



PUBLIC NOTICE

FEDERAL COMMUNICATIONS COMMISSION

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WIRELESS TELECOMMUNICATIONS BUREAU SEEKS COMMENT ON COMMERCIAL MOBILE RADIO SERVICES MARKET COMPETITION

WT Docket No. 09-66

Comments Due: June 15, 2009 (30 days)

Reply Comments Due: June 29, 2009 (15 days)

In 1993, Congress created the statutory classification of Commercial Mobile Services¹ to promote the consistent regulation of similar mobile radio services.² At the same time, Congress established the promotion of competition as a fundamental goal for Commercial Mobile Radio Service (“CMRS”) policy formation and regulation. To measure progress toward this goal, Congress required the Commission to submit annual reports (“*CMRS Reports*”) that analyze competitive conditions in the industry.³

This *Public Notice* solicits data and information in order to evaluate the state of competition among providers of CMRS for its Fourteenth Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services (“*Fourteenth Report*”). The statute requiring the Commission to submit annual reports providing an analysis of competitive market conditions with respect to CMRS stipulates that this analysis shall include, among other things, “an analysis of whether or not there is effective competition.”⁴ In this proceeding, the Wireless Telecommunications Bureau (“Bureau”) seeks to update and improve the indicators of competition for the Commission’s next report to Congress and to determine whether or not there is effective competition in the CMRS market. The Bureau seeks public input to facilitate this determination.

The Commission is constantly striving to improve and refine the way it collects, analyzes, and reports

¹ The term “commercial mobile service” is defined by the Communications Act of 1934, as amended (“the Act”), as “any mobile service . . . that is provided for profit and makes interconnected service available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public, as specified by the Commission.” Communications Act § 332(d)(1), 47 U.S.C. § 332(d)(1). “Mobile service” is defined at Section 3 of the Act. Communications Act § 3(27), 47 U.S.C. § 153(27). The term “commercial mobile service” came to be known as the “commercial mobile radio service.” 47 C.F.R. § 20.3.

² The Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b), amending the Communications Act of 1934 and codified at 47 U.S.C. § 332(c).

³ 47 U.S.C. § 332(c)(1)(C).

⁴ *Id.*

industry data. For example, the Commission introduced a new data source in 2008 that allowed for a significantly more granular and accurate analysis of CMRS competition and mobile broadband service deployment in the *Twelfth* and *Thirteenth Reports*.⁵

For the *Fourteenth Report*, the Bureau is seeking to increase its understanding of conditions in the CMRS marketplace, particularly with regard to new technological developments. This *Public Notice* therefore contains a new series of questions asking for data and analytic recommendations related to that effort. Because the *CMRS Reports* typically report on the state of competition during the previous calendar year, but also discuss major developments in the current year, we request that commenters submit for the *Fourteenth Report* data and statistics for the calendar-year 2008 time period, as well as information on any industry trends and developments that occurred during 2008 or early 2009. In particular, we seek information on events or developments that arose after early 2008 and were therefore not discussed in the *Thirteenth Report*.

In the five most recent *CMRS Reports*, the Commission has reviewed competitive market conditions using a framework that groups indicators into four categories: (1) market structure; (2) provider conduct; (3) consumer behavior; and (4) market performance.⁶ Accordingly, when submitting responses to this *Public Notice*, commenters should, to the extent possible, present materials addressing these four categories of indicators.

Definition of Effective Competition. The Bureau seeks comment generally on which indicators are useful for analyzing competitive market conditions with respect to CMRS. We request comment on what specific criteria should be used to determine whether there is “effective competition” among CMRS providers. Neither Section 332(c) of the Act nor its legislative history defines “effective competition.”⁷ In previous *CMRS Reports*, the Commission has relied on the analysis of a range of indicators described herein to determine whether there is effective competition in the CMRS marketplace. The statute requiring the Commission to report on the status of competition in the satellite market is similar to Section 332(c) in that it also does not define the term “effective competition.”⁸ In those reports, the Commission has similarly reviewed “a range of standard indicators commonly used for the assessment of

⁵ 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 Radio Services, *Twelfth Report*, 23 FCC Rcd 2241 (2008) (“*Twelfth Report*”); 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 Radio Services, WT Docket No. 08-27, *Thirteenth Report*, DA 09-54 (rel. Jan. 16, 2009) (“*Thirteenth Report*”).

⁶ 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, *Ninth Report*, 19 FCC Rcd 20597 (2004); 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, *Tenth Report*, 20 FCC Rcd 15908 (2005); 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, *Eleventh Report*, 21 FCC Rcd 10947 (2006) (“*Eleventh Report*”); *Twelfth Report*, 23 FCC Rcd 2241. The *CMRS Reports* can also be found on the FCC’s web site at <http://wireless.fcc.gov/cmrsreports.html>.

⁷ 47 U.S.C. § 332(c)(1)(C); see also H.R. Conf. Report No. 013-213, at 491, reprinted in 1993 U.S.C.C.A.N. 1088, 1180.

⁸ Amendment to Communications Satellite Act, Pub. L. No. 109-34, 119 Stat 377 (2005), codified at 47 USC §703.

effective competition.”⁹ Moreover, in its 1995 *Foreign Carrier Entry Order*, the Commission stated that “[e]ffective competition means competition among service providers in a market that benefits consumers by expanding service offerings, promoting development of innovative technology, and lowering prices.”¹⁰

In contrast, Section 623(l)(1) of the Act defines the term “effective competition” for the cable industry for purposes of determining whether their basic cable rates should be regulated. The metrics used to define “effective competition” in this context include within a franchise area: (1) the number of firms providing multichannel video programming; (2) these firms’ market shares; and (3) market penetration.¹¹

Based on the various definitions of “effective competition” discussed above, we seek comment on whether the Commission should continue to consider a range of indicators in determining whether effective competition is prevalent in that CMRS marketplace or define effective competition in a more specific manner, for example, in a manner similar to the effective competition definition found in Section 623(l)(1). Are there elements of the effective competition definition for the cable industry in Section 623(l)(1) that should be applied to the CMRS industry? Are there other indicators that we should consider to determine whether there is effective competition in the CMRS marketplace?

