchasing and comparing the performance of not only Google’s search advertising, but also that of its closest competitors. But, in reality, Google operates SA360—the single largest such tool used by advertisers—to severely limit the tool's interoperability with a competitor, thereby disadvantaging SA360 advertisers.

14. Third, Google throttles consumers from bypassing its general search engine and going directly to their chosen destination, especially when those destinations threaten Google’s monopoly power. Google acknowledges its [redacted] because of the proliferation of services offered by specialized vertical providers. Specialized vertical providers, like an online travel agency who offer consumers the ability to complete a transaction then and there, do not compete in Google’s search-related markets. Nevertheless, they pose a threat to Google’s monopoly power in those markets because their success would both strengthen general search rivals with whom they partner and lower the artificially high barriers to expansion and entry that protect Google’s monopolies.

15. In this fashion, Google undermines competitive threats, limiting the ability of consumers and advertisers to obtain information and make their own choices.

16. In a more competitive market, Google’s search-related monopolies could be challenged or even replaced by new forms of information discovery. Rival general search engines would be able to create better services for consumers, including improved privacy, advertising-free search, and stronger partnerships with specialized vertical providers that can offer the ability to sell a service directly (like an airline ticket) or better ways to find, compare, and buy services (like those provided by plumbers or electricians). More competitive general search engines also could offer better advertising and lower prices to advertisers (and lower

prices would be expected to flow through to consumers). But Google's actions have blocked and burdened the current and emerging general search technology.

17. The broad group of States that seek to hold Google accountable for its illegal conduct, as alleged in this Complaint, also support the allegations in the complaint recently filed by a number of sister States and the United States Department of Justice. The additional claims in this case are brought to combat a broader range of Google's illegal conduct.

18. For these reasons, the Plaintiff States, by and through their Attorneys General, bring this action to end Google's anticompetitive conduct and the harm to the States, their economies, and their citizens that has flowed, and continues to flow, from that conduct. Plaintiff States seek to restore lost competition and prevent Google from engaging in similar conduct in the future.

19. It is now time to put a stop to those anticompetitive actions and to remedy past competitive harms, not simply by ceasing the wrongful conduct, but also by reversing the adverse impacts and restoring competition.

JURISDICTION, PARTIES, AND VENUE

20. This Court has subject matter jurisdiction over this matter pursuant to 15 U.S.C. §§ 4 and 26, and 28 U.S.C. §§ 1331 and 1337.

21. Plaintiff States, by and through their respective Attorneys General, bring this action as the chief legal officers of their respective States. Federal competition laws authorize States to bring actions to protect the economic well-being of their States and obtain injunctive and other relief to redress harm caused by violations of those laws.

22. The Attorneys General appear in their respective sovereign or quasi-sovereign capacities as well as their respective statutory, common law, and equitable powers, and as *parens patriae* on behalf of the citizens, general welfare, and economy of their respective States.

23. The Attorneys General assert these claims based on their independent authority to bring this action pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26, to obtain injunctive and accompanying equitable relief based upon Defendant's anticompetitive practices in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2.

24. Defendant Google LLC is a Delaware limited liability company with its principal place of business in Mountain View, California. Google LLC is the primary operating subsidiary of the publicly traded holding company Alphabet Inc. The sole member of Google LLC is XXVI Holdings, Inc., a Delaware corporation with its principal place of business in Mountain View, California, and a wholly owned subsidiary of Alphabet Inc. Google LLC owns and operates consumer services such as Android, Chrome, Gmail, Google Drive, Google Maps, Google Play, Google Search, YouTube, Google Cloud, SA360, and a wide range of digital advertising products for advertisers, advertising agencies, and publishers.

25. This Court has personal jurisdiction over Google, and venue is proper in this Court under 15 U.S.C. § 22 and 28 U.S.C. § 1391 because Google transacts business and is found within this District.

FACTUAL ALLEGATIONS

I. Google Maintains Its Market Power through a Range of Exclusionary, Anticompetitive Conduct.

26. Twenty years ago, Google already claimed to be the world's largest general search engine. Its market share in general search services has only grown since, from 70 percent in 2007, to over 85 percent in 2019. Bing, its closest competitor in the general search services

market, runs a distant second and receives about 7 percent of general search queries in the United States. The ubiquity of Google's general search engine has made the term "google" a verb synonymous with conducting a query on a general search engine.

27. Google monetizes its search results by selling to advertisers the ability to reach consumers who have entered general search terms. As a result of its significant power in the general search services market, Google also has built durable monopolies in general search text advertising and in the larger market for general search advertising, which consists of all paid placements available in connection with a general search results page (including both general search text advertisements and specialized advertisements sold by general search engines).

28. Google's search results originally contained no advertising and consisted only of results produced by its search engine. These links are called "general" or "organic" results, and they allow a consumer to travel directly to a third-party website associated with the link (the way a search for United States District Court District of Columbia results in an organic link that brings a consumer to this Court's website). When conducting search queries, consumers are also accustomed to seeing the familiar text-based advertisements that typically appear on the Google search results page above and below the organic search results ("general search text advertisements").

29. Today, as Google has buried many of the general, or organic, results beneath general search advertisements or Google features that occupy the majority of the space "above the fold"—that is, those results viewable on a search results page that produces results of commercial interest without scrolling or clicking through to another search results page. As a result of the prevalence and prominence of advertising and Google's own search features on its search results page, organic results now often appear "below the fold."

30. Figure 1 displays the results of the query "plumbers in Denver" and labels each unit on the page. At the top of the page are general search specialized advertisements contained in a unit referred to as a "carousel;" these advertisements include features like ratings and provide access to reviews. Here, the "carousel" depicts three similarly formatted tiles highlighting different service providers. Following the carousel, general search text advertisement units appear; the word "Ad" prominently appears, in this case, as part of an advertisement purchased by Mr. Rooter. Next comes Google's "OneBox;" a Google feature that appears prominently on the search results page to steer consumers to Google's own properties (the content of a typical OneBox is shown below in screenshots 2 and 3 of Figure 2, and also below the text advertisements in Figure 9). Below these sections, and well below the fold, appear the organic search results that consumers can use to travel directly to third-party websites.

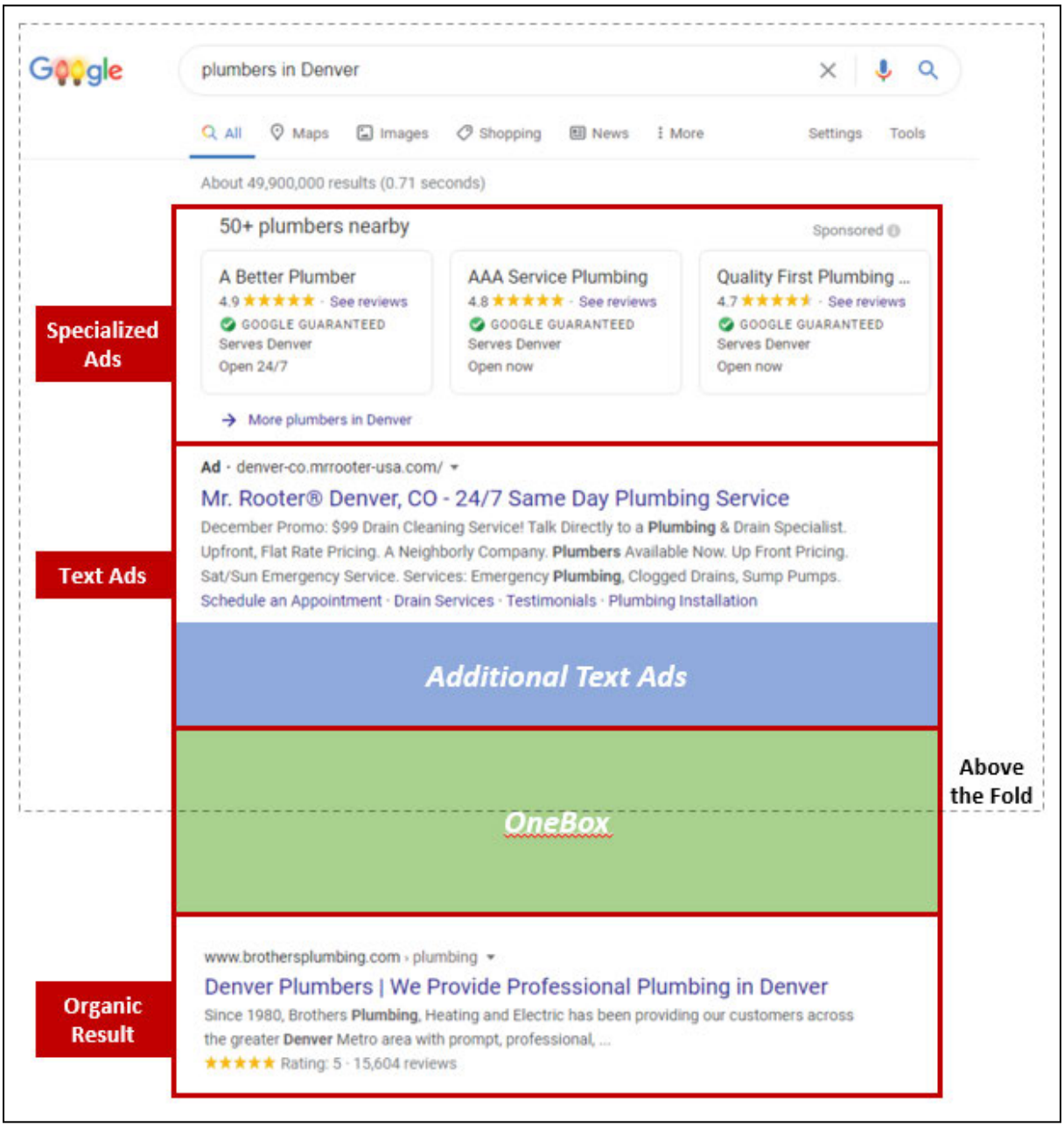
Google
plumbers in Denver
All
Maps
Images
Shopping
News
More
Settings
Tools
About 49,900,000 results (0.71 seconds)
50+ plumbers nearby
Sponsored
A Better Plumber
4.9 ★★★★★ · See reviews
GOOGLE GUARANTEED
Serves Denver
Open 24/7
AAA Service Plumbing
4.8 ★★★★★ · See reviews
GOOGLE GUARANTEED
Serves Denver
Open now
Quality First Plumbing ...
4.7 ★★★★★ · See reviews
GOOGLE GUARANTEED
Serves Denver
Open now
More plumbers in Denver
Ad · denver-co.mrrooter-usa.com/
Mr. Rooter® Denver, CO - 24/7 Same Day Plumbing Service
December Promo: $99 Drain Cleaning Service! Talk Directly to a Plumbing & Drain Specialist.
Upfront, Flat Rate Pricing. A Neighborly Company. Plumbers Available Now. Up Front Pricing.
Sat/Sun Emergency Service. Services: Emergency Plumbing, Clogged Drains, Sump Pumps.
Schedule an Appointment · Drain Services · Testimonials · Plumbing Installation
Additional Text Ads
OneBox
www.brothersplumbing.com › plumbing
Denver Plumbers | We Provide Professional Plumbing in Denver
Since 1980, Brothers Plumbing, Heating and Electric has been providing our customers across the greater Denver Metro area with prompt, professional, ...
★★★★★ Rating: 5 · 15,604 reviews
Specialized Ads
Text Ads
Organic Result
Above the Fold

Figure 1

31. This presentation increases the importance of paid placements, particularly on mobile devices that have much smaller screens. Figure 2 shows sequential pages as the user scrolls down the search results page for the same "plumbers in Denver" query on an Apple device. Note that no organic results appear on this first screen. To uncover the unpaid organic links, the consumer would need to scroll multiple times before reaching organic links that directly take the user to the relevant third-party websites.

