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ECO-DRIVING

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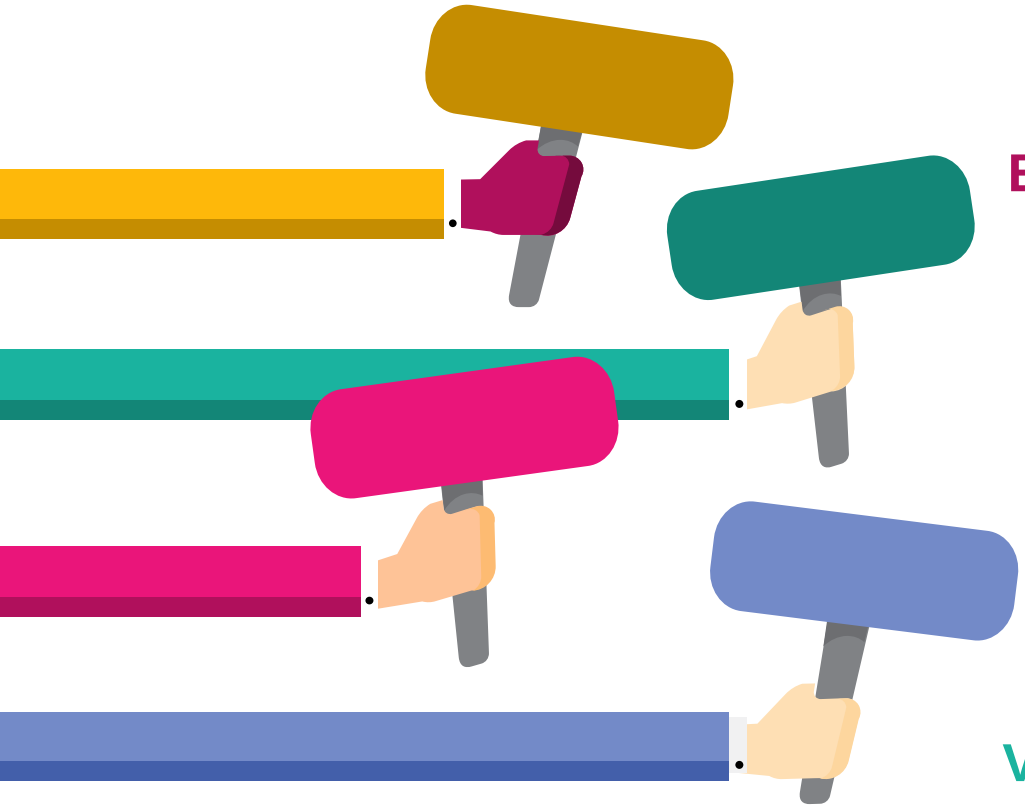

INTRODUCTION

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- NEGATIVE IMPACT OF TRANSPORTATION ON THE ENVIRONMENT;
- ALTHOUGH TODAY WE HAVE VEHICLES THAT EMIT SIGNIFICANTLY LESS EXHAUST FUMES, POLLUTION IS CONSIDERABLY HIGHER THAN IT USED TO BE.

Polluting substances	Impact		
	Population	Vegetation	Global changes
CO (carbon monoxide)	Heart, circulation and nervous system	/	Creation of ground-level ozone
CO_2 (carbon dioxide)	Main gas from the group of greenhouse gases	/	/
HC (hydrocarbons)	Some are carcinogenic.	It is incorporated into the soil and cereals and thus ends up in food.	Some are greenhouse gases.
HCHO (Formaldehyde)	Respiratory system, eyes	/	/
NO2 (Nitrogen Dioxide)	Respiratory system	Acid rains, acidify the soil and water	It is from the group of greenhouse gases
SO2 (sulfur dioxide)	Respiratory system	Acid rains, acidify the soil and water	/
Pb (Lead)	Nervous system and heart	/	/
Particles	Respiratory system, some particles are carcinogenic	/	/

EcoDrive

DEFINITIONS

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WHAT IS ECO-DRIVING?

