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ARRANGEMENT OF ROAD PASS PERMISSION WITH LOGARİTHMİC METHOD IN GAS STATION PROCESSED RECONSTRUCTION ISLANDS*

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Abstract

In terms of showing the details of the zoning islands within themselves, the zoning plans show different places under the application roof as additions, locations and revisions in a scale of 1/1000. In the zoning plan of 1000, some zoning islands are processed as gas station areas according to the condition of the road networks. The most critical problem in the processed gas station areas is to determine which way to enter and exit the gas station. In other words, it is the job of editing the road pass permission status. Especially in our country, this situation can be realized with the opinion of two different institutions. In this way, it is determined how many meters of road pass permission will be taken from the side of the municipality or highways, from the route under its own road dominance, from the wide part of the road and taking into account various parameters such as this. As a method, when the legal regulation with a certain upper and lower limit is considered as an exponential logarithmic function, this process can be done by determining the floor and ceiling in the logarithmic interval from bottom to top.

Key Words: Gas stations, Logarithm, Road Transition Status, Zoning plan, Lots.

BENZİNLİK İŞLENMİŞ İMAR ADALARINDA LOGARİTMİK METOT İLE YOL GEÇİŞ İZİN DURUMU DÜZENLENMESİ

Özet

İmar planları kendi içerisinde imar adalarının detaylarının gösterimi açısından uygulama çatısı altında ilave, mevzi ve revize olarak 1/1000'lik ölçekli şekilde farklı yerleri gösterir. 1000'lik imar planında da bazı imar adaları yol ağlarının durumuna göre benzinlik alanları olarak işlenirler. İşlenen benzinlik alanlarında en kritik problem benzinlik alanına hangi yoldan giriş çıkış yapılacağını belirlemektir. Yani yol geçiş izin durumunu düzenleme işidir. Özellikle ülkemizde bu durum iki farklı noktadaki kurumdan görüş alınması ile gerçekleşebilmektedir. Belediye ya da

∗ Bu araştırma sürecinde; TR Dizin 2020 kuralları kapsamında "Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesinde" yer alan tüm kurallara uyulmuş ve yönergenin ikinci bölümünde yer alan "Bilimsel Araştırma ve Yayın Etiğine Aykırı Eylemlerden" hiçbiri gerçekleştirilmemiştir. Ayrıca bu araştırma "Etik Kurul İzni" gerektirmeyen bir çalışmadır.

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karayollarından kendi yol hakimiyetindeki güzergahtan yolun geniş kısmından ve bunun gibi çeşitli parametreler göz önünde bulundurularak kaç metre yol geçiş izni alınacağı taraftan çekileceği bu şekilde belirlenmiş olur. Metot olarak ise alt sınırı ve üst sınırı belli olan yasal yönetmelik üstel logaritmik bir fonksiyon gibi düşünüldüğünde logaritmik alttan üstte giden aralıkta taban ve tavan belirlenmesi ile bu işlem yapılabilir.

Anahtar Kelimeler: Benzinlik alanları, Logaritma, Yol geçiş durumu, İmar planı, Ada.

Introduction

With the effect of population growth and socio-economic reasons, the quality of life in small settlements has decreased, and it has been insufficient to meet the needs of the people living in these regions. This situation has brought about migration to big cities. Of course, it should not be forgotten that the situation is not different in big cities. People had to leave their settlements to live a better life. This issue has led to agglomeration in cities (Namlı, 2017). Today, zoning plans, in other words, planning related to zoning, make their weight felt even more as a result of urbanization and increasing migration from rural to urban areas. The increasing population and the desire for quality life disrupt the absorbable dynamics of cities by forcing them, and as a result of this process, the authorities who are in charge of planning are pushing to find new methods and take the lead (Namlı, 2017). The extent of urbanization, which is a dynamic process, has led to the differentiation of the roles of cities and the problems they face (Gökyurt et al., 2015; Namlı, 2017). In addition to population growth and migration, industrialization, concentration of economic activity area in big city centers, education quality, etc. reasons lead to agglomeration in cities. Infrastructure and superstructure facilities, transportation investments, activities in the fields of health, education, culture and tourism always constitute the main subject of planning. In addition, the protection of the environment, image and natural resources, which are increasingly important today, and the prevention of interference with the naturalness of the vegetation is another aspect of the planning phenomenon. So much so that in order to create housing and other social facilities, which are the most basic needs of civilized people, there is a need for a regular urbanization with livable spaces and new lands to be produced in a planned manner (Koçak et al., 2015; Namlı, 2017). Although the main purpose of planning is livable cities and therefore public benefit, the regulations to be made create some obligations and obligations not only for the institutions authorized to make this regulation, but also for individuals (Onar, 1966; Günday, 2011; Akyılmaz et al., 2014; Namlı, 2017). Planning, as a concept, is a way of thinking that is thought ahead from a certain moment; It is the sum of studies aimed at examining possibilities, possibilities, comparison activities, and establishing regular relations between individuals and their communities and their environment (Kalabalık, 2014; Namlı, 2017). The zoning plan is; It is prepared in order to provide a healthy structure for the physical environment, which closely affects personal and family happiness and social life in human, society, environmental relations, to direct the location choices and development trends of investments, and to determine the balance of protection and use

