An Economic Review of the Proposed Merger of XM and Sirius

Harold Furchtgott-Roth[1]

June 2007

Executive Summary

This paper provides an overview of economic considerations that government agencies should take into account when reviewing the proposed merger between XM Satellite Radio Holdings, Inc. (XM) and Sirius Satellite Radio, Inc. (Sirius).[2] It identifies the numerous existing fixed and mobile communications services that compete with satellite radio—including terrestrial radio, pre-recorded music devices, mobile phones, and fixed and mobile internet services—and describes the increasing availability of mobile broadband services that offer nearly endless capabilities to consumers. This paper also analyzes the dynamic nature of the market for mobile communications services and highlights the commitment that the government has made to facilitate the deployment of advanced communications services. This paper concludes that government agencies reviewing this merger should consider the many consumer benefits that are likely to accrue over the longer term. And, consistent with its approach in other proceedings, the FCC should afford satellite radio providers the sufficient timing flexibility necessary to respond to rapidly changing market conditions.

The asserted view that satellite radio is an isolated antitrust market is inconsistent with basic observations about this market. Satellite radio has a small presence in comparison to other comparable communications services. From a consumer's point of

[1] President, Furchtgott-Roth Economic Enterprises.

[2] The views expressed in this report are my own and do not necessarily reflect the views of either XM or Sirius, or any other party.

view, there is a range of fixed and mobile alternatives to satellite radio service, with even more offerings on the immediate horizon. To take just one example, the 14.5 million satellite radio subscribers pales in comparison to the 237 million mobile phones in use today. Many of those phones allow users to access wireless data services as well as to download and to play music. Mobile internet services are also becoming increasingly available in cars. These competing choices discipline the prices that XM and Sirius charge subscribers today and will continue to do so regardless of whether the firms merge. If a combined satellite radio provider were to raise prices, consumers could find identical or similar programming elsewhere and switch services.

The provision of satellite radio services is best understood as a segment of the markets for fixed and mobile communications services. Nearly all of the programming available via satellite radio can be obtained elsewhere. And internet services are a substitute for a wide range of communications services, including satellite radio. Although mobile broadband services are not likely to displace all other mobile communications services, such services will certainly siphon some consumers away from existing mobile services and will discipline the prices that the other services command in the market. The Federal Communications Commission (FCC) has taken note of this trend toward a broader mobile services market in other proceedings, and it should maintain that position when evaluating this merger. Particularly in light of the rapid changes in technology and market structure, it would be unreasonable for government agencies to restrict the merger analysis to a static environment that fails to account for these dynamic market conditions.

I. Introduction.

Background

My name is Harold W. Furchtgott-Roth. I am president of Furchtgott-Roth Economic Enterprises, an economic consulting firm. I was a commissioner of the Federal Communications Commission (FCC) from November 1997 through May 2001. My statements as a commissioner at the FCC have been cited by federal courts. I have been a guest speaker at many conferences for the telecommunications industry. One of my responsibilities is chairing the board of the Telecommunications Policy Research Conference, one of the primary forums for research on telecommunications issues in the United States. I chair the board of Oneida Partners, a wireless communications company. I am on the board of MRV, a publicly traded telecommunications manufacturing company. I serve on several advisory boards.

From June 2001 through March of 2003, I was a visiting fellow at the American Enterprise Institute for Public Policy Research (AEI) in Washington, DC. I am currently a senior fellow at the Hudson Institute in Washington, DC.

I have worked for many years as an economist. From 1995 to 1997, I was chief economist of the House Committee on Commerce, where one of my responsibilities was to serve as one of the principal staff members helping to draft the Telecommunications Act of 1996. From 1988 to 1995, I served as a senior economist at Economists Incorporated, where I worked on economic and econometric matters in regulatory, antitrust, and commercial litigation cases. These cases included many matters in the broadcast, cable, and telecommunications industries. From 1984 to 1988, I served as a research analyst at the Center for Naval Analyses, where I conducted quantitative studies on behalf of the Department of the Navy.

My academic research concerns economics and regulation. I am the author or coauthor of four books: *A Tough Act To Follow: The Telecommunications Act of 1996 and the Separation of Powers* (Washington, DC: American Enterprise Institute) 2006; *Cable TV: Regulation or Competition*, with R.W. Crandall, (Washington, DC: The Brookings Institution), 1996; *Economics of A Disaster: The Exxon Valdez Oil Spill*, with B.M. Owen, D.A. Argue, G.J. Hurdle, and G.R. Mosteller, (Westport, Connecticut: Quorum books), 1995; and *International Trade in Computer Software*, with S.E. Siwek, (Westport, Connecticut: Quorum Books), 1993. I am a frequent commenter on economic matters, and daily newspapers, including the *Wall Street Journal*, have published my opinion pieces. I have a weekly column in the business section of the *New York Sun*. I have testified on many occasions before committees of the U.S. Senate and House of Representatives.

I received my undergraduate training in economics at MIT, and I received a Ph.D. in economics from Stanford University.

Assignment

I have been asked by XM and Sirius to review from an economic perspective their proposed merger. I primarily focus on a consumer's perspective and potential changes in competing communications services providers. In preparing this report, I reviewed various documents including the following: documents related to the merger prepared both by the merging parties and by parties opposing the merger; other documents relating to each of these companies; documents related to the market for mobile communications services and the market for fixed communications services; and various documents prepared by the FCC over the past many years.

Summary of findings

On the basis of my background and a review of the documents described above, I reach conclusions with respect to the proper competitive framework to examine the proposed merger from a consumer's perspective. I find the following:

- XM and Sirius compete with numerous other providers of communications services, both in a fixed and a mobile environment, including terrestrial radio and fixed and mobile internet services;
- the market structure for both mobile communications services and fixed communications services is changing rapidly, and the federal government has actively promoted the development and deployment of advanced communications services; and
- it would be unreasonable to examine the proposed merger of XM and Sirius in a static environment that does not account for changing technology and market structure over both the short and long term.

Rapid changes in both technology and market structure substantially affect the competitive alternatives available to XM and Sirius customers. The FCC in many proceedings has facilitated the commercial availability of new technologies that compete with satellite radio and other services. It would be unreasonable for the FCC and other federal agencies in reviewing the proposed merger to ignore the substantial federal efforts to promote both fixed and mobile communications services that compete with satellite radio services.

II. XM and Sirius compete with numerous other providers of communications services, both in a fixed and a mobile environment, including terrestrial radio and fixed and mobile internet services.

Opponents of the XM-Sirius merger frame the relevant product market overly simply: a narrow, static service market in 2007 comprised exclusively of satellite radio services with the merger representing increased concentration from two firms to one.[3] This view of satellite radio as spanning an entire isolated antitrust market unaffected by the availability and prices of competing services, however, is not consistent with technology, consumer demand, and the FCC's findings in a variety of proceedings. Other studies convincingly refute the narrow market view.[4]

Whether in the mobile environment of a car or train or in the fixed environment of a home, office, or work site, American consumers have a wide and rapidly expanding range of choices for communications services that compete with XM and Sirius. These competitive choices discipline the prices that XM and Sirius charge subscribers today and will continue to do so regardless of whether the firms merge.

