Before the

Federal Communications Commission

Washington, DC 20554

In the Matter of	
Amendment of the Commission's Rules Regarding Dedicated Short-Range Communications Services in the 5.850-5.925 GHz Band (5.9 GHz Band)	WT Docket No. 01-90
Amendment of Parts 2 and 90 of the Commission's Rules to Allocate the 5.850-5.925 GHz Band to the Mobile Service for Dedicated Short-Range Communications of Intelligent Transportation Services	ET Docket No. 98-95 RM-9096

REPLY COMMENTS OF TRANSCORE

TransCore, LP ("TransCore")[1] respectfully submits these reply comments in the above-referenced proceedings.[2] TransCore is very pleased by the overwhelming level of support for the Commission's proposals as evidenced by the opening round of comments.

FCC authorization of Dedicated Short-Range Communications ("DSRC") services at 5 GHz is of the utmost importance to TransCore, its customers and their patrons, namely, the managers and users of America's ground transportation infrastructure. In this regard, TransCore has been an active member of the ASTM standards group throughout its development of the

---

[1] TransCore is an industry pioneer in the field of Intelligent Transportation Systems ("ITS"). The company's broad ITS expertise was summarized in its opening comments. *See* Comments of Transcore, filed March 17, 2003, at 1-3.

Please note that TransCore was misidentified as TransCore Corporation in its opening comments. TransCore, LP, is the appropriate entity that is commenting in these proceedings.

[2] FCC 02-302, rel. Nov. 15, 2002 ("NPRM").

DSRC standard. Timely FCC adoption of the proposed standard will enable the successful and swift deployment of nationwide DSRC services for ITS applications.

DISCUSSION

I. SUPPORT FOR THE ASTM-DSRC STANDARD IS OVERWHELMING

Commenting parties overwhelmingly support the ASTM-DSRC Standard. In addition to TransCore, many parties explain that FCC adoption of the ASTM-DSRC standard will enable nationwide interoperability of Dedicated Short Range Communications (DSRC) equipment and spur the growth of a myriad of useful DSRC applications in the public safety and private commercial arenas.[3] A common theme among the comments is that FCC adoption of the ASTM-DSRC standard will speed market acceptance, create additional incentives for manufacturers to design and develop mass-market – and niche market – equipment, and provide a platform upon which future innovative products can be supported.[4] Commenters also back the concept that spectrum harmonization and interoperability with America's closest neighbors, Canada and Mexico, is key.[5]

The broad level of support for the proposed ASTM-DSRC standard strongly suggests that the Commission should adopt it.

---

[3] *See generally* Comments of Highway Electronics; Comments of ITS America; Comments of International Municipal Signal Association; Comments of New York City Metropolitan Transit Authority.

TransCore advises the Commission that there is near-final revision of the ASTM-DSRC standard that will very soon be submitted to the standards group for voting. The FCC's rulemaking deliberations should consider this revised standard.

[4] *See* Comments of Maine Turnpike Authority at 2; Comments of New York State Thruway Authority at 6-7. *See also* Comments of ITS America.

[5] *See* Comments of Delaware Department of Transportation at 2-3; Comments of North Texas Tollway Authority at 2.

II. RESPONSE TO SPECIFIC ISSUES RAISED IN THE OPENING ROUND OF COMMENTS

A. Licensing Options

RSU Licensing. Numerous parties support ITS America and TransCore's position that RSUs be licensed on a shared, site-specific basis within defined "communications zones," which may include a transportation corridor managed by a single entity (*i.e.*, a "ribbon" license).[6] This licensing approach is being successfully implemented in the 915 MHz band.

The success of DSRC operations at 5.9 GHz depends on site licenses as they enable the successful sharing of spectrum among many users and for many uses. The ASTM-DSRC standard is based on a wireless LAN architecture where spectrum sharing is a key component. The standard provides the necessary guaranteed spectrum access for public safety services, which is accomplished by prioritizing the media access mechanism in conjunction with site licensing and the control-channel architecture.

TransCore strongly opposes exclusive, dedicated, geographic licensing. This approach runs counter to the development of the ASTM standard, which was developed with site-licenses in mind to provide intensive spectrum sharing and frequency-reuse.

OBU Licensing. TransCore reiterates its strong belief that RF operation of OBUs under the 5.9 GHz DSRC service be licensed by rule under Part 95 of the Commission's Rules, and further that unlicensed operations (under Part 15) should not be permitted within the band to limit interference from other spectrum users.[7]

---

[6] *See, e.g.*, Comments of ARINC, Inc. at 12.

[7] TransCore's position is supported by, to name a few, the Comments of the Alliance of Automobile Manufacturers at 14, the Comments of ARINC, Inc. at 12, the Comments of E-ZPass Interagency Group at 9-12, the Comments of the International Municipal Signal Association at 3-4, and the Johns Hopkins University – Applied Physics Laboratory at 12-13.

DSRC is allocated spectrum as a co-primary mobile service that should be licensed, including certain uses that may be licensed by rule, and accorded interference protection from unlicensed operations.

