

Computer Support Agency Operations for Freight Traffic

Srđan Manić

Joint Stock Company Railways of Serbia, Serbia
Graduate Society. Eng. Railway Transport Serbia

Abstract. The package programs for modern working agency, Directorate for traffic communication “RTC Belgrade” realized buy Microsoft’s database “Microsoft Access 2003”. This package based on Direction for working Agencies, rules and tariff that apply on traffic communication in “RTC Belgrade”. Including more 50 tables forms and reports which enable fast and efficient access for a data which necessary for work Agencies.

Introduction: Contemporary organization, technology and business are inconceivable without computer support. This paper presents a package of programs developed for the operation of basic organizational unit of the new forms of organization of the Directorate for freight traffic, freight transport agency. The package of programs is based on the Guidelines for the Agency, the existing regulations and tariffs. It is built using Microsoft's Access - perhaps the best program for the database. This created a local database. Interconnect them, as well as linking with other software packages that exist in the ZS-in order to achieve better organization and efficiency of the Agency and the Directorate, JZ

I. FORMATION OF THE AGENCY FOR FREIGHT TRAFFIC

In accordance with planned legislative changes, which are in the process of adoption in the Parliament of Serbia adopted in accordance with the objectives and policy of the Company for 2002. Year and the medium-term future, in order to define the position of Serbian Railways on market principles, in June months of 2002 in the Directorate for freight traffic of the Agency are organized on the ground in railway nodes Subotica, Novi Sad, Pancevo, Ruma, Belgrade, Pozarevac, Kraljevo, Zaječar, Nis, Uzice. The ultimate goal of this organization is a systematic approach rail users perform the following tasks:

- Contacting the economy to supply transportation;
- Consideration of the transport needs of the economy;
- Processing of applications for users of transportation services;
- Operationalization requires the exploitation sector of the economy over the station, and other sectors and directorates,

- Preparing the elements of contracting activity in the area of transport agencies;
- Briefing and meeting service users with the regulations and documents on the railway;
- Monitoring the implementation of transport by the agreement;
- Addressing current problems in individual transport users of transport;
- Creation of conditions for establishing long term business relationship with users of transport services;
- Providing guidance department and station ticket offices;
- Monitoring the financial implementation of the contract of carriage with financial services in the field of transport and services revenue in Belgrade and Novi Sad, and creating conditions for the updated and correct payment of transportation costs in the station;
- Contacting the Revenue Commissioners, Revenue Control Department in Belgrade and Novi Sad to address customer demands reclamations transport services;
- Make a user to the relevant sectors and the Directorate for the completion of railway services, necessary for the conclusion of the contract, or to solve problems in the user -Railways.

Transport users were visibly pleased with the establishment of such services on the railway to the conclusion that it should have been done long before. Over time, the Agency accepted in the company or where the nodes are formed.

II. THE MAIN DUTIES AND TASKS OF THE AGENCY OF THE DIRECTORATE FOR FREIGHT TRAFFIC

A more detailed job description is processed Instructions on the Commodity Agency Traffic a decision in 2004. The business was transferred from the Department of the STP or STP Section of the Directorate and the Agency for freight traffic.

A. *Instructions on goods transport agency*

This Instruction prescribes the technological processes and operations in the collection, elaboration and definition of offer and sale of the transport market, the proceedings at the conclusion of the contract of carriage and other activities related to the execution of freight transport.

Instruction is done in accordance with applicable regulations governing the procedures prescribed in the transportation of goods.

Provisions of the Guidelines are binding for the employees of the agencies and apply to the commission of ordinary and extraordinary activities in the provision and execution of freight transport in the domestic and international traffic.

Activities and tasks that are performed in the Agency shall perform in accordance with legal regulations governing the area of execution of transportation of goods, tariffs and regulations governing the execution of freight transport, for consistent work organization and performance of the responsible agency head. Instruction provides that the :agencies perform the following tasks:

1. Technical and administrative activities;
2. Recording conditions and monitoring capacity;
3. Recording data on the seats and addresses of the users of transport, freight forwarding and customs offices;
4. Marketing jobs;
5. Sales manager;
6. Logistics jobs;
7. Monitoring activities of payment of transportation costs;
8. The preparation of monthly, quarterly and annual reports and performance analysis;
9. Coordinating the work between the stations, the Directorate's transport and other services in the node;

