



Verkehrswende.at
verbindet Menschen

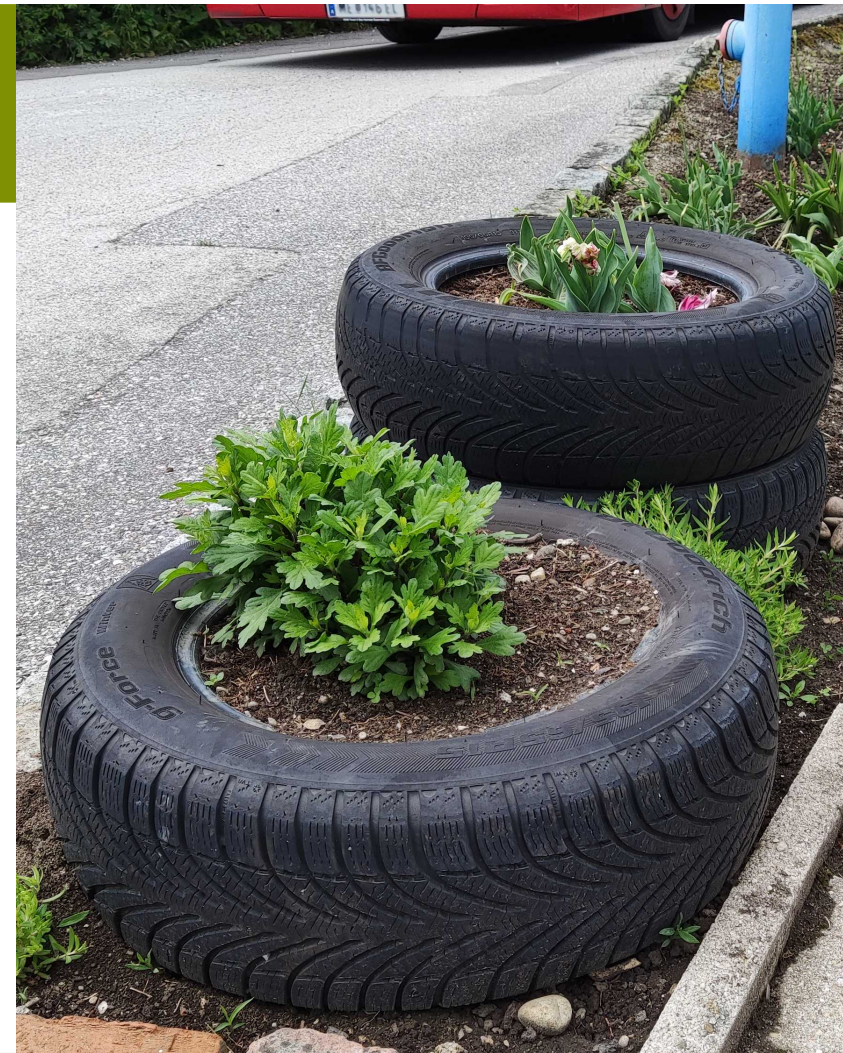
Mobility Transition: Targeted Measures to Limit Tire Wear and Environmental Damage

Multi-Stakeholder-Workshop
„Tackling Tire Wear and Associated Chemical Risks“

Dr. Dieter Schmidradler
Vienna, 27th November 2025

Overview

- **The problem** with cars
- **Case study:** quantitative impact
- **The need** for immediate action
- **Tire wear** by design
- **Progress** made