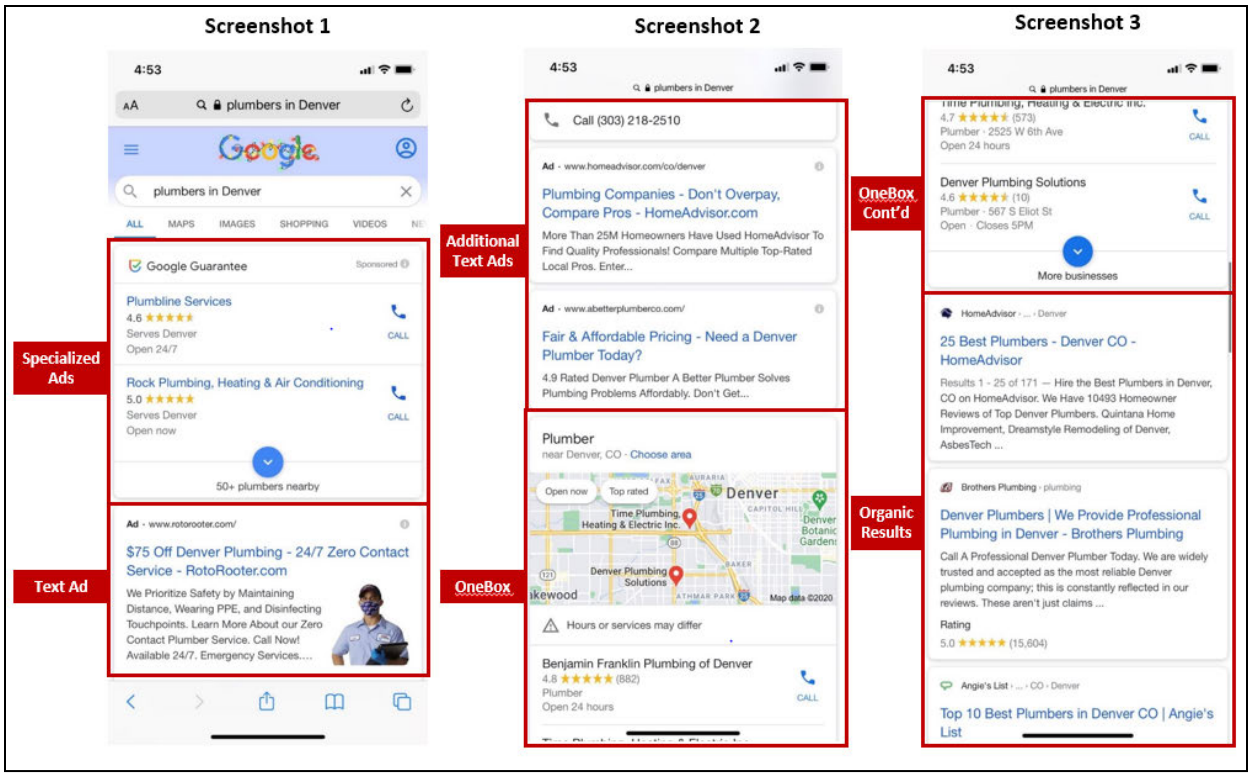

Figure 2

32. Advertising is not present on all Google general search results pages. Indeed, more than [redacted] of Google's general search queries produce organic results without any kind of general search advertising.

33. Google's general search services monopoly feeds and reinforces its general search text advertising and general search advertising monopolies in two ways.

34. First, Google's maintenance of its monopoly in general search services provides it with an artificially enlarged audience whose attention and data it can monetize through the sale of advertisements. Google's continued ability to sell general search advertising depends on its continued ability to attract the attention of the consumers globally that use Google to make trillions of general searches each year—consumers that advertisers will pay to reach.

35. Second, Google's general search monopoly generates massive amounts of data that Google monetizes through its search advertising monopolies. Put simply, Google may have more data about more people than any other entity in the history of the world.

36. Despite its seemingly impregnable position, Google recognizes that its continued market dominance would be vulnerable in a more competitive market. For example, new general search challengers could emerge to offer differentiated services, such as greater privacy protection, search without advertising, or simply better search results. As Google appreciates, general search has limited functionality and could be supplanted by innovative new ways of finding information, such as voice assistants that reach general search engines through new channels like home speakers and connected cars. (Those channels, which also include desktop and mobile browsers, are referred to as "search access points").

37. In a more competitive market, Google could also face more competition for general search advertising revenue, which comes disproportionately from a small category of inquiries about "vertical" commercial segments, such as travel and local services, like restaurants and electricians. Consumer queries in these vertical commercial segments are also the focus of "specialized vertical providers," which offer different, more immersive experiences than a general search results page. Specialized vertical providers are typically companies that offer consumers ways to find and connect with merchants or service providers, such as airline ticket

sellers or local electricians, and often to complete or book transactions with those merchants.[1] Because of Google's dependence on general search revenue, it needs consumers to use general search to reach specialized vertical providers, rather than bypassing general search to travel directly to them. Although they are not competitors to Google in its search-related markets, specialized vertical providers pose a unique threat to Google's incumbent search advertising revenue (much as Netscape's browser posed a threat to Microsoft's operating-system monopoly) because consumers could reach them without the use of a general search engine. But, as Google well knows, under current market conditions, the ability of consumers to use general search engines to reach more specialized service providers is very important as a means of customer acquisition.

38. Specialized vertical providers, in a more competitive marketplace, could become more valuable partners for general search engines, which could strengthen such Google competitors and weaken barriers to expansion or entry in search-related markets.

39. To prevent that, Google has constructed a series of artificial barriers to protect against the expansion and entry it fears. In addition to any barriers that would exist in a more competitive market, these artificially-erected barriers afford Google considerable protection from its vulnerabilities and support Google's anticompetitive efforts to construct a [redacted] This action seeks to enjoin and redress three forms of anticompetitive conduct Google uses to artificially widen its moat.

[1] The DOJ calls these companies "specialized search engines," which is also accurate but it is important to note that such companies are not simply providing a subset of general search responses. Rather, they are offering distinct, additional features that often involve the ability to complete a transaction. Thus, a typical company offers both a specialized service and sales of products and services.

40. **Contractual exclusion of rival general search engines:** Google has entered a series of contracts to artificially limit competition from general search competitors and cement its monopoly position.

41. Not long after its inception, Google recognized that it could easily control consumers' use of a general search engine by making Google the default search engine on browsers. As it said, [redacted]

42. To maintain its search-related monopolies, Google has used its monopoly power to make Google's general search engine the default on as many browsers as possible. For example, a browser that "ships" to consumers with a setting that makes Google's general search engine the default general search engine gives Google *de facto* exclusivity, because consumers seldom bother to change the default. Google's exploitation of consumers' so-called "default bias" explains the vast sums Google pays independent browsers to secure the default status.

43. Google has entered search advertising revenue share agreements with numerous firms, including Android device manufacturers, companies that offer browsers (like Apple and Mozilla, the creator of the web browser Firefox), and U.S. mobile carriers like T-Mobile, Verizon, and AT&T. As a result of these agreements, Google has secured default placement of Google Search on 80 percent of web browsers, the primary gateway to the internet in the United States (including Google's own Chrome, which is the most used web browser, and Apple's Safari), and has thus erected artificial barriers to prevent general search competitors from reaching consumers. And now, Google is demanding even more—[redacted]

44. Starting around 2011, consumers began migrating from personal desktop computers to mobile devices. By 2017, most general search queries in the United States were made on mobile devices, not desktop browsers. Google recognized that mobile devices offered new and existing competitors an avenue to gain a foothold against Google by answering consumer queries on the go.

45. In anticipation of the threat that the transition to mobile devices posed to its monopoly power, Google purchased Android, a mobile operating system, and then used Android to limit the reach of competing general search engines. It did this by restricting the ability of Android mobile device manufacturers to provide consumers access to competing general search engines on an equivalent basis as Google's. For example, in exchange for the right to use Android, Google required [redacted] to make Google the default home screen and general search engine on its mobile devices. In addition, Google pays Android device manufacturers and U.S. mobile carriers [redacted] dollars annually to ensure that Google remains the default general search engine and, in most cases, the exclusive general search services option distributed with the device. These revenue share agreements reinforce Google's search advertising monopoly profits, which aids Google's maintenance of existing search-related monopolies while generating future monopoly profits that can be used to buy more monopoly maintenance.

46. Google's agreement with Apple spans both personal computing and mobile devices. The estimated [redacted] per year Google pays to Apple through its revenue share agreement entrenches Google as the default search engine on the Safari browser. Google's contract with Apple extends to other search access points on Apple devices, such [redacted], which are preset with Google's general search engine as

the default or exclusive option. Apple, of course, provides the only significant mobile operating system other than Google's Android.

47. As a result of these unlawful contractual restrictions, Google's general search engine is the *de facto* search engine on nearly all mobile devices in the United States, and competition in general search services on mobile devices is stifled.

48. As technology marches forward, new threats to Google's dominance continue to emerge. Just as in mobile, new ways to search (by, for example, giving voice commands to a home speaker or to a car) present new avenues for competition. These new ways to search, free from Google control, could enable the use of rival general search engines. In response to these emerging threats, Google imposes the same contractual exclusivity it applies to mobile devices by, for example, barring the hardware manufacturers of voice assistant devices from permitting consumers to move seamlessly between Google Assistant and competing personal voice assistants, which serve as distribution channels for general search services. Google has even precluded the inclusion of rival personal assistant devices in any sales—even as a free addition—by a partner subject to its incentive program.

49. **Exclusion through Google's general search advertising tool:** Advertising tools that optimize companies' search advertising purchases have become increasingly important to advertisers. Google's own search advertising tool, SA360, serves more advertisers than any other tool. Such tools can promote competition in search advertising by, for example, allowing easy comparison of competing offers.

50. Google has consistently assured advertisers that it would operate SA360 in a neutral manner. But Google harms competition by refusing interoperability to comparable advertising features offered by Microsoft's Bing general search engine. Instead, Google

continuously favors advertising on its own platform and steers advertiser spending towards itself by artificially denying advertisers the opportunity to evaluate the options that would serve those advertisers best. No technical or operational barrier prevents SA360 from providing advertisers with direct and interoperable access to relevant data and important functionality from multiple general search engines.

51. **Suppression of specialized vertical providers:** Google derives a substantial portion of its general search advertising monopoly rents from a handful of vertical commercial segments that represent a disproportionate share of its general search advertising revenue. General searches for travel and local services, like restaurants or plumbers, are prime examples. Google recognizes that [redacted] by attracting consumers to their out-of-market specialized search tools directly, without using a general search engine to reach them (just as a new resident in a neighborhood stops using a map once having memorized the location of the local supermarket, doctor's office, or dry cleaner).

52. To artificially foreclose this opportunity and maintain its search-related monopolies, Google takes advantage of the fact that it has already banished rival general search engines to the fringes of the search-related markets, which has fostered an artificial dependence by specialized vertical providers on Google as a way to acquire customers. Doubling down on its exclusionary conduct, Google takes advantage of certain specialized vertical providers' dependence on Google, treating them differently than participants in other commercial segments and further limiting their ability to acquire customers.

53. Google's exclusion of general search engines through its mobile contracts makes specialized vertical providers particularly reliant on Google and vulnerable to Google's

exclusionary tactics. For example, Google sells advertisements to some specialized vertical providers, but, depending on the commercial segment involved, unnecessarily limits their utility. In some circumstances, Google prohibits specialized vertical providers that advertise from prominently displaying their own brand name or the links that would bring consumers to the specialized vertical providers' own websites, preventing these specialized vertical providers from establishing or stewarding customer relationships. And by virtue of its monopoly power, Google extracts from some specialized vertical providers massive amounts of proprietary customer data that Google can then use to compete against them.

54. Google's exclusionary strategies against specialized vertical providers are amplified because, particularly on mobile devices, organic search results are difficult to reach and thus less likely to attract customers.

55. In short, Google uses its power as a gatekeeper to the internet to maintain its monopoly power by limiting the ability of specialized vertical providers to acquire customers and directly harming consumers, advertisers, and the competitive process itself while benefitting just one company: Google.

II. The Allegations in this Complaint Are Consistent with, But Go Beyond, the DOJ Complaint in Its Related Case.

56. On October 20, 2020, the United States and eleven States sued Google for illegal monopoly maintenance in violation of Section 2 of the Sherman Act, and one other State, California, has requested joinder to that action.[2] The DOJ Complaint emphasizes that Google

[2] Dkt. 1, *United States et al. v. Google LLC*, 1:20-cv-3010 (D.D.C.).

illegally maintains its monopoly power in the general search, general search text advertising, and general search advertising market[3] through a variety of exclusionary agreements.

57. As alleged in the DOJ Complaint, these contracts effectively foreclose competing search engines from obtaining distribution through 80 percent of all browsers and on virtually all mobile devices (about 99 percent of all mobile devices in the United States, of which there are hundreds of millions, use either Apple's iOS or Google's Android operating systems).

58. The Plaintiff States agree with and incorporate by reference Paragraphs 1-172 of the DOJ Complaint, which is attached as Exhibit 1. But this Complaint alleges additional facts demonstrating a broader pattern of Google's anticompetitive conduct, harming consumers, advertisers, and the competitive process.

III. Google Unlawfully Monopolizes Three Related Markets: General Search Services, General Search Text Advertising, and General Search Advertising.

59. Google holds durable monopoly power in three search-related markets in the United States: (a) general search services; (b) general search text advertising, and (c) general search advertising (and also in a search advertising market described in the Department of Justice Complaint).

60. For each market, the relevant geographic market within which to analyze the harm to competition described in this Complaint is the United States. Firms offering general search services and related search advertising services conduct country-by-country analyses in their ordinary course of business. Features for general search services are made available and

[3] The search advertising market defined in the DOJ Complaint is incorporated by reference in this Complaint and is another search-related advertising market, albeit one that is broader than the general search text advertising and general search advertising market explicitly defined below.

customized on a country-by-country basis. Firms offering general search advertising services allow advertisers to target consumers in specific countries, including national advertising campaigns in the United States.

