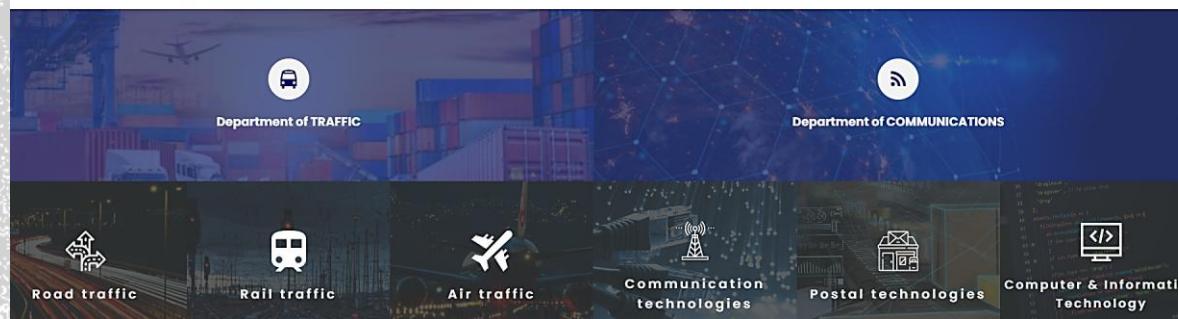


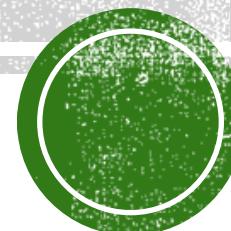


University of Sarajevo: <https://www.unsa.ba>
Faculty of Traffic and Communications: <https://fsk.unsa.ba/>



MOBILNOST S NULTIM EMISIJAMA ZA SVE

ZERO-EMISSION MOBILITY FOR ALL





Emisije cjelokupnog saobraćajnog sektora porasle su za 28 % u razdoblju od 1990. do 2018. godine, što ukazuje na nužnost poticanja ugljiko-neutralnih saobraćajnih rješenja u urbanim sredinama

Iako je nekoliko velikih evropskih gradskih središta usvojilo stroge mјere, udio obnovljive energije u saobraćaju ostao je na nivou od oko 10 % u 2020. godini.

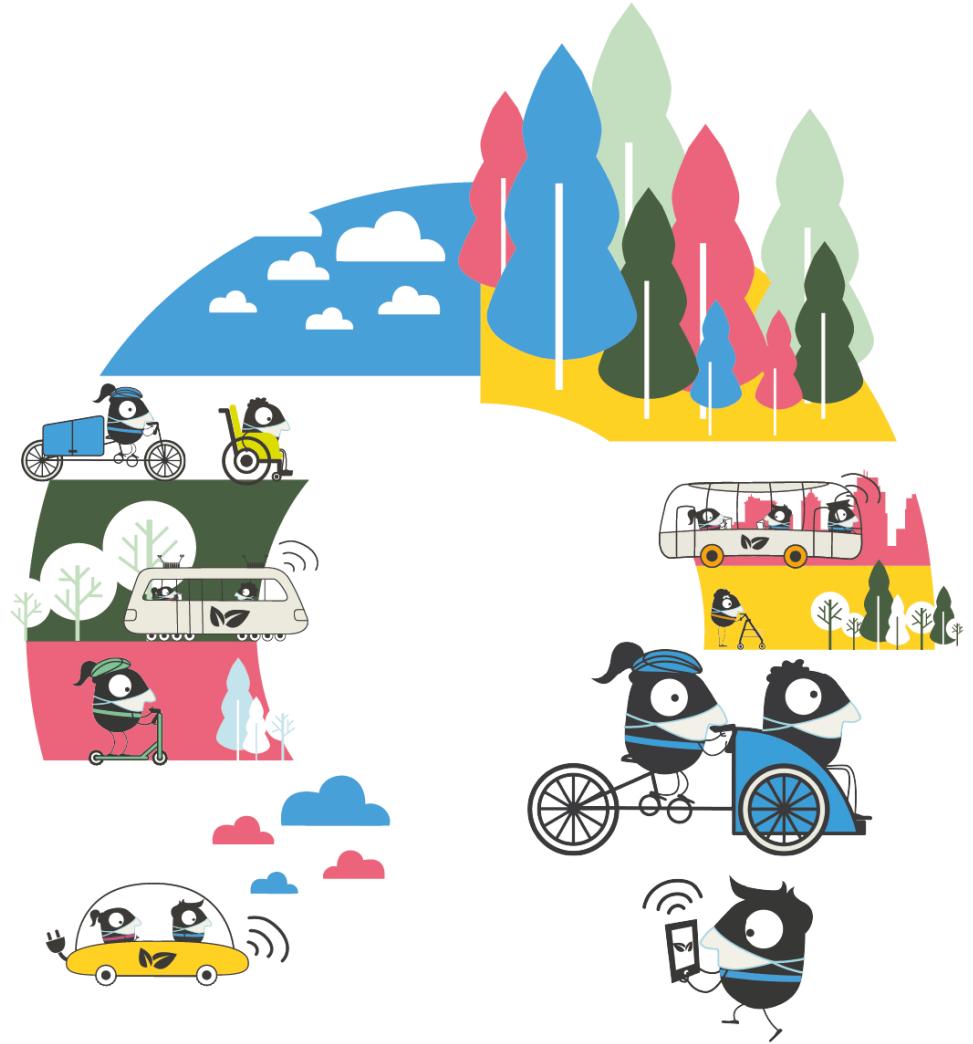
Emissions of the entire transport sector increased by 28% between 1990 and 2020, indicating the need to encourage carbon-neutral transport solutions in urban areas.

