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Methods of decreasing the level of crime rate through the design of an urban environment

Abstract:The article analyzes the laws used in designing public spaces and roads, new scientific discoveries, the results of their development in real life and the degree of their development. The person as the best instrument of observation and the main point in the concept of safe space.

Key words:urban design, environment, crime, protecting space, road accident, traffic problem, underground passages, security level, comfortable streets, public space.

“People have to be quiet in order for their future to be guaranteed security and protection from the state. Personal and property security of citizens is of great importance”.

Nazarbayev N.

One of the approaches to safety in the urban environment involves creation of most protected spaces with a total watch system where citizens act as observers. The alternative environmental strategy of prevention of crimes which includes the creation of protecting space was offered by an American architect O. Newman in the 60th of the 20th century. The main idea consists of the creation and maintenance of such architectural concepts which as much as possible promotes maintenance of dense human communication and forming of local communities which act as the main agents of observation and control. Effects of visibility which are reached by means of environmental design are rather inexpensive and a convenient measure of prevention of crimes[1].

Streets are some of the most important public spaces insufficiently used in the city. They are a source of the vital force of cities and a cornerstone of the development of economy of settlement. They form the most part of public spaces of cities and have the potential of been developed for business activity.

The modern rhythm of city life dictates new design requirements of city streets according to a new approach that considers a set of functions which are performed by streets. Streets not only provide a place for movement around the city but also play a serious role in life of the cities and their areas. In this regard design on an equal basis with transport channels, it is necessary to mortgage public spaces in plans and to consider a variety of functions which are performed by streets in the urban environment [2].

Before designing of streets, it is necessary to consider the needs of all participants of traffic. On statistical data, only in 6 months of 2018 in Kazakhstan there were 6,743 road accidents in which 9,400 people suffered, 783 persons died. The greatest number of road accident occurred in Almaty – 3,277, in Almaty region – 917. And the mortality index on roads in RK is 24.2 on 100,000 populations, that makes probability to die in a road accident in Kazakhstan 11 times higher, than in the countries of Europe.

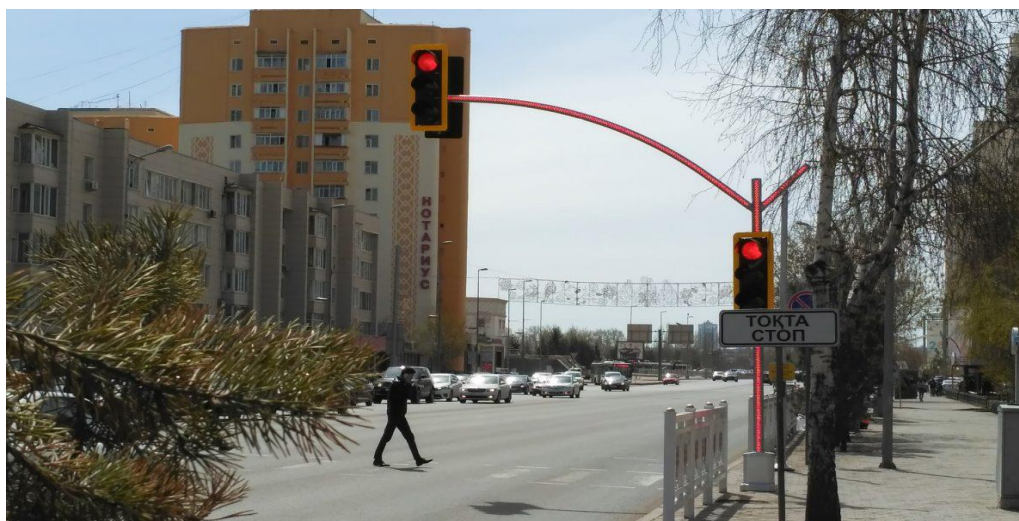
As a rule, the most unprotected participants of traffic are pedestrians who become the victims of road accident in attempt to cross the road in not put place or because of drivers. At all this, it is necessary to consider the reasons for which there are such situations. The driver does not expect to see the pedestrian crossing a road strip in places of elevated and underground passages.