For purposes of exposition and consistent with the manner in which the FCC allocates and licenses spectrum, I will organize my discussion of the markets in which XM and Sirius compete into two parts: fixed communications services and mobile communications services.[5] These market constructs are much broader than, and fully

[3] See, e.g., Crowell and Moring, "Analysis of Antitrust Concerns Regarding XM/Sirius Merger," submitted to the FCC, May 22, 2007, at 2-4. See In the Matter of XM Satellite Radio Holdings Inc., Transferor and MB Docket No. 07-57 Sirius Satellite Radio Inc., Transferee Consolidated Application for Authority to Transfer Control of XM Radio Inc. and Sirius Satellite Radio Inc., "Comments of the American Antitrust Institute in Opposition to the Transfer Application," June 5, 2007. See also J.G. Sidak, "Expert Declaration of J. Gregory Sidak Concerning the Competitive Consequences of the Proposed Merger of Sirius Satellite Radio, Inc. and XM Satellite Radio, Inc.," (Sidak Declaration), March 16, 2007, at 1-2, and 8-33.

[4] See T. Hazlett, "The Economics of the Satellite Radio Merger," in Docket 07-57, June 14, 2007, http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519527923.

[5] I do not suggest that these are necessarily antitrust "relevant markets" based on rigorous analysis that I have not attempted in this paper. Rather, "mobile communications services" and "fixed communications

include, the "audio entertainment services" market conservatively suggested by XM and Sirius.[6] The presentation of these market constructs for expositional purposes in this paper does not preclude subsequent analytical findings of similar or different relevant antitrust markets.

The following findings frame this section:

- Consumers can choose among many *fixed* communications services that compete with XM and Sirius;
- Consumers can also choose among many *mobile* communications services that compete with XM and Sirius;
- XM and Sirius have little programming that consumers cannot obtain elsewhere from other communications service providers; and
- a single internet device can offer many communications services including those offered by XM and Sirius.

A. Consumers can choose among many fixed communications services that compete with XM and Sirius.

The United States has more than 300 million people[7] and more than 124 million housing units.[8] Of the hundreds of millions of potential satellite radio subscriptions in fixed locations, there are approximately 14.5 million satellite radio subscribers, and many if not most of those are primarily used in automobiles.[9] Although the number of satellite

---

services" are useful ways of examining the competitive choices available to consumers considering XM or Sirius.

[6] See Consolidated Application for Authority to Transfer Control, In the Matter of XM Satellite Radio Holdings and Sirius Satellite Radio, at 23 and footnote 68 (filed March 20, 2007).

[7] U.S. Census Bureau. See http://www.census.gov.

[8] U.S. Census Bureau, figures for 2005. See http://www.census.gov/popest/housing/tables/HU-EST2005-01.xls.

[9] This reflects 7.9 million XM subscriber, as stated by XM on April 26, 2007, at http://xmradio.mediaroom.com/index.php?s=press_releases&item=1449

radio subscriptions is growing, it remains small relative to the universe of communications services used in fixed locations in the United States.

For communications services in the home or office, consumers have many choices besides XM and Sirius. While practically all of these communications services can be used in either a mobile or a fixed environment, but consumers can also choose communications services that can only be used in a fixed environment. These include such communications services as internet access and broadband services offered by wireline telephone companies and cable companies. Consumers also can use a wide range of electronic devices to listen to pre-recorded music at home, in the office, or at other fixed locations.

The technologies for fixed communications services are converging. Consumers at home or work can listen to music, news, sporting events, and other audio services transmitted by terrestrial radio, internet-based web sites, cable audio services, DBS audio services, or satellite radio. Years ago, these and other different consumer technologies might have occupied separate product markets; today, the distinctions blur among different communications services in a fixed environment.

Internet and broadband services are widely available to the American public, and these services provide consumers with audio and other services that compete with the satellite radio services of XM and Sirius. As of June 2006 (the most recent available data), more than 99% of zip codes in the United States had broadband services.[10] More

---

and 6.6 million Sirius subscribers, as stated by Sirius on May 1, 2007, at http://investor.sirius.com/ReleaseDetail.cfm?ReleaseID=240128.

[10] See *High-Speed Services for Internet Access: Status as of June 30, 2006*, January 2007, at 1 and Table 15, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.

than 87% of zip codes had three or more broadband providers.[11] More than 19% of zip codes had 10 or more broadband providers. There were more than 64 million broadband lines based on subscription accounts in service in the United States, of which more than 11 million were terrestrial mobile accounts and nearly 500,000 satellite accounts.[12] More than 93% of households had access to broadband service,[13] and broadband service was purchased by more than 50 million residences.[14] On any of these services, American consumers can obtain practically the full range of programming services available on satellite radio.[15] All of these communications services discipline the pricing structure of satellite radio service operators.

In much of the remainder of the paper, I focus more on the mobile communications market than on the fixed communications market. There are more competitors for fixed communications services than for mobile communications services. To the extent the merger of XM and Sirius poses no competitive harm for mobile communications services, it will pose no competitive harm for fixed communications services.

B. Consumers can also choose among many mobile communications services that compete with XM and Sirius.

Consumers can and do choose among various forms of mobile communications services including terrestrial radio, pre-recorded music, mobile phones, and mobile internet services that compete with XM and Sirius. "Mobile communications services" means communications services that can potentially be used in a mobile environment

[11] Ibid., at Table 15.
[12] Ibid., at Table 1.
[13] Ibid., at Table 14.
[14] Ibid., at Table 3.
[15] See discussion at II.B.4 below.

such as an automobile.[16] "Communications services" means a wide range of services that include statutory definitions of broadcast services, information services, and telecommunications services,[17] as well as other information and entertainment services such as pre-recorded music. "Communications services" need not be mobile. Mobile communications services include those satellite radio services offered through equipment either installed in an automobile or available through "plug-and-play" and other portable devices.[18] These and other mobile communications services are offered with commercially available consumer electronic devices both for portable or nomadic use and installed in automobiles.

As noted above, as long ago as June 30, 2006, the United States had 11 million mobile terrestrial broadband accounts and more than 500,000 satellite broadband accounts.[19] Mobile broadband subscriptions are growing rapidly and will likely surpass satellite radio service subscriptions.

