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Кафедра иностранных языков

АНГЛИЙСКИЙ ЯЗЫК

МЕТОДИЧЕСКИЕ УКАЗАНИЯ
для студентов специальности
«Организация и безопасность движения
(автомобильный транспорт)»

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Составитель Л.А. Наградова

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Методические указания состоят из 4 разделов, включающих в себя тексты, лексический материал и разнообразные упражнения по темам, связанным со специальностью «Организация и безопасность движения (автомобильный транспорт)». Цель методических указаний – подготовить студентов к чтению и пониманию текстов по специальности, способствовать развитию навыков устной речи.

Для аудиторной и самостоятельной работы студентов специальности «Организация и безопасность движения (автомобильный транспорт)».

*Рецензент канд. филол. наук, доцент кафедры иностранных языков
ИГАСУ О.Н. Тарасова*

**Составитель
Наградова Лидия Алексеевна**

АНГЛИЙСКИЙ ЯЗЫК
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«Ивановский государственный архитектурно-строительный университет»
✉ 153037, г. Иваново, ул. 8 Марта, 20

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Section I. ROADS

T e x t. Road Junctions and Intersections

A road junction, as the term is generally used, is the point at which one road meets another; an intersection is the point at which two or more roads cross each other. Both junctions and intersections are, of course, the worst danger spots in a road system.

The problems of reducing danger at these points are those of cost and space. If junctions and intersections are such that all classes of traffic meet each other at the same level, there is a danger of collision, not only between cars of the same class but between those of different classes. Almost complete segregation of different classes can be achieved, and the need for users of the same class to cross traffic streams, the most dangerous process of all, can be avoided.

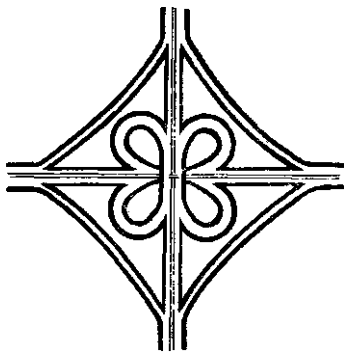


Fig. 1

The perfect example of complete segregation of different classes of traffic and of the avoidance of crossing traffic streams is the *clover-leaf junction*, at which no collision can occur between vehicles if the drivers of those leaving the junction can manage to avoid those already on the road which they are approaching — which is a difficult thing (Fig. 1).

All forms of road junction can be classified into three groups: *multi-level junctions*, *roundabouts* and *flyover-junctions*.

Multi-level junctions. The clover-leaf, the most typical of these, has already been mentioned. There is need for multi-level intersections where three conditions are fulfilled:

- 1) only a small percentage of the traffic must turn to the left or right;
- 2) the major volume of traffic is travelling on a fast through route;
- 3) the volume of traffic would otherwise be sufficient to justify the provision of a roundabout.

Roundabouts. Unlike multi-level intersections, roundabouts do not enable traffic to cross without dropping speed but pedestrians and cyclists cannot be segregated unless costly over- or under-passes are constructed (Fig. 2). The success of a roundabout depends greatly upon the ease with which vehicles using it can “weave” or pass from one traffic lane to another. The greater the length of the road in which the weaving can be carried out and the smaller the angle of approach of converging streams of traffic, the more easily can weaving be performed. The angle should not be greater than 30 degrees. The greater the diameter of the island, the smaller the angle of convergence.

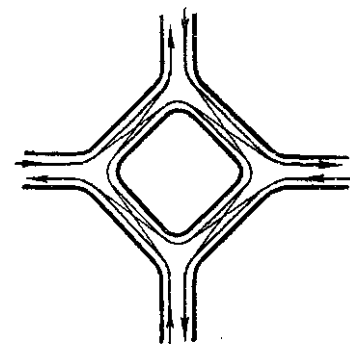


Fig. 2

Flyover-junctions. These have been developed chiefly at places where there are no pedestrians (and cyclists are few, if any). These “flyovers”, which enable high speeds to be maintained, are extremely expensive, costing about ten times as much as a roundabout, so it is much better to have ten roundabouts at ten dangerous junctions than a single flyover at a single junction. A combination of roundabout and flyover bridge can be of great value.

УПРАЖНЕНИЯ

1. К следующим английским словам подберите русские эквиваленты из правого столбца:

stream	1. уличное движение
collision	2. перекресток
junction	3. пешеход
intersection	4. велосипедист
segregation	5. транспортное средство
vehicle	6. поток
traffic	7. сквозной проезд
safeguards	8. процентное отношение
pedestrian	9. столкновение транспорта
lane	10. затор (в движении транспорта)
clover-leaf junction	11. перестраиваться в другой ряд движения
roundabout	12. скорость
percentage	13. разделение потоков движения
congestion	14. полоса движения
through route	15. меры безопасности
to weave	16. сочетание
cyclist	17. дорожный узел
speed	18. площадь кругового движения
volume	19. развязка (разворот)
	20. угол
	21. пересечение в форме клеверного листа
	22. объем, интенсивность

2. Переведите следующие словосочетания:

road junction, road system, traffic streams, clover-leaf junction, traffic speed, traffic volume, car driver, traffic lane, danger spot, complete segregation, through route, danger of collision, multi-level intersections, high speed, angle of convergence, to reduce danger.

3. *Укажите, какие из данных утверждений соответствуют содержанию текста. Расположите их согласно последовательности изложения.*

1. Crossings are the spots where the greatest number of accidents takes place. 2. The solution of the safety problem is expensive and requires much land. 3. If traffic is not heavy, signals are very useful at places where a roundabout cannot be built. 4. It is not easy for drivers leaving the crossing to avoid those coming to it. 5. Overpasses and underpasses help to segregate the pedestrians and the traffic. 6. Passing from one lane to another should be carried out gradually.

