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Traffic Planning
Review
U. D. C.: 656:65.012.2
Accepted: Apr. 6, 2003
Approved: Jun. 15, 2004

MANAGEMENT PLANNING IN TRANSPORT

ABSTRACT

Management planning in traffic and other activities includes a choice of missions and goals, as well as actions undertaken for their realisation. It requires decision-making, that is, a choice among alternative trends of future actions. Therefore, planning and control are closely related.

There are several types of plans: purposes or missions, goals, strategies, policies, procedures, rules, programs and calculations.

Once managers become aware of the opportunities, they rationally plan the setting of the goals and assumptions about the current and future environment, finding and evaluating alternative trends, and selecting the one that is to be followed.

Therefore, planning means looking ahead and control means looking backwards. The concept of overall planning, thus including traffic planning, illustrates the approach to management which is based on the achieved goals.

KEY WORDS

management; management planning; decision-making; traffic planning and management decision-making; policy and strategy; goals and tasks of management decision-making

1. INTRODUCTION

In defining the management we are faced by different problems. Some of them are semantic in nature, since various terms are assigned the same meanings, and vice versa as well, the same terms with assigned different meanings.

In wider literature¹ «management» appears in three different meanings, such as e. g. a) organization, b) control, c) handling.

If we translated the word management into the Croatian language, it would (etymologically) correspond to the term «menadžment», since the verb «to manage» originates from the Latin word «manus» - meaning hand, and previously it had meant «to deal successfully with a horse whose behaviour is difficult».

Management planning of traffic could be marked as an activity oriented towards achieving the goals

which had been set in advance.² Its function then is: a) planning of exploitation and organisation of the transportation process, b) management of human potentials, c) management of organisation and planning, and d) control of performed tasks in traffic.

Management planning spans the gap between where we are now and where we would like to be. It makes possible what would not have happened otherwise. Although rarely, we can forecast the future exactly, although the factors outside our control can interfere even with the best set plan, and if we did not make plans, we would leave things to chance. This is an intellectually demanding process: it requires that we consciously determine directions of our activities and base our decisions on the purpose, knowledge and valid assessments.

2. MANAGEMENT PLANNING

Management planning has been systematically presented through five chapters: a) nature and purpose of planning, b) goals, c) strategy, policy and planning hypotheses, d) decision-making and e) summary.

2.1. Nature and Purpose of Planning

The nature of planning can be considered from four aspects:

- contribution of planning to management tasks,
- priorities in planning,
- omnipresence of planning, and
- efficiency of the developed plans.

2.1.1. Contribution of Planning, Purpose and Goals

Planning is the basic activity of all the managerial functions. It includes the selection of missions and objectives, but also of actions undertaken to implement them. The management planning of the traffic activity (exploitation of traffic means) spans the gap between the current position of this activity and the position at

which it should be, i. e. wants to be. It makes possible what most probably would not have happened.

All the conceptual and strategic intentions are based through or on planning, managerial decision-making which almost always includes traffic and other processes in advance, for different periods of time. Therefore, for every planning, including the traffic planning as well, there is a valid definition according to which the planning means – *defining of procedures that lead to the goal*.

Planning of traffic exploitation is a process that develops the alternative strategy to adapt the existing network of routes to new traffic demands as well as costs caused by such alternatives.

According to the principle of decision dependence, the plans in traffic management need to cover a certain period of time long enough to fulfil the obligations created by the decisions made today.

The plans are efficient if they realise their purpose with reasonable costs that are measured not only by time, money or production, but also by the degree of individual and group satisfaction.

Many managers have followed the plans in traffic the costs of which were greater than revenues they could realise. For instance, one air carrier purchased aircraft, the cost of which exceeded the revenues. A car manufacturer tried to win the market by emphasising design solutions without achieving any competitive advances in style, ergonomic solutions or vehicle adaptability, compared to the competition vehicles. Plans that would cause customers' dissatisfaction or unhappiness of a greater number of people could even make the realisation of objectives impossible. The customers' dissatisfaction, disapproval and loss of morale of the people in the production system would reduce

the productivity, so that the objectives of the planned sales could be missed. Therefore, the *plan efficiency* is of extreme importance in the planning system, since it is estimated up to the level to which it realises the purpose and the objectives, and the plan efficiency on its contribution to purpose and objectives compared to the costs as well as other factors needed for its formulation and implementation.