The Problem with Cars

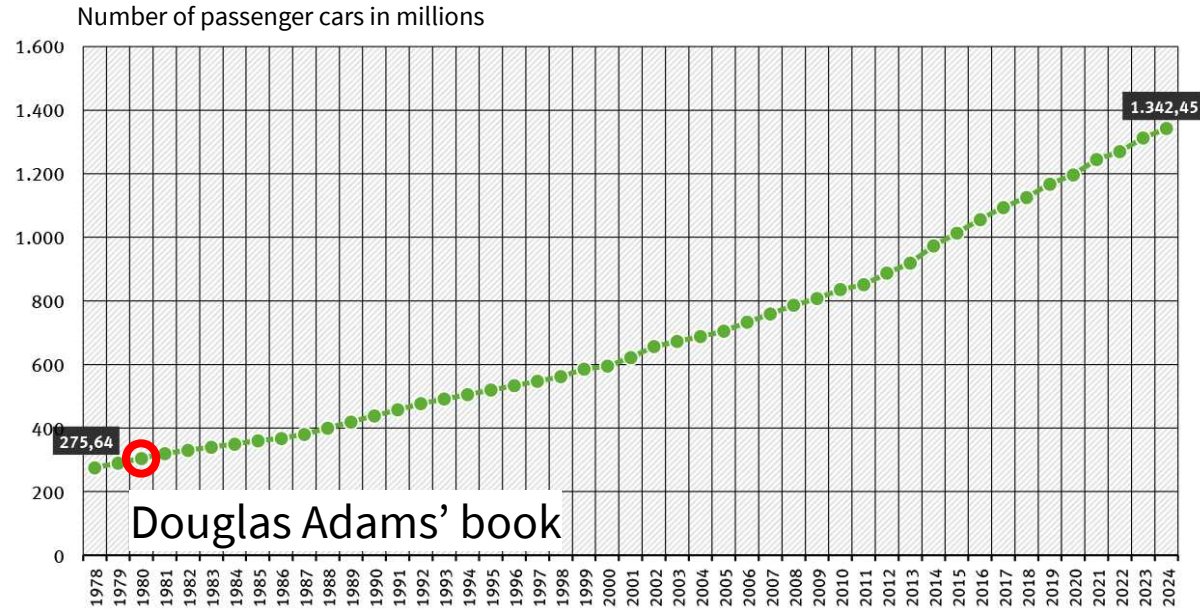
„On Earth – when there had been an Earth, before it was demolished to make way for a new hyperspace bypass – the problem had been with cars.“

Douglas Adams' The Restaurant at the End of the Universe, Chapter 22

Verkehrswende.at promotes measures that change mobility and transport in order to avoid the traffic-related demolition of our planet.

The Problem with Cars

Global car fleet



* ohne Nutzfahrzeuge; jeweils zum 1.1.

Quelle: Verband der Automobilindustrie (VDA), Tatsachen und Zahlen, Jahresberichte

Source: <https://www.umweltbundesamt.de/bild/weltweiter-autobestand>

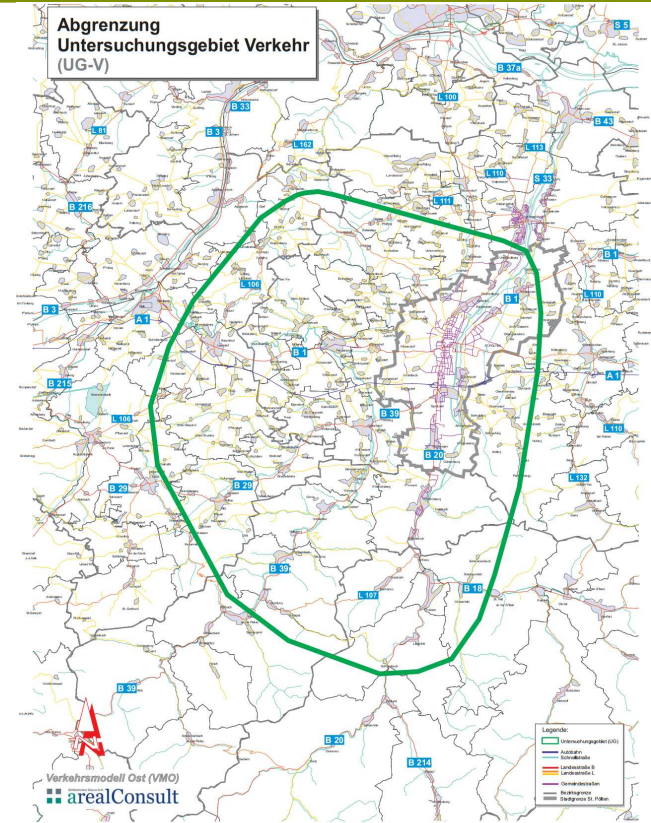


Don't Panic!

