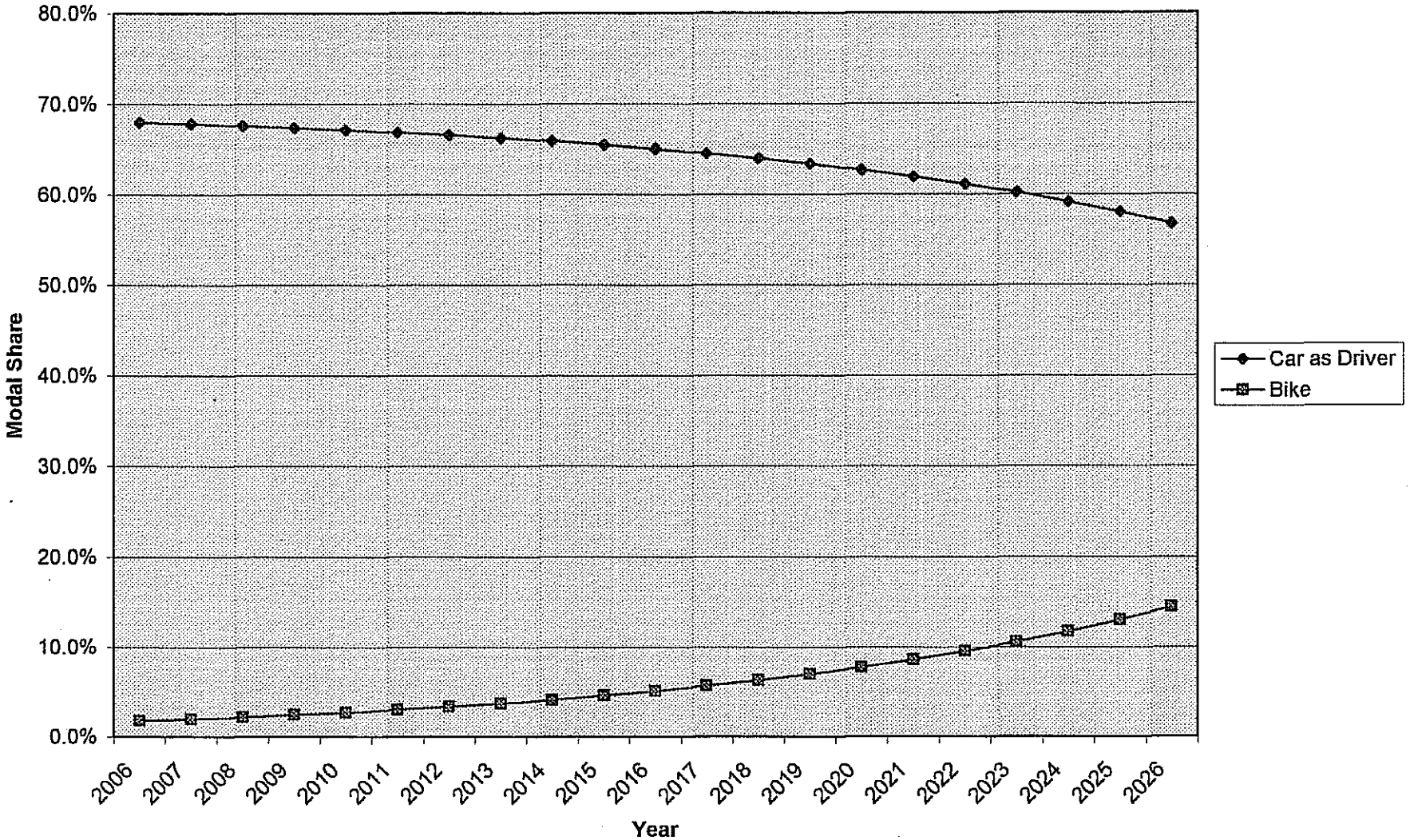


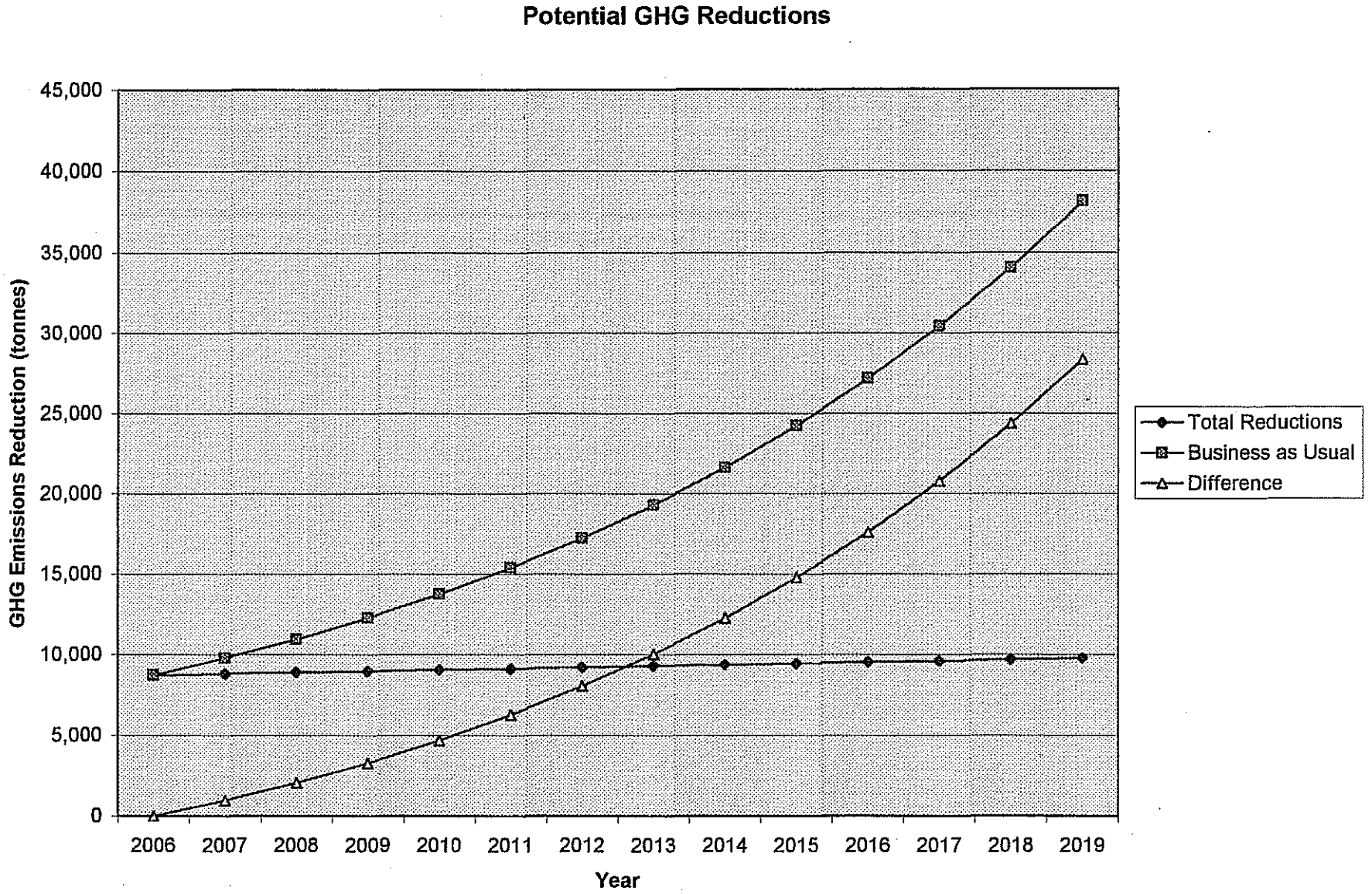
Bike to the Future

2009 Capital Budget Submission

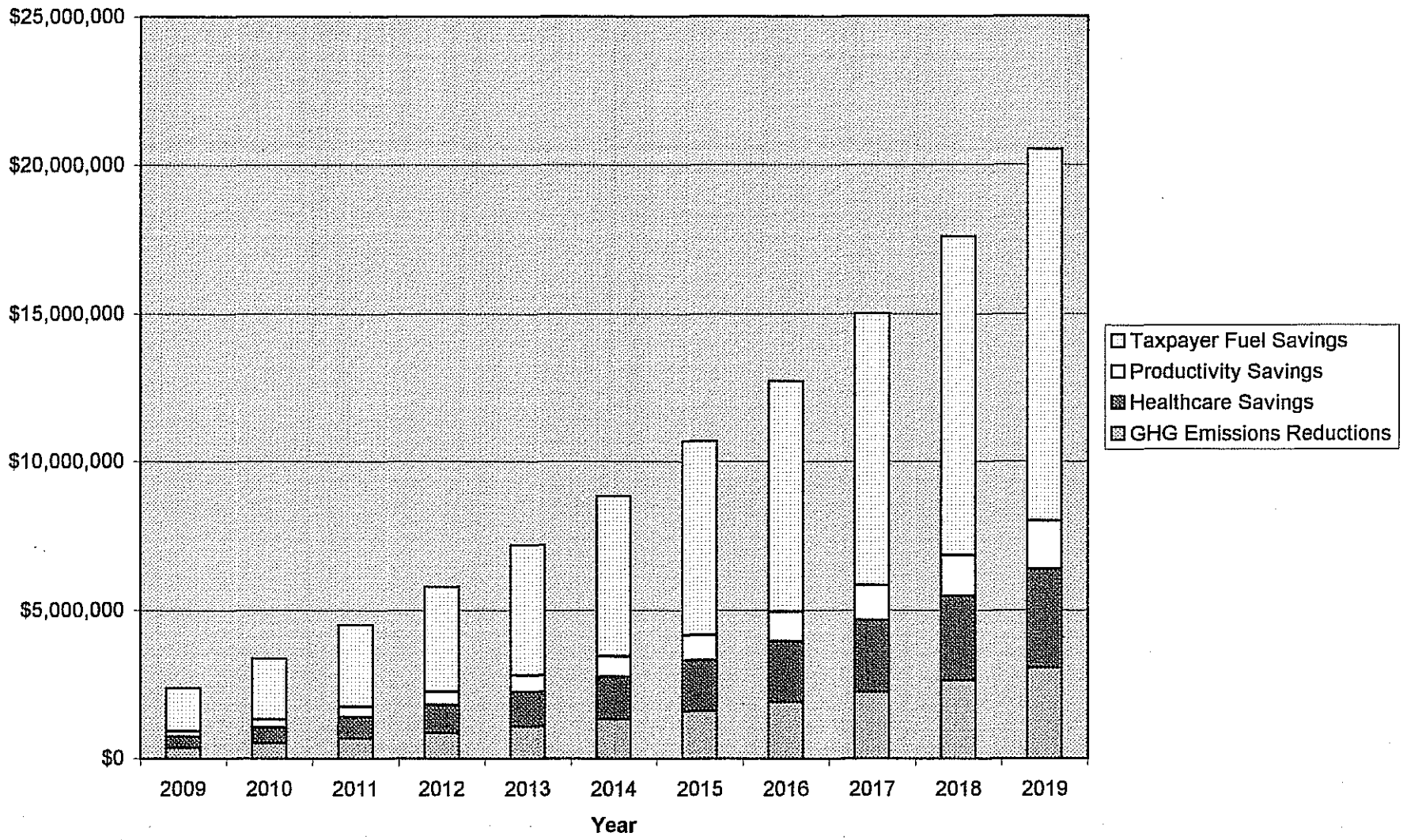
Presented to EPC December 9, 2008