The responsible managers³ in traffic need to consider continuously and to evaluate the current (short-term) decisions in order to determine whether they contribute to long-term programs of traffic exploitation as well. Management planning is a rational approach to meeting the objectives of the traffic and other activities. Such a process is illustrated in Figure 1.

The ordinate axis shows the progress, and abscise shows the time. The letter X denotes the current time, regarding planning, which is at t_0 or zero time of traffic exploitation. Y represents our intention where we want to arrive in a certain future time (u^{t-n}). Thus, we are in X, and we tend to reach Y. Although some elements are still missing (relevant data) we can start planning. We should maybe start with the plan proportion at X_1 (in t_n). The XY line is the decision-making path.

Objectives represent thus the end points towards which we tend to move. They do not represent only the end point of planning but also a completion which is the target of oriented organisation, personnel recruitment, management and control.

The essence of the logic of managerial planning of traffic activity is valid regardless of the time interval between t_0 and t_n , no matter whether this is 5 minutes or 20 years. The clarity of assumptions, realisation of

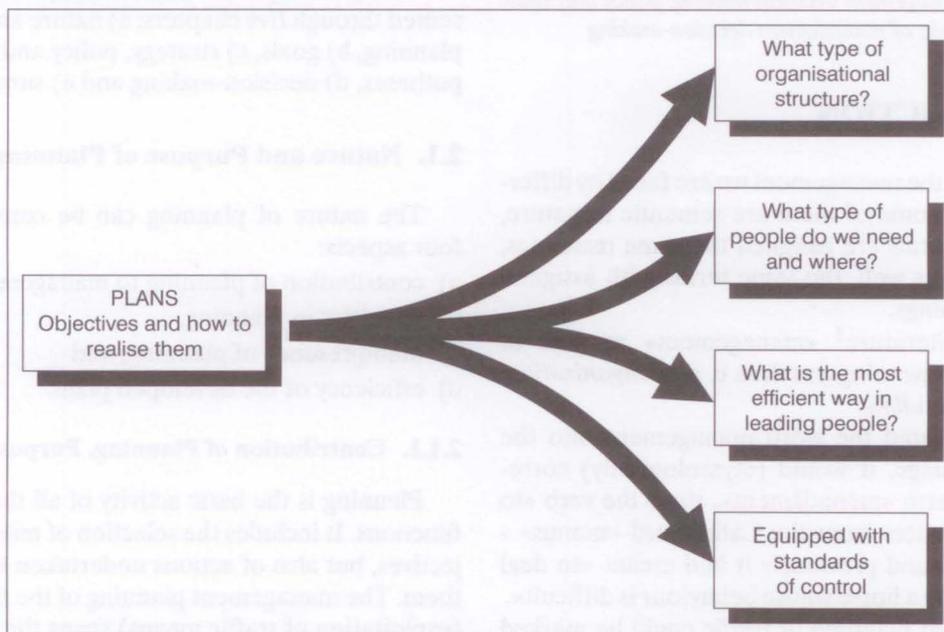


Figure 1 – Plans as the basis of management

objectives, and the simplicity of planning is inversely proportional to the time span of planning. This means that if the time period is long, the assumptions may be unclear, the objectives difficult to achieve, and other complexities in traffic planning may be large.

2.1.2. Objectives – planning steps

Planning of managerial activities in traffic is a process that begins with the objectives, with defining of the strategy, policy, and detailed plans to implement these. This is a process which establishes an organisation for realising decisions, and it includes the evaluation of success and the feedback to start a new planning cycle.

As can be seen from the planning steps (Fig. 2), the management planning is a rational approach to fulfilling of the objectives.

