



COMMONWEALTH AUTOMOBILE REINSURERS

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RALPH A. IANNAO
PRESIDENT

November 11, 2008

Honorable Nonnie S. Burnes
Commissioner of Insurance
Massachusetts Division of Insurance
One South Station
Boston, MA 02110

RE: Amended Private Passenger Residual Market Rate Filing for Policies Effective April 1, 2009 and Later

Dear Commissioner Burnes:

Pursuant to G.L. c. 175, § 113H, G.L. c. 175, § 113A, and 211 CMR 79.00, Commonwealth Automobile Reinsurers (CAR) hereby amends its filing of rates for policies written through the Massachusetts Automobile Insurance Plan (MAIP) with effective dates on and after April 1, 2009. The filing has been amended to add references as requested by the State Rating Bureau, as well as to correct loss data underlying the calculation of increased limits factors. The attached pages designated with page numbers ending in "R" should replace the corresponding pages in the original filing, and those ending in "A", "B", or "C" should be added to the filing.

CAR is prepared to discuss the issues addressed in this filing as you may request.

Very truly yours,

A handwritten signature in black ink that reads "Ralph A. Iannaco". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ralph A. Iannaco
President

Enclosures

cc: Docket Clerk – Division of Insurance
Mr. Kevin Beagan – State Rating Bureau
Honorable Martha Coakley – Attorney General

Massachusetts Private Passenger Automobile**Introduction**

This filing, representing the rate level recommendation for the private passenger automobile insurance residual market, is submitted pursuant to 211 CMR 79.00 with a proposed effective date of 4/1/2009. The indicated rate level developed in this filing represents the analysis of the combined involuntary experience of all companies servicing the residual market through CAR. The rates, subject to G.L. Ch. 175, sec. 113H, are applicable to risks assigned through the Massachusetts Automobile Insurance Plan (MAIP).

The attached Form 110/100 summarizes the overall +11.4% proposed rate level change for the Massachusetts private passenger automobile insurance residual market.¹ The indicated average rate for 4/1/2009 relies on the experience for the total residual market business and the expected expense to write and service that business. The proposed base rate level changes conform to the requirements of DOI Bulletin 2008-09 issued on August 22, 2008, including the new application of SDIP to optional BI. Changes are also proposed for the following rating factors:

- model year/symbol relativities (100M)
- increased limits (101)
- deductible relativities (100M)

The current merit rating plan and policy discounts are unchanged with this filing, except for the passive restraint discount. With more than 95% of vehicles eligible for the passive restraint discount and lack of justification for the long-standing 25% discount, there is little value in continuing to offer this discount. Proposed rates for the coverages affected (PIP, MedPay, U-1, and U-2) are properly adjusted to reflected the removal of the discount (see 100K and 100L).

In 2007 the residual market accounted for over \$250 million of premium, just over 6.5% of the total market, for roughly 180,000 vehicles. Absent any empirical results

¹ The MAIP became effective on 4/1/2008 on a transitional basis. It will be fully implemented beginning with policies effective 4/1/2009. Data for risks written under MAIP is not yet available; this filing relies on the historical experience for risks written in the facility market as representative of expected MAIP business.

**Massachusetts Private Passenger Automobile
Summary of 4/1/2009 CAR Manual Rate Changes**

Coverage	2007		2008		4/1/2009		Proposed Average Manual Rates	Proposed Change
	Earned Exposures	Manual Rates	Average Manual Rates	Indicated Average Manual Rates	Indicated Change	Indicated Change		
A-1, 20/40	179,384.3	386.28	534.80	424.74	38.4%	424.74	10.0%	
A-2, PIP	177,279.4	116.05	190.62	127.66	64.3%	127.66	10.0%	
B, 20/40	175,956.6	49.19	92.25	48.79	87.5%	48.79	-0.8%	
B, Excess	64,570.3	169.05	281.73	212.76	66.7%	212.76	25.9%	
PDL, Basic	179,384.3	392.48	483.13	431.41	23.1%	431.41	9.9%	
PDL, Excess	173,914.8	109.03	143.77	128.38	31.9%	128.38	17.7%	
Collision 500	94,815.3	594.43	870.72	630.61	46.5%	630.61	6.1%	
Ltd Coll 500	2,939.2	25.42	73.75	50.45	190.1%	50.45	98.5%	
Med Prmts Basic	55,472.9	23.79	47.55	47.88	99.9%	47.88	101.3%	
Comp 500	110,000.0	128.19	198.01	139.14	54.5%	139.14	8.5%	
U-1, 20/40	179,384.3	11.15	38.58	20.52	246.0%	20.52	84.0%	
U-2, Total	179,384.3	7.47	7.32	7.28	-2.0%	7.28	-2.5%	
U-1, Excess	51,189.5	4.54	13.62	7.24	200.0%	7.24	59.5%	
Subs Trans	61,479.7	83.29	111.34	111.70	33.7%	111.70	34.1%	
AVERAGE MANUAL RATE		1557.29	2223.11	1733.64	42.8%	1733.64	11.3%	
Bodily Injury Coverages		637.34	979.57	720.02	53.7%	720.02	13.0%	
Property Damage Coverages		919.95	1243.53	1013.62	35.2%	1013.62	10.2%	
Compulsory Coverages		904.60	1244.89	1002.83	37.6%	1002.83	10.9%	
Annual Statement Liability		1135.53	1602.09	1275.89	41.1%	1275.89	12.4%	
Annual Statement Phys Dam		421.76	621.02	457.75	47.2%	457.75	8.5%	

Combined Ratios:	Bodily Injury Coverages	Property Damage Coverages	All Coverages
	98.9%	97.7%	98.2%
	134.5%	119.8%	125.9%

Notes: Assumed Average Excess Limits Factors: B PDL U-1
 Current Average Rates (100J) 0.3882 0.2778 0.4071
 Indicated & Proposed Average Rates (101) 0.4493 0.2976 0.3530

¹ Proposed average manual rates (basic limit & standard deductible) estimated from proposed manual base rates (100K, 100L calculated in accordance with DOI Bulletin 2008-09) and estimated average rating factors. Ltd. Collision = 8% x Collision.

**Massachusetts Private Passenger Automobile
Summary of Indicated Rate Components by Coverage**

4/1/2009 CAR
Form 100

	<u>A-1</u>	<u>A-2</u>	<u>B Basic</u>	<u>PDL</u>	<u>Coll</u>	<u>Ltd Coll</u>	<u>Med Pay</u>	<u>Comp</u>	<u>U-1</u>
1) 2007 Loss Pure Premium (100A)	385.04	206.30	67.14	304.14	607.83	75.56	19.28	130.58	28.14
2) Loss Development Factor (100B)	0.9355	0.6275	0.9355	1.0117	0.9161	0.5970	1.3469	1.0177	0.9081
3) Pure Premium Trend Factor (100CD)	1.0000	0.9843	1.0000	1.0673	1.1693	1.1693	1.2618	0.9889	1.0000
4) Claim Adj Expense Factor (100E)	1.1500	1.1500	1.1500	1.1500	1.2000	1.2000	1.1500	1.2000	1.1500
5) Indicated Loss Pure Premium (1) x (2) x (3) x (4)	414.24	146.53	72.23	377.67	781.33	63.30	37.68	157.70	29.39
6) Company Expense Pure Premium									
A) 2007 Experience Pure Prem (100F)	30.04	11.73	4.47	24.46	47.93	3.15	1.90	14.72	2.62
B) Company Expense Trend Factor (100G)	1.092	1.092	1.092	1.092	1.092	1.092	1.092	1.092	1.092
C) Company Expense Pure Prem (6A) x (6B)	32.80	12.81	4.88	26.71	52.34	3.44	2.07	16.07	2.86
7) Commission Expense Ratio	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
8) Premium Tax	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%
9) U/W Profit Provision (100H)	1.11%	1.11%	1.11%	1.00%	3.70%	3.70%	1.11%	3.70%	1.11%
10) Average Indicated Actuarial Premium ((5) + (6C)) / (1-((7)+(8)+(9))))	534.80	190.62	92.25	483.13	1029.22	82.40	47.55	214.53	38.58
11) Drift Reduction Factor (100I)	1.000	1.000	1.000	1.000	0.846	0.895	1.000	0.923	1.000
12) Average Indicated Actuarial Rate (10) x (11)	534.80	190.62	92.25	483.13	870.72	73.75	47.55	198.01	38.58

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**Massachusetts Private Passenger Automobile
Determination of Loss Pure Premiums
Accident Year 2007 Data
Facility Market**

	<u>A-1, 20/40</u>	<u>A-2, PIP (Full Covg.)</u>	<u>B, Basic</u>	<u>PDL, Basic</u>	<u>Collision (up to \$500 Ded.)</u>	<u>Ltd. Collision (up to \$500 Ded.)</u>	<u>D, Medical</u>	<u>Comp. (up to \$500 Ded.)</u>	<u>U-1, Uninsured, 20/40</u>
1. 2007 Calendar Year Earned Exposures	179,384.3	177,279.4	175,956.6	179,384.3	94,815.3	2,939.2	55,472.9	110,000.0	179,384.3
2. 2007 Accident Year Incurred/Paid Losses	66,973,788	33,718,146	11,419,004	54,162,882	57,631,133	222,100	1,055,448	14,250,706	4,804,365
3. 2007 Accident Year Total Limits Incurred DCCE	3,041,049	2,855,242	571,520	395,872	-	-	13,844	-	244,035
4. Basic DCCE Proportion 101A-3, p.2	0.689	-	0.689	-	-	-	-	-	-
5. DCCE assigned to basic layer (3)*(4)	2,095,801	-	393,875	-	-	-	-	-	-
6. 2007 Incurred (Paid) Claims	8,184	11,298	1,321	28,603	19,498	137	283	20,029	601
7. 2007 Pure Premium ((2)+(3))/(1), A-1 & B: ((2)+(5))/(1)	385.04	206.30	67.14	304.14	607.83	75.56	19.28	129.55	28.14
8. Factor to Remove Excess Experience Current Year 100A-2, ex.2, p.1	-	-	-	-	-	-	-	0.9978	-
9. Excess Loading Factor 100A-2, ex.1, p.1	-	-	-	-	-	-	-	1.010	-
10. Pure Premium Adjusted For Excess (7) x (8) x (9)	385.04	206.30	67.14	304.14	607.83	75.56	19.28	130.58	28.14

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4/1/2009 CAR
100 F-1

Massachusetts Private Passenger Automobile Calculation of Expense Pure Premium by Coverage Facility Market

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<u>Projected</u>	<u>Estimated</u>	<u>Current Loss</u>	<u>Total</u>	<u>2007</u>	<u>2007</u>	<u>2007</u>	<u>2007</u>	<u>2007</u>
	<u>Percent</u>	<u>Coverage</u>	<u>Pure</u>	<u>Collectible Pure</u>	<u>Total Company</u>	<u>Company</u>	<u>Proposed</u>	<u>Basic Limit</u>	<u>Company</u>
	<u>Purchasing</u>	<u>Purchasing</u>	<u>Premium</u>	<u>Premium</u>	<u>Expenses</u>	<u>Expense</u>	<u>Average</u>	<u>Company</u>	<u>Expense</u>
<u>Coverage</u>	<u>Optional</u>	<u>Pattern</u>	<u>Premium</u>	<u>(current)</u>	<u>Expenses</u>	<u>Premium</u>	<u>Limits Factor</u>	<u>Premium</u>	<u>Premium</u>
				(2) x (3)		(3) x (6)		(7) / (8)	
Liability									
A-1 , Basic	1.0000	179,384.4	429.40	\$88,558,491		\$35.25	1.1733	\$30.04	
A-2 PIP	1.0000	179,384.4	164.23	\$29,460,300		\$11.73		\$11.73	
B, Basic	0.9809	175,956.7	63.86	\$12,918,742		\$5.24	1.1733	\$4.47	
PDL, Basic	1.0000	179,384.4	347.69	\$79,203,594		\$31.53	1.2890	\$24.46	
D, Med Pay	0.3509	62,946.0	26.65	\$1,677,511		\$1.90		\$1.90	
U-1 , Basic	1.0000	179,384.4	36.14	\$7,311,708		\$2.91	1.1108	\$2.62	
Total		179,384.4		\$219,130,346	\$15,645,391	7.14%	\$87.23		\$73.90
Physical Damage									
Collision	0.5950	106,733.7		\$68,670,339				\$47.93	
Limited Colli;	0.0161	2,888.1		\$122,137				\$3.15	
Comprehensi	0.6750	121,084.5		\$23,922,659				\$14.72	
Total		121,084.5		\$92,715,136	\$6,909,930	7.45%			\$57.05

Sources: (1) 100F-4 Page 1
 (2) (1) x 2007 Compulsory Earned Exposures (179,384.4)
 (3) 4/1/2008 MAIP Filing Form 100 Line 5 and 100J
 (5) 100 F-2
 (8) 101A, 101B, and 101C

