Short- and long-term effects of AVs and ACVs

This page shows the potential effects when introducing automated (AVs) and autonomous connected vehicles (ACVs), together with intelligent infrastructure uniformly and unrestricted to the scenario. We simulated short-term effects by only allowing agents to adapt their plans by re-routing and departure time mutation. Long-term effects also includes mode-choice behaviour.

Short-term travel time savings

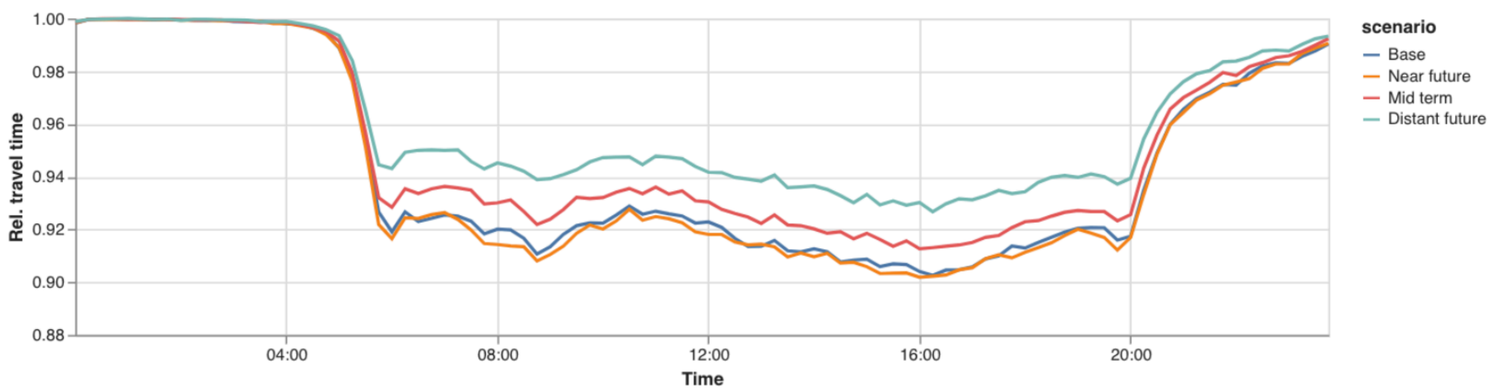
The following table shows the reduction in time spent for traveling in car:

	Near fut.	Mid-term	Distant fut.
Vehicle-hours	+1.1%	-3.0%	-8.1%

The overall numbers of car trips stayed the same, because mode-choice was not enabled. This assumption is not plausible for scenarios in the future, but shows the effect, if nobody would switch to a different mode.

Relative travel times

Shown are the mean relative travel time over all congested link in the base scenario throughout the day.



Long-term effects with Mode-choice

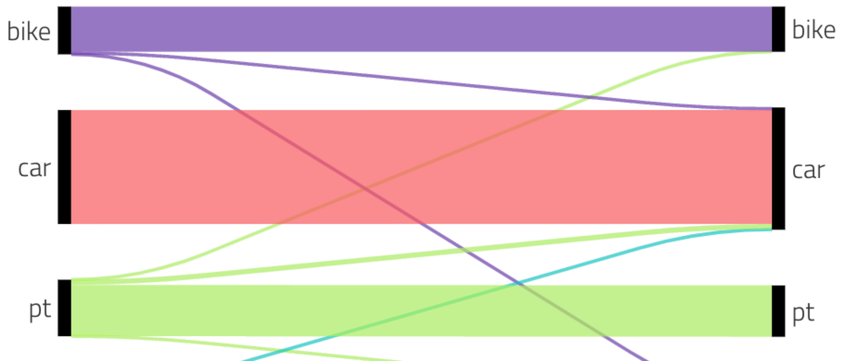
The following table shows the number of car trips and driven km and hours compared to tbe base case:

	Near fut.	Mid-term	Distant fut.
Car trips	-1.2%	+1.7%	+7.1%
Vehicle-km	-1.0%	+1.6%	+6.0%
Vehicle-hours	-0.8%	+0.7%	+3.8%

Here mode-choice has been enabled.

Mode-Shift Distant future

Number of agents switching mode of transportation



Emissions

Partiuclar matter emissions according to HBEFA