of the soil in the most rational way (Tamer, 2010). Implementation zoning plans are one-to-one, continuous and mixed plans and contain detailed zoning provisions. For this reason, it is open to discussion and has difficulties in practice. Implementation zoning plans also contain general provisions. Although these legal texts are single or general in nature, they keep themselves alive as the most important function of urbanization (Namlı, 2017).

Theoretical Framework and Scope

Although the concept of planning can be evaluated with different approaches, its general meaning is; It refers to a goal to be reached at the last stage and the process to be followed for this purpose (Yavuz, 2017). Preparations made before taking action in order to reach a conceptually determined goal are the process of decision-making and selection, and it creates the thought system that will lead the action/action, thus bringing the theoretical hypothetical structure leading the action and determining the way of thinking (Atalık, 1984). Reflecting many professional disciplines in the physical space in line with the development purpose; It is the highest level of space produced by the human mind to meet the housing (housing), economic (trade/industry) and social (cultural/artistic) needs of the people of the city (Erses et al., 1998). In general, planning is a method of doing something or systematically organizing what needs to be done to achieve a goal (Hall, 2002). In planning, a road map is determined by considering the current situation and possible developments in the process. The determined roadmap leads us to the goal at the end of the process, and the initially thought outputs are achieved. If an evaluation is made for cities, the intended outputs will be plans at different scales (Yavuz, 2017). Zoning legislation, which forms the basis of urban planning principles; Consisting of laws, decrees, statutes, regulations, circulars and communiqués related to zoning, especially the Constitution; They are general regulatory and administrative procedures in plans of all types and sizes (Tanrivermis et al., 2016; Yavuz, 2017).

Material and Method

As is known, each abelian group G can be viewed as a vector space on Z. If an R ring is substituted for the F object in the vector space definition, the algebraic structure obtained is called a vector space on the R ring, or a modulus expression on the R ring is used instead of this expression. As can be understood from here, the concept of module is a generalization of the concept of vector space. Many of the concepts related to vector space also apply to modules. For this reason, modules are one of the important algebraic structures used in many branches of algebra and mathematics (Turp, 2019).

G is a group, x, y $\in$ G, Let y be an element of the subgroup produced by y, x.

$$x^m = y \quad (1)$$

so as to be m ≥ 1 The problem of finding the integer is called the discrete logarithm problem (ALP) for group G. $x^m = y$ The smallest integer m that fulfills y is called the logarithm (index) of the element y with respect to the element x, and $m = \log_x(y)$ or $m = \text{ind}_x(y)$ shown with (Turp, 2019).

Each for, a, b ∈ F_p^*

$$\log_g(ab) = \log_g(a) + \log_g(b) \quad (2)$$

$$\log_g(ab) \equiv \log_g(a) + \log_g(b) \pmod{p-1} \quad (3)$$

is In that case $\log_g$ As in the classical logarithm function, multiplication turns into addition (Turp, 2019).

