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Chairman Kerry, Ranking Member Ensign, and members of the Subcommittee.

Thank you for inviting me to contribute to this discussion. My name is Marissa Mayer, and I work as Vice President of Search and User Experience at Google. I manage Google's efforts in search -- including Web search and Google News -- and I also guide user interaction design across Google's products. In addition, I co-chair the Knight Commission on the Information Needs of Communities in a Democracy. In both roles, I've reflected on the intersections of journalism and technology and I will speak to that this afternoon.

In my testimony today, I would like to cover three main points:

First, I'd like to discuss how Web search acts as a conduit for journalism by connecting individuals to the news stories they are seeking.

Second, I'll address our commitment to create economic opportunity for publishers and to provide tools to create more engaging presentations of their content.

And finally, I'll talk about how the very structure of the Web itself represents some challenges to, but also opportunities for, the future of journalism.

Search: a conduit for online publishing

Every day, millions of people search the Web for relevant answers to their questions. In response, search engines strive to connect each user with the right results, and those results can come in any number of different forms: a Web page, an image, a video, a map, or a news story – something of particular relevance to today's hearing. In each of those cases, search engines play the role of connecting users with high-quality content -- often journalistic -- ultimately sending traffic to the publisher's Website. Google is one such search engine that people use to find answers online.

Another service we offer is Google News, our specialized service that's designed specifically for users who are looking for news articles. Stories on Google News are selected and ranked by computers based on the freshness, location, relevance, and diversity of their content. As a result, these stories are sorted without regard to political viewpoint or ideology, and users can choose from a wide variety of perspectives on any given story. We offer links to several articles covering a topic so that users can choose to read the story from the publishers and sources they prefer.

Both Google search and Google News connect users to answers and information as quickly as possible. We show people just enough information to invite them to read more -- the headline, a line or two of text, and a link to the news publisher's Website. A user clicks on the headline of interest and is taken directly to the site that published the story.

Together, Google News and Google search provide a valuable free service to online newspapers specifically by sending interested readers to their sites at a rate of more than 1 billion clicks per month. Newspapers use that Web traffic to increase their readership and generate additional revenue.

In terms of publications appearing in search indexes, we believe they have the right to control their content. That's why we allow site owners to choose whether or not Google can index their sites. Using what's called a "robots.txt" file, which has been an industry standard for many years, a publisher can block its Web content from any search engine's crawl. As a result, that site will not show up in Web search results.

Effective use of "robots.txt" and other metatags gives publishers control over how their content is searched at a number of levels by allowing publishers to restrict: search across the entire site, individual directories, pages of a specific type, or individual pages only. So, while we think inclusion in a search engine can drive a lot of beneficial traffic, our policy first and foremost is to respect the wishes of content owners.

Creating economic opportunity for publishers

Because our mission is to organize the world's information and make it universally accessible and useful, high-quality content is incredibly important to Google. Our most basic goal is to connect users with high-quality and reliable information. Credible, factual, trustworthy content -- that is, journalism -- is critical to the millions of users who search for news stories on Google.

Google connects Internet users to journalists' work while at the same time helping journalists generate income to support their work, and providing tools to make news more compelling to readers and viewers.

Most importantly from an economic perspective, once readers arrive at publication sites, our Google AdSense advertising platform helps publishers generate revenue from their content. By providing relevant ads and improving the connection between advertisers and our users, Google AdSense creates billions of dollars in annual revenue for publishers. In fact, in 2008, that figure exceeded $5 billion in revenue for AdSense publishers. Users get more useful ads, and these more relevant ads generate higher returns for advertisers and publishers. We recently launched interest-based advertising, which we believe will be particularly helpful to publishers as it takes into account each individual user's interests in the hopes of making advertisements even more relevant.

In addition to providing revenue opportunities, Google also offers many tools for sharing information that are being used by newspapers. For example, the *Los Angeles Times* Website last year followed the path of Southern California wildfires using Google Maps at the site. Google Image Search brings the *Life Magazine* photo archive to light for a whole new generation of readers. *National Geographic* and The Holocaust Memorial Museum have created interactive educational content layers in Google Earth. And NASA has partnered with us to allow anyone to virtually travel the stars in Google Sky. Our Web technologies are powerful information tools, and we hope to continue to empower content creation through them.