Although XM and Sirius both offer satellite radio services, and both compete for new customers, particularly those interested in portable plug-and-play devices, there is not likely substantial switching among existing customers between the two. Part of the reason for the lack of substantial switching between existing customers is the high switching cost for factory-installed satellite equipment in automobiles, and automobiles account for a substantial share of the customer base for both XM and Sirius.[20] Each

[16] See 47 U.S.C. 153(27).
[17] See 47 U.S.C. 153(6), (20), (43), and (46).
[18] Some satellite radio services are offered through equipment that is not portable and that is attached to home stereo and other audio systems. See subsection A above.
[19] See *High-Speed Services for Internet Access: Status as of June 30, 2006*, January 2007, at Table 1, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.
[20] See Tim Farrar, "The Competitive Landscape for Satellite Radio", April 6, 2007, at 4, available at www.tmfassociates.com/SatRadio.pdf. See also StreetDeck, "Demand for In-Vehicle Infotainment Picks

satellite radio service requires specialized equipment, and installing this equipment in an automobile (rather than using a portable transceiver or other device not built into the car) is both costly and time-consuming. In contrast, terrestrial radio service is the default option on much factory-installed equipment when a satellite radio subscription expires.

Indeed, satellite radio subscribers continue to spend time listening to terrestrial radio rather than to satellite radio.[21] Most new automobiles are equipped with CD players and other audio equipment. For customers with factory-installed satellite radio equipment, the incremental cost of switching from a satellite radio service to terrestrial radio or other audio services in an automobile is zero while the incremental cost of switching to a different satellite radio service is substantial, even without considering the monthly fee. Thus, a price increase for one or both satellite radio services is likely to lead many consumers to move to another type of service altogether rather than to the other satellite radio service.

Although an obvious form of switching away from satellite radio services is towards audio services available in a car with no incremental cost, consumers may also choose from a wide range of other communications services. Mobile communications services including satellite radio services are increasingly linked by at least one common form of possible substitution: mobile internet services. These mobile internet services can both technologically and economically substitute for the origination, transmission,

---

Up Speed," at 2, available at http://www.intel.com/design/embedded/casestudies/streetdeck.pdf (last visited June 12, 2007).

[21] "Satellite radio subscribers devote a significant portion of their overall radio listening to either XM or Sirius' various channel offerings, but still end up spending more time with terrestrial radio. Overall, three in ten (31%) say they now listen mostly or exclusively to satellite-delivered stations, with 43% of Sirius subscribers devoting the lion's share of their time to these channels. But overall, nearly four in ten (38%) satellite users listen mostly or only to area AM and FM stations. This data supports the recent Arbitron analysis from the fall '06 ratings book that confirmed that satellite radio listeners actually listen to more terrestrial radio on a weekly basis (14 hours versus 10:45)."
See http://www.jacobsmedia.com/tech3_satellite.htm.

and reception of practically all other mobile communications services. Consumers dissatisfied with the quality or price of either XM or Sirius can choose to switch to other services including more capable mobile internet services.

Switching to mobile internet service may require the purchase of new equipment and subscribing to a mobile internet service. The switching costs could be substantial if a consumer would not otherwise subscribe to mobile internet services. On the other hand, millions of U.S. consumers already subscribe to mobile internet services, and the number of subscribers is increasing rapidly.

The availability and pricing of mobile internet services help discipline the market behavior of businesses offering other mobile communications services, including satellite radio services. As will be shown subsequently in this paper, mobile internet services are widely available today and will become even more widely available with greater capabilities at lower prices in the future. To see the diffusion of mobile internet technologies, visit any consumer electronics store, either online or at a local shopping mall. To get a sense of why narrowly defined services such as satellite radio are technologically subsumed in markets supporting broader mobile communications technologies, some of which will be commercially available in the next year, see the web sites for various IEEE groups that are developing standards for mobile broadband services.[22]

[22] See, e.g., 802.16.e, at http://www.ieee802.org/16/tge/.

1. Mobile communications services is a broad category of services with converging technology

Until recently, mobile communications services consumed in cars could be divided into various categories including voice services such as mobile phones; data services such as mapping services; emergency call services such as OnStar; and entertainment services such as terrestrial radio, satellite radio, and pre-recorded music on CDs, MP3 players, and iPods. In the past, some of these categories of services might have potentially been described as separate markets, but today the dividing lines that separate them are blurred. Mobile internet services combine the capabilities of all of these various categories of services. Consequently, the prices of individual mobile communications services are disciplined by the prices and availability of broader mobile internet services.

For passive services such as terrestrial or satellite radio, a consumer receives information from a fixed menu with a finite number of channels. Information flows one way—to the consumer. In contrast, on the internet consumers can send messages to friends, order products and services online, and engage in many other activities. New mobile internet services enable consumers to interact with the internet at highway speeds.[23] A consumer can usually enjoy a mobile internet service with the same equipment in most locations, whether moving or in a fixed location. In contrast, many XM and Sirius receivers are primarily for use in cars.[24]

[23] See Dan Tynan, "Cruising the Internet at 70 MPH, *PC World*, May 2007, at http://www.pcworld.com/article/id,129779/article.html.
[24] See The Katz Radio Group, *Satellite Radio Penetration*, RADIOWAVES, Dec. 2006, at http://www.katz-media.com/pubs/RadioWaves/121206/RadioWavesDEC2006.pdf (last visited May 31, 2007).

While mobile internet services are more expensive than satellite services today, the prices of these services have steadily fallen, and the technical capabilities and geographic coverage have improved substantially.[25] New mobile broadband services that will soon be available will further reduce prices and substantially improve technical capabilities. In addition, many consumers already subscribe to mobile internet services, and the incremental cost to receive alternate audio entertainment via the internet is very low.

2. Mobile communications services tend to be offered with nationwide pricing.

XM and Sirius, separately or jointly, cannot easily offer different prices in different geographic areas. The very nature of a mobile service generally, and a mobile satellite service in particular, leads to nationwide pricing. Mobile services are not tied to a single location but can and do move as the consumer moves. The same nationwide pricing is true for other mobile services such as most if not all mobile phone services offered by national carriers.[26] Nationwide advertising and promotion campaigns, through both online websites and retail distribution channels at consumer electronic stores, also would not support geographic pricing.[27] To see nationwide rate plans, visit the web site

[25] For example, T-Mobile has an unlimited internet-only plan for $49.99 per month. See http://www.t-mobile.com/shop/plans/Default.aspx?plancategory=7.
Sprint has unlimited mobile data plans from $59.99 per month. See http://nextelonline.nextel.com/NASApp/onlinestore/en/Action/SubmitRegionAction
Verizon Wireless offers bundled data and voice plans for $79.99 per month. See http://www.verizonwireless.com/b2c/store/controller?item=planFirst&action=viewPlanOverview&cm_re=Global-_-Plans-_-Plans.
AT&T has a wide range of rate plans depending on the equipment and the amount of usage. See http://www.wireless.att.com/cell-phone-service/cell-phone-plans/data-cell-phone-plans.jsp?_requestid=69275.

[26] For a general discussion of competition for mobile phone services, see "Declaration of Harold Furchtgott-Roth" in WT Docket No. 05-194. For a discussion of uniform national pricing, see particularly at 10-11.