A. The general search services market is a relevant market.

61. General search engines enable consumers to instantaneously search the vast contents of the internet. "General search services" are the results that a general search engine produces quickly in response to a consumer query. For example, the query, "Louis Brandeis" could produce a search results page with links to the National Constitution Center, Brandeis University, and the Encyclopedia Britannica.

62. General search engines perform three primary actions: collecting data from all corners of the internet and from other proprietary sources, indexing each form of data, and ranking the results.

63. General search engines use web crawlers to collect data from the internet. Web crawlers are internet bots that retrieve data from hundreds of billions of webpages by following web links and storing the data on the general search engine servers. Many websites also send data to general search engines, and many general search engines augment web-based results with results derived from such proprietary data sets.

64. The general search engine next indexes the data, and these indexes are akin to those of a book. But the web index is orders of magnitude larger, as it includes every word on the hundreds of billions of pages crawled and contains millions of gigabytes of data.

65. In response to a consumer query, a general search engine uses a series of algorithms to retrieve, rank, and display information that it determines to be relevant to the consumer's query. Based on its near-instantaneous interpretation of the query and other data it

"knows" about the consumer, the general search engine's algorithm determines which organic links and results to show to a consumer and in which order to show the results.

66. Other forms of information discovery are not reasonable substitutes for general search services for consumers. Neither offline resources nor other digital information discovery tools provide consumers the breadth of information, convenience, or speed at which information is available through a general search engine.

67. For consumers, general search engines are distinct from specialized vertical providers. General search engines act as a tool for navigating the web, pulling together a variety of different sources, familiar and obscure, commercial and non-commercial. Pulling information from across the web allows general search engines to present a wide range of information in response to a consumer query. Using the "Louis Brandeis" query example again, a general search engine may respond with biographical information, links to Brandeis University, and links to e-commerce sites selling books on Justice Brandeis, all in response to a single query.

68. By contrast, specialized vertical providers focus on a specific, narrow range of queries, often confined to a single vertical commercial segment. To answer these queries, specialized vertical providers typically draw upon a relatively finite set of content from proprietary sources and partnerships rather than crawling and indexing the entire internet. Specialized vertical providers offer specific information discovery and/or purchasing options only in their respective fields of specialization.

69. Specialized vertical providers do not generally provide answers to queries outside their commercial segment. For example, the search box on a leading online travel agency is limited to a particular kind of information and result; entering a keyword search for "Louis

Brandeis" may return a list of hotels near Brandeis University, but no link to an encyclopedia's biography of the Supreme Court Justice.

70. The difference between general search services and specialized vertical providers is underscored by the simple reality that specialized vertical providers depend on general search engines to attract customers to their websites. Consumers often turn to general search engines to find specialized vertical providers, because it is far easier to enter a query into the prominent mobile search widget or browser search bar than it is to remember the name of, and navigate to, specialized vertical providers. Therefore, many consumers navigate to specialized vertical providers after running a general search.

71. Too few consumers would find specialized vertical providers or other forms of information discovery, whether offline or online, to be suitable substitutes for the convenience, speed, and breadth of information offered by general search services to make it unprofitable for a general search service monopolist to extract excessive consumer data and maintain quality below the level that would prevail in more competitive markets.

B. The general search text advertising market is a relevant market.

72. Advertisers often use a "marketing funnel" in determining how to target advertisements. This funnel is depicted here in Figure 3 and was similarly shown as Figure 1 in the DOJ Complaint.

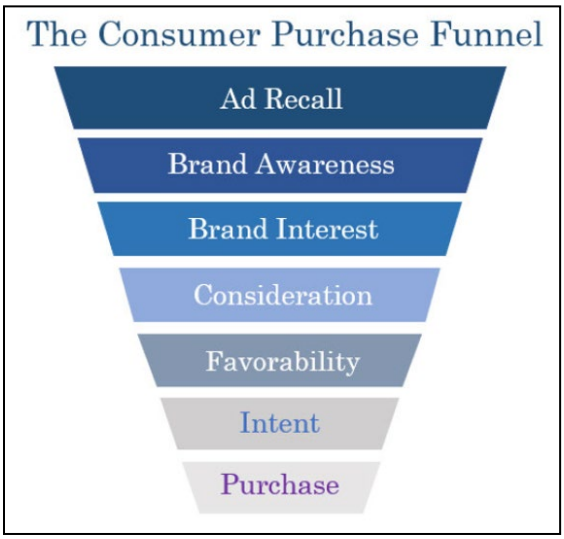

Figure 3

73. At the top of the funnel, the consumer is not yet a prospective customer, and advertisers use advertisements that drive brand awareness and interest ("Ad Recall," "Brand Awareness," and "Brand Interest"). At the middle of the funnel, the consumer is a prospective customer whom the advertiser wants to make an actual customer ("Consideration" and "Favorability"). Nearer to the bottom of the funnel, the customer has formed some sort of specific interest and is actively comparing options with the purpose of completing a purchase. The lowest point in the funnel is a purchase.

74. General search text advertisements are often used to reach consumers towards the bottom of the funnel because these consumers have signaled an interest in a product or service through a general search query . These consumers have taken concrete action indicating that they are "in-market" for the advertiser's goods or services by submitting a search query. As depicted in Figure 4, such advertisements include a headline, display URL, and description.

Text ads on the Search Network show above and below Google search results. It has three parts: headline text, a display URL, and description text.

Comprehensive Insurance | Protect Yourself on a Budget | Get Your Free Quote Today
Ad www.example.com/insurance
Get affordable & trustworthy insurance. 10% discount on all online quotes. Easily compare insurance plans side-by-side in just a few seconds.

Figure 4

75. General search engines sell general search text advertisements through auction processes, in which advertisers that want to appear on the search results page in response to a particular consumer query bid on keywords or phrases. Advertisers pay on a cost-per-click basis.

76. General search text advertising is a distinct market, for which other forms of advertising, such as direct marketing (on and offline), offline advertising generally, and display and social media advertising are not reasonable substitutes. For advertisers, a consumer query makes general search text advertising uniquely valuable because it indicates a consumers' immediate and specific interest. As a result, advertisers do not typically shift significant amounts of their budget between general search text advertising and other forms of advertising.

77. Offline advertising—like direct marketing and television, print, radio, or outdoor advertisements—is not a feasible substitute for general search text advertising because it does not provide the same level of audience targeting and lacks the query's critical signal of consumer interest.

78. Display advertising and social media advertising are also not practical substitutes for general search text advertising. Both are commonly used to promote brand awareness and are shown to consumers when they are consuming other content, such as reading an article or watching a video. Display advertising and social media advertising are generally not triggered by a query, but rather by data on the consumer and the context of where it is displayed. Display advertising and social media advertising focus on suggesting products and services a consumer could like; general search text advertising, by contrast, targets products and services for which a consumer has already indicated an interest. As such, general search text advertising tends to cost [redacted]

79. Because display and social media advertising are triggered based on the data known about the consumer and the context in which it is displayed, advertisers think of display and social media advertising as bidding for a specific consumer's attention based on general interests as opposed to bidding based on a specific interest and specified queries. Display and social media advertising are therefore not adequate substitutes for general search text advertising and do not fall within the general search text advertising market.

80. General search text advertising also provides a distinct function for advertisers than does other advertising offered by general search engines, such as specialized advertisements. With a text advertisement, advertisers have some flexibility and space to market their brand and can choose the webpage to which a consumer will travel. This allows advertisers to promote additional products and services, or their brands themselves, after a consumer clicks the general search text advertisement. Although both general search text advertisements and specialized advertisements offered by general search engines are part of a larger general search

advertising market, general search text advertisements form a distinct product market, much as apples and paper towels are both found in a supermarket.

81. Too few advertisers would substitute away from general search text advertising in the event of a price increase or quality decline to make it unprofitable for a general search text advertising monopolist to maintain prices above, or quality below, the level that would prevail in more competitive marketplace.

C. The general search advertising market is a relevant market.

82. The general search advertising market includes all the paid placements that are supplied by a general search engine in connection with a general search query. General search advertising includes two main types of paid placements: (a) general search text advertisements, and (b) specialized advertisements provided by general search engines. Both forms of general search advertising are depicted separately in Figure 1. General search advertising is distinctly valuable to advertisers because it provides the only efficient means of reaching the large audience of consumers who reveal their purchasing interest by entering a query into a general search engine. For this reason, specialized vertical providers are avid purchasers of these advertisements.

83. General search advertising is a distinct market, for which other forms of advertising, such as direct marketing (on and offline), offline advertising generally, and display and social media advertisements are not reasonable substitutes. General search advertising is uniquely valuable to advertisers because it is shown to consumers in response to a query, giving the advertiser a strong indication of what the consumer is actively seeking information about. Other forms of advertising cannot offer advertisers this level of insight into consumers'

immediate and specific desires; therefore, advertisers do not typically shift significant amounts of their budget between general search advertising and other forms of advertising.

84. General search engines typically sell paid general search advertising through a set of auctions, in which advertisers can bid for their advertisements to appear on the general search results page in response to a consumer's query. Google and Bing, which operate general search engines, are sellers in this market; specialized vertical providers, which do not provide general search services, are not sellers and are often buyers in this market.

85. General search advertising is a distinct market, for which other forms of advertising, such as direct marketing (on and offline), offline advertising generally, and display and social media advertisements are not reasonable substitutes. Offline advertising—like direct marketing and television, print, radio, or outdoor advertisements—is not a feasible substitute for search advertising because it does not provide for the same level of audience targeting and lacks the query's critical signal of consumer interest and intent. Display advertising and social media advertising are also not practical substitutes for general search advertising. Both are commonly used to promote brand awareness and are shown to consumers when they are consuming other content, such as reading an article or watching a video. Display advertising and social media advertising are generally not triggered by a query, but rather by data on the consumer and the context of where it is displayed. Display advertising and social media advertising focus on suggesting products and services a consumer could like while general search advertising suggests products and services for which a consumer has already indicated an interest. As such, general search advertising tends to cost two times more in terms of cost-per-click.

86. General search advertising, including the specialized advertisements offered by general search engines, is also distinct from advertising sold by specialized vertical providers

because consumers on a general search engine are typically at least a website away, and sometimes farther, from the ability to make a purchase. By design, general search advertising navigates the consumer away from general search services and into the merchant's website.

87. Advertisements sold by specialized vertical providers tend to reach consumers even farther down the purchase funnel and are often termed "click-in" advertisements because the consumer generally remains on the specialized vertical provider's website. For example, a keyword-based advertisement on an online travel agency leads the consumer to book a flight or a hotel room directly on that site, not with the hotelier or airline. By contrast, general search advertisements displayed on a search results page by a general search engine often are termed "click-out" advertisements because they take the consumer to a third-party site. Even in instances where a general search advertisement may direct the consumer to another page operated by the general search engine, consumers are still normally required to navigate away from the search results page into a more specialized location to complete their transaction.

88. Thus, the advertisements specialized vertical providers offer to advertisers are unlikely to reach consumers at the higher points in the advertising funnel where consumers enter general search queries and before consumers reach a website where they can both compare options and complete the transaction. The difference between general search advertising and advertising sold by specialized vertical providers is further demonstrated by the fact that specialized vertical providers are prominent purchasers of general search advertisements. Because consumers have learned to begin their internet journeys through general search services, where their queries trigger general search advertisements, general search advertisements are a critical means through which specialized vertical providers acquire customers.

89. Too few advertisers would substitute away from general search advertising in the event of a price increase or quality decline to make it unprofitable for a general search advertising monopolist to maintain prices above, or quality below, the level that would prevail in more competitive markets.

D. Google maintains durable monopolies in each of these markets.

1. Google maintains a durable monopoly in general search services.

90. Google has durable monopoly in general search services. Google Search—Google's product offering general search services—is accessible on personal computers, mobile, and tablet devices and has a collective market share among consumers of general search services of over 85 percent in the United States; its market share has not dropped below 75 percent for more than a decade. The next closest competitor is Bing, with a 7 percent market share.

91. Google's monopoly in general search services is protected by a set of barriers to expansion and entry that would exist even in a competitive market. General search engines require a large, diverse array of search queries and other consumer data, such as locations and past search history, to develop and test the search results page, particularly for uncommon queries, known as "long-tail queries." Google's monopoly-share consumer base allows it to accumulate a significant volume of data, giving it a large-scale advantage over new entrants and existing (and substantially smaller) competitors. Providers of general search services also require high levels of financial investment to create the necessary technological infrastructure, gain distribution, and reach scale to compete.

92. Google's data gathering apparatus is unrivaled and enables Google to collect consumer data from Google's search engine, its dominant Chrome browser, more than 100 million U.S. Android mobile users, Google Assistant, and more than one billion Google account

holders from the United States and across the globe. Because of the unique data sources Google owns through its conglomerate of integration and anticompetitive contracts, Google can accurately track a consumer as they switch among devices or move from web to app, and travel in the physical world.

93. Google's mobile presence—through its Android ecosystem, navigation services, and restrictive search default contract with Apple—gives Google a tremendous advantage in achieving scale and is another significant entry barrier. Google also obtains much more consumer location data than do other general search engines, which Google largely shuts out from mobile devices though its exclusionary contracts.