Progress, in Figure 3, is shown on the vertical axis, and the time on the horizontal axis. Briefly, we are in X, and our objective is to reach Y. Of course, in reality there may be numerous factors that could push us towards or away from the desired target. These are the assumptions included in the management planning. Since we cannot forecast or consider all, we try to develop our route from X to Y in the light of the most critical assumptions.

The planning steps have to be applicable to the majority of planning situations. The students of the Faculty of Transport and Traffic Engineering, up to a certain level, are most likely to follow the planning steps

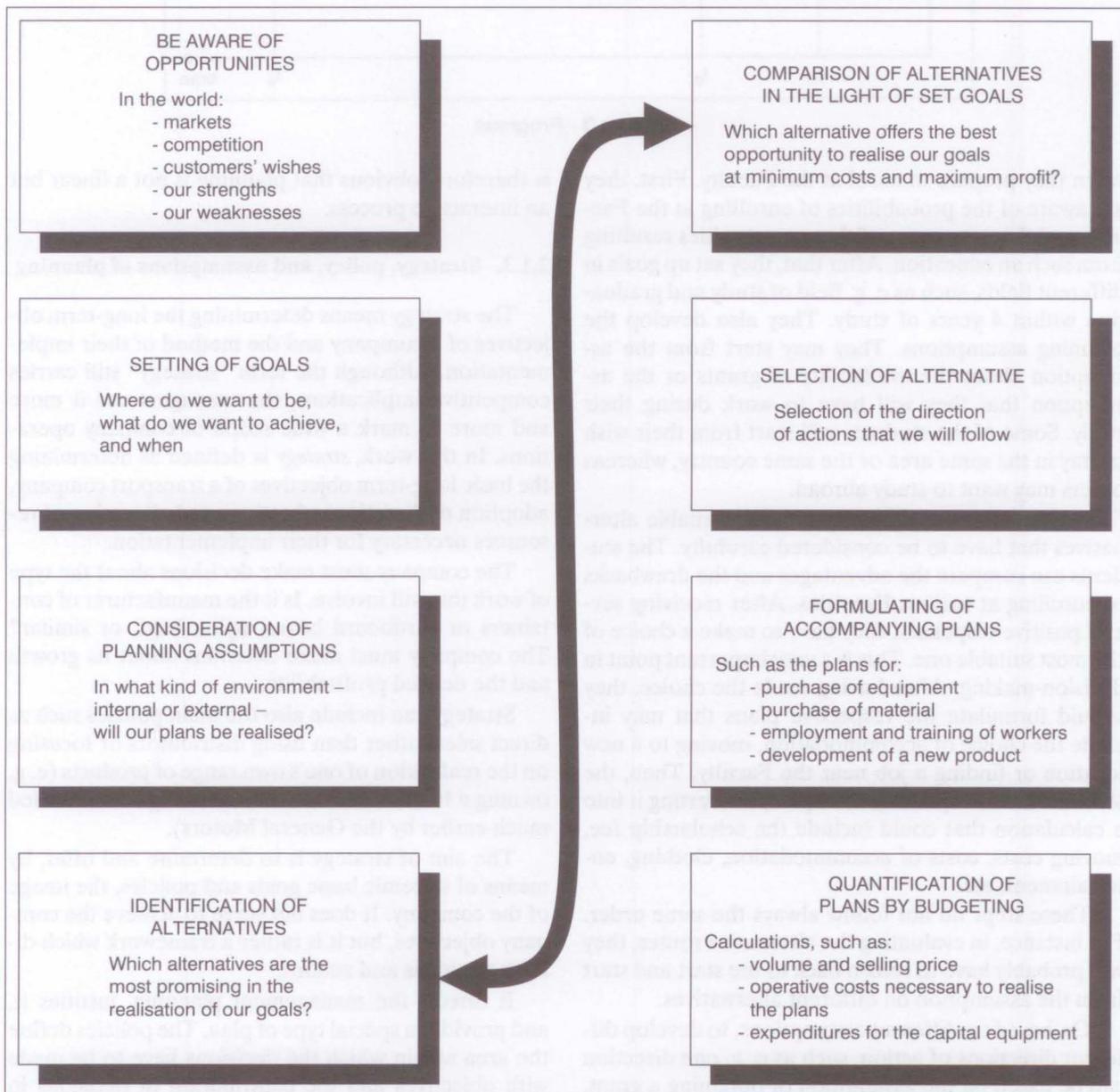


Figure 2 – Planning steps

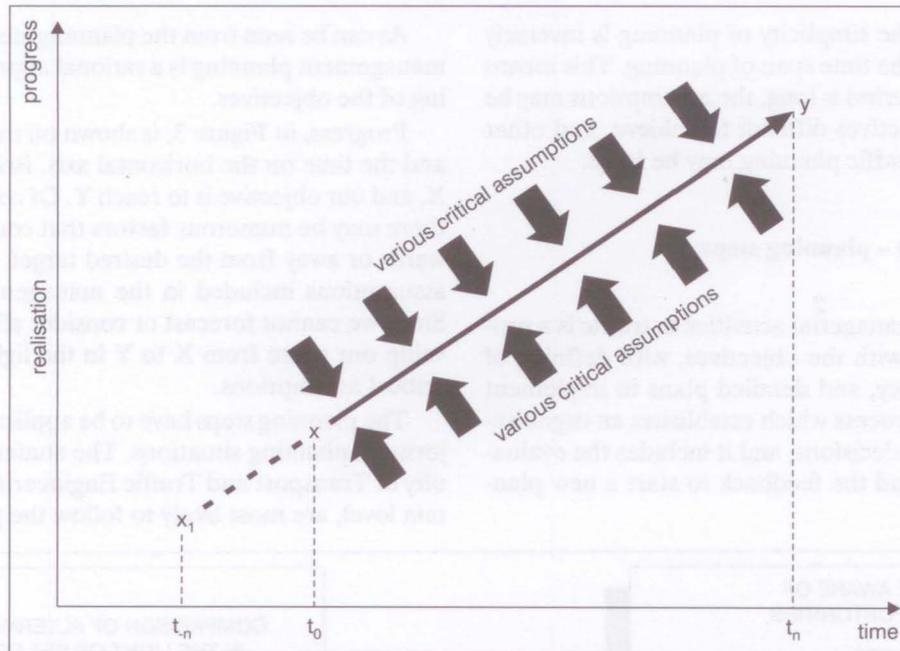


Figure 3 - Progress

when they prepare to enrol at the Faculty. First, they are aware of the probabilities of enrolling at the Faculty, and they are aware of the opportunities resulting from such an education. After that, they set up goals in different fields, such as e. g. field of study and graduation within 4 years of study. They also develop the planning assumptions. They may start from the assumption about the availability of grants or the assumption that they will have to work during their study. Some of the students will start from their wish to stay in the same area or the same country, whereas others may want to study abroad.

Anyway, there are usually several available alternatives that have to be considered carefully. The students can compare the advantages and the drawbacks of enrolling at various Faculties. After receiving several positive responses, they have to make a choice of the most suitable one. This is a very important point in decision-making. After having made the choice, they should formulate the respective plans that may include the choice of accommodation, moving to a new location or finding a job near the Faculty. Then, the students have to quantify their plan, converting it into a calculation that could include the scholarship fee, moving costs, costs of accommodation, clothing, entertainment, etc.

These steps do not follow always the same order. For instance, in evaluating the alternative routes, they will probably have to return back to the start and start from the assumption on different alternatives.

Or, based on different assumptions, to develop different directions of action, such as e. g. one direction can be based on the assumption of obtaining a grant, and the other one will have to work during the study. It

is therefore, obvious that planning is not a linear but an interactive process.

2.1.3. Strategy, policy, and assumptions of planning

The strategy means determining the long-term objectives of a company and the method of their implementation. Although the term "strategy" still carries competitive implications, the managers use it more and more to mark a wide scope of company operations. In this work, *strategy* is defined as determining the basic long-term objectives of a transport company, adoption of directions of actions and allocation of resources necessary for their implementation.