Bike Modal Share with Sustained Growth

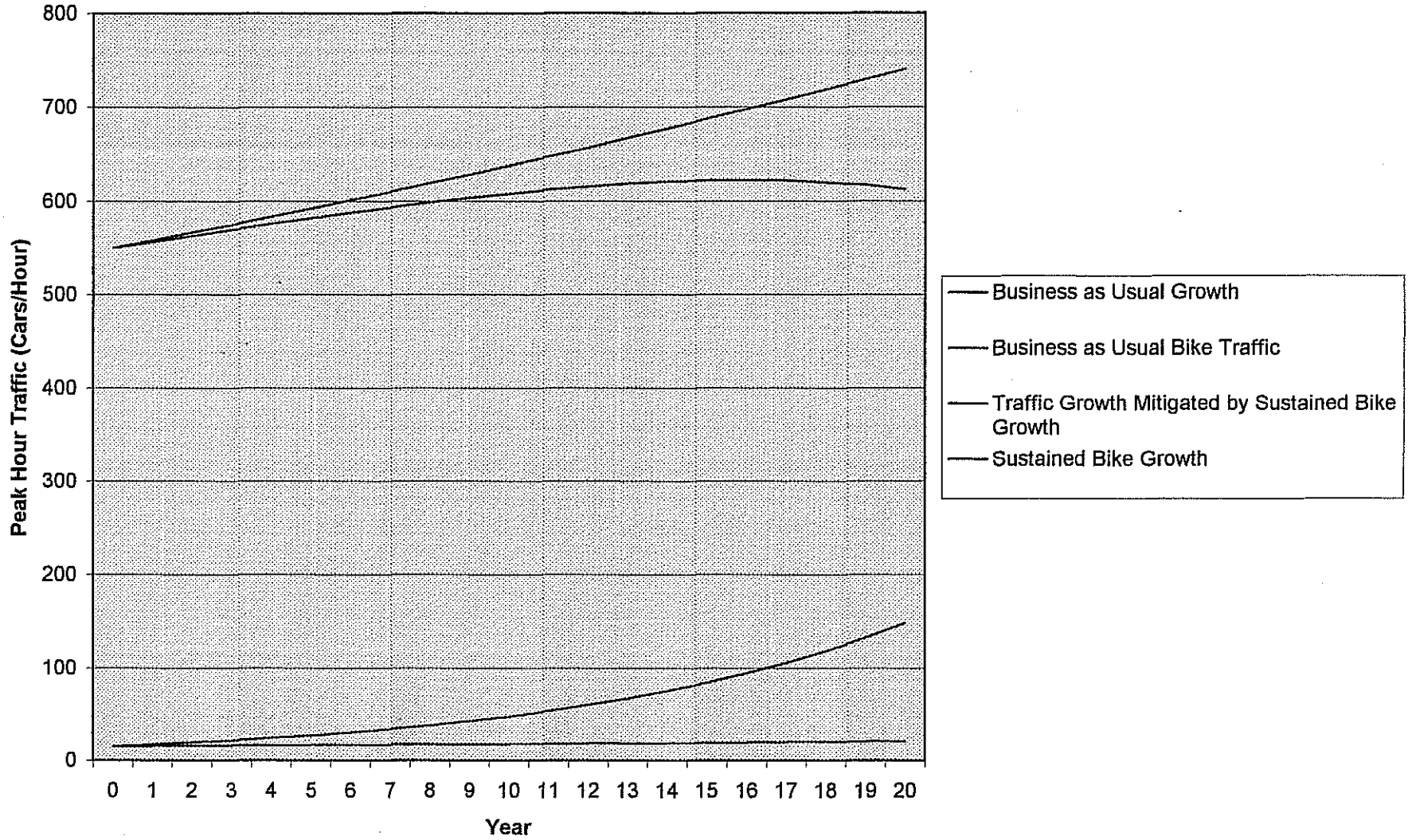



Potential GHG Reductions
GHG Emissions Reduction (tonnes)
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Year
Total Reductions
Business as Usual
Difference