**Massachusetts Private Passenger Automobile
Calculation of Symbol Drift Period
Facility Market**

<u>Month</u>	<u>Written Exposures*</u>		<u>Index</u>
	<u>2007</u>	<u>2009</u>	
January 15	16,592		0.5
February 15	13,457		1.5
March 15	13,186		2.5
April 15	14,087	14,087	3.5
May 15	14,933	14,933	4.5
June 15	14,785	14,785	5.5
July 15	15,053	15,053	6.5
August 15	16,754	16,754	7.5
September	15,789	15,789	8.5
October 15	16,390	16,390	9.5
November 15	15,111	15,111	10.5
December 15	11,507	11,507	11.5
January 15		16,592	12.5
February 15		13,457	13.5
March 15		13,186	14.5
Total	177,643	177,643	
Average Month Index (as fraction of year)	5.988 0.499	8.908 0.742	
Average Effective Date	2007.499	2009.742	
Symbol Drift Period		2.243	

* Written exposures taken from Exhibit 100 CD-2

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Massachusetts Private Passenger Automobile Determination of Current Average Rates Effective 4/1/2008, Adjusted to 2007 Written Exposure Base Facility Market

(A) Coverage	(B) 2008 Average Manual Rates	(C) 2008 Average Base Rates	(E) Discount Factors for:					(H) Public Transit	(I) SDIP Effect Offset	(J) 2008 Average Rates	(K) Average Model Year \ Symbol Relativity Factor	(L) 2008 Average Rates Adj. for Age/Symbol Rel
			(D) Annual Mileage or Antitheft	(F) Passive Restraint	(G) Senior Citizen	(E) Multi-Car	(F) Passive Restraint					
A-1, 20/40 Limits	\$378.74	\$296.26	0.997	0.987	1.000	1.000	1.000	1.325	\$386.28	1.0000	\$386.28	
A-2	\$114.22	\$116.52	0.997	0.987	0.761	1.000	1.000	1.330	\$116.05	1.0000	\$116.05	
B, 20/40 Limits	\$ 48.79	\$ 49.99	0.997	0.987	1.000	1.000	1.000	1.000	\$ 49.19	1.0000	\$ 49.19	
B, Excess Limits	\$161.52	\$134.41	0.997	0.987	1.000	1.000	0.997	1.330	\$169.05	1.0000	\$169.05	
PDL, Basic Limits	\$384.08	\$300.79	0.997	0.987	1.000	1.000	0.997	1.330	\$392.48	1.0000	\$392.48	
PDL, Excess Limits	\$106.54	\$ 83.56	0.997	0.987	1.000	1.000	0.997	1.330	\$109.03	1.0000	\$109.03	
Collision, \$500 Deductible	\$558.70	\$425.89	0.997	0.986	1.000	1.000	0.997	1.373	\$573.11	1.0372	\$594.43	
Lmt. Collision, \$500 Deductible	\$ 24.71	\$ 35.22	0.997	0.990	1.000	1.000	1.000	1.000	\$ 34.76	0.7313	\$ 25.42	
Medical Payments, \$5000 Limit	\$ 23.94	\$ 32.00	0.997	1.000	0.761	0.980	1.000	1.000	\$ 23.79	1.0000	\$ 23.79	
Comprehensive, \$500 Deductible	\$129.04	\$145.08	0.884	0.985	1.000	1.000	1.000	1.000	\$126.33	1.0147	\$128.19	
U-1, 20/40 Limits	\$ 11.55	\$ 15.00	0.997	1.000	0.761	0.980	1.000	1.000	\$ 11.15	1.0000	\$ 11.15	
U-2, Total Limits	\$ 5.79	\$ 10.04	0.997	1.000	0.761	0.980	1.000	1.000	\$ 7.47	1.0000	\$ 7.47	
U-1, Excess Limits	\$ 4.63	\$ 6.11	0.997	1.000	0.761	0.980	1.000	1.000	\$ 4.54	1.0000	\$ 4.54	
Substitute Transportation	\$ 83.07	\$ 84.99	1.000	1.000	1.000	0.980	1.000	1.000	\$ 83.29	1.0000	\$ 83.29	

NOTES :

- Column (B) All values for basic limits come from the 4/1/2008 Form 110.
- Column (B) & (C) Excess limit factors (shown below) are calculated on pages 3, 4, and 5.
- Column (C) Medical Payments, Sub. Tran. and U-1 basic limit coverages from the current MAIP rates Exhibit 100L effective 4/1/2008
- Columns (D) (E) (F) (G)(H)&(I) See Memorandum text.
- Column (J) $(C) \times (D) \times (E) \times (F) \times (G) \times (H) \times (I)$
- Column (K) Exhibit 5 pages 1, 2, and 3.
- Column (L) $(J) \times (K)$

Coverage: B PDL
Average Excess Limit Factor: 0.3882 0.2778
U-1
0.4071

Massachusetts Private Passenger Automobile
Facility Market
Calculation of Average Model Year/Symbol Relatives

Calendar Year 2007 Written Exposures - \$500 Deductible Collision Coverages

Symbol	Model Year													Total		
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990		1989 & Prior	
1	1.246.5	1.8	1.3	1.4	0.0	0.2	2.8	1.1	1.0	1.7	1.0	0.8	0.0	6.1	2.0	21.2
2	0.7710	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	0.2	49.9
3	0.8160	0.0	0.0	0.4	0.0	0.0	0.0	5.7	8.1	0.0	0.0	13.6	0.0	120.1	5.8	153.7
4	0.8640	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.2	0.0	405.5	8.8	664.3
5	0.9160	0.9	2.2	1.8	0.1	7.2	9.3	19.1	31.2	40.1	17.5	102.2	0.0	598.5	6.9	962.5
6	0.9710	4.8	71.3	25.7	59.8	23.1	145.5	58.2	92.3	177.2	33.8	278.2	0.0	659.5	17.2	1,864.8
7	1.0360	47.6	252.1	36.4	128.9	122.3	145.5	145.2	153.3	256.5	98.2	165.1	0.0	710.8	33.0	2,293.9
8	1.0930	81.2	399.1	224.2	301.2	435.1	529.8	479.7	533.7	708.0	297.8	196.9	0.0	1,194.0	81.2	5,156.8
9	1.1500	46.5	280.8	406.1	601.2	766.4	875.8	680.4	631.4	649.3	437.3	532.9	0.0	1,681.0	56.8	6,794.5
10	1.2070	66.0	531.9	574.1	969.2	1,143.1	1,210.2	1,435.6	1,112.7	1,145.5	558.3	232.6	0.0	1,018.9	31.2	6,756.7
11	1.2640	103.2	770.0	653.4	1,168.8	897.4	1,112.7	1,231.7	833.8	970.4	632.1	996.8	0.0	1,048.9	28.9	10,536.9
12	1.3210	258.7	1,190.2	739.9	739.9	767.3	853.1	1,048.9	1,123.1	929.0	690.2	497.9	0.0	944.1	27.3	9,801.7
13	1.3780	156.5	624.0	581.0	831.2	1,048.9	1,226.8	1,058.1	1,152.1	609.4	522.1	459.6	0.0	944.1	22.0	9,550.8
14	1.4350	75.9	501.7	576.3	836.7	976.2	954.5	772.8	547.0	653.9	582.4	440.0	0.0	677.3	16.3	8,963.3
15	1.4920	107.1	320.1	556.4	721.2	716.6	720.4	556.4	426.7	426.7	472.4	248.3	0.0	621.7	16.2	7,555.3
16	1.5490	74.8	199.1	573.6	266.6	498.0	491.8	416.7	618.1	628.4	374.8	269.2	0.0	646.5	23.7	6,092.7
17	1.6060	45.4	179.3	280.4	152.4	381.2	197.9	345.9	451.9	360.6	164.7	255.2	0.0	475.9	12.3	4,899.3
18	1.6630	39.2	160.1	170.8	181.6	164.1	202.9	285.8	212.2	301.6	361.5	127.7	0.0	207.4	8.9	2,423.8
19	1.7200	30.6	208.0	116.7	67.8	117.8	106.8	138.7	197.2	206.5	119.4	43.6	0.0	127.7	8.2	1,526.6
20	1.7770	16.1	55.2	77.0	51.8	46.8	63.6	23.1	66.9	154.1	107.4	95.6	0.0	104.3	0.0	1,002.8
21	1.8340	14.2	42.3	34.7	26.4	37.4	30.8	29.0	102.1	39.2	47.8	64.5	0.0	106.9	0.0	621.1
22	1.8910	7.2	23.8	24.6	18.1	23.2	9.3	14.8	19.2	15.1	41.7	15.6	0.0	86.3	0.0	357.3
23	1.9480	4.3	21.9	18.5	10.3	23.2	15.6	19.7	30.5	26.2	12.1	4.7	0.0	34.5	0.0	205.6
24	2.0050	1.8	15.8	19.8	10.3	10.8	13.6	19.7	27.3	22.9	10.0	15.5	0.0	53.7	0.0	214.1
25	2.0620	4.3	6.2	19.8	19.1	9.5	21.1	15.7	27.3	3.9	2.8	2.8	0.0	45.1	0.0	190.6
26	2.1190	3.1	31.8	24.3	19.1	9.5	21.1	15.7	27.3	3.9	2.8	2.8	0.0	45.1	0.0	190.6
27	2.1760	3.6	31.8	24.3	19.1	9.5	21.1	15.7	27.3	3.9	2.8	2.8	0.0	45.1	0.0	190.6
Average	1.5080	1.3808	1.3695	1.3695	1.2305	1.1874	1.0987	1.0409	1.0126	0.9429	0.8855	0.8275	0.6775	0.4960	0.4644	0.4644

Current Flattened Model-Year/Symbol Relatives Balanced to 2007 Written Exposures * - Collision Coverages

Symbol	Model Year													Average	
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990		1989 & Prior
1	0.7280	0.6930	0.6600	0.6280	0.5990	0.5700	0.5420	0.5190	0.4950	0.4730	0.4520	0.4320	0.3830	0.1110	0.4644
2	0.7710	0.7330	0.6970	0.6640	0.6320	0.6010	0.5740	0.5470	0.5210	0.4980	0.4760	0.4550	0.4030	0.1290	0.4105
3	0.8160	0.7760	0.7370	0.7010	0.6670	0.6350	0.6050	0.5760	0.5500	0.5250	0.5010	0.4780	0.4230	0.1520	0.4281
4	0.8640	0.8210	0.7800	0.7420	0.7050	0.6720	0.6390	0.6080	0.5800	0.5530	0.5270	0.5030	0.4440	0.1820	0.4681
5	0.9160	0.8700	0.8260	0.7850	0.7460	0.7100	0.6750	0.6430	0.6120	0.5830	0.5560	0.5300	0.4670	0.2150	0.5045
6	0.9710	0.9210	0.8750	0.8310	0.7900	0.7510	0.7140	0.6800	0.6470	0.6160	0.5860	0.5590	0.4920	0.2510	0.5827
7	1.0300	0.9770	0.9280	0.8800	0.8360	0.7940	0.7550	0.7180	0.6830	0.6500	0.6190	0.5900	0.5180	0.2950	0.6705
8	1.0930	1.0360	0.9830	0.9330	0.8860	0.8410	0.8000	0.7600	0.7220	0.6870	0.6540	0.6220	0.5450	0.3490	0.7131
9	1.1600	1.0990	1.0420	0.9890	0.9380	0.8910	0.8470	0.8040	0.7640	0.7270	0.6910	0.6570	0.5750	0.4090	0.7884
10	1.2320	1.1670	1.1060	1.0490	0.9950	0.9450	0.8960	0.8510	0.8080	0.7680	0.7310	0.6960	0.6080	0.4860	0.8394
11	1.3080	1.2390	1.1750	1.1130	1.0560	1.0010	0.9510	0.9020	0.8560	0.8140	0.7730	0.7360	0.6410	0.5110	0.8922
12	1.3900	1.3160	1.2470	1.1820	1.1210	1.0630	1.0080	0.9560	0.9080	0.8620	0.8180	0.7780	0.6780	0.5450	0.9755
13	1.4770	1.3990	1.3250	1.2550	1.1890	1.1280	1.0690	1.0140	0.9620	0.9130	0.8670	0.8240	0.7170	0.5830	1.0545
14	1.5700	1.4870	1.4080	1.3330	1.2630	1.1970	1.1350	1.0760	1.0200	0.9680	0.9190	0.8720	0.7580	0.6170	1.1041
15	1.6700	1.5800	1.4960	1.4170	1.3420	1.2710	1.2040	1.1420	1.0820	1.0280	0.9740	0.9240	0.8020	0.6590	1.1695
16	1.7760	1.6810	1.5970	1.5060	1.4260	1.3500	1.2790	1.2120	1.1490	1.0890	1.0330	0.9800	0.8490	0.7000	1.2405
17	1.8910	1.8150	1.7180	1.6260	1.5460	1.4680	1.3910	1.3180	1.2410	1.1770	1.1160	1.0580	0.9090	0.7450	1.3092
18	2.0240	1.9330	1.8300	1.7310	1.6390	1.5520	1.4710	1.3940	1.3210	1.2530	1.1880	1.1270	0.9610	0.7850	1.3889
19	2.2000	2.1010	1.9990	1.8820	1.7820	1.6870	1.5990	1.5150	1.4360	1.3620	1.2920	1.2250	1.0350	0.8450	1.4992
20	2.3970	2.2690	2.1480	2.0330	1.9240	1.8220	1.7260	1.6360	1.5510	1.4710	1.3950	1.3230	1.1090	0.9000	1.6357
21	2.5750	2.4370	2.3070	2.1830	2.0670	1.9570	1.8540	1.7580	1.6660	1.5800	1.4980	1.4210	1.1840	0.9600	1.7282
22	2.7530	2.6050	2.4660	2.3340	2.2100	2.0920	1.9820	1.8790	1.7810	1.6890	1.6020	1.5190	1.2570	0.9900	1.8177
23	3.0190	2.8570	2.7050	2.5590	2.4230	2.2950	2.1740	2.0610	1.9530	1.8520	1.7570	1.6660	1.3690	0.9900	1.9810
24	3.2850	3.1090	2.9430	2.7850	2.6370	2.5000	2.3660	2.2420	2.1260	2.0160	1.9120	1.8130	1.4810	0.9900	2.2200
25	3.5520	3.3610	3.1820	3.0110	2.8510	2.7000	2.5580	2.4240	2.2980	2.1790	2.0670	1.9600	1.5920	0.9900	2.2608
26	3.8180	3.6140	3.4210	3.2370	3.0650	2.9020	2.7490	2.6060	2.4700	2.3420	2.2220	2.1070	1.7030	0.9900	2.6651
27	4.0840	3.8700	3.6770	3.4930	3.3200	3.1570	2.9940	2.8310	2.6680	2.5150	2.3620	2.2090	1.7950	0.9900	2.7103
Average	1.5080	1.3808	1.3695	1.3695	1.2305	1.1874	1.0987	1.0409	1.0126	0.9429	0.8855	0.8275	0.6775	0.4960	0.4644

* From the current MAIP rates. Section 100M, Exhibit 1 page 1 and Exhibit 2 page 1 effective 4/1/2008.