The structure of the Web and its impact on publishers

The structure of the Web itself requires the presentation of news in a way that's fundamentally different from its offline predecessor. The Web has caused some parts of the news to be presented more easily and effectively. For example, Web pages can link to voluminous supporting materials without worrying about column inches. In addition, the always-on, always-updating nature of the Web means that real-time news updates can appear throughout the day without being tied to print production deadlines. However, other aspects are more challenging, particularly in regard to how users arrive at a news story, and how authority on a particular topic is established. I'd like to offer a few observations on what I call the "atomic unit of consumption" for online news, the prospect of creating living stories online, as well as a few simple steps online publishers can take to keep readers engaged.

The atomic unit of consumption

The atomic unit of consumption for existing media is almost always disrupted by emerging media. For example, digital music caused consumers to think about their purchases as individual songs rather than as full albums. Digital and on-demand video has caused people to view variable-length clips when it is

convenient for them, rather than fixed-length programs on a fixed broadcast schedule. Similarly, the structure of the Web has caused the atomic unit of consumption for news to migrate from the full newspaper to the individual article. As with music and video, many people still consume physical newspapers in their original full-length format. But with online news, a reader is much more likely to arrive at a single article. While these individual articles could be accessed from a newspaper's homepage, readers often click directly to a particular article via a search engine or another Website.

Changing the basic unit of content consumption is a challenge, but also an opportunity. Treating the *article* as the atomic unit of consumption online has several powerful consequences. When producing an article for online news, the publisher must assume that a reader may be viewing this article on its own, independent of the rest of the publication. To make an article effective in a standalone setting requires providing sufficient context for first-time readers, while clearly calling out the latest information for those following a story over time. It also requires a different approach to monetization: each individual article should be self-sustaining. These types of changes will require innovation and experimentation in how news is delivered online, and how advertising can support it.

The living story

The Web by definition changes and updates constantly throughout the day. Because of its ability to operate in real-time, it offers an opportunity for news publishers to publish on changing and evolving stories as they happen. Web addresses (known as URLs -- uniform resource locators such as http://www.google.com) were designed to refer to unique pieces of content, and those URLs were intended to persist over time. Today, in online news, publishers frequently publish several articles on the same topic, sometimes with identical or closely related content, each at their own URL. The result is parallel Web pages that compete against each other in terms of authority, and in terms of placement in links and search results.

Consider instead how the authoritativeness of news articles might grow if an evolving story were published under a permanent, single URL as a living, changing, updating entity. We see this practice today in Wikipedia's entries and in the topic pages at NYTimes.com. The result is a single authoritative page with a consistent reference point that gains clout and a following of users over time.

Keeping users engaged

A much smaller but important factor for online newspapers to consider in today's digital age is the fundamental design and presentation of their content. Publishers should not discount the simple and effective navigational elements the Web can offer. When a reader finishes an article online, it is the publication's responsibility to answer the reader who asks, "What should I do next?" Click on a related article or advertisement? Post a comment? Read earlier stories on the topic? Much like Amazon.com suggests related products and YouTube makes it easy to play another video, publications should provide obvious and engaging next steps for users. Today, there are still many publications that don't fully take advantage of the numerous tools that keep their readers engaged and on their site.

Conclusion

Chairman Kerry, Ranking Member Ensign, and members of the Subcommittee, thank you for having me here today to participate in this important discussion.

Preserving robust and independent journalism at the national and local levels is an important goal for the United States. Google is doing its part by driving significant traffic to online news publishers, by helping them generate revenue through advertising, and by providing tools and platforms enabling them to reach millions of people.

There are certainly many challenges to face in adapting the long tradition of journalism to the online world. I am hopeful, though, that innovation will help preserve journalism and its vital function in our society.

Thank you.