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EMPACT Local Urban Environmental Issues Study of Metropolitan Areas in EPA Region 6

EMPACT

Environmental Monitoring for Public Access
& Community Tracking

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Executive Summary

EMPACT is an interagency Presidential Initiative charged with providing 86 of the nation's largest Metropolitan Statistical Areas (MSA) with the capacity to monitor local environmental parameters of greatest interest to their citizens, and helping these communities make this information readily available and understandable. Pursuant to this charge, EMPACT developed a survey to identify local environmental issues of greatest concern to citizens in each of the 86 EMPACT metropolitan areas. The survey was developed with input from key EPA staff and Federal stakeholders and then reviewed by professionals in EPA, other Federal agencies, academia, and the private sector. The survey was conducted in March and April of 1999 using Computer-Assisted Telephone Interviewing (CATI). At least 100 respondents were sampled from each MSA, for a total of 8,777 interviews. All citizens with telephone service in the 86 EMPACT MSAs had an equal probability of being interviewed.

Only the 86 EMPACT MSAs were surveyed. Other MSAs, smaller communities and rural areas were excluded. Therefore, the results do not reflect national opinion, but are a good indicator of opinion among residents of metropolitan areas. Overall, 81.1% of the residents living in a metropolitan statistical area live in one of the EMPACT MSAs. The findings from all 10 regions combined have been published previously under separate cover.

This report presents findings from respondents living in the 10 EMPACT MSAs located in the U.S. Environmental Protection Agency's (EPA) Region 6: Albuquerque, NM; Austin/San Marcos, TX; Dallas/Fort Worth, TX; El Paso, TX; Houston/Galveston/Brazoria, TX; Little Rock/North Little Rock, AR; New Orleans, LA; Oklahoma City, OK; San Antonio, TX; and Tulsa, OK. In all, 69.5% of the residents of metropolitan statistical areas in Region 6 live in one of the 10 Region 6 EMPACT MSAs. Therefore, these results are a good indicator of opinions among residents of metropolitan areas in Region 6.

Summary of Findings

The following are key findings from the analysis of the survey data from the Region 5 EMPACT MSAs:

Importance of Environmental Issues in Region 6

- **Region 6 respondents consider environmental issues slightly more important than non-environmental issues.** Public education (mean=8.6), a non-environmental issue, received the highest overall mean importance rating, however, the next two most important issues were environmental. The long-term supply of drinking water (8.5) and the quality of drinking water (8.3) were considered the two most important environmental issues. The next most important local environmental issues were the pollution of streams, lakes, rivers, and oceans (8.2); protection of ground water and wells (8.1); and the adequacy of sewage treatment facilities (8.0). The next most important non-environmental issues were local crime rate (8.2) and illegal drug use (8.2).

Executive Summary

- **Water issues are the most important local environmental issues to Region 6 respondents.** The five most important *local* environmental issues relate to water, with the two most important relating to drinking water in particular:long-term supply of drinking water (mean=8.5); quality of drinking water (8.3); pollution of streams, lakes, rivers, and oceans (8.2); protection of ground water and wells (8.1); and the adequacy of sewage treatment facilities (8.0).

- **There are significant differences in the importance of local environmental concerns for Region 6 respondents compared to the other nine EPA Region respondents combined.**

    - Region 6 respondents are significantly more likely to report that ozone alerts, the depletion of the water table, and the long-term supply of drinking water are important issues.

Improvement or Decline of Environmental Issues in Region 6

- **Regarding *improvement* in local environmental conditions during the last five years, Region 6 respondents are most likely to report improvement in the air pollution from burning leaves (42%); use of potentially harmful pesticides (41%); and the adequacy of sewage treatment facilities (34%).**

- **Regarding *decline* in local environmental conditions during the last five years, Region 6 respondents are most likely to report decline in air pollution from cars (43%); the adequacy of landfills (35%); and the pollution of streams, lakes, rivers, and oceans (33%).**

- **There are significant differences in the perceived improvement or decline of local environmental issues for Region 6 respondents compared to the other nine EPA Region respondents combined.**

    - When compared to other regions combined, Region 6 respondents are more likely to report that the following issues have improved over the last five years: adequacy of landfills; protection of ground water and wells, and the long-term supply of drinking water.

    - When compared to other regions combined, Region 6 respondents are more liely to report that the following issues have worsened over the last five years: Air pollution from business and industries and the depletion of the water table.

Key Findings Among Region 6 MSAs

- **There are significant differences in local environmental concerns among Region 6 EMPACT MSAs. Among the notable differences:**

    - Oklahoma City respondents are significantly more likely to report that many *local* environmental issues are important;

- Albuquerque are significantly less likely to report that some *local* environmental issues are important.

* Respondents were asked to indicate how important each of 29 issues was in their community using a scale of 1 to 10, with 10 being "extremely important" and 1 being "not important at all." "Importance" ratings referenced in the *Executive Summary* are means.

** For each environmental issue that a respondent rated 6 or greater in importance, the respondent was asked: "For (INSERT ISSUE), would you say it has gotten better, worse, or stayed the same in the last five years in the (INSERT NAME OF MSA) area?

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Chapter I

Introduction

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Chapter I. Introduction

I. Purpose of the *EMPACT Local Environmental Issues Study of 86 Metropolitan Areas*

EMPACT is an interagency Presidential Initiative charged with providing 86 of the nation's largest Metropolitan Statistical Areas (MSA) with the capacity to monitor local environmental parameters of greatest interest to their citizens, and helping these communities make this information readily available and understandable. (Appendix A contains an alphabetical listing of the 86 EMPACT MSAs and a listing of EMPACT MSAs by EPA Region). To meet this charge, EMPACT is a "customer-driven" program that attempts to meet the needs and preferences of its customers, the 86 designated EMPACT MSAs, and their residents. In order to ensure that EMPACT funded research and grants focus on the local environmental parameters of greatest interest to citizens, information about the local environmental issues of greatest concern to the citizens in each of the 86 EMPACT MSAs was critical. Therefore, EMPACT developed a survey to identify local environmental issues of greatest concern to citizens in each of the 86 EMPACT MSAs. This information will be used by EMPACT to direct resource allocations and evaluate research proposals and the program's portfolio of initiatives. The information from the survey will also be provided to EMPACT projects and federal partners to support their work in providing citizens with easily accessible, understandable, time-relevant information about environmental conditions in their communities.

II. Previous Research

EMPACT and its contractor conducted searches of all relevant electronic data bases (e.g., Roper *Polls* and the University of North Carolina *State Polls*), reviewed related literature, consulted with experts in the areas of environmental and survey research, and maintained continuing communications with other EPA organizations and federal agencies with related missions. These efforts identified no previous, current, or planned efforts to conduct a national survey of urban residents' concerns with local environmental issues.

The most relevant surveys identified were conducted by state polls and academic polling organizations. However, these polls queried environmental issues on the national, regional, and state levels. The identified state-level studies queried respondents about environmental issues in their state of residence. Thus, the environmental issues queried focused on a broader geographic area than the respondent's area of residence and the sample included non-urban residents. Many of the polls conducted on the regional and state levels were over 20 years old. Only one metropolitan poll in La Vegas, Nevada included questions about local urban environmental issues at the community level. Survey questions that query a broad sample of citizens (i.e., urban, small town, and rural residents) about the importance of environmental issues at a national, regional, or state level may be of little use in identifying local environmental issues of greatest importance to residents of a specific metropolita area. First, when queried about environmental issues in general or at the national and regional levels, respondents frequently focus on broad issues, such as ozone depletion. Second, residents of metropolitan areas, small towns, and rural areas are likely to be concerned about very different local environmental issues in their communities. Lastly, even if a national or state level survey were to ask

respondents from urban areas about environmental concerns in their city of residence, the aggregate results would be of little use because of likely variation in local issues across cities.

It is the EMPACT Program's anecdotal experience that many MSAs have unique environmental issues or place a unique emphasis on particular local environmental issues. However, there are no comprehensive, scientifically valid information sources on which to validate these observations across the 86 EMPACT MSAs.

III. Unique Features of the Survey

The *EMPACT Local Urban Environmental Issues Study of 86 Metropolitan Areas* was undertaken to support the EMPACT program. Therefore, the inquiry and sample were restricted. The primary focus was upon the importance of local issues in the respondent's community. Additional areas of inquiry were also restricted to questions about the urban area in which the respondent resided. Therefore, survey results do not reflect national opinion, in that residents of smaller MSAs and rural areas were not included in the survey.

The Metropolitan Statistical Areas surveyed include only the designated 86 EMPACT MSAs. EMPACT MSAs were identified programmatically to insure inclusion of the 75 largest U.S. MSAs and inclusion of additional MSAs to insure participation by all fifty states. These MSAs are not a statistical sample of all U.S. MSAs.

IV. This Report: Findings for EMPACT MSAs in EPA Region 6

This report will present the survey finding for the 10 EMPACT MSAs located in EPA Region 6: Albuquerque, NM; Austin/San Marcos, TX; Dallas/Fort Worth, TX; El Paso, TX; Houston/Galveston/Brazoria, TX; Little Rock/North Little Rock, AR; New Orleans, LA; Oklahoma City, OK; San Antonio, TX; and Tulsa, OK. Where applicable, results are delineated by MSA (within Region 6) to provide further segmentation of survey findings. In some cases, comparisons have been made between Region 6 results and the results from the other EPA Regions combined. Comparing Region 6 results with the combined results from the other nine Regions provides a general look at how Region 6 findings compare to those for the rest of the country.

Chapter II

Methods

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Chapter II. Methods

I. Survey Development and Peer Review

The survey design and questionnaire were peer reviewed by four outside peer reviewers and one EPA statistician. EMPACT and its contractor, Macro International (Macro), consulted with a broad range of experts and professionals including staff within EPA and other Federal agencies, outside academics, survey practitioners, and key stakeholders. Throughout the survey development process, their feedback was used to refine the survey structure and content, revise the questionnaire, develop the survey methodology and sampling plan, and create the analysis plan.

II. Survey Instrument

The survey instrument contained 66 questions divided into four sections:

- Local environmental concerns
- Non-environmental concerns
- Communications issues
- Respondent demographics.

The survey instrument will help the EMPACT Program and EMPACT Projects more clearly understand citizens':

- ***Local environmental concerns:*** The instrument captures respondent perceptions of predominant local environmental issues in their communities. It is important to note that the EMPACT survey asked citizens to identify and describe the importance of *local* environmental issues. These opinions may differ from scientific and technical assessments of environmental conditions in these metropolitan areas.

- ***Context for prioritizing local environmental concerns:*** This allows EMPACT to compare perceptions of local environmental concerns versus other non-environmental concerns (e.g., local crime rate, quality of public education, availability of public transportation). These responses provide insight into the importance citizens place on a broad range of issues facing their communities. Many of the non-environmental concerns are tangentially related to broad environmental issues such as urban sprawl.

- ***Sources of local environmental information:*** EMPACT will be able to identify how citizens typically obtain information (active and passive information acquisition) about local environmental issues and how they rate the quality of the local information provided by various sources. This provides EMPACT Projects with additional information about their customers' opinions and preferences regarding providers of information about local environmental conditions and issues.

A copy of the survey instrument is attached as Appendix B.

III. Survey Methods

The survey was conducted in March and April of 1999. At least 100 interviews were completed for each of the 86 EMPACT metropolitan statistical areas (MSAs), for a total of 8777 interviews nationally. In all, 1036 respondents living in the10 Region 6 EMPACT MSAs were interviewed.

This sampling methodology balanced two competing demands—ensuring valid sample sizes for each city while also maintaining cost efficiency. As a result, the study was able to achieve sound statistical precision:

- For all 86 MSAs combined, the sampling error is ±1.05% at a 95% confidence level.
- Combining the EMPACT MSAs located in each EPA region, the sampling error for each of the 10 EPA regions varies from ±2.34% to ±4.90% depending on the number of survey respondents in each region (based on the number of MSAs in the region).
- Combining the 10 EMPACT MSAs in Region 6, the sampling error for Region 6 is ±3.04%.
- For each individual MSA, the sampling error is approximately ±9.80% at a 95% confidence level.

This signifies that, with 95% certainty, the mean percentage response to any question using the statistical sample is within the designated sampling error of the true percentage in the sampled population. For example, if 60.00% of the respondents in all 10 Region 6 MSAs respond "Yes" to a question, the true value in the population is between 56.96% and 63.04% with 95% certainty.

For analysis purposes, data at the national and regional levels have been weighted to recent population estimates (U.S. Census Bureau, July 1997 estimates) to accurately reflect the nation or region as a whole. For example, without weighting, it would be inaccurate to equally represent 100 El Paso MSA respondents and 100 Dallas/Fort Worth MSA respondents at a national level or regional level, since the Dallas/Fort Worth MSA respondents represent a much larger population.

IV. Data Collection Methods

Macro collected the survey data using a Computer-Assisted Telephone Interviewing (CATI) system. The CATI system allows for efficient collection of data while maintaining rigorous quality control (e.g., built-in skip patterns, instant identification of out-of-range responses). However, inherent in any telephone survey of the general population, minimal bias exists due to a small percentage of households (less than 3%) that do not have telephone service, and are therefore ineligible to be chosen for this study.

Before fielding the survey, Macro programmed the survey into the CATI system and performed rigorous testing to ensure that the survey functioned as designed. Macro comprehensively trained the in-house interviewers to familiarize them with the survey methodology and to provide them with background information about EMPACT. Experienced supervisors provided continuous oversight throughout the survey fielding process. Interviewers were randomly remotely monitored to ensure interviewer competence and data accuracy. EMPACT staff and the EMPACT Steering Committee were also able to remotely monitor interviewers throughout the data collection.

After the data collection was completed, Macro programmers performed a series of validity checks to ensure the integrity of the database. Once it had been determined that the data was clean and reliable, Macro began the process of analyzing the data.

V. Quality Control Procedures

The following table details the quality control procedures used in the data collection process.

Table 1. Quality Control Procedures

Survey Step	Quality Control Procedures
CATI Programming	• The programmed survey was compared to the paper version by three project staff not involved in the programming to identify any programming errors • The CATI system guarantees that out-of-range responses can not be recorded (error message immediately appears) and that skip patterns are followed correctly
Interviewer Training	• Macro used only experienced trained interviewers who have been certified to interview on the EMPACT study by completing project training • Interviewers were required to practice on two supervisor-monitored interviews before being certified for the project
Interviewing	• Supervisors randomly monitored 20% of interviews. If the interviewer were to vary from the written protocol or introduces improper queries, the interviewer is taken off-line for additional training • Supervisors reviewed daily production reports that detail disposition of all survey records • EMPACT staff and Steering Committee remotely accessed interviews
Database Development	• Programmers and analysts continually downloaded data to verify inconsistencies do not occur • Programming supervisor randomly verified 5% of survey records

VI. Analysis

The previous EMPACT report, *EMPACT Local Urban Environmental Issues Study of 86 Metropolitan Areas*, focuses on the responses to the EMPACT survey at the *national urban-level* for all 86 EMPACT MSAs. This report, however, primarily provides survey results for respondents in Region 6 only, which includes the following 10 EMPACT MSAs:

- Albuquerque, NM
- Austin/San Marcos, TX
- Dallas/Fort Worth, TX
- El Paso, TX
- Houston/Galveston/Brazoria, TX
- Little Rock/North Little Rock, AR
- New Orleans, LA
- Oklahoma City, OK
- San Antonio, TX
- Tulsa, OK

It should be noted that, although some EMPACT MSAs may overlap multiple regions, each EMPACT MSA has been classified into the one most appropriate region in these reports. A list of EMPACT MSAs by region is attached as Appendix A.

A *national* summary profile of national urban-level survey results is attached as Appendix C.

A *Region 6* summary profile of regional urban-level survey results is attached as Appendix D.

MSA-level summary profiles of survey results for each of the 10 EMPACT MSAs in Region 6 are attached as Appendix E.

Results at the national urban and regional urban-levels have been weighted to reflect the known population in each MSA (based on July 1998 population estimates from the U.S. Census Bureau). Therefore, highly populated MSAs will be more highly represented in the regional and national results, allowing for a more accurate data analysis and presentation of results.

It is important to note that the EPA Region 6, as well as the national-level results are not intended to reflect the entire population of the region or of the United States as a whole. Rather, the results reflect the population of respondents in the EMPACT MSAs included in this study. Therefore, generalizations can only be made to residents of U.S. MSAs. Overall, 81.1% of the U.S. population living in a metropolitan statistical area lives in one of the EMPACT MSAs. Within EPA Region 6, the proportion of MSA residents living in one of the 10 EMPACT MSAs is 69.5%. Table 2 EMPACT Proportion of Total MSA Population by EPA Region shows the number and percentage of all MSA residents living in EMPACT MSAs by EPA Region and the nation. While generalizations can be made about the residents of MSAs, the results should not be interpreted as representative of other populations, such as residents of small communities and rural areas.

Table 2. EMPACT Proportion of Total MSA Population by EPA Region

Region	Population in EMPACT MSAs	Total Population in MSAs	EMPACT Proportion of MSA Population
1	7,643,707	11,217,000	68.1%
2	25,932,689	27,069,000	95.8%
3	20,104,526	22,027,000	91.3%
4	22,438,645	35,229,000	63.7%
5	29,818,343	37,860,000	78.8%
6	16,358,359	23,541,000	69.5%
7	5,433,244	7,180,000	75.7%
8	4,022,173	5,624,000	71.5%
9	33,993,469	36,933,000	92.0%
10	6,022,278	7,526,000	80.0%
Total	**171,767,432**	**211,785,000**	**81.1%**

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Chapter III

Local Urban Environmental Issues

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Chapter III. Local Urban Environmental Issues

I. Environmental Issues

Respondents were asked to rate 29 local issues, 15 environmental issues and 14 non-environmental issues (See Tables 3 and 4). This section of the report summarizes Region 6 respondent data on 15 local urban environmental issues which are listed in Table 3 Local Urban Environmental Issues Queried.

Table 3. Local Urban Environmental Issues Queried

Water	Air	Waste
Quality of drinking water from public water systems	Air pollution from cars	Adequacy of landfills
Protection of ground water and wells	Air pollution from businesses or industrial sites	Location of landfills
Depletion of the water table	Air pollution from burning leaves	Hazardous waste dumping in the local area
Pollution of streams, rivers, lakes, and oceans in the urban area	Ozone alerts in the community	Use of potentially harmful pesticides
Adequacy of long-term supply of drinking water		Disposal of animal waste
Adequacy of sewage treatment facilities		

For each of the 29 local issues, respondents were asked to rate how important the issue is in their specific metropolitan statistical area (MSA) on a scale of 1 to 10, with one being *not important at all* and 10 being *extremely important*. To minimize potential bias due to the ordering of survey questions, the local environmental issues were randomized together with non-environmental issues for each respondent.

For each environmental issue a respondent rated six or higher, the respondent was then asked whether s/he believed the issue has gotten *better*, *worse*, or has stayed the *same* during the last five years. The findings in this report focus primarily on this data about environmental trends because it best highlights respondent perceptions of environmental concerns and trends in their community. For each environmental issue a respondent rated six or greater, the respondent was also asked if s/he had been actively involved in this issue (e.g. written letters, attended public meetings, joined an advocacy group). Lastly, respondents were asked if they or anyone in their family had been negatively affected by any of these environmental issues. Both questions are indicators of levels of potential interest and involvement. Percentage responses to these questions are presented on the profiles in Appendices C, D, and E.

All findings in this report are based on ordinal data, meaning respondents were asked to report their answers on a scale whose values are defined by the respondent. Response categories form an ordered series. Ordinal scales permit discussion of "moreness" or "lessness," but make no assumptions as to how much more or less. Therefore, results of this study should *not* be interpreted as interval data, in which an answer of "four" can be characterized as "twice as good" as a rating of "two".