B. *The decision on transfer of the Department of STP and STP in the first section of the Directorate and the Agency for freight traffic*

In order to better organization and functioning of the transport process ordered by the Agency for freight traffic perform the following tasks which were formerly the responsibility of :the STP section 1 Monitoring statistics on the carriage of goods

2 The operational organization for resolution of disputed issues related to the repair of cargo, loading, interference in the issue;

3 Monitoring the management of the school car dispatcher, proposing priorities for the settlement of the obligations created;

4 Keeping records of the ensuing academic control if properly charged;

5 Minutes review and processing of irregularities Load over and run schools (K-162) and assess school damages (TK-37), as well as conducting safety investigation proceedings;

6 Tracking the cause of why there has been a not picked up waybills or invoices unpaid cell;

7 Monitoring expenditure and stock of seals by stations;

8 Condition monitoring scale (accuracy, calibration);

9 In cooperation with transport and credit controller will participate in a joint resolution of conflict situations in receiving, transporting and issuing package;

III. MAKING THE PROGRAM PACKAGE

A large number of requirements set Instruction are almost impossible to perform well in the traditional manner without the use of information systems. The cycle of making packages for the management of quality transport services can be divided into the following phases:

1) Strategic planning of developing ideas about the need for some software solution to making strategic decisions about the beginning of development;

2) Analysis of general conditions of business applications. It deals with the detailed analysis of operating in an environment that develops software;

3) Design the business system. Creates a model that involves all relevant processes, objects, or elements of the transportation system that includes applications;

4) the technical design. Creates the database;

5) Construction. Creates the program logic, defining the communication media and performs automatic generation of code in one of software language;

6) Transition. It includes the transfer application to real transportation system (chain or network), its implementation and testing in real environments;

7) Production. The active application and its maintenance, additions, alterations and improvements.

A. *1. Phase: Strategic Planning*

The idea of creating packages for the Agency for freight traffic occurred when the instructions appeared on the work of agencies for freight traffic. From the viewpoint of strategic planning, despite the fact that such a package is needed ZS-in, with its interconnections with the existing software (e.g. to track cars) would allow much better operation Agency and the Directorate for freight traffic.

B. *2. Phase: Analysis of general business conditions apply*

This phase was already done by professional staff of the Directorate for freight traffic, which made the work of User Agency and the design of a business system that is the next stage.

C. 3. Phase: Technical Design

Creates a database. Designing a database is carried out in seven steps:

- Design the basic structure of the system is to determine what to do in order to meet end user requirements;
- Project reports (output);
- Design of data structures (fields);
- Design tables and links between them. Normalizing database, grouping related information which helps eliminate duplicate data and provides better adaptability to future amendments;
- Designing fields (control accuracy of the data);
- Design patterns (data entry);
- Design menu (automate tasks).

IV. 4. THE BASIC STRUCTURE OF THE DATABASE TABLE

All the requirements for recording, reporting, and operation of the Agency should "pack" in a certain table. Imagine regular structure of the database and its tables are considered the most important step in developing an application that works with the database, it should be used with forms and reports that are prescribed or create them.

A. Technical and administrative work

1 The book of protocol form (prescribed form - ADM -1);

2 Reports on the OFFICIAL travel (prescribed form);

3 Statement of accounts (created account number, date, store, company, etc., A total of dinars, report data paid days notice);

4 Reports on the use of official old value of this counter, the new value of this: cars (created report, data counter, total mileage, total spent coupons, notice - the relation of transport);

5 Requisition (prescribed form);

6 The records of fixed assets (prescribed form);

7 List of regulations and tariffs (prescribed form, Rule 650);

8 Working time (prescribed form);

9 Data on staff (there are several forms that lead human resources department, but for the Agency created a form with data:

* personal data date and place of birth, telephone (post-office, mobile, e-mail), address and place of residence, names of family members, identity card numbers (cards, P-4, with a picture of the employee) and

* information on professional: career: starting date and place of employment on the railway, education, school ended and the place of school or university, jobs on the

railway from the start and end dates of performing certain tasks);

10 Job classification (prescribed form);

11 Data for communication with:

- Agencies;

- Sections in the node;

- Departments in the directorate and ZS-in (created form - the form of contact for information regarding the name and surname, title, education, mobile telephone, postal, telephone, fax, e-mail, notes. This pattern was also used in the form of transport users, customs, logistics, stations, docks, workshops).