4. *Укажите, какие из данных предложений относятся к описанию: а) пересечения на разных уровнях; б) площади кругового движения; в) путепровода.*

1. It does not enable its traffic to cross without dropping speed. 2. It is constructed at places where there are few or no pedestrians and cyclists. 3. It enables its traffic to cross without dropping speed. 4. The major volume of its traffic travels on a fast through route. 5. It enables high speeds to be maintained. 6. Only a small percentage of its traffic travels to the left or right. 7. It is extremely expensive. 8. It is a perfect example of complete segregation of different classes of traffic.

5. *В соответствии с содержанием текста дополните незаконченные предложения одним из данных вариантов.*

1. There is a danger of collision between vehicles of the same class and those of different classes if...

a) ...there is no need for drivers to cross traffic streams; b) ...there is a clover-leaf junction; c) ...all classes of traffic meet at the same level at intersections.

2. Multi-level intersections are adopted when...

a) ...only a small percentage of traffic travels on a through road; b) ...the traffic must cross the street necessarily dropping speed; c) ...the major volume of traffic is travelling on a fast through route without dropping speed when passing the junctions.

3. A roundabout is considered successful if...

a) ...the angle of approach of converging streams of traffic is very large; b) ...the vehicles using it can easily reach different exits as directly as possible passing smoothly from one traffic lane to another at a small angle of convergence; c) ...the road for the vehicles to pass from one traffic lane to another is too short.

4. Flyover junctions are not very widely used as...

a) ...they do not enable high speeds to be maintained; b) ...they cost ten times as much as a roundabout and are designed for roads where pedestrians and

cyclists are excluded; c) ...they are manageable only on roads which accommodate pedestrians and pedal cyclists.

6. Составьте план к тексту урока из шести пунктов.

7. Переведите предложения, обращая внимание на выделенные слова.

1. Both junctions and intersections are the worst **danger** spots in a road system. 2. If all classes of traffic meet each other at the same level there is a **danger** of collision. 3. The need for users of the same class to cross the traffic streams is the most **dangerous** process of all. 4. An intersection is a point at which two or more roads **cross** each other. 5. When leaving the junction you should manage to avoid those on the road you are **approaching**. 6. The angle of **approach** of **converging** streams of traffic should be as small as possible. 7. The angle of **convergence** should not be greater than 30 degrees.

8. Переведите предложения, обращая внимание на употребление “that — those” во избежание повторения существительного.

1. The problems of reducing danger at road junctions and intersections are those of cost and space. 2. There is a danger of collision not only between vehicles of the same class but between those of different classes in cases when junctions and intersections are such that all classes of traffic meet. 3. No collision can occur between vehicles at a clover-leaf junction if the drivers of those leaving the junction can manage to avoid those already on the road they are approaching. 4. A perfect type of junction is that at which no collision can occur.

9. Укажите, в каких предложениях “which” употреблено в значении “что”.

1. A road junction is a point at which one road meets another. 2. The clover-leaf junction, which occupies about 24 acres, gives the drivers leaving the junction a possibility of avoiding collision with those on the road — which is a very difficult and important fact. 3. Which of the forms of road junction is selected is a matter of cost, space, traffic speed and volume. 4. The clover-leaf junction was about 24 acres, which gave the car drivers the possibility of passing without hindrance. 5. There are many factors which determine the type of road junction to be chosen. 6. Unlike multi-level intersections, roundabouts do not enable traffic to cross without dropping speed, which is a certain disadvantage. 7. A road junction is a point at which two or more roads cross each other, which is a dangerous point. 8. The success of a roundabout depends greatly upon the ease with which vehicles using it can “weave” or pass from one traffic lane to another.

10. Выберите необходимую форму глагола.

1. The routes of public transport are suggested by the master plan and . . . (may define, may be defined) principal pedestrian ways and tracks for cyclists. 2. Almost complete segregation of different classes of traffic . . . (can achieve, can be achieved); only the right type of junction (should choose, should be chosen). 3. The need for users of the same class of traffic to cross traffic streams . . . (can avoid, can be avoided). 4. The clover-leaf junction is most advantageous when only a small percentage of the traffic must turn to the left or right, and a fast through route . . . (must provide, must be provided) for the major volume of traffic. 5. The success of a roundabout depends very largely upon the ease with which vehicles using it . . . (can pass, can be passed) from one traffic lane to another.

11. *Сгруппируйте слова с одним корнем и переведите их.*

cost, to segregate, approach, convergence, to collide, segregation, avoidance, to converge, collision, costly, dangerous, crossing, to approach, danger, to cross, to avoid.

12. *Найдите русский эквивалент каждого английского слова.*

A. 1) to exist; 2) urban; 3) driver; 4) junction; 5) solution; 6) cost; 7) roundabout; 8) segregation; 9) flyover; 10) pedestrian subway; 11) bridge; 12) through traffic; 13) important; 14) to improve; 15) condition; 16) local; 17) to approach; 18) flow; 19) to avoid; 20) vehicle; 21) accident.

Б. 1) перекресток; 2) решение; 3) важный; 4) состояние, условие; 5) мост; 6) подъезжать; 7) существовать; 8) экипаж; 9) поток; 10) сквозное движение; 11) местный; 12) водитель; 13) городской; 14) избегать; 15) улучшать; 16) стоимость; 17) разобшение, разделение; 18) пешеходный тоннель; 19) несчастный случай; 20) путепровод; 21) круговое движение транспорта.

13. *Опровергните следующие неправильные утверждения с точки зрения содержания текста.*

Образец: A road junction is the point at which one road crosses another.

The statement is incorrect. A road junction is a point, where one road meets another.