94. Beyond the barriers to expansion and entry that would exist in a more competitive market, Google has pursued a course of exclusionary conduct against general search engine competitors, thereby raising additional barriers to expansion and entry beyond what would have existed in a more competitive marketplace. Aided by its exclusionary conduct, Google has access to a captive set of consumers, drawing upon the impact of its placement of its search engine as the default option and amplifying its scale advantages. Google has excluded general search competitors through a variety of conduct, including its management of its Android ecosystem and its restrictive search default contract with Apple. These measures give Google a tremendous scale advantage that it would not have achieved in a more competitive marketplace.

95. As a result of these artificially high barriers to expansion and entry—and Google's anticompetitive means of maintaining them—general search competitors struggle to match Google's data advantages and knowledge about consumers, which hinders their ability to compete.

2. Google maintains a durable monopoly in general search advertising and general search text advertising.

96. Google has durable search-related monopolies in general search advertising and general search text advertising. These monopolies are reinforced by Google's general search services monopoly because advertisers allocate their general search advertising budgets based upon where consumers conduct searches. Accordingly, Google's more than 85 percent market share in general search services provides a proxy for Google's share of the general search advertising and general search text advertising market.

97. Google's search-related monopolies in advertising are protected by the same set of barriers to expansion and entry that exist in the market for general search services. Entering into the search-related markets Google monopolizes requires that any current, potential, or nascent competitor offer general search services to attract consumers with a broad range of information needs.

98. Google is protecting its formidable barriers to entry through its exclusionary conduct, which allows it to achieve greater scale. One critical barrier is its large set of established (and often "locked in") consumers about whom it derives important information on how they interact with advertising on its page. No competitor can rival Google's advertising monopolies without amassing a substantial audience. Google's advertising monopolies are protected by a set of barriers to expansion and entry that would not exist in a more competitive market. For example, Google collects more personal data about more consumers than it would in a more competitive market as a result of its exclusionary conduct, thereby artificially increasing barriers to expansion and entry.

99. The breadth of this consumer information is stunning and is used to support Google's search-related advertising monopolies. Google harvests consumer tracking data from

across the internet and mobile applications using its vast network of "tags" and other tracking technology to monitor how consumers act after viewing advertisements. Google's tags are ubiquitous because of advertisers' reliance on Google's advertising products—they are present on 81 percent of the top 1 million visited websites—far outstripping the next most prevalent, which are Facebook's tags, with 44 percent, according to one study. By contrast, Bing's Universal Event Tracker tags are present on fewer than 1 percent of websites.

100. These tags and tracking technologies, along with Google's many consumer-facing products included in its mobile contracts such as the Google search engine, Android, Chrome, and Google Maps, provide Google with consumer tracking data that provide strikingly detailed "profiles" of individual consumers. Google's hundreds of consumer profiles encompass demographics like [redacted]

101. As an example, Google builds detailed consumer profiles, which it accomplishes by combining [redacted]. This data allows Google to demonstrate whether an ad led to an offline, in-store purchase. But, to the extent this data is only available to Google because of its exclusionary conduct, this capability artificially hinders the ability of competitors to match Google's data-gathering.

102. These artificial barriers drastically limit the ability of general search advertising competitors to reach the scale necessary in terms of consumer attention and data to compete with Google.

IV. Google Has Embarked on a Campaign of Anticompetitive Conduct to Widen and Deepen Its Monopoly Moat around Its Kingdom.

103. Google's conduct has entrenched and solidified its monopoly positions against competition in three ways that individually and cumulatively harm competition. First, Google has put into place a series of artificially-restrictive contracts that have guaranteed it *de facto* exclusivity in the vast majority of distribution channels (like browsers and voice assistants), thus limiting the ability of consumers to reach general search competitors through search access points. Second, and notwithstanding Google's pledge to operate its search advertising tool in a neutral fashion, Google operates its SA360 tool to harm advertisers by denying interoperability to important, competitive features, thereby harming what limited choice in general search services remains for advertisers in the wake of its exclusionary distribution contracts. Third, Google's discriminatory conduct on its search results page has impaired the ability of specialized vertical providers to reach consumers, thereby thwarting their ability to lower barriers to expansion and entry for general search engine competitors.

A. Google requires exclusionary contracts that bar entry of existing and potential general search services competitors.

104. Like firms selling other products, Google distributes its search engine through channels to get its product to consumers. Once search engines are distributed, they form search access points, which are the places (like the toolbar of a web browser) at which a consumer may enter a general search text or verbal query. Search access points are distributed across devices, operating systems, and software. Google's anticompetitive conduct involves foreclosing access

to the various channels of distribution and search access points on devices through exclusionary contracts with device manufacturers, mobile carriers, and developers or manufacturers of emerging technology.

105. Google uses two primary mechanisms to protect its dominance in general search, unrelated to the quality or price of its product, on any particular device: (a) securing a default positions on search access points, and (b) securing exclusivity across search access points distributed on an internet-connected device. Google understands that consumers tend to "stick" with the apps and settings that are available from the moment consumers begin using the device, which means that pre-installation, default settings, and premium placement of apps and services result in a higher market share for Google than it would have absent the exclusionary contracts.

106. By paying billions of dollars per year under revenue share agreements to Apple, web browsers, and mobile carriers—and through a series of interlocking agreements with mobile phone manufacturers, home device manufacturers, and carmakers—Google successfully captures and locks up key distribution channels. Through these exclusionary agreements, Google has significantly impeded rival search providers from obtaining scale, data, product recognition, and the consumers they need to sell more advertising, which has further expanded and entrenched Google's search-related monopolies by raising artificial barriers to expansion and entry.

1. Apple.

107. Beginning in 2005, Google and Apple entered into a series of multi-year distribution agreements whereby Google agreed to pay Apple a significant percentage of the Google search advertising revenue generated on Apple personal computers. In return, Apple agreed to preset Google's general search services as the default general search engine on the Safari browser, which functions as the default browser on Apple computers. The agreement was

extended two years later to cover Apple's iPhones. In 2016, the agreement was further extended to cover Siri (Apple's voice-activated assistant) and Spotlight (Apple's system-wide search feature). As of today, Google is the preset default general search engine on all significant search access points for Apple personal computers and mobile devices.

108. According to public estimates, Google pays Apple between $8 and $12 billion annually under the arrangement. These payments make up approximately 15-20 percent of Apple's worldwide net income.

109. The Google-Apple agreement has harmed competition because it has foreclosed rival general search engines from accessing search access points on a vital distribution channel—Apple and its devices—for nearly 15 years.

2. Web browsers.

110. Google's Chrome is the leading computer web browser in the United States with approximately 60 percent market share and is preset to rely upon Google's general search engine. Google also pays a number of other U.S. web browsers, including Mozilla's Firefox and Opera, to preset Google as the default search provider on their products. Through Google's proprietary Chrome browser and its agreements with alternative browsers (including Apple's Safari browser, which is covered by Google's agreement with Apple), Google is the preset default for more than 80 percent of the browser market.

111. Google pays these browsers under revenue share agreements. Under the revenue share agreement, Google pays the developer a certain percentage of the search advertising revenue generated by the browser's consumers on the condition that Google's general search engine is the preset general search service on the browser. Google's Chrome browser's market share in combination with Google's exclusivity agreements have harmed competition because

they have foreclosed rival general search engines from accessing vital distribution channels for more than a decade.

3. Android mobile ecosystem.

112. Nearly all mobile devices with general search service capabilities in the United States run on one of two mobile operating systems: Apple iOS or Android OS. The latter of the two is licensed by Google, and Apple iOS is not available for license. Android OS is currently on about 40 percent of mobile devices. Both major mobile operating systems are sold with a bundle of search access points, such as browsers, a "Quick Search Box" widget, and, increasingly, voice assistants, which are preinstalled on devices.

113. Google has used its power through Android OS to require that mobile manufacturers implement Google's general search engine as the default option on all major search access points, such as the browser or search widgets on the mobile device.

114. Google controls the Android distribution channel through a trio of interlocking agreements with mobile manufacturers (*i.e.,* anti-forking, preinstallation, and revenue share agreements). Google controls the Android distribution channel in order to protect its lucrative search-related monopolies and to insulate and protect its monopoly profits. The agreements are summarized briefly below in Figure 5, which is drawn from the DOJ complaint.

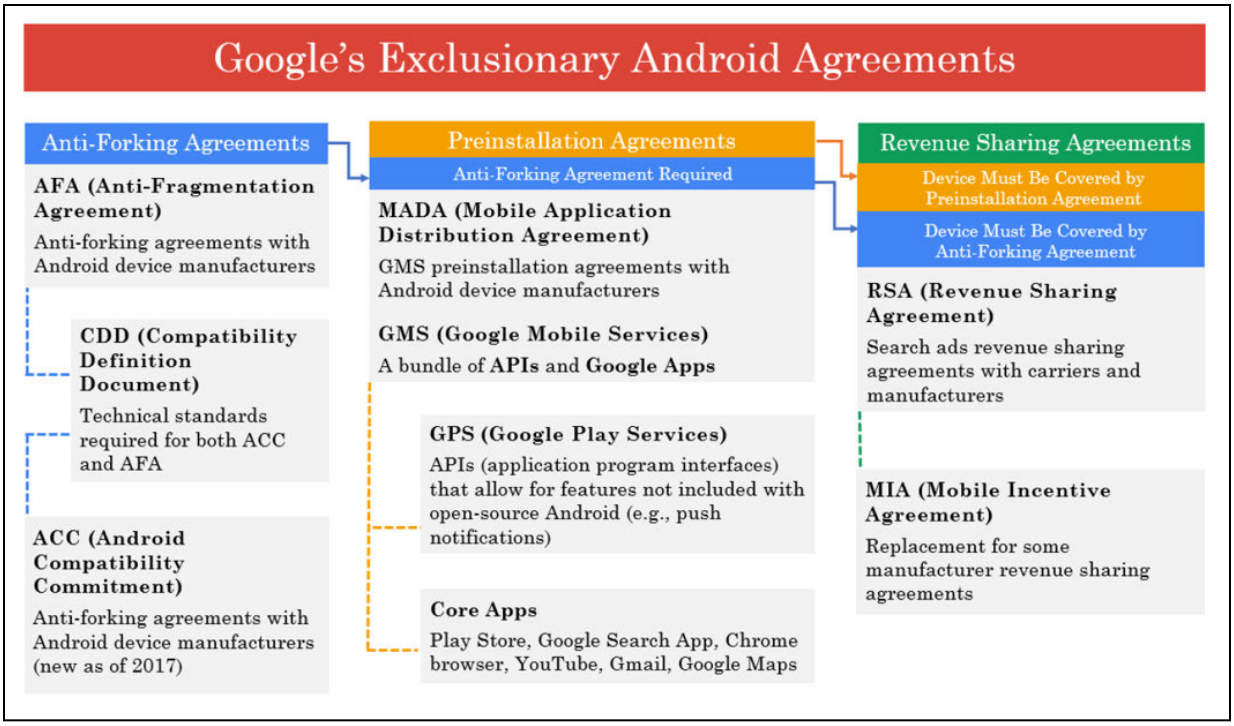

Figure 5

115. **Anti-forking agreements.** The anti-forking agreements forbid mobile manufacturers from developing or distributing versions of Android that do not comply with Google-controlled technical standards. If mobile manufacturers were free to develop a new mobile operating system based upon the Android operating system, known as an "Android Fork," the new operating system would open up a new channel for search engine distribution. Therefore, Google requires mobile manufacturers to agree to the anti-forking contracts as a pre-requisite to obtain Google proprietary applications (*e.g.*, Google Play, Google Maps, Google Search, and YouTube) and Google Android branding on any device.

116. In this way, anti-forking agreements stop additional competition that could lead to the greater distribution of rival general search services. The leading mobile manufactures have entered anti-forking agreements (more recently named "Android Compatibility Commitments") with Google, including Samsung, LG, and Motorola. Google uses anti-forking agreements to

foreclose general search rivals by limiting the number of devices that run on Android forks and by restricting Google's partners from working with Android fork developers. For example, media reports indicate that in 2012 Google successfully threatened Acer, an Android manufacturer, which led it to abandon its intent to launch a mobile device with a "forked" Android operating system.

117. As a result, no Android fork has made significant inroads to challenge Google for mobile device manufacturers, and there is no meaningful operating system alternative for manufacturers and carriers since Apple's iOS is not available for license.

118. **Preinstallation agreements.** The preinstallation agreements—or Mobile Application Distribution Agreements ("MADAs")—make up the second prong of the trio of agreements that Google enters with mobile manufactures. Under the MADAs, Google grants mobile manufactures a license to use the Android brand name and logo and to distribute mobile devices with must-have Google proprietary apps (*e.g.*, Google Play, Google Maps, Google Search, and YouTube) and critical application programming interfaces ("APIs") that connect application developers to important features on the mobile device. Collectively, the Google proprietary apps and APIs are known as "Google Mobile Services."