In addition to having different meanings in a regulatory context, the terms “competition” or “effective competition” can have different meanings in economics.¹² For example, in certain cases, a market can be deemed competitive when a few price-setting firms compete vigorously for sales, and the rivalry between firms affects market price. An alternative meaning of competition is a market with many firms that are

⁹ Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services, *First Report*, 22 FCC Rcd 5954, ¶ 7 (2007) (“*First Satellite Report*”); Second Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services, *Second Report*, 23 FCC Rcd 15170, ¶ 7 (2008). These factors have included HHIs, profit-to-sales ratios, the Lerner Index, and consumer-oriented metrics, including churn and ARPU. *First Satellite Report*, ¶¶ 160-66

¹⁰ Market Entry and Regulation of Foreign-Affiliated Entities, *Report and Order*, 11 FCC Rcd 3873, ¶ 1 (1995).

¹¹ 47 U.S.C. § 623(l)(1) states, “The term ‘effective competition’ means that – (A) fewer than 30 percent of the households in the franchise area subscribe to the cable service of a cable system; (B) the franchise area is – (i) served by at least two unaffiliated multichannel video programming distributors each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and (ii) the number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds 15 percent of the households in the franchise area; (C) a multichannel video programming distributor operated by the franchising authority for that franchise area offers video programming to at least 50 percent of the households in that franchise area; or (D) a local exchange carrier or its affiliate (or any multichannel video programming distributor using the facilities of such carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable service in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area.” The Commission has determined that this definition of “effective competition” is inapplicable to satellite communications services. See, e.g., *First Satellite Report* at n.4.

¹² Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization* 85-86 (4th International ed., Addison-Wesley 2005) (*Modern Industrial Organization*).

price takers and with free entry and exit. In the public policy context, a competitive market could also be one that requires no intervention to improve its performance. We seek comment on these various meanings of competition and their relevance to the CMRS marketplace. Do any of these criteria match the conditions in the CMRS market and, if so, how? To what extent can these various definitions, in conjunction with the metrics and factors currently analyzed, assist the Commission in, and provide a framework for, assessing the state of CMRS competition? Are there additional criteria that can be used to define competition in an economic sense and would be useful in our analysis of effective competition in the CMRS market?

Industry members, members of the public, and other interested parties are encouraged to submit information, comments, and analyses regarding competition in the provision of CMRS. Commenters desiring confidential treatment of their submissions should request that their submission, or a specific part thereof, be withheld from public inspection.¹³ In order to facilitate its analysis of competitive trends over time, the Bureau requests that parties submit current data as well as historic data that are comparable over time.

I. CMRS MARKET STRUCTURE

The Bureau's analysis of market structure will focus on the current level of concentration and the ease or difficulty with which new providers can enter the market. We invite commenters to address the sources of data and the analysis of metrics relating to the various aspects of market structure outlined below.

A. Service Availability and Deployment

1. Service Deployment, Granularity of Data, and Coverage Maps

As discussed above, in the *Twelfth* and *Thirteenth Reports*, the Commission improved its examination of competition in the CMRS sector by compiling a list of census blocks where operators offer digital, next generation, and mobile broadband technologies, using data supplied under a contract with American Roamer.¹⁴ This data source provides the Commission with a set of maps that set out the detailed boundaries of the network coverage areas of every operational terrestrial CMRS provider in the United States and its territories. Using these maps, the Commission is able to accurately determine (1) the percentage of the U.S. population covered by a certain number of providers, and (2) the percentage of the population covered by different types of network technologies. Are there additional sources of data the Bureau should use to examine service availability and deployment? Are there additional analyses of competition that the Commission should perform using the American Roamer data?

2. Mobile Broadband Deployment

For the *Fourteenth Report*, the Commission will be able to supplement its existing data on mobile broadband network coverage, available through American Roamer, with data supplied under the revised Form 477 Local Competition and Broadband Reporting requirements. Under the rule changes adopted in March 2008, providers of mobile broadband services are required to submit – beginning March 16, 2009 – a list of Census Tracts in each state where they offer mobile high-speed Internet access service at speeds

¹³ 47 C.F.R. § 0.459.

¹⁴ American Roamer is an independent consulting firm that produces coverage maps based on public sources as well as confidential information supplied directly by service providers. See *Twelfth Report*, 23 FCC Rcd at 2261, ¶ 35, n. 61.

exceeding 200 kbps in at least one direction.¹⁵

In addition to integrating this new data source into our analysis of mobile broadband, we seek comment on other ways in which we can further develop and refine the Commission's understanding of mobile broadband availability and deployment.¹⁶ In particular, we seek information from service providers on the current deployment of specific mobile broadband network technologies, such as Wideband Code Division Multiple Access ("WCDMA"), High-Speed Packet Access ("HSPA"), Evolution Data – Optimized ("EV-DO") or EV-DO Rev A, and WiMax IEEE 802.16e-2005 ("WiMax"). At what stage of deployment are these various technologies, and what changes have occurred over the past year?

