Inputs

O2P

For all scenarios

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Car safety (driver and pass)	1,70
Bus safety (pass)	0,58
Air safety (pass)	0,03

Expected annual passenger safety change	
Car safety change (pass)	3,2%
Bus safety change (pass)	0,0%
Air safety change (pass)	7,4%

Safety for others (f/bvkm)	
Car safety (other)	0,53
Truck (other) *(not included in calc.)*	1,03
Bus safety (other)	3,01

Expected annual safety change others	
Car safety change (other)	3,8%
Truck (other) *(not included in calc.)*	4,2%
Bus safety change (other)	0,0%

Scenario 0 - RC

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S0 (pass)	0,11

Expected annual passenger safety change	
Conventional Rail safety change S0 (pass)	1,6%

Safety for others (f/bvkm)	
Conventional Rail safety S0 (other)	51,79

Expected annual safety change others	
Conventional Rail safety change S0 (other)	0,4%

Scenario 1 - DS

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S1 (pass)	0,11
HSR Combined & Separate Tracks safety S1 (pass)	0,27

Expected annual passenger safety change	
Conventional Rail safety change S1 (pass)	1,6%
HSR Comb. & Sep. T. safety change S1 (pass)	2,4%

Safety for others (f/bvkm)	
Conventional Rail safety S1 (others)	51,79
HSR Comb. & Sep. T. safety S1 (others)	204,42

Expected annual safety change others	
Conventional Rail safety change S1 (other)	0,4%
HSR Comb. & Sep. T. safety change S1 (other)	1,4%

Inputs

O2P

Transport information - Assign expected transport values in billion passenger km (bpkm) or billion vehicle kilometers (bvkm) in grey cells for first year in time horizon.

(only journeys longer than 100 km are included)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (RC)								
Conventional rail	2,26	0,0681	16,93	10,79	1,98	0,37	6,89	n.a.
Scenario 1 (DS)								
HSR	1,66	0,01	16,56	10,55	1,94	0,37	6,35	n.a.
Conventional rail	2,18	0,0683						

Transport information - Assign expected annual change in transport values (%)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (Present)								
Conventional rail	**1,25%**	**0,00%**	**1,33%**	**1,33%**	**1,17%**	**0,00%**	**1,21%**	n.a.
Scenario 1 (Combined tracks and separate tracks)								
HSR + Conventional rail	**0,92%**	**0,00%**	**1,34%**	**1,34%**	**1,18%**	**0,00%**	**1,21%**	n.a.
Conventional rail	**1,26%**	**0,00%**						

Economic information

Value of statistical life, VSL (MNOK)	20
Discount rate (%)	4,5%

O2P

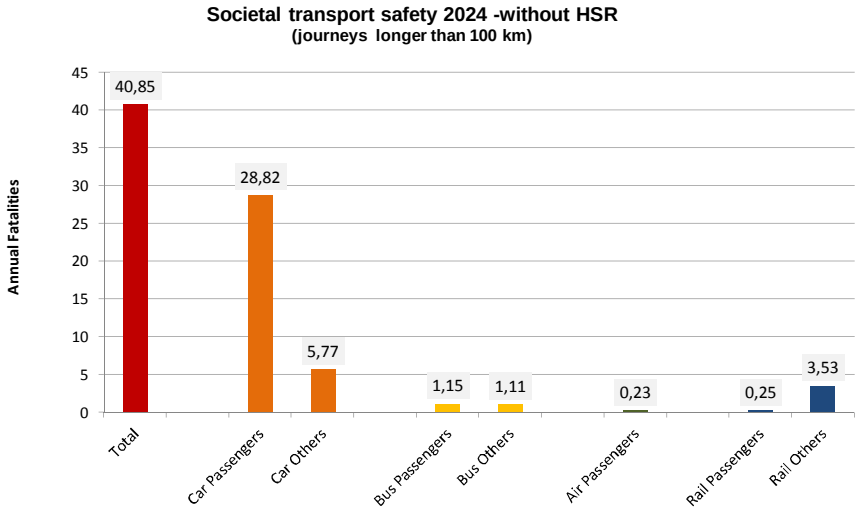
Results

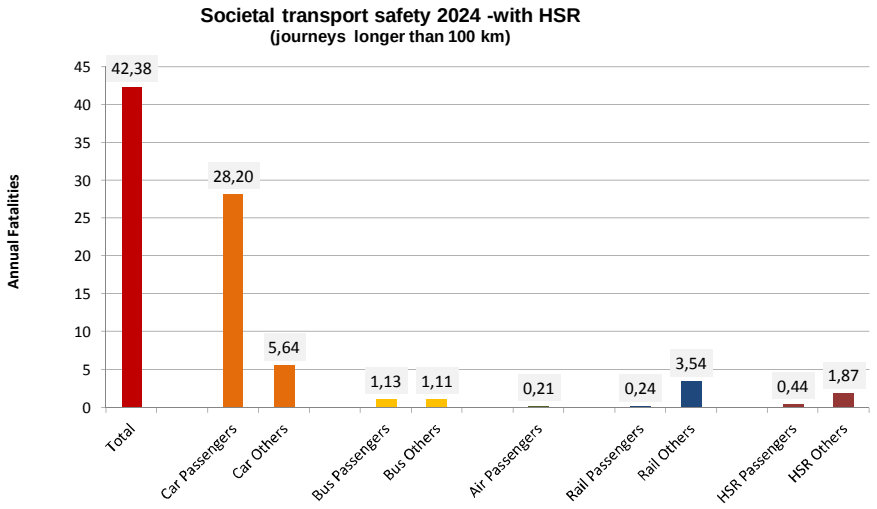
Societal transport safety 2024 -without and with HSR

	Safety level (fat. / year)	Safety development (%)	Safety level (fat./ year)
Railway transport			
Passengers	0,25	1,6%	0,24
Others	3,53	0,4%	3,54
Passengers HSR	-		0,44
Others HSR	-		1,87
Road transport			
Car			
Passengers	28,82	3,2%	28,20
Others	5,77	3,8%	5,64
Bus			
Passengers	1,15	0,0%	1,13
Others	1,11	0,0%	1,11
Air transport			
Passengers	0,23	7,4%	0,21
Total	**40,85**		**42,38**

Predicted societal transport safety (no. of fatalities)

Time horizon (years)	RC	DS	Difference
1 years	40,9	42,4	3,74%
25 years	838	872	4,06%
40 years	1 202	1 252	4,20%
60 years	1 582	1 650	4,31%