The company must make decisions about the type of work this will involve. Is it the manufacturer of containers or cardboard boxes, nylon bags, or similar? The company must make decisions about its growth and the desired profitability.

Strategy can include also the main policies such as direct sales rather than using distributors or focusing on the realisation of one's own range of products (e. g. owning a full automotive line, as having been decided much earlier by the General Motors).

The aim of strategy is to determine and offer, by means of systemic basic goals and policies, the image of the company. It does not serve to achieve the company objectives, but it is rather a framework which directs the ideas and actions.

It directs the management planning, justifies it, and provides a special type of plan. The policies define the area within which the decisions have to be made with objectives and the contribution of decisions in their implementation. The policies help in solving an

issue before it becomes a problem, they make the analysis of the same situations unnecessary, allowing the managers to delegate responsibilities, at the same time keeping control over the things done by the subordinates. For instance, a certain railway company has the policy of buying off industrial land in order to compensate for the sold areas. This policy allows the manager of the department for the land to develop a buy-off plan without constant communication with the senior management. At the same time, it provides certain control standards.

The rules expressly stipulate fully determined actions or restraining from actions and they do not allow the freedom of decision-making as in politics. The rules are usually the simplest part of the management plan. They differ also from the procedures, by directing the managerial action without specifying the time flow. The managers in the planning system look on the procedures as on a series of rules.

A rule can, but needn't be part of the procedure. For instance, "no smoking" in a car or at the workplace is a rule which is not related to any procedure, but the procedure which determines the way of handling the orders can include the rule that all these orders have to be confirmed on the day of their receipt. The aim of the policy is to orientate the decision by designating the area in which managers can use their freedom of decision-making. Although rules also serve as guidelines, they do not allow any freedom of decision-making in application.

The nature of rules and procedures is such that they are created to prevent thinking. The managers use them when they want to prevent people in transport and other organisations to act upon their intuition.

The assumptions of management planning of traffic represent an important step in the planning system and they are essential for the environment in which the traffic service plan has to be implemented. Therefore, it is important for all the managers, included in the traffic planning, to agree regarding the planning assumptions.

As a matter of fact, the basic principle of the planning assumptions is: the better the individuals (managers) responsible for planning understand and approve of the usage of consistent planning assumptions, the better the coordination of company planning will be.

2.1.4. Management decision-making

The management decision-making is defined as the choice of a certain direction of actions among several alternatives. It is the essence of traffic planning. The plan is not brought until the decision is made regarding the engagement of resources, reputation, or orientation of the respective (transport) company.

The priority is, therefore, before making the decision, to realise the following *a) assumptions, b) set the alternatives, c) evaluate the alternatives with regard to the set goal, and d) select the alternative, i. e. make the decision.*

The explanation of the mentioned theses will show that the decision-making is really one of the important steps in the planning system.

In choosing the alternative, three approaches are used:

- a) experience,
- b) experimenting,
- c) research and analysis.

The experience is, to a certain extent, the best indicator that the managers have reached their respective positions, which justifies their earlier decisions. Besides, the process of considering the problem, making the decision and facing the successes and failures in realisation of traffic or some other programs, contribute thus, to a certain level of good judgement. Figure 4.

Unfortunately, many people do not benefit from their errors, so that there are managers, it seems, who will never reach the type of cultivated judgement required by a modern company.

Experimenting is often used in scientific research. It is considered that it should be used even more often in management and that the only way in which managers can be sure that their plans are good, especially in the system of immeasurable factors, is to try to quantify various alternatives and see which one is the optimal.