1. If crossings are such that all classes of traffic meet at the same level, no collision will take place. 2. Drivers leaving the junction and those on the road they are approaching should avoid each other — which is an easy thing. 3. The shorter the length of the road in which weaving is carried out, the more easily can weaving be performed.

14. *Ответьте на данные вопросы:*

1. What are the most dangerous spots in a road system? 2. What problems are connected with the problems of reducing danger at these points? 3. How can complete segregation of different classes of traffic be achieved? 4. What types of road junctions do you know? 5. What does the success of a junction depend on? 6. What helps to segregate the pedestrians and the traffic? 7. Why is it much better to have ten roundabouts at ten dangerous junctions than a single flyover at a single junction?

15. *Назовите, какие типы развязок изображены на рис. 1 и 2, и объясните, в каких случаях они применяются.*

16. *Перескажите текст.*

17. *Прочтите текст за 2 минуты и найдите ответ на данный вопрос:*
How can the problem of safety be solved?

Roads appeared in the far-off times and were first in the form of pedestrian tracks. Then, as civilization progressed, they became routes along which horse-drawn traffic and finally vehicles moved.

Roads have always had a dual function: as traffic routes and as a means of approach to dwellings and other buildings. But since the growth of transport these functions have been seriously in conflict with each other. Today this conflict is extremely great and leads to great danger.

Any town so planned that its citizens are killed in great numbers is an ill-planned town. The layout of all newly developed areas must be made dependent on the safety factor. Pedestrians and fast motor traffic must never be mixed — they must be isolated.

Section II. **TRAFFIC CONTROL**

T e x t. Traffic Control

It is obvious that in existing urban areas much of the congestion is due to narrow streets and junctions which are incapable of taking peak-hour traffic. The solutions to this problem are costly. They include adequate roundabouts and street widening, and the segregation of traffic by means of flyover roads, underpasses, bridges, and pedestrian subways.

Much of the congestion in urban areas is due to traffic which has no business in the area but is only passing through. There is a tendency for drivers to keep to the well-lit shopping streets. If they can be made to use less important streets and those not occupied by shops, then conditions are improved not only for the through traffic but also for the local traffic.

Signposting is, of course, a directional control and a very effective one. In fact it is important for all signs and symbols used on the roads to be seen, well in advance, by drivers approaching at normal speed. Directional control cannot increase the capacity of the highway system but it can avoid local congestion. One-way traffic is a special kind of directional control which is very effective in maintaining the traffic flow in congested areas.

A major cause of congestion in towns is the interruption to the free flow of traffic by cross traffic at junctions. But if the need for traffic streams to cross each other can be avoided then the movement of vehicles will be much easier. This easier movement of traffic can often be achieved by making traffic move in one direction only along certain streets and by prohibiting incoming vehicles from side streets from crossing the main stream. The streets may be either one-way or two-way according to local conditions of traffic or width of carriageway, and traffic at the junctions can be guided by constructing suitably-shaped islands. One-way traffic can also be introduced where the carriageway width is inadequate for two opposing lines of traffic.

The disadvantages of a one-way traffic system are that it increases the distance travelled by some vehicles, that it makes it more difficult for strangers to find their way about. The true aim of a one-way system is to eliminate cross traffic, and under conditions of continuous flow on crossing streets the introduction of a properly designed one-way scheme can double the carrying capacity of the highways.

The two main objections to street intersections are that they are a cause of accidents and that they interrupt the flow of traffic. The best thing to do with intersections is to get rid of them. If that is not possible they may be improved and made safer but they will always remain a source of danger and delay.

Many accidents are caused because traffic streams of different types, or traffic streams travelling in different directions, are using the same carriageway, and these accidents can be avoided either by reservations between traffic lanes, or by vertical (or "grade") separation.

In many cities in America and in Europe segregation of traffic is achieved by means of flyovers or underpasses; at some junctions there are even three different levels. Each has its advantages and disadvantages according to the circumstances. Flyover structures are not always aesthetically pleasing while an underpass may be more expensive to construct. The separation of fast and slow traffic from the heavier and faster traffic is most desirable not only in the interests of freedom of traffic movement, but also of safety. This ideal is not easy to achieve.

Urban traffic control will be of benefit to the general public in the district concerned and will result in greater comfort for road users of all classes, as well as bringing economic advantages to the community as a whole.

УПРАЖНЕНИЯ

1. К следующим английским словам подберите русские эквиваленты из правого столбца:

directional control	1. пропускная способность дороги
horse-drawn vehicles	2. переулок
motor traffic	3. одностороннее движение
speed	4. контроль за направлением движения
congestion	5. проезжая часть дороги
peak hours	6. обочина; бордюрный камень
pedestrian subway	7. двустороннее движение
underpass	8. встречный поток движения
through traffic	9. авария (несчастный случай)
local traffic	10. подземный пешеходный переход
signposting	11. сквозное транспортное движение
carrying capacity	12. местное движение
side street	13. система знаков и указателей
one-way traffic	14. тоннель для автотранспорта или пешеходов
carriageway	15. часы пик
two-way traffic	16. затор
opposing traffic	17. скорость
kerb	18. автотранспортное движение
accident	19. гужевой транспорт
flyover roads	20. эстакадные дороги (путепровод)

2. В соответствии с содержанием текста дополните незаконченные предложения одним из данных вариантов.