Financial Benefits of Incresed Bike Modal Share



Effect of Sustained Bike Growth on Peak Hour Traffic



Mode of Transportation to Work - 2006 Census of Canada
Winnipeg City

Mode	2006 Census Male	2006 Census Female	2006 Census Total	Percent Male	Percent Female	Percent Total	2001 Census Male	2001 Census Female	2001 Census Total	Percent Male	Percent Female	Annual Growth Rate 2001 - 2006
Total work force	162,945	152,910	315,855				157,345	145,005	302,350			0.88%
Travel by private vehicle												
Driver	120,825	93,875	214,700	74.2%	61.4%	68.0%	117,965	89,125	207,090	75.0%	61.5%	68.5%	0.72%
Passenger	9,490	18,985	28,475	5.8%	12.4%	9.0%	8,395	17,430	25,825	5.3%	12.0%	8.5%	1.97%
Sub-total	130,315	112,860	243,175	80.0%	73.8%	77.0%	126,360	106,555	232,915	80.3%	73.5%	77.0%	0.87%
Public Transit	18,360	26,370	44,730	11.3%	17.2%	14.2%	17,330	25,635	42,965	11.0%	17.7%	14.2%	0.81%
On Foot	8,700	10,870	19,570	5.3%	7.1%	6.2%	8,680	10,695	19,375	5.5%	7.4%	6.4%	0.20%
Bicycle	4,045	1,600	5,645	2.5%	1.0%	1.8%	3,540	1,030	4,570	2.2%	0.7%	1.5%	4.32%
Other	1,525	1,210	2,735	0.9%	0.8%	0.9%	1,435	1,090	2,525	0.9%	0.8%	0.8%	1.61%
Total	162,945	152,910	315,855	100.0%	100.0%	100.0%	157,345	145,005	302,350	100.0%	100.0%	100.0%	

Winnipeg Downtown

Mode	2006 Census Male	2006 Census Female	2006 Census Total	Percent Male	Percent Female	Percent Total	2001 Census Male	2001 Census Female	2001 Census Total	Percent Male	Percent Female	Annual Growth Rate 2001 - 2006
Total work force	0	0	0				3,775	2,805	6,580			-100.00%
Travel by private vehicle												
Driver	0	0	0	0.0%	0.0%	0.0%	1,325	660	1,985	35.1%	23.5%	30.2%	-100.00%
Passenger	0	0	0	0.0%	0.0%	0.0%	195	175	370	5.2%	6.2%	5.6%	-100.00%
Sub-total	0	0	0	0.0%	0.0%	0.0%	1,520	835	2,355	40.3%	29.8%	35.8%	-100.00%
Public Transit	0	0	0	0.0%	0.0%	0.0%	810	790	1,600	21.5%	28.2%	24.3%	-100.00%
On Foot	0	0	0	0.0%	0.0%	0.0%	1,270	1,110	2,380	33.6%	39.6%	36.2%	-100.00%
Bicycle	0	0	0	0.0%	0.0%	0.0%	100	20	120	2.6%	0.7%	1.8%	-100.00%
Other	0	0	0	0.0%	0.0%	0.0%	75	50	125	2.0%	1.8%	1.9%	-100.00%
Total	0	0	0	0.0%	0.0%	0.0%	3,775	2,805	6,580	100.0%	100.0%	100.0%	

Winnipeg Inner City

Mode	2006 Census Male	Female	Total	Percent Male	Female	Total	2001 Census Male	Female	Total	Percent Male	Female	Annual Growth Rate 2001 - 2006
Total work force	0	0	0				29,050	24,860	53,910			-100.00%
Travel by private vehicle												
Driver	0	0	0	0.0%	0.0%	0.0%	16,015	10,285	26,300	55.1%	41.4%	48.8% -100.00%
Passenger	0	0	0	0.0%	0.0%	0.0%	1,970	2,960	4,930	6.8%	11.9%	9.1% -100.00%
Sub-total	0	0	0	0.0%	0.0%	0.0%	17,985	13,245	31,230	61.9%	53.3%	57.9% -100.00%
Public Transit	0	0	0	0.0%	0.0%	0.0%	5,675	6,660	12,335	19.5%	26.8%	22.9% -100.00%
On Foot	0	0	0	0.0%	0.0%	0.0%	4,020	4,325	8,345	13.8%	17.4%	15.5% -100.00%
Bicycle	0	0	0	0.0%	0.0%	0.0%	1,030	345	1,375	3.5%	1.4%	2.6% -100.00%
Other	0	0	0	0.0%	0.0%	0.0%	340	285	625	1.2%	1.1%	1.2% -100.00%
Total	0	0	0	0.0%	0.0%	0.0%	29,050	24,860	53,910	100.0%	100.0%	100.0%

Winnipeg Non Inner City

Mode	2006 Census Male	Female	Total	Percent Male	Female	Total	2001 Census Male	Female	Total	Percent Male	Female	Annual Growth Rate 2001 - 2006
Total work force	0	0	0				128,290	120,150	248,440			-100.00%
Travel by private vehicle												
Driver	0	0	0	0.0%	0.0%	0.0%	101,955	78,845	180,800	79.5%	65.6%	72.8% -100.00%
Passenger	0	0	0	0.0%	0.0%	0.0%	6,425	14,475	20,900	5.0%	12.0%	8.4% -100.00%
Sub-total	0	0	0	0.0%	0.0%	0.0%	108,380	93,320	201,700	84.5%	77.7%	81.2% -100.00%
Public Transit	0	0	0	0.0%	0.0%	0.0%	11,655	18,975	30,630	9.1%	15.8%	12.3% -100.00%
On Foot	0	0	0	0.0%	0.0%	0.0%	4,660	6,370	11,030	3.6%	5.3%	4.4% -100.00%
Bicycle	0	0	0	0.0%	0.0%	0.0%	2,510	680	3,190	2.0%	0.6%	1.3% -100.00%
Other	0	0	0	0.0%	0.0%	0.0%	1,085	805	1,890	0.8%	0.7%	0.8% -100.00%
Total	0	0	0	0.0%	0.0%	0.0%	128,290	120,150	248,440	100.0%	100.0%	100.0%

Effect of Sustained Bike Growth on Peak Hour Traffic

	Business as Usual			Sustained Bike Growth Model					Share of Traffic	
Year	Cars	Annual Growth	Bikes	Cars	Expected Growth	Bikes	Added Cyclists	Mitigated Growth	Cars	Bikes
0	550	8	15	550	8	15	1.85	7	97.3%	2.7%
1	558	8	16	557	8	17	2.07	7	97.0%	3.0%
2	567	8	16	563	8	19	2.32	6	96.7%	3.3%
3	575	9	16	570	9	22	2.60	6	96.3%	3.7%
4	584	9	16	576	9	24	2.91	6	96.0%	4.0%
5	593	9	17	582	9	27	3.26	6	95.5%	4.5%
6	601	9	17	588	9	30	3.65	6	95.1%	4.9%
7	610	9	17	593	9	34	4.09	5	94.6%	5.4%
8	620	9	17	599	9	38	4.58	5	94.0%	6.0%
9	629	9	18	604	9	43	5.12	5	93.4%	6.6%
10	638	10	18	608	9	48	5.74	4	92.7%	7.3%
11	648	10	18	612	9	54	6.43	4	92.0%	8.0%
12	658	10	18	616	9	60	7.20	3	91.1%	8.9%
13	667	10	19	619	9	67	8.06	2	90.2%	9.8%
14	677	10	19	621	9	75	9.03	1	89.2%	10.8%
15	688	10	19	622	9	84	10.12	0	88.1%	11.9%
16	698	10	20	623	9	94	11.33	-1	86.8%	13.2%
17	708	11	20	622	9	106	12.69	-2	85.5%	14.5%
18	719	11	20	620	9	118	14.21	-3	84.0%	16.0%
19	730	11	20	617	9	133	15.92	-5	82.3%	17.7%
20	741	11	21	612	9	149	17.83	-7	80.5%	19.5%

