

Name of the project	
Name of the project	Intergrovaný dopravný systém hl.m.SR
xxxxx	

Discount rate	5%	ENPV
(financial) Discount rate (economic) Price level (fixed prices)	3:5% 2012 2013	131,833,857
Start of the project	30	EUR 10.67%
Reference period End of the project	2042 EUR	

**Economic analysis:**

**VTTS per passenger per hour (EUR, 2007)**

	BUS	Car	8.27
Commuter (short)	5.95	8.27	10.63
Commuter (long)	7.64	10.63	6.94
Other (short)	5.00	6.94	8.92
Other (long)	6.42	8.92	22.23
Other	17.84	22.23	

Source: CBA Guide Tab. 5.1

**Geographical trip mix**

	BSK	TSK	Rest	MIX	not used value of time
mix	70%	19%	11%	45%	
h00	45%	21%	34%	55%	
IAD	56%	20%	24%	100%	

Source: Traffic model

**Trip purpose mix**

	HOD	IAD	WORK	ALL	HOD	IAD	Traffic Survey
Commuter (short)	48.0%	44.0%		8%	20.0%	80.0%	
Other (short)			Commuter to work		1.6%	6.4%	
Other (long)	50.4%	49.6%	Commuter from work		22.0%	20.0%	Traffic Model
Business trip	1.0%		Other		52.0%	56.0%	

Source: Traffic survey and model

**Ratio of transport services**

	HOD	IAD	Work	Other
Correction factor for CBA - non-working days	77%		48.0%	44.0%
Number of working days	251		50.4%	49.6%
Number of non-working days	114			

Source: Traffic survey and model

**Unit costs per 1000 persons km or 1000 (EUR, 2007)**

	Accidents	6.29	Air pollution	19.09	Climate change	17.54
Car	39.73					
Bus	23%	5%	72%	100%	0.87	
Truck 3.5 - 12 tons	110.3	1.43	21.62	9.82		
Truck > 12 tons	7.50	5.63	144.53	147.84		
Truck - average	0.99	4.30	5.41	5.85		
Rail - passenger	12.69	3.86	4.41	5.19		
Rail - freight						

Source: CBA Guide Tab. 5.16

**Fiscal correction**

**Fiscal correction factors**

Personell Energy (fuels)	0.58
Energy (electric)	0.46
Materials	0.98
	1.00
	1.00

CBA Průčka kap. 5.1.1

**Cost composition**

	Personell	Other	Total	Aggregate	
Investment costs	23%	5%	72%	100%	0.87
Operation and maintenance costs	23%	5%	72%	100%	6
VOC - TRAIN, TRAM-TRAIN	40%	30%	30%	100%	0.84
VOC - TRAM, Trolley	38%	35%	27%	100%	8
VOC - City BUS	40%	30%	30%	100%	0.82
VOC - Regio BUS	36%	42%	22%	100%	6
VOC - IAD	0%	0%	100%	100%	6

CBA Průčka Tab. 5.12 and own calculations

**Macroeconomic parameters**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
GDP growth (%)	5.80%	-4.90%	4.20%	3.30%	2.50%	2.10%	3.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Travel Time Savings growth Externalities	70%	-3.43%	2.94%	2.31%	1.75%	1.47%	2.45%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	1.40%	1.40%	1.40%	1.40%	1.40%	1.40%	1.40%	1.40%	1.40%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%

Source: Eurostat, Ministry of the Slovak Republic



**Statistic information**

Región	in EUR	share on SR	2009/2008
Bratislavský	28443	245.00	99.7
Trnavský	12928	111.36	91.1
Trenčiansky	10265	88.42	91.5
Nitriansky	9928	85.52	94.6
Zilinský	10038	86.46	93.0
Banskobystrický	8425	72.57	90.3
Prešovský	6654	57.32	91.6
Košický	9022	77.71	88.5
SR total	11609	100.00	93.8

\* data are balanced on the base of Eurostats calculation

Región	in EUR	share on SR	2008/2007
Bratislavský	28.542	230.52	106.03
Trnavský	14.197	114.66	103.81
Trenčiansky	11.220	90.62	106.83
Nitriansky	10.495	84.77	110.37
Zilinský	10.790	87.13	112.95
Banskobystrický	9.330	75.38	110.41
Prešovský	7.268	58.70	116.12
Košický	10.194	82.33	108.89
SR total	12.381	100.00	108.73

\* data are balanced on the base of Eurostats calculation

in PPS at current prices

in 2008 valid from 1.3.2012

Región	in PPS	share on SR	2008/2007
Bratislavský	41759	230.52	104.99
Trnavský	20771	114.66	102.79
Trenčiansky	16416	90.62	105.78
Nitriansky	15355	84.77	109.29
Zilinský	15787	87.15	111.84
Banskobystrický	13650	75.35	109.33
Prešovský	10634	58.70	114.98
Košický	14915	82.33	107.82
SR total	18115	100.00	107.67