Although several major European city centres have adopted strict measures, the share of renewable energy in transport remained at 10% in 2020.



Saobraćajno zagušenje u i oko urbanih središta trenutno košta oko 100 milijardi eura godišnje, ili 1 % BDP-a EU-a. Preko 400.000 slučajeva prerane smrti izravno je povezano s onečišćenjem zraka.

Traffic congestion in and around urban centres currently costs around 100 billion a year, or 1% of EU GDP. Over 400,000 cases of premature death are directly related to air pollution.



Pokretanje dugoročnih mjera, poput promovisanja biciklizma i pješačenja, kao i javnog prevoza s niskim i nultim emisijama, imat će vrlo pozitivne izravne učinke.



The launch of long-term measures, such as promoting cycling and walking, as well as low- and zero-emission public transport, will have very positive direct effects.

AMSTERDAM _ Example of good practice



AMSTERDAM_EXAMPLE OF GOOD PRACTICE

Mjere:

- ✓ Istorijsko središte grada pretvoreno je u pješačku zonu
- ✓ Posjetitelji i osobe koje putuju na posao preusmjereni su na parkirališta izvan središta grada
- ✓ Prevozna sredstva koja spajaju sjeverne i južne dijelove grada, do 2022. godine, će biti elektrificirana ili zamijenjena hibridnim modelima

Cilj:

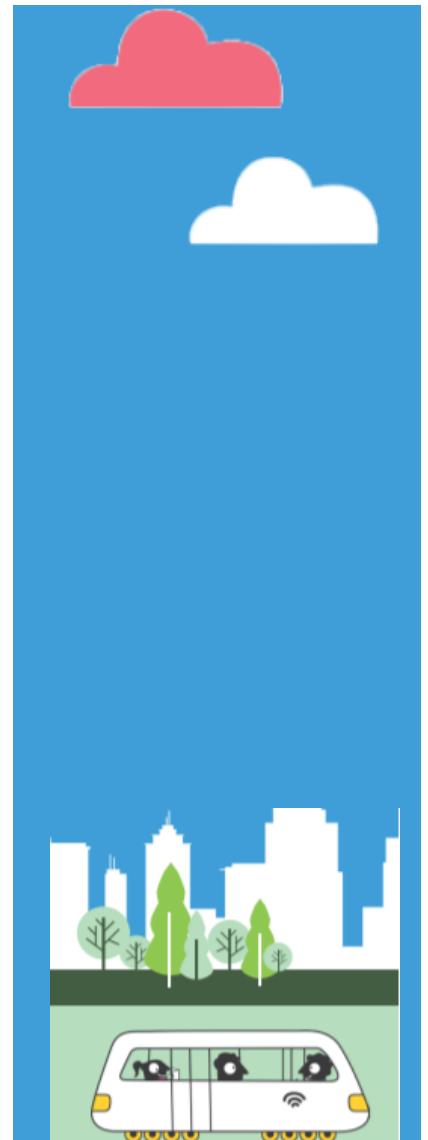
- ✓ 96 % očekivanog smanjenja emisija NOx do 2030. godine
- ✓ 400 % povećanja broja stanica za punjenje električnih vozila obnovljivom energijom