Base Peak Hour Traffic	550
Base Bike Modal Share	2.80%
AADT Growth Rate	1.50%
AABDT Growth Rate	12.00%
Commuters/Car	0.88

Health Benefits of Increase Bike Modal Share - Business as Usual vs. Sustained Growth Model

	Business as Usual				Sustained Growth Model			Bike Modal Share	
Year	Total Commuters	Business as Usual Bike Commuters	Increased Cyclists	Newly Active Cyclists	Bike Commuters	Increased Cyclists	Newly Active Cyclists	Business as Usual	Sustained Growth
2006	315,855	5,645	0	0	5,645	0	0	1.79%	1.79%
2007	318,628	5,695	50	31	6,322	628	396	1.79%	1.98%
2008	321,424	5,745	100	63	7,081	1,337	842	1.79%	2.20%
2009	324,246	5,795	150	94	7,931	2,136	1,346	1.79%	2.45%
2010	327,092	5,846	201	127	8,883	3,037	1,913	1.79%	2.72%
2011	329,963	5,897	252	159	9,948	4,051	2,552	1.79%	3.02%
2012	332,860	5,949	304	191	11,142	5,193	3,272	1.79%	3.35%
2013	335,781	6,001	356	224	12,479	6,478	4,081	1.79%	3.72%
2014	338,729	6,054	409	256	13,977	7,923	4,991	1.79%	4.13%
2015	341,702	6,107	462	291	15,654	9,547	6,015	1.79%	4.58%
2016	344,702	6,161	516	325	17,533	11,372	7,164	1.79%	5.09%
2017	347,727	6,215	570	359	19,636	13,422	8,456	1.79%	5.65%
2018	350,780	6,269	624	393	21,993	15,724	9,906	1.79%	6.27%
2019	353,859	6,324	679	428	24,632	18,308	11,534	1.79%	6.96%
2020	356,965	6,380	735	463	27,588	21,208	13,361	1.79%	7.73%
2021	360,098	6,436	791	498	30,898	24,463	15,411	1.79%	8.58%
2022	363,259	6,492	847	534	34,606	28,114	17,712	1.79%	9.53%
2023	366,448	6,549	904	570	38,759	32,210	20,292	1.79%	10.58%
2024	369,665	6,607	962	606	43,410	36,803	23,186	1.79%	11.74%
2025	372,909	6,665	1020	642	48,619	41,954	26,431	1.79%	13.04%
2026	376,183	6,723	1078	679	54,453	47,730	30,070	1.79%	14.46%

Yearly Health Care Savings/Newly Active Cyclist	$300	
Percentage of Inactive Population	63%	London Business Case
Average Number of Sick Days Per Worker	6.8	London Business Case
Reduction in Sick Days Inactive to Active	6%	London Business Case
Reduced Sick Days/Cyclist/Year	0.4	
Average Yearly Salary	$36,000	
Work Days/Year	200	
Productivity Cost/Day	$360	

Health

	Health Care Savings from Reduced Inactivity				Reduced Sick Days				Value of Reduced Sick Days			
Year	Baseline	Business as Usual	Sustained Growth	Difference	Baseline	Business as Usual	Sustained Growth	Difference	Baseline	Business as Usual	Sustained Growth	Difference
2006	$1,066,905	$0	$0	$0	1,451	0	0	0	$522,357	$0	$0	$0
2007	$1,066,905	$9,365	$118,663	$109,298	1,451	13	161	149	$522,357	$4,585	$58,098	$53,512
2008	$1,066,905	$18,613	$252,608	$233,796	1,451	26	344	318	$522,357	$9,211	$123,677	$114,466
2009	$1,066,905	$28,343	$403,677	$375,334	1,451	39	549	510	$522,357	$13,877	$197,640	$183,764
2010	$1,066,905	$37,957	$573,934	$535,977	1,451	52	781	729	$522,357	$18,584	$280,998	$262,414
2011	$1,066,905	$47,655	$765,691	$718,036	1,451	65	1,041	977	$522,357	$23,332	$374,882	$351,550
2012	$1,066,905	$57,439	$981,538	$924,099	1,451	78	1,335	1,257	$522,357	$28,122	$480,561	$452,439
2013	$1,066,905	$67,308	$1,224,374	$1,157,066	1,451	92	1,665	1,574	$522,357	$32,954	$599,453	$566,499
2014	$1,066,905	$77,264	$1,497,448	$1,420,184	1,451	105	2,037	1,931	$522,357	$37,628	$733,151	$695,522
2015	$1,066,905	$87,307	$1,804,399	$1,717,092	1,451	119	2,454	2,335	$522,357	$42,746	$883,434	$840,688
2016	$1,066,905	$97,439	$2,149,301	$2,051,862	1,451	133	2,923	2,791	$522,357	$47,706	$1,052,298	$1,004,592
2017	$1,066,905	$107,660	$2,536,718	$2,429,058	1,451	146	3,450	3,304	$522,357	$52,710	$1,241,977	$1,189,267
2018	$1,066,905	$117,970	$2,971,762	$2,853,792	1,451	160	4,042	3,881	$522,357	$57,758	$1,454,974	$1,397,216
2019	$1,066,905	$128,370	$3,460,157	$3,331,787	1,451	175	4,706	4,531	$522,357	$62,850	$1,694,093	$1,631,243
2020	$1,066,905	$138,862	$4,008,317	$3,869,455	1,451	189	5,451	5,262	$522,357	$67,987	$1,962,472	$1,894,485
2021	$1,066,905	$149,447	$4,623,423	$4,473,977	1,451	203	6,288	6,085	$522,357	$73,169	$2,263,628	$2,190,459
2022	$1,066,905	$160,124	$5,313,519	$5,153,396	1,451	218	7,226	7,009	$522,357	$78,396	$2,601,499	$2,523,102
2023	$1,066,905	$170,894	$6,087,614	$5,916,720	1,451	232	8,279	8,047	$522,357	$83,670	$2,980,496	$2,896,826
2024	$1,066,905	$181,760	$6,955,798	$6,774,039	1,451	247	9,460	9,213	$522,357	$88,989	$3,405,559	$3,316,569
2025	$1,066,905	$192,720	$7,929,373	$7,736,653	1,451	262	10,784	10,522	$522,357	$94,356	$3,882,221	$3,787,865
2026	$1,066,905	$203,777	$9,020,996	$8,817,219	1,451	277	12,269	11,991	$522,357	$99,769	$4,416,680	$4,316,911

