

TABLE 1: PM_{2.5} Statewide Health Incidence: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	3,800 (2,300 - 5,300)	1,600 (940 - 2,300)
Infant Mortality	3 (2 - 5)	1 (1 - 2)
Respiratory Hospital Admissions	420 (56 - 760)	170 (24 - 320)
Cardiovascular Hospital Admissions	520 (260 - 900)	210 (110 - 370)
Acute Respiratory Symptoms	1.5 million (1.3 - 1.7 million)	660,000 (560,000 - 760,000)
Lower Respiratory Symptoms	38,000 (19,000 - 55,000)	16,000 (8,000 - 24,000)
Upper Respiratory Symptoms	57,000 (18,000 - 97,000)	24,000 (7,600 - 40,000)
Work Loss Days	260,000 (230,000 - 290,000)	110,000 (97,000 - 130,000)
Asthma Exacerbation	140,000 (7,600 - 790,000)	58,000 (3,200 - 310,000)
Respiratory Emergency Room Visits	770 (0 - 1,500)	330 (0 - 630)
Acute Bronchitis	2,900 (0 - 5,300)	1,300 (0 - 2,500)
Non-Fatal Heart Attacks	1,600 (640 - 2,500)	710 (270 - 1,100)

TABLE 2: PM_{2.5} Seven County Metro Area Health Incidence: Annual Impact Estimate (90% Conf Int)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	2,100 (1,200 - 2,900)	1,000 (600 - 1,400)
Infant Mortality	2 (1 - 3)	1 (1 - 2)
Respiratory Hospital Admissions	230 (34 - 420)	110 (16 - 200)
Cardiovascular Hospital Admissions	290 (150 - 500)	140 (71 - 240)
Acute Respiratory Symptoms	930,000 (790,000 - 1.1 million)	460,000 (390,000 - 530,000)
Lower Respiratory Symptoms	22,000 (11,000 - 32,000)	11,000 (5,300 - 16,000)
Upper Respiratory Symptoms	34,000 (11,000 - 57,000)	16,000 (5,100 - 27,000)
Work Loss Days	160,000 (140,000 - 180,000)	78,000 (68,000 - 88,000)
Asthma Exacerbation	81,000 (4,400 - 470,000)	39,000 (2,100 - 200,000)
Respiratory Emergency Room Visits	460 (0 - 880)	220 (0 - 430)
Acute Bronchitis	1,700 (0 - 3,100)	840 (0 - 1,600)
Non-Fatal Heart Attacks	910 (360 - 1,400)	460 (170 - 730)

MPCA Analysis: Total Public Health Burden Attributable to Current PM_{2.5} and Ozone in Minnesota, Summary of Results

David Bael, Environmental Economic Analyst

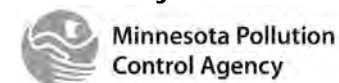


TABLE 3: Ozone Statewide Health Incidence: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	61 (27 - 96)	15 (7 - 24)
Respiratory Hospital Admissions	440 (160 - 710)	110 (29 - 180)
Acute Respiratory Symptoms	380,000 (190,000 - 560,000)	96,000 (49,000 - 140,000)
School Loss Days	140,000 (61,000 - 200,000)	36,000 (16,000 - 51,000)
Respiratory Emergency Room Visits	150 (0 - 450)	39 (0 - 120)

TABLE 4: Ozone Seven County Metro Area Health Incidence: Annual Impact Estimate (90% Conf Int)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	29 (12 - 45)	4 (2 - 6)
Respiratory Hospital Admissions	210 (55 - 350)	29 (8 - 47)
Acute Respiratory Symptoms	200,000 (100,000 - 310,000)	31,000 (16,000 - 46,000)
School Loss Days	73,000 (31,000 - 100,000)	12,000 (5,000 - 16,000)
Respiratory Emergency Room Visits	82 (0 - 240)	12 (0 - 36)