To simplify the following discussions of survey findings, references will be made to *national urban* and *regional urban* findings. *National urban* findings relate to overall survey findings for all 86 EMPACT MSAs across the country. No generalizations can be made to non-MSA or rural populations. Similarly, *regional urban* findings refer to combined survey findings for all EMPACT MSAs within an EPA Region. For example, the findings for Region 6 reflect the responses from citizens sampled from the 10 EMPACT MSAs (Albuquerque, NM; Austin/San Marcos, TX; Dallas/Fort Worth, TX; El Paso, TX; Houston/Galveston/Brazoria, TX; Little Rock/North Little Rock, AR; New Orleans, LA; Oklahoma City, OK; San Antonio, TX; and Tulsa, OK) located in EPA's Region 6. Therefore, generalizations cannot be made to the entire regional population.

Appendix A contains a listing of the 86 EMPACT MSAs by the EPA Region in which they are located.

In reviewing this regional report, it is important to consider several issues when interpreting the findings.

- When comparing this regional report to the national report, the findings may not seem entirely parallel. This is not due to error, but rather due to the scope and nature of the two reports. The national report is intended to provide an overview of the findings, with emphasis placed on conveying a basic descriptive analysis of the data rather than on significance testing. Conversely, the regional report provides this deeper statistical analysis of the data using t-tests to determine significant differences among regions and EMPACT MSAs within regions. Therefore, some national findings may be further emphasized by the regional findings, while others may be supported to a lesser extent due to statistical constraints (e.g., the number of respondents in each region).

- The number of EMPACT MSAs in each region vary from 4 MSAs in Regions 7 and 10 up to 17 MSAs in Region 4. Therefore, the statistical error associated with each region also varies, since results obtained from regions with fewer responses contain a higher level of statistical uncertainty. For example, 400 responses were obtained for the 4 EMPACT MSAs in Region 10, resulting in a sample error of 4.90% at a 95% confidence level. In Region 4, 1,748 responses were obtained from the 17 EMPACT MSAs, resulting in a much smaller sample error of 2.34% at the same level of confidence. As a result, although both Region 10 and Region 4 results for one issue may vary equally from the mean of other regions (e.g., Region 10 = 69.0%, Regions 1-9 = 65.0%; Region 4 = 69.0%, Regions 1-3, 5-10 = 65.0%), one could only conclude a significant increase for Region 4 on this issue due to the higher level of statistical uncertainty in the Region 10 results. In fact, using this example, even if Region 10 measures 69.5% and Region 4 measures 67.5%, it would still be determined that only Region 4 experienced a significant increase.

- Whereas weighted means and percentages are used to produce all of the means and percentages in both this report and the national report, significance testing (i.e., t-tests) to determine

differences among regions and EMPACT MSAs requires that comparisons be made using unweighted results.

II. Environmental Issues vs. Non-Environmental Issues

In addition to rating local environmental issues, respondents were also asked to rate the importance of 14 non-environmental issues in Table 4 Local Urban Non-Environmental Issues Queried. As noted above, the ordering of the 29 combined environmental and non-environmental issues were randomized.

Table 4. Local Urban Non-Environmental Issues Queried

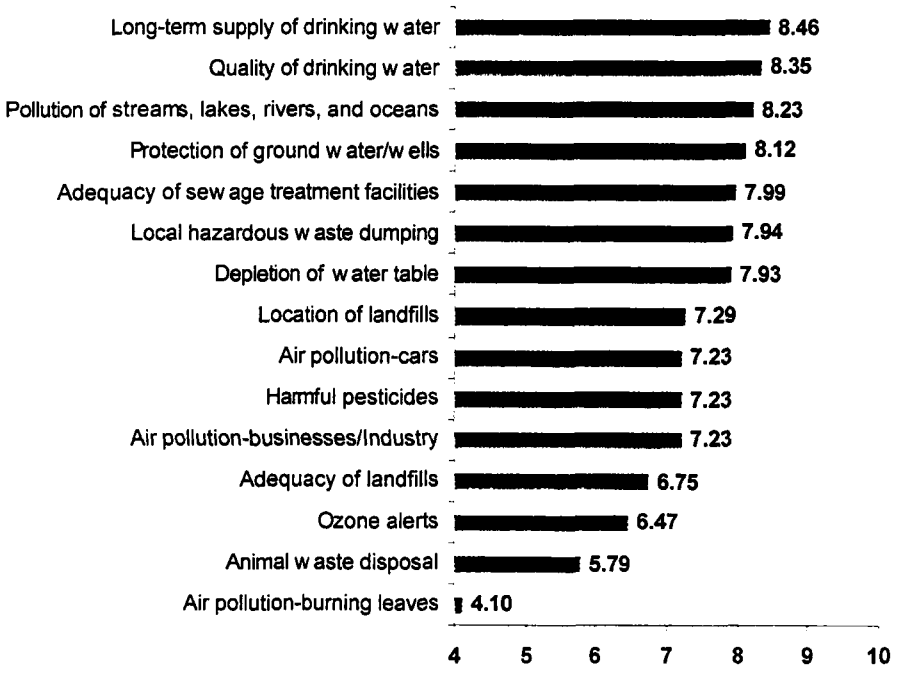
- Local crime rate
- Illegal drug use
- Quality of public education
- Adequacy of local highway system
- Availability of housing for low income citizens
- Ability of the community to respond to natural disasters
- Availability of public transportation
- Favorable business climate
- Rate of unemployment
- Level of local taxes
- Poverty in local community
- Adequacy of municipal services (e.g., trash and snow removal, police and fire protection)
- Rate of urban growth
- Health of the local economy

As a whole, respondents rate local environmental issues as slightly more important than non-environmental issues. Nationally, six local environmental issues receive mean importance ratings of at least 8.00, while only three non-environmental issues are rated as highly. The non-environmental issues that are most important to respondents are the quality of public education, the local crime rate, and illegal drug use.

III. Overview: Importance of Local Environmental Issues in Region 6

In Region 6, the five most important local environmental issues to respondents relate to water. Respondents provide the highest importance ratings for the long-term supply of drinking water.

Figure 1. Local Environmental Issues Mean Importance Ratings: Region 6



Compared to the other nine to the other nine EPA Regions combined, Region 6 respondents are significantly more likely report that the following issues are important: ozone alerts, depletion of water table, and the long-term supply of drinking water. These findings are shown in Figure 2. Region Importance Ratings Compared to other Regions Combined.

The most noteworthy differences in the importance ratings for local environmental issues among the Region 6 MSAs is the difference between Albuquerque and Oklahoma City (See Figure 3). Oklahoma City respondents are significantly more likely to report that many local environmental issues are important. Oklahoma City respondents rated 6 of the 15 environmental issues significantly higher than the other nine Region 6 EMPACT MSAs combined. Conversely, Albuquerque respondents were significantly less likely to report that many local environmental issues were important. Albuquerque respondents rated 7 of the 15 environmental issues significantly lower than the other 9 MSAs combined.

Figure 2. Region Importance Ratings Compared to Other Regions Combined

Issue	Region 1 (N = 705)	Region 2 (N = 608)	Region 3 (N = 923)	Region 4 (N = 1748)	Region 5 (N =1223)	Region 6 (N = 1036)	Region 7 (N = 403)	Region 8 (N = 607)	Region 9 (N = 1124)	Region 10 (N = 400)
Air pollution- cars			▼	▲	▼		▼	▼	▲	
Air pollution- business, industrial sites		▲		▲	▲			▼		▼
Air pollution- burning leaves				▲	▼			▼	▲	
Ozone alerts				▲	▼	▲		▼	▲	▼
Adequacy of landfills		▲	▲	▲				▼		▼
Location of landfills		▲	▲	▲				▼		▼
Local hazardous waste dumping		▲		▲				▼		▼
Harmful pesticides				▲				▼		▼
Animal waste disposal	▼			▲				▼		▼
Quality of drinking water				▲				▼	▲	▼
Protection of ground water and wells		▲		▲	▼			▼	▲	
Depletion of water table				▲	▼	▲		▼	▲	▼
Pollution of streams/lakes	▲	▲		▲				▼		
Long-term supply of drinking water				▲	▼	▲		▼	▲	▼
Adequacy of sewage treatment facilities				▲			▲	▼		▼

▲ Mean region importance rating is significantly higher than other regions combined
▼ Mean region importance rating is significantly lower than other regions combined

NOTE: The number of EMPACT MSAs vary by region. For regions with fewer MSAs (e.g., Region 10), and therefore fewer survey responses, it is difficult to measure statistically significant differences from the combined mean of other regions due to sample error.

Figure 3. MSA Importance Ratings Compared to Other Region 6 MSAs Combined

Issue	Albuquerque	Austin/San Marcos	Dallas/Fort Worth	El Paso	Houston/Galveston/Brazoria	Little Rock/North Little Rock	New Orleans	Oklahoma City	San Antonio	Tulsa
Air pollution- cars				▲		▼				
Air pollution- business, industrial sites	▼	▼		▲	▲	▼	▲			
Air pollution- burning leaves			▼							
Ozone alerts	▼					▼	▼			▲
Adequacy of landfills								▲		
Location of landfills	▼							▲		▼
Local hazardous waste dumping	▼									
Harmful pesticides								▲		
Animal waste disposal		▼						▲		
Quality of drinking water	▼									
Protection of ground water and wells				▲				▲		▼
Depletion of water table	▲			▲			▼			▼
Pollution of streams/lakes	▼						▲			
Long-term supply of drinking water										
Adequacy of sewage treatment facilities	▼	▼					▲	▲		

▲ Mean MSA importance rating is significantly higher than other MSAs in the region combined
▼ Mean MSA importance rating is significantly lower than other MSAs in the region combined

IV. Local Environmental Issues: Better, Worse, or the Same During the Last Five Years

When asked whether each issue has become *better*, has stayed the *same*, or has become *worse* during the last five years, 42% of Region 6 respondents reported that the air pollution from burning leaves—which received the lowest importance rating of any environmental issue—had become better during this time. Conversely, 43% of respondents indicated that the air pollution from cars has become worse during the last five years. (See Figure 4).

For the following three local environmental issues, the percentage of Region 6 respondents reporting that the issue had improved during the last five years was significantly higher than in the other nine regions combined (Figure 5): ozone alerts; protection of ground water and wells; and the long-term supply of drinking water. For two local environmental issues - air pollution from business/industry and water table depletion - the percentage of Region 6 respondents reporting that the issue had worsened during the last five years was significantly higher than in the other nine regions combined.

Figure 4. Local Environmental Issues Improvement or Decline During the Last Five Years: Region 6

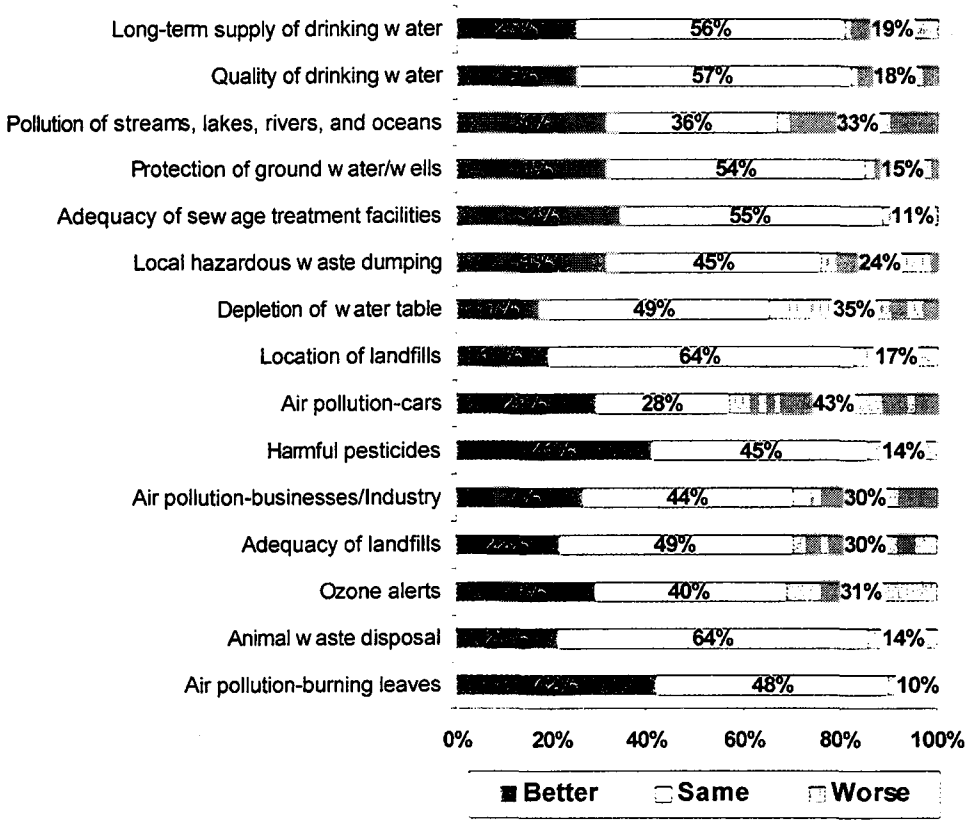


Figure 5. Local Environmental Issues - Improvement or Decline During Last Five Years: Regions Compared to Other Regions Combined

Issue	Region 1 (N = 705)	Region 2 (N = 608)	Region 3 (N = 923)	Region 4 (N = 1748)	Region 5 (N =1223)	Region 6 (N = 1036)	Region 7 (N = 403)	Region 8 (N = 607)	Region 9 (N = 1124)	Region 10 (N = 400)
Air pollution- cars					B				W	W
Air pollution- business, industrial sites	B	B			B	W		W	W	
Air pollution- burning leaves		B		W	B					
Ozone alerts				W	B	B				
Adequacy of landfills	W		W							
Location of landfills	B	W	W	B			W			
Local hazardous waste dumping	B		W						W	B
Harmful pesticides	B									
Animal waste disposal										
Quality of drinking water	B		B	B	B				W	
Protection of ground water and wells	B					B			W	W
Depletion of water table						W			W	
Pollution of streams/lakes	B	B		W	B				W	W
Long-term supply of drinking water				W		B			W	
Adequacy of sewage treatment facilities	B									

B Percentage of respondents reporting that the issue has improved is significantly higher in this region than in other regions combined

W Percentage of respondents reporting that the issue has declined is significantly higher in this region than in other regions combined

NOTE: Only respondents who rated each issue six or higher were asked whether the issue had improved or declined.

NOTE: The number of EMPACT MSAs vary by region. For regions with fewer MSAs (e.g., Region 10), and therefore fewer survey responses, it is difficult to measure statistically significant differences from the combined mean of other regions due to sample error.

Figure 6. Local Environmental Issues Improvement or Decline Over Last Five Years: MSAs Compared to Other MSAs Combined

Issue	Albuquerque	Austin/San Marcos	Dallas/Fort Worth	El Paso	Houston/Galveston/Brazoria	Little Rock/North Little Rock	New Orleans	Oklahoma City	San Antonio	Tulsa
Air pollution- cars	B	W		B	B				W	
Air pollution- business, industrial sites				B					W	
Air pollution- burning leaves										
Ozone alerts			W					B		
Adequacy of landfills			W							
Location of landfills										
Local hazardous waste dumping						B				
Harmful pesticides										
Animal waste disposal										W
Quality of drinking water										W
Protection of ground water and wells	W								B	
Depletion of water table	W									
Pollution of streams/lakes				W						
Long-term supply of drinking water	W	B		W				B		
Adequacy of sewage treatment facilities										

B Percentage of respondents reporting that the issue has improved is significantly higher in this MSA than in other MSAs combined

W Percentage of respondents reporting that the issue has declined is significantly higher in this MSA than in other MSAs combined

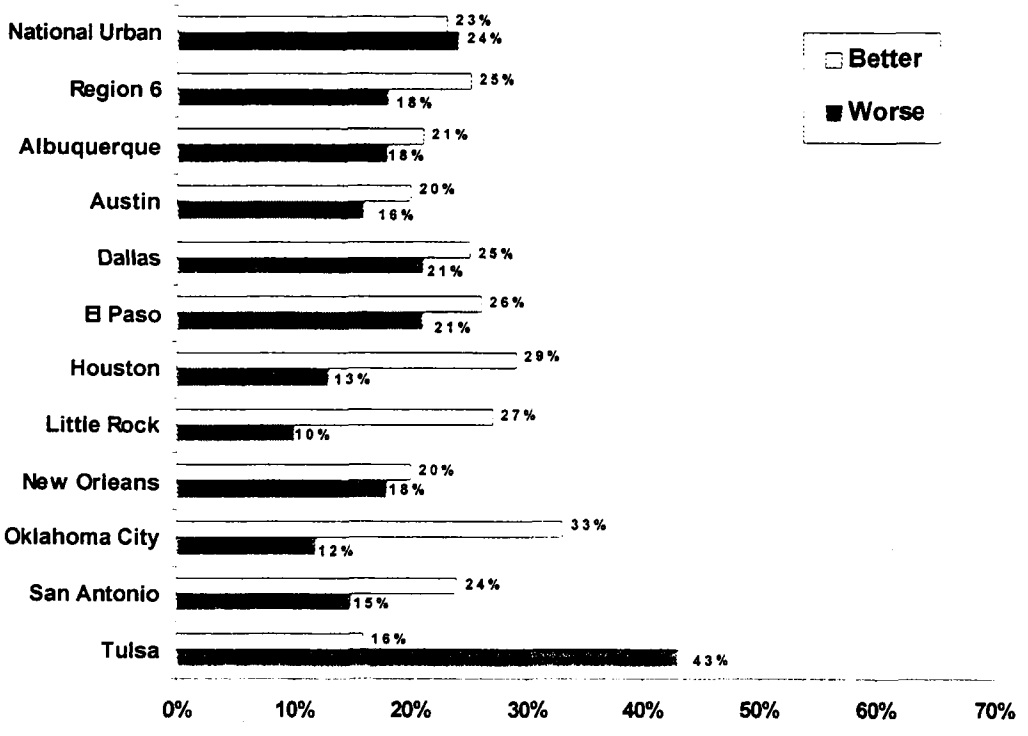
NOTE: Only respondents who rated each issue six or higher were asked whether the issue had improved or declined.

The following section will focus on the responses about whether specific local environmental conditions have gotten *better,* stayed the *same,* or gotten *worse* during the last five years. Statistically significant findings for this "improvement-decline" data were summarized in Figures 5 and 6. The percentage responses are broken out and reported below. Each section discusses some overall generalizations that can be made about each Region 5 EMPACT MSA. The issues are grouped by type of issue (i.e., water, air, and waste). The data included within each section reflects perceptions of the local environmental issues *for respondents who rated each issues as a six or higher.*

A. Quality of Drinking Water from Public Water Systems

No significant differences exist when comparing Region 6 to the other nine EPA Regions combined. When comparing the individual MSAs to other Region 6 MSAs combined, Tulsa respondents are significantly more likely to report that the quality of drinking water has worsened in the past five years.