Summary of Benefits - Business as Usual vs. Sustained Growth Model

	Bike Commuters			Bike Modal Share		GHG Emissions Reductions			Value of GHG Emissions Reductions (Based on Carbon tax on Coal)			Value of GHG Emissions Reductions (Based on Hybrid Rebate)		
Year	Total Commuters	Business as Usual	Sustained Growth	Business as Usual	Sustained Growth	Businsess as Usual	Sustained Growth	Difference	Business as Usual	Sustained Growth	Difference	Business as Usual	Sustained Growth	Difference
2006	315,855	5,645	5,645	1.79%	1.79%	8,740	8,740	0	$87,405	$87,405	$0	$940,833	$940,833	$0
2007	318,628	5,695	6,322	1.79%	1.98%	8,817	9,789	972	$88,172	$97,894	$9,721	$949,092	$1,053,733	$104,641
2008	321,424	5,745	7,081	1.79%	2.20%	8,895	10,964	2,069	$88,946	$109,641	$20,695	$957,423	$1,180,181	$222,758
2009	324,246	5,795	7,931	1.79%	2.45%	8,973	12,280	3,307	$89,727	$122,798	$33,071	$965,827	$1,321,803	$355,976
2010	327,092	5,846	8,883	1.79%	2.72%	9,051	13,753	4,702	$90,514	$137,533	$47,019	$974,305	$1,480,419	$506,114
2011	329,963	5,897	9,948	1.79%	3.02%	9,131	15,404	6,273	$91,309	$154,037	$62,728	$982,857	$1,658,070	$675,212
2012	332,860	5,949	11,142	1.79%	3.35%	9,211	17,252	8,041	$92,111	$172,522	$80,411	$991,485	$1,857,038	$865,553
2013	335,781	6,001	12,479	1.79%	3.72%	9,292	19,322	10,031	$92,919	$193,224	$100,305	$1,000,188	$2,079,883	$1,079,695
2014	338,729	6,054	13,977	1.79%	4.13%	9,373	21,641	12,268	$93,735	$216,411	$122,677	$1,008,967	$2,329,469	$1,320,501
2015	341,702	6,107	15,654	1.79%	4.58%	9,456	24,238	14,782	$94,557	$242,381	$147,823	$1,017,824	$2,609,005	$1,591,181
2016	344,702	6,161	17,533	1.79%	5.09%	9,539	27,147	17,608	$95,387	$271,466	$176,079	$1,026,758	$2,922,086	$1,895,327
2017	347,727	6,215	19,636	1.79%	5.65%	9,622	30,404	20,782	$96,225	$304,042	$207,818	$1,035,771	$3,272,736	$2,236,965
2018	350,780	6,269	21,993	1.79%	6.27%	9,707	34,053	24,346	$97,069	$340,527	$243,458	$1,044,863	$3,665,464	$2,620,601
2019	353,859	6,324	24,632	1.79%	6.96%	9,792	38,139	28,347	$97,922	$381,391	$283,469	$1,054,035	$4,105,320	$3,051,285
2020	356,965	6,380	27,588	1.79%	7.73%	9,878	42,716	32,838	$98,781	$427,158	$328,377	$1,063,287	$4,597,958	$3,534,671
2021	360,098	6,436	30,898	1.79%	8.58%	9,965	47,842	37,877	$99,648	$478,417	$378,768	$1,072,620	$5,149,713	$4,077,093
2022	363,259	6,492	34,606	1.79%	9.53%	10,052	53,583	43,530	$100,523	$535,827	$435,304	$1,082,036	$5,767,679	$4,685,643
2023	366,448	6,549	38,759	1.79%	10.58%	10,141	60,013	49,872	$101,405	$600,126	$498,721	$1,091,534	$6,459,800	$5,368,266
2024	369,665	6,607	43,410	1.79%	11.74%	10,230	67,214	56,985	$102,295	$672,141	$569,846	$1,101,115	$7,234,976	$6,133,861
2025	372,909	6,665	48,619	1.79%	13.04%	10,319	75,280	64,960	$103,193	$752,798	$649,604	$1,110,781	$8,103,173	$6,992,393
2026	376,183	6,723	54,453	1.79%	14.48%	10,410	84,313	73,903	$104,099	$843,133	$739,034	$1,120,531	$9,075,554	$7,955,023

Bicycle Modal Share - Business as Usual vs. Sustained Growth Model

Year	Total	Commuter Growth	Cars as Driver	Expected Growth Car as Driver	Cars as Passenger	Expected Growth Car as Passenger	Total Car Commuters	Cars per Commuter	Public Transit	Walking	Business as Usual Bike Commuters	Sustained Growth Rate Bike Commuters	Mitigated Car as Driver Growth	Mitigated Car as Passenger Growth	Car as Driver Modal Share	Car as Passenger Modal Share	Bike Modal Share
2006	315,855	2,773	214,700	1,885	28,475	250	243,175	0.88	44,730	19,570	5,645	5,645	1,330	176	68.0%	9.0%	1.8%
2007	318,628	2,797	216,030	1,901	28,651	252	244,682	0.88	45,123	19,742	5,695	6,322	1,275	169	67.8%	9.0%	2.0%
2008	321,424	2,821	217,306	1,918	28,821	254	246,126	0.88	45,519	19,915	5,745	7,081	1,212	161	67.6%	9.0%	2.2%
2009	324,246	2,846	218,518	1,935	28,981	257	247,499	0.88	45,919	20,090	5,795	7,931	1,139	151	67.4%	8.9%	2.4%
2010	327,092	2,871	219,657	1,952	29,132	259	248,790	0.88	46,321	20,266	5,846	8,883	1,056	140	67.2%	8.9%	2.7%
2011	329,963	2,896	220,713	1,969	29,272	261	249,986	0.88	46,726	20,444	5,897	9,948	960	127	66.9%	8.9%	3.0%
2012	332,860	2,922	221,674	1,986	29,400	263	251,073	0.88	47,138	20,624	5,949	11,142	852	113	66.6%	8.8%	3.3%
2013	335,781	2,947	222,525	2,004	29,513	266	252,038	0.88	47,552	20,805	6,001	12,479	728	97	66.3%	8.8%	3.7%
2014	338,729	2,973	223,253	2,021	29,609	268	252,862	0.88	47,969	20,987	6,054	13,977	587	78	65.9%	8.7%	4.1%
2015	341,702	2,999	223,840	2,039	29,687	270	253,528	0.88	48,390	21,171	6,107	15,654	428	57	65.5%	8.7%	4.6%
2016	344,702	3,026	224,268	2,057	29,744	273	254,012	0.88	48,815	21,357	6,161	17,533	247	33	65.1%	8.6%	5.1%
2017	347,727	3,052	224,515	2,075	29,777	275	254,292	0.88	49,244	21,545	6,215	19,636	43	6	64.6%	8.6%	5.6%
2018	350,780	3,079	224,557	2,093	29,782	278	254,340	0.88	49,676	21,734	6,269	21,993	-189	-25	64.0%	8.5%	6.3%
2019	353,859	3,108	224,366	2,111	29,757	280	254,126	0.88	50,112	21,925	6,324	24,632	-449	-60	63.4%	8.4%	7.0%
2020	356,965	3,133	223,920	2,130	29,698	282	253,617	0.88	50,552	22,117	6,380	27,588	-744	-99	62.7%	8.3%	7.7%
2021	360,098	3,161	223,176	2,149	29,599	285	252,775	0.88	50,996	22,311	6,436	30,898	-1,075	-143	62.0%	8.2%	8.6%
2022	363,259	3,189	222,101	2,167	29,457	287	251,557	0.88	51,443	22,507	6,492	34,606	-1,449	-192	61.1%	8.1%	9.5%
2023	366,448	3,217	220,652	2,186	29,264	290	249,917	0.88	51,895	22,705	6,549	38,759	-1,869	-248	60.2%	8.0%	10.6%
2024	369,665	3,245	218,783	2,206	29,017	293	247,799	0.88	52,350	22,904	6,607	43,410	-2,342	-311	59.2%	7.8%	11.7%
2025	372,909	3,273	216,441	2,225	28,706	295	245,147	0.88	52,810	23,105	6,665	48,619	-2,874	-381	58.0%	7.7%	13.0%
2026	376,183	3,302	213,566	2,245	28,325	298	241,891	0.88	53,273	23,308	6,723	54,453	-3,473	-461	56.8%	7.5%	14.5%

Base Total Commuters	315,855
Base Car/Truck/Van as Driver	214,700
Base Car/Truck/Van as Passenger	28,475
Base Car Commuters	243,175
Base Public Transit	44,730
Base Walking	19,570
Base Bike Commuters	5,645
Base Motorcycle	0
Base Taxi	0
Base Other	2,735