3. Service Deployment in Rural Areas and Tribal Lands

To obtain a better understanding of the state of CMRS competition in rural areas and tribal lands, the Bureau requests comment on the extent of mobile voice and broadband network deployment in these areas. Are there noteworthy trends in the state of competition in rural areas and tribal lands?

Furthermore, regarding rural areas and tribal lands, do providers offer coverage only in certain parts of these areas, such as near major roads, where they do not market service to residents of those areas? If this is true, could the Bureau's analysis be further improved if CMRS providers indicated the parts of their coverage areas in which they compete to offer service and the parts that are used only to provide coverage to traveling subscribers based in other locations?

B. Other Competitors to Terrestrial CMRS Providers

1. Mobile Satellite Service Providers

The Bureau seeks information about the current provision of CMRS by mobile satellite service ("MSS") companies, including the frequency bands they are employing.¹⁷ The Bureau requests data on prices (of both service and handsets) and coverage. In order to obtain a greater understanding of the MSS market, we also request data on: (1) the number of subscribers; (2) minutes of use; and (3) differences in phone usage between rural and urban areas. In addition, we ask for comment on the extent to which CMRS provided by MSS functions as a substitute for terrestrial CMRS services.¹⁸ The Bureau also requests

¹⁵ Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriber Data, *Report and Order and Further Notice of Proposed Rulemaking*, 23 FCC Rcd 9691 (2008) ("*Broadband Data Order*"). Mobile wireless broadband providers are also required to report the total number of mobile broadband subscribers in the state.

¹⁶ In April 2009, the Commission released a Notice of Inquiry seeking input on a variety of issues to consider in developing a national broadband plan. The issues raised in the NOI included ways to improve broadband data gathering efforts and how spectrum access policies affect broadband access and deployment. *See A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Notice of Inquiry*, FCC 09-31, at ¶¶ 32-33, 43-44 (rel. April 8, 2009).

¹⁷ In addition to terrestrial mobile services, CMRS includes MSS that provide CMRS directly to end users. *See* 47 C.F.R. § 20.9(a)(10). To the extent that MSS and other satellite providers offer CMRS and are part of the CMRS marketplace, discussion of these providers and their services will be included in the Commission's analysis in this Report of competitive market conditions with respect to CMRS. All other competitive issues related to satellite communications will be examined in the Commission's Third Satellite Competition Report. *See* IB Invites Comment for Third Annual Report to Congress on Status of Competition in the Satellite Services Market, IB Docket No. 09-16, *Public Notice*, DA 09-1045 (IB, rel. May 14, 2009).

¹⁸ "While terrestrial and satellite CMRS operators provide wireless mobile voice and data connectivity, the *Satellite Flexibility Order* noted in 2003 that, since terrestrial CMRS and MSS are expected to have different prices,

information on the current status and deployment of Ancillary Terrestrial Component systems by MSS companies.

2. Resale/MVNO Providers

To what extent are resellers/Mobile Virtual Network Operators (“MVNOs”) creating competitive pressures in the CMRS marketplace? Who are the major resellers/MVNOs in the United States? How many subscribers do they have? From the consumer’s perspective, what are the benefits of buying from a reseller/MVNO versus a facilities-based provider? Are resellers/MVNOs selling to specific demographic segments? How has the MVNO sector evolved during 2008 and 2009?

C. Horizontal Concentration

1. NRUF Data and Output Market Concentration

The main source of data the Bureau uses to calculate output market concentration statistics for the purpose of this report is the Numbering Resource Utilization / Forecast (“NRUF”) data that are submitted to the Commission on a rate center basis.¹⁹ The Commission has found that NRUF data are a reasonable proxy for mobile telephone subscribers²⁰ and, in previous *CMRS Reports*, utilized the NRUF data to calculate market concentration measures for Economic Areas (“EAs”).²¹ We seek comment on whether any market or technological developments indicate that NRUF data may not reasonably reflect the number of mobile telephone subscribers. The Bureau also seeks comment on whether EAs, given any market or technological developments, continue to be an appropriate geographic area for the calculation of mobile telephone market concentration measures based on NRUF data.

2. Mobile Data Subscriber Shares

One limitation of NRUF data is that they do not reveal whether mobile telephone subscribers use their handsets for mobile data services as well as to make and receive calls. A new resource available in 2009, the Form 477 filings by broadband providers, will provide information on the number of mobile broadband subscribers. Under the revised Form 477 Local Competition and Broadband Reporting rules

coverage, product acceptance and distribution, the two services appear, at best, to be imperfect substitutes for one another that would be operating in predominately different market segments.” *Twelfth Report*, 23 FCC Rcd at 2254, ¶ 16; 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; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962, 1964 (2003), *modified sua sponte, Order on Reconsideration*, 18 FCC Rcd 13590 (2003), *on reconsideration, Memorandum Opinion and Order and Second Order on Reconsideration*, 20 FCC Rcd 4616 (2005), *further recon pending*.

¹⁹ Rate center boundaries are much smaller than, and not coextensive with, mobile telecommunications license boundaries such as Cellular Market Areas (“CMAs”), Metropolitan Trading Areas (“MTAs”), or Basic Trading Areas (“BTAs”). Due to their relatively small size, rate centers are not necessarily indicative of where a mobile telecommunications subscriber lives, works, or uses a mobile telecommunications device. In addition, in order to protect the confidentiality of the companies submitting NRUF data, the Commission does not report the number of subscribers for geographic areas in which there are three or fewer providers.

