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Planning of Car Parking Spaces in Residential Areas of Tashkent City

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Abstract: The rapidly increasing number of motor vehicles in our country is causing a number of problems. Firstly, traffic jams occur on the roads and it becomes difficult to move, and secondly, maintenance of cars is becoming a serious problem. Due to the lack of special parking lots in settlements, neighborhoods, residential areas, including markets, offices, and other facilities, citizens illegally park their cars on sidewalks, entrances and exits of apartment buildings.

Key points: traffic, chip, road, parking lot, parallel to the roadway, perpendicular to the roadway, at an angle to the roadway.

Introduction. The demand for automobiles is increasing day by day in our republic to keep cars in a certain order, park them and park them is also given great attention. In historically formed cities, even in our modern cities today the problem of parking places for cars has not been completely solved. In the last 10-15 years, vehicles (especially private cars a sharp increase in the number) in all parts of the city, not only creating traffic jams in markets, shopping centers and stalls, cultural and household facilities and many other places, but also due to the lack of it, the outer lanes of the street are used for parking is spinning. As a result, this thing is negative for the carrying capacity of this street has an impact and leads to an increase in traffic accidents.

Parking and maintenance of vehicles, their technical service predicted the growth rate of automobile development in the near future in this case, saving the areas of the city territory, technical-economic, architectural-compositional and designed to maximize sanitary-hygienic efficiency.

Parking spaces and garages for storing cars in cities placed away from children's playgrounds, schools, kindergartens.

Main part. Problems in the car maintenance system are causing serious concern all over the world. We will consider this issue on the example of developed countries.

In America, the country with the largest number of cars, the issue of "parking" was raised in the 30s of the last century. At that time, underground parking complexes were introduced after there were no more places to store cars. At the moment, the most common parking lots in the USA are structures with several floors, similar to multi-storey buildings, without walls and roofs, with a special elevator. The car is automatically placed in such a parking lot. In most large cities, people don't just leave their cars on the side of the road, in residential areas, or on sidewalks. Because they know that as a result of this, they will be fined a large amount or their personal car will be taken away with a tow truck by the relevant authorities[1].

The advantage of American automated residences is that they have a system in place close to residential and service buildings, there is no attack on the building control, ventilation, elevator, stairs, exits and security service. The principle of operation is simple: after paying and receiving a receipt, the car is sent to the platform and automatically placed in a special slot. It takes 2 minutes to drive and return. Multi-storey mechanical parking lots can accommodate up to 250 cars. For

example, there is an automated parking lot in Italy that is 30 meters in diameter. The machine manipulator tool is specially designed for the empty cell. But it requires a lot of money.

In the Netherlands, the majority of people get around on comfortable bicycles. In addition, the state has approved a project to build not just an underground parking lot, but an underground car storage city that will include a car wash, a car shop, gyms, a swimming pool and a movie theater. It will take 10 billion euros and 20 years to complete the project.

In London, access to the central area by private vehicle is very expensive, and parking fees are relatively high.

In Europe, America, and South Korea, parking lots are located on the outskirts of the city, near subway stations, and people leave their cars in such places in the morning and during the day, and move around the city by subway or public transport.

In Germany, a private car storage system has been launched on the porch of a house. These houses consist of 6 floors, each floor has 2 apartments. Special elevators are installed to lift the car up.

Unfortunately, today, not only in our big cities, but also in Tashkent, due to the lack of parking spaces, it is difficult to park a car without breaking traffic rules. The parking lots are guarded and finding a free space is always a problem. As a result, we often see cars illegally parked in residential areas, green areas, children's playgrounds, and sidewalks. This creates unfavorable conditions for the population, including the elderly, disabled, children and women with young children, to walk[4].

