

## VEHICLE TRANSPORT COST CALCULATION METHOD

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The dependence of the efficiency of vehicle cargo transportation on a large number of parameters makes it difficult to determine the criteria for optimizing transportation in this area. However, experience shows that among these factors, the determination of transportation costs is one of the main factors [1-4]. The transportation process of cargo transportation consists of elements that are repeated in sequence. Together, these elements are called the transportation cycle as the completed operation of cargo delivery. Calculation of transport costs during the execution of the transport cycle mainly consists of the sum of car depreciation, consumption of fuel and lubricants, maintenance and repair costs. Calculation of 11 types of cost items was carried out for the calculation of transport costs in cargo transportation. In the methodology, the cost incurred during the journey of 1 car for a distance of 1 km is determined. Transportation costs in military vehicle cargo transportation can be calculated using the following expression:

$$X_{1km} = Y_x + M_{yx} + T_{yx} + P_{yx} + X_{yx} + A_x + S_x + AT_x + E_{TX} + E_{OT} + E_{MR} .$$

Here,  $Y_x$  fuel consumption price,  $M_{yx}$  motor oil consumption price,  $T_{yx}$  transmission oil consumption price,  $P_{yx}$  plastic oil consumption price,  $X_{yx}$  special oil (fluid) consumption price,  $A_x$  car battery maintenance costs,  $S_x$  tire maintenance costs,  $AT_x$  car amortization costs,  $E_{TX}$  the share of technical service costs per 1 km during the car's operation,  $E_{OT}$  the share of the average repair costs per 1 km,  $E_{MR}$  the share of the major repairs per 1 km.

As can be seen from the above-mentioned statements, the maintenance and operation costs spent on freight transportation were maximally taken into account in the calculation of transport costs. Using these expressions, a description of the mathematical formulation of the problem of calculation of transport costs in military cargo transportation and a block diagram of the algorithmic process were prepared.

### 1. References

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