²⁰ The Commission estimates the number of mobile telephone subscribers by counting the number of telephone numbers that have been assigned to end users by mobile telephone providers using NRUF submissions. See *Thirteenth Report*, ¶ 196 & n. 551. While all mobile telephone subscribers have been assigned a phone number, they can use their devices for both mobile voice and mobile data services.

²¹ EAs are defined by the U. S. Department of Commerce’s Bureau of Economic Analysis. See *Twelfth Report*, 23 FCC Rcd at 2331, n. 564.

adopted in 2008, mobile broadband providers are required to report – beginning March 16, 2009 – their number of broadband subscribers by speed tier and on a state-by-state basis.²² Mobile broadband “subscribers” are defined for Form 477 purposes as customers whose device and subscription permit them to access the lawful Internet content of their choice at data rates exceeding 200 kbps in at least one direction. This rule change requires mobile broadband providers to distinguish their number of broadband subscribers from their number of end users with a broadband-capable device.²³ We note that the Form 477 mobile broadband subscriber data will not capture those mobile data users who do not have a subscription to a mobile broadband service.²⁴ We seek comment on the extent to which the new Form 477 data should be used to estimate mobile data subscriber shares or concentration levels. Are there additional data sources available that provide information on mobile data subscriber shares? In addition, we request information from commenters on the extent to which mobile voice customers also use mobile data services. Do individual providers’ mobile data market shares differ significantly from their mobile voice market shares, and if so, to what extent?

D. Consolidation and Exit

The Bureau seeks comment on the effects of consolidation in the CMRS marketplace. Has consolidation affected mobile data services differently than mobile voice services? Has consolidation affected pricing, roll-out of new services, or equipment offerings? Has consolidation affected rural areas differently than urban areas? Are the effects of consolidation or exit different for mergers and acquisitions, swaps, joint ventures, and bankruptcies?

E. Barriers to Entry

Barriers to entry in the CMRS market may include first-mover advantages, large sunk costs, and access to spectrum.²⁵ The Bureau seeks comment on these and other types of barriers to entry in the CMRS market. What are the most significant barriers to entry in the CMRS market? Are barriers to entry different in rural and urban areas?

The Bureau seeks comment on whether there is access to sufficient spectrum, either through Commission auctions or through secondary market transactions, to prevent spectrum from becoming a significant barrier to entry in the CMRS industry. Are existing service providers spectrum constrained? If so, in which geographic markets are providers most likely to be constrained? Do potential entrants have sufficient opportunities to access spectrum, and has this changed in the past year?

How has the licensing of spectrum in the AWS-1 and 700 MHz bands affected the ability of potential

²² *Broadband Data Order*, 23 FCC Rcd at 9700, ¶ 20.

²³ *Broadband Data Order*, 23 FCC Rcd at 9703, ¶ 23. In addition, mobile wireless broadband providers are required to report the percentage of the total subscribers in each state that are residential (not billed to a corporate, business, government, or institutional account). *Broadband Data Order*, 23 FCC Rcd at 9703 ¶ 24. However, they are not required to submit their number of subscribers broken down on a Census Tract basis, as other broadband providers are required to do. *Broadband Data Order*, 23 FCC Rcd at 9698, ¶ 16.

²⁴ Mobile data services include data services and applications that are offered over mobile broadband networks (which transfer data at speeds of at least 200 kbps in at least one direction), as well as those that are provided over network technologies with slower data rates.

²⁵ See Horizontal Merger Guidelines issued by the U.S. Department of Justice and the Federal Trade Commission at § 3.0 (Apr. 2, 1992, revised Apr. 8, 1997) (discussion of barriers to entry); *Modern Industrial Organization*, at 79-82. See also 2000 Biennial Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, *Report and Order*, 16 FCC Rcd 22668, 22688-91 (2001).

entrants to access spectrum and the level to which existing providers are spectrum constrained? How has the licensing of these two bands affected competition in the CMRS market?

How have advanced network technologies affected spectrum access? As these technologies become more prevalent, will potential entrants have more or fewer opportunities to access spectrum? Have CMRS providers become more spectrum-constrained after rolling out new networks and services? Do providers anticipate needing additional spectrum to deploy faster and more advanced mobile broadband networks?

Finally, the Bureau seeks comment on whether the Commission's policy to facilitate spectrum leasing has or will provide sufficient opportunities both for existing providers to expand their operations and for new CMRS providers to enter the market.

II. PROVIDER CONDUCT IN THE CMRS MARKET

A. Price Rivalry

1. CMRS Pricing Plan Innovations

The *Thirteenth Report* discusses pricing plan innovations for the CMRS market, such as unlimited flat-rate national calling plans and the prorating of early termination fees.²⁶ Did these types of plans and pricing options become more widespread in 2008 and 2009? What innovations or developments have occurred with pricing plans during that time period? Have these pricing innovations spread throughout the CMRS market or have they been limited to a subset of providers? To what extent do new types of pricing plans reflect price rivalry among CMRS providers?

What pricing methods are providers using specifically to retain customers and reduce churn? What benefits or promotions are providers offering to repeat customers and those with long-term contracts? What developments have occurred with regard to customer retention pricing methods during 2008 and 2009?

We also seek information on the pricing of international long distance calling services by CMRS providers. Do most consumers making international calls on mobile telephones pay their CMRS provider directly for such services, or do they use third parties, such as calling card providers? Are certain CMRS providers differentiating themselves by offering favorable international calling rates for mobile phones?

What role does handset pricing play in the level of competition in the CMRS marketplace? Do providers engage in rivalry via handset pricing? Has this changed in the last year?

