

ТЕХНІЧНА ЕКСПЕРТИЗА ТА ОЦІНКА МАЙНА

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PROJECT MANAGEMENT OF ESTIMATES OF THE ROADS BASED ON CONSIDERSTION OF THE TECHNICAL STATE

Анотація. Для оцінки рівня техніко-функціонального стану ділянки автомобільної дороги необхідно визначити коефіцієнти значимості або вагомості. Від правильності їх призначення у великій мірі залежить достовірність оцінки. Найбільш коректно враховувати відмінності стану об'єкту оцінки шляхом коригування його кошторисної вартості коефіцієнтами, що визначають технічний рівень та експлуатаційний стан елементів дорожньої конструкції.

Ключові слова: автомобільна дорога, техніко-функціональний стан дороги, коефіцієнти вагомості конструктивних елементів.

Аннотация. Для оценки уровня технико-функционального состояния участка автомобильной дороги необходимо определить коэффициенты значимости или весомости. От правильности их назначения в большой степени зависит достоверность оценки. Наиболее корректно учитывать различия в состоянии объекта оценки путем корректировки его сметной стоимости коэффициентами, определяющих технический уровень и эксплуатационное состояние элементов дорожной конструкции.

Ключевые слова: автомобильная дорога, технико-функциональное состояние дороги, коэффициенты значимости конструктивных элементов.

Abstract. To assess the level of technical and functional condition of the road section must identify the factors of significance or importance. From the correctness of their appointment to a large extent depends on the reliability of estimates. Most properly take into account differences facility condition assessment by adjusting its estimated

cost coefficients that determine the level of technical and operational elements of state road construction.

Keywords: road, technical and functional condition of the road, the weight ratios structural elements.

Formulation of the problem

As part of the national policy of attracting private sector participation in state programs of public-private, partnership is slowly becoming part of a national program of infrastructure. Thus formed experience between public and private sectors, which in the future will meet European traditions related to the participation of the private sector in the design, construction and maintenance of public roads. The basic regulations that define the process of assessing state and municipal property in the privatization method of valuation of property [1], to clarify its provisions [2] and national standards of Ukraine [3, 4]. Methods of assessment [1] is fundamental that allows you to interpret generic assessment of state and municipal property.

The process of alienation of state and municipal property accompanied into account many proprietary features and characteristics. Modern road is a complex engineering structure, intended for the performance of transport and travel services customer service - drivers and passengers [5]. From the standpoint of the consumer is the most important transport-performance roads. They provide continuity, optimum speed, convenience and safety of traffic, high bandwidth, the possibility of movement of vehicles with acceptable dimensions and axial loads, high level of road service, compliance with aesthetic and environmental requirements.

Presenting main material

Transport-operating facilities of roads determined the speed and cost of transport, safety and convenience of road travel, its bandwidth. Fees can't be expressed as a generalized measure. Therefore, during the assessment of certain road sections need to use methods that define these properties is to diagnose the road. Diagnostics roads - the definition of consumer properties [5]. Diagnosis involves research, collection and analysis of information on geometrical parameters, characteristics, conditions of operation of roads and road structures, defects and the causes of their appearance, traffic characteristics and other information needed to assess and forecast the state of the roads and road facilities.

The key question of assessing state and municipal ownership is the use of classical methods of evaluation. Cost-effective approach to determining the value of

fundamentally different from the income and comparative and is crucial to assess the highways. Most properly take into account differences facility condition assessment by adjusting its estimated cost coefficients that determine the level of technical and operational elements of state road construction.

Integrated property technical and functional state structure is a simple sum of properties in view of their importance [6]:

$$K_k = \sum_{i=1}^n K_i m_i, \quad (1)$$

where K_i - relative rate differential properties (operational status) by a factor of significance m_i ; n - the number of elements of the road.

A comprehensive index of technical and functional condition of the road is estimated on the basis of at least six elements of the road.

To assess the level of technical and functional condition of the road section must identify the factors of significance or importance. From the correctness of their appointment to a large extent depends on the reliability of estimates. Set these factors can be different methods: cost, limit values, statistics, expertise, combined [6,7].