Current Cars/Van/Truck as Driver Modal Share	68.0%
Current Cars/Van/Truck as Passenger Modal Share	9.0%
Current Public Transit Modal Share	14.2%
Current Walking Modal Share	6.2%
Current Bikes Modal Share	1.8%
Current Motorcycle Modal Share	0.0%
Current Taxi Modal Share	0.0%
Base Other Modal Share	0.9%
Base Cars	214,700
Cars/Commuter	0.88
Commuter Growth Rate	0.88%
AADBT Growth	12.0%

Health

	Health Care Savings from Reduced Inactivity				Reduced Sick Days				Value of Reduced Sick Days			
Year	Baseline	Business as Usual	Sustained Growth	Difference	Baseline	Business as Usual	Sustained Growth	Difference	Baseline	Business as Usual	Sustained Growth	Difference
2006	$1,066,905	$0	$0	$0	1,451	0	0	0	$522,357	$0	$0	$0
2007	$1,066,905	$9,365	$118,663	$109,298	1,451	13	161	149	$522,357	$4,585	$58,098	$53,512
2008	$1,066,905	$16,813	$252,608	$233,796	1,451	26	344	318	$522,357	$9,211	$123,677	$114,466
2009	$1,066,905	$28,343	$403,677	$375,334	1,451	39	549	510	$522,357	$13,877	$197,640	$183,764
2010	$1,066,905	$37,957	$573,934	$535,977	1,451	52	781	729	$522,357	$18,584	$280,998	$262,414
2011	$1,066,905	$47,655	$765,691	$718,036	1,451	65	1,041	977	$522,357	$23,332	$374,882	$351,550
2012	$1,066,905	$57,439	$981,538	$924,099	1,451	78	1,335	1,257	$522,357	$28,122	$480,561	$452,439
2013	$1,066,905	$67,308	$1,224,374	$1,157,066	1,451	92	1,665	1,574	$522,357	$32,954	$599,453	$566,499
2014	$1,066,905	$77,264	$1,497,448	$1,420,184	1,451	105	2,037	1,931	$522,357	$37,828	$733,151	$695,322
2015	$1,066,905	$87,307	$1,804,399	$1,717,092	1,451	119	2,454	2,335	$522,357	$42,746	$883,434	$840,688
2016	$1,066,905	$97,439	$2,149,301	$2,051,862	1,451	133	2,923	2,791	$522,357	$47,706	$1,052,298	$1,004,592
2017	$1,066,905	$107,660	$2,536,718	$2,429,058	1,451	146	3,450	3,304	$522,357	$52,710	$1,241,977	$1,189,267
2018	$1,066,905	$117,970	$2,971,762	$2,853,792	1,451	160	4,042	3,881	$522,357	$57,758	$1,454,974	$1,397,216
2019	$1,066,905	$128,370	$3,460,157	$3,331,787	1,451	175	4,706	4,531	$522,357	$62,850	$1,694,093	$1,631,243
2020	$1,066,905	$138,862	$4,008,317	$3,869,455	1,451	189	5,451	5,262	$522,357	$67,987	$1,962,472	$1,894,485
2021	$1,066,905	$149,447	$4,623,423	$4,473,977	1,451	203	6,288	6,085	$522,357	$73,169	$2,263,628	$2,190,459
2022	$1,066,905	$160,124	$5,313,519	$5,153,396	1,451	218	7,226	7,009	$522,357	$78,396	$2,601,499	$2,523,102
2023	$1,066,905	$170,894	$6,087,614	$5,916,720	1,451	232	8,279	8,047	$522,357	$83,670	$2,980,496	$2,896,826
2024	$1,066,905	$181,760	$6,955,798	$6,774,039	1,451	247	9,460	9,213	$522,357	$88,989	$3,405,559	$3,316,569
2025	$1,066,905	$192,720	$7,929,373	$7,736,653	1,451	262	10,784	10,522	$522,357	$94,356	$3,882,221	$3,787,865
2026	$1,066,905	$203,777	$9,020,996	$8,817,219	1,451	277	12,269	11,991	$522,357	$99,769	$4,416,680	$4,316,911

Health Benefits of Increase Bike Modal Share - Business as Usual vs. Sustained Growth Model

		Business as Usual			Sustained Growth Model			Bike Modal Share	
Year	Total Commuters	Business as Usual Bike Commuters	Increased Cyclists	Newly Active Cyclists	Bike Commuters	Increased Cyclists	Newly Active Cyclists	Business as Usual	Sustained Growth
2006	315,855	5,645	0	0	5,645	0	0	1.79%	1.79%
2007	318,628	5,695	50	31	6,322	628	396	1.79%	1.98%
2008	321,424	5,745	100	63	7,081	1,337	842	1.79%	2.20%
2009	324,246	5,795	150	94	7,931	2,136	1,346	1.79%	2.45%
2010	327,092	5,846	201	127	8,883	3,037	1,913	1.79%	2.72%
2011	329,963	5,897	252	159	9,948	4,051	2,552	1.79%	3.02%
2012	332,860	5,949	304	191	11,142	5,193	3,272	1.79%	3.35%
2013	335,781	6,001	356	224	12,478	6,478	4,081	1.79%	3.72%
2014	338,729	6,054	409	258	13,977	7,923	4,991	1.79%	4.13%
2015	341,702	6,107	462	291	15,654	9,547	6,015	1.79%	4.58%
2016	344,702	6,161	516	325	17,533	11,372	7,164	1.79%	5.09%
2017	347,727	6,215	570	359	19,636	13,422	8,456	1.79%	5.65%
2018	350,780	6,269	624	393	21,993	15,724	9,906	1.79%	6.27%
2019	353,859	6,324	679	428	24,632	18,308	11,534	1.79%	6.96%
2020	356,965	6,380	735	463	27,588	21,208	13,361	1.79%	7.73%
2021	360,098	6,436	791	498	30,898	24,463	15,411	1.79%	8.58%
2022	363,259	6,492	847	534	34,606	28,114	17,712	1.79%	9.53%
2023	366,448	6,549	904	570	38,759	32,210	20,292	1.79%	10.58%
2024	369,665	6,607	962	606	43,410	36,803	23,188	1.79%	11.74%
2025	372,909	6,665	1020	642	48,619	41,954	26,431	1.79%	13.04%
2026	376,183	6,723	1078	679	54,453	47,730	30,070	1.79%	14.48%

Yearly Health Care Savings/Newly Active Cyclist	$300	
Percentage of Inactive Population	63%	London Business Case
Average Number of Sick Days Per Worker	6.8	London Business Case
Reduction in Sick Days Inactive to Active	6%	London Business Case
Reduced Sick Days/Cyclist/Year	0.4	
Average Yearly Salary	$36,000	
Work Days/Year	200	
Productivity Cost/Day	$360	

Impact of Increased Bike Modal Share on GHG Emissions - Business as Usual vs. Sustained Growth Model