\* data are balanced on the base of Eurostats calculation

Región	in EUR	share on SR	2007/2006
Bratislavský	26918	236.40	113.18
Trnavský	13675	120.10	110.05
Trenčiansky	10503	92.24	110.13
Nitriansky	9509	83.51	108.60
Zilinský	9553	83.90	115.51
Banskobystrický	8450	74.21	112.12
Prešovský	6259	54.97	112.11
Košický	9362	82.21	108.87
SR total	11387	100.00	111.61

\* data are balanced on the base of Eurostats calculation

in PPS at current prices

in 2008 valid from 1.3.2012

Región	in PPS	share on SR	2007/2006
Bratislavský	39775	236.40	113.97
Trnavský	20207	120.10	110.81
Trenčiansky	15519	92.24	110.89
Nitriansky	14050	83.51	109.36
Zilinský	14116	83.90	116.32
Banskobystrický	12486	74.21	112.90
Prešovský	9248	54.97	112.89
Košický	13833	82.21	109.62
SR total	16825	100.00	112.38

\* data are balanced on the base of Eurostats calculation

Statistický úrad Slovenskej republiky

Kraj, SR	2010 *			2011 *		
	spolu (eur)	index SR=100,0 2010/2009	index 2010	spolu (eur)	index SR=100,0 2011/2010	index 2011
Bratislavský	991	128.9	102.2	1001	127.8	101
Trnavský	705	91.7	102.2	725	92.5	104.3
Trenčiansky	657	85.4	103.5	667	87.4	100.8
Nitriansky	638	82.7	101.8	662	84.2	108.1
Zilinský	688	88.2	104.4	707	88.9	103.1
Banskobystrický	635	82.8	105	652	83	102.7
Prešovský	586	77.2	103.7	608	77.4	102.4
Košický	715	83.1	104.7	726	92.4	101.4
SR total	769	100	103.2	786	100	102.2

\* bez podniká teľských

prijt > cronateľy:h

head in EUR at current prices

Region	in EUR	share on SR	2006/2005
Braňislavský	23784	233.12	106.8
Trnavský	12427	121.80	125.6
Trenčiansky	9537	93.47	118.0
Nitriansky	8756	85.82	107.8
Zilinský	8270	81.06	109.7
Banskobystrický	7537	73.87	114.8
Prešovský	5583	54.72	103.7
Košický	8599	84.28	111.4
SR total	10203	100.00	111.5

head in PPS at current prices

Region	in PPS	share on SR	2006/2005
Braňislavský	34901	233.12	105.89
Trnavský	18235	121.80	124.52
Trenčiansky	13994	93.47	117.01
Nitriansky	12848	85.82	106.84
Zilinský	12136	81.06	108.80
Banskobystrický	11060	73.87	113.82
Prešovský	8192	54.72	102.80
Košický	12618	84.28	110.43
SR total	14971	100.00	110.51

2041  
1.00%  
0.70%  
1.00%

2041  
6.43  
0.00  
5.67  
0.00  
0.61  
12.70

2041  
7.15  
0.00  
6.77  
0.00  
2.80  
16.72

2041  
82.78  
7.13  
79.92  
2.06  
26.45

2041  
13.11  
2.98  
32.84  
8.96  
8.04

2041  
39.78  
45.06  
142.52  
11.27  
9.19

2041  
36.55  
20.47  
116.74  
12.19  
10.82

## Traffic model OUTPUTs

0

Rok	2010
	Oxo_2010
počet jázd IAD/deň	1,068,191
počet jázd IAD/deň+tranzit/zdroj-ciel IAD	1,187,676
počet nastupujúcich/deň - HOD železnica	115,373
počet nastupujúcich/deň - HOD trolejbus	107,673
počet nastupujúcich/deň - HOD električka	149,651
počet nastupujúcich/deň - HOD autobus	447,627
počet nastupujúcich/deň - HOD regiobus	185,150
počet nastupujúcich/deň - HOD tramtrain	0
počet nástupov/deň - HOD spolu	1,005,474
počet ciest/deň - HOD spolu	870,980
počet ciest/deň - HOD spolu + zdroj-deľHOD	904,940
počet ciest - IAD	1,068,191
počet ciest - spolu	3,114,260
vozokm/deň - HOD železnica	20,541
vozokm/deň - HOD električka + Tbus	35,473
vozokm/deň - HOD autobus	83,649
vozokm/deň - HOD regiobus	56,469
vozokm/deň - HOD tramtrain	0
vozokm/deň - HOD spolu	196,132
vozokm/deň - IAD	23,341,072
osobokm/deň - HOD železnica	4,152,438
osobokm/deň - HOD trolejbus	287,173
osobokm/deň - HOD električka	306,394
osobokm/deň - HOD autobus	1,892,000
osobokm/deň - HOD regiobus	2,384,103
osobokm/deň - HOD tramtrain	0
osobokm/deň - HOD spolu	9,022,108
osobokm/deň - IAD	35,011,608
osobokm/deň - spolu	44,033,716
osobomin/deň - HOD železnica	3,847,320
osobomin/deň - HOD trolejbus	865,800
osobomin/deň - HOD električka	912,900
osobomin/deň - HOD autobus	4,054,620
osobomin/deň - HOD regiobus	3,550,200
osobomin/deň - HOD tramtrain	0
osobomin/deň - HOD spolu (čistý čas jazdy)	13,230,840
osobomin/deň - IAD	34,413,750
osobomin/deň - spolu	47,644,590
priemerná dĺžka cesty km HOD - železnica	26.6
priemerná dĺžka cesty km HOD - trolejbus	2.7
priemerná dĺžka cesty km HOD - električka	3.5
priemerná dĺžka cesty km HOD - autobus	4.2
priemerná dĺžka cesty km HOD - regiobus	12.9
priemerná dĺžka cesty km HOD - tramtrain	0.0
priemerná dĺžka cesty km - HOD	8.3
priemerná dĺžka cesty km - IAD	21.9
priemerná dĺžka cesty min HOD - železnica	24.6
priemerná dĺžka cesty min HOD - trolejbus	8.0
priemerná dĺžka cesty min HOD - električka	10.6
priemerná dĺžka cesty min HOD - autobus	9.1
priemerná dĺžka cesty min HOD - regiobus	19.2
priemerná dĺžka cesty min HOD - tramtrain	0.0
priemerná dĺžka cesty min - HOD	14.3
priemerná dĺžka cesty min - IAD	21.5
priemerná dĺžka cesty min - spolu	17.9