Technical evaluation of the road of the second category expert method is based on visual inspection of operational status. Established by this method weight ratios of elements of the road the second category, according to [8], presented in Fig. 1. Identified factors for the following elements road: m_1 - pavement; m_2 - roadbed; m_3 - landscaping and gardening; m_4 - Man-made structures; m_5 - construction and furnishings; m_6 - Buildings and structures of road and road services. For each item scale developed by the estimated defect [6].

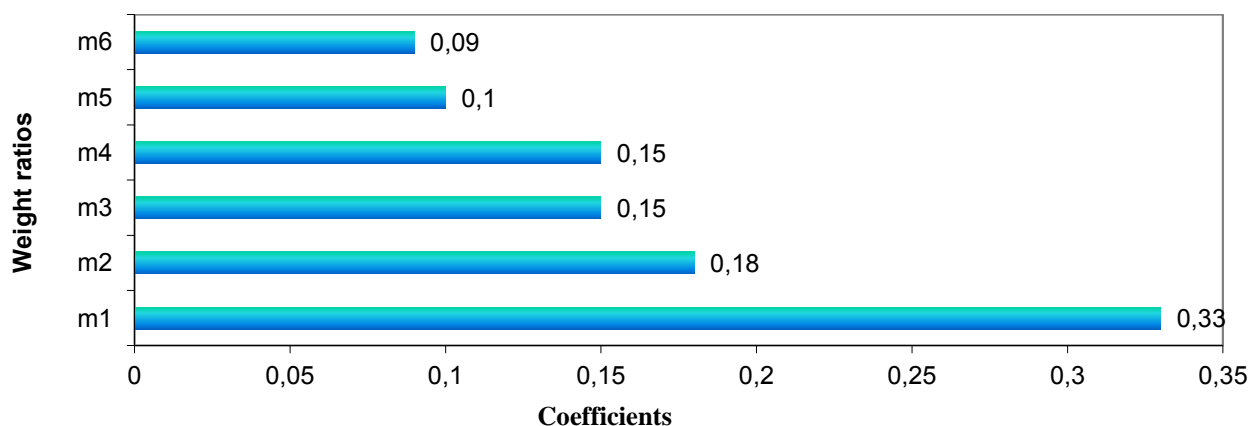


Figure 1 – Factors weight elements of the road the second category established by the expert

Value method is based on the assumption that the technical and functional state transport facilities proportional value m_i and importance properties C_i identical costs, between the weight and the estimated value functional relationship exists

$$m_i = f(C_i), \text{ if } C_i > C_{i-1} \text{ and } m_i > m_{i-1}.$$

thus

$$m_i = \frac{C_i}{\sum_i^n C_i}, \tag{2}$$

where $\sum C_i$ - total estimated cost of production.

Based on the estimated cost of six basic elements of road, which is shown in the Table. 1, calculation of weights. Factors identified two areas of road category Ib length of 3 km from the overpass without it.

Table 1 – Estimated cost of the basic elements of the road

| Road parts | The estimated cost of the basic elements, C_i thousand grn | | | | | |
|------------------|--|-----------|---------------------------|-----------------------|-----------------------------|-------------------------------------|
| | Pavement | Roadbed | Landscaping and gardening | Artificial structures | Construction and conditions | Buildings and road traffic services |
| with overpass | 50630,332 | 51443,947 | 13773,008 | 335686,253 | 11585,015 | 1562,778 |
| without overpass | 59876,656 | 71885,782 | 10471,875 | 5686,276 | 12987,189 | 1709,329 |