Massachusetts Private Passenger Automobile
Calculation of Average Model Year/Symbol Relativities
Facility Market

Calendar Year 2007 Written Exposures - \$500 Deductible Limited Collision Coverages

Symbol	2009	Model Year														1989 & Prior	Total
		2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990				
1	0.6930	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.7710	0.7330	0.6640	0.6320	0.5990	0.5700	0.5430	0.5190	0.4950	0.4730	0.4520	0.4320	0.3830	0.4030	0.4290	0.1110	0.0000
3	0.8160	0.7760	0.7370	0.6670	0.6350	0.6010	0.5740	0.5470	0.5210	0.4980	0.4760	0.4550	0.4030	0.4230	0.1520	0.1290	0.4030
4	0.8640	0.8210	0.7800	0.7420	0.7050	0.6720	0.6390	0.6080	0.5800	0.5530	0.5270	0.5030	0.4440	0.4670	0.1820	0.1520	0.4266
5	0.9160	0.8700	0.8260	0.7850	0.7460	0.7100	0.6750	0.6430	0.6120	0.5830	0.5560	0.5300	0.4440	0.4670	0.1820	0.1520	0.4266
6	0.9710	0.9210	0.8750	0.8310	0.7900	0.7510	0.7140	0.6800	0.6470	0.6160	0.5860	0.5590	0.4920	0.5160	0.2510	0.2150	0.4795
7	1.0300	0.9770	0.9280	0.8800	0.8360	0.7940	0.7550	0.7180	0.6830	0.6500	0.6190	0.5900	0.5180	0.5450	0.2950	0.2510	0.5106
8	1.0930	1.0360	0.9830	0.9330	0.8860	0.8410	0.8000	0.7600	0.7220	0.6850	0.6540	0.6230	0.5450	0.5750	0.3490	0.3050	0.5689
9	1.1600	1.0990	1.0420	0.9890	0.9380	0.8910	0.8470	0.8040	0.7640	0.7270	0.6910	0.6570	0.5750	0.6080	0.4090	0.3650	0.6093
10	1.2320	1.1670	1.1060	1.0490	0.9950	0.9450	0.8960	0.8510	0.8080	0.7680	0.7310	0.6960	0.6080	0.6410	0.4860	0.4420	0.6554
11	1.3080	1.2390	1.1750	1.1130	1.0560	1.0010	0.9510	0.9020	0.8560	0.8140	0.7730	0.7360	0.6410	0.6780	0.5170	0.4730	0.7290
12	1.3900	1.3160	1.2470	1.1820	1.1210	1.0630	1.0080	0.9560	0.9080	0.8620	0.8180	0.7780	0.6780	0.7200	0.5600	0.5160	0.7880
13	1.4770	1.3990	1.3250	1.2550	1.1890	1.1280	1.0690	1.0140	0.9620	0.9130	0.8670	0.8240	0.7170	0.7620	0.6030	0.5600	0.8452
14	1.5700	1.4870	1.4080	1.3330	1.2630	1.1970	1.1350	1.0760	1.0200	0.9680	0.9190	0.8720	0.7580	0.8050	0.6460	0.6030	0.9030
15	1.6700	1.5800	1.4960	1.4170	1.3420	1.2710	1.2040	1.1420	1.0820	1.0260	0.9740	0.9240	0.8020	0.8500	0.6910	0.6480	0.9610
16	1.7760	1.6810	1.5910	1.5060	1.4260	1.3500	1.2840	1.2210	1.1620	1.1060	1.0530	0.9800	0.8490	0.8980	0.7400	0.7000	1.0190
17	1.8880	1.8150	1.7180	1.6260	1.5400	1.4580	1.3810	1.3090	1.2410	1.1770	1.1160	1.0580	0.9090	0.9600	0.8030	0.7650	1.0819
18	2.0120	1.9300	1.8300	1.7310	1.6390	1.5520	1.4710	1.3940	1.3210	1.2530	1.1880	1.1270	0.9610	1.0130	0.8570	0.8200	1.1456
19	2.1480	2.0500	1.9480	1.8420	1.7390	1.6460	1.5590	1.4760	1.3980	1.3260	1.2550	1.1900	1.0130	1.0660	0.9110	0.8750	1.2100
20	2.2960	2.1890	2.0780	1.9630	1.8520	1.7460	1.6460	1.5510	1.4610	1.3760	1.2920	1.2250	1.0350	1.0880	0.9340	0.9000	1.2750
21	2.4560	2.3410	2.2200	2.0970	1.9800	1.8680	1.7610	1.6590	1.5620	1.4710	1.3850	1.3200	1.1200	1.1730	1.0190	0.9850	1.3400
22	2.6280	2.5050	2.3780	2.2500	2.1280	2.0110	1.8990	1.7910	1.6880	1.5900	1.4980	1.4210	1.2110	1.2640	1.1100	1.0760	1.4050
23	2.8120	2.6800	2.5460	2.4140	2.2870	2.1700	2.0580	1.9510	1.8480	1.7500	1.6580	1.5710	1.3510	1.4040	1.2500	1.2160	1.4700
24	3.0080	2.8700	2.7300	2.5920	2.4580	2.3350	2.2160	2.1030	2.0000	1.9020	1.8090	1.7220	1.4920	1.5450	1.3910	1.3570	1.5350
25	3.2160	3.0700	2.9250	2.7820	2.6440	2.5150	2.3900	2.2760	2.1710	2.0710	2.0000	1.9250	1.6950	1.7480	1.5940	1.5600	1.6000
26	3.4360	3.2850	3.1350	2.9880	2.8460	2.7150	2.5950	2.4850	2.3820	2.2820	2.1950	2.1200	1.8900	1.9430	1.7890	1.7550	1.6600
27	3.6680	3.5180	3.3610	3.2110	3.0650	2.9290	2.8020	2.6840	2.5820	2.4850	2.3920	2.3200	2.0900	2.1430	1.9890	1.9550	1.7600
Average	2.1010	1.5620	1.3550	1.2457	1.0979	1.0732	0.9525	0.8912	0.8606	0.7904	0.6386	0.7313	0.0000	0.4946	0.0000	0.0000	0.7313

Current Flattened Model-Year/Symbol Relativities Balanced to 2007 Written Exposures * - Limited Collision Coverages

Symbol	2009	Model Year														1989 & Prior	Average
		2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990				
1	0.7280	0.6600	0.6280	0.5990	0.5700	0.5430	0.5190	0.4950	0.4730	0.4520	0.4320	0.3830	0.4030	0.4290	0.1110	0.0000	
2	0.7710	0.7330	0.6640	0.6320	0.5990	0.5700	0.5430	0.5190	0.4950	0.4730	0.4520	0.4320	0.3830	0.4030	0.1290	0.0000	
3	0.8160	0.7760	0.7370	0.6670	0.6350	0.6010	0.5740	0.5470	0.5210	0.4980	0.4760	0.4550	0.4030	0.4230	0.1520	0.0000	
4	0.8640	0.8210	0.7800	0.7420	0.7050	0.6720	0.6390	0.6080	0.5800	0.5530	0.5270	0.5030	0.4440	0.4670	0.1820	0.0000	
5	0.9160	0.8700	0.8260	0.7850	0.7460	0.7100	0.6750	0.6430	0.6120	0.5830	0.5560	0.5300	0.4440	0.4670	0.1820	0.0000	
6	0.9710	0.9210	0.8750	0.8310	0.7900	0.7510	0.7140	0.6800	0.6470	0.6160	0.5860	0.5590	0.4920	0.5160	0.2510	0.0000	
7	1.0300	0.9770	0.9280	0.8800	0.8360	0.7940	0.7550	0.7180	0.6830	0.6500	0.6190	0.5900	0.5180	0.5450	0.2950	0.0000	
8	1.0930	1.0360	0.9830	0.9330	0.8860	0.8410	0.8000	0.7600	0.7220	0.6850	0.6540	0.6230	0.5450	0.5750	0.3490	0.0000	
9	1.1600	1.0990	1.0420	0.9890	0.9380	0.8910	0.8470	0.8040	0.7640	0.7270	0.6910	0.6570	0.5750	0.6080	0.4090	0.0000	
10	1.2320	1.1670	1.1060	1.0490	0.9950	0.9450	0.8960	0.8510	0.8080	0.7680	0.7310	0.6960	0.6080	0.6410	0.4860	0.0000	
11	1.3080	1.2390	1.1750	1.1130	1.0560	1.0010	0.9510	0.9020	0.8560	0.8140	0.7730	0.7360	0.6410	0.6780	0.5170	0.0000	
12	1.3900	1.3160	1.2470	1.1820	1.1210	1.0630	1.0080	0.9560	0.9080	0.8620	0.8180	0.7780	0.6780	0.7200	0.5600	0.0000	
13	1.4770	1.3990	1.3250	1.2550	1.1890	1.1280	1.0690	1.0140	0.9620	0.9130	0.8670	0.8240	0.7170	0.7620	0.6030	0.0000	
14	1.5700	1.4870	1.4080	1.3330	1.2630	1.1970	1.1350	1.0760	1.0200	0.9680	0.9190	0.8720	0.7580	0.8050	0.6460	0.0000	
15	1.6700	1.5800	1.4960	1.4170	1.3420	1.2710	1.2040	1.1420	1.0820	1.0260	0.9740	0.9240	0.8020	0.8500	0.6910	0.0000	
16	1.7760	1.6810	1.5910	1.5060	1.4260	1.3500	1.2840	1.2210	1.1620	1.1060	1.0530	0.9800	0.8490	0.8980	0.7400	0.0000	
17	1.8880	1.8150	1.7180	1.6260	1.5400	1.4580	1.3810	1.3090	1.2410	1.1770	1.1160	1.0580	0.9090	0.9600	0.8030	0.0000	
18	2.0120	1.9300	1.8300	1.7310	1.6390	1.5520	1.4710	1.3940	1.3210	1.2530	1.1880	1.1270	0.9610	1.0130	0.8570	0.0000	
19	2.1480	2.0500	1.9480	1.8420	1.7390	1.6460	1.5590	1.4760	1.3980	1.3260	1.2550	1.1900	1.0130	1.0660	0.9110	0.0000	
20	2.2960	2.1890	2.0780	1.9630	1.8520	1.7460	1.6460	1.5510	1.4610	1.3760	1.2920	1.2250	1.0350	1.0880	0.9340	0.0000	
21	2.4560	2.3410	2.2200	2.0970	1.9800	1.8680	1.7610	1.6590	1.5620	1.4710	1.3850	1.3200	1.1200	1.1730	1.0190	0.0000	
22	2.6280	2.5050	2.3780	2.2500	2.1280	2.0110	1.8990	1.7910	1.6880	1.5900	1.4980	1.4210	1.2110	1.2640	1.1100	0.0000	
23	2.8120	2.6800	2.5460	2.4140	2.2870	2.1700	2.0580	1.9510	1.8480	1.7500	1.6580	1.5710	1.3510	1.4040	1.2500	0.0000	
24	3.0080	2.8700	2.7300	2.5920	2.4580	2.3350	2.2160	2.1030	2.0000	1.9020	1.8090	1.7220	1.4920	1.5450	1.3910	0.0000	
25	3.2160	3.0700	2.9250	2.7820	2.6440	2.5150	2.3900	2.2760	2.1710	2.0710	2.0000	1.9250	1.6950	1.7480	1.5940	0.0000	
26	3.4360	3.2850	3.1350	2.9880	2.8460	2.7150	2.5950	2.4850	2.3820	2.2820	2.1950	2.1200	1.8900	1.9430	1.7890	0.0000	
27	3.6680	3.5180	3.3610	3.2110	3.0650	2.9290	2.8020	2.6840	2.5820	2.4850	2.3920	2.3200	2.0900	2.1430	1.9890	0.0000	
Average	2.1010	1.5620	1.3550	1.2457	1.0979	1.0732	0.9525	0.8912	0.8606	0.7904	0.6386	0.7313	0.0000	0.4946	0.0000	0.7313	

* From the current MAIP rates, Section 100M, Exhibit 1 page 1 and Exhibit 2 page 1 effective 4/1/2008.