O2P

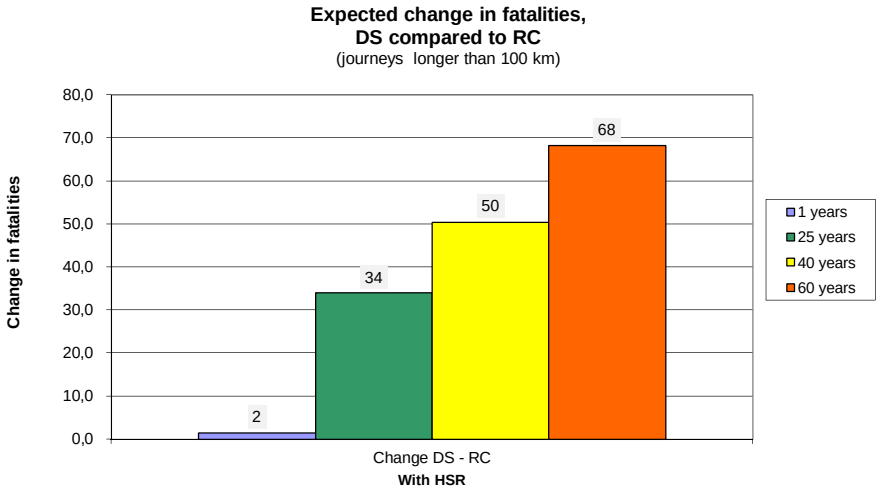
Results

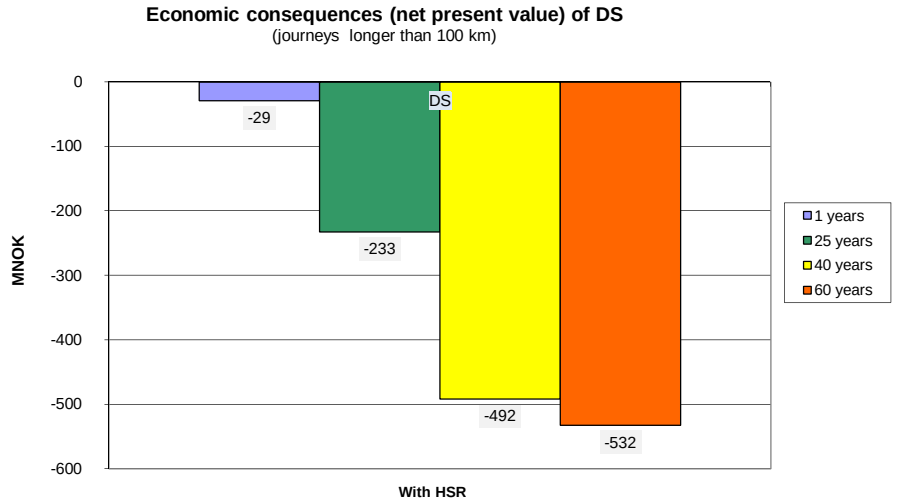
Change in predicted societal transport safety (no. of fatalities)

Time horizon (years)	Change DS - RC
1 years	**1,5**
25 years	**34**
40 years	**50**
60 years	**68**

Economic consequences of societal transport safety change (MNOK)

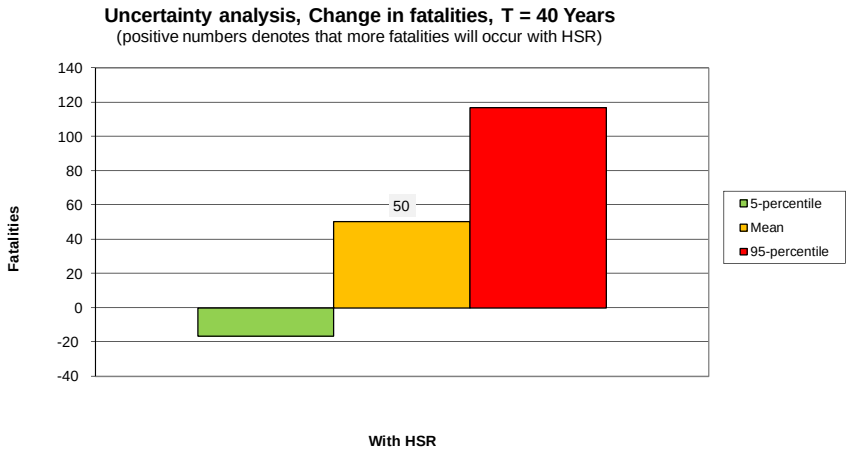
Time horizon (years)	RC	DS
1 years	0	**-29**
25 years	0	**-233**
40 years	0	**-492**
60 years	0	**-532**

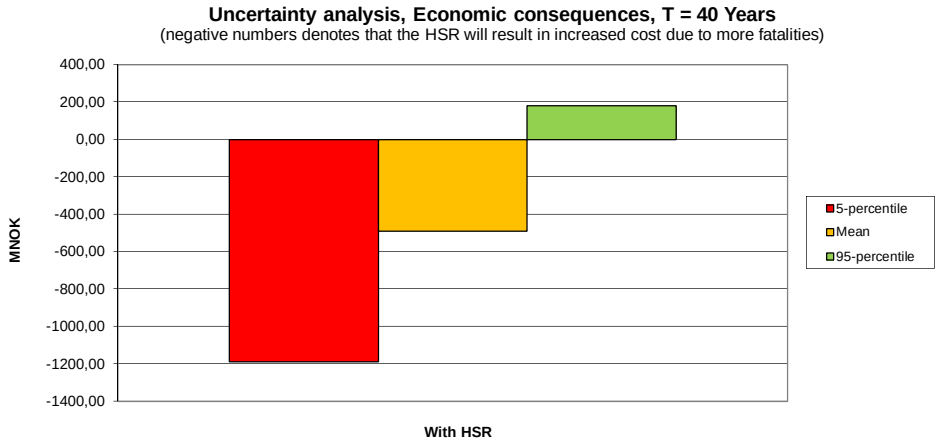




O2P

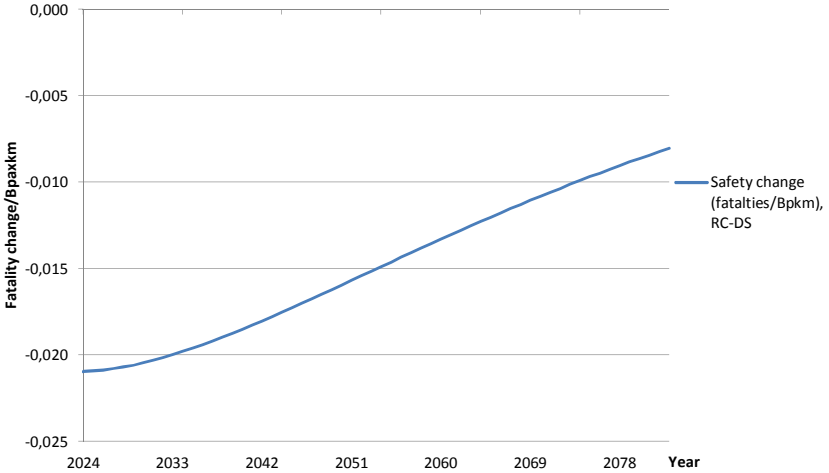
Uncertainty analysis

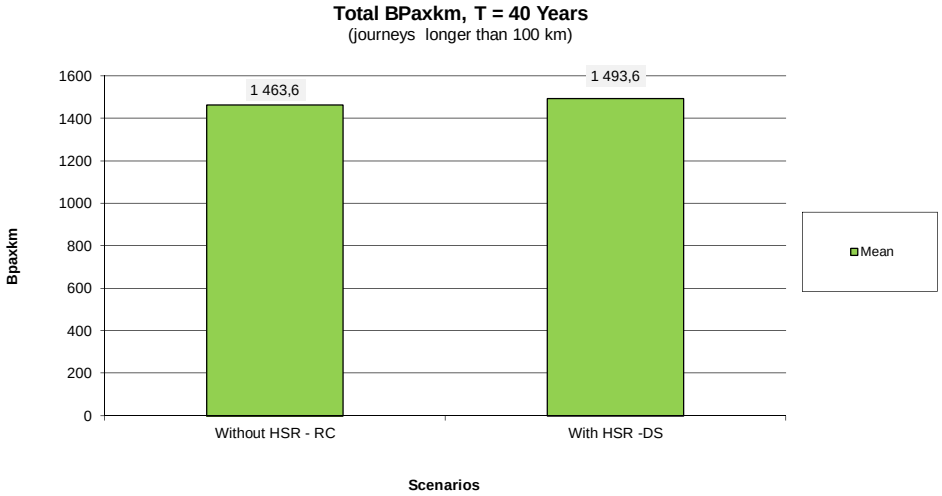


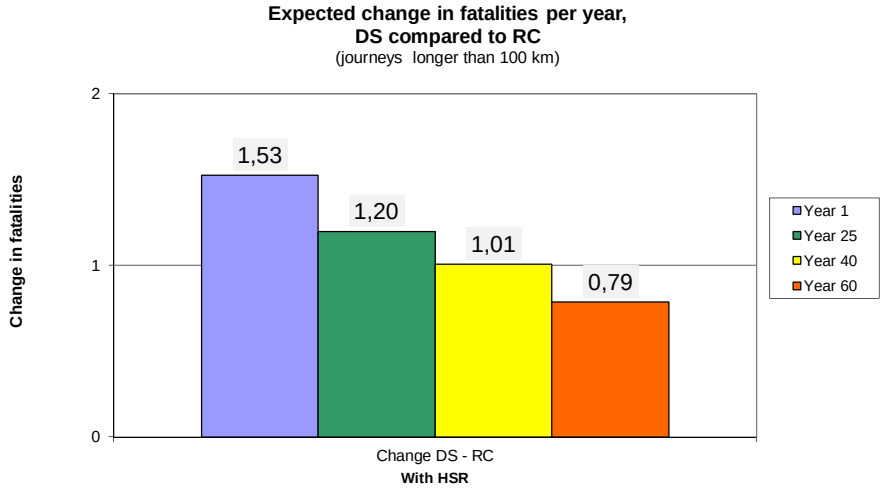


O2P

Additional safety analysis







Inputs

S2P

For all scenarios

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Car safety (driver and pass)	1,70
Bus safety (pass)	0,58
Air safety (pass)	0,03