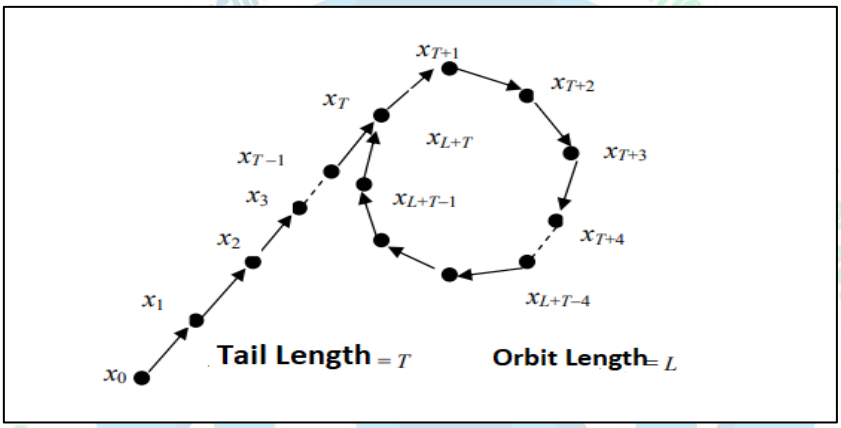

Figure 1. The trajectory of x_0 in Pollard's ρ algorithm (Silverman 2009; Turp, 2019).

Let S be a finite set with N elements and a function f : S →S. Starting term $x_0 \in S$ including x_0, x_1, … a series of points $x_i = f(x_{i-1}) = f \circ f \circ \cdots \circ f(x_0)$ be defined as i ≥ 0 including (x_i) in the series x_{T-1} the largest integer T, to appear only once, and $x_{T+L} = x_T$ the smallest integer will be L (Turp, 2019).

That is, a closed field closure occurs when the basis length is taken logarithmically as a trajectory from an alignment. Moving inwards from the parcel boundary in the closed area, this can be done within the framework of logic.

Findings and Discussion

Gas station areas are processed as zoning islands at critical points in the zoned areas where the width of the road networks is excessive and the general lines are distance points. In addition, its precedents and heights can be processed as a property on the island or parcel in a way to meet social needs such as fuel or commercial wedding halls. In our study, we tried to explain with examples how to enter and exit the gas station in these parcels or islands with logarithmic logic. The road pass permit is one of the documents issued in a way specific to gas station areas. While making this arrangement, the most important event is the process of determining the institution to which the road takes its facade

and, accordingly, the session area to be drawn inward from the part where the entrance and exit point will be made.

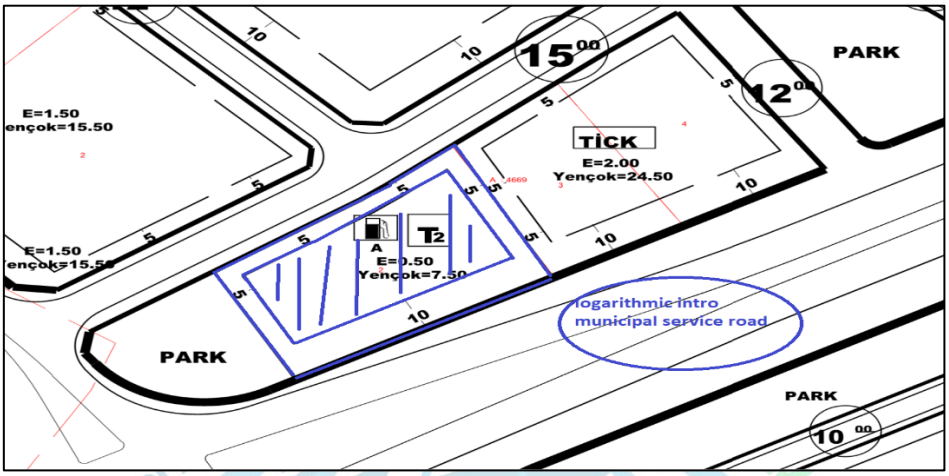

Figure 2. The view of the gas station parcel

Looking specifically at the figure $\log_g(ab) \equiv \log_g(a) + \log_g(b) \pmod{p-1}$ with the logic of being able to enter and exit the gas station from the road in the range of 10 to 100 meters, where the front is wide, the distance to the interior is given from the widest road from that front. This is called a road pass permit, if this road in the range of 10-100 meters belongs to the municipality, if it is a road belonging to the highways, it is drawn according to the vehicle regulation. The road pass permit status is determined by drawing a minimum of 10 meters on the roads belonging to the municipality and at least 25 meters in depth from the front on the roads belonging to the highways. It is drawn from the parts called side or backyard distance according to the planned type zoning regulation.