B. Recording and monitoring capacity of the state

1 Cells (created a contact form, with data from the directory SPT 33): Station Code, opened for transportation of passengers, baggage, merchandise packed in bales and parcels fast regular transport, consignments, live animals), as well as data related to the type of cells in terms of working with car, the data whether the station workshop, customs, disinfectants, credit, cargo depot station equipment, the home of station wagons, transitional, terminal, transparent), the prescribed form for the technical capacities of cells and form that refers to the siding as an integral part of the form cells.

2 Bars (pattern created on the basis of SPT 34, range finders for the transport of goods) include: information line number and axial length of the line pressure).

3 Trains (created based on forms from the booklet of the timetable, the Registry of trains per side) is just thrown AS column mode devices, and add the column maximum length of train with respect to the useful length of the track).

4 Kola (prescribed forms of the series of freight cars with pictures).

5 Locomotives (basic technical and operational characteristics)

6 Workshops (contact form);

7 Piers (contact form);

8 Disinfection stations (contact form).

C. Recording of data on the seats and addresses of the users of transport and freight forwarding customs offices - the internal address

1 Customs (contact form);

2 Freight Forwarder (contact form);

3 Transport users (the contact form registration number, VAT number, checking account, bank, customs, freight: data forwarding, JZ number of commercial benefits, contract number, contract number on the central calculation, note).

D. Marketing and Sales Jobs

1 Transportation (created form transport, the type and number of NHM: contains information about the user goods, transport route, the distance tariff, the amount of goods transported during the previous year expressed in the car and tons, the annual need for transportation, income generated in the previous year, whether the transport import, export, domestic,: common, permanent, seasonal, mass);

2 The classification of goods (a form created on the basis of SPT 32: NHM data on goods and commodities);

3 CONCESSIONS (prescribed form Guidelines for the agency);

4 Contracts (the form prescribed by the Guidelines for agency work);

5 Central billing (a form prescribed by the Guidelines for the work of the agency);

6 Road, River, ..., transport (include contact details of competitive modes, details of their capacity, the amount of transported goods, the price at which goods are transported, as well as data-defined pattern of transport);

7 Restriction (prescribed form);

8 Special items (a form prescribed by the Guidelines for agency work);

9 Military transports (prescribed form for the Agency's Guidelines).

E. Logistics Jobs

1 The scope of work (a form containing prescribed information for monthly reports) - 4 tables, report realized the commercial benefits and report on implemented contracts;

2 Log K-162 (Instruction 162 prescribes the form Bag);

3 School records (Form prescribed by the Directorate);

4 Expenditure and inventory records K-188 (a form prescribed by the Directorate);

5 School records of damage (a form prescribed by the Directorate);

6 The records of seals (a form prescribed by the Directorate);

7 Page circuits (a form prescribed by the Guidelines for agency work);

8 RID matter (a form prescribed by order of importance of constant 1 / 2000);

9 K - 212 Notebook Control objections (a form prescribed by Instruction 182);

10 K - 234 List waybills and invoices, (a form prescribed by Instruction 182);

11 List of outstanding advances and unpaid (prescribed form Instruction 182);

12 K - 308 the lack notebook (Instruction prescribed form 163);

13 K - 309 Main excess notebook (Instruction prescribed form 163);

14 A regulation box office records, etc. (created form);

15 Complaints of transport users (created form).

F. The preparation of monthly, quarterly and annual reports and performance analysis

Currently there are 14 monthly reports to be submitted to the Commodity traffic every month:

1 Table 1, Report on the overall scope of work loading and unloading school and command consignments;

2 Table 2, Report on the overall scope of work loading and unloading school and command shipments of goods by type of goods and types of traffic;

3 Table 3, report on the overall scope of work loading and unloading school and command shipments of goods sidings;

4 Table 4, Report on the overall scope of work loading and unloading school and command shipments of goods by type of goods and types of traffic on sidings;

5 Report on academic dangubnini;

6 Report on the commercial benefits realized;

7 Reports on the execution of contractual obligations transport of goods;

8 Report on the exposed K - 162;

9 Report on detention of foreign schools;

10 Report damage to cars by the users of transport;

11 Report on costs and bills signed by agency head;

12 Report on business trips;

13 Reports on the use of official cars;

14 Report on the working hours of employees in the agency.

V. 5 PHASES: CONSTRUCTION

Package for the construction of the Access 2003. This was done because of the opportunities it provides, as well as advantages over other similar tools.