1. Directional control cannot increase the capacity of the highway system
a) ... where the carriageway width is inadequate for two opposing lines of traffic; b) ... but it can avoid local congestion; c) ... due to traffic which has no business in the area but is only passing through.
2. The true aim of a one-way system is ...
a) ... to get rid of intersections; b) ... achieved by means of flyovers or underpasses; c) ... to eliminate cross traffic.
3. The separation of fast and slow traffic from the heavier and faster traffic ...
a) ... can be introduced where the carriageway width is inadequate for two opposing lines of traffic; b) ... is most desirable not only in the interests of freedom of traffic movement, but also of safety; c) ... is easy to achieve.
4. The disadvantages of a one-way traffic system are that ...
a) ... it is a cause of accidents and that it interrupts the flow of traffic; b) ... traffic which has no business in the area is only passing through and there is a tendency for drivers to keep to the well-lit shopping streets; c) ... it increases the

distance travelled by some vehicles, that it makes it more difficult for strangers to find their way about.

3. *Расположите данные предложения согласно последовательности изложения в тексте.*

1. The importance of signs in the control of direction choice.
2. The advantage of having one-way streets.
3. Segregation of different types of traffic is an ideal not easy to achieve.
4. The necessity of introducing grade separation.
5. The roads where congestion in town takes place.
6. The danger of having street intersections.
7. Drivers themselves may bring about congestion.
8. The disadvantages of one-way traffic.

4. *Укажите, какие из данных предложений правильны, а какие не соответствуют содержанию текста.*

1. Flyovers, underpasses, bridges may help to solve the problem of congestion. 2. Roads appeared in the far-off times and were first in the form of pedestrian tracks. 3. Signposting may be very effective as a directional control only in cases where the signs and symbols are very well seen at a great distance. 4. The necessity for traffic streams to cross each other can be avoided by introducing one-way streets. 5. The success of a roundabout depends greatly upon the ease with which vehicles using it can “weave” or pass from one traffic lane to another. 6. Grade separation is very effective in improving the dangerous situation at street intersections. 7. If traffic is not heavy, signals are very useful at places where a roundabout cannot be built. 8. Over-passes and under-passes help to segregate the pedestrians and the traffic.

5. *Выберите необходимую форму глагола. Переведите предложения.*

1. The extraordinary growth of motor traffic (has been created, has created) traffic difficulties demanding new designs and planning. 2. Directional control (cannot increase, cannot be increased) the capacity of the highway system but it can avoid local congestion. 3. If the need for traffic streams to cross each other (can be avoided, can avoid) then the movement of vehicles will be much easier. 4. Many accidents (cause, are caused) because traffic streams of different types, or traffic streams travelling in different directions, are using the same carriageway. 5. The necessity for traffic streams to cross each other (can avoid, can be avoided) by introducing one-way streets. 6. The true aim of a one-way system is (to be eliminated, to eliminate) cross traffic.

6. *Соедините попарно слова из двух колонок, образуя словосочетания.*

horse-drawn	pleasing
pedestrian	situation
carriageway	vehicles
directional	width
opposing	traffic
traffic	streets
aesthetically	streams
grade	roads
dangerous	capacity
carrying	separation
narrow	control
flyover	subways

7. *Сгруппируйте данные предложения по трем темам: А, В и С.*

- A. The problems created by motor traffic growth.
- B. Ways of solving the traffic congestion problem.
- C. Advantages of a one-way traffic scheme.

1. A great intensity of traffic makes it necessary to lower the average speed of vehicles. 2. The problem of avoiding traffic congestion is one of the most important. 3. Under conditions of continuous flow on intersecting streets a properly designed one-way scheme can double the carrying capacity of the highways. 4. The extraordinary growth of motor traffic has created traffic difficulties demanding new designs and planning. 5. Roundabouts, street widening and the segregation of traffic by means of flyover roads, pedestrian subways, underpasses are possible solutions of the congestion problem though they are costly and demand space. 6. A special kind of directional control — one-way traffic — obviates the necessity for traffic streams to cut across each other. 7. Narrow streets and junctions are incapable of taking peak-hour traffic. 8. Directing the traffic stream to less important streets may improve both the through and local traffic. 9. With the carriageway width inadequate for two opposing lines of traffic a one-way scheme is advantageous though it increases the distance travelled by vehicles.

8. *Подготовьте сообщения по темам А, В, С упражнения 7.*

9. *Прочитайте текст за 2-3 минуты и дайте ответы на следующие вопросы:*

- 1. What air pollution control device is under operation in busy streets at the present time?
- 2. What installations for air purity control will be installed in some large

Russian cities?

Russia has set rigid ceilings on air pollution which rule out the possibility of city air pollution having a harmful effect on people's health.

Of great help in pollution control are special mobile labs which regularly check on the purity of the air at enterprises and in city streets.

However, those are very localized operations. In large cities automated devices are ready to be installed for air purity control. The new systems will comprise controlling and measuring stations in various parts of the city and a data-processing centre.

There has been invented a special device which flashes an alarm from a busy traffic artery showing that the atmosphere does not meet the required standards. Immediately the traffic lights linked with the system bar certain routes and direct traffic to other arteries.

Section III. **TRAFFIC SAFETY**

T e x t. Road Safety

At the inquest¹ into the world's first road traffic death in 1896, the coroner² was reported to have said "this must never happen again". More than a century later, 1.2 million people are killed on roads every year and up to 50 million more are injured. These casualties of the road will increase if action is not taken.

Throughout the world, roads are bustling with cars, buses, trucks, motorcycles, mopeds and other types of two- and three-wheelers. By making the transportation of goods and people faster and more efficient, these vehicles support economic and social development in many countries. But while motorized travel provides many benefits, it can also do serious harm unless safety is made a priority. Pedestrians and cyclists using roads are particularly at risk. Crashes are frequent. Deaths and injuries are common.

If current trends continue, the number of people killed and injured on the world's roads will rise by more than 60% between 2010 and 2020. Most of these injuries will occur in developing countries where more and more people are using motorized transport. In these countries, cyclists, motorcyclists, users of public transport, and pedestrians are especially vulnerable to road traffic injuries.