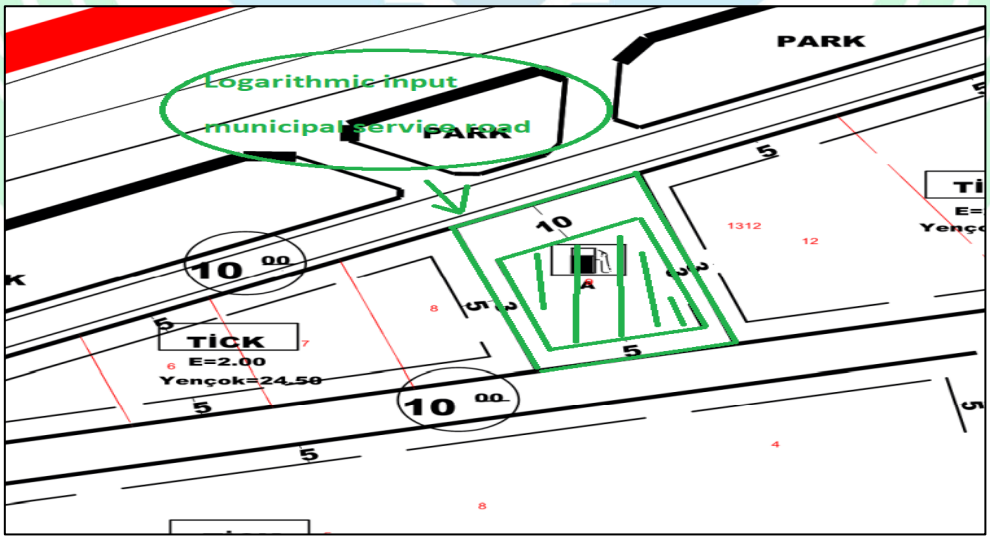

Figure 3. Gas station based plot

In the example, in the parcel extending from the 10-meter road in the form of north and south, since the road in the north is the main road after the service road, it is evaluated as the widest road front.

$\log_g(ab) \equiv \log_g(a) + \log_g(b) \pmod{p-1}$ from the outside to the inside, it should be considered as a 10-meter road crossing distance from the municipality's service road, and ground settlement should be made in a way that minimizes the draft in the south and the formation of the side garden. When there is no property on the parcel, the least shrinkage should be applied.

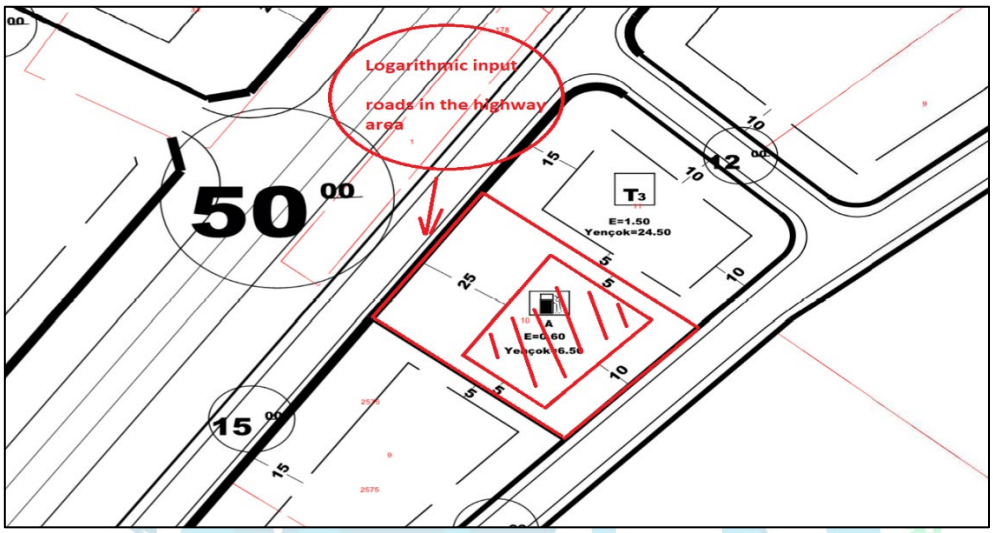

Figure 4. Front view of petrol station highways

In the west-east direction, the most important point to look at is the road access permit status at the point processed within a zoning island on a parcel basis only, and the question of where the vehicle will enter and exit the parcel, although there is a service road at the point where it is 50 to 15 meters away from the front, 25 meters from the front since it is connected to the highways. Road pass permit pull has been created. At the point where the vehicle in the south will not be able to enter and exit, it has been pulled 10 meters since it is the municipality service road.

