



New Ways of Licensing Spectrum: Shared Use with Public Safety

The Federal Communications Commission is currently considering an innovative licensing approach for 75 MHz of spectrum for new transportation applications called Dedicated Short Range Communications for Intelligent Transportation Systems. At the request of ITS America, and with the support of the US Department of Transportation, the Commission in 1999 allocated 75 MHz at 5.850-5.925 GHz for short range, low power wireless DSRC communications between roadside transmitters and moving vehicles and two or more vehicles traveling, for example, at highway speeds. Public safety applications will include, for example, ambulances transmitting warning messages to cars on the road ahead to pull over. Private users will pay for parking or gas, or download diagnostic information about their vehicles for repairs. It is envisioned that every vehicle sold in the United States will be equipped with a common device used for both public safety and private applications.

Rather than divide the band into separate public safety and private allocations, the proposal before the Commission contemplates shared access to all frequencies in the band by all users, both public safety and private. Using a common transmission standard coupled with new wireless technologies that now permit the “time division” of spectrum make it possible for the priority access and reliability needs of public safety to be met while granting access to private users when public safety is not using the spectrum. This structure maximizes spectrum efficiency for both public safety and private users.

To guard against interference to public safety users, it is proposed that all fixed transmission sites will still be licensed under the “command and control” allocation model. Tags in vehicles will not be individually licensed. Rather, such devices will be able to receive and transmit both public safety and private messages and, therefore, will operate under the “commons” allocation model.

This shared band structure results in significant benefits to both public safety and private users not possible if the band is divided or set aside for only one user group. Public safety users will be able to “piggy back” off the investments made by the private sector, thus creating a larger market with higher volumes and lower costs for all. Moreover, using a common transmission standard for all messages will create true interoperability in the band, which is especially important for public safety users. Interoperability will also permit differing vendor devices to be “swapped out” without costly upgrades or other proprietary fixes, thus further driving down costs and creating incentives for more and more users – public safety and private – to enter the band.

Shared access to a single band is not a new concept for spectrum management. What is innovative about ITS America’s proposal is that public safety and private users will share access to the same band. New wireless technologies and a common transmission standard for all users will make this possible. Keep the “command and control” licensing model for public safety, but also permit private use of the same frequencies to maximize the benefits for all users in the band.