

Attitudes Towards Air Quality in Hamilton-Wentworth

R. Andrew Muller and Alan A. Diener
Department of Economics,
McMaster University, Hamilton, Ont.
Tel: (905) 525-9140, x22765
Fax: (905) 521-8232

This survey is being conducted by McMaster University on behalf of the Hamilton Air Quality Initiative, which is a project being undertaken by the Regional, Provincial and Federal governments together with representatives from a variety of other organizations and citizens-at-large. Thank you for answering the survey.

We will be asking how the quality of the air in Hamilton-Wentworth affects you. Your participation is voluntary. If you would rather not answer a question please skip it. Your answers will be treated in strict confidence.

There are no right or wrong answers to this survey. Please answer each question the way you feel, not the way you think you ought to feel.

Section A

Q1. How would you describe the air quality in your neighbourhood compared to the rest of Southern Ontario? (Circle the number of your answer)

1	2	3	4	5	6
Much better than the rest of Southern Ontario	Somewhat better than the rest of Southern Ontario	The same as the rest of Southern Ontario	Somewhat worse than the rest of Southern Ontario	Much worse than the rest of Southern Ontario	Don't Know

Q2. How concerned are you about annoying odours due to air pollution in Hamilton-Wentworth? (Circle number)

1	2	3	4	5	6
Not at all concerned	A little concerned	Somewhat concerned	Very concerned	Extremely concerned	Don't Know

Q3. How concerned are you about black sooty material (black fallout) falling from the air in Hamilton-Wentworth? (Circle number)

1	2	3	4	5	6
Not at all concerned	A little concerned	Somewhat concerned	Very concerned	Extremely concerned	Don't Know

Q4. How concerned are you about poor visibility in Hamilton-Wentworth? (Circle number)

1	2	3	4	5	6
Not at all concerned	A little concerned	Somewhat concerned	Very concerned	Extremely concerned	Don't Know

Q5. How concerned are you about the health effects of air pollution? (Circle number)

1	2	3	4	5	6
Not at all concerned	A little concerned	Somewhat concerned	Very concerned	Extremely concerned	Don't Know

Many issues concern people these days. Some people are concerned about poor air quality. Other people are more concerned about other issues. Please indicate whether you think each of the following issues is a more serious issue than air quality, a less serious issue than air quality, or about as

erious an issue as air quality.

- 16. The level of crime: (circle the number of your answer)
 - 1. MORE SERIOUS ISSUE THAN AIR QUALITY
 - 2. LESS SERIOUS ISSUE THAN AIR QUALITY
 - 3. EQUALLY AS SERIOUS AS AIR QUALITY
- 17. The level of taxes: (circle number)
 - 1. MORE SERIOUS ISSUE THAN AIR QUALITY
 - 2. LESS SERIOUS ISSUE THAN AIR QUALITY
 - 3. EQUALLY AS SERIOUS AS AIR QUALITY
- 18. Clearing snow from and improving the paving of Regional roads: (circle number)
 - 1. MORE SERIOUS ISSUE THAN AIR QUALITY
 - 2. LESS SERIOUS ISSUE THAN AIR QUALITY
 - 3. EQUALLY AS SERIOUS AS AIR QUALITY
- 19. The quality of the educational system: (circle number)
 - 1. MORE SERIOUS ISSUE THAN AIR QUALITY
 - 2. LESS SERIOUS ISSUE THAN AIR QUALITY
 - 3. EQUALLY AS SERIOUS AS AIR QUALITY
- 20. The level of unemployment: (circle number)
 - 1. MORE SERIOUS ISSUE THAN AIR QUALITY
 - 2. LESS SERIOUS ISSUE THAN AIR QUALITY
 - 3. EQUALLY AS SERIOUS AS AIR QUALITY

21. What do you consider to be the signs of good air quality?

Sometimes the air in Hamilton-Wentworth has a bad odour. People describe odours differently. Some odours are like rotten eggs, others are like coal, others are like acid. There may be other kinds of odour. Sometimes people go indoors to avoid the odour. Some areas of Hamilton-Wentworth are more affected than others.