Automatically calculated based on traffic model input - do not change

Table with 30 columns (2013-2042) and 10 rows (Trolley, Regibus i ram-train, Individual, Trolley, Regibus i ram-train, Individual). Values represent traffic volume for different modes and years.

Table with 30 columns (2013-2042) and 10 rows (Rail, Trolley, Regibus i ram-train, Individual, Regibus i ram-train, Individual, Trolley, Regibus i ram-train, Individual, Regibus i ram-train, Individual). Values represent traffic volume for different modes and years.

Table with 30 columns (2013-2042) and 10 rows (Rail, Trolley, Regibus i ram-train, Individual, Regibus i ram-train, Individual, Trolley, Regibus i ram-train, Individual, Regibus i ram-train, Individual). Values represent traffic volume for different modes and years.

Výkony osobnej dopravy podľa druhu vlaku+ roku 2010

Druh vlaku	skratka	ks. kilometrov	vlakov
Emočky, Intercity, EuroNight	[EC, IC, EC]	1 072 997 846	2 180 105
Supercity	[SC]	1 169 519	2 840
Expresny osobny	[Eo]	413 277 102	827 715
Regional Expres	[RE]	54 141 137	216 655
Rychlík osobny	[R]	2 985 998 823	6 307 331
Diaľková osobná	[D]	208 657 754	789 492
Osobný	[O]	3 355 089 133	20 463 892
Mikroosobná vlaky	[M]	8 496	12
Dopravný	[Dv]	62 343 898	188 966
Osobná	[O]	12 438 230	48 819
Dopravný - výkly	[Dv - výkly]	7 491 255	23 707
Balíková vlaky osobná dopravy	[Bv - Os]	19 875 562	268 247
Balíková vlaky, Skúšobná jazdy	[Bv - Skúš]	1 104 979	31 283
Balíková vlaky poštová vlaky	[Bv - Pošt]	404 752	10 516
<b>Spolu</b>		<b>9 215 363 496</b>	<b>31 686 350</b>





**2.1 Residual value based on useful life for infrastructure components**

Infrastructure component	Useful life in years	Full operation year		residual year		Residual value
		2016	2018	26	24	
Land	infinite	142,000	4,046,400	100%	100%	4,188,400
Bridges	50	28,677,221	20,600,601	48%	52%	24,477,379
Tunnels	50	0	0	48%	52%	0
Roads	40	7,593,806	20,979,669	35%	40%	11,049,700
Track	30	8,446,679	19,558,015	13%	20%	5,037,827
Buildings, stations	40	566,008	26,511,160	35%	40%	10,802,567
Electrification	30	2,912,836	19,674,406	13%	20%	4,323,259
Signalling, telecommunications	20	1,949,069	12,241,889	0%	0%	0
<b>Residual value</b>	221,822,714					<b>59,879,131</b>

\*: where some infrastructure parts will have to be replaced, residual value should be calculated from this last investment expenditure.

**2.2 Residual value calculated as a perpetuity**

Residual value based on financial cash flows	0 negative financial cash flow
Residual value based on socio-economic cash flows	59,879,131

**Comment :**

Net financial cash flows are negative, because the project is in the public interest, which is subsidized by the city of xxxxx. The main reason for support of this project are the economic benefits.