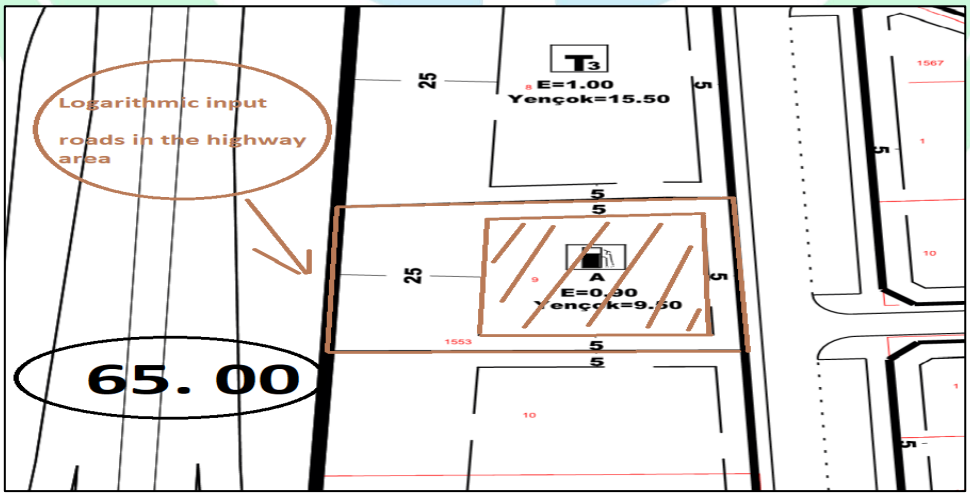

Figure 5. Image of the gas station

$\log_g(ab) = \log_g(a) + \log_g(b)$ If we take g as the lowest limit a or b as the highest, the rates of how the road pass permit status will be drawn on the basis of institutions become clear. With this logic, the

ground seating area is determined by taking the direction from the 65-meter wide road and by pulling the front towing distance at least 25 meters on a road route belonging to the highways.

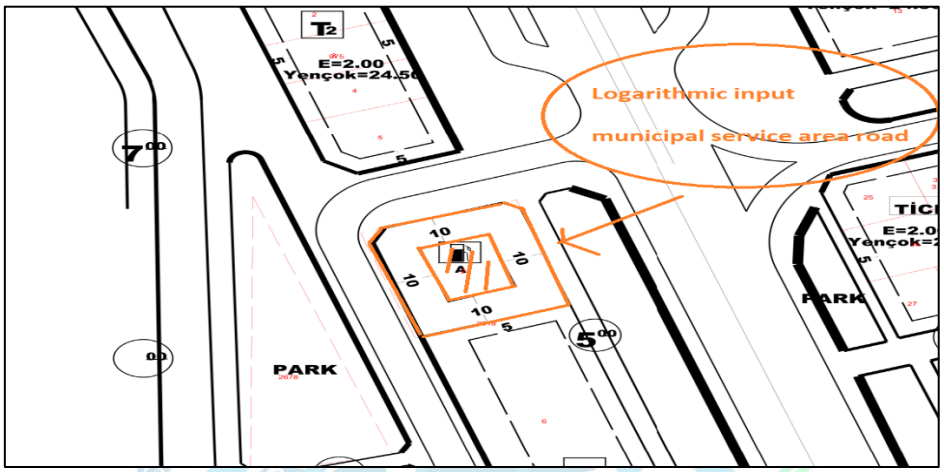

Figure 6. The view of the gas station area inside the municipality service road

Generally, the gas station area is tried to be given to areas far from the city centers. In the example, only the towing distances are shown, and if there is a different parcel identity such as residential or commercial in the south of a petrol station with no specific features, the side or rear towing distance is given by taking that into account. Although the parcel is a three-sided parcel in the image, since the road is wider on the east route, the road pass permit status of the parcel is determined from this point and the road pass permit is issued as 10 meters at the pre-drawing point of the gas station parcel, since it is a municipal service road. On the front at other points, as it faces the service roads from the x ^{m} = y feature, the front towing distances are applied at the same rate so that the vehicle entrance and exit are closed.