119. But, to be eligible for Google Mobile Services, mobile manufacturers must first agree to be bound by the anti-forking contract. In addition to the anti-forking requirements, the MADA contract separately governs the appearance of the Android device and requires that Google proprietary applications are pre-loaded onto the device and prominently displayed, ensuring that Google is the most easily accessible general search engine on Android mobile devices.

120. Google's bundle of proprietary applications imparted through the MADA contract includes the Google Play Store, which gives mobile manufacturers an all-or-nothing choice: if they want the Google Play Store, they must preinstall and give premium placement to all the apps in the Google Mobile Services bundle, including Google's search products.

121. The Google Play Store is a "must-have" application for mobile manufacturers because it allows consumers to download compatible third-party content and applications onto their device beyond what was pre-installed by the mobile manufacturer. In this way, the Google Play Store allows consumers to customize the functionality and capabilities of their device by integrating third-party software. The Google Play Store is by far the most desirable Android app store available, offering consumers a library of about three million apps (far more than any competing app store available on Android OS) and accounting for more than 90 percent of app downloads on Android devices. For years, the Google Play Store has been the only commercially significant app store option for Android manufacturers. No competing app store on Android has managed to attract such a broad library of content.

122. In this way, Google has tied Google's general search services, which are the preset default for proprietary applications bundled in the MADA contracts, to the Google Play Store. Notably, mobile manufacturers are required to make Google's general search services the default on all of the most prominent search access points on their devices in order to receive the Google Play Store, a must-have application for mobile manufacturers.

123. **Revenue share agreements.** In addition to the anti-forking agreements and preinstallation agreements, Google goes a step further to obtain exclusivity on Android devices and further disadvantage general search rivals. Google offers the leading mobile manufacturers (Samsung, LG, and Motorola) and U.S. mobile carriers (AT&T, Verizon, and T-Mobile) revenue

share agreements, providing them a portion of Google advertising revenue derived from consumers using the devices they distributed. In exchange, Google requires its revenue share partners to (a) preload and preference the Google Mobile Services bundle of apps, including Google's general search services and Google Assistant; and (b) preset Google as the default on the most important search access points on Android devices. In many cases, the agreements prevent the pre-installation of other general search engines or browsers, like Bing, DuckDuckGo, and voice assistants that rely upon general search competitors. The revenue share payments can be exceptionally lucrative.

124. Google uses revenue share agreements to control the distribution of general search services in the Android ecosystem and to maintain its monopolies in general search services, general search advertising, and general search text advertising. Indeed, Google is now demanding contract terms that further limit the ability of any company to offer [redacted] on any device. Under previous agreements, a rival was only required to [redacted]

[redacted]

126. Google's contracts in the Android ecosystem have a cumulative effect on competition for general search services in the mobile ecosystem. Working together, they ensure that Google's general search services become the *de facto* exclusive provider on nearly all mobile devices not already covered by its contracts with Apple.

4. Voice assistants.

127. As consumers have begun to rely on voice commands on mobile devices, and on devices in the home and in cars, Google has expanded its anticompetitive and exclusionary conduct to focus on limiting the ability of other voice assistants to reach consumers, further protecting its dominance in general search services and related advertising markets. Google does so with exclusionary contracts related to the distribution of Google Assistant on mobile, home, and automobile devices.

128. A voice assistant is a voice recognition software that allows a consumer to talk to a device and applications on that device. Voice assistants commonly integrate with a general search engine to allow consumers to conduct general searches across the internet. They can also partner with specialized vertical providers to increase the information they can provide to consumers. Competitive voice assistants thus provide additional pathways for general search engines to reach consumers.

129. In instances where Google does not own the consumer-facing voice assistant, it has contracted to ensure that the consumer-facing voice assistant relies upon Google's general search services for general queries. For instance, both Apple's Siri and Samsung's Bixby use Google's general search services to search the internet.

130. Google has entered partnerships with manufacturers of mobile devices, home appliances (*e.g.*, smart televisions and smart speakers), and carmakers to effectively exclude voice assistants available for license from a range of devices capable of running voice assistant technology. To protect and entrench its dominant position, Google has entered partnerships and imposed requirements that effectively exclude Alexa and any future provider of voice assistants from a range of devices capable of running voice assistant technology. By excluding existing, potential, and nascent voice assistants from internet-connected devices, Google both increases its search traffic and positions itself to become [redacted] of the expanding Internet of Things ecosystem.

131. **Voice assistants on mobile devices.** Starting as early as 2017, Google's MADA contracts began requiring mobile phone manufacturers to set [redacted] Google also modified its revenue share agreements to provide for exclusivity for Google Assistant across mobile devices. The practical effect of these agreements is to require mobile manufacturers and mobile carriers doing business with Android to shut out potential competitors to Google Assistant, just like Google used Android to prevent other general search engines from obtaining a foothold in the mobile search market.

132. As voice assistants stand to become an increasingly important and perhaps primary access point for search queries, Google's efforts to limit the ability of consumers to use

other voice assistants serves to ensure that it can continue to maintain its search-related monopolies even as people change the way they access information on the internet.

133. **Home devices.** Google recognizes that competitive voice-assistants powered by rival or new general search engines could directly attack the Google search-related monopolies through their presence on "smart" devices in the home, like smart speakers and televisions, through which consumers can access general search services. As a result, Google has entered into restrictive agreements with home device manufacturers.

134. For example, Google has denied home smart speakers the ability to leverage new technology to incorporate multiple voice assistants simultaneously, known as "concurrency." Concurrency means that more than one voice assistant could run simultaneously on a device and be activated by separate voice commands. Google knows that concurrency is [redacted] By prohibiting simultaneous usage, Google prevents consumers from using competing voice assistant services without going through the cumbersome process of changing the general search default on the device.

135. Because of the concurrency threat, Google requires television, speaker, and other home device makers to sign restrictive contracts, such as the anti-forking agreements and other restrictive measures, that prevent competitors from reaching consumers through new channels for search distribution and deny a valuable feature—concurrency—from being deployed in the market. The agreement grants a no-cost, non-exclusive license for distributing Google Assistant on the device and prohibits more than one voice assistant running concurrently on the device. Although the agreement permits a consumer to change the default, that requires a multistep process involving settings on a mobile app, and consumers rarely change the default once it has

been set. In practice, therefore, Google has successfully limited the reach of any competing voice assistant on emerging devices.

136. Google's concurrency prohibition hinders the ability of hardware manufacturers to implement an interchangeable voice assistant experience for consumers, which could provide an alternative way for a new general search engine to enter the market. This prohibition erects artificial barriers of entry to new competitors that could otherwise enter with additional and potentially innovative voice assistants and general search services.

5. Automobiles.

137. The development of "connected cars" has given rise to yet another channel of distribution for general search services through voice assistants. Connected cars, like mobile devices, have an internet-enabled screen that displays applications to consumers. To avoid distracted driving, connected cars embed voice assistant technology to allow consumers to complete tasks while maintaining their focus on the road. As a result, connected cars have emerged as another significant battleground for voice assistants and, therefore, a new channel for rival general search engines to reach consumers. Google works to foreclose search access points that could provide avenues for competitors to gain access to connected cars and the consumers in them.

138. Google's strategy with automobiles follows its playbook in mobile. Google offers carmakers a free Android operating system with a bundle of Google proprietary applications, including Google Assistant, Google Play Store, and Google Maps, known as Google Automotive Services, or "GAS." Carmakers, in exchange for the operating system and Google's proprietary bundle of applications, agree to restrictive and exclusionary terms, providing Google *de facto* exclusivity for Google Assistant and therefore its general search services within cars, further

protecting Google from competition. Had Google not taken control over this interface, rival voice assistants like Alexa or new entrants could enable the use of different underlying general search engines, including relying on multiple kinds of search.

139. Google first entered the automotive operating system market in 2017 when it officially released Android Automotive, a variation of the Android operating system for mobile devices, which integrates into vehicles. Android Automotive provides consumers an interface through a built-in screen on the dashboard to control applications (*e.g.*, music, navigation, and voice assistants) and connect to smartphones and vehicle-specific features, like adjusting the air conditioning.

140. Google's open-source licensing of Android Automotive to carmakers and their suppliers operates in a substantially similar manner to Google's licensing of Android OS to mobile manufacturers. Google makes it a prerequisite for carmakers or their suppliers to sign an anti-forking agreement before receiving a license, which includes many of the same restrictions imposed on mobile manufacturers. Almost all carmakers have pre-existing anti-forking agreements with Google to allow consumers to connect their Android mobile phone to the car infotainment system, and these agreements bind their hands from producing an alternative Android fork for vehicle infotainment systems. The anti-forking agreements for carmakers mirror the agreements with mobile device manufacturers. For example, carmakers are prevented from taking any action that "may cause or result" in the forking of Android, developing their own Android-based infotainment platform, or working with competing Android-based platforms, such as FireOS.

141. Even after licensing Android Automotive operating system, carmakers lack access to Google's proprietary bundle of applications, such as Google Assistant, Maps, and Play Store.

Carmakers, much like mobile manufacturers, must agree to additional contractual terms to receive access to Google's set of proprietary applications, referred to as Google Automotive Services. These terms require carmakers to preset Google Assistant as the default voice assistant.

142. By mirroring the interlocking contractual scheme used in the mobile ecosystem, Google achieves exclusivity for its "future" of search, Google Assistant, by implementing a revenue share agreement with carmakers. In exchange for this revenue share, the car manufacturer is restricted from promoting or pre-loading any [redacted] in vehicles qualifying for the revenue share.

143. Through its web of agreements, Google prevents car manufacturers from modifying the Android Automotive operating system to create a competing Android-based auto infotainment platform that could emerge as a competitor to Google's automotive operating system. It also bundles its applications for vehicles, limiting carmakers' options to customize the consumer experience and provide greater choice to consumers. That harms consumers directly. In a more competitive marketplace without Google's agreements, carmakers would have greater freedom to respond to consumer demand and choose the apps they want embedded into their vehicle. It would also permit more customization; for example, Jeep could customize the voice assistant to respond to the prompt "Hey Wrangler."

B. Google degrades the ability of advertisers to evaluate and purchase search advertising by limiting interoperability to SA360, the search advertising tool that it promised would be "neutral."

144. Google's efforts to exclude current and emerging competitors from its search-related advertising markets are detailed in this Complaint and the DOJ Complaint. But even though its exclusionary conduct has banished Bing to the fringes of Google's search-related markets, Bing retains a single-digit market share in general search services and remains the only

other general search engine that crawls and indexes the web and sells general search advertising. As a result, advertisers may choose to supplement general search advertising on Google with advertising on Bing.

145. SA360 is Google's search engine marketing ("SEM") tool that advertisers rely on to place general search advertising and some non-search digital ads across Google and its general search competitors. SEM tools allow sophisticated, high-spending advertisers and advertising agencies to purchase and evaluate search advertising from multiple search engines using a single tool and interface. SEM tools also automate aspects of general search-related advertising that would be cumbersome for a large advertiser to perform manually, such as bidding in thousands of keyword auctions. These capabilities promise to promote competition in general search-related advertising markets by, for example, allowing easy comparison of competing offers. In practice, however, Google operates SA360 in a manner that limits advertisers' choices and harms their ability to select the general search advertising that best serves them.

146. Today, around 50 percent of all U.S. general search advertising dollars are spent using an SEM tool—about $25 billion per year. Most of the remainder is purchased directly from the general search engines without use of an SEM tool. The direct means for purchase on a general search engine are referred to as "native tools," such as Google Ads (formerly AdWords) and Microsoft Advertising (formerly Bing Ads).

147. SEM tools effectively sit on top of these native tools, uniting access to them all in a single interface. They allow for direct purchases and providing interoperability with the native tools' products and functionality.

148. As early as 2003, Google recognized that it faced a threat to its general search advertising revenues if advertisers used objective SEM tools to compare the relative advantages

of Google and other general search engines. Google realized that it could use SA360 to obstruct what competition remains in the sale of general search advertising.

149. SA360, which channels more general search advertiser spending than all other SEM tools combined, enables Google to steer the major advertising agencies and largest direct advertisers to its own general search advertising markets and away from its competitors' advertising (referred to by Google as "channels"). Because Google operates SA360 in an exclusionary manner, advertisers buy more of its general search advertising, and less of any rivals,' than they would in a more competitive marketplace.

150. To induce advertisers to adopt SA360, Google repeatedly assured them that it would remain forever neutral so that those advertisers could always make an intelligent choice of whether to purchase general search advertising from Bing or any general search engine competitor. For example, in a 2011 sales pitch to a digital marketing company, Google said, plainly and absolutely:

[redacted]

151. Thus, as depicted by Google in Figure 6, Google committed that SA360 would help advertisers achieve the [redacted] With such promises in place, SA360 comprises roughly 60 percent of the advertising dollars spent using an SEM tool.