There are solutions to the road safety problem. Road deaths and injuries are preventable. A wide range of effective interventions exist, and experience in countries with long histories of motorized travel has shown that a scientific, "systems approach" to road safety is essential to tackling the problem. This approach addresses the traffic system as a whole and looks at the interactions between vehicles, road users and the road infrastructure to identify solutions.

Let us focus specifically on interventions relating to five of the many fac-

tors that cause road traffic deaths and injuries.

Safer roads: five key areas for effective interventions. There are five major risk factors that contribute to road injuries and interventions to reduce these risks.

Speed: slow down!

Facts

- Speed contributes to at least 30 % of road traffic crashes and deaths.
- For every 1km/hr increase in speed there is a 3 % increase in the incidence of injury crashes and a 5 % increase in the risk of a fatal crash.
- Pedestrians are eight times more likely to be killed by cars traveling at 50 km/h than 30 km/h.

Key interventions

- setting and enforcing speed limits
- designing roads according to their function (e.g. highways, suburban roads)
- speed cameras or stationary enforcement
- traffic calming measures, such as speed bumps and traffic circles
- education and public information.

Alcohol: don't drink alcohol and drive!

Facts

- Any level of alcohol in the blood increases the risk of crashes.
- The risk of crashes increases significantly with blood alcohol concentrations greater than 0.04g/dl.

Key interventions

- setting and enforcing blood alcohol concentration limits
- random breath testing
- mass media campaigns
- tough and swift penalties for offenders
- breath test devices as ignition interlocks in vehicles.

Seat-belts and child restraints: strap in!

Facts

- Seat-belt usage has saved more lives than any other road safety intervention.
- Seat-belts reduce fatal or serious injury by 40-65 %.
- Child restraints reduce infant deaths by 71 % and deaths in young children by 54 %.

Key interventions

- setting and enforcing seat-belt use and child restraint laws
- publicity campaigns
- smart, audible seat belt reminders (e.g. alarm sounds in vehicles)
- child restraint loan programmes.

Wear helmets!

Facts

- Head trauma is the main cause of death and disability in drivers of motorized two-wheelers.

- Among children, bicycle injuries are the leading cause of injury.

Key interventions

- setting and enforcing laws on helmet wearing
- standards for motorcycle helmets
- penalties for non-use
- targeted information campaigns.

Visibility: see and be seen!

Facts

- Motorized vehicles using daytime running lights have a crash rate 10-15% lower than those that do not.
- One third of people hit on the road report they had difficulty seeing the vehicle; almost half of drivers have difficulty in seeing the pedestrian.

Key interventions

- daytime running lights for two-wheelers and cars
- reflectors on vehicles and reflective clothing for people
- white/yellow helmets
- street lighting.

The loss and suffering associated with road traffic deaths and injuries are preventable. With firm political will and an integrated approach that addresses vehicles, the people who use roads, and the road infrastructure, roads can be made safer. However, there is no single blueprint for road safety. Interventions and strategies that work in one setting may need to be adapted elsewhere.

NOTES TO THE TEXT

¹ **inquest** - зд. расследование

² **a coroner** (коронер) is an official responsible for investigating deaths, particularly some of those happening under unusual circumstances, and determining the cause of death.

УПРАЖНЕНИЯ

1. К следующим английским словам подберите русские эквиваленты из правого столбца:

exist	1. случайный, произвольный
current trend	2. зажигание
crash	3. колесо
bustling	4. блокировать
motorized transport	5. существовать
do harm	6. причинять вред
preventable	7. дорожная инфраструктура
casualty	8. шлем
injury	9. звуковой сигнал
vulnerable	10. авария
helmet	11. штраф

risk factor	12. шумный
street lighting	13. осуществлять, предписывать
breath testing	14. повреждение, травма
enforce	15. несчастный случай
Random	16. уязвимый, подверженный риску
penalty	17. дыхательная проба
ignition	18. фактор риска
alarm sound	19. уличное освещение
road infrastructure	20. предотвратимый
wheel	21. автотранспорт
interlock	22. существующая тенденция

2. Переведите следующие словосочетания:

to be at risk, road traffic injuries, motorized travel, enforce speed limits, traffic calming measures, random breath testing, road safety intervention, speed bumps, integrated approach, blood alcohol concentration, road traffic crashes, do serious harm, leading cause of injury.

3. Укажите, какие из данных утверждений соответствуют содержанию текста. Расположите их согласно последовательности изложения.

1. Pedestrians are eight times more likely to be killed by cars traveling at 50 km/h than 30 km/h. 2. Crossings are the spots where the greatest number of accidents takes place. 3. With firm political will and an integrated approach roads can be made safer. 4. Pedestrians and cyclists using roads are particularly at risk. 5. The solution of the safety problem is expensive and requires much land. 6. If traffic is not heavy, signals are very useful at places where a roundabout cannot be built. 7. The loss and suffering associated with road traffic deaths and injuries are preventable. 8. It is not easy for drivers leaving the crossing to avoid those coming to it. 9. Among children, bicycle injuries are the leading cause of injury.

4. Выберите необходимую форму глагола.

Motorized travel (provides, is provided) many benefits. 2. With firm political will and an integrated approach, roads (can make, can be made) safer. 3. The risk of crashes (is increased, increases) significantly with blood alcohol concentrations greater than 0.04 g/dl. 4. Motorized travel can do serious harm unless safety (is made, makes) a priority. 5. Seat-belt usage (has been saved, has saved) more lives than any other road safety intervention. 6. Any level of alcohol in the blood (increases, is increased) the risk of crashes.