Measures:

- ✓ The historic center of the city has been transformed into a pedestrian zone
- ✓ Visitors and commuters were redirected to parking lots outside the city centre
- ✓ By 2022, the means of transport connecting the northern and southern parts of the city will be electrified or replaced by hybrid models.

Goal:

- ✓ 96% of the expected Reduction in NOx emissions by 2030
- ✓ 400% increase in the number of electric vehicle charging stations with renewable energy



BARCELONA _ Example of good practice



BARCELONA_ EXAMPLE OF GOOD PRACTICE

Mjere:

- ✓ Uvode se strože zone niske emisije - u radnim danima između 7,00 i 20,00 sati zabranjuje se korištenje automobila koji su štetni za okoliš (norma Euro II ili niže)
- ✓ Staro vozilo, kojem bi inače bio zabranjen pristup zoni niske emisije, može se zamijeniti za trogodišnju kartu za javni prevoz
- ✓ U 2020 su nabavljena 23 autobusa s nultim emisijama, što povećava ukupan broj vozila pogonjenih na električnu energiju, prirodni plin ili hibridni pogon na 266.

Cilj:

- ✓ Gradski prevoz Barcelone do 2030. godine želi izgraditi vozni park sastavljen isključivo od električnih, hibridnih i vozila s ukapljenim prirodnim plinom
- ✓ Besplatan javni prevoz tri godine nakon odustajanja od upotrebe automobila

Measures:

- ✓ Stricter low emission zones are introduced - on weekdays between 7.00 and 20.00 it is forbidden to use cars that are harmful to the environment (Euro II standard or below)
- ✓ An old vehicle, which would otherwise be banned from the low emission zone, can be exchanged for a three-year public transport
- ✓ In 2020, 23 zero-emission buses were procured, bringing the total number of vehicles powered by electricity, natural gas or hybrid power to 266.

Goal:

- ✓ By 2030, Barcelona aims to build a fleet composed exclusively of electric, hybrid and liquefied natural gas vehicles.
- ✓ Free public transport three years after giving up the use of the car



KOPENHAGEN _ Example of good practice



KOPENHAGEN_PRIMJER DOBRE PRAKSE

Mjere:

Vozila gradke uprave Kopenhagena trebaju biti pogonjena električnom energijom, vodikom ili biogorivima
Razgranata buduća mreža biciklističkih staza, koja čak obuhvata i „biciklističke super-magistrale“

Moguće je bicikle besplatno prevesti prigradskim vozovima

Cilj:

Ugljiko-neutralan prevoz do 2025. godine

Do 2025. godine ukupno 75% svih putovanja u Kopenhagenu bit će ostvareno pješice, biciklom ili javnim prevozom

Measures:

- ✓ Copenhagen city administration vehicles should be powered by electricity, hydrogen or biofuels
- ✓ An extensive future network of bicycle paths, which even includes "cycling super-highways"
- ✓ It is possible to transport bicycles free of charge by commuter trains

Goal:

- ✓ Carbon-neutral transport by 2025
- ✓ By 2025, a total of 75% of all trips in Copenhagen will be made by foot, bicycle or public transport.