2. Pricing of Mobile Data Services

The Bureau also seeks comment and information on trends related to the pricing of mobile data services offered by CMRS providers. Are there data on the pricing of these services available on a national or sub-national level? Have the ways in which providers price mobile data services, such as location-based services, web access, e-mail, games, digital photos, video services, and downloading music, changed in 2008 and 2009? How are providers pricing mobile Internet access subscriptions for non-voice devices such as laptops and modem cards, and how has this changed in the past year? Are there any reports or analyses that discuss pricing trends for mobile data services?

3. CMRS Pricing in Rural Areas

The Bureau asks for comment and information on whether there are meaningful differences in CMRS

²⁶ *Thirteenth Report*, DA 09-54 at ¶¶ 112-113.

pricing plans between urban and rural areas. Did differences exist in the past that no longer exist today? To the extent that such differences exist, what are the reasons for such differences?

B. Capital Expenditures

Did capital expenditures by CMRS providers increase or decrease during 2008? For what purposes are providers using capital expenditures? Are there any studies or analyst reports on the capital expenditures of nationwide providers versus regional/local providers? Does data exist on capital expenditures by geographic region?

C. Advertising and Marketing

The Bureau requests information on the extent to which firm advertising and marketing budgets and practices reflect competition in the CMRS marketplace. How much did individual providers, and the industry as a whole, spent on advertising and marketing in 2008? Have providers increased the amount of money spent on customer acquisition? Have advertising and marketing practices changed significantly during 2008 and 2009?

D. Network Technology Deployment and Upgrades

For the *Fourteenth Report*, the Bureau requests information on the extent to which CMRS providers have upgraded, or plan to upgrade, their networks with technologies such as WCDMA, HSPA (including both High Speed Downlink Packet Access (“HSDPA”) and High Speed Uplink Packet Access (“HSUPA”)), EV-DO, EV-DO Rev A, EV-DO Rev B, WiMAX, Long Term Evolution (“LTE”), and Ultra Mobile Broadband (“UMB”). Are there other technologies that service providers plan to deploy? In particular, we seek information from AWS-1, 700 MHz, and Broadband Radio Service/Educational Broadband Service (“BRS/EBS”) spectrum licensees on whether they plan to use their spectrum to offer mobile broadband services and, if so, when and at what speeds. Regarding the AWS-1 spectrum in particular, we seek information from AWS-1 licensees on the extent to which they have launched service in the past year using this spectrum. Is network and end-user equipment available for this band? Are the services offered using AWS-1 spectrum similar to or different from the services offered using other frequencies, such as Cellular and Broadband PCS?

At the writing of the *Thirteenth Report*, EV-DO/EV-DO Rev. A networks covered 92 percent of the U.S. population, while WCDMA/HSDPA networks covered 54 percent.²⁷ Has there been further deployment of these two technologies? Have any providers launched additional mobile broadband technologies over the past year? How extensively have providers deployed advanced technologies in rural areas?

We seek information on the relative advantages and disadvantages of the various mobile network technologies, and the impact their differences have on competitive conditions in the CMRS market. To what extent do advanced network technologies improve providers’ coverage, capacity, and/or service offerings? In addition, to what extent have providers integrated their CMRS network technologies with high-speed wireless local area network technologies such as Wi-Fi, with the aim of offering seamless mobile voice or data services?

E. Handset Features and Availability

We seek comment on the role that handsets play in the extent of competition in the CMRS marketplace.²⁸

²⁷ *Thirteenth Report*, DA 09-54 at 9.

²⁸ Issues related to handset exclusivity and the extent to which providers limit the types of handsets or other devices that can be attached to their networks are being examined by the Commission in a separate proceeding. In May

How are providers using innovations in handset features and design as a way to compete? What types of handset features and innovations that are most popular with consumers, and how has this changed in the past year? Have the number of features available on most handsets generally increased over time? Is a consumer's choice of service provider influenced by the devices or handsets available for use on that provider's network, and how has this changed over time? Does the variety of available handsets differ significantly depending on where a subscriber lives (*e.g.*, rural areas)?

Finally, to what extent are equipment vendors and/or retailers selling products that at least in part rely on a wireless broadband connection but do not require a long-term contract? For instance, Amazon.com's Kindle device allows users to download reading materials wirelessly using Sprint's EV-DO network, but customers do not have a contract with Sprint or pay a monthly fee for access.²⁹ Have similar services become available over the past year?

F. Applications and Services

The Bureau is interested in collecting information on the services and applications that providers are offering using their mobile broadband network technologies. What types of applications are most popular with consumers? Are carriers using mobile applications to differentiate themselves? How has the mobile application marketplace evolved during 2008 and 2009?

In addition, the Bureau invites commenters to submit information on the extent to which customers can access the Internet content and applications of their choice over their provider's network. To what extent do CMRS providers' Internet and data platforms offer customers a limited selection of content, applications, and services? Conversely, to what extent do their platforms offer consumers a level of choice in content and applications that is similar to or greater than the level of choice available on other broadband technologies and platforms? Which type of platform and level of choice do consumers prefer, and which of these provides them with the greatest benefits? What other factors besides the level of choice – such as price, ease of use, security, and reliability – play a role in a consumer's preference for a particular application platform?

We request information from CMRS providers on the processes they have implemented for allowing third-party applications onto their platforms, and the specific ways in which they have restricted or expanded the types of applications that customers can access on their networks. Are providers differentiating themselves from their rivals using the applications, services, and Internet content that they offer or the level of choice that they allow? What changes in provider practices have occurred in this regard during 2008 and 2009?