As international experience, in places of underground and above-ground crossings, the road accident level with the loss of human life is higher. Also, there are some more facts confirming irrationality of use of such transitions. One of them is a high probability of commission of criminal acts. The person intending to commit illegal activities be it a robbery or attempt to assassinate life, will choose a deserted underground passage instead of a crowded street with lights.

One more argument is the fact that walls of underground passages often become canvases for vandals' or graffiti artists. Another reason, is inaccessibility of underground and elevated passages by handicapped national groups which makes about 30% of each megalopolis. Not only elderly people and disabled people, but also mothers with carriages and people with heavy packages are treated as handicapped groups. Ramps and elevators in this case are not the best exit. In most cases, ramps do not conform to standards

and have strong degree of an inclination that makes such transitions a big test for handicapped users.

The psychological factor of the person is the third reason. For a number of the psychophysical reasons, the person seeks to get from point A to point B in the shortest way. The unwillingness to use crossings could lead to the use of underground passages and this might lead to sad consequences. It would seem, transitions could help with a problem of the solution of traffic jams on the loaded streets, but it is kind of absurd to think pedestrians are responsible for traffic jams rather an unreasoned transport gating system are the cause of traffic jams. The correct calibration of traffic lights, creation of separate strips for each participant of traffic can be the decision for traffic jams. The fourth reason for the refusal of transitions is high cost. The creation of one elevated transition costs between 50 to 250 million tenge and also the underground passage costs between 500 million to 3.5 billion tenge are required. And also additional financing for purity maintenance, for lighting and repair of transitions is required. For comparison, these amounts can be used in the following purposes: the creation of the park or square, gardening of the city, purchase of three modern low floor trams (it is relevant for the cities equipped with the system of the subway), etc. One of the financing redirection methods is an upgrade of visual road communications. The striking example of the use of such communications in our city is the traffic light on Republic Avenue (See 1.) [3].



1: The traffic light with support illumination

One more innovation for improvement of quality of traffic is a holographic tunnel of traffic light colors, which installation is planned shortly in Almaty.(See 2.)



2: The innovation version of the traffic light

The above factors are directed to road accident reduction in the amount they were considered, but you should not forget about the transport handling capacity of roads and about the balanced development of the urban environment, and also about the financial and marketing side. As for sidewalks, they are an indicator of financial development of the city. Ratios of the width of the carriageway and the sidewalk are directly proportional to the attractiveness of the street, both for ordinary pedestrians and for businessmen and investors. Wider sidewalk provides financing in reconstruction and classing of the adjacent territory

Competitive business requires a consumer resource which is provided with good location and a good flow of people. Illumination and the crowdedness of a street, as well as in a case with underground and elevated passages ensures big safety.

Concerning the safety of pedestrians on sidewalks, it is possible to note such painful aspect as fences that are used everywhere: for the protection of monuments, temporary installations, New Year trees, sidewalks and as carriageway protection, with the purpose to prevent crossings not put in place. But all these attempts to fence off people

from their city, are illogical. It would be much more productive and more economic to use more friendly design methods of the urban environment.

In a case with sidewalks, fences are used as a method to protect pedestrians from terrorists or accidents. The fifty-centimetric fence will not be able to stop a car moving at a high speed. Moreover, if this fence is made of cast iron, a collision with the car would scatter it into small splinters, turning into shrapnel. Besides, it would be more economical to use columns instead of fences, or if the sidewalk is separated by a green strip and also it is better to use as concrete flowerpots or trees as protection in this case.

Often, fatigue and somnolence of drivers and also lack of parking spaces nearby can become the reason for the presence of cars on the sidewalk. If the purpose of a fence is to prevent the crossing of a street is not put in place, then this also is not a good decision. Why not create more comfortable streets not to force people to cross the road where it is inconvenient and dangerous?

