

TOYOTA

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TOYOTA MOTOR NORTH AMERICA, INC.

WASHINGTON OFFICE
1850 M STREET, NW, SUITE 600, WASHINGTON, DC 20036

TEL: (202) 775-1700

FAX: (202) 822-0928

DOUGLAS M. WEST
SENIOR VICE PRESIDENT

ORIGINAL

June 21, 2002

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

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JUN 21 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: *In the Matter of the Year 2000 Biennial Regulator Review – Amendment of Part 22 of the Commission’s Rules to Modify or Eliminate Outdated Rules Affecting Cellular Radio Telephone Service and Other Commercial Mobile Radio Services*

WT Docket No. 01-108

Ex Parte Statement

Dear Ms. Dortch:

On behalf of Toyota Motor Corporation and its U.S. affiliates¹ (hereinafter “Toyota”), Toyota Motor North America, Inc. is pleased to submit the following comments in the above captioned matter.

1. Toyota Supports Embedded Telematics

As the manufacturer and distributor of Toyota and Lexus vehicles, preeminent brands in the American automotive market, Toyota has a publicly recognized commitment to the safety and security of its customers and their families. As such, since October 2000, Toyota has chosen to include the option of an embedded telematics unit as part of its product offering on the Lexus LS 430. To date nearly 34,000 Lexus LS 430 sedans equipped with our telematics service have been sold. In the very near future, Toyota may introduce the service on more models, resulting in a larger volume of vehicles with our current generation telematics technology.

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¹ Toyota Motor Corporation affiliates in the U.S. with direct interest in the above captioned matter include Toyota Motor North America, Inc.; Toyota Motor Sales, U.S.A., Inc. (and its Lexus division); Toyota Technical Center, U.S.A., Inc.; and Toyota InfoTechnology Center, U.S.A., Inc.

The service, known as “Lexus Link”, is a consumer-based wireless voice and data service created by combining an on-board dedicated analog-only cellular phone with GPS technology, software, and other hardware devices, all of which are integrated into the electrical architecture of the vehicle. The embedded cellular phone can only communicate directly with remote call centers located in Troy, Michigan and Charlotte, North Carolina.² The service offering includes emergency services notification, automatic crash notification (ACN), automatic notification of loss of battery, theft notification, stolen vehicle tracking, remote door lock/unlock, and accident assist, as well as a variety of other location and data-based convenience services.

Toyota fully appreciates and supports the need for telematics providers to migrate to digital cellular technology. In fact, developing and phasing-in an embedded digital telematics solution is one of the company’s engineering objectives. Nevertheless, in addressing the future of analog cellular service, Toyota urges the Commission to recognize that important transition issues exist.

2. Technological Considerations Support Caution by the Commission

Telematics Requires a Robust Cellular Service

ACN and other location-based emergency services, as well as other embedded telematics services, require the ability to reliably and readily transmit data and voice on the same wireless call. Currently, analog is the only format that offers this capability. While Toyota, other automakers, and various technology companies are involved in intensive technological development efforts, this critical capability has not yet been reliably engineered for digital service. Realistically, it will take several years to bring such devices to market and to test them for reliability and functionality within a vehicle’s electrical environment.

Telematics Requires National Network Coverage

An effective telematics service is not possible without a nationwide cellular network. Today, the federally mandated AMPS standard is the foundation upon which the nationwide analog cellular network was created. Data submitted to the Commission show that no digital technology approaches the 93% geographic coverage currently provided by analog.³

While it is reasonable to assume, as some cellular carriers have argued in filings on this matter, that market forces may encourage some carriers to continue to offer analog service, even without a mandate,⁴ Toyota is concerned that the shift away from analog by even a few carriers will lead to significant connectivity gaps in its telematics service.

The current nationwide analog network is a made up of a patchwork of cellular carriers that allow roaming on their networks. Should the Commission eliminate the analog service

² Toyota has contracted with OnStar Corporation to provide the underlying telematics service support for Lexus Link. OnStar operates the Lexus Link call centers in Michigan and North Carolina. For information on OnStar, access <http://www.onstar.com>.

³ See Sprint Comments at 3.

⁴ See, e.g., AT&T Wireless Comments at 4; Cingular Wireless Reply Comments at 5-6.

requirement, and some carriers subsequently replace their analog network with digital service, as AT&T and Cingular (carriers with two of the larger analog networks) have intimated they might do,⁵ a nationwide analog network would no longer exist. Even if Toyota's cellular partner continued to provide analog coverage in the absence of a federal mandate, we fear it would not be able to provide us with nationwide connectivity.

The proposed elimination of the analog service requirement, along with the current pattern of growth in digital networks, can also lead to other significant connectivity issues that may negatively impact the future of telematics services. Given that cellular carriers would be forced to decide between two prevalent non-interoperable digital technologies – CDMA or GSM – a carrier could lose coverage when choosing a digital technology different from its roaming partners. Consider the following scenario: Carrier A currently roams at 800 MHz in some parts of a state and its roaming partner decides to migrate its 800 MHz analog network to GSM (digital). If Carrier A uses CDMA digital technology, it will no longer be able to roam in those areas serviced by its roaming partner, effectively reducing coverage for its customers.

In such an environment, companies like Toyota would be forced to make a decision to support one of the digital technologies, as a telematics device capable of CDMA/GSM/analog connection is unavailable in the market. Until there is one digital technology that provides ubiquitous or near ubiquitous nationwide coverage, or interoperability between the digital technologies, no telematics provider that operated exclusively using digital technology would be able to avoid significant gaps in its geographic coverage. Such a dilemma would pose significant challenges to the integrity of its service.