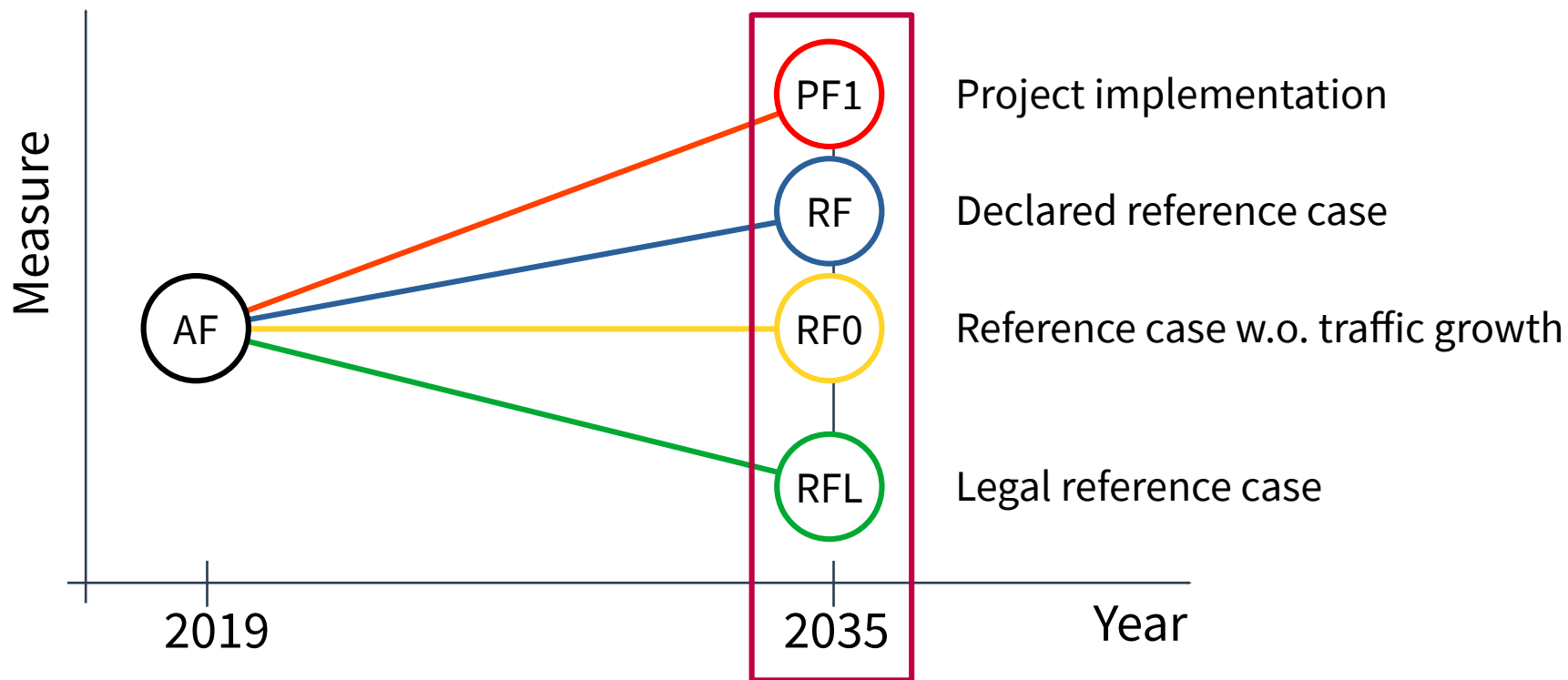
Evaluation of Traffic Forecasts in the S34 Project