How do handset design and functionality in general affect the types of applications that a subscriber can access, download, or use? Do devices with greater functionality and more advanced features (such as web browsing software and a large, touch screen) allow users to access a wider range of applications and

2008, the Rural Cellular Association filed a petition for rulemaking asking the Commission to “initiate a rulemaking to investigate the widespread use and anticompetitive effects of exclusivity arrangements between commercial wireless carriers and handset manufacturers, and, as necessary, adopt rules that prohibit such arrangements when contrary to the public interest.” The Bureau sought comment on this petition in October 2008. *See* Rural Cellular Association Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers, filed May, 20, 2008; Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers, *Public Notice*, DA 08-2278 (rel. Oct. 10, 2008).

²⁹ Amazon.com, *Kindle 2: Amazon's New Wireless Reading Device*, <http://www.amazon.com/dp/B00154JDAI> (last visited Feb. 19, 2009).

a more open platform versus devices with more basic capabilities? To what extent does the ability to use a wide array of applications and services influence a consumer's device purchase?

III. CONSUMER BEHAVIOR IN THE CMRS MARKET

A. Access to Information

The Bureau seeks comment on the development of consumer information sources for the CMRS market. Are there new avenues for consumers to gain information through retailers or third parties, such as online or in-store comparisons of pricing plans, services, and handsets?

B. Switching and Churn

The Bureau asks providers to submit descriptions of how they calculate churn. Do the differences in how churn is calculated prohibit a meaningful comparison of churn figures across the CMRS industry? How reliable are prior churn estimates? Are there other sources of churn data available that should be included in the *Fourteenth Report*? Further, the Bureau seeks sub-national or regional churn data, and churn data by demographic groups. Have the previous reasons for consumer churn, namely service cost and network quality, remained the same? If not, what are the reasons for consumer churn? Was there a change in the churn rate during 2008? If so, what is the magnitude of this change? How has ongoing evolution in handset design and functionality affected consumer churn decisions?

IV. CMRS MARKET PERFORMANCE

The Bureau intends to analyze various CMRS market performance metrics in the *Fourteenth Report*, including pricing levels and trends, subscriber growth and penetration, Minutes of Use ("MOUs"), innovation and diffusion of services, and quality of service. Are there any other metrics that would add to its analysis of the CMRS marketplace? Are these metrics available on a national or sub-national level?

A. Pricing Levels and Trends

1. Pricing Trends

The Bureau seeks comment on the use of available pricing estimates – such as the Cellular Consumer Price Index ("CPI") and Revenue Per Minute ("RPM") – as a tool in its analysis of the performance of the CMRS market, including to what extent any observed pricing changes are evidence of effective competition. The Bureau seeks information and comment on the pricing of mobile voice, data, and broadband services. Has the pricing of these services changed during 2008 and 2009? Are there additional analyses that can be performed or conclusions that can be drawn from new or existing pricing data? We also seek information on trends in handset prices.

2. Pricing Trends in Rural Areas

Are commenters aware of pricing studies that look at urban versus rural or other sub-national CMRS pricing? Given the scarcity of studies that provide direct information on pricing, the Bureau is interested in finding alternative ways of determining whether pricing in rural areas conforms to national pricing plans. Are there other ways of studying this issue? Are there existing studies or data sets that would give us the ability to explore this issue?

B. Average Revenue Per Unit

Average monthly revenue per subscriber is another key metric presented in past *CMRS Reports*. The Bureau seeks comment on the use of Average Revenue Per Minute ("ARPU") as a metric in its analysis of the CMRS industry. Are additional ARPU data available that should be considered, in particular data depicting whether and how ARPU varies by region and/or demographic group? The Bureau requests information on ARPU allocated to voice versus data services. Are there additional analyses that can be

performed or conclusions that can be drawn from new or existing data? The Bureau requests from commenters additional input on the possible causes for any recent trends in ARPU, as well as additional data that may support various hypotheses.

C. Profitability Measures

The Bureau proposes using accounting data from the Securities and Exchange Commission filings of publicly-traded CMRS providers to examine profitability measures in the CMRS industry. We seek comment on the use of profitability estimates as a tool in our analysis of the performance of the CMRS industry, including to what extent profit levels are evidence of effective competition. We seek to determine whether wireless telecommunications providers are earning “abnormal profits,” defined as revenue minus all costs, including all opportunity costs.³⁰

There are a variety of methods the Bureau can use to analyze profitability, including, but not limited to:

- A comparison of the return on equity with the cost of equity or the weighted average cost of capital
- The “Lerner Index,” defined as the percentage difference between price and the marginal cost of production of a product or service at the profit-maximizing level of production³¹
- Net profit ratio, defined as the percentage of net profit to revenue
- Operating profit ratio, defined as the percentage of operating profit to revenue
- Return on assets, defined as net income divided by total assets
- Return on equity, defined as net income divided by net worth or owner’s equity
- Earnings per share, defined as net income excluding dividends on preferred stock divided by the number of common shares outstanding
- Simple free cash flow margin, defined as Earnings Before Interest, Taxes, Depreciation and Amortization (“EBITDA”) less capital expenditures divided by total revenues.

The Bureau seeks comment which of these methods is the most appropriate for analyzing the profitability of wireless telecommunications firms and providing insight into whether there is effective competition. Is it preferable to analyze the profitability of wireless telecommunications firms using total revenue or to separate revenue from service, equipment sales, and roaming, and to separate voice and data revenues? What would be the most appropriate way to measure changes in profitability over time for the industry as a whole, as well as for individual firms?

³⁰ “Abnormal profits” are also referred to as “economic profits” or “excess profits.” See Andrew Gillespie, *Foundations of Economics* 144-145 (Oxford University Press, 2007); *Modern Industrial Organization*, at 247-248.