Komentár k jednotlivým položkám	
Náklady:	
<b>Infraštruktúra - údržba a oprava</b>	
Bežná údržba električiek	náklady na údržbu električkových tratí, príslušná časť nákladov na údržbu trakčného vedenia , príslušná časť nákladov na bežnú údržbu merníari a zástavok pre električky vrátane prevádzkovej a správnej režie
Bežná údržba trolejbusov	príslušná časť nákladov na údržbu trakčného vedenia , na údržbu merníari a zástavok pre trolejbusy vrátane prevádzkovej a správnej režie
Bežná údržba autobusov	náklady na údržbu zastávok autobusov vrátane prevádzkovej a správnej režie
Opravy a výmeny električiek	náklady na opravy a výmenu električkových tratí, príslušná časť nákladov na opravy a výmenu trakčného vedenia , príslušná časť nákladov na opravy a výmeny merníari a zástavok pre električky vrátane prevádzkovej a správnej režie
Opravy a výmeny trolejbusov	príslušná časť nákladov na opravy a výmeny trakčného vedenia , na opravy a výmeny merníari a zástavok pre trolejbusy vrátane prevádzkovej a správnej režie
Opravy a výmeny autobusov	náklady na opravy a výmeny zastávok autobusov vrátane prevádzkovej a správnej režie
<b>Prevádzka dopravných prostriedkov</b>	
električka	náklady na prevádzku a údržbu električiek vrátane prevádzkovej a správnej režie
trolejbus	náklady na prevádzku a údržbu trolejbusov vrátane prevádzkovej a správnej režie
autobusy	náklady na prevádzku a údržbu autobusov vrátane prevádzkovej a správnej režie
<b>Ostatné / Náklady na riadenie dopra</b>	
	náklady na dopravu, grafikonosť a prevádzkových technikov na trati, sledovanie nehôd
<b>Prílohy:</b>	
<b>Jazdné/predplatené</b>	tržby MHD
<b>Polity MHD</b>	úhrada za dopravu, úhrada za cestovné, úhrada za parkovanie, úhrada za rozdiel medzi tarifom na dopravu a prevádzku dopravných prostriedkov
<b>Dotácia hl.m.Bratislava</b>	úhrada za dopravu, úhrada za cestovné, úhrada za parkovanie, úhrada za rozdiel medzi tarifom na dopravu a prevádzku dopravných prostriedkov, úhrada za garanciu opravy akčívna v rámci dopravných prostriedkov
<b>Im/ostatné</b>	úhrada za dopravu, úhrada za cestovné, úhrada za parkovanie, úhrada za rozdiel medzi tarifom na dopravu a prevádzku dopravných prostriedkov, úhrada za garanciu opravy akčívna v rámci dopravných prostriedkov
<b>Plán na roky 2013 - 2015</b>	MHD v príslušnom roku boji rozdelí medzi ekonomicky oprávnenými nákladmi a výnosmi súvzácami z MHD









<b>5.1 Funding gap calculation</b>	<b>Non-discounted</b>	<b>Discounted</b>
Investmentcost	221,822,714	186,559,262
Residual value	0	0
Revenues		0
Operating cost		25,231,252
Net revenue		-25,231,252
Investment cost - net revenue		211,790,514
<b>Funding gap</b>		<b>100%</b>

<b>5.2 Community contribution</b>		
Eligible cost		281,956,216
Decision amount	100%	281,956,216
Non refundable financial contribution		281,956,216
Co-financing rate / Community contribution	85%	239,662,784
State and own sources	15%	42,293,432
State budget contribution	10%	28,195,622
Own sources	5%	14,097,811

**I.phase**

<b>5.4a Funding gap calculation I.phase</b>	<b>Non-discounted</b>	<b>Discounted</b>
Investmentcost	59,222,033	53,563,155
Residual value	0	0
Revenues		0
Operating cost		5,968,374
Net revenue		-5,968,374
Investment cost - net revenue		59,531,529
<b>Funding gap</b>		<b>100%</b>

<b>5.4b Community contribution</b>		
Eligible cost		74,490,856
Decision amount	100%	74,490,856
Non refundable financial contribution		74,490,856
Co-financing rate / Community contribution	85%	63,317,227
State and own sources	15%	11,173,628
State budget contribution	10%	7,449,086
Own sources	5%	3,724,543



**2.phase**

<b>5.5a Funding gap calculation 2.phase</b>	<b>Non-discounted</b>	<b>Discounted</b>
Investmentcost	162,600,682	132,996,107
Residual value	0	0
Revenues		0
Operating cost		19,262,878
Net revenue		-19,262,878
Investment cost - net revenue		152,258,985
<b>Funding gap</b>		100%
<b>5.5b Community contribution</b>		
Eligible cost		207,465,361
Decision amount	100%	207,465,361
Non refundable financial contribution		207,465,361
Co-financing rate / Community contribution	85%	176,345,557
State and own sources	15%	31,119,804
State budget contribution	10%	20,746,536
Own sources	5%	10,373,268