- St. Pölten: ASFINAG forecast in motorised road traffic 2030 vs. 2019 on pre existing road network): +37%
- Road traffic related PM2.5: +35%
- Additional **annual deaths** due to traffic related PM2.5 pollution: **+13 (8...18)**
- Estimated overall entry of tire and road wear particles into the environment incl. planned road-network expansion 2030 vs. 2019: +43%, i.e. **4,3kg per capita → 6,3kg per capita**

Source: <https://www.verkehrswende.at/wp-content/uploads/2024/01/Gutachten-Gesundheit-240102p.pdf>



Case Study B123b



Details: https://www.verkehrswende.at/wp-content/uploads/2025/03/GutachtenReferenzfall_250222.pdf

Case Study B123b

Analysis 2019

PM _{2.5} total (anthropogenic + natural) 10µg	PM _{2.5} traffic 2,5µg*)
	PM _{2.5} other sources 7,5µg

PF1: 3.4µg / m³:
+1.3 ... +2.8 deaths/year)**

134% traffic

RF: 3.1µg / m³:
+0.9 ... +2.0 deaths/year

125% traffic

RF0: 2.5µg / m³: **±0 deaths**

100% traffic

RFL: 1.3µg / m³: **-0.2 ... -0.4 deaths/year**

53% traffic

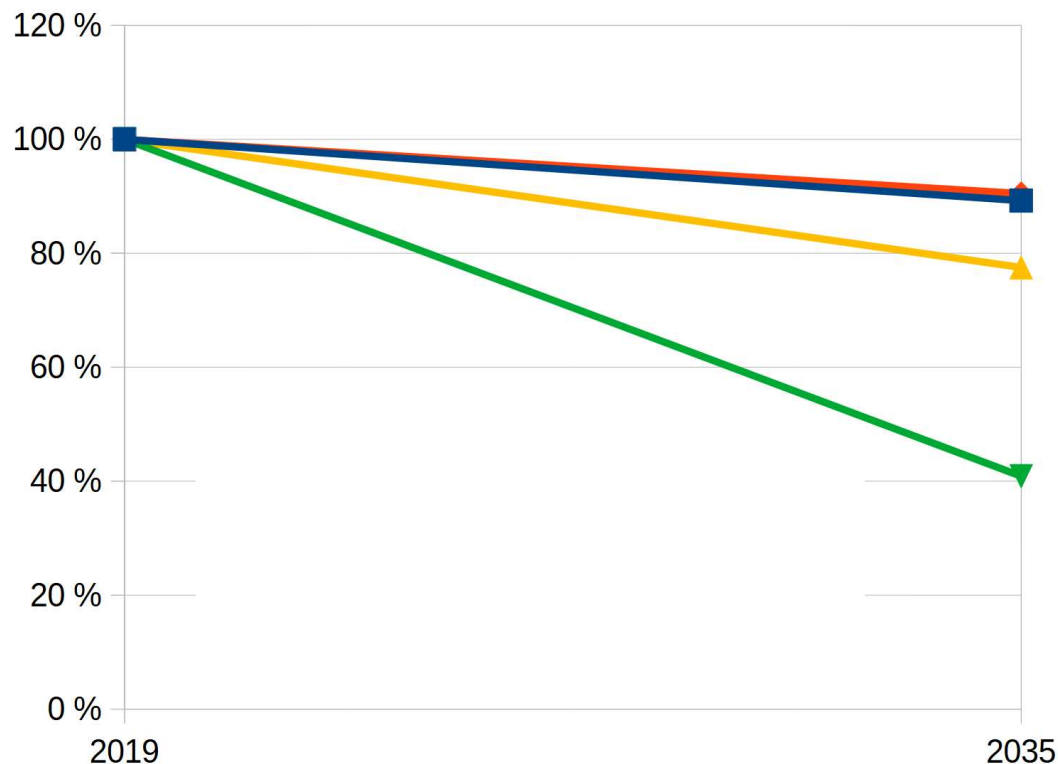
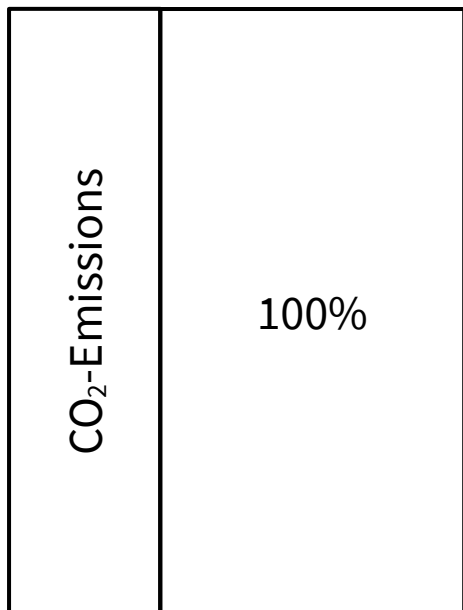
*) 25% share in Europe's urban areas

