



## **Perspectives of creation of general system of GPS-navigation for surface transport in Ukraine**

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On the territory of Ukraine and in its air space there are many domestic and international transport arteries. Their navigation provision is based mainly on ground radio technical systems developed till 90-th of last century. During last years the requirements to navigational provision of all kinds of transport have been increased with the purpose of improvement their effectiveness and safety. The solution of problem of the necessary improvement of navigation technologies is possible by the way of using of global navigation satellite systems (GNSS), completed with ground network of satellite observatories which will implement continuous reception of GNSS signals and formation and broadcast of differential corrections. On the territory of Ukraine the network of 12 permanent satellite radio navigational GPS stations is functioning which according to its density does not satisfy the requirements of modern navigation and operative implementation of geodetic works. In this paper the scientifically substantiated approach for development of project of network crowding is proposed. For provision of all navigational and geodetic requirements the density of permanent station network has to satisfy maximum distance between neighboring station in boundaries of 50 kilometers. We have determined that for full provision of possible users in Ukraine it is necessary to install 558 DGPS stations. For solution of problem of optimization of gradual crowding we investigated 5 criteria of gradual choice for new station location. In consequence the most effective criterion has been chosen, using which the locations of new DGPS stations and rational sequence of putting them into operation are determined. Calculation of economical effectiveness of using this network for aviation and users in field of geodesy and land management confirms its recoument during 1,5 year.