-278,241,370



Annex 8: IDS xxxxx  
08 Vehicle Operating  
Costs

1 Vehicle operating cost		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
		20	20	20	20	20	20	20	20	20	20	20	2023	2023	2023	2023	2023	2023	2023	2029	2029	2029	2029	2029	2029	2029	2029	2029	2029	2029	2029	
Trolley		777,527	619,259	17,587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587
RegioBus		331,626	292,110	11,054	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210
T		566,766	487,189	28,641	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897	36,971	897
ramTr		1,090,976	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365	1,124,365
<b>Total VOC</b>		<b>53,697,582,749</b>	<b>1,756,917,761,428</b>	<b>11,765,866,911</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,793,216,073</b>	<b>1,793,574,288</b>	<b>1,793,932,504</b>	<b>1,794,290,719</b>	<b>1,794,648,917</b>	<b>1,795,007,111</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>2 Vehicle operating cc</b>			2012	2013	2014	2015	2016	2017	2018	2020	2021	2022	2023	2024	2026	2027	2028	2030	2031	2032	2033	2034	2035	2036	2037	2039	2040	2041				
Trolley		777,527	619,259	17,587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587	25,917	587
RegioBus		331,626	292,110	11,054	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210	11,054	210
T		1,014,640	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365	1,189,365
ramTr		00	53,619	296,399	1,756,989	407	1,761,428	11,765,866	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total VOC</b>		<b>57,047,214,578</b>	<b>1,868,11,873,140</b>	<b>1,877,579</b>	<b>1,882,018,039</b>	<b>1,886,447,224</b>	<b>1,890,876,409</b>	<b>1,895,301,904</b>	<b>1,899,663,163</b>	<b>1,904,028,367</b>	<b>1,908,390,582</b>	<b>1,912,752,797</b>	<b>1,917,115,012</b>	<b>1,921,477,227</b>	<b>1,925,839,442</b>	<b>1,930,201,657</b>	<b>1,934,563,872</b>	<b>1,938,926,087</b>	<b>1,943,288,302</b>	<b>1,947,650,517</b>	<b>1,952,012,732</b>	<b>1,956,374,947</b>	<b>1,960,737,162</b>	<b>1,965,100,377</b>	<b>1,969,462,592</b>	<b>1,973,824,807</b>	<b>1,978,187,022</b>	<b>1,982,549,237</b>	<b>1,986,911,452</b>	<b>1,991,273,667</b>	<b>1,995,635,882</b>	<b>1,999,998,097</b>
<b>peraling cost -</b>			20	20	20	20	20	20	20	20	20	20	2023	2024	20	20	20	2029	2030	2031	20	20	20	20	20	20	20	20	20	20		
Trolley		0	12	13	14	15	16	17	18	19	20	21	22	2025	26	27	28	2029	2030	2031	32	33	34	35	36	37	38	39	40	41		
RegioBus		152,885	76,335	935	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
T		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ramTr		78,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total VOC</b>		<b>-1,736,978</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-9,594</b>	<b>-19,188</b>	<b>-28,783</b>	<b>-38,377</b>	<b>-47,971</b>	<b>-50,517</b>	<b>-53,064</b>	<b>-55,610</b>	<b>-58,157</b>	<b>-60,703</b>	<b>-63,249</b>	<b>-65,796</b>	<b>-68,342</b>	<b>-70,889</b>	<b>-73,435</b>	<b>-75,981</b>	<b>-78,528</b>	<b>-81,074</b>	<b>-83,621</b>	<b>-86,167</b>	<b>-88,713</b>	<b>-91,260</b>	<b>-93,806</b>	<b>-96,353</b>	<b>-98,899</b>	