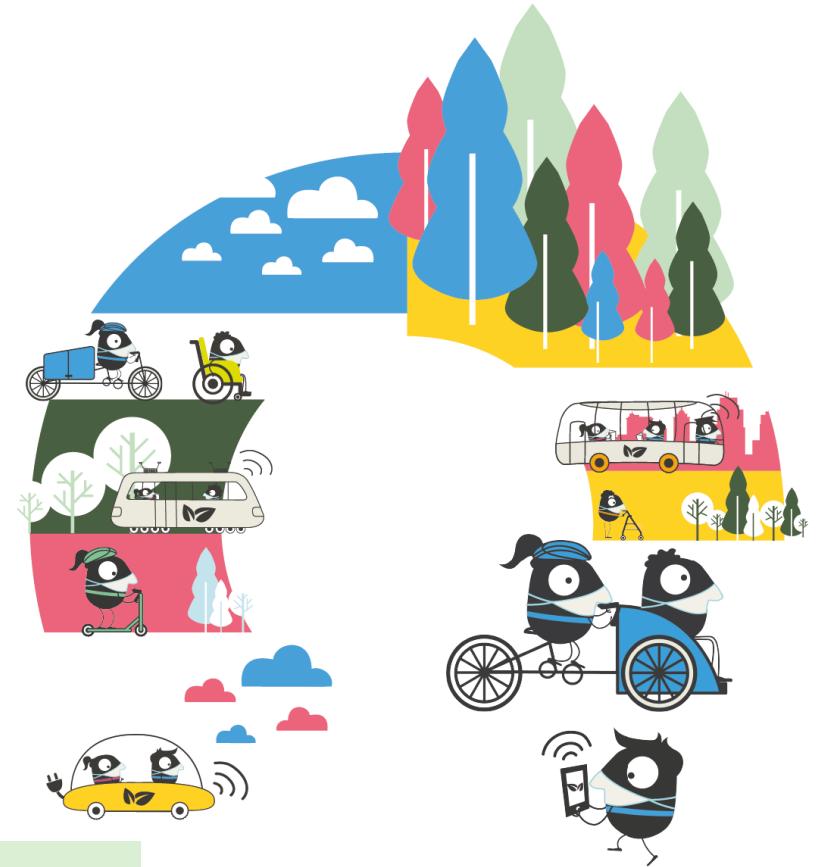


MOBILNOST NULTE EMISIJE

- Pješačenje
- Biciklo, romobil, daska, rošle
- Javni masovni prijevoz nulte emisije: tramvaj, trolejbus, e Bus e minibus
- Individualni prijevoz nulte emisije: e -vozilo, e –scuter, e- biciklo, e-romobil

ZERO-EMISSION MOBILITY

- ✓ Hiking
- ✓ Bicycle, scooter, board,
- ✓ Zero-emission public mass transport: tram, trolleybus e Bus e minibus
- ✓ Individual transport of zero emissions: e-vehicle, e –scuter, e- bicycle, e-scooter



Zero-emission mobility – Walking

Destination
Sarajevo



Mobilnost kojim se postiže nulta emisija – **romobil, daska, rošle**



depositphotos

Image ID: 131272952 | www.depositphotos.com

Zero-emission mobility – scooter, board, roxle



1192099130



Zero-emission mobility – Bicycles





ZERO-EMISSION MOBILITY - TRAM



Zero-emission mobility - Trolleybus



Zero-emission mobility – Electric bus



Mobility that achieves zero emissions



e-vehicle



e-scooter



Mobility that achieves zero emissions



e-bicycle

e –romobil



Zero-emission mobility – Scooter



SUMP Sustainable Urban Mobility Plan



Plan održive mobilnosti (engl. Sustainable Urban Mobility Plan) je strateški plan dizajniran da zadovolji potrebu za mobilnošću ljudi i biznisa u gradovima i njihovom okruženju radi boljeg kvaliteta života.

Sustainable Urban Mobility Plan is a strategic plan designed to meet the need for mobility of people and businesses in cities and their environment for a better quality of life.