Massachusetts Private Passenger Automobile
Facility Market
Calculation of Average Model Year/Symbol Relativities

Calendar Year 2007 Written Exposures - \$500 Deductible Comprehensive Coverages

Symbol	Model Year																	Total
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990	1989 & Prior	Total			
1	1.8	1.3	1.4	0.0	0.2	2.8	1.1	1.0	1.7	1.0	1.8	150	38	32.9	0.0	32.9		
2	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	101.6	0.2	101.8	0.0	101.8		
3	0.0	0.0	0.4	0.0	0.0	0.0	5.7	0.0	0.0	0.0	21.3	267.4	9.8	315.3	0.0	315.3		
4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	-0.6	0.0	131.0	707.6	18.9	1,035.2	0.0	1,035.2		
5	1.9	2.2	1.8	0.1	7.2	9.3	18.1	33.5	45.9	21.4	102.2	1,104.1	17.6	1,538.0	0.0	1,538.0		
6	4.8	73.5	25.7	59.8	24.0	66.1	106.1	106.1	196.8	402.8	348.4	1,173.5	35.7	2,578.4	0.0	2,578.4		
7	49.2	263.4	37.4	135.8	127.7	146.5	163.5	168.4	299.0	129.5	233.3	1,251.7	81.4	3,076.8	0.0	3,076.8		
8	59.4	186.7	167.9	313.3	449.4	557.6	503.5	597.0	823.8	345.4	241.9	2,028.5	193.1	6,472.5	0.0	6,472.5		
10	84.8	612.8	250.6	298.8	335.2	559.6	730.8	791.2	696.4	546.5	679.8	2,610.8	168.3	8,345.6	0.0	8,345.6		
11	48.5	296.8	417.8	629.3	788.3	922.1	707.0	696.7	749.2	679.2	318.5	1,740.1	104.2	8,097.7	0.0	8,097.7		
12	70.2	545.4	598.9	1,004.3	1,193.0	1,266.1	1,505.3	1,818.1	1,278.8	1,199.9	1,236.5	1,721.9	68.2	12,506.6	0.0	12,506.6		
13	108.2	809.9	688.7	1,212.7	942.6	1,165.1	1,320.4	925.2	1,105.7	764.2	595.2	1,414.1	56.9	11,108.9	0.0	11,108.9		
14	276.5	1,259.7	1,257.7	769.4	818.1	912.4	931.4	1,063.1	1,038.2	805.8	612.1	1,415.4	51.4	11,211.2	0.0	11,211.2		
15	168.5	659.6	611.0	883.6	1,068.8	1,306.8	1,157.3	1,267.5	702.6	605.0	593.3	1,045.6	28.4	10,137.2	0.0	10,137.2		
16	79.4	544.7	632.2	879.5	1,041.1	1,016.3	834.1	608.6	765.5	660.8	543.7	964.1	25.4	8,586.4	0.0	8,586.4		
17	116.4	344.9	591.9	775.2	776.8	766.2	605.7	626.8	474.2	559.9	306.3	963.9	38.9	6,949.1	0.0	6,949.1		
18	76.2	211.2	608.9	281.8	532.3	527.0	452.2	674.5	710.8	437.9	334.2	719.7	19.3	5,386.0	0.0	5,386.0		
19	50.5	196.8	297.3	173.7	397.5	211.8	380.0	498.6	389.2	202.6	304.2	440.5	9.0	3,551.7	0.0	3,551.7		
20	41.4	178.3	193.0	200.9	177.0	224.4	305.4	227.8	338.2	413.2	143.8	292.9	9.5	2,745.8	0.0	2,745.8		
21	34.9	233.2	123.2	73.3	84.2	109.8	142.9	208.1	238.7	137.0	56.8	277.5	16.1	1,735.7	0.0	1,735.7		
22	18.7	61.4	89.7	57.7	132.0	117.2	55.8	70.2	189.2	120.8	112.0	150.4	0.0	1,175.1	0.0	1,175.1		
23	13.8	49.0	36.3	56.1	69.3	26.8	39.2	111.5	47.8	52.8	76.0	138.1	0.0	716.7	0.0	716.7		
24	8.0	27.5	31.8	33.4	41.4	34.6	31.3	19.2	18.1	49.6	21.6	118.7	0.0	456.2	0.0	456.2		
25	2.2	23.9	20.5	10.6	23.0	11.3	13.9	33.7	29.2	14.6	7.7	47.9	0.0	238.5	0.0	238.5		
26	5.2	6.2	22.8	10.8	15.1	14.6	20.7	31.1	26.1	9.4	19.8	67.3	0.0	249.1	0.0	249.1		
27	6.6	46.1	31.2	24.2	14.0	25.1	17.0	7.1	5.8	2.8	2.8	50.4	0.0	240.1	0.0	240.1		
Totals	1,327.1	6,634.5	6,709.3	7,885.3	9,098.4	10,001.5	10,004.5	9,585.0	10,176.3	8,550.6	7,054.2	20,828.7	956.1	108,812	0.0	108,812		

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Current Flattened Model-Year/Symbol Relativities Balanced to 2007 Written Exposures * - Comprehensive Coverages

Symbol	Model Year																	Average
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997-1990	1989 & Prior	Average			
1	0.5690	0.5600	0.5520	0.5430	0.5340	0.5260	0.5180	0.5100	0.5020	0.4950	0.4870	0.4800	0.4590	0.1110	0.4439	0.4439		
2	0.6020	0.5920	0.5820	0.5730	0.5640	0.5550	0.5460	0.5380	0.5300	0.5210	0.5130	0.5050	0.4840	0.1360	0.4853	0.4853		
3	0.6560	0.6260	0.6160	0.6060	0.5960	0.5870	0.5780	0.5690	0.5600	0.5510	0.5420	0.5340	0.5100	0.1630	0.5031	0.5031		
4	0.7130	0.6620	0.6510	0.6410	0.6300	0.6210	0.6110	0.6010	0.5910	0.5810	0.5720	0.5630	0.5380	0.1940	0.5411	0.5411		
5	0.7550	0.7010	0.6890	0.6780	0.6670	0.6560	0.6460	0.6350	0.6250	0.6150	0.6050	0.5960	0.5690	0.2330	0.5766	0.5766		
6	0.8000	0.7420	0.7300	0.7180	0.7060	0.6950	0.6830	0.6720	0.6610	0.6500	0.6400	0.6300	0.6010	0.2760	0.6249	0.6249		
7	0.8480	0.8340	0.8200	0.8060	0.7920	0.7780	0.7640	0.7500	0.7360	0.7220	0.7080	0.6940	0.6680	0.3370	0.6735	0.6735		
8	0.9000	0.8850	0.8700	0.8550	0.8400	0.8250	0.8100	0.7950	0.7800	0.7650	0.7500	0.7350	0.7090	0.4040	0.7184	0.7184		
10	0.9550	0.9390	0.9220	0.9070	0.8910	0.8750	0.8600	0.8450	0.8300	0.8150	0.8000	0.7850	0.7590	0.4840	0.7663	0.7663		
11	1.0140	0.9970	0.9800	0.9630	0.9470	0.9300	0.9140	0.8980	0.8830	0.8680	0.8540	0.8390	0.8130	0.5800	0.8285	0.8285		
12	1.0780	1.0590	1.0400	1.0220	1.0050	0.9880	0.9710	0.9540	0.9380	0.9220	0.9050	0.8900	0.8640	0.7040	0.8851	0.8851		
13	1.1450	1.1250	1.1050	1.0860	1.0670	1.0490	1.0300	1.0130	0.9960	0.9790	0.9630	0.9450	0.9190	0.7400	0.9503	0.9503		
14	1.2170	1.1960	1.1750	1.1550	1.1340	1.1140	1.0950	1.0760	1.0570	1.0390	1.0210	1.0040	0.9840	0.8250	1.0154	1.0154		
15	1.2950	1.2720	1.2490	1.2270	1.2050	1.1850	1.1640	1.1430	1.1230	1.1040	1.0850	1.0660	1.0460	0.9000	1.0763	1.0763		
16	1.3770	1.3530	1.3290	1.3060	1.2820	1.2600	1.2380	1.2150	1.1940	1.1730	1.1530	1.1320	1.1120	0.9500	1.1432	1.1432		
17	1.4570	1.4610	1.4530	1.4400	1.4280	1.4160	1.4040	1.3920	1.3800	1.3680	1.3560	1.3440	1.3320	1.1000	1.2972	1.2972		
18	1.5330	1.5560	1.5580	1.5500	1.5420	1.5340	1.5260	1.5180	1.5100	1.5020	1.4940	1.4860	1.4780	1.2000	1.3823	1.3823		
19	1.5830	1.6910	1.6610	1.6320	1.6030	1.5750	1.5470	1.5190	1.4920	1.4670	1.4410	1.4150	1.3450	1.3000	1.5012	1.5012		
20	1.7210	1.8260	1.7940	1.7620	1.7310	1.7010	1.6710	1.6410	1.6120	1.5840	1.5560	1.5290	1.4590	1.4000	1.6155	1.6155		
21	1.8590	1.8260	1.7940	1.7620	1.7310	1.7010	1.6710	1.6410	1.6120	1.5840	1.5560	1.5290	1.4590	1.4000	1.7409	1.7409		
22	1.9970	1.9620	1.9270	1.8930	1.8590	1.8270	1.7950	1.7620	1.7310	1.7010	1.6720	1.6420	1.5600	1.5000	1.8514	1.8514		
23	2.1340	2.0970	2.0600	2.0240	1.9880	1.9530	1.9180	1.8840	1.8510	1.8190	1.7870	1.7550	1.6680	1.6000	2.0243	2.0243		
24	2.3410	2.3000	2.2590	2.2190	2.1800	2.1420	2.1040	2.0660	2.0300	1.9950	1.9600	1.9250	1.8290	1.7500	2.2227	2.2227		
25	2.5470	2.5030	2.4580	2.4150	2.3720	2.3310	2.2900	2.2480	2.2090	2.1710	2.1330	2.0950	1.9910	1.9000	2.3652	2.3652		
26	2.7540	2.7060	2.6570	2.6110	2.5650	2.5200	2.4750	2.4310	2.3880	2.3470	2.3060	2.2650	2.1520	2.0500	2.6443	2.6443		
27	2.9600	2.9090	2.8570	2.8070	2.7570	2.7090	2.6610	2.6130	2.5670	2.5230	2.4790	2.4340	2.3130	2.2000	2.8312	2.8312		
Average	1.2183	1.1619	1.1106	1.0627	1.0102	0.9774	0.9421	0.9147	0.8832	0.8511	0.8194	0.7881	0.7572	0.6263	0.8312	0.8312		

* From the current MAIP rates. Section 100M, Exhibit 1 page 1 and Exhibit 2 page 1 effective 4/1/2008.

