GRAPHIC CODING OF HIGHWAY DATA BASED ON MODERN METHODS

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ANNOTATION. *This article focuses on the creation of highway databases in ArcGIS, GIS (Geoinformation system) family software, working with thematic layers, creating and replicating attribute databases, database entry, and automated road modeling.*

KEYWORDS: *scale, ArcGIS, cartography, cadastre, geodesy, electronic, digital card, state cadastre, State Cadastre of Highways, ArcCatalog, ArcMap, app.*

Introduction. Currently, there are a number of problems and shortcomings in the road management system of the republic that impede the creation of a competitive environment and investment in the sector. The legislation focuses on automation and modulation of roads, together with the State Committee for Land Resources, Geodesy, Cartography and State Cadastre of the Republic of Uzbekistan, Ministry of Transport, Council of Ministers of the Republic of Karakalpakstan, provincial and Tashkent city. system creation[1].

The main part. Development of modern road network, taking into account geographical location of the country, is the main task of increasing competitiveness of our economy, development of transport potential of the republic and expansion of export opportunities. Creation and modeling of automated databases are designed to improve road infrastructure, build modern highways, and improve road comfort and safety [3].

Work on automation and modulation of highways consists of the following main components:

- Determining the location of highway facilities using the mobile application of geoinformation systems;

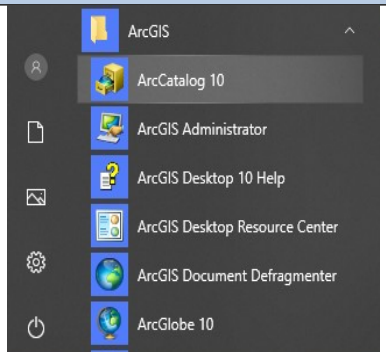
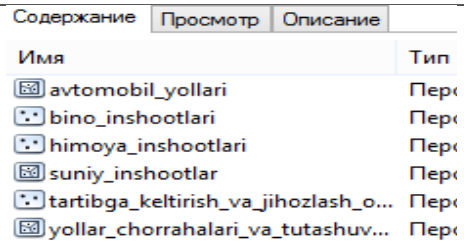
- Creation of electronic cartographic basis of highways based on remote sensing of the earth;

- Registration and registration of automobile roads using the single electronic database of national roads formation of a web geo information system of the State Cadastre of Highways;

- Integration of the web geo information system of the State Cadastre of Highways into the Uniform System of State Geographical Data Banks (Cadastre) [2].

Database formation during automation and modulation of highway geoinformation system is carried out in the order set forth in Table 1 below [5].

Table 1

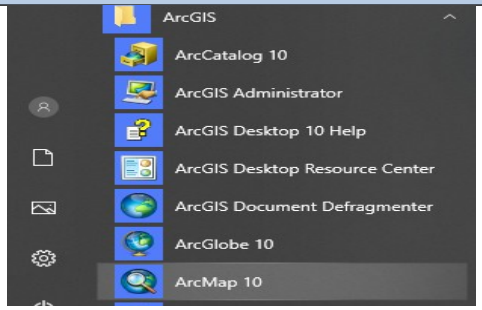
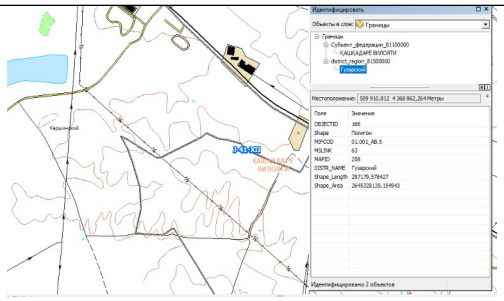
№	Photo caption	Sequence
1		Press the Start button to select ArcCatalog row from ArcGIS
2		ArcCatalog tree selects the required memory disk and creates a database, a "low class" and thematic layers

Due to changes in the quality and technical characteristics of the highways, regular upgrading of the electronic card is required. The process of updating and identifying changes to an electronic digital card is based on the results of fieldwork and integrated into the database[8].

Formation and updating of electronic digital cards is as follows this is done in the manner described in Table 2.