5. Соедините попарно слова из двух колонок, образуя словосочетания.

alarm	infrastructure
integrated	bumps
serious	testing
street	harm
road	trauma
breath	sound
speed	factor
head	travel
risk	approach
motorized	lighting
current	trend

6. Найдите русский эквивалент каждого английского слова.

A. 1) to exist; 2) to reduce; 3) device; 4) random; 5) enforcement; 6) trend; 7) approach; 8) cause; 9) to increase; 10) experience; 11) solution; 12) vehicle; 13) frequent; 14) common; 15) development; 16) offender; 17) accident; 18) interaction; 19) visibility; 20) to prevent; 21) essential; 22) significantly.

Б. 1) существенный; 2) решение; 3) значительно; 4) причина; 5) опыт; 6) предотвращать; 7) существовать; 8) устройство; 9) транспортное средство; 10) случайный; 11) правонарушитель; 12) сокращать; 13) увеличивать; 14) тенденция; 15) взаимодействие; 16) подход; 17) обычный; 18) частый; 19) несчастный случай; 20) осуществление; 21) видимость; 22) развитие.

7. В соответствии с содержанием текста дополните незаконченные предложения одним из данных вариантов.

1. Experience in countries with long histories of motorized travel has shown that...

a) ...there is no need for drivers to cross traffic streams; b) ... only a small percentage of its traffic travels to the left or right; c) ... a scientific, "systems approach" to road safety is essential to tackling the problem.

2. These casualties on the road will increase if...

a) ...action is not taken; b) ... there is no single blueprint for road safety; c) ...the major volume of traffic is travelling without dropping speed when passing the junctions.

3. By making the transportation of goods and people faster and more efficient, these vehicles...

a) ... travel on a fast through route; b) ... can easily reach different exits as di-

rectly as possible passing smoothly from one traffic lane to another at a small angle of convergence; c) ... support economic and social development in many countries.

4. While motorized travel provides many benefits, it can also...

a) ... enable traffic to cross without dropping speed, which is a certain disadvantage; b) ... do serious harm unless safety is made a priority; c) ... create traffic difficulties demanding new designs and planning.

8. *Опровергните следующие неправильные утверждения с точки зрения содержания текста.*

Образец: Chest trauma is the main cause of death and disability in drivers of motorized two-wheelers.

The statement is incorrect. Head trauma is the main cause of death and disability in drivers of motorized two-wheelers.

1. The loss and suffering associated with road traffic deaths and injuries are not preventable. 2. Seat-belt usage cannot save lives. 3. There is a single blueprint for road safety. 4. Pedestrians and cyclists using roads are not at risk.

9. *Ответьте на данные вопросы:*

1. How do vehicles support economic and social development in many countries? 2. Who is particularly vulnerable to road traffic injuries? 3. What has experience in countries with long histories of motorized travel shown? 4. What does “system approach” to road safety mean? 5. Are there solutions to the road safety problem? 6. What major risk factors contribute to road injuries? 7. What traffic calming measures do you know? 8. Does alcohol in the blood increase the risk of crashes? 9. What is the main cause of death and disability in drivers of motorized two-wheelers? 10. How can the loss and suffering associated with road traffic death and injuries be prevented?

10. *Перескажите текст.*

11. *Прочтите текст за 5 минут и найдите ответы на следующие вопросы:*

1. What is a serious national health problem?
2. Why did the federal government designate pedestrian safety as one of the national priority highway safety program areas?
3. What does the “3-E” approach to traffic safety mean?

Pedestrian Safety

After vehicle occupants, pedestrians represent the second largest category of motor vehicle deaths. In a recent year, motor vehicle crashes claimed the lives of 5,797 pedestrians in the United States. Approximately 100, 000 more were in-

jured. Children, the most inexperienced users of the road system, have nearly 43 per cent of the pedestrian accidents although they comprise only 30 per cent of the population. Their resiliency to injury is probably the reason for the disproportionate percentage of fatalities experienced by this age group. Of the child pedestrian mishaps, 2.6 per cent result in death. Over a 12-year period, between 14 and 17 per cent of all traffic deaths annually have involved pedestrians. The loss of human life and suffering caused by these crashes is a serious national health problem. Each year, the economic cost of salary loss and medical expenses also amounts to billions of dollars. The federal government has designated pedestrian safety as one of the national priority highway safety program areas. Pedestrian safety is a nationwide concern, and effective countermeasures exist to address the problem. As with other traffic safety programs, a pedestrian safety law enforcement program requires using the “3-E” (enforcement, education, and engineering) approach. Changing pedestrian and motorist behaviors and attitudes about pedestrian safety is an ongoing process that requires an ongoing commitment.

12. *Переведите текст письменно.*

Pedestrians

Eleven percent of all fatalities consist of pedestrian incidents. Pedestrians are affected by highway projects during construction, particularly in urban areas, and they can be affected negatively for the long term if projects are not designed to address pedestrian movements as part of the overall design objectives. Pedestrian safety requires a three-pronged approach: (1) educating pedestrians about safe behavior, the meanings of the pedestrian signs and signals, and actions that will improve their own safety; (2) making drivers aware of the presence of pedestrians — encouraging them to make a habit of pedestrian awareness (especially in urban areas and neighborhoods), driving safely around pedestrian areas, and yielding to pedestrians; and (3) encouraging engineers and planners to accommodate pedestrian mobility and safety when designing roadways and other transportation facilities.

Section IV. TEXTS FOR READING AND DISCUSSION

Types of Occupant Protection Systems

Safety belts were first installed on passenger vehicles in 1956, and shoulder restraints were added in later years. Using a combined seat belt and shoulder restraint keeps the driver from hitting the dashboard, windshield, or rear-view mirror — “submarining under the dashboard.” The addition of automatic passenger restraints by some manufacturers resulted in miniature electric motors which deploy the shoulder strap when the driver sits in the car and the ignition is

turned on. However, many drivers take no further action after the shoulder strap is deployed and do not fasten their seat belts. This defeat the engineering that went into the restraint system, because the shoulder restraint alone is not protective without the lap belt fastened.