Access 2003 is a system for database management. Access stores and loads the data, displays the requested data and automate repetitive tasks. With Access, can be developed for data entry forms that are easy to use. The data collected can be displayed in any form deemed suitable, and can be assembled complex reports. Access is a powerful Windows application for working with databases - probably the best product for the end user and the designer who has ever written. Can be used to transmit data, copy and insert between Access and any other Windows application. Most applications developed in Access works with multiple interrelated tables. Work with multiple related tables simplifies data entry and reporting by reducing the number of redundant data.

The package program (the "Agency") established the 53 tables, placed under the structure of the database. The basis of "agency" made the three queries that extracts information from a table in the "scope of work" for creating reports on the implementation of commercial concessions, contracts and the work of the sidings.

The package of "Agency" including five control panels. The first control panel opens when pressing the shortcut from the desktop and is the main display. Pressing the appropriate command button can be opened four dashboards. Pictures of command buttons and images on the patterns chosen to associate the table in which data are entered.

The basis of "agency" for each of 53 tables was made a separate data entry form. All data entry forms for the purpose and brings them to a table record.

These patterns are distributed over three switchboard:

- 1) Administrative information
- 2) Record review and updating of data
- 3) Operative data entry
- 4) Control panel Print report runs specially designed macro. "Monthly report ", allows you to select report, his view and print.

The package declaring "the Agency" fifteen statutory reports, grouped by month, using specially made macros can be viewed or printed.

Given the huge amount of data can make a large number of reports. Access can not make any reports that come up.

The package of "Agency" made a line across the menu that can directly open the drop-down menu to a selected table, report or form.

VI. 6 PHASE: TRANSITIONS

Although Phase Communications is not completely finished, we have entered a phase of transition.

VII. INSTEAD OF A CONCLUSION

Finally, it should be noted that the developed set of programs that significantly simplifies and speeds up the work, providing greater safety and accuracy of data being processed in the agencies for freight traffic. In addition to linking with other existing computer programs and applications in the ZS-in, this package can serve as a basis for monitoring the performance of commodity traffic a much simpler, faster and more modern way. It is clear that the work program in this package is not completed, it is possible its extension, improvement, improvement. But

the foundation is set, and if nothing else, traced the way for new computer applications in this field.

VIII. CONCLUSION

Work Program and the work it describes were made during 2003 and 2004. The paper was published in a scientific journal professional: "Railways", number: 7-8, 2004. In relation to this work, the base is increased over time: At first, made a number of reports that are in many ways represent the data from existing tables. Reports that show all the users of transport services that operate more than 50 cars a year, the relationship of transportation used to transport more than 50 cars a year, the type of goods being transported more than 50 cars a year. Especially interesting are reports that show the users' transportation on an annual basis, by month (table and graph) and cells with the same and so on.

Integral part of the database and could independently work a package of programs that specializes in calculating transportation costs, "RT 1", which was later made and that should be part of the "Transportation Accounting" which is under construction. Transportation Accounting contains tables: K-501, K505, K511 etc. The package of programs described in this paper shows the monthly processing of data as it is currently working on the "Serbian Railways JSC" Developed package is significantly easier and faster to work, providing greater security and accuracy of data processed in Section (OJ) for freight traffic. These amendments should be automated work stations. Data should be directly entered in the consignment note; school records, etc. would be reports: K-29 c, Business Diary transmission to the Treasury, K-119 Notebook mapping, etc. The following pictures show some "form" of these amendments. In the end I can only state that the program does not use the "Serbian Railways" (except of course in Lapovo) that the process of its completion is not such a big deal, but when does one man in all other environmental obligations, and when the outcome of implementation "unlikely "it is unfortunately our reality, such ... About the "Supplements" I hope to one day write another work. These things would certainly be a lot more to deal with people in the "Serbian Railways" for the good governance of such a large system is almost impossible without high-speed data processing using such programs, all in the context of developments in the railways of South East Europe.

REFERENCES

- [1] Michael R. Irwin and Cary N. Access 2002 Bible" " :Prague
- [2] Regulations, Guidelines, Fees and official acts ZTP Beograd
- [3] The" A. Dr Risto Perisic: "quality system of services and logistics information technology