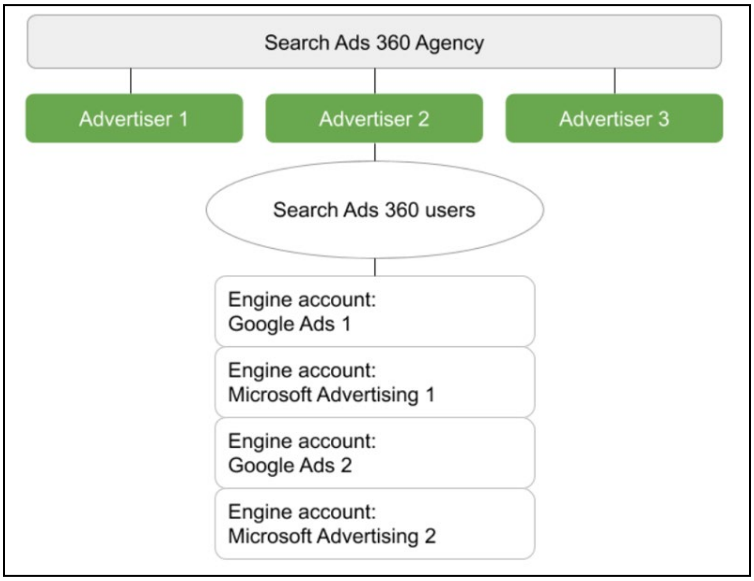

Figure 6

152. **Automated bidding and data asymmetry:** The greatest anticompetitive advantage Google grants itself through SA360 is in making the interface interoperable with auction-time bidding for Google's search advertising, while withholding equivalent interoperability from Microsoft. Auction-time bidding is a sophisticaed "automated bidding" technology used to optimize bids in search advertising auctions.

153. SA360 is a single interface that can allow information to flow between general search advertising sellers and advertisers in an interoperable fashion, but Google denies interoperability to Bing for critical features while simultaneously providing interoperability for its own equivalent features.

154. Google describes auction-time bidding as "machine learning to optimize for conversions or conversion value in each and every auction." One critical aspect of auction-time bidding is that it operates in real time rather than on a delayed basis. That is important because auctions for keywords can run all day long, allowing bidding to constantly adjust to changing

circumstances. Google estimates that this kind of bidding improves the performance of general search advertising by 15 to 30 percent.

155. By contrast, delayed (or "intraday") bidding, an older automated bidding technology, receives search engine data much more slowly and adjusts to optimize the bids for keywords periodically, usually just four times a day. Absent a connection to Google's auction-time bidding or an equivalent bidding strategy from a competitor in search-related markets, SA360 provides delayed, or intraday, bidding to advertisers.

156. Not surprisingly, auction-time bidding is better because of: (a) the vastly greater speed at which it continually uses data (which includes the valuable insight whether the consumers performed the act desired by an advertiser, like making a purchase); and (b) the greater richness, or granularity, of data that auction-time bidding can apply on a per-auction basis [redacted].

157. Both Google and Bing offer advertisers the opportunity to use real-time bidding technology for advertising purchased through their native tools, but SA360 only allows advertisers to seamlessly integrate Google's auction-time bidding technology, which results in better performance for advertisers than SA360's standard bidding functionality. SA360 could remedy that limitation by making SA360 interoperable with both Google's and Bing's similar features, thereby advantaging both advertisers and, ultimately, consumers. To be clear, there is no technical barrier to supporting this Bing capability and at least one independent tool provider

provides interoperability to Bing, supporting real-time bidding for advertising on both Google and Bing. Microsoft has asked for Google to support its equivalent to auction-time bidding for Bing on SA360, but Google has refused to do so. That decision, which degrades the quality of Bing's offering via SA360, presents advertisers with apples-to-oranges comparisons when they are evaluating their advertising options and violates the promises originally made by Google about SA360, namely that it would to "help[] agencies and marketers efficiently manage some of the largest search marketing campaigns in the world, across multiple engines and media channels."

[redacted]

[redacted]

158. Played out across millions of real-world auctions, the inevitable result of Google's conduct is that SA360 steers ad spend away from Bing and towards Google. Google's auction-time bidding will tend to spend more of the advertiser's money, at a faster pace and more efficiently, than will the slower, less precise bidding opportunities afforded to Bing. By giving itself this large artificial and structural advantage, Google ensures that its advertisements will

garner more advertiser dollars than they would if an apples-to-apples comparison were available to advertisers through SA360.

159. Google's conduct harms the competitive process by hampering the relative performance of Bing's advertisements, causing advertisers to shift their spending from Bing to Google without regard to the quality of competitive offerings, giving Google more pricing power than would exist in a more competitive marketplace. The shift in advertiser spending caused by Google's conduct is not due to the inherent superiority of Google advertisements to Bing advertisements. Rather, it is the result of a rigged race, like a 200-meter dash where Google supplies itself a motorbike while its competitors are on foot. In short, Google had initially promised neutrality and parity to attract advertisers and, having attracted them based upon advertisers' reliance on promised neutrality, has degraded Bing's parity over time, leading advertisers to move away from Bing's advertising in a manner that would not be present in a more competitive market. To the extent that advertisers pay more than they would pay in a more competitive market, then some portion of those higher prices would be expected to flow through to consumers.

160. **Other Exclusionary Conduct.** The remaining parity gaps, which refer to the differences in SA360 interoperability between Google features and Bing features, created by SA360 despite Google's promotion of neutrality, relate to more advanced search ad features that are profitable to both Bing and advertisers. SA360's failure to support these features gives Google an artificial advantage in attracting general search advertising and general search text advertising. For example, advertisements can be constructed to display a phone number that can be used by consumers who simply click on that number (rather than having to dial it separately).

This “call extension” is supported by SA360 but is not supported by SA360 for Bing, although it has been available for five years.

161. Many SA360 advertisers now forego purchasing Bing search advertising altogether in the wake of their inability to compare the performance of Google and Bing campaigns head-to-head. They reallocate budget between competitors to the better-performing one in real time. By violating its promise to act neutrally, Google has imposed unnecessary costs and friction on advertisers.

162. By hindering its advertisers’ ability to easily run on Bing ad campaigns designed around Google advertising features for which there is an artificial feature parity gap, SA360 creates a substantial obstacle and difficulties on advertisers, including on advertisers’ ability to make informed, competitive choices.

163. Generally, although independent SEM tools offer superior support for Bing features compared to SA360, they are constrained in their ability to do so by Google’s treatment of them, including its demand requirements that limit its capacity to support Bing and its artificial lowering of demand for Bing advertisements.

164. The net effect of Google’s management of SA360 is to steer advertiser dollars to Google’s general search advertising products, harm Google’s rivals, raise prices to advertisers, and enable Google to reap greater profits. For example, Google estimates that advertisers spend between [redacted] more on Google Search ads after adopting SA360, and that SA360 alone is responsible for [redacted]

165. Google also faces few disincentives or constraints on its discriminatory management of SA360 that has degraded Microsoft Bing’s access to that platform. It is costly in terms of time, effort, training, and downtime for an advertiser to switch SEM tools. This makes

an advertiser's choice of SEM tool sticky, which makes it highly unlikely that an advertiser will recognize that Google is not supporting Bing features, stop using SA360 because Google is not supporting Bing features, and switch to an alternative tool.

166. Google, unlike any competing SEM tool provider, has required Microsoft to demonstrate "consumer demand" for the products it wants SA360 to support. Yet, although advertisers have informed Google that the missing features related to Bing would assist them, Google has ignored the evidence of demand. Moreover, to the extent Microsoft cannot meet Google's arbitrary "demand" threshold, this is the result of Google's anticompetitive conduct: by depriving Bing of scale through illegal contractual restrictions on search distribution and its management of SA360 to degrade the access provided to rivals, Google has kept demand for Bing search advertising artificially low.

167. Google's SA360 conduct works together with its unlawful search engine distribution restraints to deprive any current, potential, or nascent general search engine of scale, raise its costs, and maintain Google's monopolies in search and related search advertising markets. The competitive impact of Google's shift away from its pledge of neutrality falls on advertisers, who suffer the further loss of competition, and consumers, who ultimately bear the higher artificial costs of higher prices on advertisers. And by creating barriers to expansion and entry today, Google makes any future expansion or entry into its search-related monopoly markets even more difficult.

C. Google throttles consumer traffic to specialized vertical providers.

168. By eliminating competitive constraints in its search-related markets, Google has become a monopolistic gatekeeper, free to limit passage across the internet and to charge supra-competitive tolls for the journey. Through its anticompetitive conduct, Google has gained and

maintained the power to redirect or choke-off the consumer traffic flowing to specialized vertical providers.

169. A specialized vertical provider typically offers a search service that focuses on a vertical commercial segment, such as travel, local home services, or shopping. But they can be much more than that. Specialized vertical providers typically: (a) focus on a particular commercial segment (like travel or local services); (b) often (but not always) provide the mechanism to complete, not just learn about, a commercial transaction; (c) rely on proprietary databases that do not require web crawling and indexing but produce rich information, such as consumer reviews and graphics; (d) feature specialized proprietary information, such as specially-contracted discounts and consumer reviews; and (e) can generate revenue from other sources, including referral fees and commissions.

170. Once visiting a specialized vertical provider's site, a consumer can typically complete a transaction to purchase goods or services. This functionality differs from what the Google search engine provides in its general search results for many queries, which require a consumer to navigate to a distinctly different site to complete a transaction.

171. Specialized vertical providers advertise to attract consumers: (a) directly to their websites or applications, bypassing general search; (b) through general search engines other than the Google search engine; and (c) through new forms of information discovery (like voice assistants that employ general search engines). This relationship is depicted in Figure 8.

172. Without competitive alternatives to Google's general search services, specialized vertical providers must rely on Google as the critical way to reach consumers of general search engines who wish to enter into specific transactions, such as seeking to book a local electrician or a hotel. Many consumers start their journeys through general search engines (and

overwhelmingly Google's general search engine). In today's marketplace, consumers do not as readily bypass general search by going directly to a specialized vertical provider's website in the way they could in a more competitive marketplace. As a result, specialized vertical providers generally rely on Google for 30 to 40 percent of their traffic, although the number can be considerably higher in some cases. Because of specialized vertical providers' reliance on Google for traffic, they increasingly must purchase general search and general search text advertising in addition to appearing in organic search results to acquire customers. And that advertising has become more expensive—and more restrictive—than it would be in a more competitive market.

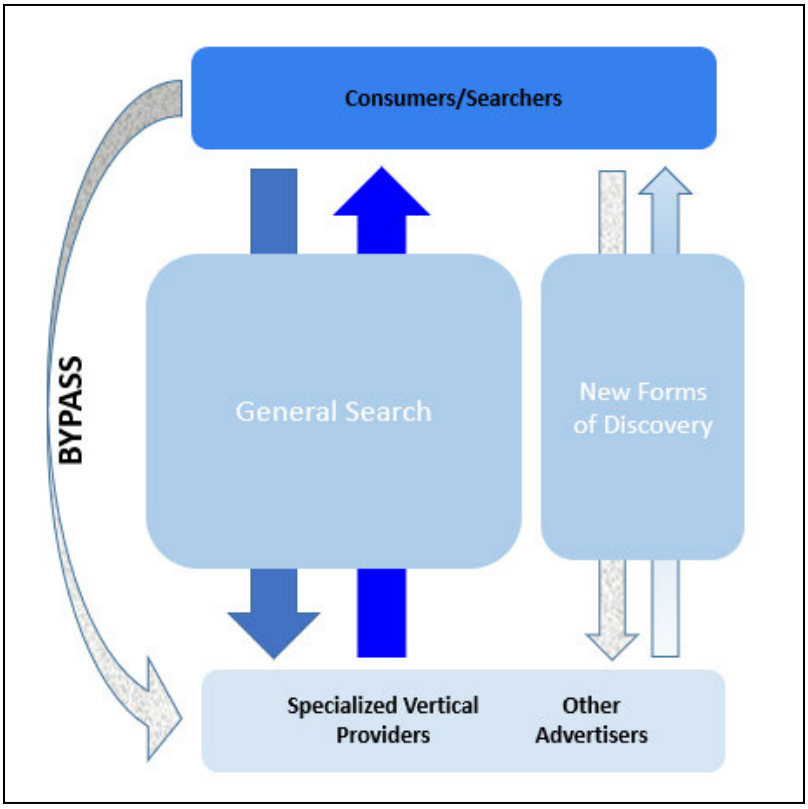

Figure 8

173. Although specialized vertical providers do not compete in the general search services or general search text advertising markets themselves, they are nonetheless a threat to

Google's monopoly position in those markets. As early as 2005, Google recognized that the promise of what is called "vertical search" could threaten Google's market power over general search services: [redacted] Recently, a Google executive echoed the sentiment, explaining that [redacted]

174. If significant numbers of consumers bypassed Google's general search engine and instead navigated directly to specialized vertical providers, Google's grip on its search-related monopolies would weaken and barriers to entry would be lowered in the search-related markets. If barriers were lowered, other general search engines—including newer entrants that feature privacy protections, advertising-free search, or different forms of search—could enter. As other general search engines enter the market, specialized vertical providers would have meaningful choices about which general search engine to use for customer acquisition, incentivizing greater competition between Google and its rivals to attract and feature specialized vertical providers for the benefit of consumers.