³¹ *Modern Industrial Organization*, at 93.

D. Quantity of Services Purchased

1. Subscriber Growth

Since the *Seventh Report*,³² the Commission has estimated the number of subscribers in the United States by using NRUF data. NRUF data, however, do not include demographic information. Therefore, the Bureau requests information on subscribers that would assist in a greater understanding of the CMRS inventory, such as penetration rates by age groups and/or household penetration rates.

The Bureau asks for comment on how to determine which geographic area or areas should be used to calculate mobile telephone subscribership and penetration rates.³³ The Bureau requests comment on the appropriateness of using EAs for such calculations. Given the limitations of NRUF data, insofar as they are reported on the basis of the location of rate centers, would other geographic areas be appropriate to use in place of or in addition to EAs, such as states, MTAs, BTAs, CMAs, or counties? In addition, are there other ways to interpret existing national and sub-national subscribership data for purposes of the *Fourteenth Report*?

As mentioned above, mobile broadband providers are required to report their number of subscribers, on a state-by-state basis, whose device and subscription permit them to access the lawful Internet content of their choice.³⁴ This new data therefore will depict the number of mobile broadband subscribers, rather than the number of end users with a mobile broadband-capable device, and will produce a more accurate assessment of the extent to which consumers use mobile technologies for broadband services. Are there additional sources that will provide data on either a national or sub-national basis on the number of mobile telephone subscribers that use mobile data services? In addition, we request data on the number of subscribers broken down by mobile network technologies, such as EV-DO and HSPA.

2. Minutes of Use

The Bureau seeks comment on the use of MOUs as an indicator of the demand for CMRS services. For purposes of the *Fourteenth Report*, the Bureau asks for comment on the sources of the MOU data presented in the *Thirteenth Report* and requests additional MOU data. In addition, should the Bureau perform other analyses or draw additional conclusions from new or existing data? The Bureau requests data on MOUs on a sub-national basis and/or broken down by various demographic groups.

In order to analyze mobile data usage, previous competition reports have included the percentage of total MOUs that are voice versus data, and the number of text and multimedia messages sent. The Bureau also requests information on the total number of megabytes downloaded or uploaded by mobile data users, and how this trend has changed over time.

E. Quality of Service

The Bureau seeks comment on the use of consumer surveys to measure service quality in the CMRS

³² 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, *Seventh Report*, 17 FCC Rcd 12985 (2002) (“*Seventh Report*”).

³³ The use of any particular geographic area to calculate mobile telephone subscribership and penetration rates for purposes of this report does not imply that the same geographic area will be used in any other Commission proceedings to define the relevant geographic markets. Such other proceedings could include an application for a license transfer and may present facts pointing to a narrower or broader geographic market definition than any used, suggested, or implied in the *CMRS Reports*.

³⁴ *Broadband Data Order*, 23 FCC Rcd at 9703, ¶ 23.

market. Do commenters recommend any particular consumer surveys on service quality in the CMRS market, and why? What factors do these recommended surveys take into account to evaluate customer satisfaction with service quality? In particular, do the surveys focus primarily or exclusively on network performance and reliability (incidence of dropped calls, interference, and so forth), or do they also take into account other influences on the customer experience such as cost of service, customer service, and billing? In cases where surveys measure overall customer satisfaction with the performance of wireless service providers rather than network performance per se, what specific dimensions of service quality are survey respondents asked about, and how are responses to different questions weighted to derive the overall score? What methodologies do the recommended surveys use to select survey respondents, and do these methodologies result in any sample bias?

We invite comment on whether there are additional sources of information on service quality that we should consider, such as those that include quantifiable measures of network quality. Is there evidence from service providers or third parties that service and network quality have improved or deteriorated over the past year? If so, which elements of service quality have changed, and in what ways? Finally, if commenters live or work in a predominantly rural area, do they believe that the service and network quality they experience are adversely affected by their location?

F. Applications and Devices

The Bureau invites commenters to submit consumer surveys, or other types of evidence, about consumer preferences with regard to mobile applications and devices. Are consumers satisfied with the types of mobile devices and applications available to them? What are the most important factors consumers take into account when choosing a handset? To what extent do consumers know and understand the applications and features available on their devices? Have service providers and equipment manufacturers changed the way consumers can access applications and use features over the past year?

G. International Comparisons

The Bureau invites commenters to submit any studies or analyses that compare the CMRS marketplace in the United States with that in other countries. Previous reports have relied on data published by Merrill Lynch comparing mobile penetration rates, usage levels, and prices in the U.S. with those in other countries. Are there additional sources the Bureau should consider that provide data on CMRS prices, usage, subscribership, and service quality around the world? How do the regulatory frameworks and provider practices in other countries affect market conditions? In particular, are there ways to measure the benefits or harm to consumers as a result of provider practices with regard to mobile applications and devices?

V. INTERMODAL COMPETITION

A. Competition in Voice Services

The Bureau asks for comment and sources of information on the extent to which mobile voice service competes with wireline voice service. We ask for information about the number and demographics of households that have “cut the cord” and use mobile phones as their sole phone. Has intermodal local number portability affected consumer behavior or had any impact on intermodal voice competition? Do mobile-only households have higher voice usage levels than those with wireline phones? Are there any new developments in intermodal voice competition that have occurred in 2008 and 2009? What are the major reasons for these developments?