- 22. Have you ever experienced bad odour problems, such as those described above, in Hamilton-Wentworth? (circle number)
 - 1. YES
 - 2. NO ; GO TO QUESTION 14

- Q13. If yes, how often, on average, over the past year? (circle number)
 - 1. LESS THAN ONE DAY PER MONTH
 - 2. 1-3 DAYS PER MONTH
 - 3. 4-6 DAYS PER MONTH
 - 4. 7-10 DAYS PER MONTH
 - 5. MORE THAN 10 DAYS PER MONTH
 - 6. DAILY

Sometimes black sooty material falls out of the air onto outdoor furniture, houses and cars. This is often called black fallout. When there is black fallout people may have to clean their outdoor furniture and fixtures before using them. Some areas of Hamilton-Wentworth are more affected than others.

- Q14. Have you ever experienced this black fallout in Hamilton-Wentworth?
 - 1. YES
 - 2. NO ; GO TO QUESTION 16

- Q15. If yes, how often (on average over the year)
 - 1. LESS THAN ONE DAY PER MONTH
 - 2. 1-3 DAYS PER MONTH
 - 3. 4-6 DAYS PER MONTH
 - 4. 7-10 DAYS PER MONTH
 - 5. MORE THAN 10 DAYS PER MONTH
 - 6. DAILY

Sometimes the air in Hamilton-Wentworth is clear, sometimes it is not. At times there is a haze over the city like the one in the picture below. This poor visibility can be caused by air pollutants being trapped near the ground or by a chemical reaction in the air. Most poor visibility days occur in the spring, summer, and fall.

NOTE: THIS SPACE IN THE SURVEY WAS OCCUPIED BY A COLOUR PHOTOGRAPHIC OF A POOR VISIBILITY DAY IN HAMILTON-WENTWORTH]

A poor visibility day in Hamilton-Wentworth

16. Have you ever noticed such poor visibility days in Hamilton-Wentworth?
 1. YES
 2. NO ; GO TO QUESTION 18
17. If yes, how often on average? (Consider only the spring, summer and fall months)
 1. LESS THAN ONE DAY PER MONTH
 2. 1-3 DAYS PER MONTH
 3. 4-6 DAYS PER MONTH
 4. 7-10 DAYS PER MONTH
 5. MORE THAN 10 DAYS PER MONTH
 6. DAILY

Poor air quality can affect health. Some effects such as headaches or sore throats are minor. Others may be more serious. Some people in Hamilton-Wentworth suffer from breathing or heart conditions. Poor air quality can make these conditions worse. When air quality is poor, some people with these conditions must go to the hospital. Some heart and lung conditions made worse by air pollution are chronic bronchitis, emphysema, asthma, angina, and heart disease. Air pollution can also lead to premature deaths among people who are already sick. Children and seniors are more sensitive to these effects.

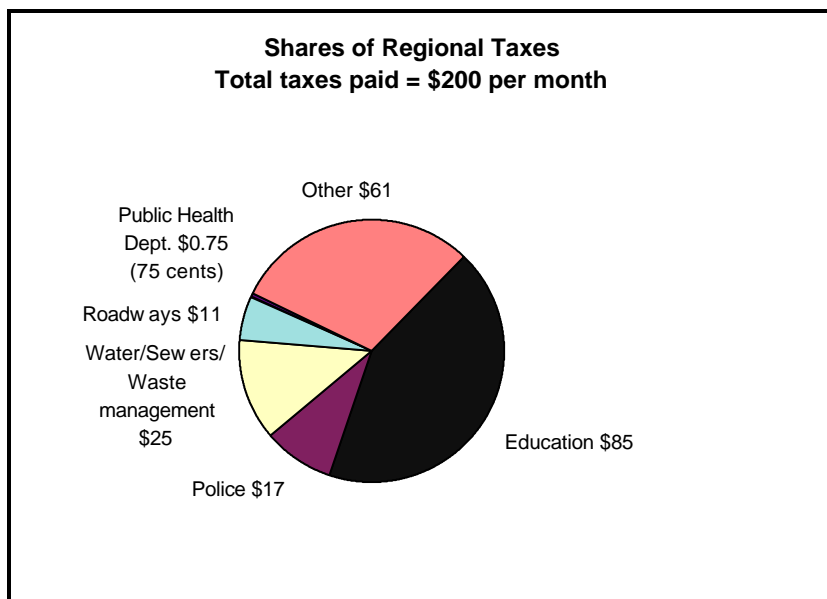
- Q18. Do you believe the quality of air in Hamilton-Wentworth has affected your health or the health of another member of your household? (Circle answer)
 1. Yes
 2. No. Go to Question 20
- Q19. If yes, how often do you notice the effects of air quality on your health or the health of another member of your household? (Circle answer)
 1. LESS THAN ONE DAY PER MONTH
 2. 1-3 DAYS PER MONTH
 3. 4-6 DAYS PER MONTH
 4. 7-10 DAYS PER MONTH
 5. MORE THAN 10 DAYS PER MONTH
 6. DAILY
- Q20. Were you ever told by a doctor or any other health professional that you, or any of your family members, currently have any of the following lung or heart conditions? (check all that apply)