175. In addition, in a more competitive marketplace, specialized vertical providers could operate differently and thus pose a greater threat to Google's search-related monopolies. As more consumers travel directly to specialized vertical providers and bypass Google, specialized vertical providers would be able to obtain additional scale that would, for example,

make them more attractive partners for general search engines and new forms of information discovery, like voice assistants (depicted among "new forms of discovery" in Figure 8. And in a more competitive marketplace they could (a) bargain for the ability to offer additional features on the search results pages, which could advantage both consumers and advertisers using or buying space on general search results pages; (b) band together (as Google has feared) to provide a stronger alternative for consumers seeking richer, segment-specific information; and/or (c) marshal additional demand through their freedom to acquire customers that could power new forms of value to consumers—like better ways to book a plumber or an airline ticket.

176. In response to this threat, Google entered the vertical space in which the specialized vertical providers operate. But, instead of competing on the merits, Google embarked on an exclusionary campaign.

177. Google selects particular commercial segments, like local home services, in which it denies specialized search providers the ability to: (a) purchase specialized advertisements in their own name in its specialized-advertising carousel; and/or (b) appear on the Google search results page in the so-called OneBox feature that typically provides a map and associated listings for a specific commercial segment (*e.g.*, a listing of local electricians or hotels). In contrast, in other commercial segments, Google permits specialized vertical providers to appear in its carousel and/or the OneBox, demonstrating that visibility is feasible and valuable to advertisers and consumers alike. As such, Google's decision to degrade access to such opportunities for specialized vertical providers lacks any legitimate business justification and is for the purpose and effect of excluding rivals.

178. Searches for local home services illustrate the harm. Figure 9 shows a query conducted on the Google search engine in October 2020 for "electricians in Boulder" that

resulted in the display of a Google search results page displaying four elements: (a) a carousel at the top of the page featuring advertisements; (b) two general search text advertisements beneath the carousel; (c) a map and associated listings, known as a OneBox, appearing below the text advertisements—in this case, a map with the name of local electricians; and (d) organic search results that, if clicked through, take a consumer to the third-party's own website, not to a Google page.

1. Google limits specialized vertical providers' ability to advertise in search results features.

179. As shown in Figure 9 below, each advertisement in this specialized-advertising carousel contains the name of a business accompanied by a star rating, a link to reviews, a "Google Guaranteed" green checkmark, an indicator of the region served, and a short description of the business hours.

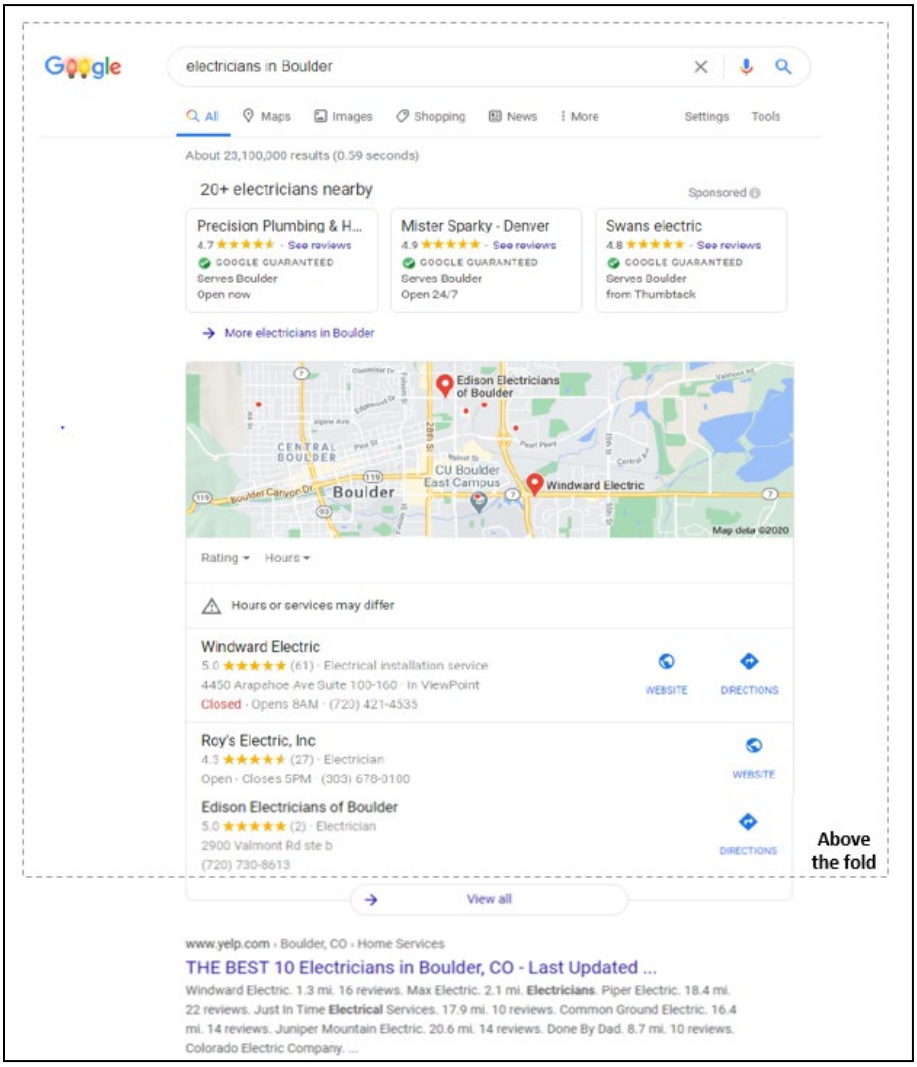

Figure 9

180. Although Google willingly sells these advertisements to specialized vertical providers on behalf of their local service providers, Google injures competition through the

exclusionary terms it applies to specialized vertical providers. For example, Google does not allow certain specialized vertical providers, which may have significant brand recognition compared to their local service providers, to directly advertise the service provider's affiliation with the specialized vertical provider's business. Instead, Google will only allow the specialized vertical provider paying for the advertisement to appear in a subordinate text statement below the service provider's name, the consumer reviews, and the "Google Guaranteed" mark, causing consumer confusion as to who has vetted and/or guaranteed the service provider.

181. Google's policies have a significant impact on the effectiveness of the advertisements purchased by specialized vertical providers. Consider an advertisement that Google sells to a home service company (a specialized vertical provider) that earns revenue by connecting consumers to electricians. This home service company offers consumers the ability to compare electricians through its website on which the home service company identifies itself as a trusted partner of the local service provider, provides certified choices, and offers an assurance guarantee that, at least in the eyes of some consumers, would be better than the green "Google Guaranteed" mark because of the home service company's closer working relationship to the service provider.

182. Although the home service company purchases the advertisement, under Google's discriminatory terms, the home service company is not permitted to advertise its service of comparing home service providers in its own name but instead is relegated to a subordinate text statement below the Google content in the advertisement, causing consumer confusion and hindering consumers' ability to access information that may be valuable on comparison services. The consumer who clicks through on the advertisement is taken to a Google page, not the advertiser's own website, which means that the specialized vertical provider that buys the

advertisement cannot maintain the typical business relationship with the consumer who clicks through on the advertisement. The home service company is allowed to include a telephone number for the electrician, but not for the home service company itself. In this way, Google bars its own advertising customers from making their value known to consumers in a manner that would benefit competition, consumers, and advertisers. In so doing, Google degrades access provided to specialized services as compared to other services that do not pose a competitive threat.

2. Google restricts specialized vertical providers' ability to appear in the OneBox.

183. Google's differential treatment also applies to its OneBox in commercial segments that are important to it.

184. A query conducted on the Google search engine in October 2020 for "hotels in Boulder" displayed two elements: four paid advertisements at the top of the page with a Hotel Unit—Google's travel vertical—underneath, as depicted in Figure 10.

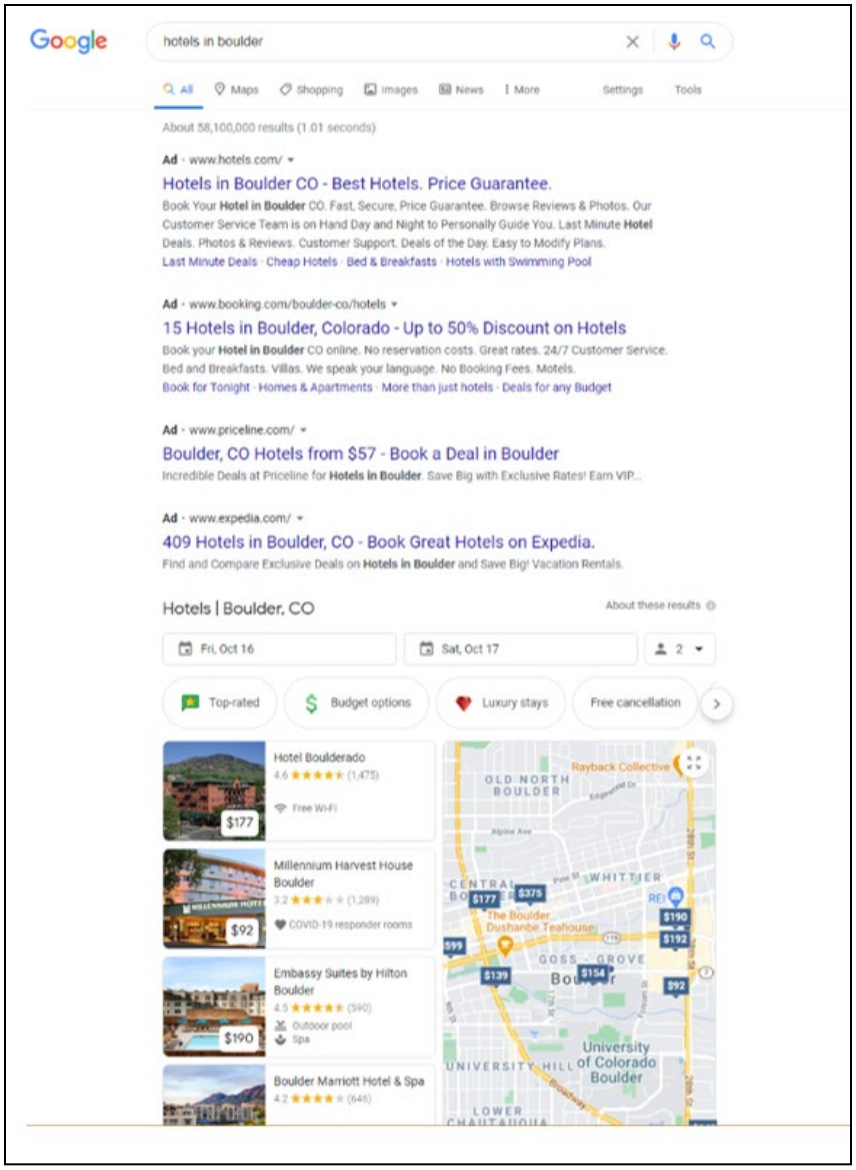

Figure 10

185. The four paid search text advertisements at the top of the page, purchased by specialized vertical providers, are limited in content by Google in ways that Google does not apply to itself.

186. A series of non-paid listings appear to the left of the map in Figure 10. They are not advertisements, but neither are they the same as organic links that take consumers directly to the third-party websites. For example, clicking on the name of the first hotel listed in Figure 10,

the Boulderado, does not take a consumer to the website for the Boulderado; rather, it links to a Google vertical page.

187. Similarly, for local services, Google does not allow a home service company or similar provider of information concerning electricians to appear in those unpaid local listings in the OneBox on the Google search results page. In other commercial segments, however, Google permits specialized vertical providers to have a presence in a similar location on the search results page. Similarly, when the OneBox contains a labeled advertisement to the left of the map atop the non-paid listings for local services, specialized vertical providers are not able to purchase advertisements in their own name with direct links to their own website.

188. Google discriminates in its OneBox policies for the purpose of excluding specialized vertical providers that present a threat to its monopoly power, as evidenced by Google's differing treatment of specialized vertical providers operating in different verticals. In areas that are not important commercial segments for Google and do not generate significant search advertising revenue, like books, educational courses, events, movies and recipes, Google allows consumers to connect directly to specialized vertical providers. Even Google's internal organization reflects this distinction; the vertical segments managed by the general search team, such as recipes, sports, weather, and movies, apparently treat specialized vertical providers differently than do the separate teams that oversee more lucrative vertical segments.

189. Although Google has the same capability to connect consumers directly to specialized vertical providers for most commercial segments, Google has not allowed certain segments, such as local services, to link directly to specialized vertical providers, like a home services company. That Google permits certain specialized vertical providers in other commercial segments to appear in their own name in carousel advertisements and the OneBox

for their commercial segment, demonstrates that specialized vertical providers' presence in such features is feasible and the degradation of such access is part of an anticompetitive response to a threat to its dominance. There are no offsetting competitive benefits to this exclusionary conduct.

