

Abstract— One of the challenges of Fifth Generation (5G) networks is how to support massive number of wireless devices in the Internet of Things (IoT). IoT will interconnect billions of devices under machine-to-machine communication links (M2M). However, this massive connectivity will create burden on the cellular network. Fixed sensors and wearable devices are expected to make the majority of future IoT traffic. And scheduling their huge traffic is the scope of this work. Sensors mobility has been considered with three speed, namely zero speed sensors (fixed), and medium and high speed of 30 and 100kmph, to simulate sensors in vehicles, and model the impact of vehicle mobility on the M2M links. This work defines the dimensionality in terms of the number of M2M devices that can be successfully connected, the required bandwidth, sensors mobility, and the transmission mode used. The mutual use of multi antennas, dense deployment of small cells, and the adoption of millimetre wave band, particularly in the 28GHz have been considered as the key enabling technologies to address the massive traffic generated by IoT. An algorithm has been set to schedule this type of traffic and to show whether the M2M devices completed their traffic upload or failed to reach the margin.