Driver and passenger-side air bags are now mandatory in most new passenger vehicles. These devices contain sensors that detect rapid deceleration characteristic of a collision, and through an explosive device, deploy an air bag which blows up, similar to a balloon, and prevents the driver from impacting the interior of the vehicle. The presence of an air bag does not relieve the driver or passengers from the responsibility of utilizing lap and shoulder belts. An air bag provides little protection in a side collision. Lap belts and shoulder harnesses provide the added protection of keeping the driver behind the wheel and in control of the vehicle to allow for last-minute emergency maneuvers, and preventing the driver and passengers from hurtling around the interior of the vehicle and colliding with one another.

Child Safety Seats

Law enforcement and education can make the difference between life and death for our children. When used correctly, child restraints are 71 percent effective in preventing deaths and 67 percent effective in reducing injuries. The use of child safety seats can prevent fatalities and serious injuries to children under the age of five.

Even though child safety seats are proven lifesavers, many drivers still do not use them, purchase unapproved seats, or use them incorrectly. Incorrect use is a major contributor to the deaths and injuries each year. Many cases of incorrect use are as simple as turning the seat toward the proper facing position for that age child — rear-facing positions for infants and forward-facing position for older children. The best position for rear-facing child safety seats is the middle position of the rear seat of the vehicle. Simply not following the manufacturer's instructions for properly installing the seat also nullifies its benefit. The best place for any child in a safety seat is in the rear seat of the car, properly secured with a seat belt system as recommended by the manufacturer of the safety seat.

Pre-hospital care at road traffic accidents

When world's first road traffic death was recorded in 1896, everybody concerned at that time reported to have said, "This must never happen again". More than a century later, 1.2 million people are killed on roads every year and up to 50 million more are injured. Road Traffic accident (RTA) ranks as the 11th leading cause of death and accounts for 2.1 percent of all deaths globally. It is the second leading cause of death among people aged 5-29 years. RTA injuries are becoming the third largest contributor to the global burden of diseases. Although there is no clear cut statistics of the number of deaths and injuries on

our roads, experts say that it is increasing.

It is well established fact that if accident victims are brought to hospitals and receive initial medical care within one hour, chances of survival (even with disabilities) are much higher. This is why the first hour following injury is called the golden hour. Majority of us are not aware of the significance of the golden hour. The scenario at the site of accidents is chaotic, transportation is tardy because of heterogeneous and undisciplined traffic. Pre-hospital care is vital to reduce the morbidity and mortality of the injured people. We can prevent the unnecessary deaths and disabilities to a large extent by giving pre-hospital care. When attending an accident victim, check that the scene of the accident is safe. Your personal safety is paramount or you may add to the problem rather than contributing to the solution.

Preventing Wrong-Way Accidents on Freeways

In some localities, many serious accidents result from wrong-way driving on freeways, and the prevention of these violations becomes an important public safety issue. Half of the wrong-way driving on freeways results from deliberate, illegal U-turns. Measures taken to improve ramp operation would not affect this half of the wrong-way problem. For the other half, none of the physical barriers tested to date appear appropriate.

Methods other than physical barriers have, however, proved helpful in decreasing incidents of wrong-way driving. Effective treatments include repainting or adding wrong-way pavement arrows; reorienting, moving, or adding wrong-way sign packages; modifying the trail-blazing freeway entrance packages; placing edge lines in pavement markings; upgrading signs of high-intensity reflective sheeting; and modifying lighting.

Important to note is that three-quarters of the fatal wrong-way accidents are caused by drivers involved with alcohol or drugs. This fact presents a difficult challenge in terms of developing appropriate engineering solutions. Additional wrong-way pavement arrows may be beneficial. The use of larger “Do not enter” signs may be considered if an off-ramp continues to have a problem.

Larger, highly reflective signs may be helpful for confused or elderly drivers. Using red pavement lights activated by wrong-way drivers may be considered at locations where traditional treatment is not effective. The condition of wrong-way signing packages at off-ramps and directional signs is important. Always consider the option of using a second set of wrong-way and “Do not enter” signs and wrong-way arrows farther along an off-ramp. The option of using additional signs and markings on selected ramps may give drivers a second chance to realize that they are headed the wrong way before they enter the freeway.

Because wrong-way accidents are tragic, they have been under intensive study by the California Department of Transportation for over 30 years. Wrong-way fatal crashes account for about three percent of the fatal crashes on California freeways, and about 5 percent of the fatalities.

Building Safe Roads

Safety is a fundamental building block for designing and constructing any highway project. It is the basis for the engineering analysis and standards that transportation agencies apply to the road network. The highway community has several technologies that are available today that can help agencies increase safety, including pavement innovations, rumble stripes, retroreflective materials, intersection countermeasures, and others.