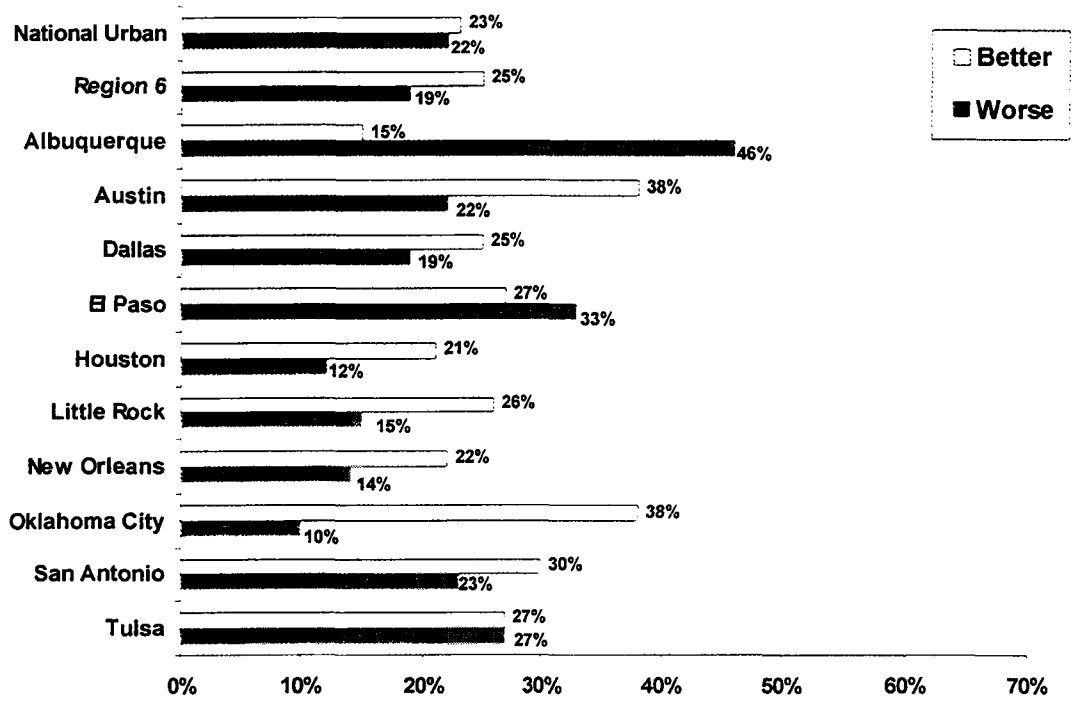
Figure 7. Quality of Drinking Water by Region 6 MSA Improvement or Decline During Last Five Years



B. Long-Term Supply of Drinking Water

Compared to the other regions combined, Region 6 respondents are significantly more likely to report that the long-term supply of drinking water has improved during the last five years. When comparing the individual MSAs to other Region 6 MSAs combined, Austin and Oklahoma City are significantly more likely to report that the long-term supply of drinking water has improved, while Albuquerque and El Paso are significantly more likely to report that the long-term supply of drinking water has worsened over the past five years.

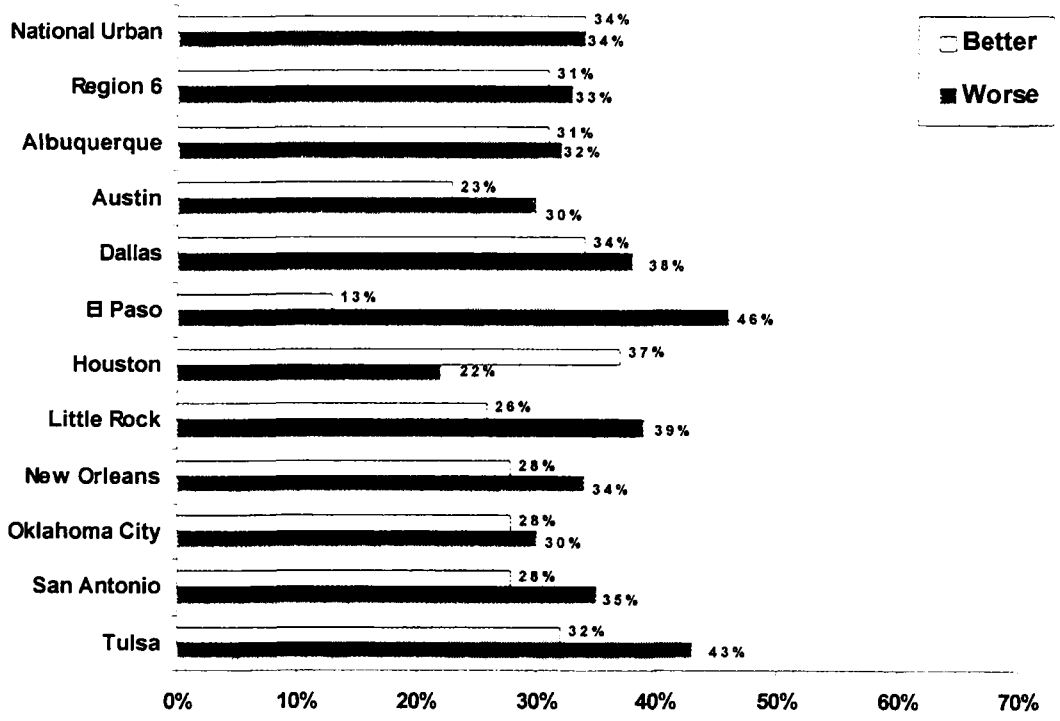
Figure 8. Long-Term Supply of Drinking Water by Region 6 MSA: Improvement or Decline During Last Five Years



C. Pollution of Streams, Lakes, Rivers, and Oceans in the Urban Area

No significant differences exist when comparing Region 6 to the other nine EPA Regions combined. Compared to other Region 6 MSAs, El Paso reported a significantly higher number of respondents who felt that the pollution of lakes, rivers, and oceans in their urban area has worsened over the last five years.

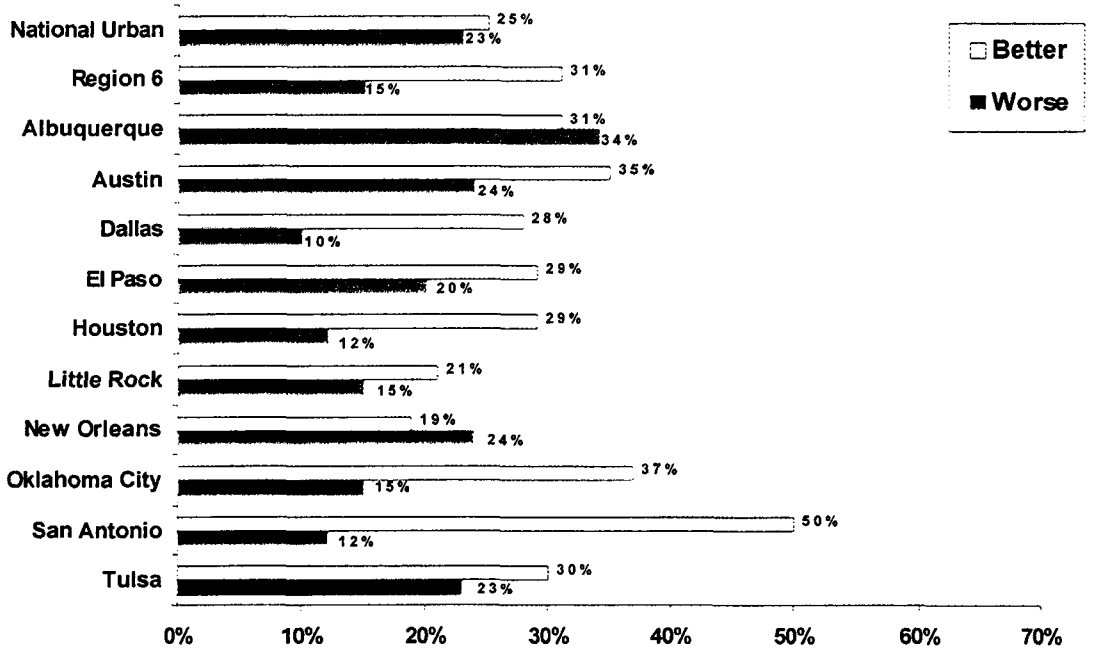
Figure 9. Urban Water Pollution by Region 6 MSA: Improvement or Decline During Last Five Years



D. Protection of Ground Water and Wells

Compared to the other regions combined, Region 6 respondents are significantly more likely to report that the protection of ground water and wells has improved during the last five years. When compared to other Region 6 MSAs, San Antonio respondents are significantly more likely to report that the protection of ground water and wells has improved over the last five years, while Albuquerque is more likely to report that the protection of ground water and wells has worsened over the past five years.

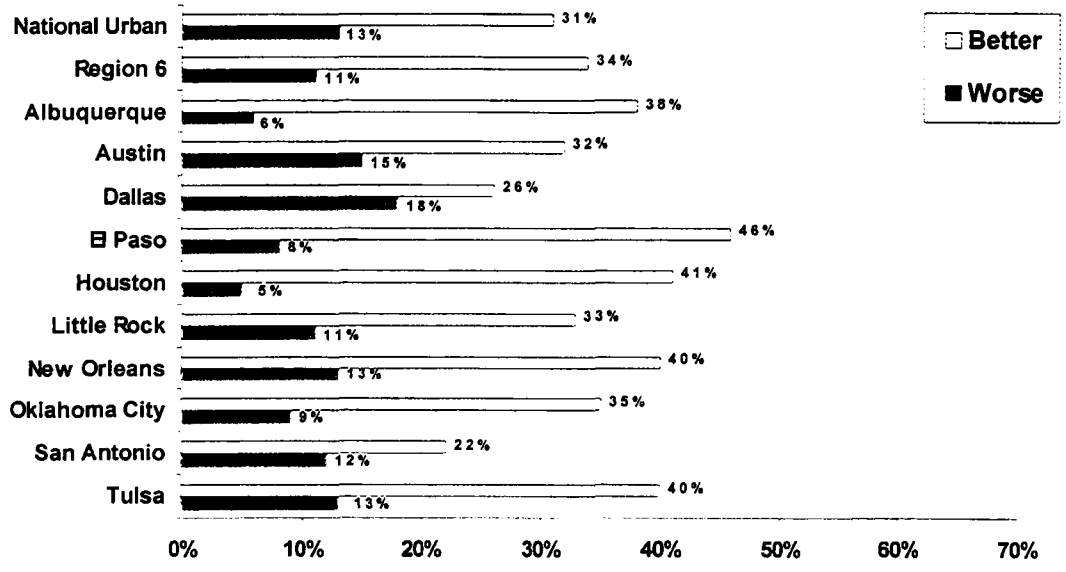
Figure 10. Protection of Ground Water and Wells by Region 6 MSA: Improvement or Decline During Last Five Years



E. Adequacy of Sewage Treatment Facilities

No significant differences exist when comparing Region 6 to other nine EPA Regions combined. When comparing the individual MSAs to other Region 6 MSAs combined, no significant differences exist.

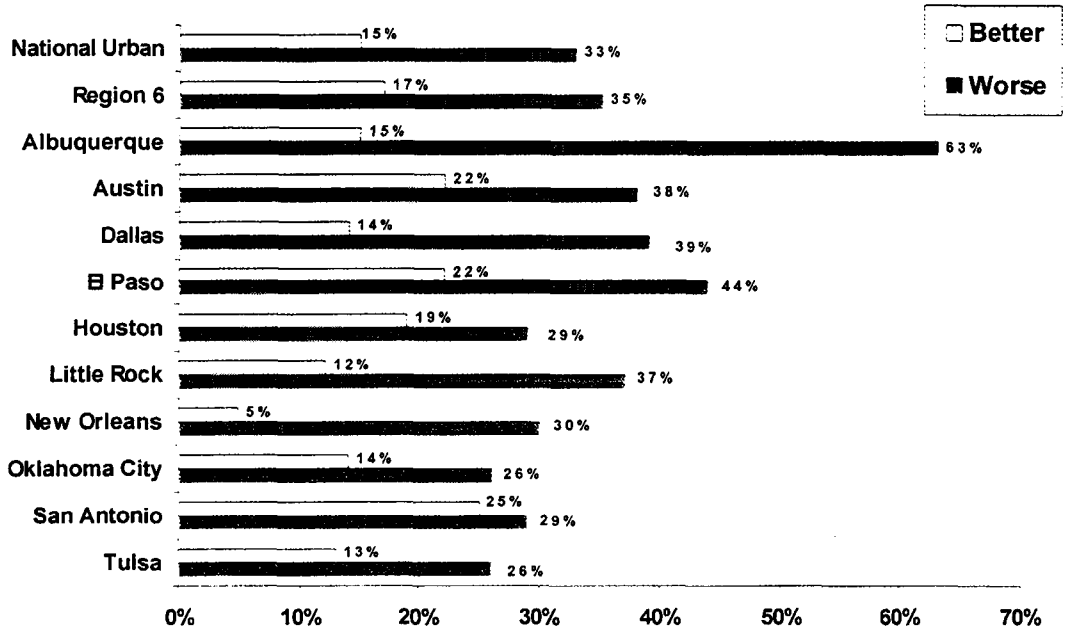
Figure 11. Adequacy of Sewage Treatment Facilities by Region 6 MSA: Improvement or Decline During Last Five Years



F. Depletion of the Water Table

Compared to other regions combined, Region 6 respondents are significantly more likely to report that the depletion of the water table has worsened during the last five years. Compared to other Region 6 MSAs, Albuquerque reported a significantly higher number of respondents who feel that the depletion of the water table has worsened in the last five years.

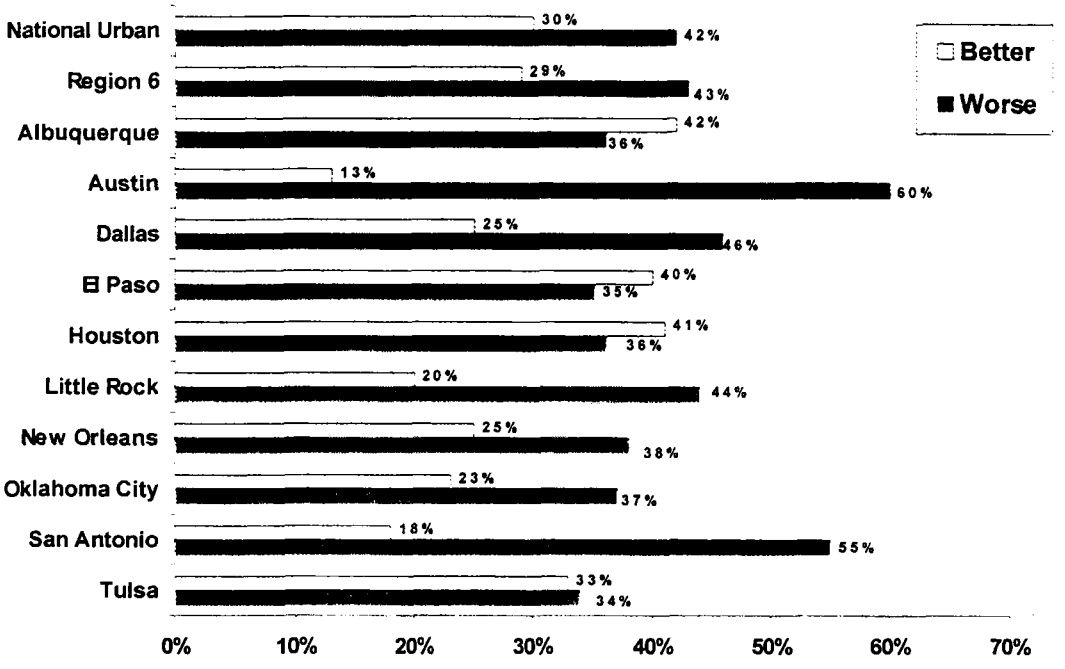
Figure 12. Depletion of the Water Table by Region 6 MSA: Improvement or Decline During Last Five Years



G. Air Pollution from Cars

No significant differences exist when comparing Region 6 to other nine EPA Regions combined. Compared to other Region 6 MSAs, Albuquerque, El Paso, and Houston report a significantly higher number of respondents who feel that the air pollution from cars has improved, while Austin and San Antonio report a significantly higher number of respondents who feel that the air pollution from cars has worsened over the past five years.

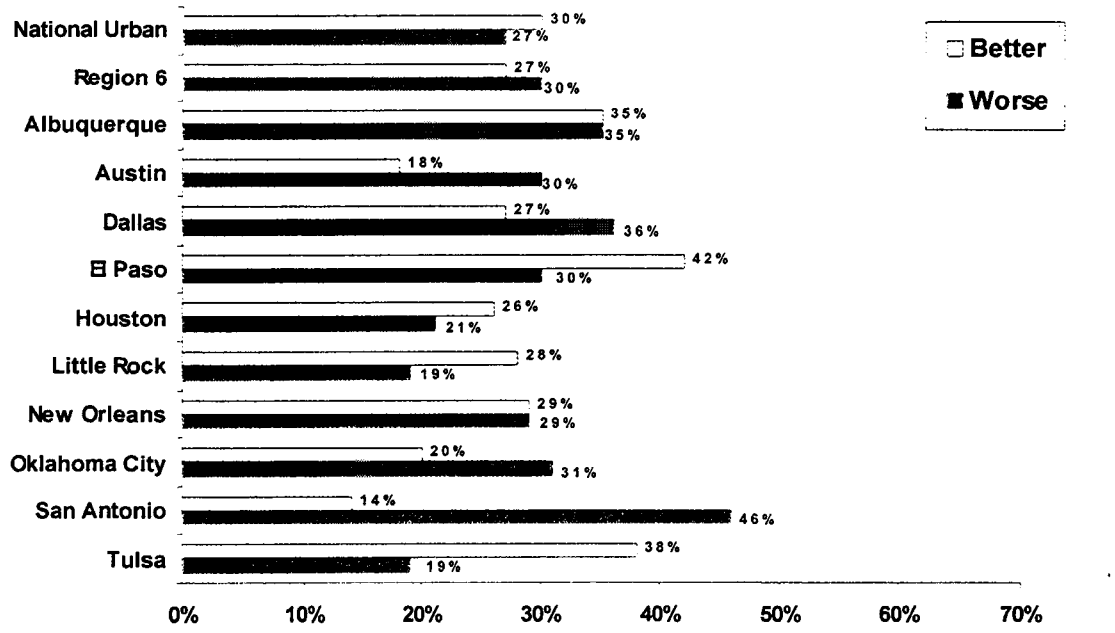
Figure 13. Air Pollution from Cars by Region 6 MSA: Improvement or Decline During Last Five Years



H. Air Pollution from Businesses and Industries

Compared to the other regions combined, Region 6 respondents are significantly more likely to report that the air pollution from businesses and industries has worsened during the last five years. When compared to other Region 6 MSAs, El Paso respondents are significantly more likely to report that air pollution from businesses and industries has improved in the last five years, while San Antonio respondents are significantly more likely to report that air pollution from businesses and industries has worsened in the last five years.

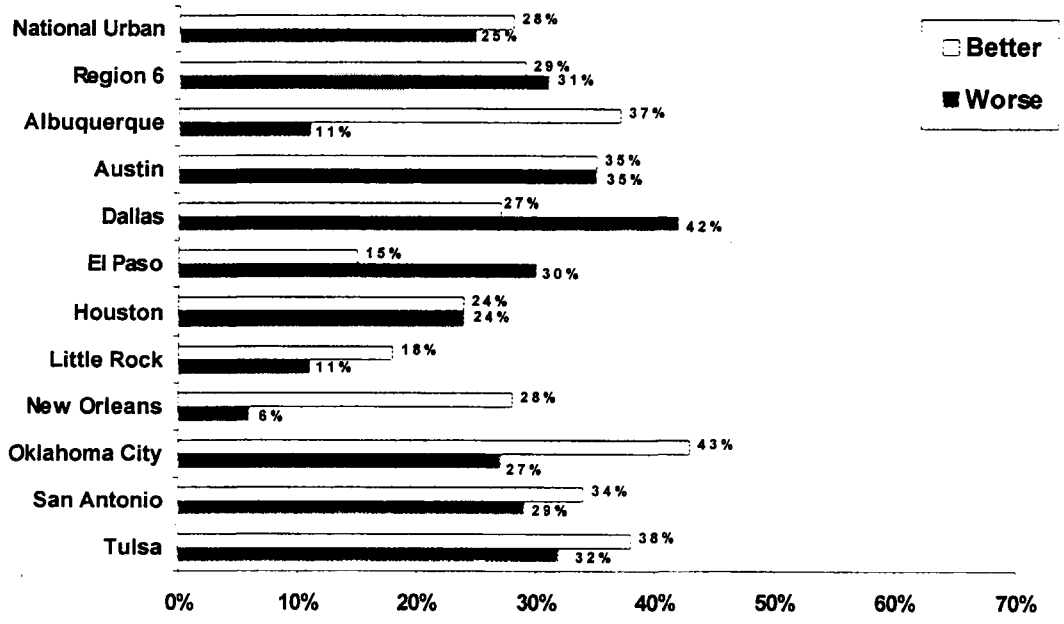
Figure 14. Air Pollution from Businesses and Industries by Region 6 MSA: Improvement or Decline During Last Five Years



I. Ozone Alerts in the Community

Compared to the other regions combined, Region 6 respondents are significantly more likely to report that the ozone alerts in their community have improved during the last five years. When comparing the individual MSAs to other Region 6 MSAs, Oklahoma City respondents are significantly more likely to report that the ozone alerts in the community have improved over the last five years, while Dallas respondents are significantly more likely to report that the ozone alerts in the community have worsened over the last five years.