condition	you	another family member
asthma		
heart disease		
angina		
emphysema or chronic bronchitis		
any other breathing or heart disease		

21. We have discussed four attributes of air quality: bad odour, black fallout, poor visibility and health effects. Which is the most important to you? (Put a 1 beside it). Which is the least important to you? (put a 4 beside it) Of the remaining two attributes which concerns you the most? (Put a 2 beside it. Put a 3 beside the remaining attribute.)

- BAD ODOUR _____
- BLACK FALLOUT _____
- POOR VISIBILITY _____
- HEALTH EFFECTS _____

Property taxes collected in Hamilton-Wentworth are used to pay for many services. If you own your home you pay these taxes directly. If you rent your home your landlord uses some of your rent money to pay the taxes. In 1996, the typical household in Hamilton-Wentworth paid about \$200 per month in property taxes. Of this total, about \$85 was spent on education, about \$25 was spent on water services, sewers and waste management, about \$17 was spent on police services, about \$11 was spent on roadways, and about \$0.75 (75 cents) was spent on the Department of Public Health. (See chart below)



22. How do you think that property taxes are just about right, others believe that they are too high, others believe that they are too low, or you think that property taxes are too high, too low, or about right? (Circle number)

1. TOO HIGH
2. TOO LOW
3. ABOUT RIGHT
4. DON'T KNOW

Section B

If we do nothing about pollution air quality may get worse. If we spend money to reduce pollution air quality may improve. The current level of each attribute that has been discussed in this survey is given in the table below. The following questions ask how you would balance changes in property taxes with changes in air quality. In each question, we will give you four choices. Choice A is always the current situation. Choices B, C and D are alternatives to the current situation. In each alternative, the attributes of air quality may be the same, about one-third better, or about one-third worse, than the current situation. The following chart shows what we mean.

Attribute	Current Situation	About One-third Better	About One-third Worse
Bad Odour	4 days of bad odour per month	3 days of bad odour per month	5 days of bad odour per month
Black Fallout (BFO)	3 days of black fallout per month	2 days of black fallout per month	4 days of black fallout per month
Visibility	3 days of poor visibility per month	2 days of poor visibility per month	4 days of poor visibility per month
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	12 extra hospital admissions per month & 1 extra death per month, compared to perfectly clean air	24 extra hospital admissions per month and 3 extra deaths per month, compared to perfectly clean air

Reducing pollution can be expensive. Taxes may be needed to offset these costs. Therefore each alternative will also include a change in property taxes or rental payments for your entire household. Please remember that any money spent on increased taxes or rent cannot be spent on anything else. You can refer to the chart on page 7 to recall what is presently spent on some regional services.

There are nine sets of choices. For each set, we will ask which choice you like the best and which you like the least. Then we will ask which, of the remaining two choices you like the best. All of these questions deal with matters of opinion. There are no right or wrong answers and you do not have to explain any of your answers.

THESE CHOICE SETS DO NOT DESCRIBE ANY ACTUAL CHOICES FACING THE REGION OF HAMILTON-WENTWORTH RIGHT NOW. THEY ARE CONSTRUCTED ONLY TO HELP YOU TO DESCRIBE HOW YOU WOULD BALANCE THE VARIOUS ATTRIBUTES OF AIR QUALITY AND PROPERTY TAXES OR RENTAL PAYMENTS.