Telematics Requires Extensive Validation and Phase-in

Assuming that engineering efforts are eventually successful in creating a digital telematics solution, Toyota urges the Commission to consider the extensive validation and phase-in that is required for automotive features. The product cycle of a Toyota or Lexus vehicle is typically five years or longer, depending on its sales volume and market conditions. Changes

⁵ See Ex Parte Statement of AT&T Wireless (Jan. 30, 2002) at 2 (arguing that “[g]iven the lack of demand for analog services, [the costs of maintaining the analog network] are well out of proportion to the revenues AWS is able to generation from the provision of such services”); AT&T Wireless, Form S-1 Registration Statement under the Securities Act of 1933 (Summary) at 4 (“We believe that the move to digital services improves capital efficiency, lowers network operating costs and allows us to offer higher quality services. Over 90% of our consolidated subscribers use digital services and account for over 94% of our traffic. We believe that these percentages are substantially greater than the average for others in our industry.”); AT&T Wireless Services, Inc., Prospectus at 69 (SEC Form 424B3, June 21, 2002) (“Moving customers to digital service has been a key component of our overall wireless strategy.”); Cingular Wireless Reply Comments at 6 (“The telematics community desires to unnecessarily hamstring cellular carriers by requiring them to devote limited spectrum to an outmoded technology”); Bell South Investor News, www.bellsouth.com/investor/pdf/3q01p_news.pdf (October 18, 2001) at 5 (“During the third quarter, Cingular focused its strategic marketing efforts on improving the profitability and overall quality of the customer base by migrating analog customers to higher-ARPU digital services and emphasizing post-paid plans. Digital traffic now represents 95% of total network usage, and 84% of subscribers now have digital service, up from 81% in 2Q 01.”); The Yankee Group Research Notes (Week of February 5, 2001), “AT&T and Cingular Go After the Rural Carriers” at 1-2 (noting that the January 28, 2002 announcement of a joint venture between AT&T Wireless and Cingular Wireless to expand their buildout of GSM/GPRS coverage along 3,000 miles of interstate highways in Midwestern and Western states “could mean the end of analog for GSM carriers”).

to electronic devices that involve redesigns of a vehicle's electronic architecture and wire harness are difficult to make within the vehicle product cycle. Therefore, Toyota must schedule changes to the electronics hardware with the timing of the product cycle in mind. For example, even if a digital solution became available today (something that will not occur) because the Lexus LS 430 is currently in the middle of its product cycle, Toyota would not be able to utilize that digital solution until the beginning of the next product cycle.

Additionally, when a digital solution does become available, Toyota anticipates the need to validate the new device and software (including the "wireless protocol") to ensure the quality and security of the transmission in the new digital environment.

3. Consideration of the Potential for Stranded Investment Supports Caution

Toyota believes that owners of vehicles with embedded analog telematics systems should be allowed a reasonable period to benefit from the telematics services offered by the systems in which they have invested. The consumer's ability to take advantage of the Lexus Link services during the entire life of the vehicle would be compromised if the Commission chose to eliminate the requirement for analog cellular service without a reasonable transition period.

There are significant financial costs and technological challenges associated with updating existing analog-only embedded telematics units. Not only is it difficult to design a unit that can be integrated into the existing electrical architecture of a vehicle, it is also difficult to physically reinstall telematics devices and their related components because they are installed in the vehicle to remain secure during crashes and are hard to access. With nearly 34,000 active Lexus Link customers today, and significantly more customers likely to sign up for the service in the years to come, the inconvenience to our customers and potential cost implications would be enormous.

4. Concern about Compromising Safety and Security Features

Telematics systems are designed to give customers safety, security and peace of mind in their driving experience. For all of the reasons stated above, an elimination of the analog requirement without an appropriate transition period would reduce the quality of telematics services.

In addition, an important connection between current telematics customers and emergency response professionals would be eliminated in any area where the existing analog service was allowed to lapse. Calls from telematics systems, unlike traditional wireless telephone calls, offer location information for emergency response. This location information is designed to be available regardless of the state of readiness of the local Public Safety Answering Point for Phase 2 implementation.

Finally, even the public, beyond existing telematics customers, currently benefit from telematics systems, as telematics subscribers can use the system to place "good Samaritan" calls when witnessing situations involving others that require emergency assistance. Such public safety benefits would be eroded if an appropriate transition was not put in place.

5. Recommended Transition Plan

Toyota believes that the five-year sunset period advanced in some filings on this matter is too short. Considering (1) the technological uncertainty surrounding the development of a digital solution capable of transmitting data and voice on the same call; (2) the lack of national coverage in any single digital format; (3) the extensive time required to validate any new telematics system; (4) the vehicle ownership cycle; and (5) the public safety benefits associated with the installed analog vehicle base, Toyota believes that a longer timeframe is appropriate.

Toyota urges the Commission to consider maintaining the analog service requirement for 8-10 years beyond a decision in this proceeding. In addition, whatever timeframe is adopted, Toyota maintains that the new regulation must require cellular carriers to maintain the integrity of the remaining analog network and not let it lose effectiveness during the transition to digital service.

Thank you for considering Toyota's comments.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Douglas M. West", with a long horizontal line extending to the right from the end of the signature.

Douglas M. West
Senior Vice President
Government & Industry Affairs