A SET OF SIMPLE RULES FOR MAXIMIZING VEHICLE ECONOMY AND MINIMIZING CO2 EMISSIONS ECO-DRIVING IS A CONCEPT OF CHANGING DRIVER BEHAVIOR.

WHAT IS ACHIEVED BY THIS?

WHAT IS THE MAIN MOTIVE OF TRANSPORTERS TO IMPLEMENT ECO-DRIVING TRAINING?

THIS IS ESPECIALLY IMPORTANT FOR LARGE TRANSPORT COMPANIES.

ECO-DRIVING ADVICES

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It refers to predictions when encountering traffic lights, overtaking, driving on the highway, and similar.

Brake with the engine whenever possible.

Constant acceleration and braking require a lot of energy. An average car only needs 5 kWh of power to drive at a steady speed of 50 km/h, while the remaining 90% of power is for acceleration and high-speed driving.

Aerodynamics
Driving uphill
Tire pressure
Shutting off the vehicle during short stops
Starting the engine
Additional equipment that consumes fuel

Switch to a higher gear as soon as possible (for gasoline engines before 2500 rpm, and for diesel engines before 2000 rpm).

DRIVER TRAINING

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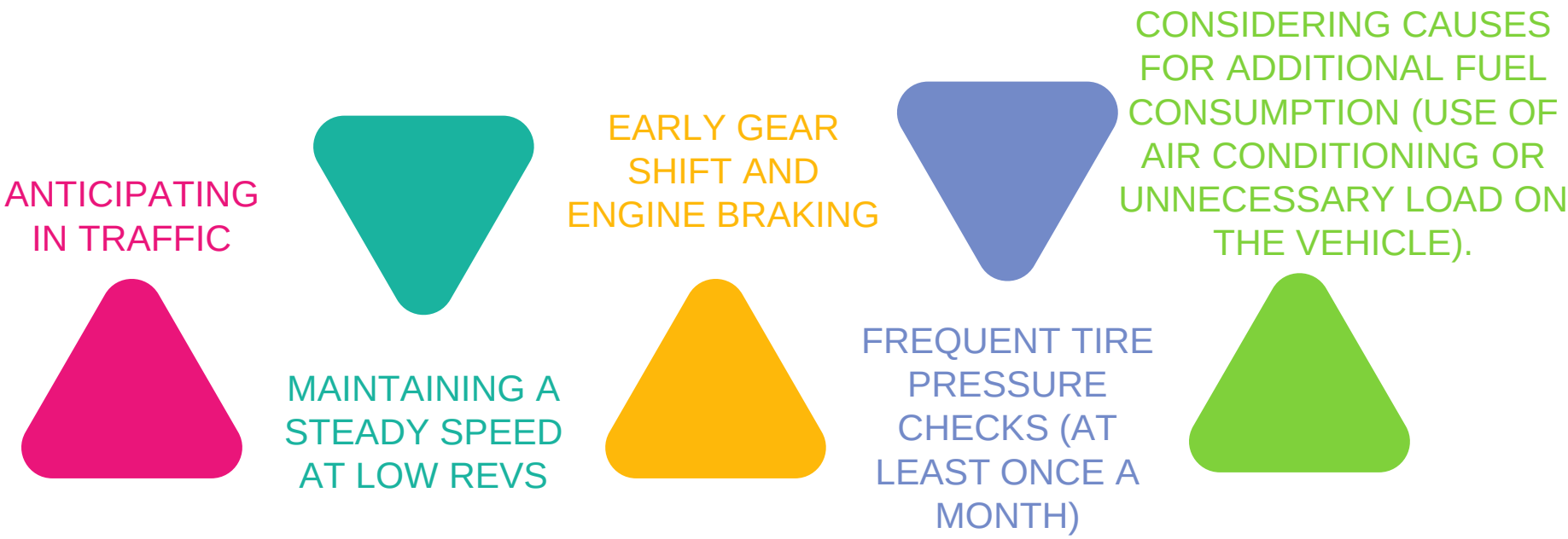
THE FIRST DRIVER TRAININGS ON THIS TOPIC WERE CARRIED OUT IN THE SEVENTIES OF THE LAST CENTURY.