Table 2.

№	Photo caption	Sequence

1		“Press the "Start" button to select ArcMap in the ArcGIS field
2		Existing files from ArcMap will be opened and field data will be added to or modified from the database

In accordance with the above procedures, a database of manufacturing organizations should be formed. The process is mechanically updated each season, using ArcMAP software ArcMAP (Figure 1). In addition, the visual information is incomplete because the objects of the state cadastre of highways do not consist only of the road itself [4]. Highways consist of the following thematic layers:

- - Overview of highways;
- - Highways;
- - Artificial structures;
- - Arrangements and equipment;
- - Crossroads and intersections;
- - Protection structures;
- - Buildings and structures [7].

Results. High efficiency can be achieved through automation and modulation of this process. A GPS device for field research ArcGIS requires coding (Figure 2) or electronic taximeters (Figure 3). The GPS data includes the following information[9]:

- Road Name,
- Identification number,
- Kilometers,

- Office affiliation,
- Date of commissioning,
- Classification by significance,
- Classy,
- Location,
- Category,
- Intensity of movement,
- Positive speed,
- Number of bands,
- The type of the terrain,
- Type of pavement,
- Type of coating,
- Availability of pavement layers,
- Last Reconstruction Date,
- Reconstruction rate,
- Balance value [6].

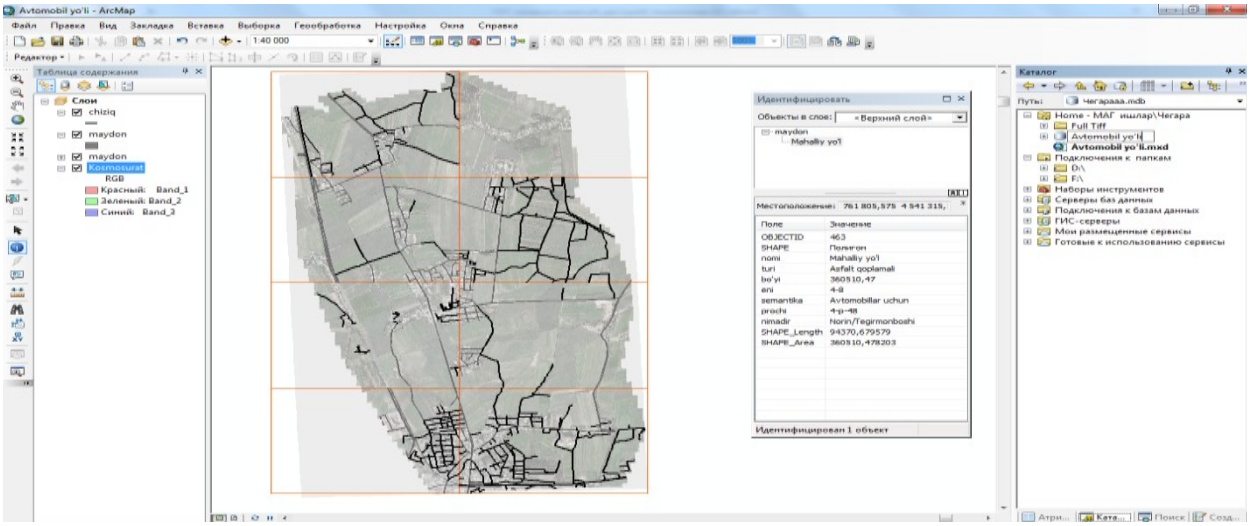


Figure 1. ArcMap working window

ArcGIS allows you to integrate themed data and integrate data with the command "Class connection..." and to implement an automated land management system. Providing the direct access of GPS information to the database will help to automate the automated system .

Conclusion. Currently, GIS is widely used in all sectors of the economic and technical sectors. The use of GIS requires the collection, storage, processing and delivery of large volumes of written, graphic, and geographical boundaries.

By modulating the automated highway system, we will achieve the following benefits:

- Increasing the use of modern techniques and technologies;
- High accuracy results;
- Short-term exchange of information;
- Increase of efficiency of work;
- Electronic data interchange;
- Database systematization.

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