B. Channelization Plan

TransCore reiterates its support for the ASTM-DSRC channelization plan as a foundational component of the standard. As numerous parties explained, the ASTM-DSRC channelization plan implements a control-channel architecture that provides priority access to critical public-safety communications.[8]

Indeed, the promise of the ASTM-DSRC standard is realizable only with the channelization plan outlined in the standard. In particular, the control channel architecture and individual channel power limits were designed into the standard to accommodate different methods of use (*e.g.*, range, access time, priority, frequency reuse, sharing).[9] The band plan was also coordinated with America's two neighbors, Canada and Mexico.[10]

One commenter suggested that it is premature to outline the band plan with the proposed specificity because the ASTM standards group has not yet finalized work on additional layers beyond Layers 1 and 2.[11] TransCore strongly opposes this suggestion for several reasons.

First, it is highly unlikely that the current ASTM-DSRC Layer 1 and Layer 2 standard, which provides standardization of the physical ("PHY") and medium access control ("MAC")

---

[8] *See* Comments of the International Municipal Signal Association at 3.

[9] The success of DSRC operations at 5.9 GHz depends on the successful sharing of spectrum among many users. The ASTM-DSRC standard is based on a wireless LAN standard (IEEE 802.11), an architecture that provides for such sharing. The ASTM-DSRC version, however, was modified to include a control-channel architecture that eliminates the need for channel scanning and enables accommodation of rapidly moving vehicles that may only be in the communication zone for a short period of time. The ASTM standard differs also from the IEEE standard in that it provides guaranteed spectrum access for public safety services – accomplished by prioritizing the media access mechanism in conjunction with the control-channel architecture.

[10] *See* Comments of North Texas Tollway Authority at 2.

[11] *See* Comments of Alliance of Automobile Manufacturers at 11.

TransCore opposes also the proposal of the Public Safety Wireless Network to restrict access to the band to public safety entities or, alternatively, to partition the band to separate private uses from public uses. *See* Comments of Public Safety Wireless Network at 11. The concerns raised by the PSWN were considered by the drafters of the ASTM-DSRC standard and are effectively addressed by the control-channel architecture, as described above.

aspects of DSRC operations, will be impacted by development of additional layers. The additional layers will be built upon the solid foundational elements of Layers 1 and 2.

Second, the FCC's rules will not be impacted by further standards development at Layer 3 or Layer 4. In fact, FCC regulation typically is drawn to Layer 1 and Layer 2 objectives. As both Siemens Transportation Systems and 3M explained, the ASTM channelization plan is workable for both interoperable and non-interoperable systems, for a wide variety of data rates, modulation bandwidths, and technologies.[12]

Third, as Intersil recognized, standardization on the PHY and MAC layers will allow equipment makers to develop new products that can coexist and, as needed, interoperate with those already in the field.[13]

C. Priority Access for Public Safety

TransCore supports the position of the Alliance of Automobile Manufacturers and ARINC that Channel 172 be assigned to emergency communications between vehicles or from RSUs after contact is established on the control channel.[14] This will allow Channel 172 to be used by public-safety applications that need immediate access to a low-traffic channel.

To ensure priority access for public safety applications, only OBUs type-certified to comply with the ASTM standard and the FCC rules should be allowed to operate on the control channel. The ASTM standard anticipates that RSUs be licensed on the control channel and on

---

[12] *See* Comments of Siemens Transportation Systems at 7-8; Comments of 3M at 3.

TransCore recognizes that there are applications, such as rail crossings, that benefit public safety with compatibility between rail and road forms of transportation.

[13] *See* Comments of Intersil Corp. at 6-9.

[14] *See* Comments of the Alliance of Automobile Manufacturers at 12-13; Comments of ARINC at 9-10. *See also* Comments of ITS America at 21 (discussing its July 2002 *ex parte* submission).

This suggested modification is in the most current draft of the ASTM-DSRC standard.

selected service channels. In general, RSUs will initiate the communications, which provides part of the guarantee of access for public safety services. Standards-compliant OBUs are to be allowed to initiate communications under a set of specific rules, and OBU-initiated sessions will be generally limited to OBU-to-OBU communications.

D. Definition of Public Safety

In addition to reiterating its suggested modifications to the definitions of "DSRC" and "interoperability" that TransCore proposed in its opening comments,[15] TransCore also supports expanding the definition of the term "public safety."

In particular, TransCore supports the suggested additions to the term "public safety" made by: (1) the Delaware Department of Transportation to include toll and transportation entities; (2) the Port Authority of New York and New Jersey to include public authorities that operate public roadways, bridges, and tunnels; and (3) the 3M Company that Section 337(f)(1) of the Act (which defines public safety services) is flexible enough to include utilities, pipelines, railroads, metropolitan transit systems, private ambulances, and volunteer fire departments.[16]

---

15 *See* Comments of TransCore at 6-7.

16 *See* Comments of Delaware Department of Transportation at 2; Comments of Port Authority of New York and New Jersey at 2; Comments of 3M at 2.

CONCLUSION

TransCore respectfully requests that the FCC authorize DSRC operations by adopting the open communications platform offered by the ASTM-DSRC standard. TransCore commends the FCC for its timely issuance of this NPRM, and encourages the Commission to act swiftly in authorizing DSRC operations at 5.9 GHz.

Respectfully submitted,
TRANSCORE, LP

By: *submitted electronically*

Richard N. Schnacke
Vice President - Industry Relations
3109 Fallow Circle
Flower Mound, TX 75028
972.874.9266
dick.schnacke@transcore.com

April 15, 2003