FIVE GOLDEN RULES OF ECO-DRIVING

AERODYNAMICS

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AT A SPEED OF 120 KM/H, CONSUMPTION INCREASES BY 20% (200 € ANNUALLY) OPEN WINDOWS AFFECT INCREASED FUEL CONSUMPTION

ROOF RACKS AND BICYCLE RACKS INCREASE AIR RESISTANCE

DRIVING UPHILL

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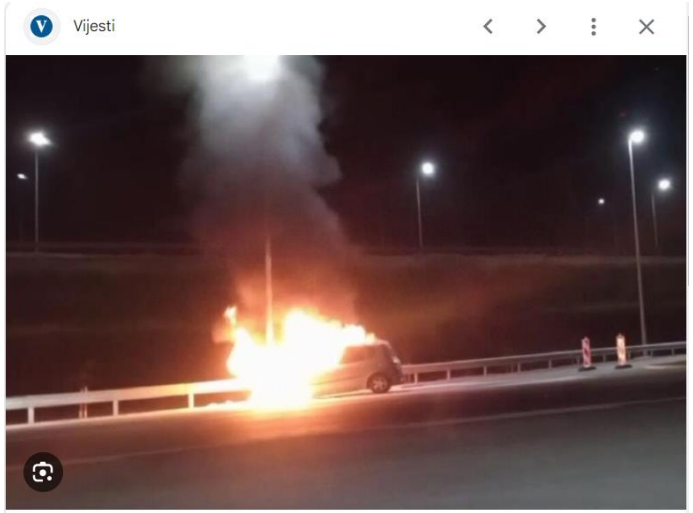
"HIGHWAY SMOKOVAC-MATEŠEVO - A TEST MANY DRIVERS HAVE FAILED FOUR CARS SET ON FIRE IN TWO DAYS, WHILE 40 OVERHEATED THE BIGGEST PROBLEM - TOO STEEP OF AN INCLINE ON THE SECTION"

Pežo" caught fire on the Smokovac-Mateševo highway section

Посети ›



Another car caught fire on the highway

Посети ›

TYRE PRESSURE

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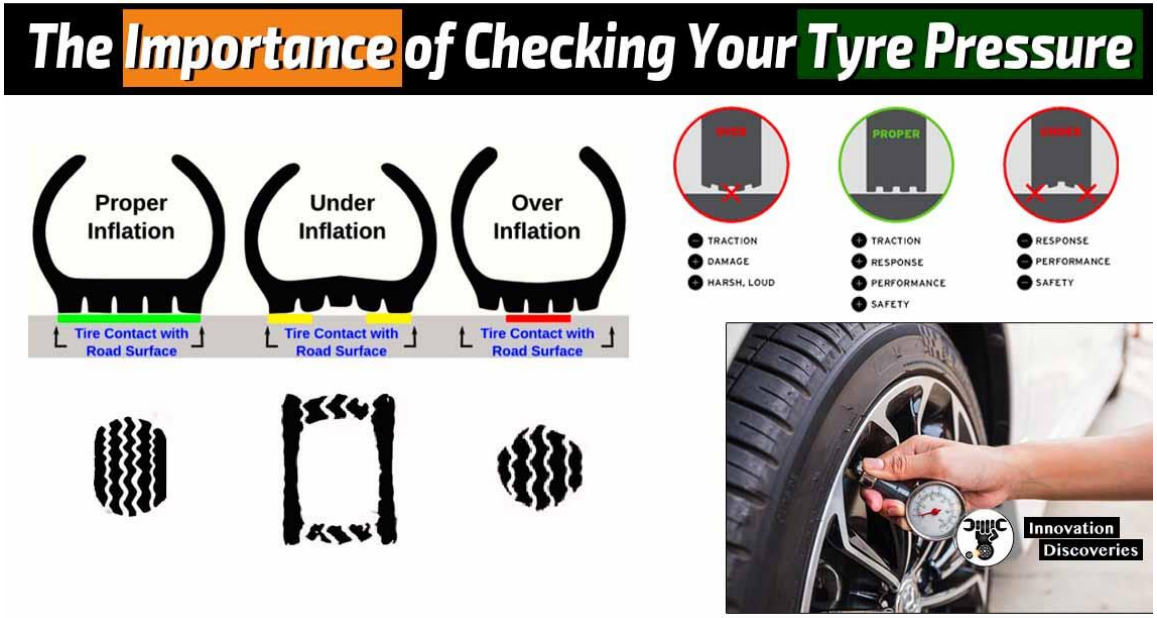