Q24. Choice Set 2

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	One-third Better	Same as current situation
Black Fallout (BFO)	3 days of BFO per month	Same as current situation	One-third Better	One-third Worse
Poor Visibility	3 days of poor visibility per month	One-third Worse	Same as current situation	One-third Better
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	Same as current situation	One-third Better	One-third Better
Monthly Property Taxes or Rent	\$200 per month for typical household	\$20 more taxes/rent	Same as current situation	\$20 less taxes/rent
Rank				

Please put a 1 under the choice you like BEST.
 Please put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

Q25. Choice Set 3

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	Same as current situation	One-third Worse
Black Fallout (BFO)	3 days of BFO per month	One-third Worse	One-third Better	Same as current situation
Poor Visibility	3 days of poor visibility per month	Same as current situation	One-third Worse	One-third Better
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	One-third Worse	One-third Better	Same as current situation
Monthly Property Taxes or Rent	\$200 per month for typical household	\$10 less taxes/rent	Same as current situation	\$10 more taxes/rent
Rank				

Please put a 1 under the choice you like BEST.
 Please put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

Choice Set 4

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	Same as current situation	One-third Better	One-third Worse
Black Fallout (BFO)	3 days of BFO per month	Same as current situation	One-third Worse	Same as current situation
Poor Visibility	3 days of poor visibility per month	One-third Worse	Same as current situation	One-third Better
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	Same as current situation	One-third Better	One-third Worse
Monthly Property Taxes or Rent	\$200 per month for typical household	\$25 more taxes/rent	Same as current situation	\$25 less taxes/rent
Rank				

lease put a 1 under the choice you like BEST.
 lease put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

Q27. Choice Set 5

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	One-third Worse	Same as current situation
Black Fallout (BFO)	3 days of BFO per month	One-third Better	One-third Worse	Same as current situation
Poor Visibility	3 days of poor visibility per month	One-third Better	One-third Worse	Same as current situation
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	Same as current situation	One-third Better	One-third Worse
Monthly Property Taxes or Rent	\$200 per month for typical household	\$10 more taxes/rent	Same as current situation	\$10 less taxes/rent
Rank				

Please put a 1 under the choice you like BEST.
 Please put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

128. **Choice Set 6**

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	One-third Worse	Same as current situation
Black Fallout (BFO)	3 days of BFO per month	Same as current situation	One-third Better	One-third Worse
Poor Visibility	3 days of poor visibility per month	One-third Worse	Same as current situation	One-third Better
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	One-third Worse	Same as current situation	One-third Better
Monthly Property Taxes or Rent	\$200 per month for typical household	\$50 less taxes/rent	\$50 more taxes/rent	Same as current situation
Rank				

*Please put a 1 under the choice you like BEST.
Please put a 4 under the choice you like LEAST.
Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.*

Q29. **Choice Set 7**

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	One-third Worse	Same as current situation
Black Fallout (BFO)	3 days of BFO per month	Same as current situation	One-third Better	One-third Worse
Poor Visibility	3 days of poor visibility per month	One-third Worse	Same as current situation	One-third Better
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	One-third Better	One-third Worse	Same as current situation
Monthly Property Taxes or Rent	\$200 per month for typical household	Same as current situation	\$15 less taxes/rent	\$15 more taxes/rent
Rank				

*Please put a 1 under the choice you like BEST.
Please put a 4 under the choice you like LEAST.
Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.*

130. Choice Set 8

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	Same as current situation	One-third Worse	One-third Better
Black Fallout (BFO)	3 days of BFO per month	One-third Better	Same as current situation	One-third Worse
Poor Visibility	3 days of poor visibility per month	One-third Worse	One-third Better	Same as current situation
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	One-third Worse	One-third Better	Same as current situation
Monthly Property Taxes or Rent	\$200 per month for typical household	\$15 more taxes/rent	Same as current situation	\$15 less taxes/rent
Rank				

Please put a 1 under the choice you like BEST.
 Please put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