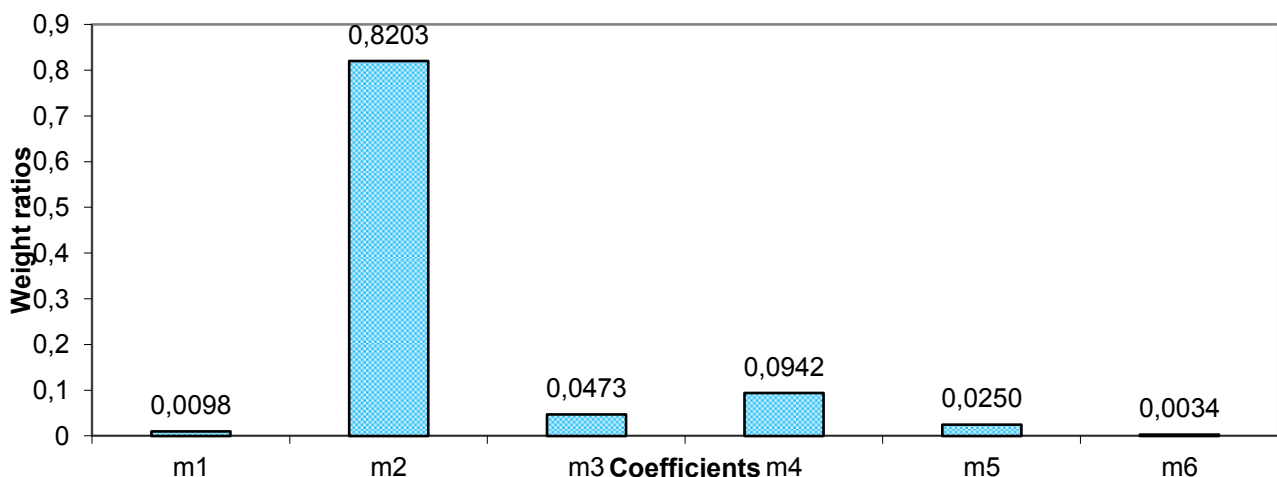


Figure 2 – Factors weight elements of the road category of the overpass installed costly in method

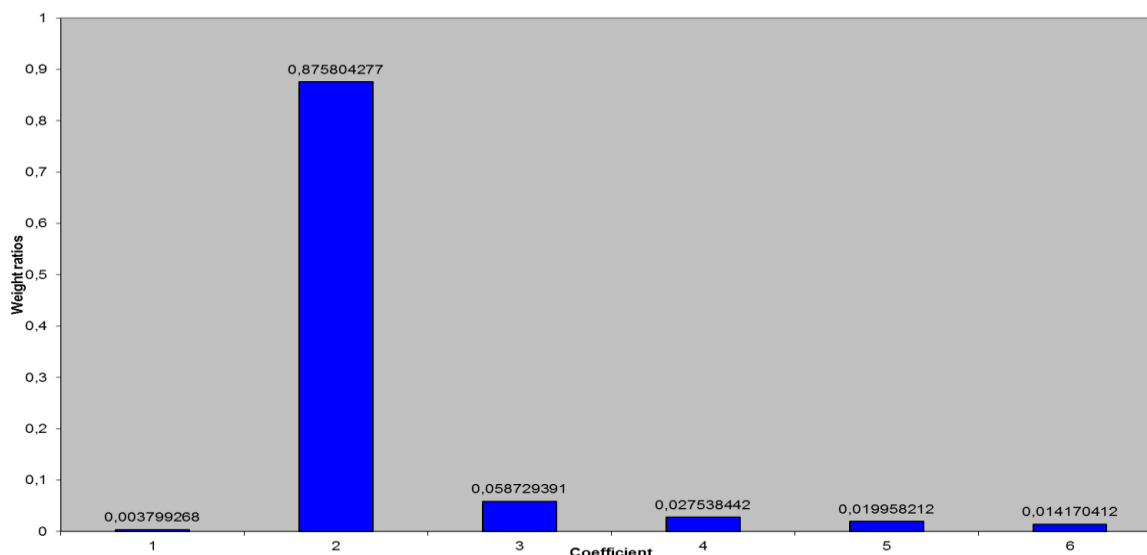


Figure 3 – Factors weight category Ib elements of the road without trestles set costly in method

Conclusions

According to the schedule of distribution of weight coefficients for rice. 1, 2 and 3 can be concluded that the expensive method is more reliable for monetary valuation of the road section as opposed to expert. Expert method allows an objective evaluation of the actual road conditions, providing effective solutions for the reconstruction of roads, current and planned measures to repair. But such assessment based on an analysis of traffic patterns of single cars, traffic, bandwidth roads, the results of research into the causes of accidents and deteriorating working conditions of drivers and do not include cost component elements of the road. Also important is the presence of artificial structures, bridges, overpasses on the road, which significantly alter the weight distribution of the structural elements of the road, which is important when making adjustments to their cost during repair work.

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