Expected annual passenger safety change	
Car safety change (pass)	3,2%
Bus safety change (pass)	0,0%
Air safety change (pass)	7,4%

Safety for others (f/bvkm)	
Car safety (other)	0,53
Truck (other) *(not included in calc.)*	1,03
Bus safety (other)	3,01

Expected annual safety change others	
Car safety change (other)	3,8%
Truck (other) *(not included in calc.)*	4,2%
Bus safety change (other)	0,0%

Scenario 0 - RC

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S0 (pass)	0,11

Expected annual passenger safety change	
Conventional Rail safety change S0 (pass)	1,6%

Safety for others (f/bvkm)	
Conventional Rail safety S0 (other)	51,79

Expected annual safety change others	
Conventional Rail safety change S0 (other)	0,4%

Scenario 1 - DS

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S1 (pass)	0,11
HSR Combined & Separate Tracks safety S1 (pass)	0,22

Expected annual passenger safety change	
Conventional Rail safety change S1 (pass)	1,6%
HSR Comb. & Sep. T. safety change S1 (pass)	2,5%

Safety for others (f/bvkm)	
Conventional Rail safety S1 (others)	51,79
HSR Comb. & Sep. T. safety S1 (others)	145,54

Expected annual safety change others	
Conventional Rail safety change S1 (other)	0,4%
HSR Comb. & Sep. T. safety change S1 (other)	1,6%

Inputs

S2P

Transport information - Assign expected transport values in billion passenger km (bpkm) or billion vehicle kilometers (bvkm) in grey cells for first year in time horizon.

(only journeys longer than 100 km are included)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (RC)								
Conventional rail	2,26	0,0681	16,93	10,79	1,98	0,37	6,89	n.a.
Scenario 1 (DS)								
HSR	1,56	0,01	16,57	10,55	1,94	0,37	6,45	n.a.
Conventional rail	2,19	0,0682						

Transport information - Assign expected annual change in transport values (%)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (Present)								
Conventional rail	**1,25%**	**0,00%**	**1,33%**	**1,33%**	**1,17%**	**0,00%**	**1,21%**	n.a.
Scenario 1 (Combined tracks and separate tracks)								
HSR + Conventional rail	**0,78%**	**0,00%**	**1,34%**	**1,34%**	**1,18%**	**0,00%**	**1,22%**	n.a.
Conventional rail	**1,26%**	**0,00%**						

Economic information

Value of statistical life, VSL (MNOK)	20
Discount rate (%)	4,5%

S2P

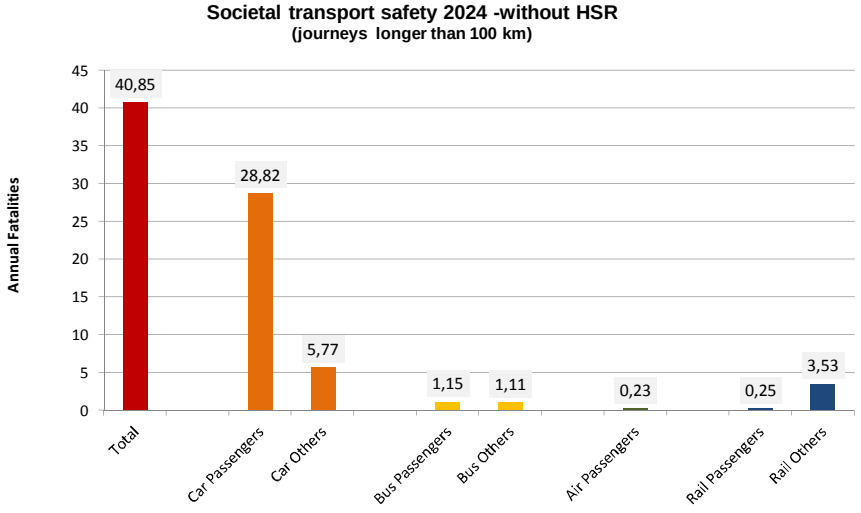
Results

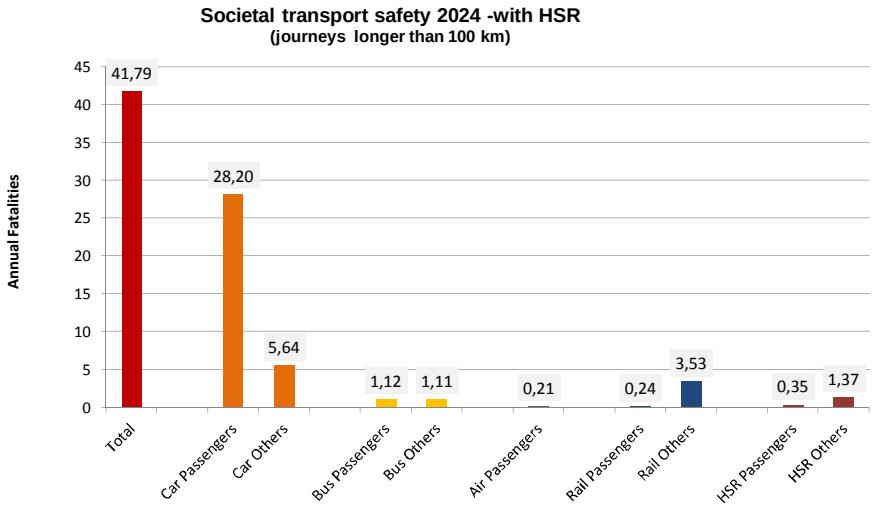
Societal transport safety 2024 -without and with HSR

	Safety level (fat. / year)	Safety development (%)	Safety level (fat./ year)
Railway transport			
Passengers	0,25	1,6%	0,24
Others	3,53	0,4%	3,53
Passengers HSR	-		0,35
Others HSR	-		1,37
Road transport			
Car			
Passengers	28,82	3,2%	28,20
Others	5,77	3,8%	5,64
Bus			
Passengers	1,15	0,0%	1,12
Others	1,11	0,0%	1,11
Air transport			
Passengers	0,23	7,4%	0,21
Total	**40,85**		**41,79**

Predicted societal transport safety (no. of fatalities)

Time horizon (years)	RC	DS	Difference
1 years	40,9	41,8	2,29%
25 years	838	859	2,48%
40 years	1 202	1 232	2,56%
60 years	1 582	1 623	2,61%





