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# EU Transport GHG: Routes to 2050? Speed and traffic management

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# Subject in perspective

- Strong and complex relation between infrastructure policy, spatial policy and transport.
- Infrastructure is an enabler for transport. Additional infrastructure creates additional transport as it reduces travel cost and time. It affects modal split and location choices.
- Spatial policy has also effects on transport volume and modal choice.
- Traffic speed policy directly impacts on vehicle GHG emissions.
- These issues impact on the GHG emissions of transport. But these policy areas are often driven by other objectives like economic development, reducing congestion, safety, etc.

# Traffic management policy and speed limits

- Traffic management policy can be deployed to minimize fuel consumption and GHG emissions. The aims in this case should be:
  - Reduce number of kilometers driven
  - Favour environmentally friendly transport modes
  - Enable vehicles to operate at favourable and constant speed.
- Traffic management can increase the capacity of the road and thus the attractiveness of the transport network, which can result in extra traffic.



# Traffic management for road transport

- GHG emission reduction targets can help shape future of traffic management when sense of urgency is high enough.
- Balance between environmental goals and economic and safety objectives need to be established.
- Traffic management measures to reduce congestion:
  - Optimising of traffic flows
  - Reduce congestion
  - Acces restrictions for high emitting vehicles
  - Speed management (see next slide)
- Traffic management measures can be designed to favour low emission modes by prioritizing or exempt them from charges or restrictions.

# Lower speed limits for road transport

- Traffic safety is the main driver for introducing speed limits.
- Motorway speed limit of 100 km/h can save 7-13% GHG emissions compared with limit of more than 120 km/h.
- Cars are most fuel efficient at 80 km/h.
- Lower speed limits will lead to:
  - Improved traffic safety.
  - Travel time will increase, so people will travel less kilometers (time budget theory).
  - Adapted design of vehicle engines.
- User acceptance is expected to be a problem.



# Traffic management and speed policy for non-road transport modes

## Air traffic

- Air traffic management can be improved to use more direct tracks, allowing substantial savings in fuel (6-12%).
- Single European sky.
- Effects of optimizing aircraft cruise speed are limited.



## Ships

- Optimizing of routes, better fleet planning and optimization of speed can help reduce emissions (up to 40%).
- Speed limits for ships have strong effects.
- Optimal speed now optimized by economical assessment, so internalizing the cost of CO<sub>2</sub> emissions can be an option.

# Conclusions traffic management policy and speed limits

- Substantial GHG emission reductions can be achieved by traffic management and speed management.
- Technology is available, but there are significant barriers:
  - Economic consequences of longer travel times.
  - User acceptance
- Large co-benefits:
  - Traffic safety
  - Air quality
  - Energy security
  - Reduced noise