**) 11 368 inhabitants, mortality rate 10/1 000

Details: https://www.verkehrswende.at/wp-content/uploads/2025/03/GutachtenReferenzfall_250222.pdf

Analysed Scenarios: CO₂-Emissions

Analysis 2019



PF1: 90,5 %

RF: 89,2 %

RF0: 77,5%

RFL: 40,9%

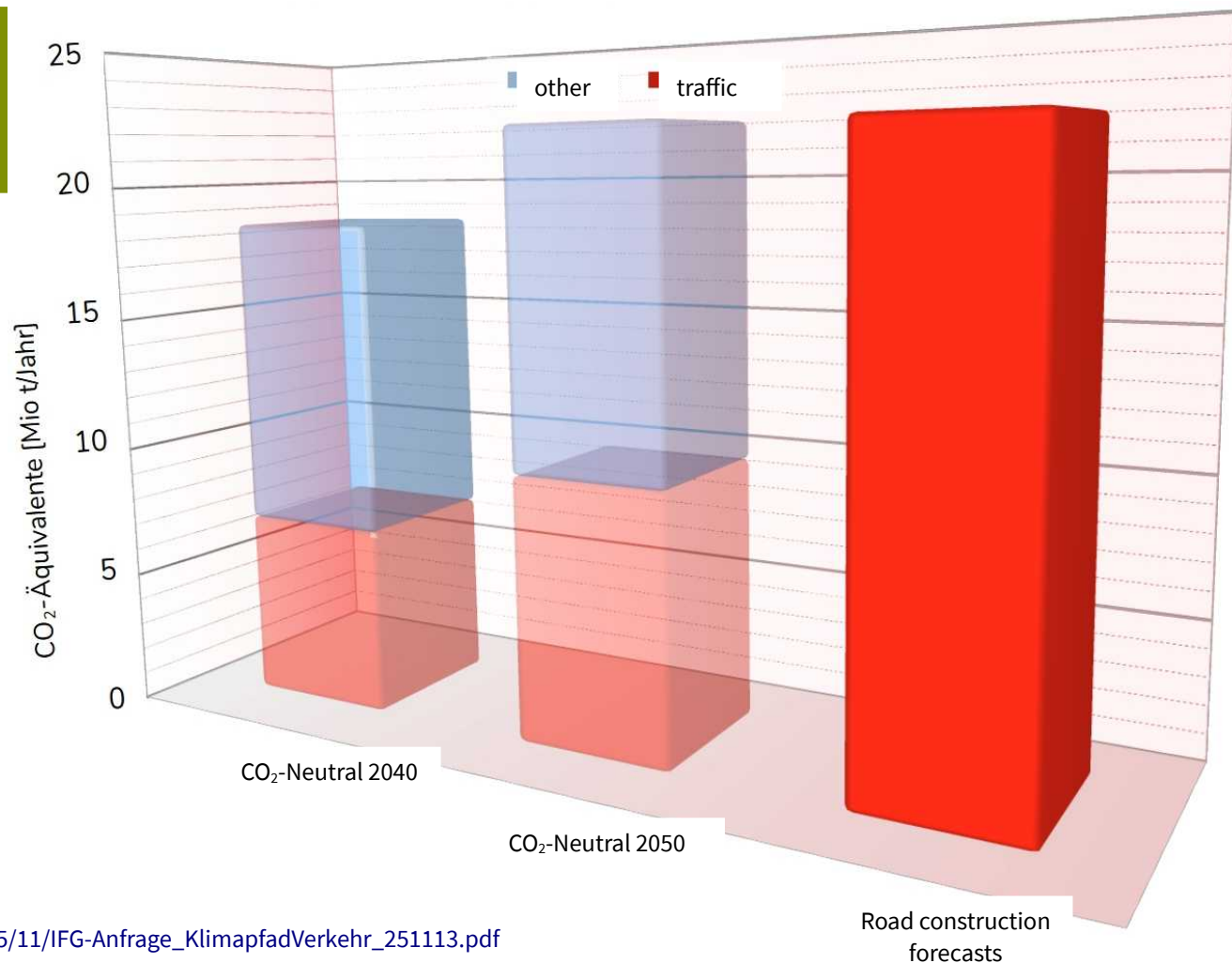
Details: https://www.verkehrswende.at/wp-content/uploads/2025/03/GutachtenReferenzfall_250222.pdf