S2P

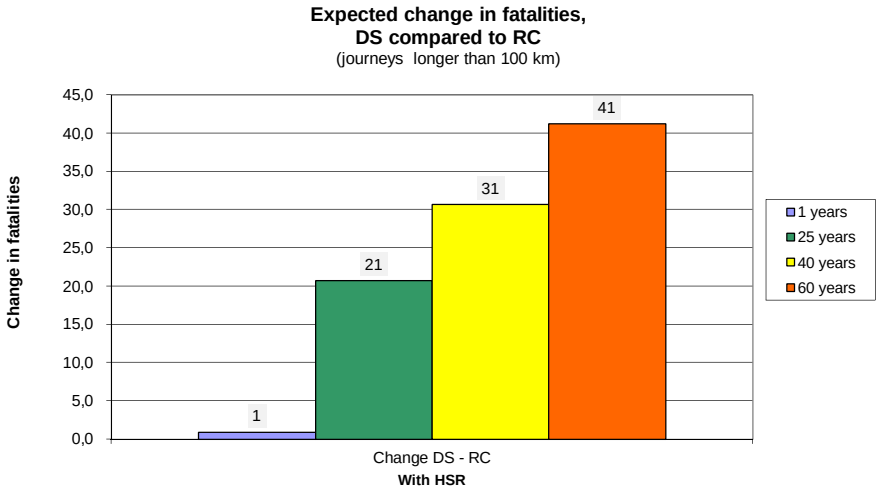
Results

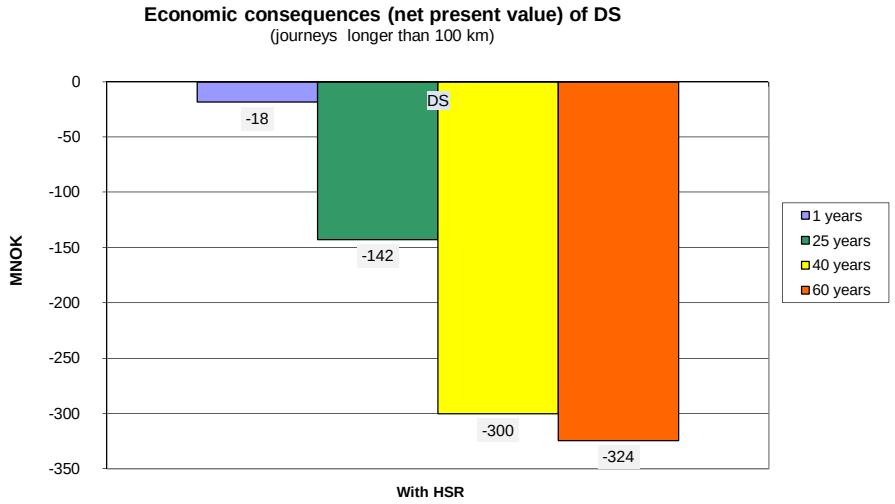
Change in predicted societal transport safety (no. of fatalities)

Time horizon (years)	Change DS - RC
1 years	**0,9**
25 years	**21**
40 years	**31**
60 years	**41**

Economic consequences of societal transport safety change (MNOK)

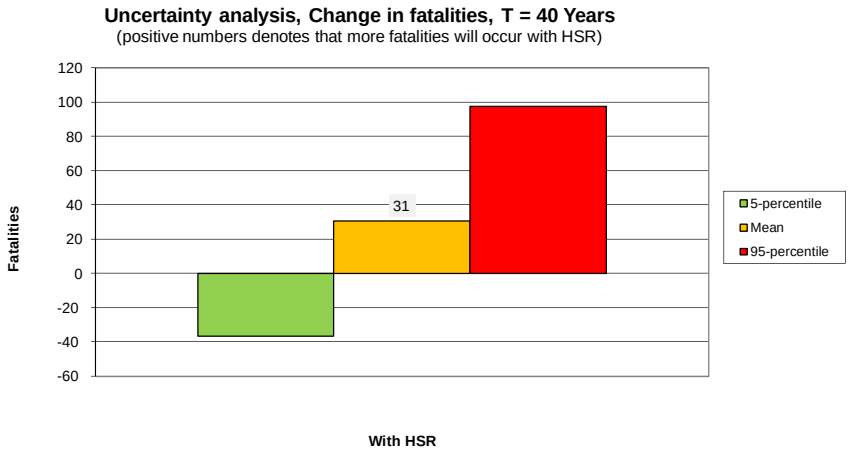
Time horizon (years)	RC	DS
1 years	0	**-18**
25 years	0	**-142**
40 years	0	**-300**
60 years	0	**-324**