A PORTION OF THE DRIVE ENERGY IS USED TO OVERCOME ROLLING RESISTANCE.

THE ADVICE IS TO CHECK THE PRESSURE ONCE A MONTH.

IF THE TIRE PRESSURE IS 25% HIGHER THAN RECOMMENDED, THE ROLLING RESISTANCE INCREASES BY 25%, AND FUEL CONSUMPTION BY 2%

0.3 L/KM * 30 000 KM/YEAR * 100 VEHICLES * 0.02 = 18,000 L * €1.50 = €27 000

INADEQUATE PRESSURE ALSO AFFECTS HANDLING, AS WELL AS THE STOPPING DISTANCE OF THE VEHICLE."

SHUTTING DOWN THE VEHICLE DURING SHORT STOPS

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- IN NEWER VEHICLES, IT IS CONSIDERED JUSTIFIED TO TURN OFF THE ENGINE, IF WE STAND STILL FOR AT LEAST 1 MINUTE;
- IN OLDER VEHICLES, IT MAKES NO SENSE TO TURN OFF THE ENGINE DURING BRIEF STOPS
- START-STOP SYSTEM, WHAT IS IT AND HOW DOES IT WORK?
- ITS APPLICATION ACHIEVES FUEL SAVINGS OF 3-10%
- THE SYSTEM CONSTANTLY MONITORS THE STATE OF THE BATTERY THE SYSTEM RECEIVES INFORMATION FROM NUMEROUS SENSORS IN THE VEHICLE (SENSORS RECOGNIZING THE NEUTRAL POSITION OF THE GEARBOX, ENGINE TEMPERATURE, ETC.)

POSITIVE EFFECTS OF ECO-DRIVING

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- NOISE REDUCTION,
- INCREASE IN TRAFFIC SAFETY,
- REDUCTION OF STRESS IN DRIVERS (WHICH OCCURS WHEN EXCEEDING THE SPEED LIMIT OR OVERTAKING),
- DECREASE IN VEHICLE WEAR AND TEAR (BRAKES, TIRES)

EcoDrive

LIMITATIONS IN THE APPLICATION OF ECO DRIVING

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- THE RESULTS OF TRAINING LARGELY DEPEND ON THE INDIVIDUAL
- DRIVERS FIND IT HARD TO BREAK AWAY FROM THE OLD WAY OF DRIVING
- TEMPERAMENT, ATTITUDES, CHARACTER, EMOTIONS, MOTIVE

TYPES OF TEMPERAMENT			
PHLEGMATIC	CHOLERIC	SANGUINE	MELANCHOLICS

Composed and calm drivers with slow reactions.

They react quickly, get angry easily and adapt with difficulty.

They react quickly, but their feelings are not strong.

I react slowly and seem listless and worried.

RESULTS OF ECO DRIVING – CASE STUDY

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- THE AVERAGE SPEED DECREASED FOR 9 DRIVERS BY 2.92 - 14.67%, WHILE IT INCREASED FOR 4 DRIVERS BY 0.73 – 23.70%
- ALMOST ALL DRIVERS ACHIEVED FUEL SAVINGS (0.99-20.95%)
- THE TOTAL FUEL CONSUMPTION DECREASED ON AVERAGE BY 8.61%
- THE AVERAGE REDUCTION OF CO2 EMISSIONS WAS ALSO 8.61%
- TEN DRIVERS REDUCED THEIR BRAKING TIME DURING DRIVING AFTER TRAINING

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THANK YOU FOR ATTENTION