Massachusetts Private Passenger Automobile Proposed Manual Base Rate Change Facility Market

B (relative to actual current base rates)

Territory	Class									
	10	15	17	18	20	21	25	26	30	
1	-30.0%	-33.3%	-15.0%	-12.0%	-20.6%	-13.9%	-21.0%	-15.2%	-30.0%	
2	-28.6%	-26.7%	-14.0%	-10.7%	-18.9%	-19.5%	-19.4%	-16.7%	-33.3%	
3	-27.3%	-25.0%	-15.6%	-16.7%	-20.0%	-13.6%	-20.5%	-15.0%	-27.3%	
4	-29.2%	-33.3%	-13.7%	-12.9%	-20.2%	-17.6%	-20.0%	-15.6%	-33.3%	
5	-29.2%	-33.3%	-17.6%	-14.7%	-22.1%	-16.7%	-21.2%	-14.6%	-30.8%	
6	-34.6%	-36.8%	-14.3%	-14.7%	-22.8%	-16.1%	-22.2%	-14.5%	-28.6%	
7	-32.1%	-33.3%	-16.7%	-16.2%	-20.6%	-15.9%	-19.8%	-14.3%	-35.7%	
8	-31.0%	-28.6%	-15.3%	-15.4%	-20.5%	-14.9%	-20.8%	-16.4%	-33.3%	
9	-32.4%	-32.0%	-14.1%	-15.9%	-20.7%	-14.3%	-21.0%	-14.3%	-30.3%	
10	-32.4%	-32.0%	-15.7%	-14.0%	-19.5%	-12.7%	-19.6%	-13.9%	-32.4%	
11	-28.6%	-30.8%	-14.1%	-14.9%	-19.0%	-12.5%	-19.0%	-13.7%	-32.5%	
12	-32.4%	-33.3%	-14.5%	-15.1%	-19.7%	-16.1%	-19.0%	-15.4%	-31.7%	
13	-33.3%	-32.3%	-15.3%	-15.8%	-19.7%	-14.8%	-19.0%	-13.9%	-31.0%	
14	-29.8%	-31.4%	-15.6%	-15.9%	-16.7%	-14.4%	-16.5%	-13.8%	-30.4%	
15	-29.3%	-30.2%	-15.3%	-16.4%	-18.4%	-15.3%	-18.4%	-14.8%	-31.6%	
16	-32.8%	-33.3%	-15.8%	-16.3%	-17.3%	-13.7%	-17.2%	-12.9%	-30.3%	
17	-33.3%	-33.3%	-15.3%	-15.6%	-20.3%	-14.5%	-19.8%	-14.5%	-33.3%	
18	-31.8%	-33.3%	-15.6%	-15.1%	-15.8%	-12.6%	-16.5%	-12.8%	-33.3%	
19	-32.0%	-32.4%	-14.7%	-16.4%	-15.3%	-11.4%	-15.0%	-11.4%	-31.6%	
20	-32.0%	-32.4%	-15.3%	-16.4%	-18.4%	-13.5%	-18.4%	-13.8%	-31.6%	
21	-31.3%	-32.0%	-15.6%	-16.0%	-17.0%	-11.5%	-16.8%	-10.5%	-30.1%	
22	-30.3%	-30.6%	-14.6%	-17.3%	-16.2%	-11.6%	-16.0%	-10.6%	-30.0%	
23	-30.6%	-33.3%	-14.7%	-18.0%	-17.1%	-15.1%	-17.0%	-14.3%	-28.2%	
24	-29.7%	-29.6%	-14.5%	-14.0%	-15.3%	-14.5%	-15.0%	-13.2%	-32.5%	
25	-30.2%	-31.3%	-14.6%	-14.5%	-18.4%	-12.4%	-17.6%	-12.5%	-30.4%	
26	-32.7%	-33.3%	-15.8%	-16.7%	-17.1%	-13.7%	-17.0%	-12.9%	-28.8%	
27	-31.6%	-35.7%	-16.7%	-19.0%	-22.6%	-16.1%	-21.8%	-17.9%	-31.6%	
40	-33.3%	-32.3%	-15.9%	-17.5%	-17.5%	-12.8%	-17.5%	-11.7%	-29.5%	
41	-34.1%	-36.4%	-16.7%	-14.3%	-18.1%	-16.7%	-16.5%	-15.0%	-28.3%	
42	-30.9%	-31.7%	-15.3%	-16.4%	-18.4%	-14.4%	-17.6%	-13.8%	-31.0%	
43	-30.8%	-30.8%	-15.5%	-14.9%	-17.7%	-13.4%	-17.6%	-12.6%	-33.3%	
44	-31.6%	-31.0%	-14.6%	-16.0%	-17.1%	-12.6%	-17.0%	-11.8%	-31.8%	
45	-32.1%	-30.8%	-16.3%	-13.4%	-19.0%	-12.4%	-17.5%	-11.5%	-31.6%	
Total										
Class Total	-31.5%	-32.0%	-15.5%	-15.4%	-18.8%	-14.3%	-20.0%	-14.6%	-31.3%	-24.5%

	10-15	
Class Group	-31.5%	
		20-25 21-26
		-19.5% -14.5%

**Massachusetts Private Passenger Automobile Insurance
Determination of Rates Not Varying by Class or Territory**

Basic Limits Rates	Subs. Trans.		Med.	U-1	U-2
	\$15/day	\$30/day	Pay.	20/40	20/40
1) Indicated Average Rate (Form 110, 100X)	29.38	119.17	47.55	40.47	0.00
2) Off-Balance: Senior Citizen *	0.980	0.980	0.980	0.980	0.980
3) Off-Balance: Annual Mileage *	1.000	1.000	0.997	0.997	0.997
4) Off-Balance: Passive Restraint *	1.000	1.000	1.000	1.000	1.000
5) Indicated Manual Rate (1) / [(2) x (3) x (4)]	29.980	121.602	48.666	41.420	0.000
6) Selected Manual Rate (Rounded)	\$30	\$122	\$49	\$21	\$0
7) Collectible Average Rate (6) x (2) x (3) x (4)	29.40	119.56	47.88	20.52	0.00

* Sections 100J, 100K

Increased Limits Rates

Limit	Med. Pay.	Limit	U-1 ILF	Manual U-1 Rate		Avg. U-2 Rate	Manual U-2 Rate
10,000	64	20/50	1.020	22	*	0.38	0
15,000	83	25/50	1.057	23	*	2.37	2
20,000	88	25/60	1.077	24	*	2.86	3
25,000	98	35/80		25			8
50,000	113	50/100	1.280	27		14.03	14
100,000	134	100/100		30	*		33
		100/200		31			34
		100/300	1.475	32	*	33.99	35
		200/400		38			93
		250/500	1.884	40		109.47	112
		250/1000		41			120
		300/500		45			154
		500/500		58		265.52	272
		500/1000	2.827	59		273.13	280

Based on implied
4/1/2007 ILFs

U-1 ILF's per 101C, Page 1; U-2 average rates per 101C-4.
Some rates interpolated; "*" rates adjusted to maintain \$1 difference

390R

Stated Amount Rating Procedure for Collision and Limited Collision

1. Determine the Actual Cash Value premium for the latest model year shown in the rate pages for the vehicle symbol and deductible in the appropriate territory and class and divide by the Stated Amount Divisor shown below. Round the result to the nearest cent.
2. Apply the above rate to each \$100 of insured value to determine the stated amount premium. This results in a stated amount premium applicable to those insureds at the base rate (zero point/zero credit level) of the merit rating plan.

Stated Amount Divisors

<u>Symbol</u>	<u>Divisors</u>	<u>Symbol</u>	<u>Divisors</u>
1	32.50	10	156.25
2	72.50	11	168.75
3	85.00	12	181.25
4	95.00	13	193.75
5	106.25	14	210.00
6	118.75	15	230.00
7	131.25	16	250.00
8	143.75	17	270.00

**Massachusetts Private Passenger Automobile
Summary of Bodily Injury Increased Limits Factors
Facility Market**

<u>Limit</u>	<u>% of Expo's at Limit</u>	(1) <u>Indicated ILF's</u>	(2) Dist. of Expo's <u>Excess Limits</u>	(3) <u>Proposed ILF's</u>	(4) <u>Product (3)x(4)</u>
20/40	61.43%	1.0000	---	---	---
20/50	1.96%	1.0100	5.08%	1.01	0.0513
25/50	6.02%	1.0582	15.61%	1.06	0.1654
25/60	0.53%	1.0682	1.37%	1.07	0.0147
30/70	0.12%		0.31%	1.13	0.0035
35/80	1.17%		3.03%	1.18	0.0358
50/100	9.48%	1.2933	24.58%	1.29	0.3171
100/300	14.74%	1.5737	38.22%	1.57	0.6000
250/500	4.30%	2.1599	11.15%	2.16	0.2408
500/500	0.24%		0.62%	3.19	0.0198
500/1000	0.01%	3.2399	0.03%	3.24	0.0008
Totals	100.00%		100.00%		1.4493

Average Selected Increased Limits Factor (20/40 Basis): 1.4493
Average Selected ILF including Basic Limits: 1.1733

Indicated ILFs shown on 101A-1, page 1.
Proposed ILFs for all limits shown in 101E.

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4/1/2009 CAR

101 A-1

Page 1

Massachusetts Private Passenger Automobile Bodily Injury Increased Limits Factors

Limits	Accident Year Historical Factors						Selected 2009 **
	2002	2003	2004	2005	2006	2007	
\$ 20,000/ \$ 40,000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
\$ 20,000/ \$ 50,000			Included in \$25,000/\$50,000 data				
\$ 25,000/ \$ 50,000	1.0487	1.0482	1.0534	1.0583	1.0549	1.0553	1.0562
\$ 25,000/ \$ 60,000			Included in \$25,000/\$50,000 data				
\$ 50,000/\$100,000	1.2614	1.2564	1.2723	1.2814	1.3124	1.2861	1.2933
\$100,000/\$300,000	1.4710	1.4679	1.5214	1.5591	1.5767	1.5852	1.5737
\$250,000/\$500,000	1.8650	1.9650	1.9529	2.1371	2.1782	2.1645	2.1599
Average *	1.3488	1.3624	1.3830	1.4273	1.4441	1.4416	1.4377

* Based on 2007 Written Exposures.

** Policy year 2009 based on latest three year average ILF.

399R

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Calculated Increased Limit Factors

Limits	Accident Year					
	2002	2003	2004	2005	2006	2007
\$ 20,000/ \$ 40,000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
\$ 20,000/ \$ 50,000	Included in \$25,000/\$50,000 data					
\$ 25,000/ \$ 50,000	1.0487	1.0482	1.0534	1.0583	1.0549	1.0553
\$ 25,000/ \$ 60,000	Included in \$25,000/\$50,000 data					
\$ 50,000/\$100,000	1.2614	1.2564	1.2723	1.2814	1.3124	1.2861
\$100,000/\$300,000	1.4710	1.4679	1.5214	1.5591	1.5767	1.5852
\$250,000/\$500,000	1.8650	1.9650	1.9529	2.1371	2.1782	2.1645

Source: Formula - see 101A-1, page 6; Input values - see 101A-1, page 3

400R**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors****Ratio of Total Limit Losses to Basic Limit Losses for All Companies at Fifth Report**

Limits	Accident Year					
	2002	2003	2004	2005	2006	2007
\$ 20,000/ \$ 40,000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
\$ 20,000/ \$ 50,000	Included in \$25,000/\$50,000 data					
\$ 25,000/ \$ 50,000	1.0496	1.0491	1.0548	1.0601	1.0564	1.0568
\$ 25,000/ \$ 60,000	Included in \$25,000/\$50,000 data					
\$ 20/\$40 Group *	1.0061	1.0061	1.0075	1.0085	1.0083	1.0085
\$ 50,000/\$100,000	1.2681	1.2627	1.2799	1.2898	1.3235	1.2950
\$100,000/\$300,000	1.4839	1.4805	1.5386	1.5796	1.5986	1.6080
\$250,000/\$500,000	1.8962	2.0049	1.9918	2.1919	2.2366	2.2217

Limits	LDFE	[R(x,y) - 1] x LDFE					
		2002	2003	2004	2005	2006	2007
\$ 20,000/ \$ 40,000	0.9578	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
\$ 20,000/ \$ 50,000	0.9578	Included in \$25,000/\$50,000 data					
\$ 25,000/ \$ 50,000	0.9578	0.0476	0.0471	0.0525	0.0575	0.0540	0.0544
\$ 25,000/ \$ 60,000	0.9578	Included in \$25,000/\$50,000 data					
\$ 20/\$40 Group *	0.9578	0.0059	0.0058	0.0072	0.0081	0.0079	0.0082
\$ 50,000/\$100,000	0.9578	0.2568	0.2516	0.2681	0.2776	0.3099	0.2825
\$100,000/\$300,000	0.9578	0.4634	0.4602	0.5158	0.5552	0.5734	0.5823
\$250,000/\$500,000	0.9578	0.8584	0.9625	0.9499	1.1416	1.1844	1.1701

Limits	LDFB	DCCER	LDFB x
			DCCER
\$ 20,000/ \$ 40,000	0.9993	0.0414	0.0414
\$ 20,000/ \$ 50,000	0.9993		
\$ 25,000/ \$ 50,000	0.9993	0.0445	0.0445
\$ 25,000/ \$ 60,000	0.9993		
\$ 20/\$40 Group *	0.9993	0.0419	0.0419
\$ 50,000/\$100,000	0.9993	0.0566	0.0566
\$100,000/\$300,000	0.9993	0.0681	0.0681
\$250,000/\$500,000	0.9993	0.0832	0.0831

Source :

Losses: 101A-1 pages 4 and 5

LDFE: 101A-6

LDFB: 100B

DCCER: 101A-3

* Note: \$20,000 / \$40,000 Group DCCER is a weighted average of 20/40, 20/50, 25/50, and 25/60.

\$25,000 / \$50,000 DCCER is a weighted average of 20/50, 25/50, and 25/60.