CO₂-Emissions 2035

According to road builders' plans, road traffic will consume Austria's entire CO₂ budget by 2035.

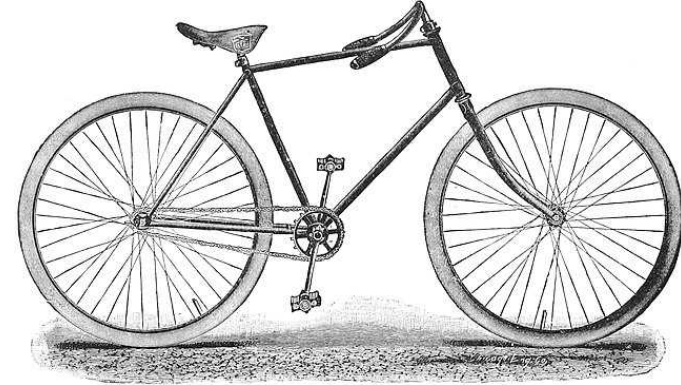
Compliance with climate targets **requires immediate action:**

50% reduction in motorized road traffic within the next 10 years



See also: https://www.verkehrswende.at/wp-content/uploads/2025/11/IFG-Anfrage_KlimapfadVerkehr_251113.pdf

Statical Determinacy: Efficiency and Tire Wear



