This article presents the results of archaeological investigations on a large mosque situated in the centre of Palmyra. Originally excavated during the 1960s, this structure never received much attention and was never published. The general organization of the mosque, the way in which it reuses a pre-existing Roman building (the so-called Caesareum), its situation south of the tetrapylon and the data at hand on the early Islamic and Medieval periods in Palmyra all point to an Umayyad date for the structure. A smaller mosque was added at a much later date, around the 12th to 14th centuries AD, against its southeastern corner. The article concludes with some considerations on the context of the mosque, in particular in relation with the Umayyad suq already known in Palmyra, and more generally on caliphal involvement in the large scale programs of urban development or urban creation.

**Keywords:** Palmyra, mosque, Early Islam, Umayyad period, urban pattern