There are many decisions that cannot be made until the experiment insures the best direction of action. The best illustration is the planning of a new aircraft.⁴

The aircraft manufacturer can use personal experience, the experience of other manufacturers and users. The engineers and the economists can carry out comprehensive studies on the pressures, noise and vibrations, fuel consumption, speed and other ergonomic factors. However, these studies do not provide answers to every question about the flight characteristics and economic factors of a successful aircraft, and therefore decisions have to be always preceded by a certain level of experimenting. In practice, first a prototype of an aircraft or some other transport means is designed and tested, and this prototype serves to manufacture the aircraft in a somewhat modified program.

The research and analysis is one of the most efficient techniques. This approach means solving a problem by first understanding it. It is a search for relations between the most critical variables, limitations and assumptions which refer to the set objective. It is solved by means of a computer and very often by pen and paper.

One of the commonest approaches to this problem is the operations research. Decision-making is just one

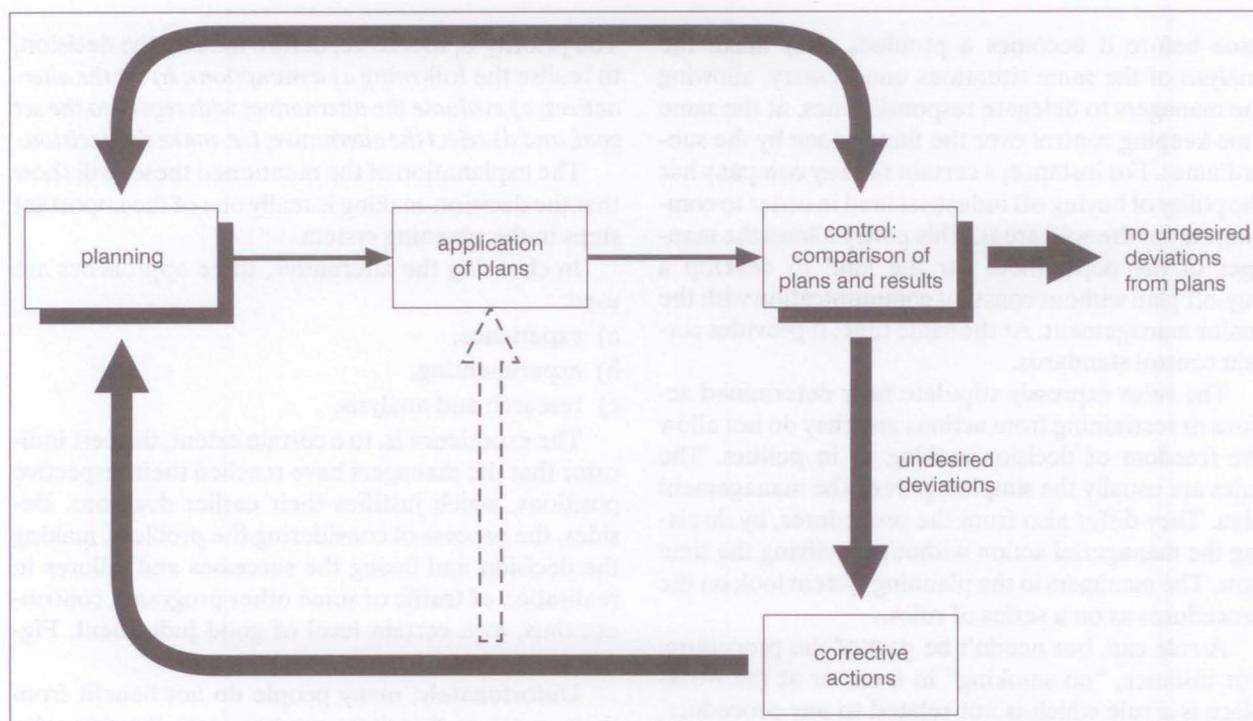


Figure 4

step in the planning system, even when it is performed quickly and with little pondering.

In the system of traffic planning and decision-making, it is claimed that their result must be rational. The people who rationally think and act (make decisions), try to achieve a certain objective that cannot be realised without action. In their operation they have to understand the alternative routes that can lead to achieving the objective under the current circumstances and restrictions. In planning of traffic or other activities, in the decision-making phase, the managers have to be satisfied with limited or "restricted" rationality. Since they cannot be completely rational in practice, they sometimes allow their aversion to taking risks, that is, wish to «play safe» disturb their wish to reach the optimal solution.