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

Basic and Total Limits Losses by Limit

Total Limit Losses Developed to Fifth Report for All Companies

Limits	Accident Year					
	2002	2003	2004	2005	2006	2007
\$ 20,000/ \$ 40,000	380,449,700	364,940,191	298,304,224	252,078,328	215,161,134	203,414,342
\$ 20,000/ \$ 50,000	6,573,983	6,460,460	5,765,744	5,174,602	5,004,897	5,593,641
\$ 25,000/ \$ 50,000	39,286,028	36,473,228	34,453,940	30,142,548	27,143,207	25,594,885
\$ 25,000/ \$ 60,000	3,959,352	3,538,910	2,998,610	2,909,242	2,748,716	2,782,655
\$ 20/\$40 Group	435,501,573	417,150,787	346,496,074	296,067,562	254,770,976	242,794,949
\$ 50,000/\$100,000	81,307,179	83,531,838	77,155,603	78,437,405	76,768,932	75,454,633
\$100,000/\$300,000	215,073,227	211,390,023	203,961,165	194,633,926	186,461,703	198,662,037
\$250,000/\$500,000	79,071,554	86,655,439	78,957,599	86,278,023	85,194,359	91,343,020

Basic Limit Losses Developed to Fifth Report for All Companies

Limits	Accident Year					
	2002	2003	2004	2005	2006	2007
\$ 20,000/ \$ 40,000	380,449,700	364,940,191	298,304,224	252,078,328	215,161,134	203,414,342
\$ 20,000/ \$ 50,000	6,573,983	6,460,460	5,765,010	5,171,151	4,972,527	5,473,545
\$ 25,000/ \$ 50,000	37,190,291	34,524,156	32,445,423	28,210,642	25,510,363	24,056,584
\$ 25,000/ \$ 60,000	3,698,670	3,311,253	2,763,974	2,678,565	2,551,002	2,614,944
\$ 20/\$40 Group	432,842,502	414,639,499	343,926,504	293,584,844	252,683,240	240,740,211
\$ 50,000/\$100,000	64,116,807	66,154,590	60,280,931	60,813,342	58,003,100	58,268,047
\$100,000/\$300,000	144,941,727	142,787,160	132,564,417	123,215,258	116,637,411	123,549,195
\$250,000/\$500,000	41,698,972	43,221,299	39,641,289	39,361,826	38,091,813	41,113,993

Source: 101A-2 pages 1-8

Note: \$20,000/\$40,000 Group includes data for 20/40, 20/50, 25/50, 25/60, 30/70 and 35/80.

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

Basic and Total Limits Pure Premiums by Limit

	Earned Exposures					
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
20/40	1,250,736.5	1,214,300.2	1,174,147.6	1,135,885.7	1,086,283.6	1,035,350.7
20/50+ *	275,272.9	266,202.0	258,589.1	251,765.3	244,052.3	234,054.5
50/100	471,555.1	486,656.2	500,385.1	511,656.5	518,396.2	525,299.4
100/300	1,396,851.6	1,409,585.2	1,418,180.3	1,431,252.7	1,450,395.0	1,483,747.9
250/500	482,911.2	514,794.9	544,241.8	567,597.6	588,470.9	616,125.8

	Basic Limits Pure Premium					
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
20/40	304.18	300.54	254.06	221.92	198.07	196.47
20/50+ *	172.42	166.40	158.45	143.23	135.36	137.34
50/100	135.97	135.94	120.47	118.86	111.89	110.92
100/300	103.76	101.30	93.48	86.09	80.42	83.27
250/500	86.35	83.96	72.84	69.35	64.73	66.73

	Total Limits Pure Premium					
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
20/40	304.18	300.54	254.06	221.92	198.07	196.47
20/50+ *	180.98	174.58	167.13	151.83	142.99	145.14
50/100	172.42	171.64	154.19	153.30	148.09	143.64
100/300	153.97	149.97	143.82	135.99	128.56	133.89
250/500	163.74	168.33	145.08	152.01	144.77	148.25

* 20/50+ represents 20/40 Group excluding 20/40

Notes:

Basic limits pure premium = Basic limits losses (from 101 A-1 page 4) / Earned exposures.

Total limits pure premium = Total limits losses (from 101 A-1 page 4) / Earned exposures.

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Basic Limit Losses for Insureds Purchasing 20/40 Group - Industry

<u>Accident</u>	<u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
	1998	399,389,728	395,540,445	390,678,419	382,902,351	380,517,226
	1999	403,108,461	389,335,789	365,373,130	365,289,695	363,234,449
	2000	395,627,828	392,533,989	396,099,508	396,302,019	394,496,325
	2001	420,850,219	415,598,380	415,643,245	416,620,254	413,272,562
	2002	465,227,223	441,570,304	438,595,147	436,375,361	432,842,502
	2003	447,019,390	422,787,324	418,837,644	417,318,055	414,639,499
	2004	380,334,653	357,223,596	350,015,551	346,414,357	343,926,504
	2005	321,667,251	302,599,906	297,695,645	295,708,542	293,584,844
	2006	278,664,098	259,913,547	256,221,333	254,511,068	252,683,240
	2007	263,539,892	247,628,780	244,111,077	242,481,648	240,740,211

Loss Development Factors

<u>Accident</u>	<u>First to</u>	<u>Second to</u>	<u>Third to</u>	<u>Fourth to</u>	
<u>Year</u>	<u>Second</u>	<u>Third</u>	<u>Fourth</u>	<u>Fifth</u>	
	1998	0.9904	0.9877	0.9801	0.9938
	1999	0.9658	0.9385	0.9998	0.9944
	2000	0.9922	1.0091	1.0005	0.9954
	2001	0.9875	1.0001	1.0024	0.9920
	2002	0.9491	0.9933	0.9949	0.9919
	2003	0.9458	0.9907	0.9964	0.9936
	2004	0.9392	0.9798	0.9897	
	2005	0.9407	0.9838		
	2006	0.9327			
	Weighted Average	0.9396	0.9858	0.9933	0.9928
	Cumulative Factors to Fifth Report	0.9135	0.9722	0.9862	0.9928
	First to Fifth Factor	0.9135			

The above losses are the sum of losses for limits 20/40, 20/50, 25/50, 25/60, 30/70, and 35/80.
Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Basic Limit Losses for Insureds Purchasing 20/40 Group excl. 20/40 - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	48,360,392	46,677,780	46,882,957	46,031,496	45,666,597
1999	47,202,231	45,850,941	43,371,973	43,867,676	43,396,472
2000	45,228,064	44,870,902	45,593,989	45,657,444	45,605,626
2001	47,947,055	47,507,958	47,751,612	47,608,475	47,247,419
2002	55,626,508	54,021,241	53,519,795	53,117,607	52,392,802
2003	52,511,786	50,608,860	50,377,770	49,942,424	49,699,308
2004	49,648,890	47,419,328	46,678,573	46,023,420	45,615,578
2005	44,864,507	43,055,971	42,289,601	41,845,634	41,474,813
2006	41,218,123	38,727,765	38,230,741	37,829,384	37,494,155
2007	40,457,164	38,616,109	38,120,517	37,720,318	37,386,055

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9652	1.0044	0.9818	0.9921
1999	0.9714	0.9459	1.0114	0.9893
2000	0.9921	1.0161	1.0014	0.9989
2001	0.9908	1.0051	0.9970	0.9924
2002	0.9711	0.9907	0.9925	0.9864
2003	0.9638	0.9954	0.9914	0.9951
2004	0.9551	0.9844	0.9860	
2005	0.9597	0.9822		
2006	0.9396			
Weighted Average	0.9545	0.9872	0.9895	0.9911
Cumulative Factors to Fifth Report	0.9241	0.9681	0.9807	0.9911
First to Fifth Factor	0.9241			

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Basic Limit Losses for Insureds Purchasing 20/40 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	351,029,336	348,862,665	343,795,462	336,870,855	334,850,629
1999	355,906,230	343,484,848	322,001,157	321,422,019	319,837,977
2000	350,399,764	347,663,087	350,505,519	350,644,575	348,890,699
2001	372,903,164	368,090,422	367,891,633	369,011,779	366,025,143
2002	409,600,715	387,549,063	385,075,352	383,257,754	380,449,700
2003	394,507,604	372,178,464	368,459,874	367,375,631	364,940,191
2004	330,685,763	309,804,268	303,336,978	300,390,937	298,304,224
2005	276,802,744	259,543,935	255,406,044	253,841,680	252,078,328
2006	237,445,975	221,185,782	218,001,501	216,666,240	215,161,134
2007	223,082,728	209,110,072	206,099,638	204,837,276	203,414,342

<u>Accident</u> <u>Year</u>	<u>Loss Development Factors</u>			
	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9938	0.9855	0.9799	0.9940
1999	0.9651	0.9375	0.9982	0.9951
2000	0.9922	1.0082	1.0004	0.9950
2001	0.9871	0.9995	1.0030	0.9919
2002	0.9462	0.9936	0.9953	0.9927
2003	0.9434	0.9900	0.9971	0.9934
2004	0.9369	0.9791	0.9903	
2005	0.9376	0.9841		
2006	0.9315			
Weighted Average	0.9374	0.9856	0.9939	0.9931
Cumulative Factors to Fifth Report	0.9118	0.9728	0.9870	0.9931
First to Fifth Factor	0.9118			

Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

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Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Basic Limit Losses for Insureds Purchasing 20/50 Limits - Industry

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	5,784,757	5,958,467	6,140,431	5,949,754	5,935,350
1999	6,009,014	6,205,515	5,916,639	6,059,404	6,027,668
2000	6,074,229	6,036,437	6,138,829	6,247,547	6,234,716
2001	6,282,168	6,448,602	6,555,143	6,608,199	6,562,320
2002	7,066,070	6,772,110	6,715,168	6,630,978	6,573,983
2003	7,125,690	6,699,687	6,497,357	6,528,294	6,460,460
2004	6,446,795	6,086,503	5,965,256	5,816,554	5,765,010
2005	5,727,438	5,406,418	5,272,740	5,217,385	5,171,151
2006	5,873,476	5,136,130	5,070,214	5,016,986	4,972,527
2007	5,923,174	5,653,632	5,581,075	5,522,483	5,473,545

<u>Accident</u> <u>Year</u>	<u>Loss Development Factors</u>			
	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0300	1.0305	0.9689	0.9976
1999	1.0327	0.9534	1.0241	0.9948
2000	0.9938	1.0170	1.0177	0.9979
2001	1.0265	1.0165	1.0081	0.9931
2002	0.9584	0.9916	0.9875	0.9914
2003	0.9402	0.9698	1.0048	0.9896
2004	0.9441	0.9801	0.9751	
2005	0.9440	0.9753		
2006	0.8745			
Selected Average	0.9545	0.9872	0.9895	0.9911
Cumulative Factors to Fifth Report	0.9241	0.9681	0.9807	0.9911
First to Fifth Factor	0.9241			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 1a)

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Basic Limit Losses for Insureds Purchasing 25/50 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	34,506,310	32,752,146	32,756,137	32,125,446	31,921,835
1999	33,734,169	32,348,755	30,713,053	30,822,445	30,415,351
2000	31,730,905	31,456,524	31,964,546	31,918,530	31,793,217
2001	34,246,902	33,509,885	33,424,113	33,345,420	33,078,953
2002	39,222,606	38,276,937	37,908,241	37,844,860	37,190,291
2003	36,345,819	35,008,877	34,985,284	34,648,880	34,524,156
2004	35,247,957	33,627,476	33,128,336	32,735,513	32,445,423
2005	30,637,493	29,237,785	28,764,850	28,462,869	28,210,642
2006	27,400,680	26,349,690	26,011,524	25,738,448	25,510,363
2007	26,032,733	24,848,080	24,529,185	24,271,671	24,056,584

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9492	1.0001	0.9807	0.9937
1999	0.9589	0.9494	1.0036	0.9868
2000	0.9914	1.0161	0.9986	0.9961
2001	0.9785	0.9974	0.9976	0.9920
2002	0.9759	0.9904	0.9983	0.9827
2003	0.9632	0.9993	0.9904	0.9964
2004	0.9540	0.9852	0.9881	
2005	0.9543	0.9838		
2006	0.9616			
Selected Average	0.9545	0.9872	0.9895	0.9911
Cumulative Factors to Fifth Report	0.9241	0.9681	0.9807	0.9911
First to Fifth Factor	0.9241			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 1a)
Source: 101 A-2 Loss by Layer Exhibits

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Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Basic Limit Losses for Insureds Purchasing 25/60 Limits - Industry

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	3,602,064	3,928,559	3,971,370	3,963,369	3,881,157
1999	2,980,132	2,930,890	2,797,532	2,930,402	2,958,030
2000	2,572,081	2,599,486	2,649,869	2,639,959	2,674,822
2001	2,553,244	2,667,727	2,711,518	2,776,440	2,736,345
2002	3,778,409	3,777,558	3,812,669	3,681,607	3,698,670
2003	3,444,659	3,355,421	3,385,497	3,359,171	3,311,253
2004	2,860,368	2,840,210	2,823,785	2,788,686	2,763,974
2005	2,634,265	2,712,541	2,731,186	2,702,513	2,678,565
2006	2,865,301	2,634,934	2,601,118	2,573,811	2,551,002
2007	2,829,751	2,700,980	2,666,316	2,638,324	2,614,944