[27] Ibid.

of one of the national carriers.[28] Of course, for some two-way services such as mobile telephony, consumers can and do expect geographically-sensitive charges such as long-distance and roaming charges, but for other services such as telematics, consumers are offered flat monthly fees.[29] Many if not most satellite radio customers initially receive service as a part of a new car purchase for a flat nationwide fee—free. For new cars, XM and Sirius have long-term contracts with the major automobile manufacturers. [30]

In addition to the facility of national advertising and promotional campaigns with nationwide pricing, other factors reinforce nationwide pricing for mobile services such as satellite radio. Most obviously, mobile services can be consumed anywhere, not just at a specific billing address. Efforts to price discriminate by billing address can be thwarted by consumers either by switching services or by switching billing addresses for the many consumers who have more than one address (home, business, school, post-office box, second home, etc.).

3. Among mobile communications services, satellite radio is a relatively small service

American consumers have many different choices for mobile communications services. The United States has more than 240 million registered highway vehicles,[31] the

[28] See, e.g., http://nextelonline.nextel.com/NASApp/onlinestore/en/Action/DisplayPlans?filterString=Individual_Plans_Filter&id12=UHP_PlansTab_Link_IndividualPlans, visited on June 19, 2007; http://www.verizonwireless.com/b2c/store/controller?item=planFirst&action=viewPlanOverview&cm_re=Global-_-Plans-_-Plans, visited on June 19, 2007; http://www.wireless.att.com/cell-phone-service/cell-phone-plans/individual-cell-phone-plans.jsp, visited on June 19, 2007; http://www.t-mobile.com/ visited on June 19, 2007; http://www.metropcs.com/plans.php, visited on June 19, 2007.

[29] See http://www.onstar.com/us_english/jsp/index.jsp.

[30] For a list of automotive partners with Sirius, see http://www.sirius.com/servlet/ContentServer?pagename=Sirius/CachedPage&c=Page&cid=1019257316845. For a list of automotive partners with XM, see http://www.xmradio.com/whatisxm/inyourvehicle/new-vehicles.xmc.

[31] U.S. Bureau of Transportation Statistics. Figures are for 2005. See http://www.bts.gov/publications/national_transportation_statistics/html/table_01_11.html.

vast majority of which might reasonably have mobile communications services, most likely terrestrial radio equipment. Among this large universe of hundreds of millions of potential satellite radio subscriptions, there are approximately 14.5 million satellite radio subscribers.[32] Some subscribers with plug-and-play devices may use satellite radio services in more than one automobile. (As discussed in subsection A above, some of these 14.5 million subscriptions are in fixed locations, rather than motor vehicles.) Of course, satellite radio is a relatively new service, and subscriptions have grown rapidly in recent years and may well continue to grow over the next several years. But by any reasonable measure, XM and Sirius are relatively modest participants in the market for mobile communications services.

For the purpose of comparison to the 14.5 million satellite radio subscriptions, there are more than 237 million mobile phones in use, and many of these are capable of accessing the internet.[33] As long ago as June 2005, half of mobile phones in use were capable of accessing the internet, and one third of wireless customers used wireless data services.[34]

The FCC's most recent wireless competition report describes the widespread availability of mobile wireless internet services such as EV-DO as WCDMA/HSDPA in early 2006.[35] These and more advanced mobile internet services are widely available today.[36] Purchasers of mobile phones, PDAs, or laptop computers are offered an ever-expanding range of mobile internet access services.

---

[32] See footnote 9.
[33] See www.ctia.org.
[34] http://www.ctia.org/advocacy/position_papers/index.cfm/AID/10298.
[35] In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, WT Docket No. 06-17, *Eleventh Report*, released September 29, 2006, at paragraph 100.
[36] For the rollout of these services as of 2006, see *Eleventh Report*, Map 8, at page 116.

A recent survey by Bridge Ratings illustrates the relatively modest stature of satellite radio in the American market.[37] According to the May 2007 survey, nearly 94% of Americans listen to terrestrial radio during a week.[38] Approximately 30% of Americans listen to MP3 players (including iPods) during a week.[39] But, according to the survey, fewer than 5% of Americans listen to satellite radio in a week.[40] Of particular note, nearly four times as many Americans, nearly 20%, listened to radio on the internet (both terrestrial stations with web-based audio feeds as well as internet-only stations) as listened to satellite radio during the course of a week.[41] Interestingly, the Bridge Ratings survey, conducted by a commercial business for commercial customers, includes a range of services that practically spans mobile communications services.[42] The survey does not include just satellite radio, or even just satellite radio and terrestrial radio.

4. Mobile broadband services are increasingly available

Until recently, the range of technologies available for cars was much more limited than for homes or offices. Broadband services, which have only recently become popular in American homes and offices, are about to become popular in American cars as well.

Many mobile communications services are widely if not ubiquitously available. Terrestrial and satellite radio services and pre-recorded music devices are the most well-known. Downloadable music services are now available on cell phones, and can be retransmitted through car stereo systems.[43] In the Sprint Productivity Survey, 43% of

[37] Bridge Ratings press release, May 23, 2007, at http://www.bridgeratings.com/press.05.23.07.CompMediaUse.htm.
[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Ibid.
[42] See www.bridgeratings.com.
[43] See http://us.lge.com/products/model/detail/mobile%20phones_select%20by%20carrier_sprint_FUSIC.jhtml.

respondents report having listened to music on their cell phone, one of the most common uses of cell phones.[44]

In the next two years, many new mobile internet services will be based on WiMax technologies, but other technologies are also being deployed. Sprint is beginning to roll out an advanced broadband wireless service this year in the 2.5 GHz band and, as required by the FCC, will serve a large portion of the U.S. population in the next two years.[45] Clearwire has a similar rollout plan for advanced broadband wireless services. AT&T will soon develop the WCS band, likely for mobile broadband services.[46] Winners of the AWS auction will begin offering services in the 1.9 – 2.1 GHz bands before long. The 700 MHz auction later this year will afford auction winners opportunities to begin offering mobile broadband services in 2009. Mobile and fixed wireless broadband services will soon be available in other bands as well.

Mobile internet services are increasingly available directly in cars. Businesses such as Unwired Vehicles,[47] KVH,[48] and Autonet Mobile[49] are marketing mobile internet services for automobiles based on EVDO and Wi-Fi technologies.[50] Faster broadband connections to the car should be available within the next year from businesses such as

[44] In the Sprint 2006 Productivity Survey, 43% of respondents report listening to music with their mobile phones. See http://www.sprint.com/productivitysurvey/prodsurveyfastfacts.pdf.
[45] See Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations File Nos. 0002031766, *et al*, WT Docket 05-63, *Memorandum Opinion and Order*, Released August 8, 2005.
[46] See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, *Memorandum Opinion and Order*, released March 26, 2007.
[47] See www.unwiredvehicles.com.
[48] See www.kvh.com; also see PR Newswire Europe (inc. UK Disclose), Thursday, January 5, 2006.
[49] See www.autonetmobile.com.
[50] See Dan Tynan, "Cruising the Internet at 70 MPH, *PC World*, May 2007, at http://www.pcworld.com/article/id,129779/article.html.