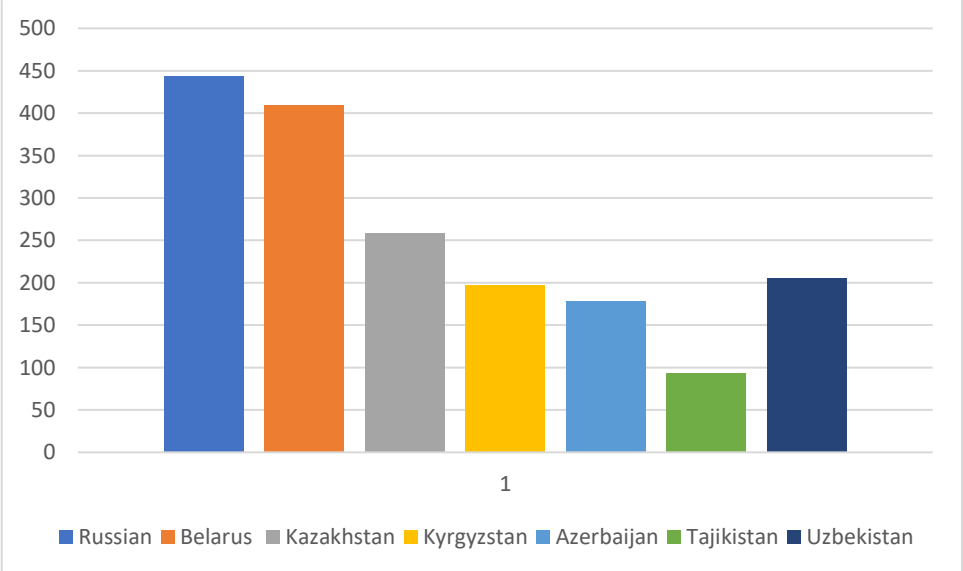
Planning of parking for private transport is one of the main problems facing urban planners in connecting residential complexes. In order to study the issues of combining parking lots into residential complexes, it is necessary to analyze the interaction of parking lots with separate structures: flat, surface, underground, surface-surface, court inspections, parking lots and residential complexes.

As of January 1, 2024, the number of cars registered in Tashkent reached 624,022.

As of January 1, 2024, the total number of permanent residents of the city of Tashkent was 3,040,800 people. This indicator has increased by 2.9% compared to the corresponding period of 2023[5].

As of January 1, 2024, the average number of cars per 1,000 permanent residents in the CIS countries:

Graph-1



According to the normative documents of urban planning, it is calculated for every thousand inhabitants of the city 250 cars are calculated during the period. According to the norms of car storage in residential areas, 75% of cars are closed type in garages, and the remaining 25% of cars in open-type car storage areas will be planned. In turn, this area serves the entire city is distributed based on the radius.

Residents have a distance of 8-10 km from the garages where their personal cars are stored per minute, that is, the pedestrian path is 800 m to the car (This distance is the maximum for zones I-IV).

It is 200 m from the residential buildings to the parking lot should not exceed. This requirement is set up to 150 m in the northern regions. Normative industrial garage and open car storage areas while maintaining the service radius zones, in sanitary-protection zones, in areas allocated to railways, terrain it can be placed in unfavorable areas for sharp construction.

In high-rise residential districts, open car parking spaces are at least 25 It is proposed to target 100 cars. From sunlight in such areas umbrellas for storage, greenery around them for protection will be planned. Use of underground garages with 25-100 spaces in order to save the city area is recommended. In the design of such structures, construction on the existing area features, landscaping, relief, underground engineering networks and it is necessary to take into account hydrogeological conditions.

In some cases, depending on the underground conditions, 2-3 floors underground garages can be designed. Underground garages to multi-storey above-ground garages despite the relatively expensive construction, it has its own advantages, it is first of all an effective use of urban spaces, and besides, it is a residential area will not cause any damage to the normal life of the district and for the population is convenient.

In newly built residential areas, garages are under the buildings it is advisable to plan on the floors and basement floors.

In order to reduce traffic on internal roads, it is open placement of car storage areas and garages at city entrances is intended. Direct exit from garages to or from city highways entry is not allowed.

Garages and open car storage areas from residential and public buildings it should be protected by a 10-15 m wide grove of trees or shrubs. Temporary parking of cars in front of enterprises is as follows can be organized in places:

- temporary parking place for cars - enterprises, institutions and of other similar buildings (workers and servants, visitors for cars), stadiums, theaters, cinemas, concerts, shows and exhibitions are placed in front of the halls (commuter cars up to 2-4 hours stored);
- temporary car parking places - railway stations, shops, markets, placed in front of shopping centers, household service facilities (arrivals cars are stored for up to 1 hour).
- Temporary parking and parking of vehicles from the service facility the distances to the stands are as follows:
- from waiting rooms of railway stations, railway platforms, trade and household from -150 m from the facilities of the institution;
- providing cultural and household services to all other types of population from institutions and public buildings, entrances to amusement parks, exhibitions and from stadiums - should not exceed 300 m.

Temporary parking and parking of cars in the central parts of the city first of all, open spaces are needed for standing areas. Open parking spaces are usually from the carriageway, that is, from transit traffic will be placed in protected, special areas with a separate corridor. Spaces allocated for one car in open parking spaces 1-given in the table[2].