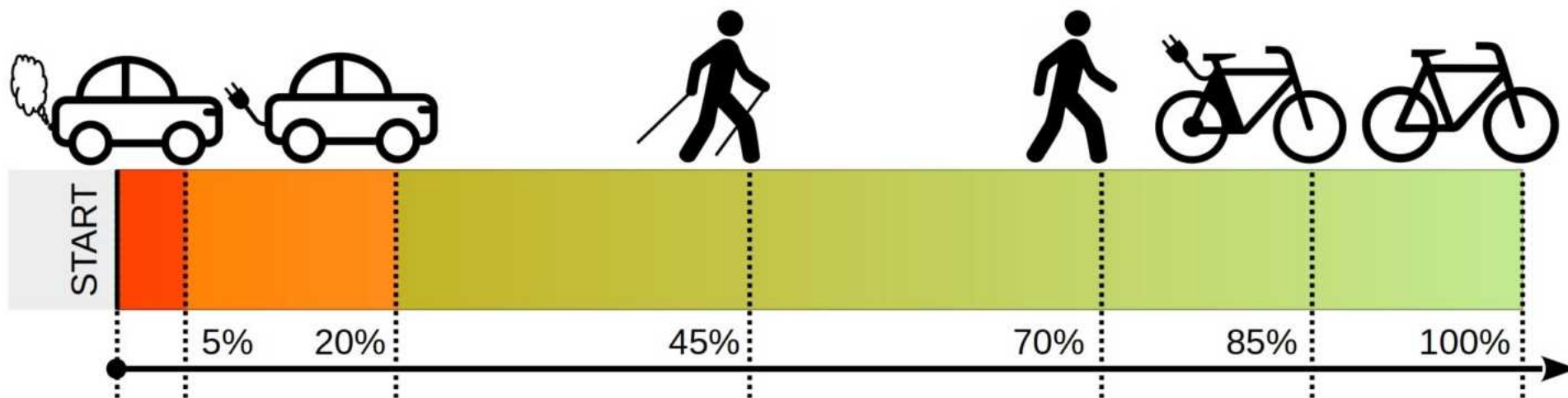
Images: https://de.wikipedia.org/wiki/Elektroauto#/media/Datei:Jamais_contente.jpg, <https://tiresvote.com/articles/everything-you-need-know-about-contact-patch/>, https://upload.wikimedia.org/wikipedia/commons/7/74/Western_Wheel_Works_bicycle%2C_1892.jpg

Too much Mass in Motion



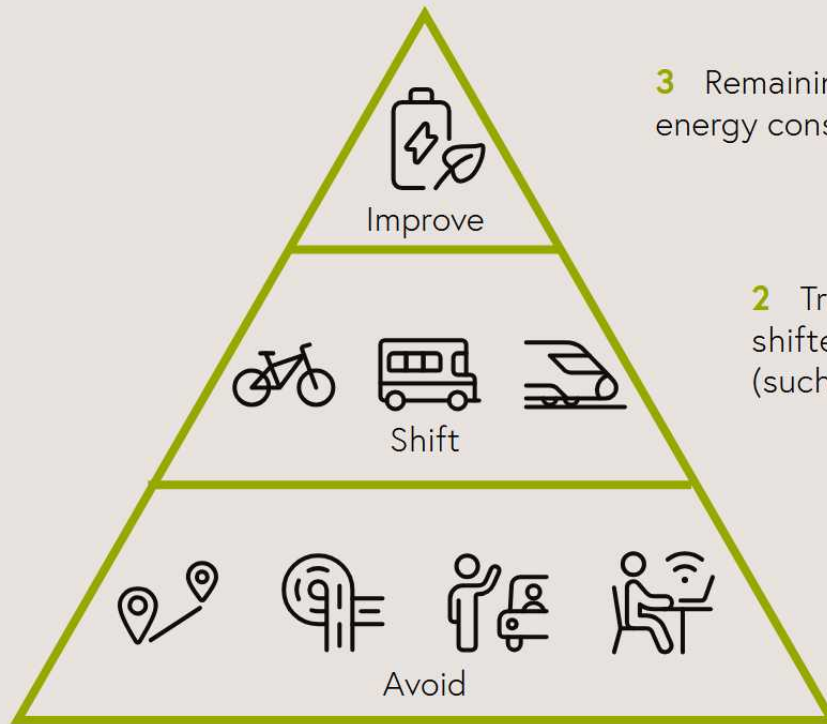
Images: <https://www.reifendirekt.at/>, <https://www.ktm-bikes.at/de/>