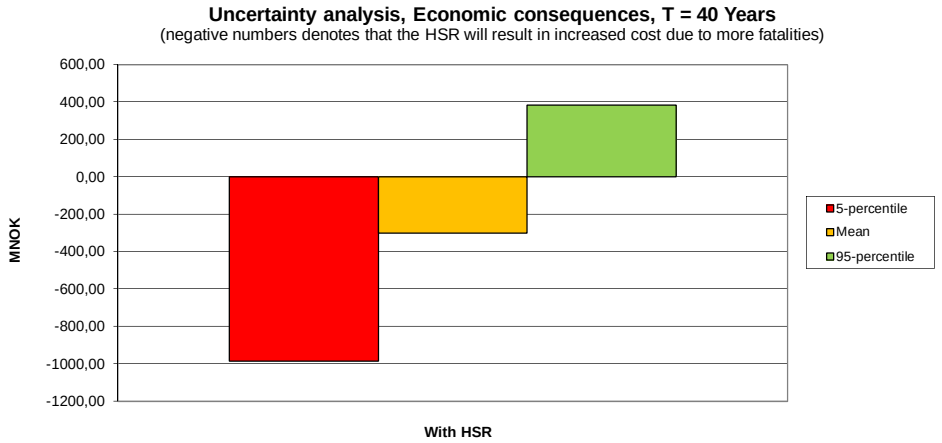




S2P

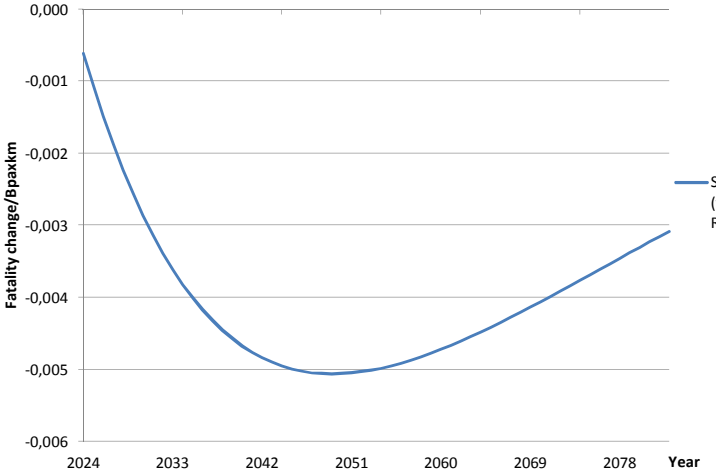
Uncertainty analysis

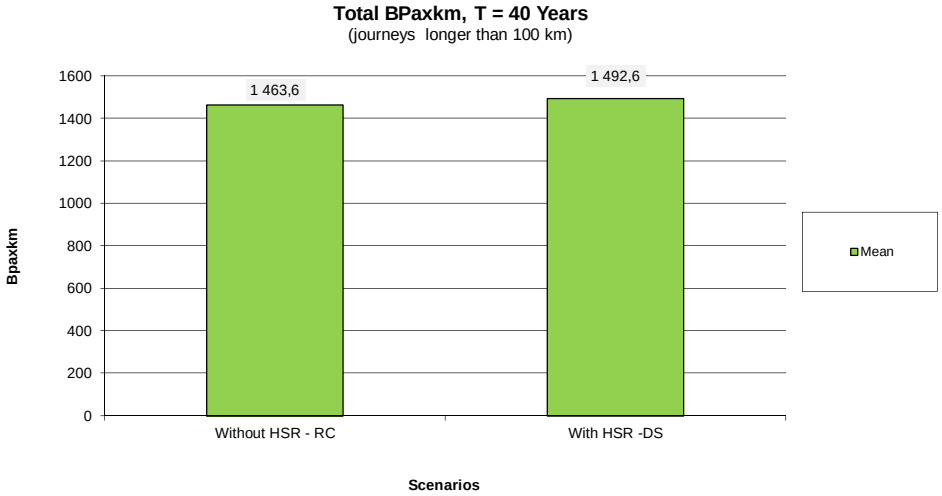


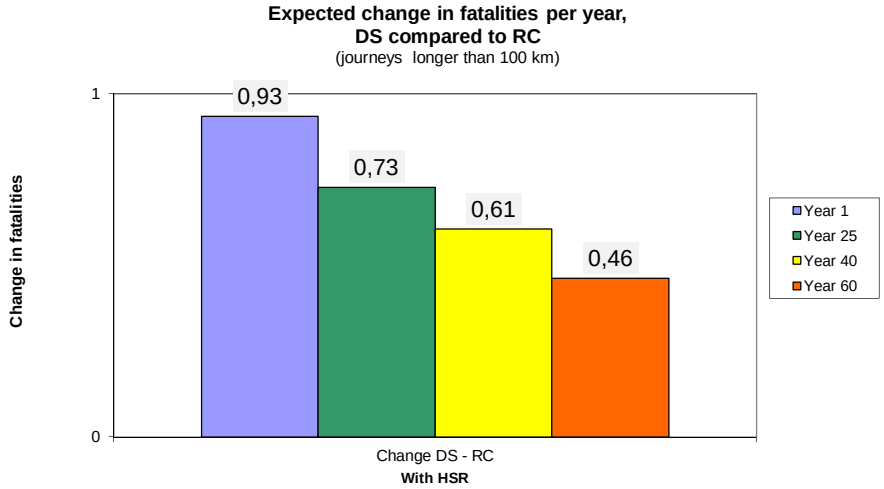


S2P

Additional safety analysis







Inputs

H1P

For all scenarios

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Car safety (driver and pass)	1,70
Bus safety (pass)	0,58
Air safety (pass)	0,03

Expected annual passenger safety change	
Car safety change (pass)	3,2%
Bus safety change (pass)	0,0%
Air safety change (pass)	7,4%

Safety for others (f/bvkm)	
Car safety (other)	0,53
Truck (other) *(not included in calc.)*	1,03
Bus safety (other)	3,01

Expected annual safety change others	
Car safety change (other)	3,8%
Truck (other) *(not included in calc.)*	4,2%
Bus safety change (other)	0,0%

Scenario 0 - RC

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S0 (pass)	0,11

Expected annual passenger safety change	
Conventional Rail safety change S0 (pass)	1,6%

Safety for others (f/bvkm)	
Conventional Rail safety S0 (other)	51,79

Expected annual safety change others	
Conventional Rail safety change S0 (other)	0,4%

Scenario 1 - DS

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S1 (pass)	0,11
HSR Combined & Separate Tracks safety S1 (pass)	0,29

Expected annual passenger safety change	
Conventional Rail safety change S1 (pass)	1,6%
HSR Comb. & Sep. T. safety change S1 (pass)	2,5%

Safety for others (f/bvkm)	
Conventional Rail safety S1 (others)	51,79
HSR Comb. & Sep. T. safety S1 (others)	133,40

Expected annual safety change others	
Conventional Rail safety change S1 (other)	0,4%
HSR Comb. & Sep. T. safety change S1 (other)	1,6%

Inputs

H1P

Transport information - Assign expected transport values in billion passenger km (bpkm) or billion vehicle kilometers (bvkm) in grey cells for first year in time horizon.

(only journeys longer than 100 km are included)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (RC)								
Conventional rail	2,26	0,0681	16,93	10,79	1,98	0,37	6,89	n.a.
Scenario 1 (DS)								
HSR	2,37	0,02	16,45	10,48	1,92	0,37	6,14	n.a.
Conventional rail	2,14	0,0681						

Transport information - Assign expected annual change in transport values (%)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (Present)								
Conventional rail	**1,25%**	**0,00%**	**1,33%**	**1,33%**	**1,17%**	**0,00%**	**1,21%**	n.a.
Scenario 1 (Combined tracks and separate tracks)								
HSR + Conventional rail	**0,86%**	**0,00%**	**1,35%**	**1,34%**	**1,18%**	**0,00%**	**1,23%**	n.a.
Conventional rail	**1,27%**	**0,00%**						

Economic information

Value of statistical life, VSL (MNOK)	20
Discount rate (%)	4,5%

H1P

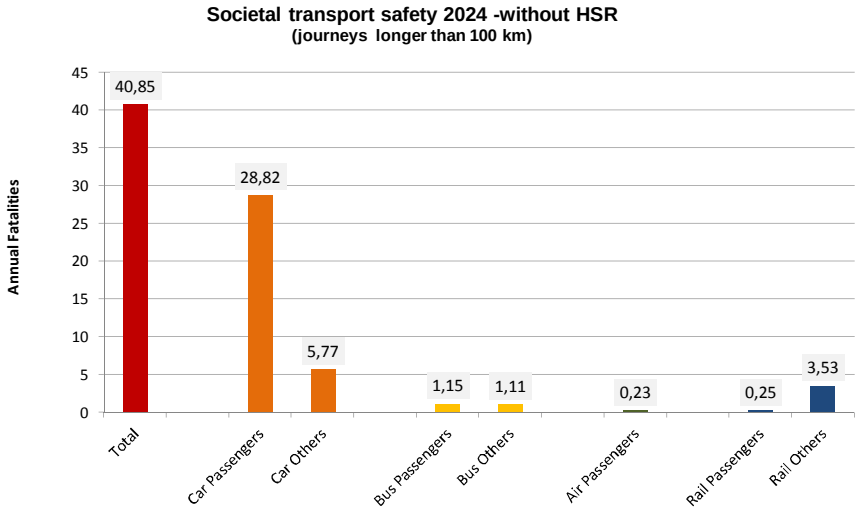
Results

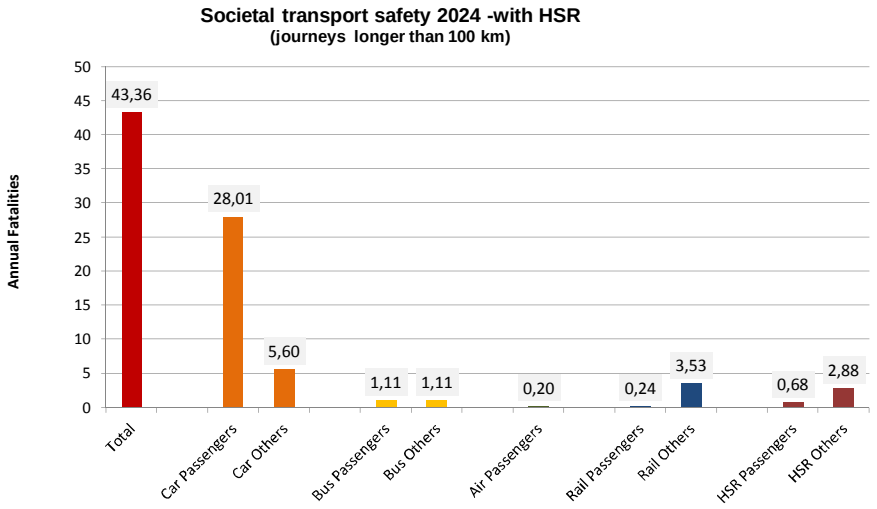
Societal transport safety 2024 -without and with HSR

	Safety level (fat. / year)	Safety development (%)	Safety level (fat./ year)
Railway transport			
Passengers	0,25	1,6%	0,24
Others	3,53	0,4%	3,53
Passengers HSR	-		0,68
Others HSR	-		2,88
Road transport			
Car			
Passengers	28,82	3,2%	28,01
Others	5,77	3,8%	5,60
Bus			
Passengers	1,15	0,0%	1,11
Others	1,11	0,0%	1,11
Air transport			
Passengers	0,23	7,4%	0,20
Total	**40,85**		**43,36**