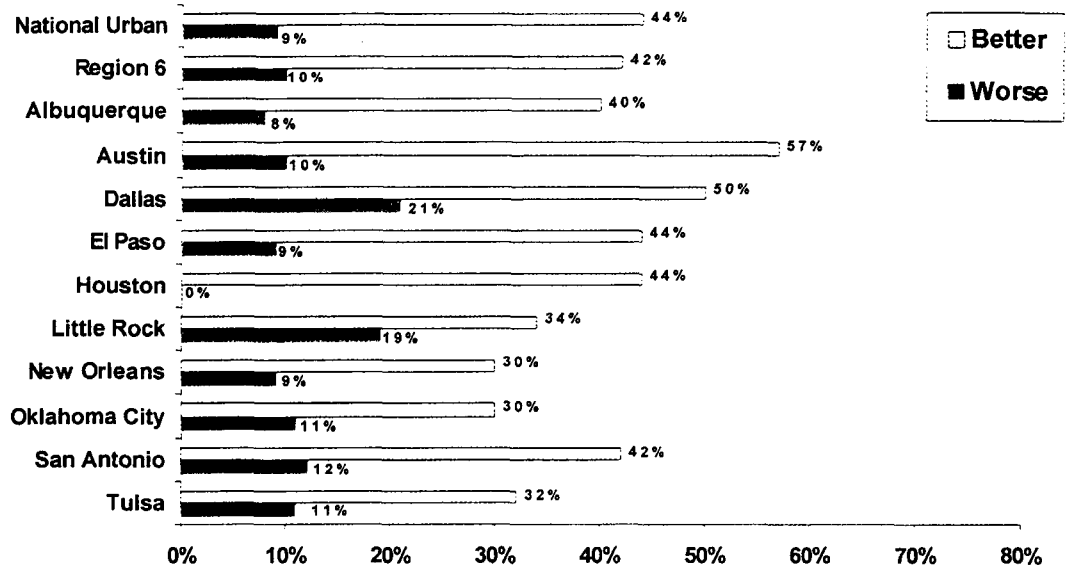
Figure 15. Ozone Alerts in the Community by Region 6 MSA: Improvement or Decline During Last Five Years



J. Air Pollution from Burning Leaves

When comparing Region 6 respondents to other regions combined, no significant differences exist. Compared to other Region 6 MSAs, no significant differences exist.

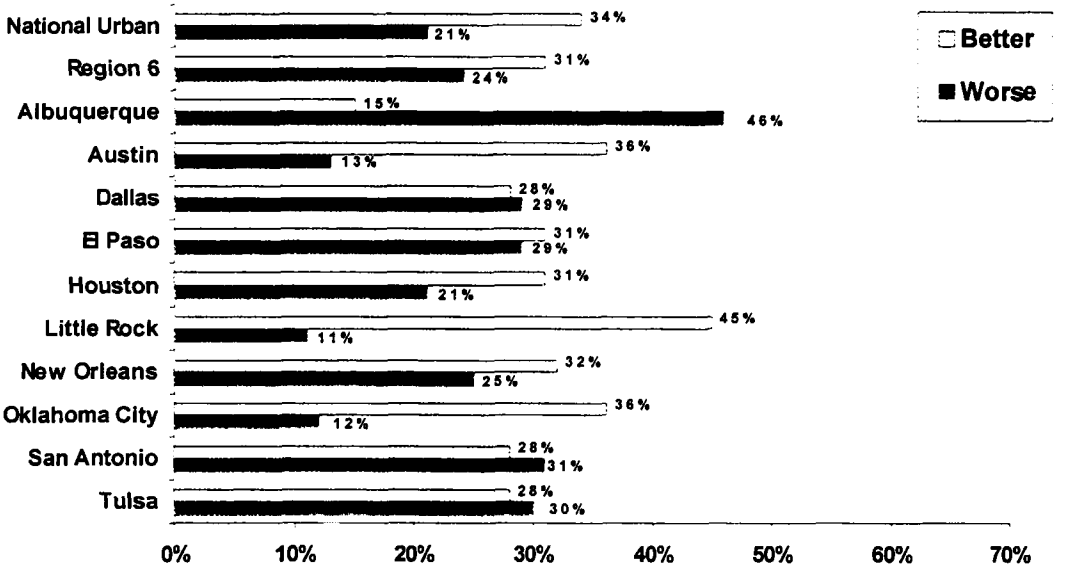
Figure 16. Air Pollution from Burning Leaves by Region 6 MSA: Improvement or Decline During Last Five Years



K. Local Hazardous Waste Dumping

When comparing Region 6 respondents to other regions combined, no significant differences exist. Compared to other Region 6 MSAs, Little Rock reported a significantly higher number of respondents who feel that local hazardous waste dumping has worsened over the last five years.

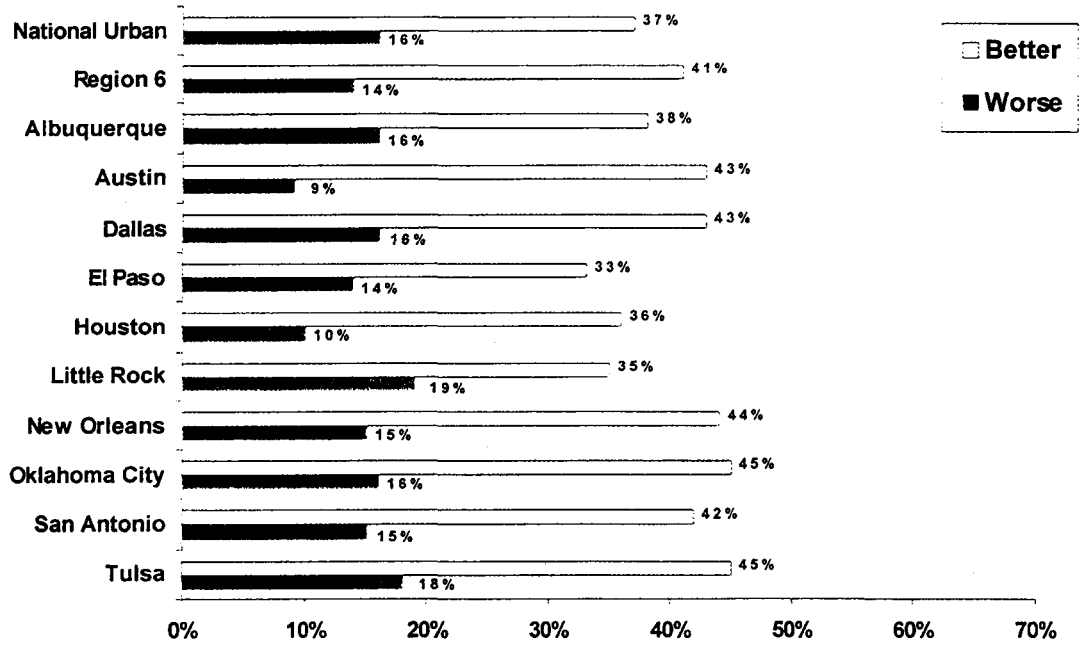
Figure 17. Local Hazardous Waste Dumping by Region 6 MSA: Improvement or Decline During Last Five Years



L. Use of Potentially Harmful Pesticides

When comparing Region 6 respondents to other regions combined, no significant differences exist. When compared to other Region 6 MSAs, no significant different exist.

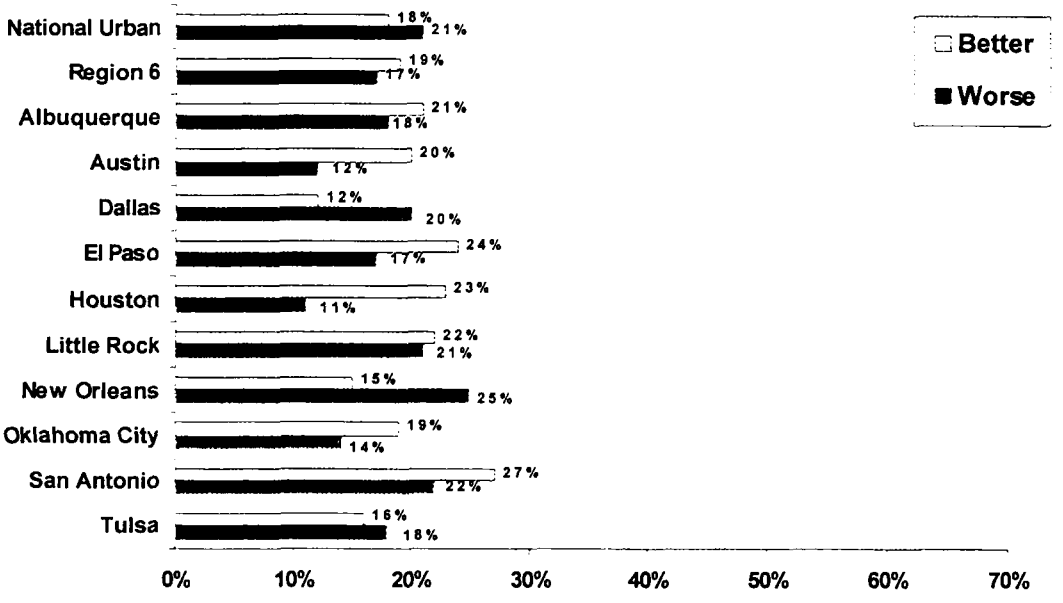
Figure 18. Use of Potentially Harmful Pesticides by Region 6 MSA: Improvement or Decline During Last Five Years



M. Location of Landfills

When comparing Region 6 respondents to other regions combined, no significant differences exist. Compared to other Region 6 MSAs, no significant differences exist.

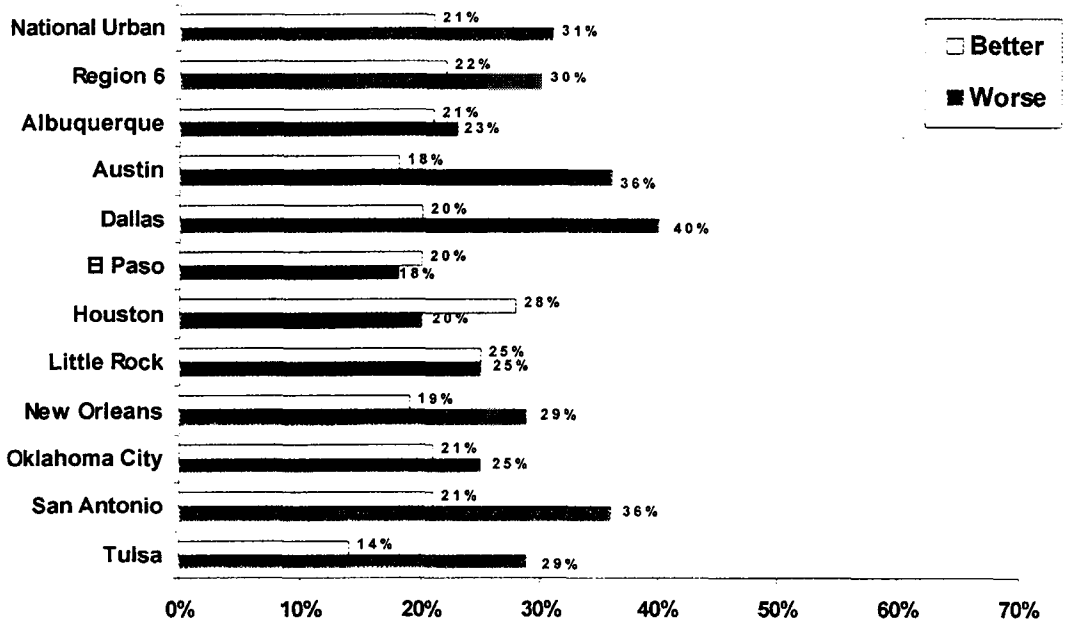
Figure 19. Location of Landfills by Region 6 MSA: Improvement or Decline During Last Five Years



N. Adequacy of Landfills

When comparing Region 6 respondents to other regions combined, no significant differences exist. When comparing the individual MSAs to other Region 6 MSAs, Dallas reports a significantly higher number of respondents who feel that the adequacy of landfills in their area has worsened over the last five years.

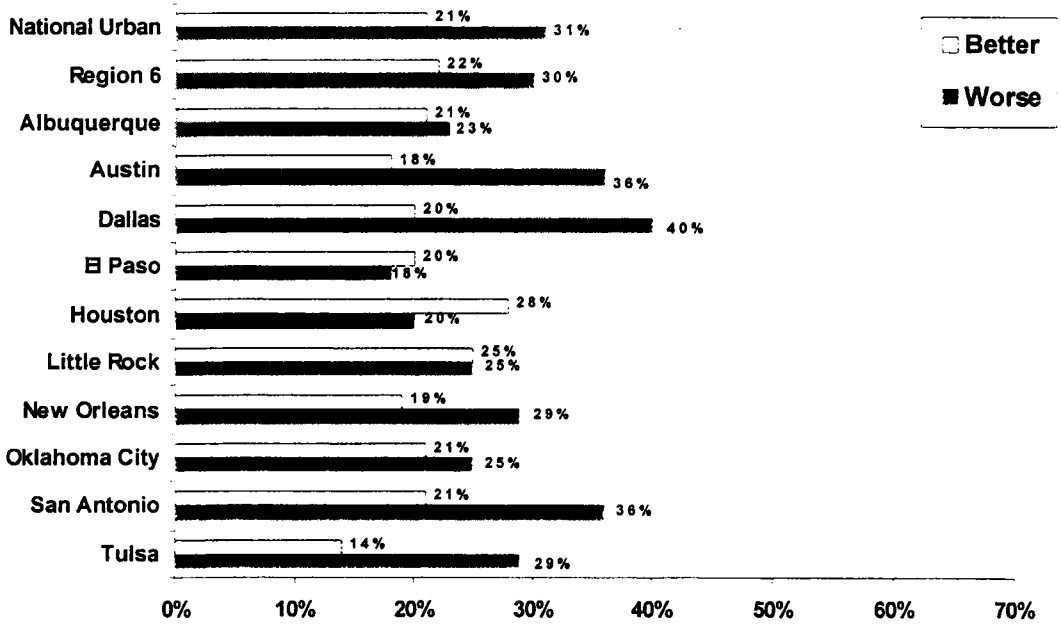
Figure 20. Adequacy of Landfills by Region 6 MSA: Improvement or Decline During Last Five Years



O. Disposal of Animal Waste

When comparing Region 6 to other regions combined, no significant differences exist. Compared to other Region 6 MSAs, Tulsa respondents are significantly more likely to report that the disposal of animal waste in their urban are has worsened over the last five years.

Figure 21. Animal Waste Disposal by Region 6 MSA: Improvement or Decline During Last Five Years



V. Summary of Open-Ended Comments on Environmental Issues

After providing *importance* ratings for each of the 29 local environmental and non-environmental issues covered by the survey, respondents were asked if they could "think of any *other* issues in (Their MSA of Residence)". Respondents who named an issue were also asked the question a second time. Responses were unprompted and volunteered by respondents. These responses were recorded verbatim and coded into the general categories listed in Figure 22. Categories were developed based on 2,063 responses obtained in the overall survey of the 86 MSAs.

In all, Region 6 respondents reported 218 open-ended responses. Of the unprompted responses provided by Region 6 respondents, 50.9% mentioned an environmental issue; whereas, 49.1% mentioned a non-environmental issue. The most frequently mentioned type of local environmental issues mentioned related to pollution (12.0% of all issues for air, water, land pollution combined). The second most frequently mentioned issue related to land use (9.2% of all issues). The land use category encompasses a wide range of issues, including urban sprawl, over-development, loss of trees as a result of development, and traffic congestion.

Figure 22. Summary of Open-Ended Comments on Environmental Issues

Issue	Number of Respondents	Percentage
TOTAL ENVIRONMENTAL ISSUES	111	50.92%
Air Pollution	6	2.75%
Water Pollution	3	1.38%
Land Pollution	17	7.80%
Water	7	3.21%
Land Use	20	9.17%
Nuclear Waste	1	0.46%
Recycling	6	2.75%
Noise Pollution	2	0.92%
Overpopulation	0	0.00%
EPA Regulations	7	3.21%
Other	42	19.27%
TOTAL NON-ENVIRONMENTAL ISSUES	107	49.08%
TOTAL ALL ISSUES	218	100.0%

Note: Numbers may not add to 100.0% due to rounding

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Chapter IV

Sources of Local Environmental Information

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Chapter IV. Sources of Local Environmental Information

I. Introduction

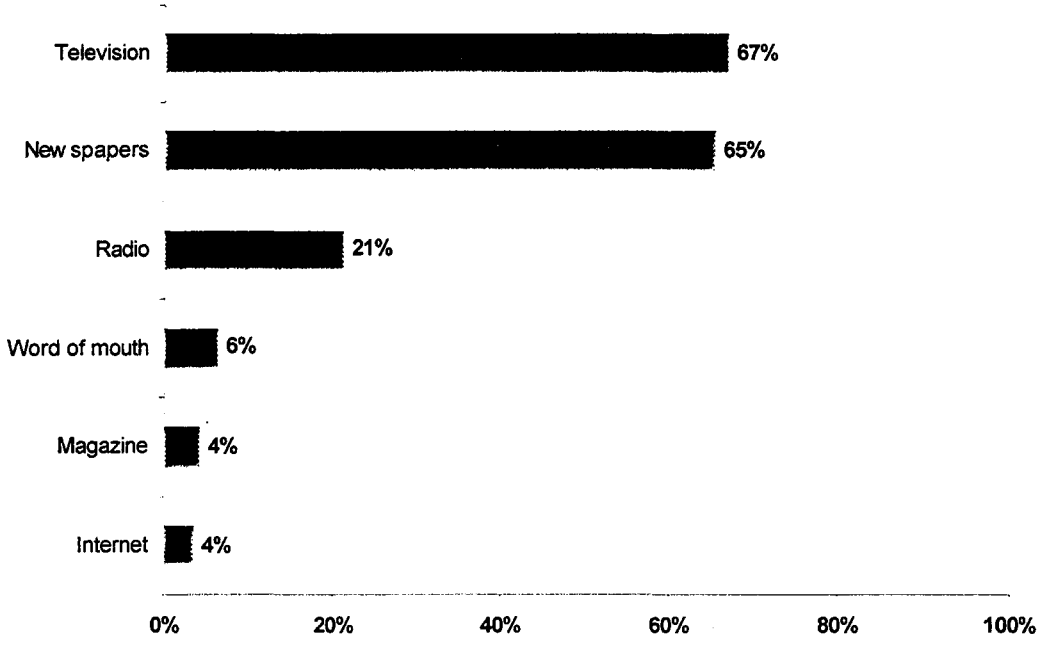
In addition to obtaining data about the importance of local environmental issues, the *EMPACT Local Urban Environmental Issues Survey* of 86 Metropolitan Areas also gathered data about how people generally obtain information about local environmental issues in their communities. This chapter summarizes Region 6 data about commonly reported information sources, the quality of local urban environmental information provided by selected sources, and Internet usage.