Dr accide	2012	2013	2014	2015	2016	2017	2018	2019	2020	10 2021	11 2022	12 2023	13 2024	14 2025	15 2026	16 2027	17 2028	18 2029	19 2030	20 2031	21 2032	22 2033	23 2034	24 2035	25 2036	26 2037	27 2038	28 2039	29 2040	30 2041			
Rail	72,439	1,696.30	1,734,454	1,797,772	1,854,396	1,912,798	1,973,037	2,035,167	2,099,250	2,165,347	2,209,180	2,253,901	2,299,557	2,346,077	2,393,568	2,442,021	2,491,455	2,541,889	2,593,344	2,645,820	2,672,934	2,700,306	2,727,958	2,755,891	2,784,111	2,812,622	2,841,423	2,870,511	2,899,911	2,929,607	2,958,901		
Troll	523	8	119,569	72	127,567	98	135,442	139,560	90	148,176	80	154,201	27	160,471	68	166,996	170,357	89	177,284	40	182,684	06	186,403	2	192,124	194,069	3	192,124	3	200,025	3		
T	5,518,220	1,126,083	129,386	134,593	139,329	144,228	149,296	154,538	159,961	165,569	168,909	172,317	175,793	179,339	182,957	186,648	190,413	194,254	198,173	202,171	206,304	208,402	210,522	212,663	214,826	217,011	219,219	221,448	223,701	225,938			
TramTrain	123,340.02	2,719.0	2,805,087	2,933.2	3,052,156	3,175.5	3,303,589	3,436,458	3,574.32	3,717,373	3,792.30	3,868,743	3,946.72	4,026,276	4,107.43	4,190,223	4,274,883	4,360,84	4,448,744	4,538,4	4,584,501	4,631,05	4,678,083	4,725,58	4,773,57	4,822,050	4,871,016	4,920,47	4,970,44	5,020,918	5,071,12		
	7	06	3,478,931	62	3,746,958	45	4,015,720	4,157,087	6	4,454,588	3	4,641,597	3	4,836,446	1	5,039,463	5,144,141	5	5,360,055	15	5,530,265	6	5,649,926	8	5	5,834,265	5,897,032	9	0	5,960,47	6,024,58	0	6,150,28
<b>Total</b>	<b>23,568,602,228</b>	<b>3,389.8</b>	<b>569,898,679</b>	<b>609,880,078</b>	<b>600,959,672</b>	<b>3,879.0</b>	<b>640,755,281</b>	<b>661,624,471</b>	<b>705,411,039</b>	<b>4,547.13</b>	<b>734,202,976</b>	<b>764,169,957</b>	<b>795,359,934</b>	<b>811,429,068</b>	<b>844,547,743</b>	<b>870,400,205</b>	<b>888,249,347</b>	<b>901,700,120</b>	<b>906,464,371</b>	<b>915,711,432</b>	<b>925,052,784</b>	<b>944,022,227</b>	<b>969,613</b>	<b>939,073,336</b>	<b>958,336,641</b>	<b>977,797,072</b>	<b>993,718,566</b>	<b>1,018,575,903</b>	<b>1,042,823,318</b>	<b>1,068,575,903</b>	<b>1,095,176,149</b>	<b>1,123,176,149</b>	

**9.2 Cost of accidents - without**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	
Rail	73,657,990	1,696.3	1,734,454	1,797,772	1,854,396	1,920,39	1,983,879	2,050,535	2,122,4	2,208,078	2,252,7	2,294,426	2,344,9	2,392,470	2,440,92	2,490,381	2,540,798	2,592,2	2,644,738	2,696,5	2,725,980	2,753,9	2,782,150	2,810,6	2,839,47	2,868,381	2,897,984	2,927,68	2,957,69	2,988,011	3,017,89
Trolley	4,861,030	08	119,569	72	127,567	2	134,204	137,647	40	144,794	99	150,681	77	156,807	5	163,182	166,466	57	173,234	21	178,510	22	182,143	67	6	187,732	189,632	7	6	195,450	1
Tram	8,088,317	117,063	129,386	123,802	139,329	130,844	182,515	205,861	141,177	256,316	147,708	266,747	153,713	277,602	159,963	288,898	294,718	169,817	306,711	176,721	316,063	180,317	322,506	183,987	185,850	332,419	335,790	191,552	193,491	346,111	197,405
TramTrain	112,835,169	2,719,006	2,805,087	2,933,262	3,052,156	3,109,659	3,167,865	3,226,765	3,286,347	3,346,601	3,414,067	3,482,894	3,553,108	3,624,737	3,697,810	3,772,356	3,848,405	3,925,988	4,005,133	4,085,875	4,127,379	4,169,304	4,211,655	4,254,436	4,297,652	4,341,307	4,385,404	4,429,850	4,474,848	4,520,403	4,565,607
	146,754,239	3,389,80	3,478,931	3,619,43	3,746,958	3,863,80	3,984,412	4,106,712	4,230,89	4,369,039	4,493,83	4,624,495	4,761,07	4,893,23	5,026,442	5,164,703	5,306,842	5,450,22	5,597,234	5,746,43	5,844,199	5,942,38	6,041,22	6,141,05	6,241,22	6,341,307	6,441,404	6,541,501	6,641,608	6,741,715	6,841,822
	23,532,259	0	560,898,6	0	600,959,6	4	640,288,89	660,903,9	0	704,136,9	0	732,875,3	0	762,786,5	0	793,918,34	809,957,4	0	843,014,32	0	868,018,0	0	886,632,82	0	904,812,7	914,042,04	923,365,3	932,783,8	942,298,2	951,909,69	961,428,7
<b>Total</b>	<b>23,878,485,316</b>	<b>569,166,108</b>	<b>609,880,078</b>	<b>649,746,570</b>	<b>670,642,271</b>	<b>4,461,807</b>	<b>743,626,581</b>	<b>773,981,752</b>	<b>805,575,903</b>	<b>821,853,318</b>	<b>855,401,391</b>	<b>881,590,137</b>	<b>899,672,870</b>	<b>918,126,358</b>	<b>949,504</b>	<b>936,958,200</b>	<b>956,176,149</b>	<b>975,591,705</b>													

**9.3 Cost of**

of accid	Tct	1 20	2 20	3 20	4 20	5 20	6 20	7 20	8 20	9 20	10 20	11 20	12 20	13 20	14 20	15 20	16 20	17 20	18 20	19 20	20 20	21 20	22 20	23 20	24 20	25 20	26 20	27 20	28 20	29 20	30 20	
Trolley	1,218,466																															
Tram	95,919																															
TramTrain	2,570,097																															
Car	1,436,507																															
<b>Total</b>	<b>36,342,876</b>																															