Predicted societal transport safety (no. of fatalities)

Time horizon (years)	RC	DS	Difference
1 years	40,9	43,4	6,13%
25 years	838	892	6,43%
40 years	1 202	1 280	6,54%
60 years	1 582	1 686	6,58%





H1P

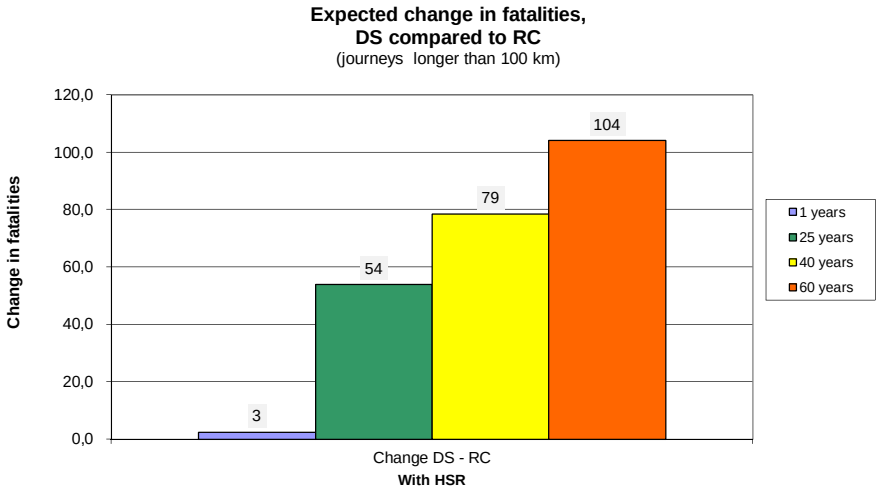
Results

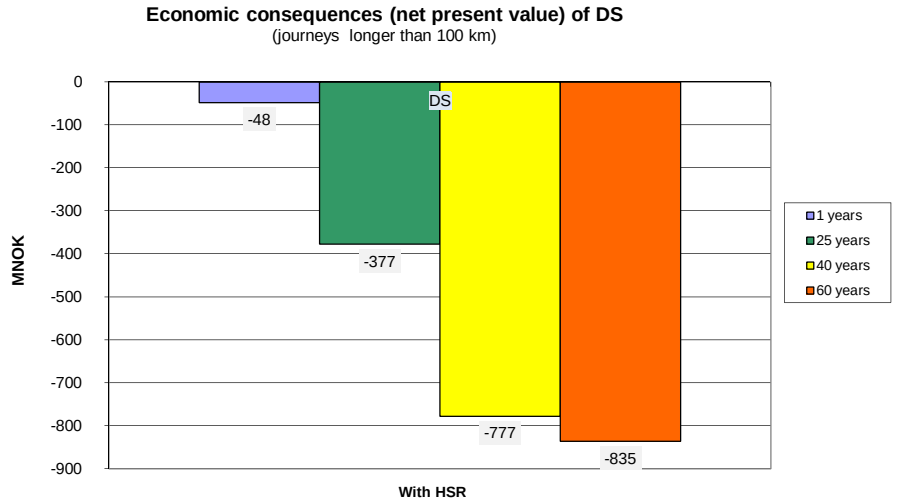
Change in predicted societal transport safety (no. of fatalities)

Time horizon (years)	Change DS - RC
1 years	**2,5**
25 years	**54**
40 years	**79**
60 years	**104**

Economic consequences of societal transport safety change (MNOK)

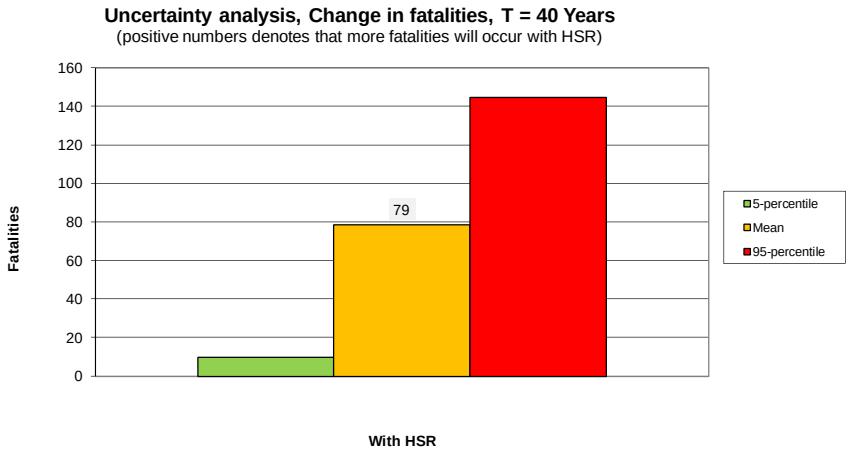
Time horizon (years)	RC	DS
1 years	0	**-48**
25 years	0	**-377**
40 years	0	**-777**
60 years	0	**-835**