		Bike Commuters		Bike Modal Share			Co2 Emissions Reduction			Value of Emissions Reductions Based on Carbon tax		Based on Hybrid Rebate	
Year	Total Commuters	Business as Usual	Sustained Growth	Business as Usual	Sustained Growth	Increased Cyclists	Business as Usual	Sustained Growth	Difference	Business as Usual	Sustained Growth	Business as Usual	Sustained Growth
2006	315,855	5,645	5,645	1.79%	1.79%	0	8,740	8,740	0	$87,405	$87,405	$940,833	$940,833
2007	318,628	5,695	6,322	1.79%	1.98%	628	8,817	9,789	972	$88,172	$97,894	$949,092	$1,053,733
2008	321,424	5,745	7,081	1.79%	2.20%	1,337	8,895	10,964	2,069	$88,946	$109,641	$957,423	$1,180,181
2009	324,246	5,795	7,931	1.79%	2.45%	2,136	8,973	12,280	3,307	$89,727	$122,798	$965,827	$1,321,803
2010	327,092	5,846	8,883	1.79%	2.72%	3,037	9,051	13,753	4,702	$90,514	$137,533	$974,305	$1,480,419
2011	329,963	5,897	9,948	1.79%	3.02%	4,051	9,131	15,404	6,273	$91,309	$154,037	$982,857	$1,658,070
2012	332,860	5,949	11,142	1.79%	3.35%	5,193	9,211	17,252	8,041	$92,111	$172,522	$991,485	$1,857,038
2013	335,781	6,001	12,479	1.79%	3.72%	6,478	9,292	19,322	10,031	$92,919	$193,224	$1,000,188	$2,079,883
2014	338,729	6,054	13,977	1.79%	4.13%	7,923	9,373	21,641	12,268	$93,735	$216,411	$1,008,967	$2,329,469
2015	341,702	6,107	15,654	1.79%	4.58%	9,547	9,456	24,238	14,782	$94,557	$242,381	$1,017,824	$2,609,005
2016	344,702	6,161	17,533	1.79%	5.09%	11,372	9,539	27,147	17,608	$95,387	$271,466	$1,026,758	$2,922,086
2017	347,727	6,215	19,636	1.79%	5.65%	13,422	9,622	30,404	20,782	$96,225	$304,042	$1,035,771	$3,272,736
2018	350,780	6,269	21,993	1.79%	6.27%	15,724	9,707	34,053	24,346	$97,069	$340,527	$1,044,863	$3,665,464
2019	353,859	6,324	24,632	1.79%	6.96%	18,308	9,792	38,139	28,347	$97,922	$381,391	$1,054,035	$4,105,320
2020	356,965	6,380	27,588	1.79%	7.73%	21,208	9,878	42,716	32,838	$98,781	$427,156	$1,063,287	$4,597,958
2021	360,098	6,436	30,898	1.79%	8.58%	24,463	9,965	47,842	37,877	$99,648	$478,417	$1,072,620	$5,149,713
2022	363,259	6,492	34,606	1.79%	9.53%	28,114	10,052	53,583	43,530	$100,523	$535,827	$1,082,036	$5,767,679
2023	366,448	6,549	38,759	1.79%	10.58%	32,210	10,141	60,013	49,872	$101,405	$600,126	$1,091,534	$6,459,800
2024	369,665	6,607	43,410	1.79%	11.74%	36,803	10,230	67,214	56,985	$102,295	$672,141	$1,101,115	$7,234,976
2025	372,909	6,665	48,619	1.79%	13.04%	41,954	10,319	75,280	64,960	$103,193	$752,798	$1,110,781	$8,103,173
2026	376,183	6,723	54,453	1.79%	14.48%	47,730	10,410	84,313	73,903	$104,099	$843,133	$1,120,531	$9,075,554

Average Yearly Km	23,000	Hybrid Rebate	$2,000
Average Fuel Efficiency (L/100Km)	8.5	Hybrid/Conventional Fuel Consumption	67%
Annual Fuel Consumption	1955	Annual Hybrid Fuel Savings	645
% Mileage Reduction for Cyclists	33%	Annual Hybrid GHG Reduction (tonne)	1.55
Yearly Fuel Savings per Cyclist (in L)	645	Hybrid Lifespan	12
GHG (Kg) Emissions/L	2.4 Government of Manitoba website	Cost Hybrid Rebate GHG Reduction/tonnes/year	$108
		Carbon Tax on GHG per tonne	$10

Impact of Increased BikeModal Share on Taxpayer Fuel Costs - Business as Usual vs. Sustained Growth Model

							Fuel Savings			Reduced Economic Leakage		
Year	Total Commuters	Business as Usual Bike Commuters	Bike Modal Share	Business as Usual Bike Modal Share	Sustained Growth Bike Modal Share	Increased Cyclists	Business as Usual	Sustained Growth	Difference	Business as Usual	Sustained Growth	Difference
2006	315,855	5,845	5,845	1.79%	1.79%	0	$3,856,099.50	$3,856,099.50	$0.00	$2,814,952.64	$2,814,952.64	$0.00
2007	318,628	5,695	6,322	1.79%	1.98%	628	$3,689,947.93	$4,318,831.44	$428,883.51	$2,839,661.99	$3,152,746.95	$313,084.96
2008	321,424	5,745	7,081	1.79%	2.20%	1,337	$3,924,093.48	$4,837,091.21	$912,997.73	$2,864,588.24	$3,531,076.59	$666,488.34
2009	324,246	5,795	7,931	1.79%	2.45%	2,136	$3,958,538.76	$5,417,542.16	$1,459,003.40	$2,889,733.29	$3,954,805.78	$1,065,072.48
2010	327,092	5,846	8,883	1.79%	2.72%	3,037	$3,993,286.39	$6,067,647.22	$2,074,360.83	$2,915,099.07	$4,429,382.47	$1,514,283.40
2011	329,963	5,897	9,948	1.79%	3.02%	4,051	$4,028,339.04	$6,795,764.88	$2,767,425.85	$2,940,687.50	$4,960,908.36	$2,020,220.87
2012	332,860	5,949	11,142	1.79%	3.35%	5,193	$4,063,699.37	$7,611,256.67	$3,547,557.30	$2,966,500.54	$5,556,217.37	$2,589,716.83
2013	335,781	6,001	12,479	1.79%	3.72%	6,478	$4,099,370.09	$8,524,607.47	$4,425,237.38	$2,992,540.17	$6,222,963.45	$3,230,423.29
2014	338,729	6,054	13,977	1.79%	4.13%	7,923	$4,135,353.93	$9,547,560.37	$5,412,206.44	$3,018,808.37	$6,969,718.07	$3,950,910.70
2015	341,702	6,107	15,654	1.79%	4.58%	9,547	$4,171,653.62	$10,693,267.61	$6,521,613.99	$3,045,307.15	$7,806,085.36	$4,760,778.21
2016	344,702	6,161	17,533	1.79%	5.09%	11,372	$4,208,271.96	$11,976,459.72	$7,768,187.77	$3,072,038.53	$8,742,815.60	$5,670,777.07
2017	347,727	6,215	19,636	1.79%	5.65%	13,422	$4,245,211.72	$13,413,634.89	$9,168,423.17	$3,099,004.56	$9,791,953.47	$6,692,948.91
2018	350,780	6,269	21,993	1.79%	6.27%	15,724	$4,282,475.74	$15,023,271.08	$10,740,795.34	$3,126,207.29	$10,966,987.89	$7,840,780.60
2019	353,859	6,324	24,632	1.79%	6.96%	18,308	$4,320,066.86	$16,826,063.61	$12,505,996.75	$3,153,646.81	$12,283,026.43	$9,129,377.63
2020	356,965	6,380	27,588	1.79%	7.73%	21,208	$4,357,987.95	$18,845,191.24	$14,487,203.29	$3,181,331.20	$13,756,989.60	$10,575,658.40
2021	360,098	6,436	30,898	1.79%	8.58%	24,463	$4,396,241.90	$21,106,614.19	$16,710,372.29	$3,209,256.59	$15,407,828.36	$12,198,571.77
2022	363,259	6,492	34,606	1.79%	9.53%	28,114	$4,434,831.65	$23,639,407.89	$19,204,576.24	$3,237,427.10	$17,256,767.76	$14,019,340.66
2023	366,448	6,549	38,759	1.79%	10.58%	32,210	$4,473,760.13	$26,476,136.84	$22,002,376.71	$3,265,844.89	$19,327,579.89	$16,061,735.00
2024	369,665	6,607	43,410	1.79%	11.74%	36,803	$4,513,030.32	$29,653,273.26	$25,140,242.94	$3,294,512.13	$21,646,889.48	$18,352,377.34
2025	372,909	6,665	48,619	1.79%	13.04%	41,954	$4,552,645.22	$33,211,666.05	$28,659,020.83	$3,323,431.01	$24,244,516.22	$20,921,085.20
2026	376,183	6,723	54,453	1.79%	14.48%	47,730	$4,592,607.86	$37,197,065.97	$32,604,458.12	$3,352,603.74	$27,153,858.16	$23,801,254.42