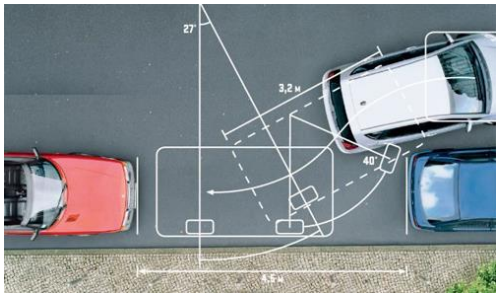
Placement of cars in open parking spaces.

Table 1

№	Location scheme	Stoyanka 100 m in the lane number of cars	1 ta avtomobillar uchun ajratiladigan maydon, kv.m.
	1-line alignment 2-line alignment	18 36	30.5 28.0
30°	1 row at an angle 2 row at an angle	21 42	37.0 28.8
45°	1 row at an angle 2 row at an angle	29 58	28.5 22.5
60°	1 row at an angle 2 row at an angle	39 78	26.2 19.8
90°	1 row at an angle 2 row at an angle	45 90	25.8 18.0

Parking of cars can be done in 3 different ways:

- ✓ parallel to the traffic section;
- ✓ perpendicular to the traffic section;
- ✓ at an angle to the carriageway.



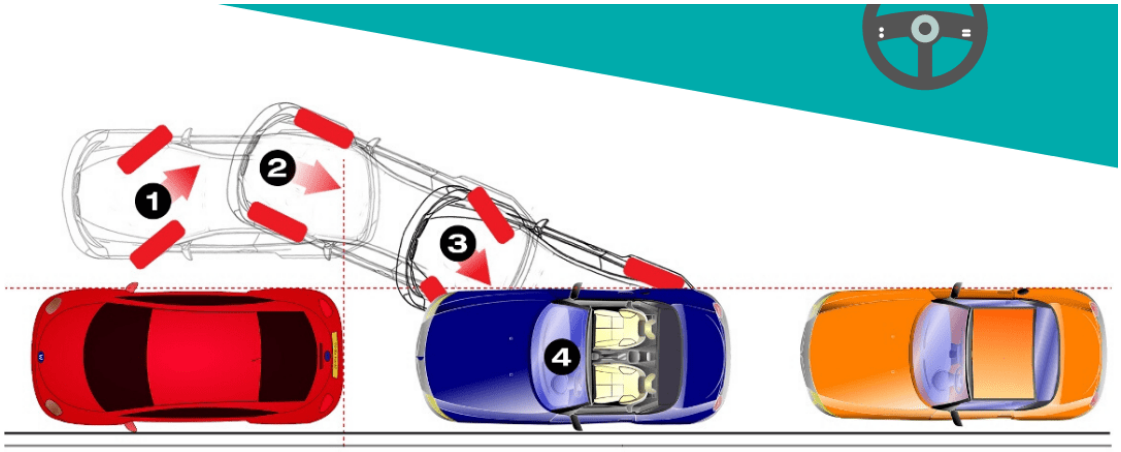
Picture 1. Parallel to the carriageway.

Picture 2. To the traffic section perpendicular.

Picture 3. At an angle to the carriageway.

Parking perpendicular to the carriageway is usually a vehicle It is used in the garage. If you park perpendicularly if you know well, parking at the corner is not a problem for you does not give birth. Parking parallel to the carriageway is on the sidewalk between cars, the space for your car is tighter, but if there is enough, then this is it recommended to move backwards into the interval.

Place the chips for parallel parking of the car in the picture below as shown, the car is placed accordingly.



Picture 4. Paralelle parking in 4 simple steps.

In case 1, the steering wheels of the car are turned to the right need in case 2, between the side of the car and the closest chip at a distance of not less than 0.5 m, and from case 2 to case 3 - a car should move correctly. In case 3, from the rear right corner of the car the distance to the chips should be 0.5 m. During movement from state 3 to state 4 it is very important to control the right wing of the car. Case 4 is done shows the result achieved after the exercises[3].

Conclusion. In the big cities of our country, especially in our capital, Tashkent, like all over the world, they cannot solve the complex of problems related to special cars and cars. Fields are being lost with the help of open car protection devices. The parking lot we offer has a ramp and the minimum size of the total area for one car is 25-30m^2. But according to the rule, this indicator is actually high and reaches 40 m^2 on average. Today, we are directly and under observation of the problem of parking shortage in all districts of the city. The problems related to the parking lot and the density of the related buildings are correct. and waiting for its optimal solution. Although the application of modern parking technologies is one of the possible and promising ways to solve the parking operation, but before making any decision, it is necessary to thoroughly analyze where the parking lot is facing and where the parking problem is concentrated.

The gauge of modern cars is different from old cars. their turning radius is also minimized. Taking this into account, it is possible to reduce the access distances to specially designated car parking areas. This allows us to make the most of a small area.

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