Aeris.[51] That company is working with an automobile company on a system that can download data while traveling at rapid speeds.[52]

Mobile broadband services have capabilities that surpass those of most existing mobile communications technologies. To mention but a few of these capabilities, users can receive simulcast internet programming from many radio stations around the world that have an online site. Users can receive video programming from many online sites for both broadcast shows (e.g., recent announcements from CBS and other networks)[53] as well as other types of video entertainment (e.g., YouTube).[54] YouTube is launching a web site specifically for mobile users.[55] Users can access all other forms of internet content from the convenience of their car—or merely walking down the street. In addition, users will have two-way broadband capabilities to send information and content, not merely one-way or passive services.

The range of service offerings on mobile broadband services will be more technologically advanced than those presently offered on satellite radio. Even narrowly for purely audio services, internet sites enable consumers to tailor music and entertainment choices far more precisely than they can over satellite radio.[56]

Mobile broadband services are not a secret. Businesses are investing billions of dollars in the development of these services; consumers eagerly await them. They will provide enormous competition to other mobile communications services, including satellite radio services, whether offered separately or jointly by Sirius and XM. New

---

[51] Ibid.
[52] Ibid.
[53] See http://www.investors.com/editorial/IBDArticles.asp?artsec=17&artnum=3&issue=20070605.
[54] www.youtube.com.
[55] It will be www.m.youtube.com. See http://www.smartphonetoday.com/articles/2007/6/2007-6-20-YouTube-Going-Mobile.html.
[56] For customized services, see, e.g., http://www.pandora.com and www.slacker.com.

WiMax and other wireless broadband service providers are basing their business plans on competitors who will be in the market from 2007 – 2012. It would be irrational for satellite radio not to do the same.

5. The FCC has held that "mobile data services" are a separate and "narrow" market.

The FCC describes "market structure" in some of its annual competition reports.[57] In its annual report on competition for commercial mobile services (often described as the Commercial Mobile Radio Services or CMRS Report),[58] the FCC divides those services into three "narrow" product markets;[59] one of these is "mobile data services," a category that would appear capable of including satellite radio services.[60] Within the

[57] For commercial mobile radio services (CMRS), see Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, WT Docket 06-17, *Eleventh Report*, Released September 29, 2006, at paragraphs 19-88. For satellite services, see Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services, IB Docket No. 96-67, *First Report*, released March 26, 2007, at paragraphs 11 - 143. For video services, see Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, MB Docket 05-255, *Twelfth Annual Report*, released March 3, 2006, at paragraphs 143-208. For broadband services, see *High-Speed Services for Internet Access: Status as of June 30, 2006*, January 2007, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.
In these reports, however, the FCC does not conduct an empirical analysis to determine the boundaries of markets. Service offerings are typically included in only one report partly for similarity of licensing structure or for historical reasons, rather than defensible descriptions of economic markets.

[58] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, WT Docket 06-17, *Eleventh Report*, Released September 29, 2006.

[59] Ibid., paragraph 21. The FCC presents three "narrow" product market definitions for the purpose of the annual report. The FCC does permit some flexibility in product market definitions observing that some circumstances may require broader definitions while other circumstances narrower definitions. The relevant observation is that, from the FCC's perspective, mobile data services are a "narrow" product market.

[60] Ibid., paragraph 23. The FCC report predicates mobile services as "interconnected" only in paragraph 21. Subsequently, it drops the limitation such as in paragraph 21. "Commercial mobile service" under 47 U.S.C. 332 is limited to those services offered to the public and interconnected with the public switched network. On the other hand, a "mobile service" under 47 USC 153(27) includes one-way services and those not interconnected. The discussion of "mobile services" in the FCC's Annual CMRS report includes mobile services that are not interconnected such as ringtones. Ibid., paragraph 23. Although the FCC places mobile satellite services (MSS) in a separate "narrow" product market, the discussion of MSS is more from an FCC licensing perspective than from differences in consumer perspectives or differences in applications available with satellite services. See paragraph 24.

"narrow" product market for mobile data services, the FCC describes specific categories of services including "mobile broadband services."[61] The FCC describes the wireless broadband offerings, many soon to be mobile, of Clearwire, Sprint, and other carriers.[62] The FCC does not discuss satellite radio in its CMRS report presumably in part because satellite radio is discussed in a separate report[63] and because the CMRS report is organized around specific bands of spectrum and specific allocations within those bands.[64]

The FCC reviews license transfers in the broader context of mergers and acquisitions.[65] For purposes of merger reviews, the FCC has analyzed specific product markets for mobile data services, a subset of mobile communications services.[66] The FCC defines mobile data service as "the delivery of non-voice information to a mobile

[61] Ibid., paragraph 29.
[62] Ibid, paragraphs 30-33.
[63] Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services, IB Docket No. 96-67, *First Report*, released March 26, 2007. The FCC tends to place services in just one annual report rather than in multiple reports even if the service could reasonably be discussed in more than one report. For example, the Satellite Report excludes certain MSS services and satellite MVPD services because they are addressed in other FCC competition reports. See paragraph 4.
[64] *Eleventh Report*. For purposes of comparison, the satellite competition report presents satellite radio as a separate "market" more for organizational purposes rather than based on analytical evidence. "We emphasize that the market descriptions included in this Report are intended to facilitate discussion of satellite markets and services as required by section 703, and may not reflect the appropriate markets to be considered in other Commission proceedings, including merger reviews, rulemakings involving the Commission's ownership rules, or other reports to Congress." Satellite Competition First Report, paragraph 27.
[65] For a list of FCC license transfer reviews in the context of major mergers, see http://www.fcc.gov/ogc/, as well as http://www.fcc.gov/transaction/mergerorderschron.html, and http://www.fcc.gov/transaction/archivedtimelines.html.
[66] See Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations File Nos. 0002031766, *et al*, WT Docket 05-63, *Memorandum Opinion and Order*, Released August 8, 2005, particularly at paragraphs 42 and 152. For a further discussion of mobile data services, see AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, *Memorandum Opinion and Order*, released March 26, 2007, at paragraphs 175-176.

device."[67] Under this definition, various forms of broadcast radio services and satellite radio services delivered to an automobile would qualify as mobile data services.

Moreover, within the context of mergers, the FCC distinguishes between one-way and two-way mobile data services as "two-way mobile data services include the ability not only to receive non-voice information on an end-user device…."[68] Thus, mobile data services need not be two-way, and one-way mobile data services could easily encompass various broadcast and satellite radio services delivered to an automobile.

C. XM and Sirius have little programming that consumers cannot obtain elsewhere from other mobile communications service providers.