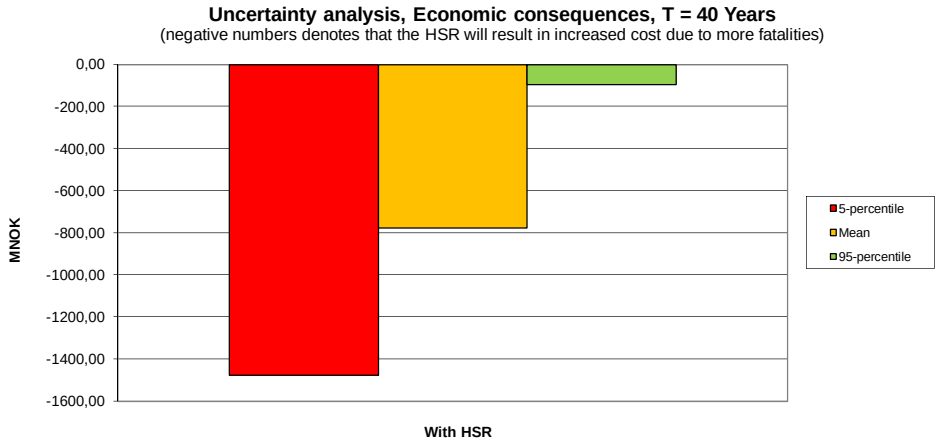




H1P

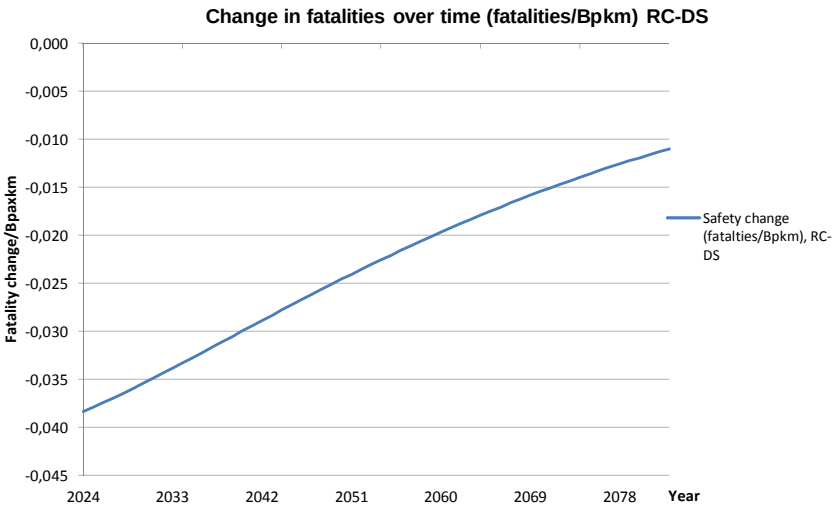
Uncertainty analysis

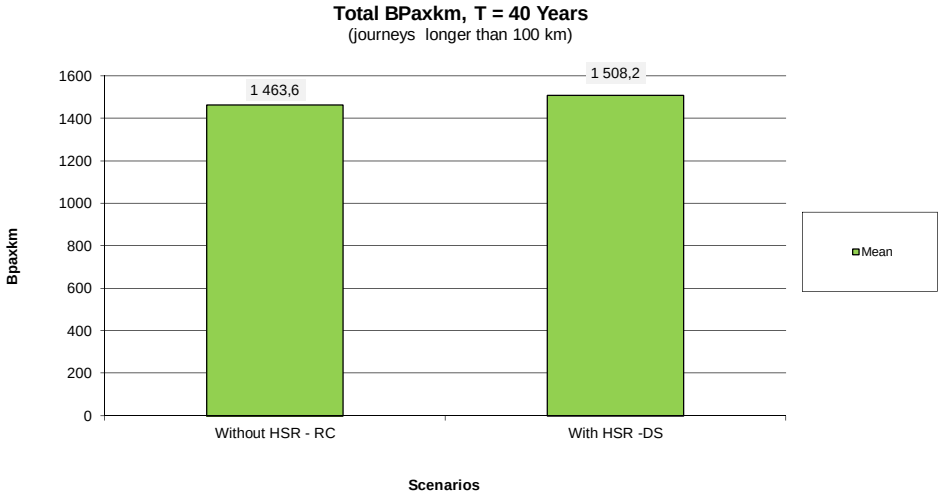


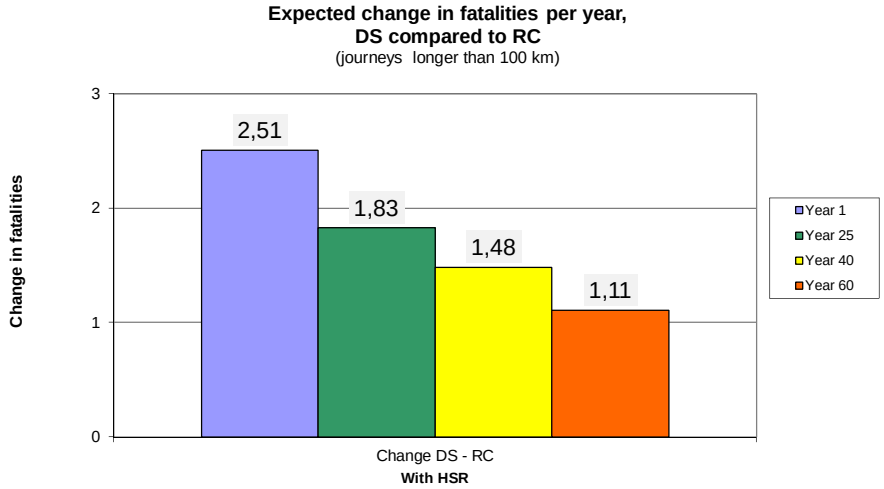


H1P

Additional safety analysis







Inputs

BS1P

For all scenarios

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Car safety (driver and pass)	1,70
Bus safety (pass)	0,58
Air safety (pass)	0,03

Expected annual passenger safety change	
Car safety change (pass)	3,2%
Bus safety change (pass)	0,0%
Air safety change (pass)	7,4%

Safety for others (f/bvkm)	
Car safety (other)	0,53
Truck (other) *(not included in calc.)*	1,03
Bus safety (other)	3,01

Expected annual safety change others	
Car safety change (other)	3,8%
Truck (other) *(not included in calc.)*	4,2%
Bus safety change (other)	0,0%

Scenario 0 - RC

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S0 (pass)	0,11

Expected annual passenger safety change	
Conventional Rail safety change S0 (pass)	1,6%

Safety for others (f/bvkm)	
Conventional Rail safety S0 (other)	51,79

Expected annual safety change others	
Conventional Rail safety change S0 (other)	0,4%

Scenario 1 - DS

Safety information -Assign expected safety information

Passenger Safety (f/bpkm)	
Conventional Rail safety S1 (pass)	0,11
HSR Combined & Separate Tracks safety S1 (pass)	0,36

Expected annual passenger safety change	
Conventional Rail safety change S1 (pass)	1,6%
HSR Comb. & Sep. T. safety change S1 (pass)	2,4%

Safety for others (f/bvkm)	
Conventional Rail safety S1 (others)	51,79
HSR Comb. & Sep. T. safety S1 (others)	39,22

Expected annual safety change others	
Conventional Rail safety change S1 (other)	0,4%
HSR Comb. & Sep. T. safety change S1 (other)	0,0%

BS1P

Inputs

Transport information - Assign expected transport values in billion passenger km (bpkm) or billion vehicle kilometers (bvkm) in grey cells for first year in time horizon.

(only journeys longer than 100 km are included)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (RC)								
Conventional rail	2,26	0,0681	16,93	10,79	1,98	0,37	6,89	n.a.
Scenario 1 (DS)								
HSR	0,28	0,00	16,86	10,74	1,98	0,37	6,82	n.a.
Conventional rail	2,26	0,0681						

Transport information - Assign expected annual change in transport values (%)

Scenarios	Train		Car		Bus		Air	Truck
	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km	Passenger km	Vehicle km
Scenario 0 (Present)								
Conventional rail	**1,25%**	**0,00%**	**1,33%**	**1,33%**	**1,17%**	**0,00%**	**1,21%**	n.a.
Scenario 1 (Combined tracks and separate tracks)								
HSR + Conventional rail	**0,49%**	**0,00%**	**1,34%**	**1,34%**	**1,17%**	**0,00%**	**1,21%**	n.a.
Conventional rail	**1,25%**	**0,00%**						

Economic information

Value of statistical life, VSL (MNOK)	20
Discount rate (%)	4,5%

BS1P

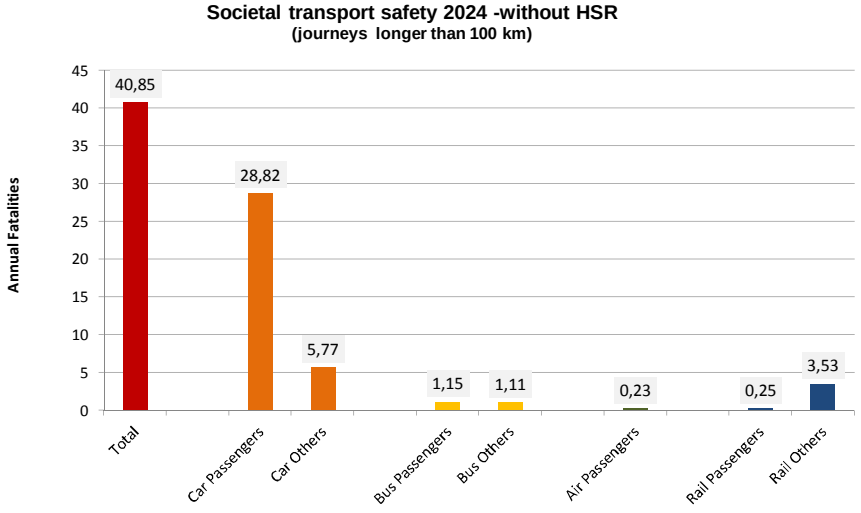
Results

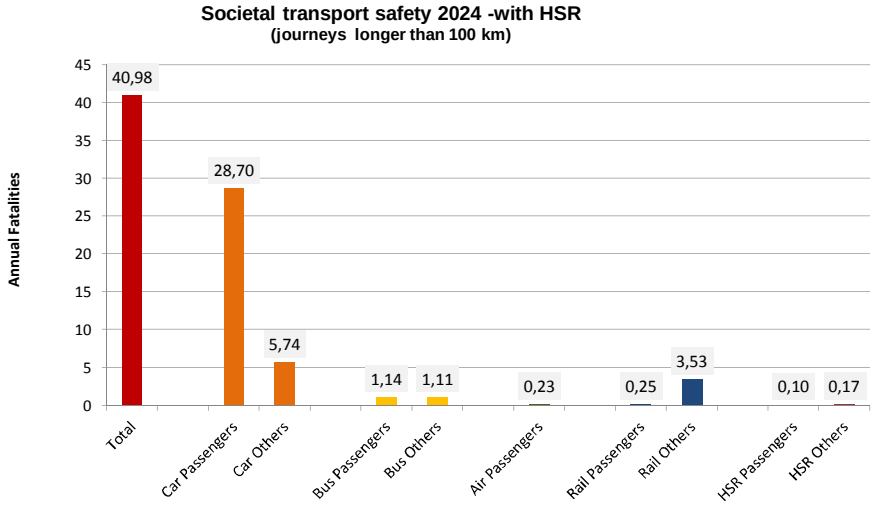
Societal transport safety 2024 -without and with HSR