Range with the Same Amount of Energy



Source: <https://www.verkehrswende.at/effizienzwunder/>

Pyramid of Climate-neutral, Sustainable Mobility



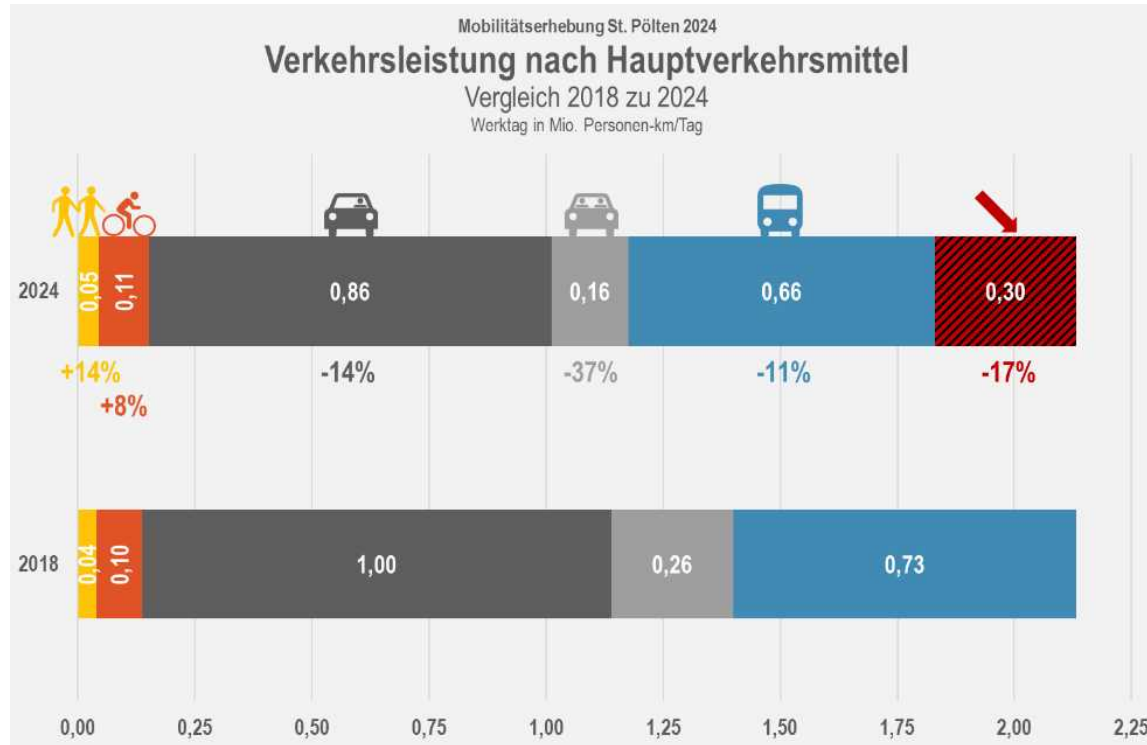
3 Remaining traffic needs to be improved in order to reduce energy consumption. Energy-efficient drive systems will be crucial.

2 Traffic and transport that cannot be avoided should be shifted to environmentally friendly modes of transport (such as bicycle, bus and rail).

1 The greenest traffic and transport is the traffic and transport that can be avoided entirely. Traffic can be avoided with sustainable site and land use planning that keeps distances short as well as with working from home, carpooling, and integrating production and commerce with short transport distances.

Source: <https://www.bmimi.gv.at/themen/mobilitaet/mobilitaetsmasterplan/mmp2030.html>

Actual Reference Case in St. Pölten



Source: https://www.st-poelten.at/images/Mobilitaeterhebung_2024_Prasentation_Final_PDF.pdf, p14

*) <https://www.verkehrswende.at/wp-content/uploads/2024/01/Gutachten-Gesundheit-240102p.pdf>

- Road construction not yet implemented
- Actual reference case 2023 has been realised
- The claimed ‘natural traffic growth’ not materialised
- „Mobilitätserhebung St. Pölten 2024“:

2024 17% less total traffic compared to 2018, with a simultaneous 7% increase in population growth

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