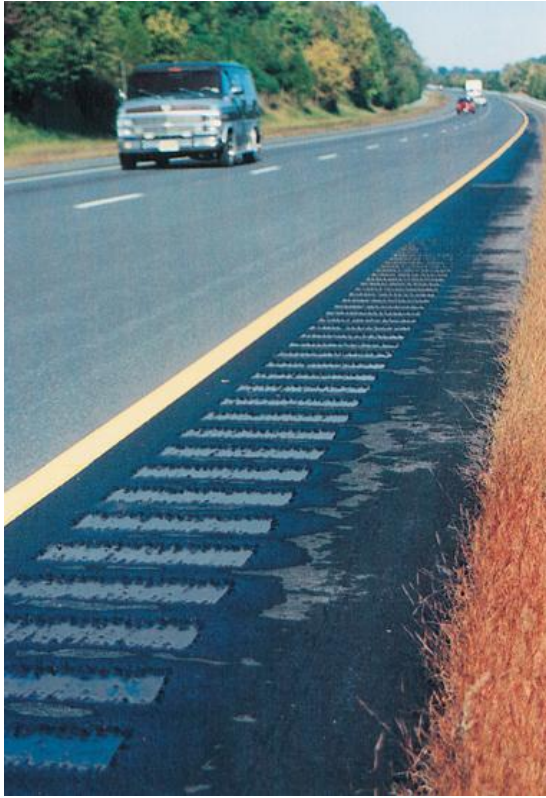
Although safety has always been an important goal of the highway industry, the “bottom line” outcomes, measured in terms of fatalities and serious injuries, has prompted a renewed emphasis on the safety issue. Traffic deaths are being viewed more widely as a major public health issue in the United States and internationally. The World Health Organization notes that road crash injuries will become the third-leading cause of deaths worldwide by 2020, up from ninth today. Many European countries already address highway fatalities as a public health issue, as reflected in stricter laws for seatbelt usage and impaired driving, tougher adjudication of violations, and more extensive education for young adults before they attain full licensing.

To reduce the fatality rate, a three-pronged approach is needed. First, increasing seatbelt usage to 90 percent nationally is expected to provide a significant reduction of fatalities. The second area necessary to achieve is to reduce impaired driving. Currently nearly 35 percent of all fatal crashes involve alcohol levels at or above 0.08. A third major element of the national strategy to reduce the fatality rate is to make improvements to our roadways. This strategy focuses on the engineering “E” element of the four “E’s” — engineering, enforcement, education, and emergency medical services.

FHWA¹ identified three areas where major improvements can be made: **roadway departures, intersections, and pedestrians.** By targeting resources in these areas, FHWA believes that significant reductions in fatalities can be achieved. Higher roadway standards combined with innovative safety countermeasures can make a significant impact on the number of lives saved.

Roadway Departures. Within the roadway departure strategic area are two fundamental goals: to prevent vehicles from leaving the roadway, and second, to minimize the impact on the traveler if the vehicle does depart the roadway. A number of possible countermeasures are available to reduce roadway departure crashes, which represent 59 percent of all fatalities. Countermeasures to prevent vehicles from leaving the roadway include adequate signing and pavement markings, rumble strips to alert the driver to drifting off the roadway, skid-resistant pavements, and improvements to roadway geometrics. Good visual cues are necessary to assure that the driver can maneuver through ever-changing roadway conditions. Thus it is important that signs and markings are maintained, are provided at the proper location to guide the driver, and are supplying accurate information.

Another countermeasure to prevent travelers from leaving the roadway, rumble strips (horizontal grooves in the pavement), were identified as one of FHWA's priority, market-ready (ready-to-use) technologies and innovations. Rumble strips are designed to alert a drowsy driver drifting off the roadway by producing an audible sound and physical vibration. Drift-off-road crashes



Milled rumble strips placed along the edge of the road provide effective warning for motorists

(those involving drowsiness, inattention, or distraction) are typically more severe and are reduced through the proper placement of rumble strips. Rumble strips, already widely accepted for roadway shoulder applications, now are being applied and evaluated as centerline treatments as well. Rumble “stripes” are a combination of pavement markings and rumble strips, with the markings applied on top of the rumble strips. Rumble strips enhance visibility as the vertical face of the rumble strip provides a raised texture that enhances the retroreflectivity performance of the striping material.

Once a vehicle leaves the roadway, the goal of the highway engineer is to minimize harm to the traveler. This goal can be met by assuring that the roadside can be traversed safely, by shielding or eliminating roadside objects, or by preventing collisions with opposing traffic.

Median barriers eliminate median crossover fatalities.

Intersections. Intersection crashes represent more than 20 percent of all fatalities and half of the injuries. A number of effective countermeasures are available. Violent intersection crashes may be decreased by properly designed roundabouts. Roundabouts can reduce the number of conflict points at problem intersections, and in rural locations can be particularly effective in reducing the severity of crashes.

Pedestrians. Eleven percent of all fatalities consist of pedestrian incidents. Pedestrians are affected by highway projects during construction, particularly in urban areas, and they can be affected negatively for the long term if projects are not designed to address pedestrian movements as part of the overall design objectives. To target the first two critical areas, FHWA developed the “Pedestrian Safety Campaign Planner”. The purpose of the campaign is to sensitize drivers to the presence of pedestrians and to educate pedestrians about minimizing risks to their safety. The Pedestrian Safety Campaign Planner includes materials designed for use in television, radio, cinema, and print advertising. To target the

third critical area, FHWA has a number of initiatives underway. One is an evaluation of various pedestrian safety engineering and intelligent transportation systems countermeasures for the next several years. Another is the development of “PedSafe,” a software tool that assists engineers and other interested parties in selecting appropriate pedestrian safety engineering countermeasures for specific sites based on criteria unique to each site.

Other Strategies. A number of other strategies and countermeasures can make significant safety enhancements on highway projects. Identifying and addressing fundamental design elements such as horizontal and vertical curvature; super elevation; lane and shoulder width, speed, and clear zone are critical to delivering safety in roadway projects. Road safety audits (RSA) offer an opportunity to provide an independent assessment of a project's safety at any stage of its life: planning, design, construction, or post construction.

¹**FHWA** – The Federal Highway Administration in the U.S. Department of Transportation, which administers federal highway trust fund expenditures to the individual states, and sets standards for the construction and maintenance of inter-state highways.

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