3. Google's placement of organic results increases the impact of competitive harm.

190. Google, by banishing Bing and then limiting the effective utility of organic search results, strengthens the impact of its exclusionary conduct towards search-related advertising in two ways. First, in a world with fewer visible organic results, it is much more likely that specialized vertical providers will need to purchase general search advertising from Google's artificially-enhanced monopolies to continue to attract consumers. And the onerous conditions placed on such advertisements by Google have put specialized vertical providers at an unfair disadvantage, threatening them with higher prices and lower quality than would be available in a more competitive market.

191. As advertisements have increasingly captured the space above the fold on the search results page, Google pushed down and limited the presence of visible organic results, choking off avenues for customer acquisition. Over time, Google has increased the proportion of its space above the fold that is occupied by advertisements. As Google knows, consumers are significantly more likely to view content that is above the fold than below the fold.

192. Second, it is Google, not the specialized vertical providers, that decides what content to include in the text of an organic search result and to what third-party webpage any click-through traffic will flow. For example, a specialized vertical provider that features ratings and reviews on its own website could find that Google does not include those features in its organic search results or link to them. By contrast, on the same Google search results page, Google includes features such as ratings and reviews in its own content, which demonstrates that

it is feasible for Google to do so, and thus that Google has no justification for degrading consumers' access to specialized vertical providers.

4. Google's requirement of access to and use of other companies' proprietary data also harms competition.

193. Google further harms competition by requiring specialized vertical providers to give Google unfettered and unnecessary access to their proprietary data that Google then uses to harm competition.

194. Google demands that certain business partners operating in lucrative commercial segments provide Google with valuable and proprietary data that Google does not need for its dealings with a consumer. By so doing, Google is able to combine their data with its own, giving Google an artificial advantage over companies that pose a competitive threat to it and depend on Google for search traffic, thereby harming competition.

195. For example, Google's Hotel Units—the OneBox for hotel results—contain combinations of content chosen by Google. The top of the Hotel Unit contains a date field with an automatically populated date for a one-night stay three days in the future. The left side of the Hotel Unit contains an unpaid listing of hotels that Google chooses based on the consumer's search terms, influenced by what Google knows about the person conducting the search. Each hotel listing is accompanied by a price, star rating, and review count.

196. Hotels and specialized vertical providers are not allowed to pay to appear anywhere in the Hotel Unit that appears on the Google search results page. However, the prices listed alongside the hotels come in part from Google's "partners"—specialized vertical providers that are required to provide that rich content to Google for use in the Hotel Unit.

197. Google obtains that rich content from specialized vertical providers by forcing them to supply it in exchange for permission to appear in the second page of Google's hotel

vertical—the Google page that consumers are taken to after clicking on the Hotel Unit. Google is free to use that data anyway it wishes, even though Google is collecting much more data than is necessary to serve a consumer seeking information on a particular hotel stay. Ironically, the content in the Hotel Unit can come from the same companies that are precluded from using exactly that information, like their own prices and ratings in their own general search advertisements to permit consumer comparison between travel accommodations.

198. In sum, Google has acted to leverage and protect its monopoly power through its operation of: (a) its search advertising carousel (in which a specialized vertical provider cannot effectively advertise); (b) general search text advertisements (in which specialized vertical providers cannot control content or display similar features that Google itself displays on the same page); (c) the OneBox with map and unpaid listings (that is not available to specialized vertical providers in targeted segments); and (d) use of specialized vertical providers' proprietary data. By so doing, Google benefits from the exclusion of rivals and is in a position to further undermine specialized vertical providers.

199. Google has the incentive, power, and control to utilize this systematic multi-pronged discriminatory attack against specialized vertical providers operating in any vertical market of Google's choosing. Google's misconduct undermines competition, harms advertisers who wish to buy general search advertising, and hurts consumers who both face unjustified obstacles in reaching content that may be valuable to them and ultimately assume costs of higher advertising that are passed along to them.

ANTICOMPETITIVE EFFECTS

200. Google exercises its monopoly power to prevent competition in its search-related markets, hurting consumers and advertisers, undermining competition, and squelching

innovation. Through its exclusionary conduct, Google has illegally maintained monopolies in general search services, general search advertising, and general search text advertising.[4] There are no competitive benefits from the challenged conduct that do or could offset the harm to the competitive process, advertisers, and, ultimately, consumers.

201. Google's conduct has denied consumers effective choice in general search services, which are essential for navigating the possibilities of the internet. This denies them the benefits of a competitive market, including by depriving them of the benefits from a competitive dynamic that would provide an incentive for higher quality, new features, and greater innovation.

202. Google has denied advertisers the benefits of a free, open, and competitive marketplace in the purchase of general search advertising and general search text advertising, resulting in its ability to degrade advertising choices, including by providing lower quality and/or higher prices than would result from a more competitive market. And here, too, consumers suffer; to the extent Google's conduct also inflates the price of general search advertising, consumers are likely to bear part of that burden, as higher advertising prices are passed along to them.

203. Google's maintenance and expansion of its monopolies has harmed expansion as well as potential and nascent entry, including by keeping barriers to expansion and entry artificially high. In so doing, it has thwarted potential rivals and undermined the competitive process.

204. New potential and/or nascent entrants into general search services—providing features that directly challenge Google's core business model—could be of immense value to

[4] Plaintiff States also incorporate by reference the DOJ allegations concerning its broader search advertising market. *See* Exhibit 1.

consumers. Google's general search services collect massive amounts of data from consumers and provides that data to advertisers. Existing search engine DuckDuckGo prides itself on providing greater privacy protection. Neeva is a nascent future general search service that is creating an advertising-free search engine (and one that, without advertising, collects less personal data). A different kind of general search service such as Neeva, DuckDuckGo, or new entrants still being born could provide a competitive threat to Google once freed from the shackles placed on them by Google's exclusionary conduct.

205. The future of information discovery is also at stake. Devices, such as smart home speakers, smart television sets, and connected cars, each could support or enable rival general search engines. Google's conduct in excluding the presence of rival voice assistants therefore limits an additional pathway through which more competition could come to its search-related monopolies, thus harming consumers, advertisers, and the competitive process.

206. The competitive threat to Google would be even greater if specialized vertical providers were not artificially constrained from accessing prospective consumers. In a more competitive market, specialized vertical providers could expand their offerings and become stronger partners with existing or new general search engines, thus boosting competition in Google's search-related markets while simultaneously lowering the artificially-high barriers to expansion or entry in those monopoly markets.

207. These anticompetitive effects are cumulative in their effect and impact on competition, resulting in durable monopolies in general search services, general search advertising, and general search text advertising that current market forces cannot rectify.

208. Plaintiff States and their citizens will be subject to a continuing, substantial, and immediate threat of irreparable injury to competition in their States unless Google is enjoined from its illegal conduct.

209. Plaintiff States have no adequate remedy at law other than the filing of this lawsuit to address Google's illegal and anticompetitive conduct.

210. The threatened harm to Plaintiff States and their citizens from Google's illegal and anticompetitive conduct significantly outweighs any potential injury to Google from the entry of an appropriately tailored preliminary and/or permanent injunction.

211. Entry of a preliminary and/or permanent injunction restraining Google's illegal and anticompetitive conduct will serve the public's interest in free, open, and competitive digital markets.

VIOLATIONS ALLEGED

First Claim for Relief: Maintaining Monopoly of General Search Services in Violation of Sherman Act § 2

212. Plaintiffs incorporate the allegations of paragraphs 1 through 211 above.

213. General search services in the United States is a relevant antitrust market, and Google has monopoly power in that market.

214. Google has willfully maintained, abused, and extended its monopoly power in general search services through (a) anticompetitive and exclusionary distribution agreements that lock up the present default positions for search access points on browsers, mobile devices, computers, and other devices as well as emerging device technology; require preinstallation and prominent placement of Google's apps; and tie Google's search access points to Google Play and Google APIs; (b) operation of SA360 to limit the tool's interoperability with a competitor, disadvantaging SA360 advertisers; (c) discriminatory treatment towards specialized vertical

providers in certain commercial segments that hinders consumers' ability to find responsive information; and (d) other restrictions that drive queries to Google at the expense of search rivals.

215. Google's exclusionary conduct has foreclosed competition in a substantial share of the general search services market.

216. Google's anticompetitive acts have had harmful effects on competition and consumers.

217. The anticompetitive effects of Google's exclusionary conduct outweigh any procompetitive benefits in this market, or any procompetitive benefits can be achieved through less restrictive means.

218. Google's anticompetitive and exclusionary practices violate Section 2 of the Sherman Act, 15 U.S.C. § 2, by maintaining Google's monopoly in general search services.

Second Claim for Relief: Maintaining Monopoly of General Search Advertising in Violation of Sherman Act § 2

219. Plaintiffs incorporate the allegations of paragraphs 1 through 211 above.

220. General search advertising in the United States is a relevant antitrust market, and Google has monopoly power in that market.

221. Google has willfully maintained, abused, and extended its monopoly power in general search advertising through (a) anticompetitive and exclusionary distribution agreements that lock up the present default positions for search access points on browsers, mobile devices, computers, and other devices as well as emerging device technology; require preinstallation and prominent placement of Google's apps; and tie Google's search access points to Google Play and Google APIs; (b) operation of SA360 to limit the tool's interoperability with a competitor,

disadvantaging SA360 advertisers; (c) discriminatory treatment towards specialized vertical providers in certain commercial segments that hinders consumers' ability to find responsive information; and (d) other restrictions that drive queries to Google at the expense of search rivals.

222. Google's exclusionary conduct has foreclosed competition in a substantial share of the general search advertising market.

223. Google's anticompetitive acts have had harmful effects on competition, advertisers, and consumers.

224. The anticompetitive effects of Google's exclusionary conduct outweigh any procompetitive benefits in this market, or any procompetitive benefits that can be achieved through less restrictive means.

225. Google's anticompetitive and exclusionary practices violate Section 2 of the Sherman Act, 15 U.S.C. § 2, by maintaining Google's monopoly in general search advertising.

Third Claim for Relief: Maintaining Monopoly of General Search Text Advertising in Violation of Sherman Act § 2

226. Plaintiffs incorporate the allegations of paragraphs 1 through 211 above.

227. General search text advertising in the United States is a relevant antitrust market, and Google has monopoly power in that market.

228. Google has willfully maintained, abused, and extended its monopoly power in general search text advertising through (a) anticompetitive and exclusionary distribution agreements that lock up the present default positions for search access points on browsers, mobile devices, computers, and other devices as well as emerging device technology; require preinstallation and prominent placement of Google's apps; and tie Google's search access points

to Google Play and Google APIs; (b) operation of SA360 to limit the tool's interoperability with a competitor, disadvantaging SA360 advertisers; (c) discriminatory treatment towards specialized vertical providers in certain commercial segments that hinders consumers' ability to find responsive information; and (d) other restrictions that drive queries to Google at the expense of search rivals.

229. Google's exclusionary conduct has foreclosed competition in a substantial share of the general search text advertising market.

230. Google's anticompetitive acts have had harmful effects on competition, advertisers, and consumers.

231. The anticompetitive effects of Google's exclusionary conduct outweigh any procompetitive benefits in this market, or any procompetitive benefits that can be achieved through less restrictive means.

232. Google's anticompetitive and exclusionary practices violate Section 2 of the Sherman Act, 15 U.S.C. § 2, by maintaining Google's monopoly in general search text advertising.

PRAYER FOR RELIEF

233. Plaintiff States respectfully request that the Court, as authorized by statute and its own equitable powers, enter final judgment against Defendant and:

a. Adjudge and decree that Google acted unlawfully to maintain monopolies in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2, in any relevant market, including general search services, general search advertising, and general search text advertising;

b. Enter any relief, as needed, to cure any anticompetitive harm from Google's conduct, prevent any future harm, and undo the continuing effects of past harm to competition, including those harms detailed herein: (a) agreements that limit the distribution to and/or use of potential or competitive general search engines by consumers; (b) the SA360 advertising tool that Google uses to further harm competition in the search-related markets; and (c) additional mechanisms of harm that artificially limit the ability of specialized vertical providers to acquire customers;

c. As needed, enter such relief to remove any ability of Google to harm competition by disadvantaging any current, potential, or nascent threat to its monopoly maintenance, including but not limited to structural divestitures as well as effective, monitorable, and measurable conduct remedies that eliminate the ability of Google to continue to reap benefits from its pattern of competitive harm;

d. Preliminarily and permanently enjoin Google from continuing to engage in the anticompetitive practices alleged herein;

e. Preliminarily and permanently enjoin Google from engaging in similar and related conduct in the future;

f. Grant such other equitable relief as the Court finds necessary to redress and prevent recurrence of Google's violations of the laws specified more fully above;

g. Enter any other preliminary or permanent relief necessary and appropriate to restore competitive conditions in the markets affected by Google's unlawful conduct and deprive Google of any advantages from its unlawful acts;

h. Award the states their reasonable attorneys' fees and costs; and

i. Enter any additional relief the Court finds just and proper.

Dated: December 17, 2020

Respectfully submitted,

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