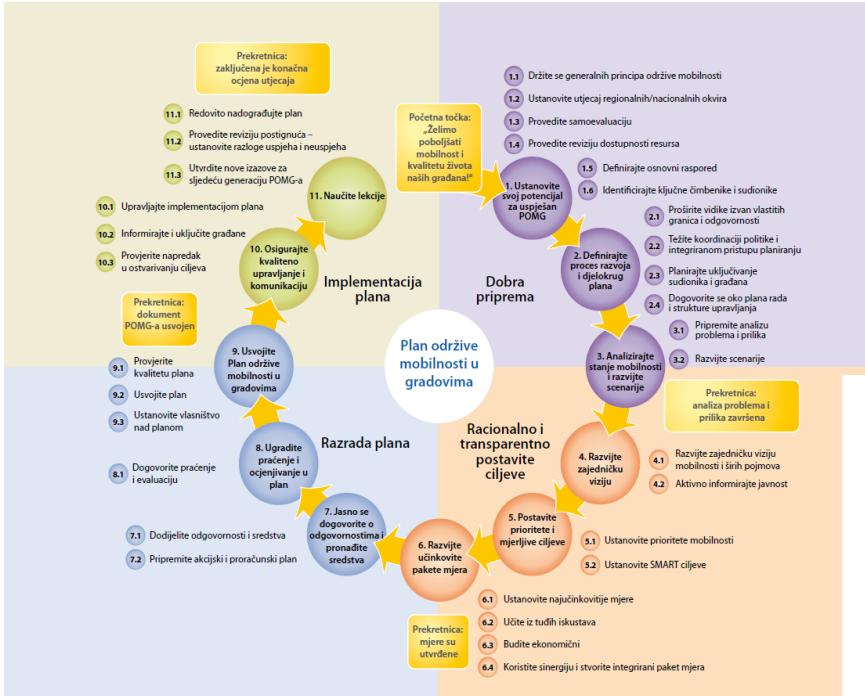
Cilj Plana održive mobilnosti u gradovima je stvaranje održivog transportnog sistema u gradovima pomoću:

- ✓ osiguravanja dostupnosti poslova i usluga svima;
- ✓ poboljšanja sigurnosti i zaštite;
- ✓ smanjenja zagađenja, emisije stakleničkih plinova i potrošnje energije;
- ✓ povećanja učinkovitosti i ekonomičnosti u transportu osoba i roba;
- ✓ povećanja atraktivnosti i kvalitete gradskog okoliša

The objective of the Urban Mobility Plan is to create a sustainable urban transport system through:

- ✓ ensuring the availability of jobs and services to all;
- ✓ safety and security improvements; reducing pollution, greenhouse gas emissions and energy consumption;
- ✓ increasing efficiency and economy in the transport of persons and goods;
- ✓ increasing the attractiveness and quality of the city environment





Sustainable Urban Mobility Plans



© Rupprecht Consult 2019





University of Sarajevo: <https://www.unsa.ba>
Faculty of Traffic and Communications: <https://fsk.unsa.ba/>



Thank you for your attention

Osman Lindov: osman.lindov@fsk.unsa.ba

Amel Kosovac: amel.kosovac@fsk.unsa.ba

Drago Ezgeta: drago.ezgeta@fsk.unsa.ba

Adnan Omerhodžić: adnan.omerhodzic@fsk.unsa.ba

Belma Memić: belma.memic@fsk.unsa.ba

Elma Avdagic-Golub: elma.avdagic@fsk.unsa.ba

Aida Kalem: aida.kalem@fsk.unsa.ba

Edvin Šimić: edvin.simic@fsk.unsa.ba

Ajdin Džananović: ajdin.dzananovic@fsk.unsa.ba

PhD. Osman Lindov, Full Professor-Traff. Eng.
Faculty of Traffic and Communications University of Sarajevo
Zmaja od Bosne 8, 71 000 Sarajevo, B&H
Phone: +387 (33) 565 200 / Mobile: + 387 (61) 161 482