If a combined XM and Sirius were to raise prices, consumers could find identical or similar programming elsewhere and switch services. Audio programming is available from many sources besides SDARS including broadcast terrestrial radio and the internet. On the internet, users can choose various audio programming sites including internet-only radio stations as well as traditional broadcast radio stations that stream on the internet as well. Many terrestrial radio stations are encouraging users to visit their web sites.[69] Various web sites help users find both thousands of traditional radio stations from around the world on the internet as well as internet-only webcasts.[70] Entire internet services such as Slacker are dedicated to audio programming.[71] Slacker even will soon

[67] Ibid., at fn 110.
[68] Ibid.
[69] http://www.nytimes.com/2007/06/12/arts/music/12RADIO.html?_r=1&oref=slogin.
[70] See, e.g., www.radiolocator.com; http://www.radiotower.com; http://www.web-radio.fm.
[71] See www.slacker.com. See also "Internet Radio Races to Break Free of PC," Wall Street Journal, page A1, June 18, 2007.

offer a mobile satellite service providing music via Ku-band satellite updates to a mobile device.[72] Indeed, both XM[73] and Sirius[74] offer online audio services to their subscribers.

Although they have contractual satellite audio distribution rights for various programming, XM and Sirius have little if any sports programming for which there are not terrestrial audio distribution rights held by various terrestrial broadcasters. Those terrestrial broadcasts can be and are received anywhere in the world via the internet. In addition, there are countless sporting events—professional, college, high school, and amateur—covered by terrestrial or internet broadcasters that are not carried by XM or Sirius. For example, here in the Washington, DC metropolitan area, practically all terrestrial radio stations have simultaneous broadcasts available at web sites.[75] Local stations such as Sports-Talk 980 (Washington Wizards, Baltimore Orioles, Washington Capitals, and local college football), WTOP (Washington Nationals), and ESPN Radio 94.3 FM (Washington Redskins) are available on the internet.[76] Thus, a sports fan from the Washington metropolitan area (or any other metropolitan area) can listen to broadcasts of local and regional sporting events while traveling anywhere in the United States and throughout much of the world without satellite radio. Similarly, while in the Washington, DC area, a sports fan from New York, Boston, Los Angeles, or practically any city or town in America can listen to local sports broadcasts without satellite radio.

XM and Sirius also have contracts for exclusive distribution rights for non-sports programming. With the exception of programming featuring Howard Stern and other personalities, most programming on XM and Sirius has identical or comparable

[72] See http://www.slacker.com/company/products.html.
[73] http://xmro.xmradio.com/xstream/index.jsp.
[74] http://www.sirius.com/wi/i/sirm.
[75] See www.radiolocator.com.
[76] Ibid.

alternatives easily available on the internet. Of course, terrestrial radio broadcasters also have exclusive rights to the distribution of non-sports programming such as Rush Limbaugh and other personalities. Ultimately, there is little programming available on satellite radio that is not available in some form on terrestrial radio.

The 14.5 million subscribers to XM and Sirius services are economically rational. They subscribe at current subscription rates because the packaging of programming is compelling and because the mobility and availability of the service are convenient. But economically rational subscribers are not captive audiences: they have choices. Consumers who want the convenience of mobility and audio programming similar to that which is available on either XM or Sirius have a choice: they can subscribe to one of the SDARS services or they can find comparable audio services on the internet, on an AM/FM radio, or on other mobile devices. The availability of these alternative choices significantly limits any possible exercise of market power by a combined XM and Sirius.

D. A single internet device can offer many communications services including those offered by XM and Sirius.

The competitive constraint of a wide range of communications services on XM and Sirius can easily be seen by the communications services available on the internet with a single internet-access device. Before the 1990s, practically all communications, whether fixed or mobile, were originated and received on dedicated equipment. The transmission of the communications might have been by various modes, but the equipment on either end was specialized as a voice handset, a data processor, a television, a radio, etc.

With the advent of the internet, practically all forms of communications can originate and terminate with a single piece of equipment, an internet-attached computer.

Moreover, many forms of communications which previously were transmitted by a single dedicated transmission path now are transmitted through many modes over the internet.

Table 1 illustrates the ubiquity of the internet in the origination, transmission, and termination of communications services. For purposes of the table, communications services (either mobile or fixed) are divided into four categories: broadcast services; one-way communications; two-way communications; and pre-recorded music. Examples of each category of service are listed in the table. In practically every example of service, either specialized equipment or the internet can be used to originate and to terminate communications. In most instances, practically any mode, including satellite services, can be used to transmit communications.

Table 1
Ubiquity of Internet in Origination, Transmission, and Reception of Communications Services

	Signal origination		**Transmission mode**			**Reception device**	
Type of Communication	Dedicated device	Internet-attached computer	Satellite	Terrestrial	Internet	Dedicated device	Internet-attached computer
Broadcast services (one to many)							
Radio programming	x	x	x	x	x	x	x
Video programming	x	x	x	x	x	x	x
One-way data services							
Paging	x	x	x	x	x	x	x
Mapping services	x		x	x	x	x	x
Emergency services							
LoJack	x			x		x	x
Mobile telemetry	x	x	x	x	x	x	x
Two-way data services							
Voice services	x	x	x	x	x	x	x
Internet access services	x	x	x	x	x	x	x
Emergency services							
OnStar	x			x		x	
E911	x	x	x	x	x	x	x
Prerecorded music							
CD	x					x	x
iPod	x	x	x	x	x	x	x
MP3 Player	x	x	x	x	x	x	x

Table 1 helps illustrate that internet services can substitute for a wide range of communications services, including satellite radio services offered by XM and Sirius, in either a mobile or a fixed environment. A consumer would need many separate dedicated

devices, including a satellite radio receiver, to offer only part of the capabilities of a single internet device with internet services.

Internet and broadband services will not entirely displace all other mobile communications services any more than broadband services in the home have entirely displaced television, radio, CD players and traditional telephones. In practice, many consumers can and do use more than one communications service.[77] But internet and broadband services, for both mobile and fixed applications, do siphon usage away from other services and discipline the prices that other services can command in the market. For example, many studies find that Americans at home are shifting away from television and other one-way services towards two-way broadband services.[78] Just as importantly, the multiple modes of receiving communications services over the internet help to replicate the satellite radio service offering. For example, unique visitors to the web sites of terrestrial radio stations grew 71% in 2006.[79]

III. The market structure for both mobile communications services and fixed communications services is changing rapidly, and the federal government has actively promoted the development and deployment of advanced communications services.