II. Sources of Local Environmental Information

The survey asked respondents to identify the sources from which they usually hear or learn about urban environmental issues and conditions in their local area. Respondents were allowed to mention more than one source.

About two-thirds of Region 6 respondents (67%) report that they obtain their information from television, more than any other information source. Sixty-five percent (65%) of respondents report receiving local environmental information from newspapers. Only 4% report receiving local environmental information from the Internet and magazines. Several other sources, such as billboards, bus-side ads, posters, hotlines, universities, state governments, and the Federal Government were also mentioned, but by fewer than 4% of the respondents.

Figure 23. Most Common Sources of Local Environmental Information in Region 6



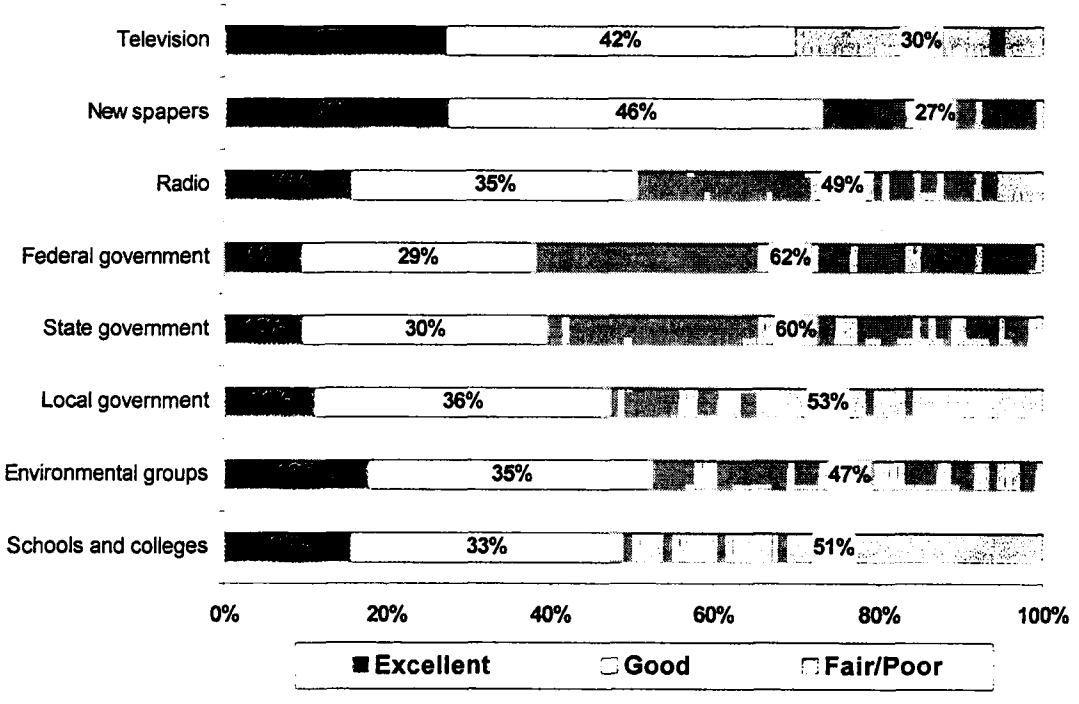
III. Quality of Information Sources

Respondents were also asked to rate the quality of the local environmental information that they received from selected information sources on a scale of 1 to 10, with 10 being *excellent* and 1 being *very poor*. The responses were categorized as follows:

- Excellent (9 or 10)
- Good (6, 7, or 8)
- Fair (4 or 5)
- Poor (1, 2, or 3).

Region 6 respondents report that newspapers and television, the most often used sources, provide the highest quality local information. Federal, state, and local government sources receive the lowest ratings.

Figure 24. Quality of Local Environmental Information from Selected Sources: Region 6



IV. Other Sources of Local Environmental Information

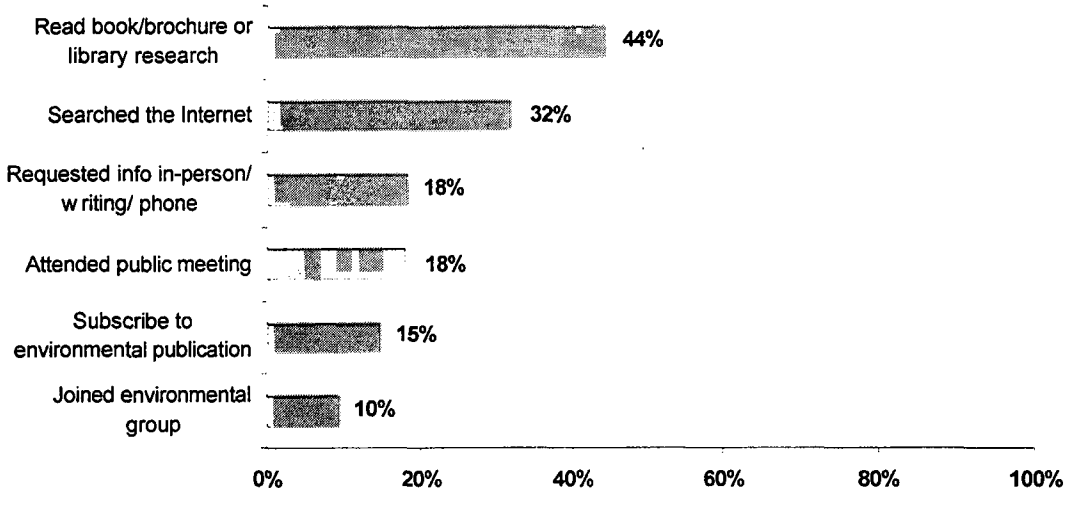
The survey asked whether the respondent or any other adult in the respondent's household has obtained environmental information by:

- Requesting information in-person, in writing, or by telephone
- Subscribing to an environmental publication such as a magazine
- Reading a book or brochure or having done a library search
- Joining an environmental group
- Searching the Internet
- Attending a public meeting for information.

This question did not specifically focus on *local* urban environmental issues, but on environmental issues in general.

Compared to national-level results for all 86 EMPACT MSAs, Region 6 respondents are as active as the national urban population as a whole. Less than half of the Region 6 respondents (44%) report that a member of their household has read a book or brochure or has done a library search for environmental information. Interestingly, although the percentage of respondents who mentioned the Internet when asked to list their sources of *local* environmental information was relatively low (4%), almost one-third (32%) report that a member of their household has done an Internet search for environmental information. This may be because the latter question pertained to all environmental information (not just local) and asked the respondent to answer regarding all members of the household.

Figure 25. Other Sources of Information on Environmental Issues: Region 6

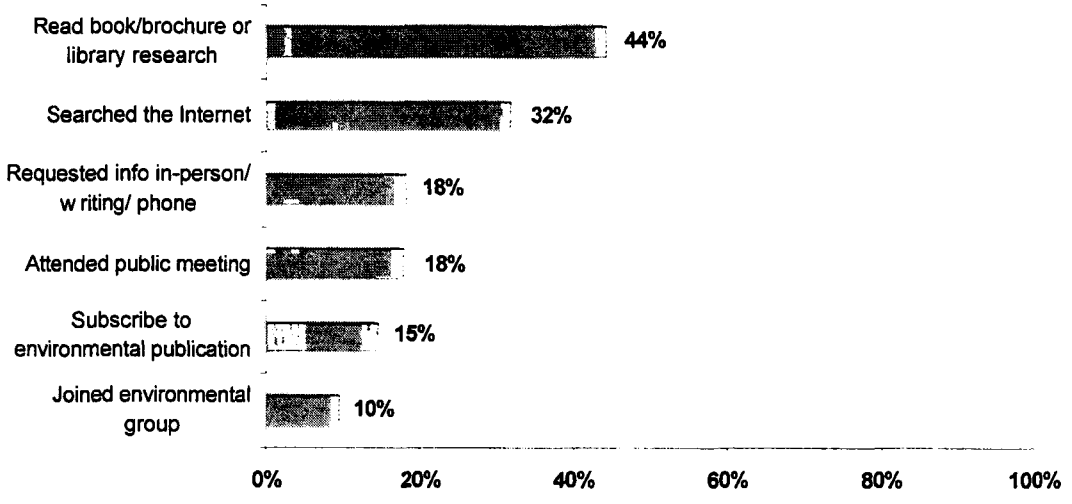


Chapter IV. Sources of Local Environmental Information

A. Internet Access

When asked if they had access to the Internet, 62% of Region 6 respondents report that they do. This is similar to the 59% access reported by respondents in all 86 EMPACT MSAs. Of the Region 6 respondents who have access to the Internet, 79% report using the Internet during the last few days and 88% report using it during the last week. It should be noted that Internet saturation is generally higher in urban populations than in the overall United States population.

Figure 26. Internet Usage: Region 6



Chapter V

Discussion

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Chapter V. Discussion

The *EMPACT Local Urban Environmental Issues Study of 86 Metropolitan Areas* findings indicate that local environmental issues are very important to citizens living in 86 of the nation's largest metropolitan areas. The Region 6 findings are consistent with the overall survey findings—local environmental issues are very important to people living in the 10 EMPACT MSAs in Region 6. These findings reflect the opinions of citizens living in metropolitan areas and cannot be generalized to residents of small communities and rural areas. Citizens' opinions are broadly based and include of host experiences and factors deemed important to the quality of life they want for themselves, their children, and their communities.

Similar to the overall survey findings, water issues are the most important local environmental issues to Region 6 respondents. Much like the overall survey findings, the Region 6 findings indicate that the local environmental issues are most important to citizens and vary across MSAs. These differences point to the different local environmental issues and environmental trends facing different urban areas.

Noteworthy Region 6 findings include:

- The quality of drinking water and pollution of streams, lakes, rivers, and oceans received the greatest mean importance ratings (8.46 and 8.35, respectively).

- Compared to other regions combined, Region 6 respondents are more likely to report that the long-term supply of drinking water the most important Region 6 environmental issue, has improved over the last five years.

The results raise interesting questions about citizen opinions and perceptions versus scientific assessment. How accurate are citizens' perceptions of local environmental improvement or decline as compared to scientifically measured environmental parameters? A close look at the findings may reveal instances where citizens' concerns, or even optimism, with a local environmental issue may be inconsistent with the scientific evidence (e.g., monitoring data). Any such inconsistency would not discount the importance of citizens' opinions. As noted above, citizens' opinions are more broadly based, often including decades of personal observation and experience in an area, as well as years of publicity around a subject. Consequently, differences between public opinion and scientific evidence should be explored and may identify opportunities for public discourse about local environmental issues, educational needs, resource allocations, community and individual decision-making, and overall quality-of-life standards and goals.

Appendix A

EMPACT Metropolitan Areas

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EMPACT Metropolitan Area

Albany- Schenectady- Troy, NY
Albuquerque, NM
Allentown- Bethlehem- Easton, PA
Anchorage, AK
Atlanta, GA
Austin- San Marcos, TX
Bakersfield, CA
Billings, MT
Birmingham, AL
Boise, ID
Boston, MA- NH
Bridgeport, CT
Buffalo- Niagara Falls, NY
Burlington, VT
Charleston- North Charleston, SC
Charleston, WV
Charlotte- Gastonia- Rock Hill, NC- SC
Cheyenne, WY
Chicago- Gary- Kenosha, IL-IN- WI
Cincinnati- Hamilton, OH- KT- IN
Cleveland- Akron, OH
Columbus, OH
Dallas- Fort Worth, TX
Dayton- Springfield, OH
Denver- Boulder- Greeley, CO
Detroit- Ann Arbor- Flint, MI
EL Paso, TX
Fargo- Moorhead, ND- MN
Fresno, CA
Grand Rapids- Muskegon-Holland, MI
Greensboro- Winston Salem- High Point, NC
Greenville- Spartanburg- Anderson, SC
Harrisburg- Lebanon- Carlisle, PA
Hartford, CT
Honolulu, HI
Houston- Galveston- Brazoria, TX
Indianapolis, IN
Jackson, MS
Jacksonville, FL
Kansas City, MO- KS
Knoxville, TN
Las Vegas, NV

EMPACT Metropolitan Area

Little Rock- North Little Rock, AR
Los Angeles- Riverside- Orange County, CA
Louisville, KY- IN
Memphis, TN- AR- MS
Miami- Fort Lauderdale, FL
Milwaukee- Racine, WI
Minneapolis- St. Paul, MN
Nashville, TN
New Orleans, LA
New York- Northern New Jersey- Long Island, NY- NJ- CT- PA
Norfolk- Virginia Beach-Newport News, VA- NC
Oklahoma City, OK
Omaha, NE- IA
Orlando, FL
Philadelphia- Wilmington- Atlantic City, PA- NJ- DE- MD
Phoenix- Mesa, AZ
Pittsburgh, PA
Portland, ME
Portland- Salem, OR- WA
Providence- Fall River-Warwick, RI- MA
Raleigh- Durham- Chapel Hill, NC
Richmond- Petersburg, VA
Rochester, NY
Sacramento- Yolo, CA
Salt Lake City- Ogden, UT
San Antonio, TX
San Diego, CA
San Francisco- Oakland- San Jose, CA
San Juan, PR
Scranton- Wilkes- Barre- Hazleton, PA
Seattle- Tacoma- Bremerton, WA
Sioux Falls, SD
Springfield, MA
St. Louis- E. St. Louis, MO- IL
Stockton- Lodi, CA
Syracuse, NY
Tampa- St. Petersburg-Clearwater, FL
Toledo, OH
Tucson, AZ
Tulsa, OK
Washington- Baltimore, DC- MD - VA - WV
West Palm Beach- Boca Raton, FL
Wichita, KS
Youngstown-Warren, OH

EMPACT Metropolitan Area

Region I

Boston, MA- NH
Bridgeport, CT
Burlington, VT
Hartford, CT
Portland, ME
Providence- Fall River-Warwick, RI- MA
Springfield, MA

Region II

Albany- Schenectady- Troy, NY
Buffalo- Niagara Falls, NY
New York- Northern New Jersey- Long Island, NY- NJ- CT- PA
Rochester, NY
San Juan, PR
Syracuse, NY

Region III

Allentown- Bethlehem- Easton, PA
Charleston, WV
Harrisburg- Lebanon- Carlisle, PA
Norfolk- Virginia Beach-Newport News, VA- NC
Philadelphia- Wilmington- Atlantic City, PA- NJ- DE- MD
Pittsburgh, PA
Richmond- Petersburg, VA
Scranton- Wilkes- Barre- Hazleton, PA
Washington- Baltimore, DC- MD - VA - WV

Region IV

Atlanta, GA
Birmingham, AL
Charleston- North Charleston, SC
Charlotte- Gastonia- Rock Hill, NC- SC
Greensboro- Winston Salem- High Point, NC
Greenville- Spartanburg- Anderson, SC
Jackson, MS
Jacksonville, FL
Knoxville, TN
Louisville, KY- IN
Memphis, TN- AR- MS

Miami- Fort Lauderdale, FL
Nashville, TN
Orlando, FL
Raleigh- Durham- Chapel Hill, NC
Tampa- St. Petersburg-Clearwater, FL
West Palm Beach- Boca Raton, FL

Region V

Chicago- Gary- Kenosha, IL-IN- WI
Cincinnati- Hamilton, OH- KT- IN
Cleveland- Akron, OH
Columbus, OH
Dayton- Springfield, OH
Detroit- Ann Arbor- Flint, MI
Grand Rapids- Muskegon-Holland, MI
Indianapolis, IN
Milwaukee- Racine, WI
Minneapolis- St. Paul, MN
Toledo, OH
Youngstown-Warren, OH

Region VI

Albuquerque, NM
Austin- San Marcos, TX
Dallas- Fort Worth, TX
EL Paso, TX
Houston- Galveston- Brazoria, TX
Little Rock- North Little Rock, AR
New Orleans, LA
Oklahoma City-OK
San Antonio, TX
Tulsa, OK

Region VII

Kansas City, MO- KS
Omaha, NE- IA
St. Louis- E. St. Louis, MO- IL
Wichita, KS

EMPACT Metropolitan Area

Region VIII

Billings, MT
Cheyenne, WY
Denver- Boulder- Greeley, CO
Fargo- Moorhead, ND- MN
Salt Lake City- Ogden, UT
Sioux Falls, SD

Region IX

Bakersfield, CA
Fresno, CA
Honolulu, HI
Las Vegas, NV
Los Angeles- Riverside- Orange County, CA
Phoenix- Mesa, AZ
Sacramento- Yolo, CA
San Diego, CA
San Francisco- Oakland- San Jose, CA
Stockton- Lodi, CA
Tucson, AZ

Region X

Anchorage, AK
Boise, ID
Portland- Salem, OR- WA
Seattle- Tacoma- Bremerton, WA

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Appendix B

Survey Instrument

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I. Introduction

[As the CATI system queues up and dials the phone number, the interviewer's screen will indicate the needed gender of the respondent. The CATI system is programmed to track respondent gender for completed interviews and to specify the needed gender for each subsequent interview. Gender designation is essential to ensuring representative proportions of males and females. Research has demonstrated females tend to answer phone calls disproportionately.]

[Upon contacting the potential respondent, the interviewer will say the following.]

Hello, I am _____ calling from Macro International. We are conducting a brief survey for the United States Environmental Protection Agency, also known as the EPA. Is someone available in your household to complete this survey 18 of age or older and also **[indicate needed gender]**? [**IF NECESSARY**: The survey will take only 12 minutes.]

[If they say they are eligible and will take the survey, then go to Part 1. If they say they are eligible but do not want to take the survey, thank and terminate. If they say someone else is eligible then go to introduction Part 2]

Part 1

Thank you for participating in this survey. This information will help EPA and other federal agencies that are working with communities to give citizens the kinds of information they want. Your answers and comments are confidential and used only in summary form together with other people's opinions.

Q.A Have you participated in an EPA survey in the last six months?

1.	Yes	**[THANK AND TERMINATE]**
2.	No	**[GO TO SECTION II]**
3.	Do not know	**[THANK AND TERMINATE]**

Part 2

Q.B Are they available now?

1.	Yes	**[If they do not volunteer to check, ask them to do so. If they return and say the eligible respondent is not available then go to Q2. If the eligible respondent returns, then go to Part 3]**
2.	No	**[SCHEDULE CALLBACK. IF REFUSE CALLBACK - TERMINATE]**
3.	Do not know	**[THANK AND TERMINATE]**

Part 3

Hello, I am _____ calling from Macro International. We are conducting a brief survey for the United States Environmental Protection Agency, also known as the EPA. EPA is interested in your opinions and concerns about the environment and other issues in the **[PLACE NAME OF MSA HERE]** area. This information will help EPA and other federal agencies that work with communities to give their citizens the kinds of information they want. Your answers and comments are confidential and used only in summary form together with other people's opinions. [**IF NECESSARY**: The survey will take only 12 minutes.]

Q.C First, I would just like to confirm - Are you at least 18 years old?

1.	Yes	
2.	No	**[TERMINATE]**
3.	Do Not Know/refused	**[TERMINATE]**

Q.D Have you participated in an EPA survey in the last six months?

1.	Yes	**[THANK AND TERMINATE]**
2.	No	**[GO TO SECTION II]**
3.	Do not know	**[THANK AND TERMINATE]**

II. Local Urban Environmental and Non-environmental Issues

Q.1 First, I am going to read you a list of different issues that may or may not occur in the **[PLACE NAME OF MSA HERE]** area.

Please tell me how important is each of these issues in the **[PLACE NAME OF MSA HERE]** area. Please use a scale of 1 to 10, with 10 being "extremely important" and 1 being "not important at all".