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0906	1.0109	0.9980	0.9793
1999	0.9835	0.9545	1.0475	1.0094
2000	1.0107	1.0194	0.9963	1.0132
2001	1.0448	1.0164	1.0239	0.9856
2002	0.9998	1.0093	0.9656	1.0046
2003	0.9741	1.0090	0.9922	0.9857
2004	0.9930	0.9942	0.9876	
2005	1.0297	1.0069		
2006	0.9196			
Selected Average	0.9545	0.9872	0.9895	0.9911
Cumulative Factors to Fifth Report	0.9241	0.9681	0.9807	0.9911
First to Fifth Factor	0.9241			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 1a)
Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Basic Limit Losses for Insureds Purchasing 30/70 & 35/80 Limits - Industry

<u>Accident</u> Year	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	4,467,261	4,038,608	4,015,019	3,992,927	3,928,255
1999	4,478,916	4,365,781	3,944,749	4,055,425	3,995,423
2000	4,850,849	4,778,455	4,840,745	4,851,408	4,902,871
2001	4,864,741	4,881,744	5,060,838	4,878,416	4,869,801
2002	5,559,423	5,194,636	5,083,717	4,960,162	4,929,858
2003	5,595,618	5,544,875	5,509,632	5,406,079	5,403,439
2004	5,093,770	4,865,139	4,761,196	4,682,667	4,641,171
2005	5,865,311	5,699,227	5,520,825	5,462,866	5,414,456
2006	5,078,666	4,607,011	4,547,886	4,500,141	4,460,262
2007	5,671,506	5,413,417	5,343,942	5,287,840	5,240,981

Loss Development Factors

<u>Accident</u> Year	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9040	0.9942	0.9945	0.9838
1999	0.9747	0.9036	1.0281	0.9852
2000	0.9851	1.0130	1.0022	1.0106
2001	1.0035	1.0367	0.9640	0.9982
2002	0.9344	0.9786	0.9757	0.9939
2003	0.9909	0.9936	0.9812	0.9995
2004	0.9551	0.9786	0.9835	
2005	0.9717	0.9687		
2006	0.9071			
Selected Average	0.9545	0.9872	0.9895	0.9911
Cumulative Factors to Fifth Report	0.9241	0.9681	0.9807	0.9911
First to Fifth Factor	0.9241			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 1a)
Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Basic Limit Losses for Insureds Purchasing 50/100 Limits - Industry

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	55,123,583	55,367,638	54,958,691	54,251,255	53,739,608
1999	54,574,844	53,181,080	50,546,000	51,249,384	50,672,157
2000	52,607,265	52,495,306	53,571,352	53,658,811	52,963,631
2001	54,438,828	53,855,092	54,436,421	54,277,949	53,805,052
2002	68,226,855	65,323,586	64,448,859	64,568,564	64,116,807
2003	70,460,061	67,892,101	67,270,759	66,739,431	66,154,590
2004	66,196,832	62,630,020	61,563,252	60,764,574	60,280,931
2005	66,266,112	62,549,114	61,753,512	61,301,257	60,813,342
2006	62,943,563	59,690,044	58,899,823	58,468,467	58,003,100
2007	63,120,514	59,962,697	59,168,867	58,735,540	58,268,047

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0044	0.9926	0.9871	0.9906
1999	0.9745	0.9505	1.0139	0.9887
2000	0.9979	1.0205	1.0016	0.9870
2001	0.9893	1.0108	0.9971	0.9913
2002	0.9574	0.9866	1.0019	0.9930
2003	0.9636	0.9908	0.9921	0.9912
2004	0.9461	0.9830	0.9870	
2005	0.9439	0.9873		
2006	0.9483			
Selected Average	0.9500	0.9868	0.9927	0.9920
Cumulative Factors to Fifth Report	0.9231	0.9717	0.9848	0.9920
First to Fifth Factor	0.9231			

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Basic Limit Losses for Insureds Purchasing 100/300 Limits - Industry**

<u>Accident</u>	<u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
	1998	133,063,486	136,025,726	136,195,577	134,181,415	133,210,528
	1999	137,024,924	133,480,190	128,410,007	128,746,566	127,550,609
	2000	133,320,784	134,160,577	136,519,072	137,015,511	135,952,657
	2001	137,576,344	137,691,877	138,970,040	138,442,274	137,101,674
	2002	151,776,701	148,258,734	147,419,808	146,074,559	144,941,727
	2003	147,225,140	145,113,040	145,912,212	144,337,488	142,787,160
	2004	142,942,153	137,827,415	135,578,371	133,819,975	132,564,417
	2005	134,686,203	128,132,189	125,793,433	124,382,268	123,215,258
	2006	127,369,348	120,321,699	119,077,950	117,742,119	116,637,411
	2007	132,816,423	127,451,809	126,134,357	124,719,367	123,549,195

Loss Development Factors

<u>Accident</u>	<u>Year</u>	<u>First to Second</u>	<u>Second to Third</u>	<u>Third to Fourth</u>	<u>Fourth to Fifth</u>
	1998	1.0223	1.0012	0.9852	0.9928
	1999	0.9741	0.9620	1.0026	0.9907
	2000	1.0063	1.0176	1.0036	0.9922
	2001	1.0008	1.0093	0.9962	0.9903
	2002	0.9768	0.9943	0.9909	0.9922
	2003	0.9857	1.0055	0.9892	0.9893
	2004	0.9642	0.9837	0.9870	
	2005	0.9513	0.9817		
	2006	0.9447			
Selected	Average	0.9596	0.9897	0.9888	0.9906
Cumulative	Factors to Fifth				
	Report	0.9302	0.9694	0.9795	0.9906
First to Fifth	Factor	0.9302			

Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Basic Limit Losses for Insureds Purchasing 250/500 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	33,521,805	34,296,735	34,062,638	33,689,834	33,346,757
1999	36,533,617	34,966,531	34,312,611	34,760,386	34,455,280
2000	36,470,812	35,599,790	36,787,434	37,081,224	36,406,621
2001	37,201,631	37,276,510	37,239,500	37,263,947	36,787,897
2002	44,606,777	42,686,829	42,427,313	42,269,137	41,698,972
2003	45,048,102	44,356,731	44,704,934	43,888,650	43,221,299
2004	42,109,300	41,250,216	40,288,309	40,221,463	39,641,289
2005	41,924,116	40,083,877	40,249,419	39,937,910	39,361,826
2006	39,958,264	39,122,120	38,950,767	38,649,309	38,091,813
2007	43,439,652	42,226,044	42,041,096	41,715,720	41,113,993

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0231	0.9932	0.9891	0.9898
1999	0.9571	0.9813	1.0130	0.9912
2000	0.9761	1.0334	1.0080	0.9818
2001	1.0020	0.9990	1.0007	0.9872
2002	0.9570	0.9939	0.9963	0.9865
2003	0.9847	1.0079	0.9817	0.9848
2004	0.9796	0.9767	0.9983	
2005	0.9561	1.0041		
2006	0.9791			
Selected Average	0.9721	0.9956	0.9923	0.9856
Cumulative Factors to Fifth Report	0.9465	0.9737	0.9779	0.9856
First to Fifth Factor	0.9465			

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 20/40 Group - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	399,296,192	397,816,809	393,181,553	385,331,355	382,961,893
1999	404,696,543	391,378,657	367,541,147	367,561,440	365,491,253
2000	397,020,440	394,504,216	398,367,209	398,608,665	396,855,966
2001	422,369,854	417,639,317	417,972,851	418,955,031	415,570,467
2002	466,933,439	443,993,216	441,279,276	439,069,064	435,501,573
2003	448,641,045	424,972,873	421,334,442	419,831,102	417,150,787
2004	382,021,687	359,611,326	352,619,287	349,000,628	346,496,074
2005	323,217,024	304,848,508	300,198,027	298,207,607	296,067,562
2006	280,037,827	261,835,646	258,325,309	256,612,520	254,770,976
2007	264,966,047	249,527,529	246,182,203	244,549,927	242,794,949

<u>Accident</u> <u>Year</u>	<u>Loss Development Factors</u>			
	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9963	0.9883	0.9800	0.9939
1999	0.9671	0.9391	1.0001	0.9944
2000	0.9937	1.0098	1.0006	0.9956
2001	0.9888	1.0008	1.0023	0.9919
2002	0.9509	0.9939	0.9950	0.9919
2003	0.9472	0.9914	0.9964	0.9936
2004	0.9413	0.9806	0.9897	
2005	0.9432	0.9847		
2006	0.9350			
Weighted Average	0.9417	0.9866	0.9934	0.9928
Cumulative Factors to Fifth Report	0.9163	0.9730	0.9862	0.9928
First to Fifth Factor	0.9163			

The above losses are the sum of losses for limits 20/40, 20/50, 25/50, 25/60, 30/70, and 35/80.

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Total Limit Losses for Insureds Purchasing 20/40 Group excl. 20/40 - Industry

<u>Accident Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	48,266,856	48,954,144	49,386,091	48,460,500	48,111,264
1999	48,790,313	47,893,809	45,539,990	46,139,421	45,653,276
2000	46,620,676	46,841,129	47,861,690	47,964,090	47,965,267
2001	49,466,690	49,548,895	50,081,218	49,943,252	49,545,324
2002	57,332,724	56,444,153	56,203,924	55,811,310	55,051,873
2003	54,133,441	52,794,409	52,874,568	52,455,471	52,210,596
2004	51,335,924	49,807,058	49,282,309	48,609,691	48,185,062
2005	46,414,280	45,304,573	44,791,983	44,345,681	43,958,300
2006	42,591,852	40,649,864	40,362,459	39,960,292	39,611,220
2007	41,883,319	40,590,284	40,303,300	39,901,723	39,553,162

<u>Accident Year</u>	<u>Loss Development Factors</u>			
	<u>First to Second</u>	<u>Second to Third</u>	<u>Third to Fourth</u>	<u>Fourth to Fifth</u>
1998	1.0142	1.0088	0.9813	0.9928
1999	0.9816	0.9509	1.0132	0.9895
2000	1.0047	1.0218	1.0021	1.0000
2001	1.0017	1.0107	0.9972	0.9920
2002	0.9845	0.9957	0.9930	0.9864
2003	0.9753	1.0015	0.9921	0.9953
2004	0.9702	0.9895	0.9864	
2005	0.9761	0.9887		
2006	0.9544			
Weighted Average	0.9691	0.9929	0.9900	0.9913
Cumulative Factors to Fifth Report	0.9444	0.9744	0.9814	0.9913
First to Fifth Factor	0.9444			

Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 20/40 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	351,029,336	348,862,665	343,795,462	336,870,855	334,850,629
1999	355,906,230	343,484,848	322,001,157	321,422,019	319,837,977
2000	350,399,764	347,663,087	350,505,519	350,644,575	348,890,699
2001	372,903,164	368,090,422	367,891,633	369,011,779	366,025,143
2002	409,600,715	387,549,063	385,075,352	383,257,754	380,449,700
2003	394,507,604	372,178,464	368,459,874	367,375,631	364,940,191
2004	330,685,763	309,804,268	303,336,978	300,390,937	298,304,224
2005	276,802,744	259,543,935	255,406,044	253,841,680	252,078,328
2006	237,445,975	221,185,782	218,001,501	216,666,240	215,161,134
2007	223,082,728	209,110,072	206,099,638	204,837,276	203,414,342

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9938	0.9855	0.9799	0.9940
1999	0.9651	0.9375	0.9982	0.9951
2000	0.9922	1.0082	1.0004	0.9950
2001	0.9871	0.9995	1.0030	0.9919
2002	0.9462	0.9936	0.9953	0.9927
2003	0.9434	0.9900	0.9971	0.9934
2004	0.9369	0.9791	0.9903	
2005	0.9376	0.9841		
2006	0.9315			
Weighted Average	0.9374	0.9856	0.9939	0.9931
Cumulative Factors to Fifth Report	0.9118	0.9728	0.9870	0.9931
First to Fifth Factor	0.9118			

Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Total Limit Losses for Insureds Purchasing 20/50 Limits - Industry

<u>Accident</u>					
<u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	5,784,757	5,958,467	6,140,431	5,949,754	5,935,350
1999	6,009,014	6,205,515	5,916,639	6,059,404	6,027,668
2000	6,074,229	6,036,437	6,138,829	6,247,547	6,234,716
2001	6,282,168	6,448,602	6,555,143	6,608,199	6,562,320
2002	7,066,070	6,772,110	6,715,168	6,630,978	6,573,983
2003	7,125,690	6,699,687	6,497,357	6,528,294	6,460,460
2004	6,446,795	6,086,503	5,965,256	5,816,554	5,765,744
2005	5,727,438	5,406,418	5,272,740	5,220,203	5,174,602
2006	5,873,476	5,136,130	5,099,816	5,049,002	5,004,897
2007	5,923,174	5,740,312	5,699,726	5,642,935	5,593,641