Average Year	23,000
Average Fuel	9.0
Annual Fuel C	2070
% Mileage Re	33%
Yearly Fuel Si	683
Cost/Litre	$1.00
Cost of Goods	73%

10 Year Capital Plan - Assuming Matching Provincial Funding

	City Funding			Provincial Matching Funds									
Year	Bike Paths	AT Corridors	Total	Bike Paths	AT Corridors	Total	Total	Cash to Capital	Deficit	Finance Charge	Accumulated Debt	Diverted Twinnings	Twinning Cost Savings	Net Cost
2009	$1,000	$3,000	$4,000	$1,000	$3,000	$4,000	$8,000	$3,395	$605		$605	0	$0	$3,395
2010	$1,120	$3,360	$4,480	$1,120	$3,360	$4,480	$8,960	$3,429	$1,051	$35	$1,691	0	$0	$3,429
2011	$1,254	$3,763	$5,018	$1,254	$3,763	$5,018	$10,035	$3,463	$1,554	$97	$3,342	0	$0	$3,463
2012	$1,405	$4,215	$5,620	$1,405	$4,215	$5,620	$11,239	$3,498	$2,122	$192	$5,656	0	$0	$3,498
2013	$1,574	$4,721	$6,294	$1,574	$4,721	$6,294	$12,588	$3,533	$2,761	$325	$8,743	1	$644	$2,889
2014	$1,762	$5,287	$7,049	$1,762	$5,287	$7,049	$14,099	$3,568	$3,481	$503	$12,224	1	$644	$2,924
2015	$1,974	$5,921	$7,895	$1,974	$5,921	$7,895	$15,791	$3,604	$4,291	$703	$16,516	1	$644	$2,960
2016	$2,211	$6,632	$8,843	$2,211	$6,632	$8,843	$17,685	$3,640	$5,203	$950	$22,668	1	$644	$2,996
2017	$2,476	$7,428	$9,904	$2,476	$7,428	$9,904	$19,808	$3,676	$6,228	$1,303	$30,199	2	$1,288	$2,389
2018	$2,773	$8,319	$11,092	$2,773	$8,319	$11,092	$22,185	$3,713	$7,379	$1,736	$39,315	2	$1,288	$2,425
	$17,549	$52,646	$70,195	$17,549	$52,646	$70,195	$140,390	$35,519	$34,676	$5,845	$39,315		$5,150	$30,369
2019								$3,750		$2,261	$37,825.07	2	$1,288	$2,463
2020								$3,788		$2,175	$36,212.32	2	$1,288	$2,500
2021								$3,826		$2,082	$34,468.96	3	$1,931	$1,894
2022								$3,864		$1,982	$32,587.09	3	$1,931	$1,932
2023								$3,902		$1,874	$30,556.39	3	$1,931	$1,971
2024								$3,941		$1,757	$28,374.00	3	$1,931	$2,010
2025								$3,981		$1,632	$26,024.61	4	$2,575	$1,406
2026								$4,021		$1,496	$23,500.31	4	$2,575	$1,446
2027								$4,061		$1,351	$20,790.65	4	$2,575	$1,486
2028								$4,102		$1,195	$17,884.59	4	$2,575	$1,526
2029								$4,143		$1,028	$14,770.41	4	$2,575	$1,567
2030								$4,184		$849	$11,435.73	5	$3,219	$965
2031								$4,226		$658	$7,867.48	5	$3,219	$1,007
2032								$4,268		$452	$4,051.79	5	$3,219	$1,049
2033								$4,311		$233	-$25.98	5	$3,219	$1,092
								$95,886		$26,870			$41,203	$54,683

Expenditure Growth Rate	12.00%
Cash to Capital Growth Rate	1.00%
Yearly Cash to Capital	$3,395
Interest Rate	5.75%
Cost of Twinning	$10,000
Amatorization Period	40
Yearly Payment	-$644

10 Year Capital Plan - Assuming Current Provincial Funding

	City Funding			Provincial Funds									
Year	Bike Paths	AT Corridors	Total	Bike Paths	AT Corridors	Total	Total	Cash to Capital	Deficit	Finance Charge	Accumulated Debt	Diverted Twinnings	Twinning Cost Savings	Net Cost
2009	$1,000	$6,000	$7,000	$1,000	$0	$1,000	$8,000	$5,941	$1,059		$1,059	0	$0	$5,941
2010	$1,120	$6,720	$7,840	$1,120	$0	$1,120	$8,960	$6,000	$1,840	$61	$2,959	0	$0	$6,000
2011	$1,254	$7,526	$8,781	$1,254	$0	$1,254	$10,035	$6,060	$2,720	$170	$5,850	0	$0	$6,060
2012	$1,405	$8,430	$9,834	$1,405	$0	$1,405	$11,239	$6,121	$3,713	$336	$9,900	0	$0	$6,121
2013	$1,574	$9,441	$11,015	$1,574	$0	$1,574	$12,588	$6,182	$4,832	$569	$15,302	1	$644	$5,538
2014	$1,762	$10,574	$12,336	$1,762	$0	$1,762	$14,099	$6,244	$6,092	$880	$21,394	1	$644	$5,600
2015	$1,974	$11,843	$13,817	$1,974	$0	$1,974	$15,791	$6,306	$7,510	$1,230	$28,904	1	$644	$5,663
2016	$2,211	$13,264	$15,475	$2,211	$0	$2,211	$17,685	$6,370	$9,105	$1,662	$39,671	1	$644	$5,726
2017	$2,476	$14,856	$17,332	$2,476	$0	$2,476	$19,808	$6,433	$10,898	$2,281	$52,851	2	$1,288	$5,146
2018	$2,773	$16,638	$19,412	$2,773	$0	$2,773	$22,185	$6,498	$12,914	$3,039	$68,804	2	$1,288	$5,210
	$17,549	$105,292	$122,841	$17,549	$0	$17,549	$140,390	$62,156	$60,685	$10,229	$68,804		$5,150	$57,006
2019								$6,563		$3,956	$66,197.51	2	$1,288	$5,275
2020								$6,628		$3,806	$63,375.68	2	$1,288	$5,341
2021								$6,694		$3,644	$60,325.31	3	$1,931	$4,763
2022								$6,761		$3,469	$57,032.61	3	$1,931	$4,830
2023								$6,829		$3,279	$53,482.95	3	$1,931	$4,898
2024								$6,897		$3,075	$49,660.91	3	$1,931	$4,966
2025								$6,966		$2,856	$45,550.12	4	$2,575	$4,391
2026								$7,036		$2,619	$41,133.30	4	$2,575	$4,461
2027								$7,106		$2,365	$36,392.15	4	$2,575	$4,531
2028								$7,177		$2,093	$31,307.32	4	$2,575	$4,602
2029								$7,249		$1,800	$25,858.35	4	$2,575	$4,674
2030								$7,322		$1,487	$20,023.56	5	$3,219	$4,103
2031								$7,395		$1,151	$13,780.06	5	$3,219	$4,176
2032								$7,469		$792	$7,103.61	5	$3,219	$4,250
2033								$7,543		$408	-$31.43	5	$3,219	$4,325
								$167,793		$47,030			$41,203	$126,590

Expenditure Growth Rate	12.00%
Cash to Capital Growth Rate	1.00%
Yearly Cash to Capital	$5,941
Interest Rate	5.75%
Cost of Twinning	$10,000
Amatorization Period	40
Yearly Payment	-$644