[All of the issues, environmental and non-environmental, will be presented together in a random order. The CATI system will re-randomize the list for each respondent.]

AIR

Issue:	Rating										
1. Air pollution from cars	1	2	3	4	5	6	7	8	9	10	DK
2. Air pollution from businesses or industrial sites	1	2	3	4	5	6	7	8	9	10	DK
3. Air pollution from burning leaves	1	2	3	4	5	6	7	8	9	10	DK
4. Ozone alerts in the community	1	2	3	4	5	6	7	8	9	10	DK

WASTE

Issue:	Rating										
5. The adequacy of landfills	1	2	3	4	5	6	7	8	9	10	DK
6. Location of landfills	1	2	3	4	5	6	7	8	9	10	DK
7. Hazardous waste dumping in the local area	1	2	3	4	5	6	7	8	9	10	DK
8. Use of potentially harmful pesticides	1	2	3	4	5	6	7	8	9	10	DK
9. Disposal of animal waste	1	2	3	4	5	6	7	8	9	10	DK

WATER

Issue:	Rating										
10. The quality of drinking water from public water systems	1	2	3	4	5	6	7	8	9	10	DK
11. Protection of ground water and wells	1	2	3	4	5	6	7	8	9	10	DK
12. Depletion of the water table	1	2	3	4	5	6	7	8	9	10	DK
13. Pollution of streams, rivers, lakes, and oceans in the urban area	1	2	3	4	5	6	7	8	9	10	DK
14. Adequate long-term supply of drinking water	1	2	3	4	5	6	7	8	9	10	DK
15. Adequacy of sewage treatment facilities	1	2	3	4	5	6	7	8	9	10	DK

NON-ENVIRONMENTAL ISSUES

Issue:	Rating										
16. Local crime rate	1	2	3	4	5	6	7	8	9	10	DK
17. Illegal drug use	1	2	3	4	5	6	7	8	9	10	DK
18. Quality of public education	1	2	3	4	5	6	7	8	9	10	DK
19. Adequacy of local highway system	1	2	3	4	5	6	7	8	9	10	DK
20. Availability of housing for low income citizens	1	2	3	4	5	6	7	8	9	10	DK
21. Ability of the community to respond to natural disasters	1	2	3	4	5	6	7	8	9	10	DK
22. Availability of public transportation	1	2	3	4	5	6	7	8	9	10	DK
23. Favorable business climate	1	2	3	4	5	6	7	8	9	10	DK
24. Rate of unemployment	1	2	3	4	5	6	7	8	9	10	DK
25. Level of local taxes	1	2	3	4	5	6	7	8	9	10	DK
26. Poverty in local community	1	2	3	4	5	6	7	8	9	10	DK
27. Adequacy of municipal services (e.g., trash and snow removal, police and fire protection)	1	2	3	4	5	6	7	8	9	10	DK
28. Rate of urban growth	1	2	3	4	5	6	7	8	9	10	DK
29. Health of the local economy	1	2	3	4	5	6	7	8	9	10	DK

Other Issues

[These issues will be asked after the environmental and non-environmental questions. They will not be randomized.]

Q. 1a Can you think of any other issues in the **[PLACE NAME OF MSA HERE]** area?
RECORD_____

Please tell me how important is this issue in the **[PLACE NAME OF MSA HERE]** area. Please use a scale of 1 to 10, with 10 being "extremely important" and 1 being "not important at all".
1 2 3 4 5 6 7 8 9 10 DK

After survey is completed, need to specify whether the issue is environmental or not.

Q.1b Can you think of any other issue in the **[PLACE NAME OF MSA HERE]** area?
RECORD_____

Please tell me how important is this issue in the **[PLACE NAME OF MSA HERE]** area Please use a scale of 1 to 10, with 10 being "extremely important" and 1 being "not important at all".
1 2 3 4 5 6 7 8 9 10 DK

After survey is completed, need to specify whether the issue is environmental or not.

Q.2. Now I would like to ask about the ENVIRONMENTAL ISSUES you rated "Important". Please tell me whether you think that these environmental issues have gotten better, worse or stayed about the same in the last five years in the **[PLACE NAME OF MSA HERE]** area.

[The CATI system will recall all environmental issues rated 6 or higher and use in the following routine]

Q2a. For **[INSERT FIRST ISSUE]**, would you say it has gotten better, worse or stayed the same in the last five years in the **[PLACE NAME OF MSA HERE]** area?

1. Better
2. Worse
3. Same
4. DK/Refused

Q2b. For **[INSERT FIRST ISSUE]**, is this an issue in which you have been actively involved, for example, written letters, attended public meetings, joined an advocacy group?

1. Yes
2. No
3. Do not know/Refused

Q3a. What about **[INSERT NEXT ISSUE]**, would you say it has gotten better, worse or stayed the same in the last five years in the **[PLACE NAME OF MSA HERE]** area?

1. Better
2. Worse
3. Same
4. DK/Refused

Q3b. For **[INSERT NEXT ISSUE]**, is this an issue in which you have been actively involved, for example, written letters, attended public meetings, joined an advocacy group?

1. Yes
2. No
3. Do not know/Refused

[The CATI system will continue until all issues are rated.]

Q4a. Have you or anyone else in your family been negatively affected by these environmental issues. By negatively affected, I mean negative influence on health, things like allergies or breathing problems.

1.	Yes	**[CONTINUE TO Q.5]**
2.	No	**[SKIP TO NEXT SECTION]**
3.	Do not know/Refused	**[SKIP TO NEXT SECTION]**

Q4b. Who in your family has been negatively affected?

[SELECT ALL THAT APPLY]

1. Self
2. Children
3. Spouse or significant other
4. Elderly family members
5. Pets
6. Other
7. Do not know/Refused

III. Communications Issues

Q5. From what sources do you usually hear or learn about urban environmental issues and conditions in the **[PLACE NAME OF MSA HERE]** area?

[DO NOT READ LIST. ENTER ALL RESPONSES.]

Q5a **IF ONLY "TV" MENTIONED IN Q.1, ASK:** From sources other than TV, do you usually hear or learn about urban environmental issues and conditions in the **[PLACE NAME OF MSA HERE]** area?

Q.6 If you needed particular information on urban environmental issues and conditions in the **[PLACE NAME OF MSA HERE]** area, where would you be likely to look for it?

Q.6a **IF ONLY "TV" MENTIONED IN Q.2, ASK:** Where else, besides TV, would you be likely to look for information on urban environmental issues and conditions in the **[PLACE NAME OF MSA HERE]** area?

[DO NOT READ LIST. ENTER ALL RESPONSES.]

	Q5/5a	Q6/6a
Billboards	1	1
Bus-side ads	2	2
Posters	3	3
Personal experience	4	4
Internet	5	5
Kids	6	6
Leaflets	7	7
Library	8	8
Personal observation	9	9
Word-of mouth	10	10
Media		
Television	11	11
Radio	12	12
Newspapers	13	13
Magazines	14	14
School	15	15
Hotlines/800 numbers	16	16
Organizations		
Local Schools	17	17
Universities/Community Colleges	18	18
Local government	19	19
State government	20	20
Federal government	21	21
Environmental groups	22	22
Other **[RECORD]**	23	23

Q.7 Now I would like you to rate the following sources on how well they provide you with information about environmental conditions in the **[PLACE NAME OF MSA HERE]** area. Please rate these sources using a scale from 1 to 10, with 10 being EXCELLENT and 1 being VERY POOR.

Let's start with **[READ EACH. CIRCLE APPROPRIATE RATING]**

[The CATI system will randomize the list for each respondent.]

Issue:	Rating											
1. Television	1	2	3	4	5	6	7	8	9	10	DK	
2. Radio	1	2	3	4	5	6	7	8	9	10	DK	
3. Newspaper	1	2	3	4	5	6	7	8	9	10		DK
4. Federal government	1	2	3	4	5	6	7	8	9	10		DK
5. State government	1	2	3	4	5	6	7	8	9	10	DK	
6. Local government	1	2	3	4	5	6	7	8	9	10		DK
7. Environmental groups	1	2	3	4	5	6	7	8	9	10		DK
8. Schools, colleges or universities.	1	2	3	4	5	6	7	8	9	10		DK

Q.8 The next few questions are about your household and the environment. When we use the word "environment" we mean the air you breathe, the water you drink, or other aspects of the natural environment in the area where you live and work, including the climate or wild animals. When you think about the environment this way, have you or anyone else in your household age 18 and older:

	Yes	No	Don't Know	Refuse
1. Requested environmental information in person, in writing, or by phone?	1	2	7	8
2. Subscribed to an environmental publication such as a magazine?	1	2	7	8
3. Read a book or brochure or done a library search about an environmental issue?	1	2	7	8
4. Joined an environmental group to get information?	1	2	7	8
Searched the World Wide Web or Internet for environmental information?	1	2	7	8
Attended a public meeting to get information about an environmental issue?	1	2	7	8

Q9. Do you currently have access to the World Wide Web or Internet?

Yes	**[ASK Q.6]**
No	**[SKIP TO NEXT SECTION]**
Do not know	**[SKIP TO NEXT SECTION]**

Q10. Do you have World Wide Web or Internet access at ...? **[READ LIST. ENTER RESPONSES]**

[READ ALL]	**YES**	**NO**	**DK**
Home	1	2	DK
Work	1	2	DK
A local library	1	2	DK
A local school	1	2	DK
Some other place	1	2	DK
RECORD OTHER	_____		

Q11. When was the last time you used the World Wide Web or Internet? **[READ LIST UNTIL FIRST ?YES? RESPONSE]**

[READ]	**YES**	**NO**	**DK**
In the last few days	1	2	DK
In the last week	1	2	DK
In the last month	1	2	DK
In the last year	1	2	DK
Longer than a year	1	2	DK

IV. DEMOGRAPHICS

These last few questions are just to help us classify respondents for analytical purposes.

Q12. What best describes the type of neighborhood you live in? **[READ LIST]**

1. Urban or city
2. Suburbs
3 Rural
4 Other **[RECORD]**
5. DK/Refused **[DO NOT READ]**

Q13. Is your home a ... **[READ LIST]**?

1. Single-Family Detached
2. Duplex, triplex or townhouse/ rowhouse
3. Apartment or condominium
4. Trailer or mobile home
5. Other **[RECORD]**
6. DK/Refused **[DO NOT READ]**

Q14. Do you own or rent your residence?

1. Own
2. Rent
3. Other **[RECORD]**
4 DNK/Refused **[DO NOT READ]**

Q15. How long have you lived in your residence?

_____ YRS

Q16. How long have you lived in the **[PLACE NAME OF MSA HERE]** area?

_____ YRS

Q17. What is your age? **(RECORD ANSWER) [IF NECESSARY, ASK:** Is it between ... **(READ LIST)]**

1. 18-24
2. 25-29
3. 30-34
4. 35-39
5. 40-44
6. 45-49
7. 50-54
8. 55-59
9. 60-64
10. 65-69
11. 70-74
12. 75 or older
13. Refused **[DO NOT READ]**

Q18. Which of the following best describes your household?

[READ LIST UNTIL FIRST YES RESPONSE.]

1. Individual living alone
2. Single head of household with children living at home
3. Couple with children living at home
4. Couple with children not living at home
5. Couple without children
6. Single or couple living with other adults
7. Other **[RECORD]**
8. Refused **[DO NOT READ]**

Q19. What is your zip code?

_____

Q20. Do you consider yourself to be Hispanic?

1. Yes
2. No
3. DK or refused **[DO NOT READ]**

Q21. For classification purposes, to which of the following categories do you belong? **(READ LIST)**

1. American Indian or Alaskan Native
2. Asian
3 Black or African American
4 Native Hawaiian or Other Pacific Islander
5. White
6. Other
7. DK or refused **[DO NOT READ]**

Q22. What language is most often spoken in your home? (RECORD ONE ANSWER)

1. English
2. Spanish
3. French
4. German
5. Vietnamese
6. Cambodian
7. Mandarin
8. Cantonese
9. Japanese
10. Korean
11. Arabic
12. Polish
13. Russian
14. Other **[RECORD]**
15. DK/Refused **[DO NOT READ]**

Q23. Please tell me which best describes your highest level of education.

[READ LIST UNTIL FIRST YES RESPONSE.]

1. Below high school
2. High school but no diploma
3. High school diploma
4. Some college but not a bachelor's nor associate's degree
5. Associate's degree
6. Bachelor's degree
7. Some graduate or professional school but no degree
8. Graduate or professional degree
9. Graduate or professional degree plus additional studies
10. Other
11. DK/Refused

Q24. Lastly, I am going to read several income categories. Please stop me when I read the category that best describes your 1997 total household income before taxes.

1 Under $10,000
2 $10,000-$19,999
3 $20,000-$29,999
4 $30,000-$39,999
5 $40,000-$49,999
6 $50,000-$59,999
7 $60,000-$69,999
8 $70,000-$79,999
9 $80,000-$89,999
10 $90,000-$99,999
11. $100,000 and over
12. Refused **[DO NOT READ]**

That was the last question I have for you. Thank you very much for taking the time to participate in this study.

Appendix C

National Urban Profile

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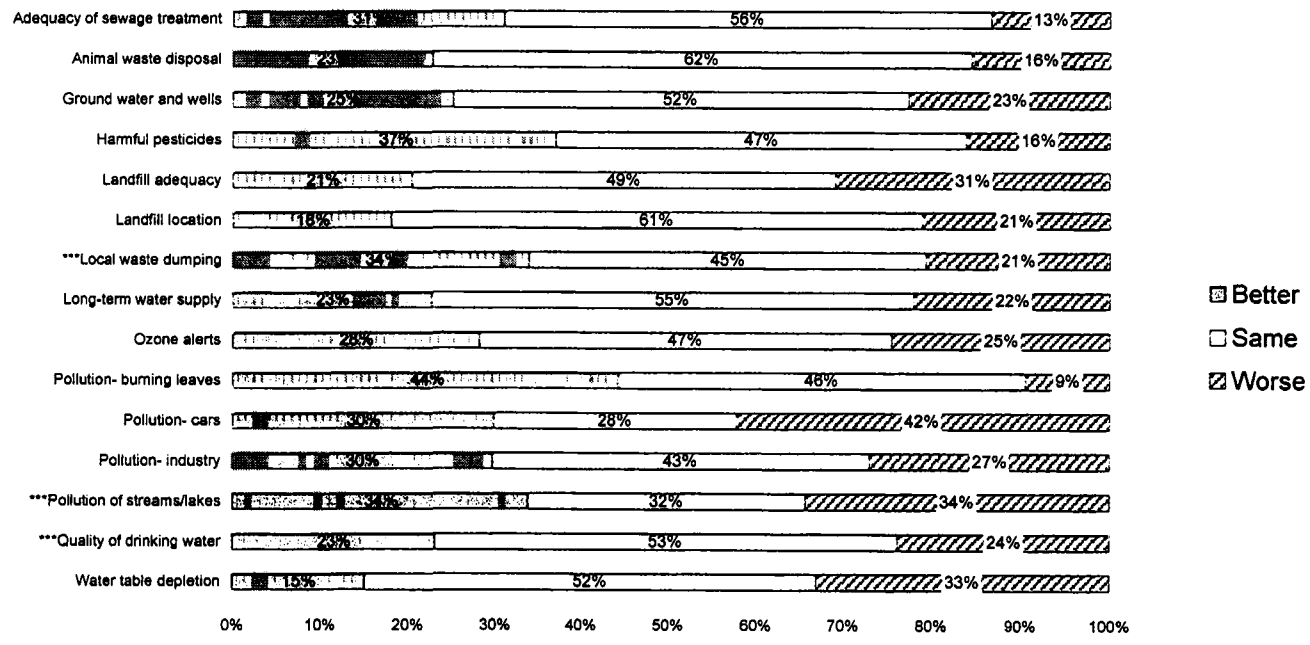
National Urban

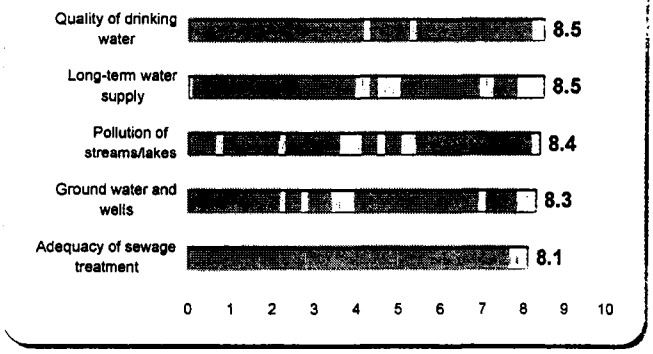
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

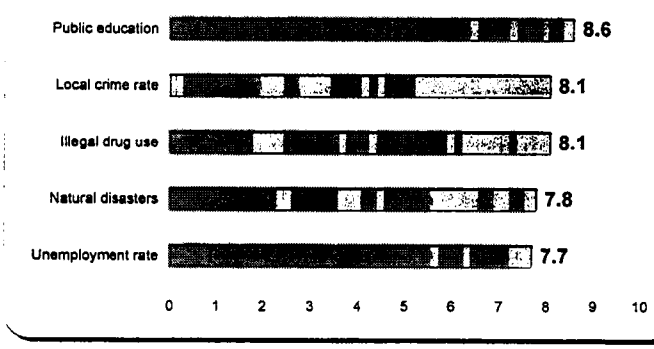
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 32%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