Some comments filed in this merger review see the relevant market as just XM and Sirius competing in a separate satellite radio market.[80] Part of the justification put

[77] The results of the Bridge Ratings survey illustrate that many consumers use more than one service.
[78] See Arbitron/Edison Media Research, *The Internet & Streaming: What Consumers Want Next*, Internet VII, 12, at http://www.edisonresearch.com/home/archives/Internet_7_Final_Summary.pdf (last visited May 31, 2007).
[79] See "March 9, 2007, "Internet Radio Scorecard: January 2007," at http://www.bridgeratings.com/news.htm.
[80] See footnote 3 above.

forward in support of such a narrow market definition is the historical opinions of the FCC, particularly with respect to the number of licensees.[81]

However, from a consumer perspective, the relevant market contains choices from today onward—not choices available retrospectively. The choices of both mobile and fixed communications services available to consumers, and thus the construction of relevant markets, is not the same today as it was a few years ago, much less ten years ago. And those choices are growing rapidly, particularly for mobile communications services. The ability of either XM or Sirius to increase prices diminishes accordingly. The FCC is well aware of these changing market conditions and their effect on the review of license transfer applications.

This section reviews two points:

- The federal government has taken substantial steps to facilitate the deployment of advanced communications services; and
- the FCC has recognized shifting market conditions in reviewing license transfer applications in the context of merger reviews.

A. The federal government has taken substantial steps to facilitate the deployment of advanced communications services.

The federal government is not a passive observer of broadband services. High-ranking government officials have given speeches about the importance of broadband services. Even the President of United States has focused on the importance of broadband services:

[81] Crowell and Moring, "Analysis of Antitrust Concerns Regarding XM/Sirius Merger," submitted to the FCC, May 22, 2007, at 2.

> The other promising new broadband technology is wireless. The spectrum that allows for wireless technology is a limited resource . . . [a]nd a wise use of that spectrum is to help our economy grow, and help with the quality of life of our people.[82]

Many of these advanced wireless broadband services are mobile.[83] For several years, the federal government has promoted wireless broadband services generally and mobile wireless broadband services in particular. The FCC has allocated several bands of spectrum for services that permit mobile wireless broadband services including 700 MHz, AWS, 2.5 GHz, 3.65 GHz, and others. The FCC is currently or has recently conducted major auctions in some of these bands.

The FCC has had a successful docket dedicated to "Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services."[84] In this docket, the FCC has made great efforts to facilitate the deployment of wireless broadband services, including mobile services.

> Moreover, we facilitate the development of wireless broadband systems in this band [2495-2690 MHz] that could offer consumers another choice for broadband access -- competing in price and features with existing landline offerings, reaching areas not currently served by landline networks, and offering consumers portability or mobility. … Accordingly, through these actions, we make further progress towards our goal of providing all Americans with universal, affordable access to broadband technology.[85]

Moreover, the FCC has taken substantial steps to ensure the deployment of wireless broadband services. In the merger of Sprint and Nextel, the FCC insisted as a

---

[82] President Bush, June 24, 2004. http://www.ntia.doc.gov/ntiahome/speeches/2005/JKneuer_MS_110905_files/frame.htm.
[83] Ibid.
[84] WT Docket No. 03-66.
[85] Amendment of Parts 1, 21, 73, 74, and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational, and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, WT Docket No. 03-66, *et al.*, *Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order,* FCC 06-46 (rel. Apr. 27, 2006), at paragraph 2.

condition of license transfers that Sprint offer mobile wireless broadband services in the 2.5 GHz band in some geographic areas within four years of the merger.[86] In the merger of AT&T and BellSouth, the merging parties committed to offer services within the WCS band by 2010.[87]

Obviously, technology is constantly changing, and the FCC monitors changing technologies in its various reviews of different sectors of the communications industry.[88] The FCC also monitors the increasing subscription to broadband services by American households.[89]

B. The FCC has recognized shifting market conditions in reviewing license transfer applications in the context of merger reviews.

The FCC has long recognized shifting market conditions towards broader mobile service markets.[90] The FCC has also recognized the importance of considering changing market conditions when reviewing license transfer applications in the context of a

---

[86] Applications of Nextel Communications, Inc. and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations File Nos. 0002031766, *et al*, WT Docket 05-63, *Memorandum Opinion and Order*, Released August 8, 2005, particularly at paragraphs 152-165.

[87] AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, *Memorandum Opinion and Order*, released March 26, 2007, at Appendix F.

[88] See citations in footnote 57.

[89] See, e.g., *High-Speed Services for Internet Access: Status as of June 30, 2006*, January 2007, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.

[90] Consider the following insights from the FCC of more than 10 years ago:

59. "Another view would conclude that the product market is broader. The Commission's Third CMRS Report and Order contained an analysis of trends in CMRS and found that the direction is away from a 'balkanized view' that sees cellular, SMRs, paging, etc., competing in separate markets:

growth in the wireless marketplace is bringing with it an increasing degree of service convergence. Technology and consumer demand, facilitated by our general policy not to restrict the services that can be provided over any particular band, are prompting commercial service providers to follow marketing strategies that blur the differences between the various services comprising the wireless marketplace. The Commission found evidence suggesting growing substitution (a) between cellular service and wide-area SMRs, (b) between cellular and paging services, (c) between SMRs, paging, and Business Radio Service, and (d) between nominally private mobile radio systems on the one hand and common carrier systems such as cellular, paging, and SMRs on the other. The Commission also found that traditional distinctions, such as between voice and data services and between one-way and two-way services (and terminal equipment), are collapsing."

See, FCC, Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, First Report, Released August 18, 1995, paragraph 59, footnotes omitted.

merger. Although it sometimes relies on narrower market definitions, the FCC has considered, and not rejected, a market definition of mobile communications services for purposes of reviewing license transfers within the context of a merger. For example, consider mergers involving the paging industry.

The paging industry peaked in terms of subscribers in 1999 with between 45 and 52 million paging units.[91] In 2000, the Wireless Bureau approved the transfer of licenses involving a merger of the two largest paging companies in the United States: Arch Communications Group and Paging Network.[92] Paging Network had 9.3 million paging units, and Arch had 7.2 million paging units.[93]

Part of the basis for the approval of the license transfers was that market conditions were changing, and paging services were facing growing competition from other services: "[P]aging carriers face growing competition from short messaging services (SMS) and other digital service features offered by an increasing number of mobile voice carriers."[94]

By 2004, the paging industry had shrunk by approximately 75%. Arch Wireless and Metrocall, the two largest remaining paging companies but both in bankruptcy, merged. In their application to the FCC for transfer of licenses, the companies emphasized the changing technologies and market conditions.[95] The merging parties in 2004, as did Arch Communications and Paging Networks in 2000, stated that paging

[91] See http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516184456.
[92] Arch Communications Group, Inc., and Paging Network, Inc., for Consent to Transfer Control of Paging, Narrowband PCS, and Other Licenses, WT Docket No. 99-365, File No. 0000053846, DA 99-3028, *Memorandum Opinion and Order*, released April 25, 2000.
[93] Ibid.
[94] Ibid. at paragraph 15.
[95] http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516184456.

services were part of a much broader market for "mobile communications services."[96] The FCC's Wireless Bureau approved the merger without comment in a public notice.[97] The merged company survives today as USA Mobility, accounting for the vast majority of paging units in the country.[98]

IV. It would be unreasonable to examine the proposed merger of XM and Sirius in a static environment that does not account for changing technology and market structure over both the short and long term.