Also fences can create a visual tunnel for the driver and induce the ability of the driver not to exceed a speed limit. Besides, such protection misleads the driver and increases effect of unexpectedness of an exit of a pedestrian to the carriageway. The desire of city administration to fence off pedestrians from the carriageway becomes difficult because people crossed and will cross the road that appears more convenient and quicker, considering that within the city such protections do not exceed meter, it does not take special work or effort to overcome it.

One more point in planning of the city, is recreational zones, such as parks, squares, embankments, etc. Such places are public spaces where the main indicator is the presence of visitors. Visitors are the chief security guards, and also attractive characteristic for businesses and investments.

Security of the park directly depends on the number of visitors. The best indicator is the hourly number of people. For such public place as the park it will be better if hourly it is visited by 100 people, then 1000 people but in the evening, a good hourly attendance will ensure safety and profit for entrepreneurs. For parks, embankments such types of business as bicycle rental, fast food, ice cream, attractions and other types of entertainments are characteristics [4].

Also carrying out marathons, group sports occupations, playgrounds for different age groups, racetracks would affect the reputation of the park. For dogs, it is worth providing sites for walking. Thanks to such versatility, the park will be filled with visitors each hour. Not the last role in the wellbeing of the park is occupied by an environment. For bigger efficiency, the park has to be surrounded by buildings of different function: apartment houses, offices, educational institutions, and also public buildings for leisure.

Thanks to such variety, visitors will pass through the park continuously. In the morning it will be crossed by the office workers and school students, people doing morning exercises, walking of dogs will also be possible. In midday time mothers with children or pensioners will walk. During lunchtime, office workers will go for lunch and school students' home. In the evening and late time to walk in pairs, youths, families and workers going home from work. Such a system and good illumination ensures the maximum safety of all visitors of the park.

The direct dependence of the number of visits and the criminal situation is observed. However, the isolated case can break accurately harmonious work of the park. One crime will lead to a decrease in attendance, and a decrease in attendance, in turn, will attract more criminals. To break off such circulation is quite difficult therefore it is necessary to react without delay to any violations of the law and to quickly stop them by using forces of law enforcement agencies.

Thanks to technogenic evolution of the cities, mankind received the impressive positive results concerning the growth of quality of life in the cities where the level of security plays not the least role. Every day the new needs for increased security and efficiency of public spaces appear. Innovations in the sphere of technologies allow to satisfy this demand, increasing the level of comfort of streets, parks, banks and other public spaces of the city.

But you should not forget that the unique part would not be products of scientific researches rather the person remains the most unique and not studied creation in our world. They interact among themselves and with the world around, we are capable of creating a unique network of observation and are capable of preventing accidents, following the rules and not passing by cases that require our help.

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Қалалық ортаны жобалау арқылы қылмыс деңгейін төмендету тәсілдері

Аннотация:Мақалада қоғамдық кеңістіктерді жобалауда пайдаланылатын заңдарды, жаңа ғылыми зерттеулерді, оларды нақты өмірде қолдануды және олардың даму дәрежесін талдауды қамтиды. Адам қауіпсіз кеңістік тұжырымдамасындағы ең жақсы бақылау құралы және басты нысан ретінде қарастырылады.

Кілт сөздер:урбанистика, қоршаған орта, қылмыскерлік, қауіпсіз орын, жазатайым оқиға, жүктелген жолдардың мәселелері, жерасты өткелдері, қауіпсіздік деңгейі, жайлы көше, қоғамдық орын.

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Способы снижения уровня преступности при помощи проектирования городской среды

Аннотация: Статья включает анализ законов, используемых в проектировании общественных пространств, новых научных исследований, их применения в реальной жизни и степень их развития. Человек

рассматривается, как наилучший инструмент наблюдения и главный объект в концепции безопасного пространства.

Ключевые слова: урбанистика, окружающая среда, преступность, безопасное место, несчастный случай, проблемы загруженных дорог, подземные переходы, уровень безопасности, комфортная улица, общественное место.

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