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Appendix D

Region 6 Urban Profile

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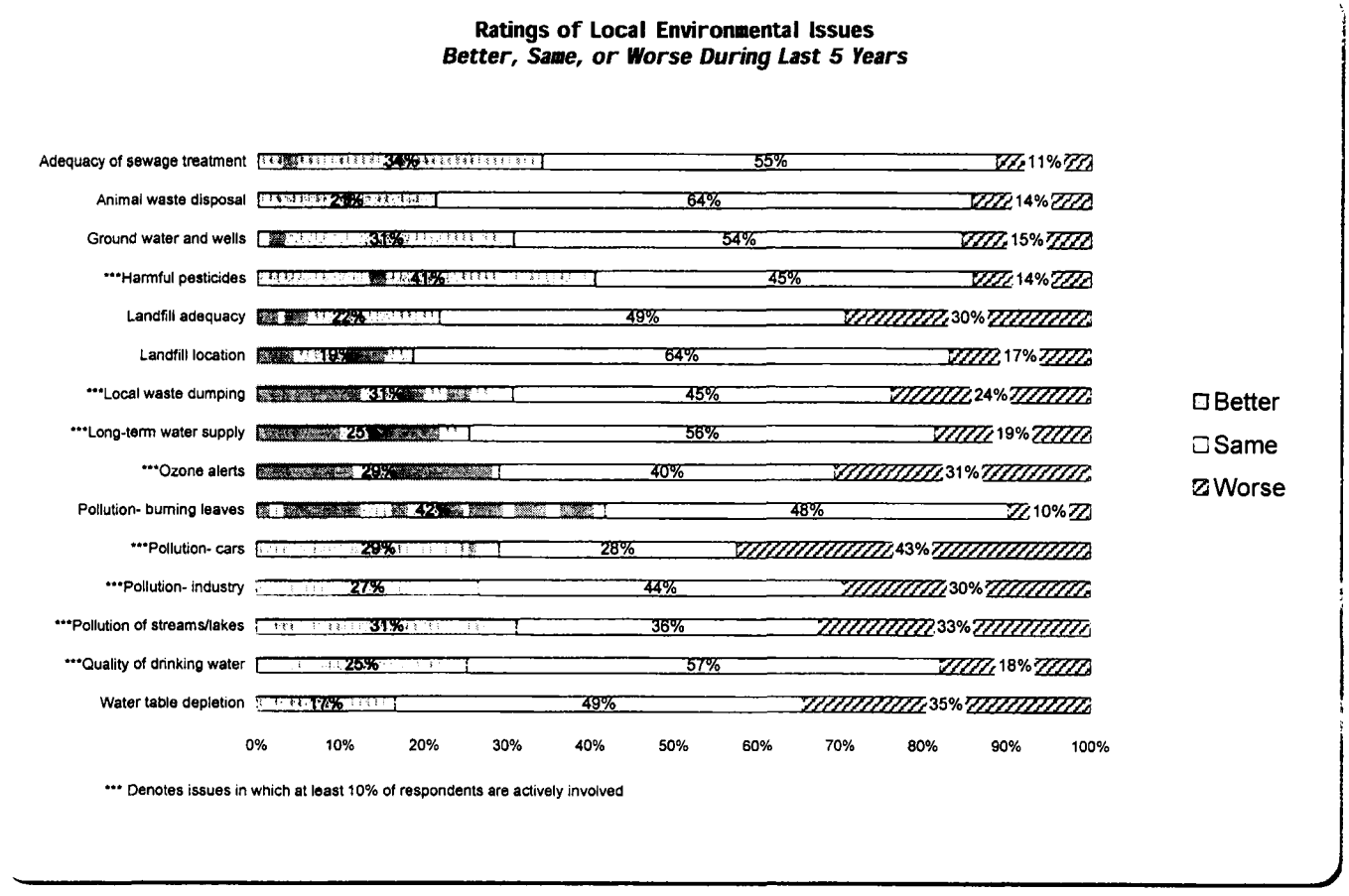
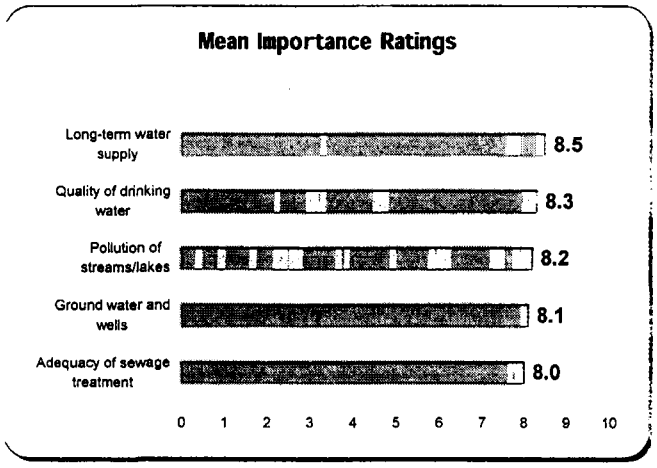
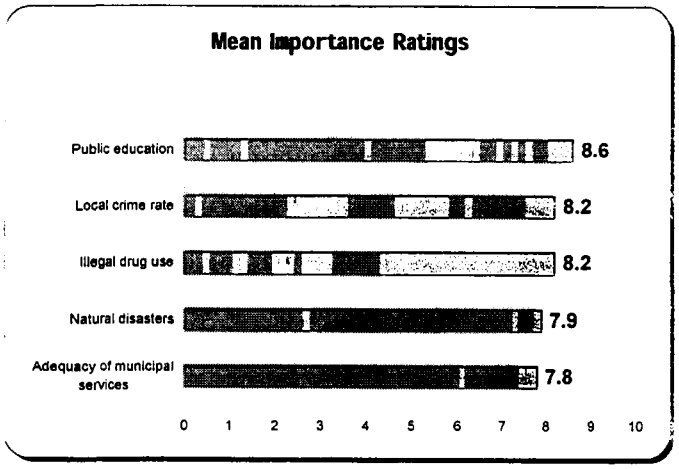
Region 6



Most Important Local Environmental Issues



Most Important Local Non-Environmental Issues



Percentage of respondents whose families have been negatively affected by local environmental issues..... 37%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

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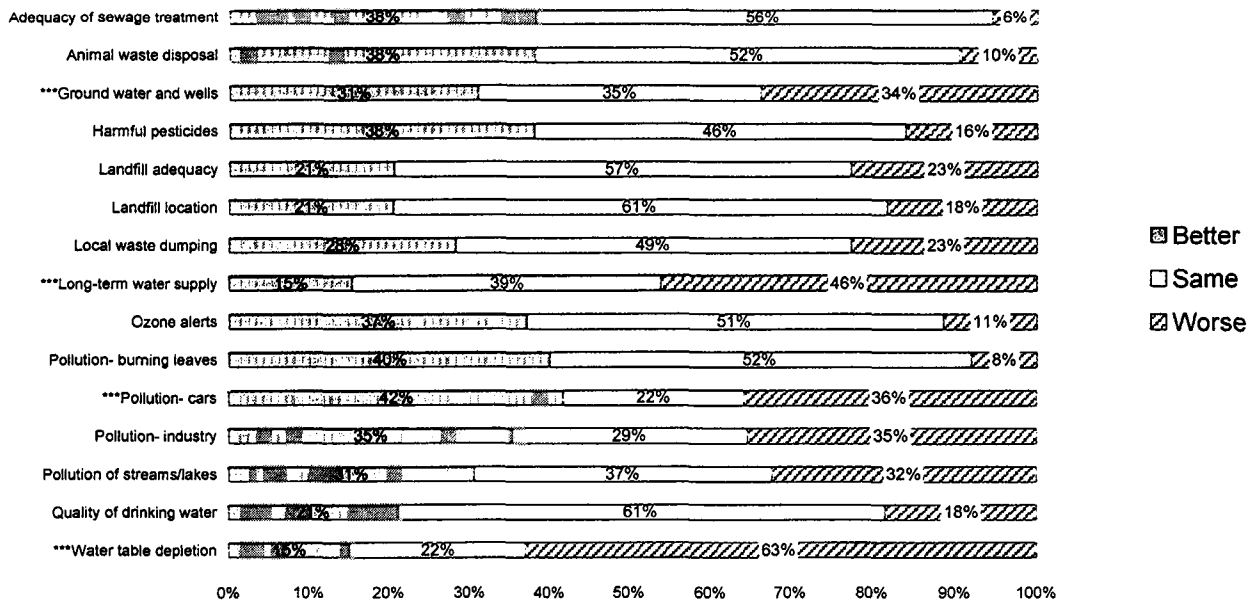
Appendix E

Profiles for Region 6 MSAs

Albuquerque

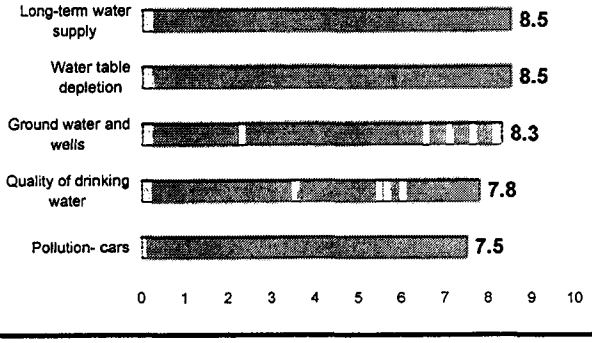
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

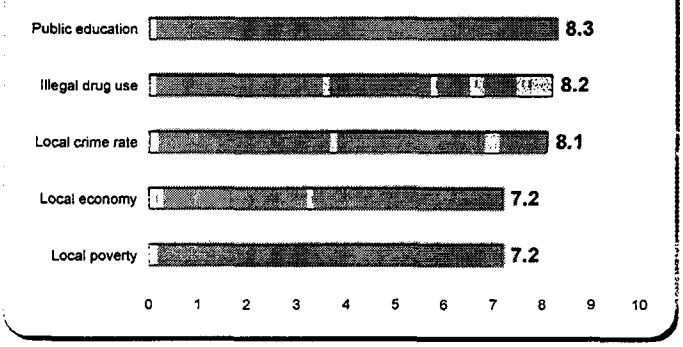
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

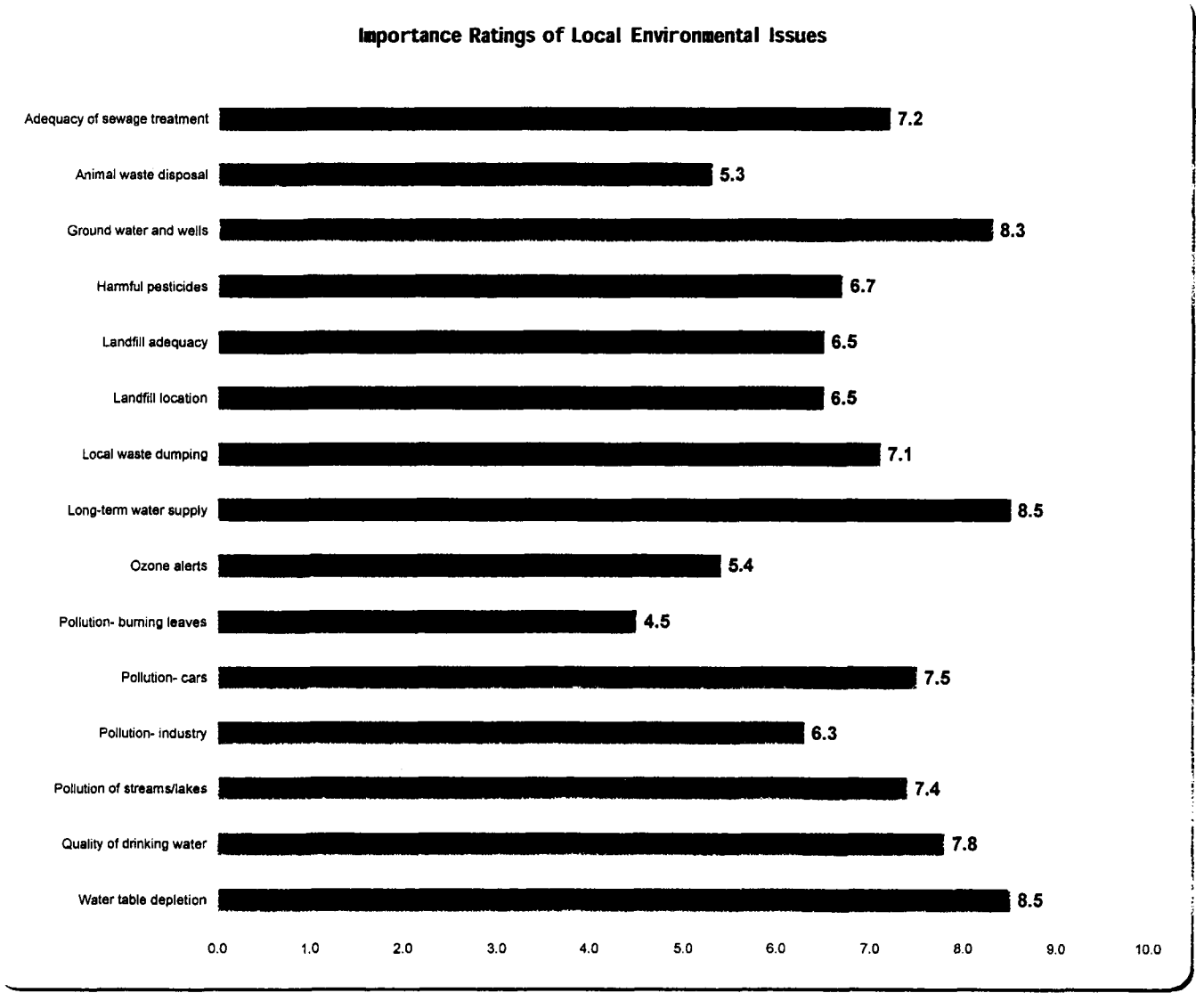
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 31%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

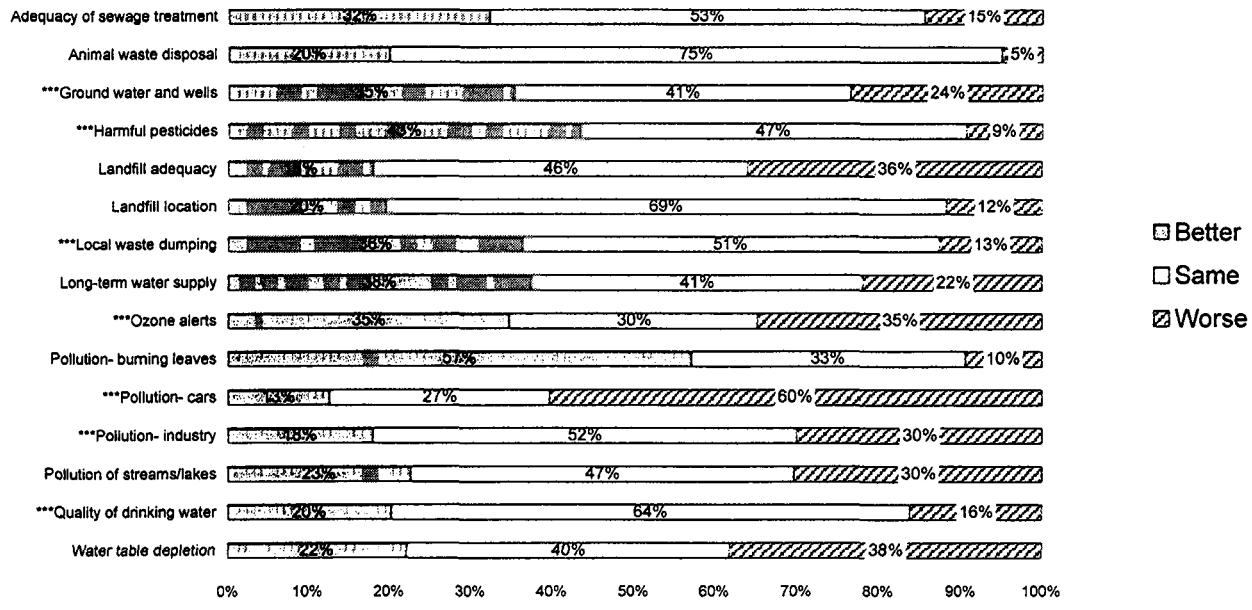
Albuquerque



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Austin/San Marcos

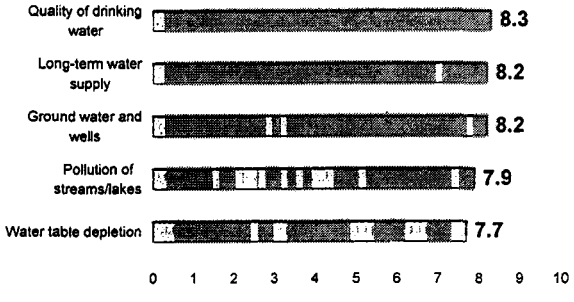
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

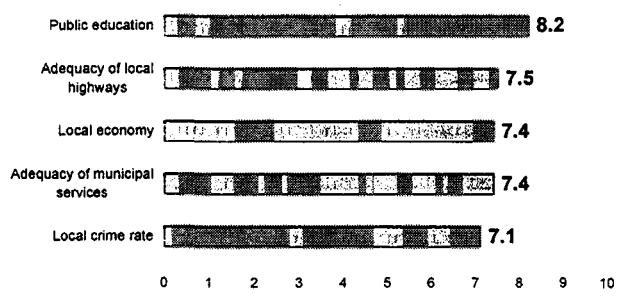
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

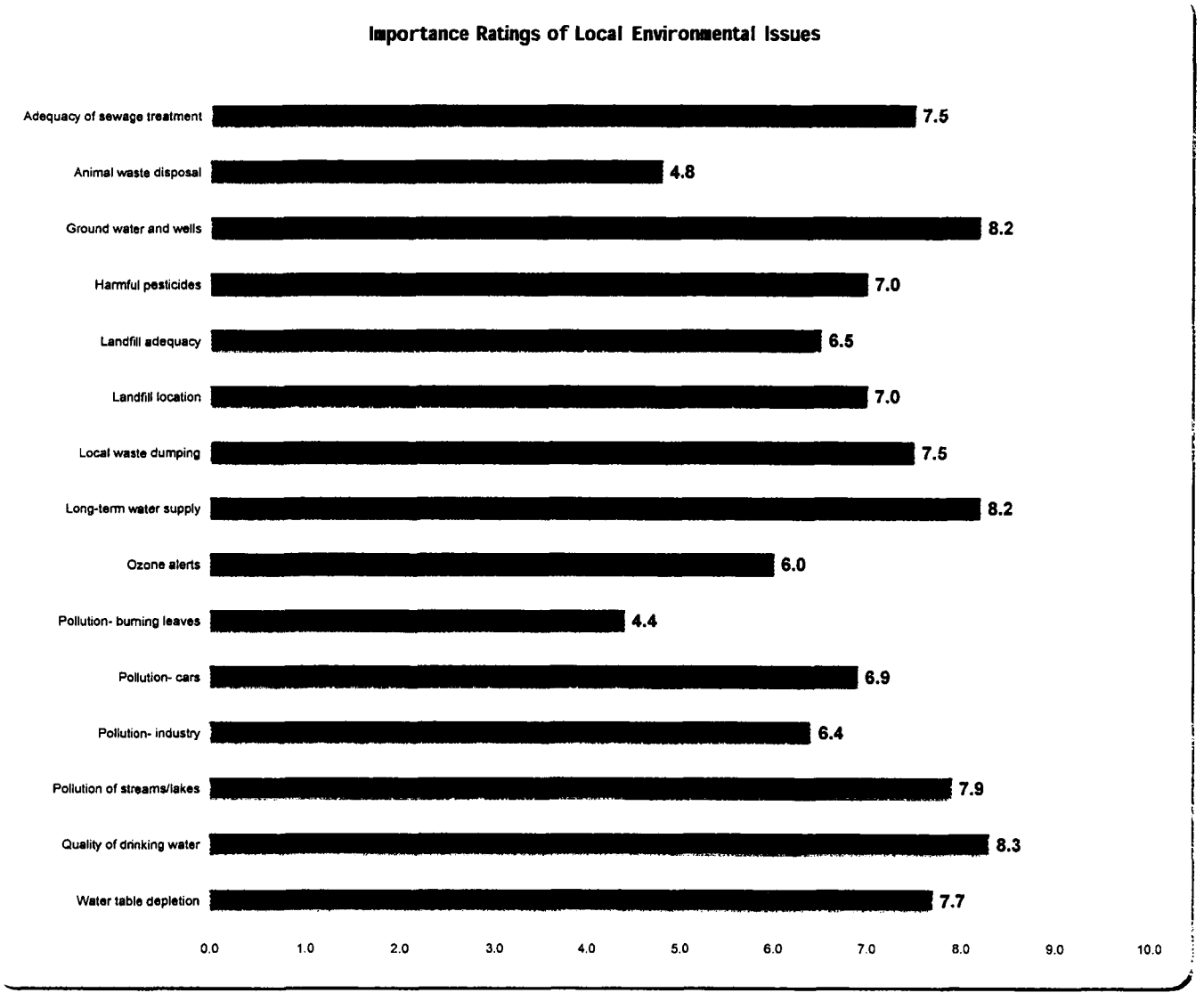
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 34%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