	Safety level (fat. / year)	Safety development (%)	Safety level (fat./ year)
Railway transport			
Passengers	0,25	1,6%	0,25
Others	3,53	0,4%	3,53
Passengers HSR	-		0,10
Others HSR	-		0,17
Road transport			
Car			
Passengers	28,82	3,2%	28,70
Others	5,77	3,8%	5,74
Bus			
Passengers	1,15	0,0%	1,14
Others	1,11	0,0%	1,11
Air transport			
Passengers	0,23	7,4%	0,23
Total	**40,85**		**40,98**

Predicted societal transport safety (no. of fatalities)

Time horizon (years)	RC	DS	Difference
1 years	40,9	41,0	0,30%
25 years	838	842	0,43%
40 years	1 202	1 208	0,51%
60 years	1 582	1 591	0,61%





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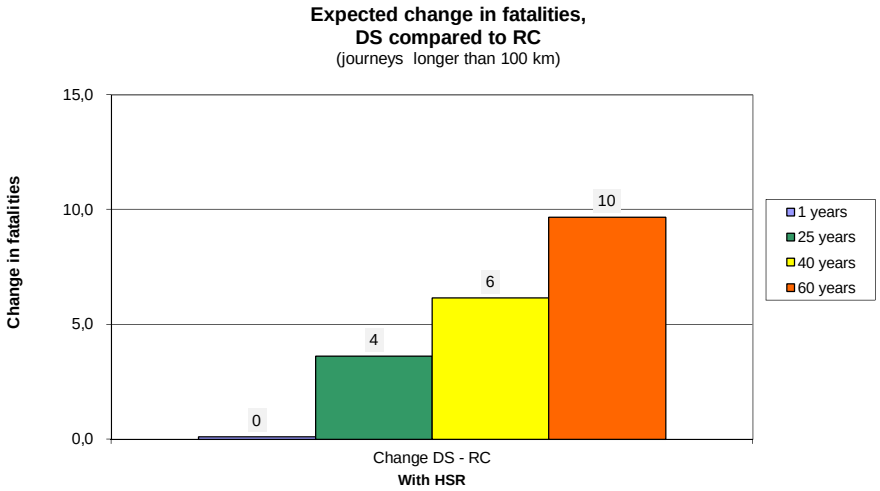
Results

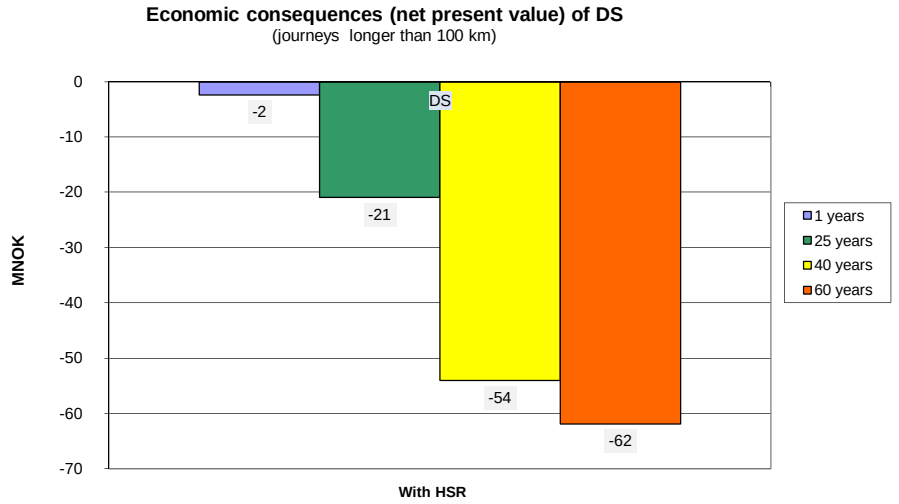
Change in predicted societal transport safety (no. of fatalities)

Time horizon (years)	Change DS - RC
1 years	**0,1**
25 years	**4**
40 years	**6**
60 years	**10**

Economic consequences of societal transport safety change (MNOK)

Time horizon (years)	RC	DS
1 years	0	**-2**
25 years	0	**-21**
40 years	0	**-54**
60 years	0	**-62**





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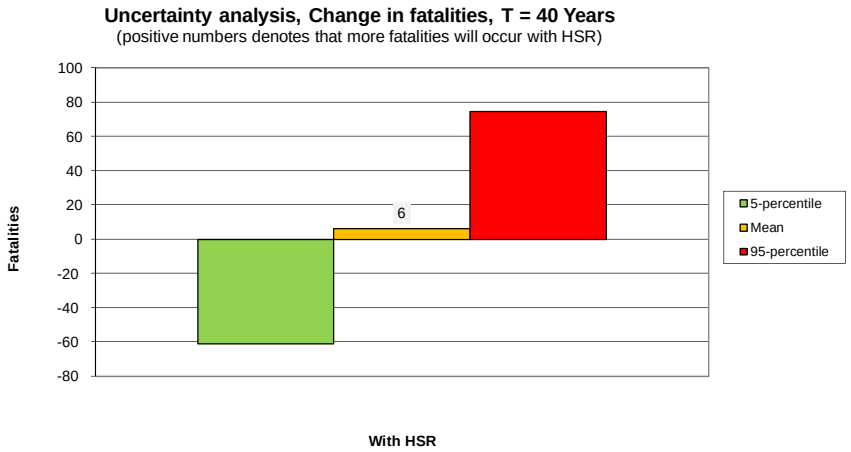
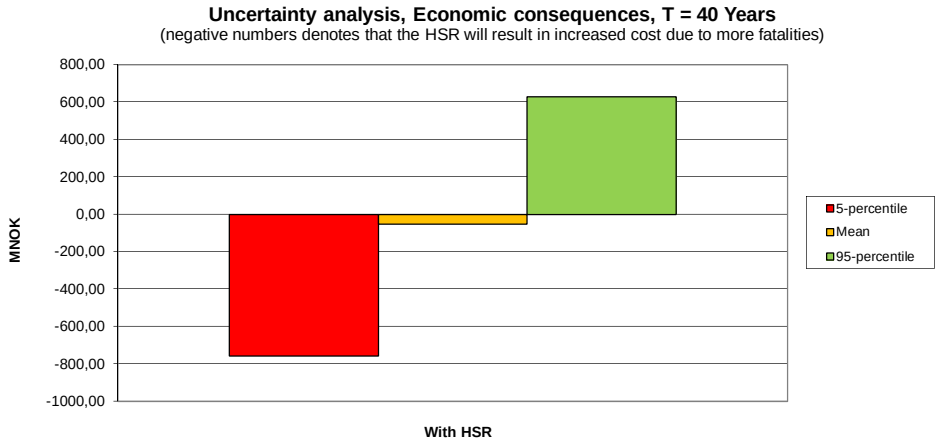
Uncertainty analysis





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Additional safety analysis