For some industries with static technologies and easily modified and implemented business plans, the relevant time frame for governmental merger analysis may be an instant snapshot in time because the future may reasonably be expected to be much like the present. Communications services are quite different with rapidly changing technology, and satellite radio is particularly different with business plans that require extraordinarily long lead times. One thing that is certain is that the future of communications services generally and satellite radio in particular will not look like the present. The rational time frame for government review of the proposed merger of XM and Sirius is unusually long for at least three reasons:

- Given the complexity of technology and the time required to develop and launch services, satellite service companies have an unusually long planning horizon;
- rapid changes in the technical capabilities of communications services mean that market definitions today may have little relevance in just a few months or years; and

[96] Ibid. at Exhibit One, Page 9.
[97] http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-254157A1.pdf.
[98] See http://www.usamobility.com/index.html.

- failure to provide satellite operators with flexibility in adjusting plans can lead to unforeseeable harmful consequences.

For all these reasons, government agencies reviewing the merger of XM and Sirius should review the merger over many years into the future, a time horizon much longer than for most merger reviews.

A. Given the complexity of technology and the time required to develop and launch services, satellite service companies have an unusually long planning horizon.

The planning horizons for different firms are not always the same. A lemonade stand can be conceived, operated, and profitably closed in a day. Even an internet service provider can enter a market in a matter of days and have a successful business plan measured in months.

Satellite services are different, and the planning horizon for a satellite-service firm is unusually long. To be successful, a satellite-service firm requires many elements including the following: a business plan; technology consistent with the business plan; FCC licenses consistent with the business plan and technology; contracts to build, to operate, and to maintain both the ground and satellite systems for the business plan; contracts to manufacture consumer electronic equipment for the business plan; contracts to distribute and to maintain the consumer electronic equipment; contracts to offer services over the satellite network; and financing for all of these activities. Each of these elements can take several years to plan and to implement.[99] Once implemented, satellite services, unlike many terrestrial services, cannot easily be altered.

[99] Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services, IB Docket No. 96-67, *First Report*, released March 26, 2007, at paragraph 83.

For the reasons listed above, when the FCC considers licenses for new satellite-services firms, it considers time frames that extend over a decade or more. The relevant planning horizon for a satellite-services firm is many years to launch a service and 15 - 30 years for the service to continue in operation. Sirius and XM won their FCC licenses at auction in 1997 and launched services several years later. In the late 1990s, many observers believed that the market could not support both firms, and there was much speculation about a merger.

If XM or Sirius were to begin from scratch today, neither would repeat exactly the same business plan developed in 1997. Both technology and market conditions have changed substantially in the past decade. Investments in the satellite industry are fixed and largely sunk.[100] XM and Sirius must reshape their business plans to react to those changes in technology and market conditions that occurred over the past decade. It will still take the firms, either separately or combined, several more years to implement a new business plan and a new technology plan. Part of the reason for the merger is to lead to a more efficient business plan, but fully implementing that plan will likely take years.[101]

B. Rapid changes in the technical capabilities of communications services mean that market definitions today may have little relevance in just a few months or years.

By the time a new business plan is implemented for satellite radio services over the next several years, the communications services market will be substantially changed

[100] Ibid., at paragraphs 86-87.

[101] "In the long run, the combined company will be able to consolidate redundant programming, making it possible to use excess channel capacity to enhance programming diversity, including additional programming related to public safety and homeland security, and programming aimed at minority and underserved communities. The merger also will help accelerate deployment of advanced technology, including improvements in products such as real-time traffic and rear-seat video and development of a next-generation satellite system." Consolidated Application for Authority to Transfer Control, In the Matter of XM Satellite Radio Holdings and Sirius Satellite Radio, at ii, (filed March 20, 2007).

and more technologically capable. For example, by then, there will be widespread availability of mobile broadband services and other services offering audio entertainment of the form available on satellite radio. Even if satellite radio would not take years to implement a new technology plan, its competitive position in the market for communications services, both fixed and mobile, would be substantially different and weaker in just a few years with the advent of more capable competitive services. Consequently, the relevant time period to examine this merger is not just 2007 but the many following years during which the newly merged firm would be implementing a new business plan and during which new competitors would be implementing their business plans.

C. Failure to provide satellite operators with flexibility in adjusting plans can lead to unforeseeable harmful consequences.

Business plans for satellite services are often difficult to adjust in the face of unforeseeable circumstances or simply changed market circumstances. Several satellite licensees never developed services as the result of unforeseeable circumstances.[102] Other satellite licensees have developed but only after substantial changes in business plans and service rules.[103] The FCC has often been accommodating of those changes.[104] Indeed, S-Band licensees have used their ancillary terrestrial component authority, a subsequent

[102] Consider, in particular, Teledesic, several S-Band licensees, or most of the Little LEO licensees.
[103] Consider ancillary terrestrial component services offered by mobile satellite service providers in the L- and S-Bands.
[104] See, e.g., 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations, IB Docket No. 00-248; and Amendment of Part 25 of the Commission's Rules and Regulations to Reduce Alien Carrier Interference Between Fixed-Satellites at Reduced Orbital Spacings and to Revise Application Procedures for Satellite Communication Services, CC Docket No. 86-49 Fifth Report and Order in In IB Docket No. 00-248, and Third Report and Order in CC Docket No. 86-496, released March 15, 2005. See also Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, IB Docket No. 01-185, Memorandum Opinion and Order and Second Order on Reconsideration. Released February 25, 2005.

FCC grant of authority to the licensees, to develop new services. ICO is developing a mobile interactive media services to distribute video and other communications services to mobile users in competition with satellite radio services.[105] TerreStar is building out a integrated satellite and terrestrial IP-based mobile communications network which can compete with satellite radio.[106] The network will provide nearly ubiquitous service throughout North America.

XM and Sirius have stipulated many changes in technology and service offerings as a result of the proposed merger.[107] Some of these proposed changes will take years to implement, and it would be unreasonable to evaluate the proposed merger in a shorter time period. Moreover, should the merger be approved, the merging parties should have sufficient time to implement the proposed business and technological changes.

[105] For ICO's description of its development of mobile interactive media services, see http://investor.ico.com/ReleaseDetail.cfm?ReleaseID=240320.
[106] http://www.terrestar.com/index.html.
[107] See http://www.xmradio.com/merger/promise.xmc, http://sec.gov/Archives/edgar/data/908937/000095012307005727/y30604te425.htm, http://sec.gov/Archives/edgar/data/908937/000095012307005526/y30604se425.htm, and http://sec.gov/Archives/edgar/data/908937/000095012307005525/y30604re425.htm.