**10.1 Cost of noise - Business as**

Rail	14,636,314	67,804	489	054,446	08,115	9,616	117,956	9,405,041	5,954	9,87,845	10,190,030	10,821,471	11,040	11,264,019	11,492,034	11,609,715	11,728,60	11,848,705	12,092,611	12,216,439	12,341	12,467,911	12,724,556	12,851,80	
RegioBus																									
TramTrain																									
							101,469,051																		
	<b>4,206,388,397,755,091,00,065,410,834,11,07,223,611,072,3,0114,335,9118,065,956-916,855</b>																								

**10.2 Cost of noise - with project**

Trolley																									
Bus	47,179,611	1,136,894	1.1	1,226,481	1,276,194	1,324	1,349,20	1,374,116	1,399,310	1,427,519	1,456,29	1,485,656	1,546,160	1,641,56	1,674,661	1,708,421	1,743,305	1,761,014	1,778,90	1,796,971	1,815	1,833,66	1,871,104	1,890,110	
TramTrain																									
	<b>4,211,260,797,755,091,00,065,410,834,175,223,673</b>																								

**10.3 Cost of noise - incremental**

Trolley																									
RegioBus																									
TramTrain																									
	<b>11,163,046</b>																								

**10.4 Cost of air pollution - Trolley**

RegioBus																									
TramTrain																									
	<b>13,503,530,931,2,582,032,0,139,843,2,373,076-403,458</b>																								

**10.5 Cost of air pollution - with Rail**

RegioBus																									
TramTrain																									
	<b>11,309,940,455</b>																								

**10.6 Cost of air pollution - Trolley**

RegioBus																									
TramTrain																									
	<b>14,044,670</b>																								

Scenario	Total	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
10.1 Cost of climate change - Business as usual	428,061,728	10,223,624	10,269,048	10,314,472	10,359,896	10,405,320	10,450,744	10,496,168	10,541,592	10,587,016	10,632,440	10,677,864	10,723,288	10,768,712	10,814,136	10,859,560	10,904,984	10,950,408	10,995,832	11,041,256	11,086,680	11,132,104	11,177,528	11,222,952	11,268,376	11,313,800
10.2 Cost of climate change - with project	428,061,728	10,223,624	10,269,048	10,314,472	10,359,896	10,405,320	10,450,744	10,496,168	10,541,592	10,587,016	10,632,440	10,677,864	10,723,288	10,768,712	10,814,136	10,859,560	10,904,984	10,950,408	10,995,832	11,041,256	11,086,680	11,132,104	11,177,528	11,222,952	11,268,376	11,313,800
10.3 Cost of climate change - incremental	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.4 Cost of air pollution - Trolley	13,503,530,931,2,582,032,0,139,843,2,373,076-403,458	365,544,286	89,108,254	101,452,190	113,578,051	125,703,912	137,829,773	150,000,634	162,171,495	174,342,356	186,513,217	198,684,078	210,854,939	223,025,800	235,196,661	247,367,522	259,538,383	271,709,244	283,880,105	296,050,966	308,221,827	320,392,688	332,563,549	344,734,410	356,905,271	369,076,132
10.5 Cost of air pollution - with Rail	11,309,940,455	13,424,432,431,2,582,032,0,139,843,2,373,076-403,458	365,544,286	89,108,254	101,452,190	113,578,051	125,703,912	137,829,773	150,000,634	162,171,495	174,342,356	186,513,217	198,684,078	210,854,939	223,025,800	235,196,661	247,367,522	259,538,383	271,709,244	283,880,105	296,050,966	308,221,827	320,392,688	332,563,549	344,734,410	356,905,271
10.6 Cost of air pollution - Trolley	14,044,670	9,098,435	2,785,980	2,842,636	2,900,444	2,958,252	3,016,060	3,073,868	3,131,676	3,189,484	3,247,292	3,305,100	3,362,908	3,420,716	3,478,524	3,536,332	3,594,140	3,651,948	3,709,756	3,767,564	3,825,372	3,883,180	3,940,988	4,000,000	4,058,000	4,116,000





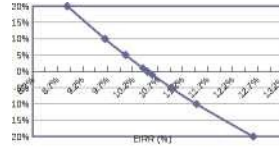
Sensitivity analysis

Sensitivity values	%
Investment cost	0.00%
Operational and maintenance	0.00%
Reduce GDP growth	0.00%
Value of time	0.00%
Value of VOC	0.00%
Reduce saving time	0.00%
Rolling stock	0.00%

ENPV (mM.€)	EIRR (%)	B/C
131.834	10.67%	1.679

FNPV/C	FIRR/C	FNPV/K	FIRR/K
-211.791	N/A	-22.929	N/A

Comment: The financial sensitivity test is



of project does not generate net financial cash flow.