Loss Development Factors

<u>Accident</u>				
<u>Year</u>	<u>First to Second</u>	<u>Second to Third</u>	<u>Third to Fourth</u>	<u>Fourth to Fifth</u>
1998	1.0300	1.0305	0.9689	0.9976
1999	1.0327	0.9534	1.0241	0.9948
2000	0.9938	1.0170	1.0177	0.9979
2001	1.0265	1.0165	1.0081	0.9931
2002	0.9584	0.9916	0.9875	0.9914
2003	0.9402	0.9698	1.0048	0.9896
2004	0.9441	0.9801	0.9751	
2005	0.9440	0.9753		
2006	0.8745			
Selected Average	0.9691	0.9929	0.9900	0.9913
Cumulative Factors to Fifth Report	0.9444	0.9744	0.9814	0.9913
First to Fifth Factor	0.9444			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 5a)
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 25/50 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	34,115,329	34,552,141	34,719,219	34,058,761	33,880,703
1999	35,001,107	33,984,967	32,445,652	32,617,121	32,187,194
2000	32,863,823	33,061,188	33,762,972	33,709,699	33,621,278
2001	35,483,327	35,148,700	35,267,242	35,168,362	34,869,745
2002	40,585,463	40,216,180	40,027,327	39,981,160	39,286,028
2003	37,598,874	36,715,624	36,940,576	36,614,211	36,473,228
2004	36,556,006	35,490,391	35,162,773	34,757,564	34,453,940
2005	31,816,236	30,971,208	30,714,211	30,408,178	30,142,548
2006	28,466,218	27,854,928	27,657,986	27,382,405	27,143,207
2007	27,102,731	26,266,007	26,080,300	25,820,439	25,594,885

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0128	1.0048	0.9810	0.9948
1999	0.9710	0.9547	1.0053	0.9868
2000	1.0060	1.0212	0.9984	0.9974
2001	0.9906	1.0034	0.9972	0.9915
2002	0.9909	0.9953	0.9988	0.9826
2003	0.9765	1.0061	0.9912	0.9961
2004	0.9708	0.9908	0.9885	
2005	0.9734	0.9917		
2006	0.9785			
Selected Average	0.9691	0.9929	0.9900	0.9913
Cumulative Factors to Fifth Report	0.9444	0.9744	0.9814	0.9913
First to Fifth Factor	0.9444			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 5a)
Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Total Limit Losses for Insureds Purchasing 25/60 Limits - Industry

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	3,740,555	4,195,682	4,251,442	4,208,425	4,116,213
1999	3,092,720	3,098,912	2,985,372	3,140,808	3,178,172
2000	2,654,686	2,720,970	2,791,266	2,800,439	2,840,302
2001	2,639,758	2,820,890	2,868,931	2,958,599	2,908,782
2002	3,928,609	3,999,453	4,071,554	3,922,556	3,959,352
2003	3,622,059	3,564,730	3,624,612	3,587,328	3,538,910
2004	3,002,433	3,057,732	3,058,213	3,025,035	2,998,610
2005	2,805,103	2,918,933	2,964,417	2,934,880	2,909,242
2006	3,015,919	2,820,790	2,800,846	2,772,939	2,748,716
2007	2,946,587	2,855,619	2,835,429	2,807,177	2,782,655

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.1217	1.0133	0.9899	0.9781
1999	1.0020	0.9634	1.0521	1.0119
2000	1.0250	1.0258	1.0033	1.0142
2001	1.0686	1.0170	1.0313	0.9832
2002	1.0180	1.0180	0.9634	1.0094
2003	0.9842	1.0168	0.9897	0.9865
2004	1.0184	1.0002	0.9892	
2005	1.0406	1.0156		
2006	0.9353			
Selected Average	0.9691	0.9929	0.9900	0.9913
Cumulative Factors to Fifth Report	0.9444	0.9744	0.9814	0.9913
First to Fifth Factor	0.9444			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 5a)

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 30/70 & 35/80 Limits - Industry**

<u>Accident</u> Year	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	4,626,215	4,247,854	4,274,999	4,243,560	4,178,998
1999	4,687,472	4,604,415	4,192,327	4,322,088	4,260,242
2000	5,027,938	5,022,534	5,168,623	5,206,405	5,268,971
2001	5,061,437	5,130,703	5,389,902	5,208,092	5,204,477
2002	5,752,582	5,456,410	5,389,875	5,276,616	5,232,510
2003	5,786,818	5,814,368	5,812,023	5,725,638	5,737,998
2004	5,330,690	5,172,432	5,096,067	5,010,538	4,966,769
2005	6,065,503	6,008,014	5,840,615	5,782,420	5,731,908
2006	5,236,239	4,838,016	4,803,810	4,755,945	4,714,400
2007	5,910,827	5,728,346	5,687,845	5,631,172	5,581,981

Loss Development Factors

<u>Accident</u> Year	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	0.9182	1.0064	0.9926	0.9848
1999	0.9823	0.9105	1.0310	0.9857
2000	0.9989	1.0291	1.0073	1.0120
2001	1.0137	1.0505	0.9663	0.9993
2002	0.9485	0.9878	0.9790	0.9916
2003	1.0048	0.9996	0.9851	1.0022
2004	0.9703	0.9852	0.9832	
2005	0.9905	0.9721		
2006	0.9239			
Selected Average	0.9691	0.9929	0.9900	0.9913
Cumulative Factors to Fifth Report	0.9444	0.9744	0.9814	0.9913
First to Fifth Factor	0.9444			

Selected Average from 20/40 Group excluding 20/40 Limit (101A-2, page 5a)
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 50/100 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	64,971,220	68,633,012	69,690,134	68,616,004	68,075,687
1999	63,618,220	65,492,837	64,160,941	65,593,952	64,830,661
2000	61,281,356	64,487,638	67,354,657	67,968,717	67,072,602
2001	62,660,516	64,837,858	67,389,744	67,544,343	67,037,731
2002	79,528,711	80,516,389	81,771,940	82,161,651	81,307,179
2003	81,426,522	82,444,562	84,478,922	84,169,529	83,531,838
2004	77,387,924	77,281,292	78,463,819	77,845,392	77,155,603
2005	77,726,119	77,893,518	79,384,728	79,138,654	78,437,405
2006	75,574,390	76,269,036	77,696,104	77,455,264	76,768,932
2007	74,506,006	74,963,295	76,365,931	76,129,215	75,454,633

Loss Development Factors

<u>Accident</u> <u>Year</u>	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.0564	1.0154	0.9846	0.9921
1999	1.0295	0.9797	1.0223	0.9884
2000	1.0523	1.0445	1.0091	0.9868
2001	1.0347	1.0394	1.0023	0.9925
2002	1.0124	1.0156	1.0048	0.9896
2003	1.0125	1.0247	0.9963	0.9924
2004	0.9986	1.0153	0.9921	
2005	1.0022	1.0191		
2006	1.0092			
Weighted Average	1.0061	1.0187	0.9969	0.9911
Cumulative Factors to Fifth Report	1.0127	1.0066	0.9881	0.9911
First to Fifth Factor	1.0127			

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Bodily Injury Increased Limit Factors**

**Loss Development from First to Fifth Report
Total Limit Losses for Insureds Purchasing 100/300 Limits - Industry**

<u>Accident</u> <u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	175,891,533	195,925,752	202,048,883	200,855,657	199,043,319
1999	178,909,109	188,334,030	189,520,892	192,413,010	191,098,024
2000	174,024,809	190,143,535	199,771,192	205,268,616	203,254,120
2001	182,218,946	197,273,887	207,170,824	207,432,400	205,256,348
2002	197,407,730	210,668,446	217,983,319	218,309,335	215,073,227
2003	189,983,375	203,695,135	213,524,328	214,114,436	211,390,023
2004	190,280,942	203,190,994	207,809,720	206,789,911	203,961,165
2005	180,003,611	191,933,438	197,460,347	197,333,312	194,633,926
2006	175,161,318	183,229,275	189,169,450	189,047,749	186,461,703
2007	183,907,810	195,218,109	201,546,954	201,417,290	198,662,037

<u>Accident</u> <u>Year</u>	<u>Loss Development Factors</u>			
	<u>First to</u> <u>Second</u>	<u>Second to</u> <u>Third</u>	<u>Third to</u> <u>Fourth</u>	<u>Fourth to</u> <u>Fifth</u>
1998	1.1139	1.0313	0.9941	0.9910
1999	1.0527	1.0063	1.0153	0.9932
2000	1.0926	1.0506	1.0275	0.9902
2001	1.0826	1.0502	1.0013	0.9895
2002	1.0672	1.0347	1.0015	0.9852
2003	1.0722	1.0483	1.0028	0.9873
2004	1.0678	1.0227	0.9951	
2005	1.0663	1.0288		
2006	1.0461			
Weighted Average	1.0615	1.0324	0.9994	0.9863
Cumulative Factors to Fifth Report	1.0802	1.0176	0.9857	0.9863
First to Fifth Factor	1.0802			

Weights for Weighted Average from 101A-2, page 9

Source: 101 A-2 Loss by Layer Exhibits

Massachusetts Private Passenger Automobile Bodily Injury Increased Limit Factors

Loss Development from First to Fifth Report Total Limit Losses for Insureds Purchasing 250/500 Limits - Industry

<u>Accident</u>					
<u>Year</u>	<u>First Report</u>	<u>Second Report</u>	<u>Third Report</u>	<u>Fourth Report</u>	<u>Fifth Report</u>
1998	52,588,925	59,658,746	62,814,320	62,840,913	61,540,560
1999	55,784,161	60,794,586	63,068,513	64,223,204	63,778,413
2000	56,571,910	62,048,954	68,099,116	69,495,265	67,370,723
2001	59,907,473	66,768,688	70,311,038	71,128,928	70,403,451
2002	68,735,486	74,925,439	77,322,107	79,693,285	79,071,554
2003	74,539,057	81,636,544	88,776,966	89,226,105	86,655,439
2004	69,304,554	76,073,154	78,801,652	80,507,492	78,957,599
2005	72,271,338	78,523,532	86,371,027	87,971,612	86,278,023
2006	69,389,379	79,855,262	85,286,195	86,866,676	85,194,359
2007	77,154,916	85,618,589	91,441,484	93,136,032	91,343,020

<u>Accident</u>	<u>Loss Development Factors</u>			
	<u>First to</u>	<u>Second to</u>	<u>Third to</u>	<u>Fourth to</u>
<u>Year</u>	<u>Second</u>	<u>Third</u>	<u>Fourth</u>	<u>Fifth</u>
1998	1.1344	1.0529	1.0004	0.9793
1999	1.0898	1.0374	1.0183	0.9931
2000	1.0968	1.0975	1.0205	0.9694
2001	1.1145	1.0531	1.0116	0.9898
2002	1.0901	1.0320	1.0307	0.9922
2003	1.0952	1.0875	1.0051	0.9712
2004	1.0977	1.0359	1.0216	
2005	1.0865	1.0999		
2006	1.1508			
2007				
Weighted				
Average	1.1097	1.0680	1.0185	0.9807
Cumulative				
Factors to Fifth				
Report	1.1839	1.0669	0.9989	0.9807
First to Fifth				
Factor	1.1839			

Weights for Weighted Average from 101A-2, page 9
Source: 101 A-2 Loss by Layer Exhibits

**Massachusetts Private Passenger Automobile
Calculation of U-2 Rates
Total Market**

	(1)	(2)	(3)	(4)	(5)	(6)	
	Statewide % of BI Expo's at <u>Limit</u>	BI ILF's	% of Pop. that is Under- Insured	Diff in ILF's	Product (2)x(3)	Ratio of U-2 PPre to BI Basic PPrem (Cumul. sum (4))	U-2 Pure Premium (5) x BI PPre ²
20/40	25.49%	1.000	0.00%	0.000	0.00%	0.00%	0.00
20/50	0.62%	1.010	25.49%	0.010	0.25%	0.25%	0.37
25/50	5.94%	1.060	26.11%	0.050	1.31%	1.56%	2.29
25/60	1.30%	1.070	32.05%	0.010	0.32%	1.88%	2.76
50/100	13.51%	1.290	33.35%	0.220	7.34%	9.22%	13.55
100/300	37.23%	1.570	46.86%	0.280	13.12%	22.34%	32.83
250/500	15.49%	2.160	84.09%	0.590	49.61%	71.95%	105.74
500/500	0.32%	3.190	99.58%	1.030	102.57%	174.52%	256.47
500/1000	0.10%	3.240	99.90%	0.050	5.00%	179.52%	263.82
Totals	100.00%						

	(7)	(8)	(9)
<u>Limit</u>	% of U-2 Exposures at Limit ³	Proposed Avg. Rate ⁴	Product (7)x(8)
20/40	69.24%	0.00	0.00
20/50	1.99%	0.38	0.01
25/50	5.84%	2.37	0.14
25/60	0.63%	2.86	0.02
30/70	0.11%	5.86	0.01
35/80	1.14%	7.82	0.09
50/100	8.78%	14.03	1.23
100/300	10.25%	33.99	3.48
250/500	1.95%	109.47	2.13
500/500	0.08%	265.52	0.21
500/1000	0.00%	273.13	0.00
Totals	100.01%		7.32

U-2 Indicated Average Rate = 7.32

¹ Total Market

² Estimate of total market BI basic limits pure premium including LAE: 146.96

³ Facility Market

⁴ Column (6) / (1 - prem tax - UW profit) (Form 100);
proposed manual rates derived in 100L; proposed manual rates for all limits shown in 101E.