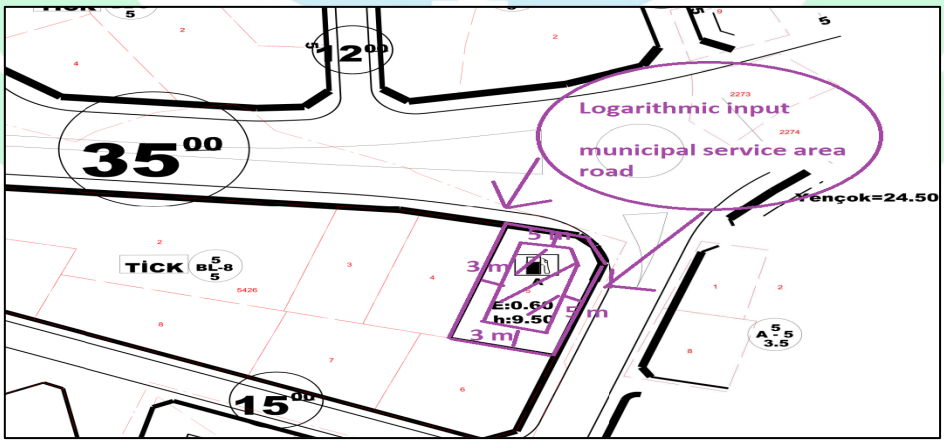

Figure 7. The view of the gas station area inside the municipality service road

One of the different examples is a single parcel-based parcel in a zoning island, and the gas station with a low frontage and depth should be taken from the widest road when the road access permit is to be given, and it should be given from the 35-meter municipal service road, although it is double-

sided. The minimum withdrawal requirement of 10 meters from the municipal service area road can be applied as an exceptionally 5 meters in narrow parcels that will not be sufficient in depth.

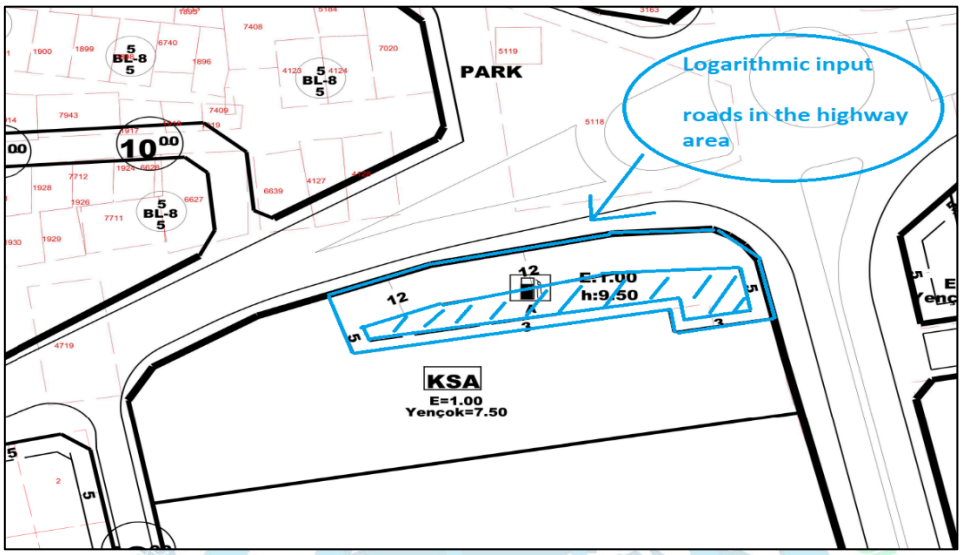

Figure 8. The view of the gas station area inside the municipality service road

In the image, a petrol station, which can also occur exceptionally, is at the road crossing distance $\log_g(ab) = \log_g(a) + \log_g(b)$ at the road level, when the parcel border is moved to the narrow and wide caliper position, the front towing distance will be enough due to the municipality service road, and the average distance will be 12. meters were created.

Table 1. Shooting distances (m)

Parcel Status	Road crossing front (m)	Other parties (m)
Municipal service road	10-25	3-10
Highway	25-50	5-15

The table shows how much the passage permit part should be drawn, and how much the other, side and rear parcels will take, depending on which road the front of the parcel is taken as a basis when it is desired to obtain a road pass permit to the gas station parcels.

Conclusion and Recommendation

The population density of the gas station areas, the topographic condition of the land, and the key points of the wide road networks should be processed within the zoning boundaries. While determining these areas, the most important part is the determination of the facade where the vehicle entrance and exit will be made. While the determination of vehicle entry and exit is called as road pass document, this type of operation can be done by evaluating it as a logarithmic method or a different geometric method from the outer edge of the parcel to the inner part of the parcel. In the examples in the study, there was a search for an answer to the question of how to issue a road pass

permit in exceptional and ordinary petrol stations. On the other hand, we suggest that the gas station areas should be created in accordance with the minimum road clearance distances, outside the population living areas as much as possible.

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