TABLE 5: PM_{2.5} Statewide Economic Valuation: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	\$34 billion (\$4.9 - \$82 billion)	\$14 billion (\$2.1 - \$35 billion)
Infant Mortality	\$30 million (\$4.1 - \$75 million)	\$13 million (\$1.8 - \$33 million)
Respiratory Hospital Admissions	\$10 million (\$0 - \$19 million)	\$4.2 million (\$0 - \$7.8 million)
Cardiovascular Hospital Admissions	\$17 million (\$8.8 - \$30 million)	\$7.2 million (\$3.7 - \$12 million)
Acute Respiratory Symptoms	\$96 million (\$56 - \$140 million)	\$41 million (\$24 - \$60 million)
Lower Respiratory Symptoms	\$730,000 (\$290,000 - \$1.3 million)	\$320,000 (\$130,000 - \$580,000)
Upper Respiratory Symptoms	\$1.8 million (\$510,000 - \$3.9 million)	\$740,000 (\$210,000 - \$1.6 million)
Work Loss Days	\$39 million (\$34 - \$44 million)	\$17 million (\$15 - \$19 million)
Asthma Exacerbation	\$7.4 million (\$410,000 - \$43 million)	\$3.1 million (\$170,000 - \$17 million)
Respiratory Emergency Room Visits	\$290,000 (\$0 - \$540,000)	\$120,000 (\$0 - \$230,000)
Acute Bronchitis	\$1.3 million (\$0 - \$2.9 million)	\$560,000 (\$0 - \$1.3 million)
Non-Fatal Heart Attacks	\$170 million (\$41 - \$390 million)	\$75 million (\$17 - \$170 million)

MPCA Analysis: Total Public Health Burden Attributable to Current PM_{2.5} and Ozone in Minnesota, Summary of Results

David Bael, Environmental Economic Analyst

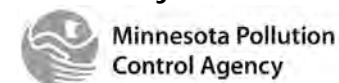


TABLE 6: PM_{2.5} Seven County Metro Area Economic Valuation: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	\$18 billion (\$2.6 - \$44 billion)	\$9.1 billion (\$1.3 - \$22 billion)
Infant Mortality	\$19 million (\$2.6 - \$47 million)	\$9.4 million (\$1.3 - \$23 million)
Respiratory Hospital Admissions	\$5.6 million (\$0 - \$10 million)	\$2.7 million (\$0 - \$5.0 million)
Cardiovascular Hospital Admissions	\$9.7 million (\$5.0 - \$17 million)	\$4.7 million (\$2.4 - \$8.1 million)
Acute Respiratory Symptoms	\$59 million (\$34 - \$85 million)	\$29 million (\$17 - \$41 million)
Lower Respiratory Symptoms	\$430,000 (\$170,000 - \$770,000)	\$210,000 (\$84,000 - \$390,000)
Upper Respiratory Symptoms	\$1.0 million (\$300,000 - \$2.3 million)	\$490,000 (\$140,000 - \$1.1 million)
Work Loss Days	\$28 million (\$24 - \$31 million)	\$13 million (\$12 - \$15 million)
Asthma Exacerbation	\$4.3 million (\$240,000 - \$25 million)	\$2.1 million (\$110,000 - \$11 million)
Respiratory Emergency Room Visits	\$170,000 (\$0 - \$320,000)	\$83,000 (\$0 - \$160,000)
Acute Bronchitis	\$750,000 (\$0 - \$1.7 million)	\$370,000 (\$0 - \$890,000)
Non-Fatal Heart Attacks	\$97 million (\$23 - \$210 million)	\$49 million (\$11 - \$110 million)

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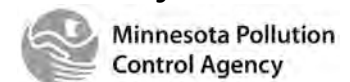


TABLE 7: Ozone Statewide Economic Valuation: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	\$450 million (\$60 million - \$1.1 billion)	\$110 million (\$15 - \$290 million)
Respiratory Hospital Admissions	\$8.7 million (\$1.7 - \$15 million)	\$2.2 million (\$450,000 - \$3.7 million)
Acute Respiratory Symptoms	\$22 million (\$10 - \$38 million)	\$5.7 million (\$2.6 - \$9.5 million)
School Loss Days	\$12 million (\$5.4 - \$17 million)	\$3.2 million (\$1.4 - \$4.5 million)
Respiratory Emergency Room Visits	\$57,000 (\$0 - \$160,000)	\$14,000 (\$0 - \$40,000)

TABLE 8: Ozone Seven County Metro Area Economic Valuation: Annual Impact Estimate (90% Confidence Interval)

Health Impact	Relative to Policy Relevant Background	Relative to Minnesota Zero-out Scenario
Adult Mortality	\$210 million (\$28 - \$540 million)	\$27 million (\$3.6 - \$68 million)
Respiratory Hospital Admissions	\$4.2 million (\$830,000 - \$7.0 million)	\$560,000 (\$120,000 - \$930,000)
Acute Respiratory Symptoms	\$12 million (\$5.5 - \$20 million)	\$1.8 million (\$840,000 - \$3.1 million)
School Loss Days	\$6.5 million (\$2.8 - \$9.2 million)	\$1.0 million (\$460,000 - \$1.5 million)
Respiratory Emergency Room Visits	\$30,000 (\$0 - \$83,000)	\$4,500 (\$0 - \$12,000)

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