Testované prem		ENPV (m il.€)	EIRR (%)	B/C
Pesimistický sčce	Investiční náklady	1%		
	Prevádzkové náklady	15%	2.562	5.40%
	Zmena uspory času	-40%		
Optimistický sčce	Investiční náklady	-10%		
	Prevádzkové náklady	-10%	172.295	12.50%
	Zmena uspory času	10%		
na d, p, d, b, y	Investiční náklady	0%		
	Prevádzkové náklady	10%	47.417	7.48%
	Zmena uspory času	-30%		

FA TEST

	FNPV/C	FIRR/C	FNPV/K	FIRR/K
-10%	-214.838	N/A	-23.095	N/A
10%	-195.878	N/A	-20.796	N/A
	-233.799	N/A	-25.394	N/A
	-9.68%			
	9.11%			
-10%	-212.315	N/A	-23.084	N/A
10%	-217.361	N/A	-23.106	N/A
	-1.19%			
	1.16%			

Variant 2Ax0	Investment cost					Operational maintenance					Value of time					Value of VOC					Rolling stock					
	ENPV (mil.€)	EIRR (%)	B/C	%	%	ENPV (mil.€)	EIRR (%)	B/C	%	%	ENPV (mil.€)	EIRR (%)	B/C	%	%	ENPV (mil.€)	EIRR (%)	B/C	%	%	ENPV (mil.€)	EIRR (%)	B/C	%	%	
-20%	158.807	12.62%	1.95	-23.3%	-20.2%	130.849	10.57%	1.67	100.0%	100.0%	75.914	8.58%	1.38	41.1%	18.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
-10%	143.800	11.48%	1.79	-11.7%	-9.3%				100.0%	100.0%	102.393	1.52	20.5%	8.9%		100.0%	100.0%			100.0%	100.0%			100.0%	100.0%	
-5%	136.296	10.97%	1.72	-5.8%	-4.5%				100.0%	100.0%	115.572	10.03%	1.59	10.3%	4.4%					100.0%	100.0%			100.0%	100.0%	
-1%	128.792	10.59%	1.67	-1.2%	-0.9%				10.50%	1.65	-0.2%	-0.1%	1.64	2.1%	0.9%	128.785	10.50%	1.65			10.50%	1.66	-0.21%		100.0%	100.0%
0%	128.792	10.50%	1.65	0.0%	0.0%	128.792	10.50%	1.65	0.0%	0.0%	128.792	10.50%	1.65	0.0%	0.0%	128.792	10.50%	1.65			10.50%	1.65	0.0%	0.0%		
1%	127.291	10.41%	1.64	1.2%	0.9%				100.0%	100.0%	131.436	10.59%	1.67	-2.1%	-0.9%					100.0%	100.0%			100.0%	100.0%	
5%	121.288	10.06%	1.59	5.8%	4.2%				100.0%	100.0%	142.012	10.95%	1.72	-10.3%	-4.3%					100.0%	100.0%			100.0%	100.0%	
10%	113.784	9.64%	1.54	11.7%	8.1%	126.735	10.42%	1.64	1.6%	0.7%	155.231	11.40%	1.79	-20.5%	-8.6%					100.0%	100.0%			100.0%	100.0%	
20%	98.777	8.89%	1.43	23.3%	15.3%				100.0%	100.0%	181.671	12.28%	1.92	-41.1%	-16.9%					100.0%	100.0%			100.0%	100.0%	
	98.777	8.89%	1.43																							
	158.807	12.62%	1.95																							

Definition	10.56%
Mean	10.56%
Deviation	8.72%

5%	8.89%
95%	12.62%

Definition	128.792
Mean	128.792
Standard deviation	11.65%
5%	98.777
95%	158.807

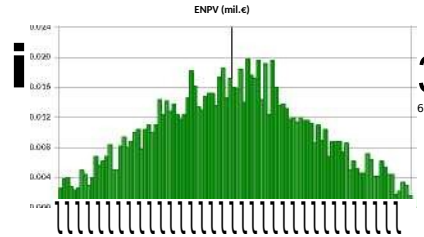
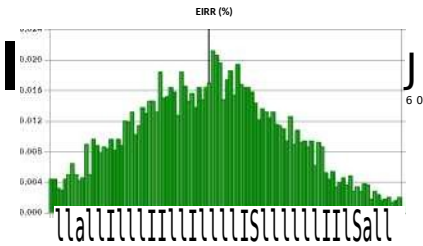




Table with 5 columns: 2008, 2007, 2006, 2005, 2004. Rows include Revenue, Expenses, and Net Income.

Net Income: 120,195
As % of OIB: 38,504.946
Annualized: 0.0085

10,327.601
18,311.524

Table with 5 columns: 2008, 2007, 2006, 2005, 2004. Rows include Revenue, Expenses, and Net Income.

Revenue: 38,760,709
Expenses: 38,640,514
Net Income: 1,201,951

Large table with 31 columns representing years from 2008 to 2038. Rows include Revenue, Expenses, and Net Income.

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