Under the given circumstances, Herbert Simon⁵ called this the achieving of the satisfactory, that is, selection of action orientation which is satisfactory. Although managerial decisions are made with the wish to act in the safest way, the majority still tries to make such decisions that would be within the limits of rationality.

The planning process (long-term) is not planning of the future decisions, but rather planning of the future reaction to the current planning decisions. The decision always means bonding of means, determining of the direction of action and investment of reputation. The decisions depend to a great extent on the planning system, unlike studies and analyses which precede the decisions. The traffic plan does not exist before the decision-making. Having this in mind, a

successful manager will consider in detail the long-term planning, as well as the concept of decision-making.

3. CONCLUSION

Management in traffic activity is an activity oriented to achieving certain, in advance determined objectives with the efforts and tendencies of other people. Implicitly it has been defined as innovation. It has efficiently revolutionised the nature of business over the last hundred years. This period is a very important one and it is called management revolution. Management revolution (like cars or telecommunication) has changed the way of living in the modern world. It has generated a lot of different people, ideas and circumstances in forecasting, as well as in the exploitation of the traffic system and the traffic infrastructure in general, and also, in general, the planning in all the other economic segments.

It may be concluded that management in general, as well as in traffic is one of the most important human activities regarding promotion and exploitation of the traffic means, devices, and infrastructure. From the time when people started to form groups, in order to achieve objectives, that they could not realise as individuals, management was necessary in insuring their co-ordination.

They achieve their activities by planning. This is the most important function unlike other management activities. It includes the choice of missions and

objectives, as well as actions to implement them: planning requires decision-making, i. e. choice among alternatives of the future actions. Plans, therefore, insure a rational approach to the realisation of the previously selected objectives. Planning spans the gap between what would not have happened otherwise. Although future can rarely be predicted accurately, since factors outside our control can disturb even the best set plan, if we did not make plans, all the events would be left to chance.

Planning is an intellectually demanding task: it requires conscious determination of actions and bases the decisions on the purpose, knowledge and careful assessments. All the conceptual and strategic intentions are based through or on planning, management decision-making, which usually include planning of traffic and other processes in advance for different periods of time.

Therefore, in every planning, including the traffic planning, the following general definition is valid: *PLANNING IS DEFINING OF PROCEDURES THAT LEAD TO A GIVEN GOAL.*

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SAŽETAK

MENADŽMENTSKO PLANIRANJE U PROMETU

Menadžmentsko planiranje u prometnoj i drugoj djelatnosti, uključuje izbor misija i ciljeva, te akcija za njihovo ostvarenje. Ono zahtijeva odlučivanje, tj. izbor između alternativnih pravaca budućih akcija. Stoga su planiranje i kontroliranje usko povezani.

Postoji više vrsta planova: svrhe ili misije, ciljevi, strategije, politike, procedure, pravila, programi i proračuni.

Jednom kada postane svjestan prilika, menadžer racionalno planira postavljanje ciljeva i pretpostavki o sadašnjoj i budućoj okolini, pronalazeći i ocjenjujući alternativne pravce, te izabirući onaj pravac koga treba slijediti.

S obzirom na to planiranje je gledano unaprijed, a kontrola unatrag. Konceptcija ukupnog planiranja, pa prema tome i

planiranja u prometu, ilustrira pristup upravljanju koji se temelji na ostvarenim ciljevima.

KLJUČNE RIJEČI

menadžment; menadžmentsko planiranje; odlučivanje i donošenje odluka; prometno planiranje i menadžmentsko odlučivanje; politika i strategija; ciljevi, zadaci menadžmentskog odlučivanja

NOTES

1. H. Brawermen: "Rad i monopolistički kapital", Zgb, p. 61. (according to P. Sikavica and M. Novak), "Poslovna organizacija", "Informator", Zgb, 1999., p. 382.
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