B. Competition in Broadband Services

Wireless technologies appear to play an increasingly significant role in the market for broadband services. To what extent do mobile broadband services complement broadband services offered over wireline

technologies such as DSL, cable, or fiber to the home? To what extent do they compete with these wireline technologies? What factors – such as price, coverage, uplink and downlink speeds, equipment, and bundling – influence the extent to which mobile broadband services compete with wireline broadband services? What effect will the rollout of mobile broadband network technologies in AWS-1, 700 MHz, and BRS/EBS spectrum bands have on the provision of mobile broadband services and broadband competition?

VI. WIRELESS LOCAL AREA NETWORK TECHNOLOGIES

Wireless Local Area Network technologies can serve as both a competitor and a complement to the services offered by the CMRS industry. The most prevalent WLAN technology is equipment manufactured in accordance with the IEEE 802.11 family of standards, commonly known as “Wi-Fi.”³⁵ Wi-Fi enables consumers to connect to the Internet wirelessly at home, work, or at public “hot spots,” such as restaurants, coffee shops, hotels, airports, convention centers, and city parks, typically using a laptop computer with an internal or external Wi-Fi modem.³⁶

Some CMRS providers use Wi-Fi hot spots to supplement or complement their mobile voice and data offerings provided through the licensed use of spectrum.³⁷ We ask for information on which CMRS providers use WLANs in these ways, and we seek a description of those service offerings. We also request information about the pricing and usage of such plans. Have new services or applications that integrate both CMRS and Wi-Fi networks been launched in the past year? To what extent is Wi-Fi being used to provide locations-based services?

In addition, we ask for information on the extent to which WLANs are being used for voice as well as data services, and on whether such voice services are being provided using Voice over Internet Protocols (“VoIP”) technology or other technologies. Are there estimates available on the amount of voice traffic on WLANs, as compared with data traffic? What voice equipment and services are available for use over public hot spots? To what extent are WLAN-based data and VoIP services considered to be complements to, or substitutes for, the mobile voice and data services offered over CMRS networks?

Finally, we seek information on the total number of public hot spots, as well as the number of free hot spots and fee-based hot spots. We also request information on the pricing of fee-based hot spots. Has the proportion of free versus fee-based hot spots changed over the past year? Is there a difference in connectivity speeds, reliability, and security at free versus fee-based hot spots? To what extent do hot spots compete with mobile broadband offerings and wireline broadband services? Do the differences between free and fee-based hot spots influence competition between Wi-Fi providers and CMRS providers?

VII. OTHER INDICATORS AND TOPICS

In addition to alternative sources of data and information to update indicators of competition used in the *Thirteenth Report* and previous *CMRS Reports*, the Bureau invites commenters to recommend additional or alternative indicators of competition to enhance the analysis of competitive market conditions with respect to CMRS in the *Fourteenth Report*. In each case, the commenter should also submit, or identify

³⁵ WLAN technologies operate on an unlicensed basis under Part 15 of the Commission’s rules. See 47 C.F.R. §15 et seq.

³⁶ Wi-Fi networks often must rely on another type of broadband connection, such as wireline, cable, wireless, or broadband over power lines, for access to the Internet.

³⁷ See *Thirteenth Report*, DA 09-54 at ¶¶ 235-239.

sources for, the data and information needed to compile the proposed indicator. As necessary and appropriate, the commenter should also explain how the recommended indicator fits into the market structure-provider conduct-consumer behavior-market performance framework.

Finally, the Bureau invites commenters to propose additional topics of interest that are related to the assessment of the status of competition in the CMRS marketplace. For example, have any noteworthy new trends or developments relevant to the assessment of competitive conditions in the CMRS marketplace emerged during 2008 and 2009?

VIII. PROCEDURAL MATTERS

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments on or before **June 15, 2009** and reply comments on or before **June 29, 2009**. All filings should refer to WT Docket No. **09-XX**. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), or (2) by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- **Electronic Filers:** Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/>. Filers should follow the instructions provided on the website for submitting comments. If multiple dockets or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, Postal Service mailing address, and the applicable docket number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for email comments, filers should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in response.
- **Paper Filers:** Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554.

One copy of each pleading must be delivered electronically, by e-mail or facsimile, or if delivered as paper copy, by hand or messenger delivery, by commercial overnight courier, or by first-class or

overnight U.S. Postal Service mail (according to the procedures set forth above for paper filings), to: (1) the Commission's duplicating contractor, Best Copy and Printing, Inc., at FCC@BCPIWEB.COM or (202) 488-5563 (facsimile); (2) Chelsea Fallon, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, at chelsea.fallon@fcc.gov, (202) 418-7447 (facsimile); (3) Pramesh Jobanputra, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, at pramesh.jobanputra@fcc.gov, or (202) 418-7447 (facsimile).

Copies of the public notice and any subsequently-filed documents in this matter may be obtained from Best Copy and Printing, Inc. in person at 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, via telephone at (202) 488-5300, via facsimile at (202) 488-5563, or via e-mail at FCC@BCPIWEB.COM. The public notice and any associated documents are also available for public inspection and copying during normal reference room hours at the following Commission office: FCC Reference Information Center, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. The public notice is also available electronically through the Commission's ECFS, which may be accessed on the Commission's Internet website at <http://www.fcc.gov>. Alternate formats of this public notice (computer diskette, large print, audio recording, and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426 (voice), (202) 418-7365 (TTY), or by sending an e-mail to access@fcc.gov.

For further information, contact Chelsea Fallon, Spectrum & Competition Policy Division, Wireless Telecommunications Bureau, (202) 418-7991, or Pramesh Jobanputra, Spectrum & Competition Policy Division, Wireless Telecommunications Bureau, (202) 418-1323.