Q31. Choice Set 9

	State of the Environment			
Attribute	Choice A (Current Situation)	Choice B	Choice C	Choice D
Bad Odour	4 days of bad odour per month	One-third Better	Same as current situation	One-third Worse
Black Fallout (BFO)	3 days of BFO per month	One-third Better	Same as current situation	One-third Worse
Poor Visibility	3 days of poor visibility per month	One-third Better	Same as current situation	One-third Worse
Health Effects	18 extra hospital admissions per month and 2 extra deaths per month, compared to perfectly clean air	One-third Worse	One-third Better	Same as current situation
Monthly Property Taxes or Rent	\$200 per month for typical household	\$20 more taxes/rent	Same as current situation	\$20 more taxes/rent
Rank				

Please put a 1 under the choice you like BEST.
 Please put a 4 under the choice you like LEAST.
 Consider the remaining choices. Put a 2 under the one you like best. Put a 3 under the other one.

ection C:

How we would like to ask you a few questions about yourself.

- Q32. In what year were you born?
_____ YEAR
- Q33. What is the highest level of education you have completed? (Circle number)
1. LESS THAN GRADE 8
 2. ELEMENTARY SCHOOL, GRADE 8
 3. HIGH SCHOOL (GRADE 12 OR 13)
 4. POST SECONDARY (CERTIFICATE OR DIPLOMA)
 5. UNIVERSITY DEGREE (B.A., B.Sc.)
 6. POST GRADUATE (M.A., M.Sc., Ph.D.)
- Q34. What is your current employment status? (Circle number)
1. FULL TIME HOUSEWORK
 2. FULL-TIME PAID EMPLOYMENT
 3. PART-TIME PAID EMPLOYMENT
 4. SELF-EMPLOYED
 5. UNEMPLOYED
 6. RETIRED
 7. STUDENT
- Q35. Which number best represents your household type? (Circle number)
1. COUPLE WITH CHILDREN
 2. COUPLE WITHOUT CHILDREN
 3. LONE PARENT WITH CHILDREN
 4. NON-FAMILY, ONE PERSON
 5. NON-FAMILY, MORE THAN ONE PERSON
- Q36. How many people live in your household (including yourself)?
_____NUMBER
- Q37. How many are adults 18 years or older?
_____NUMBER
- Q38. How many of the adults are aged 65 or older?
_____NUMBER

- Q39. Are you currently employed, or have you ever worked in the health care field? (For example, medical doctor, nurse, health researcher, etc) (Circle number)
1. YES
 2. NO
- Q40. Do you support any environmental organizations (for example, Greenpeace, Earthroots, Pollution Probe) with time or money? (Circle number)
1. YES
 2. NO
- Q41. What is your sex? (Circle number)
1. MALE
 2. FEMALE
- Q42. Which range best represents the total income of your household in 1995, before taxes. (Circle number)
- | | |
|----------------------|-----------------------|
| 1. under \$20,000 | 6. \$60,000-\$69,999 |
| 2. \$20,000-\$29,999 | 7. \$70,000-\$79,999 |
| 3. \$30,000-\$39,999 | 8. \$80,000-\$89,999 |
| 4. \$40,000-\$49,999 | 9. \$90,000-\$99,999 |
| 5. \$50,000-\$59,999 | 10. \$100,000 or over |
- Q43. How long have you lived in your present home? (Circle number)
1. LESS THAN ONE YEAR
 2. 1-5 YRS
 3. MORE THAN 5 YEARS
- Q44. What type of dwelling do you live in? (Circle number)
1. DETACHED HOUSE
 2. SEMI-DETACHED HOUSE
 3. HIGH-RISE APARTMENT BUILDING
 4. LOW-RISE APARTMENT BUILDING (3 FLOORS OR LESS)
- Q45. Do you own your home or do you rent? (Circle number)
1. OWN
 2. RENT
- Q46. How many hours per week do you spend outdoors engaging in physical activity such as exercise gardening, or walking? (Circle number)
1. LESS THAN 5 HOURS
 2. 5-10 HOURS
 3. MORE THAN 10 HOURS

147. Please tell us about any part of this questionnaire that was hard for you to understand

148. Is there anything else you would like to say about air quality in Hamilton-Wentworth or about this questionnaire.