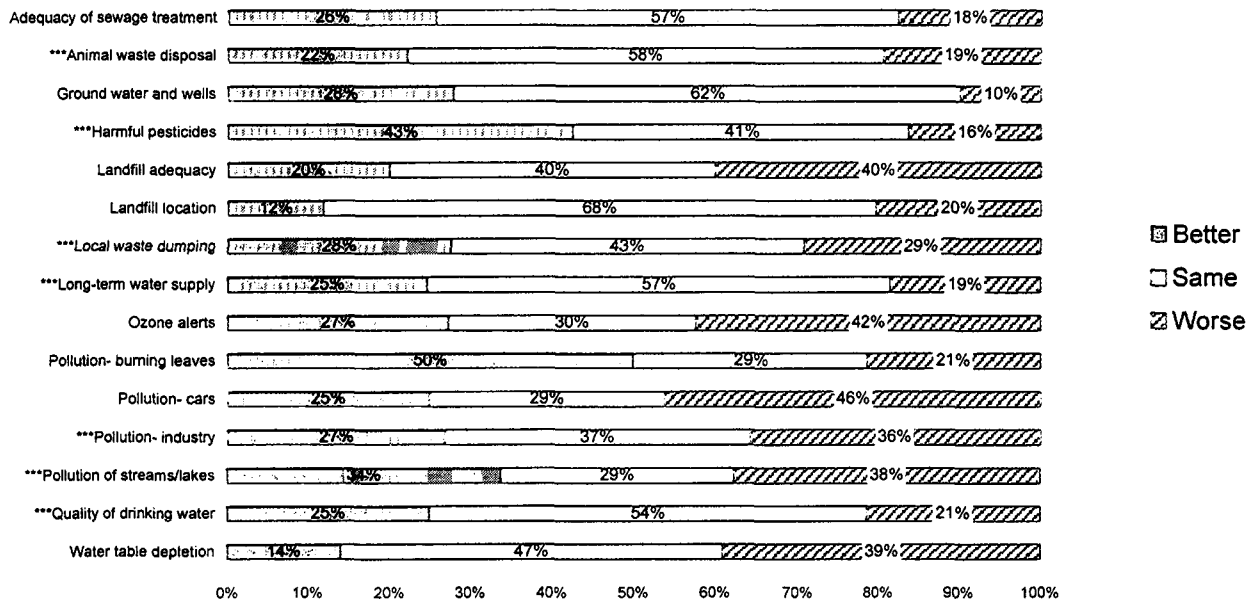
Austin/San Marcos



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Dallas/Fort Worth

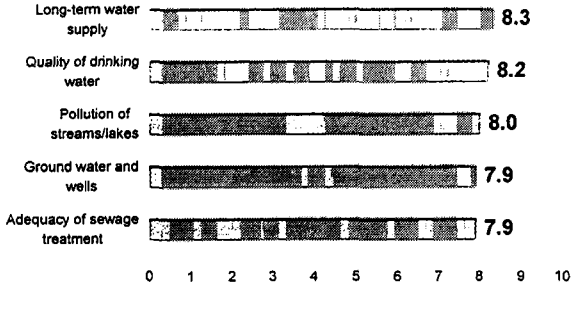
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

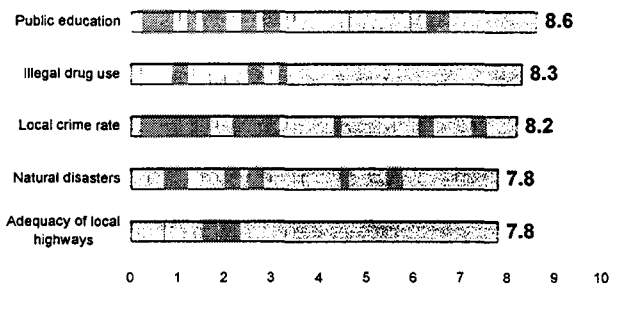
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

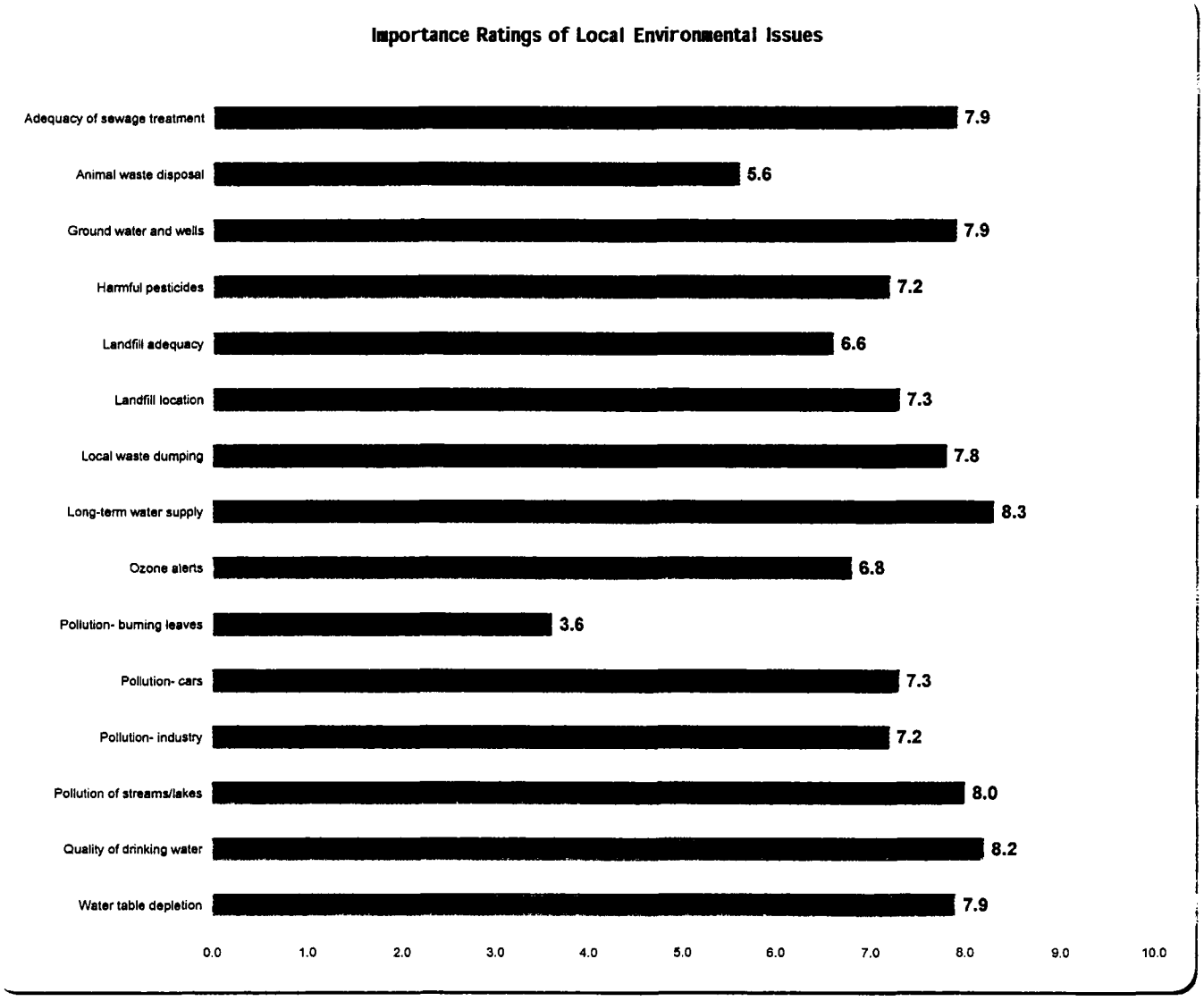
Mean Importance Ratings



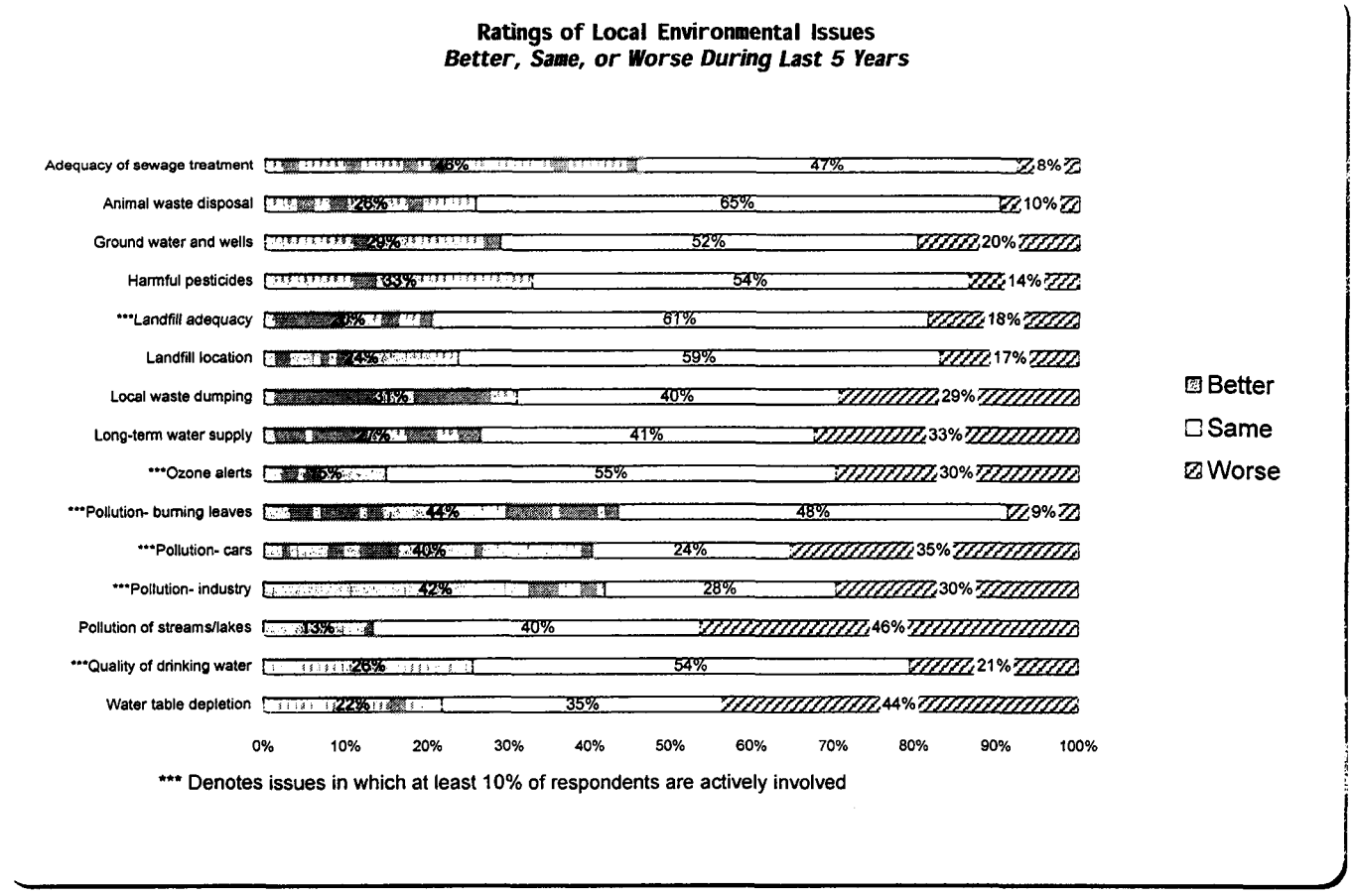
Percentage of respondents whose families have been negatively affected by local environmental issues..... 34%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

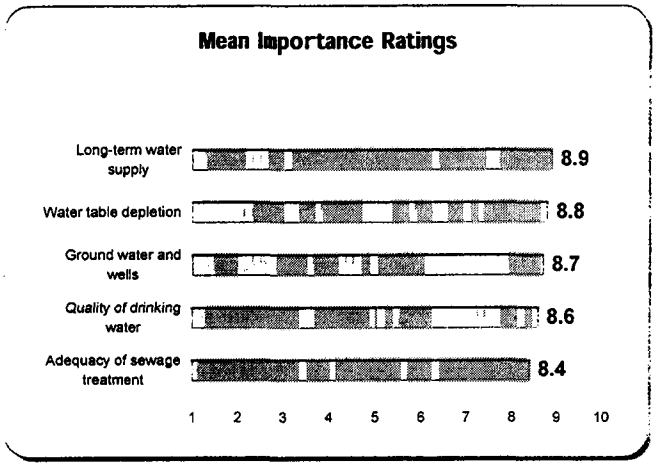
Dallas/Fort Worth



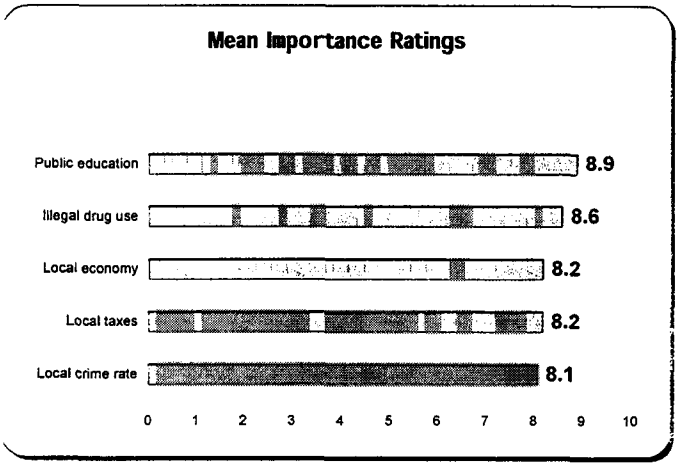
El Paso



Most Important Local Environmental Issues



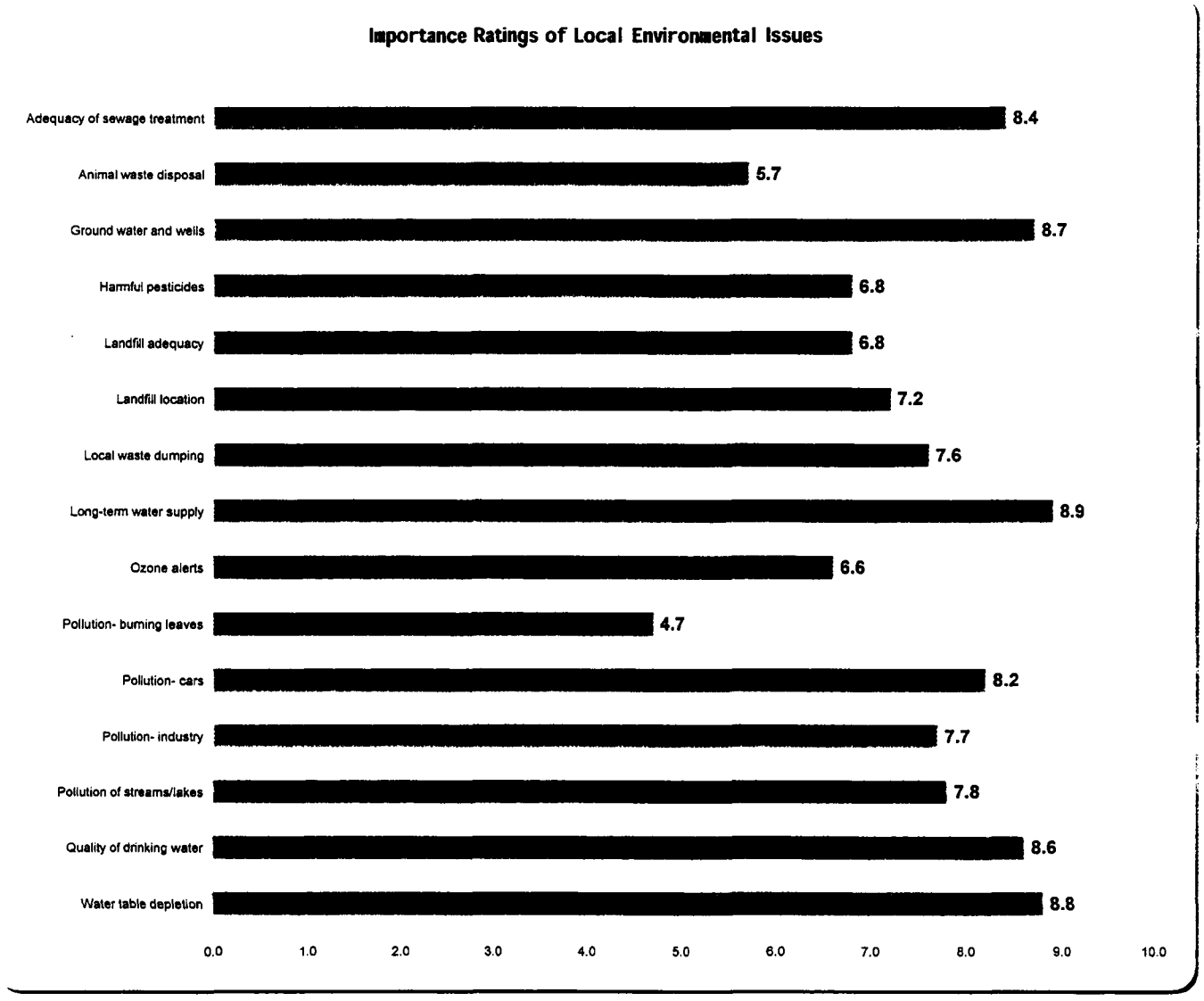
Most Important Local Non-Environmental Issues



Percentage of respondents whose families have been negatively affected by local environmental issues..... 52%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

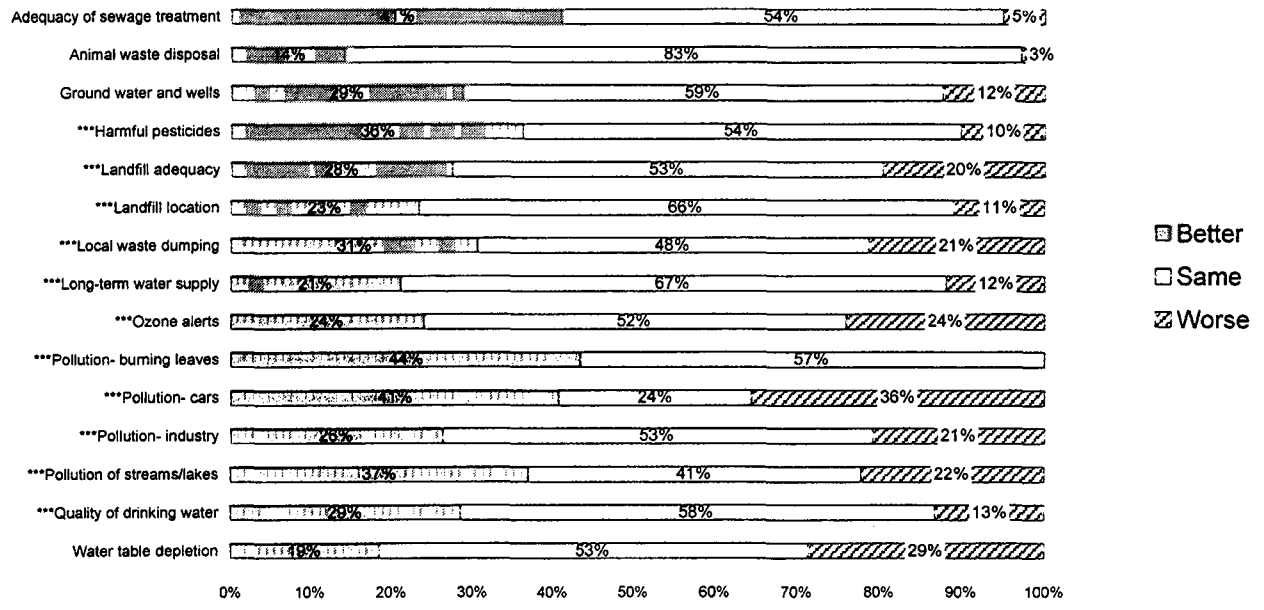
El Paso



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Houston/Galveston/Brazoria

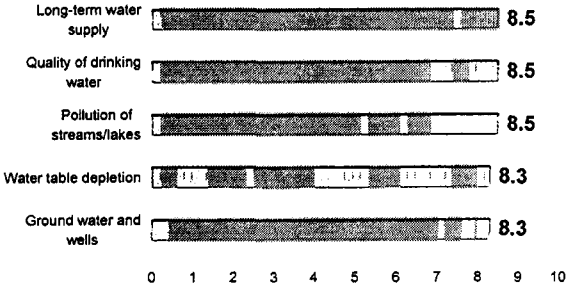
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

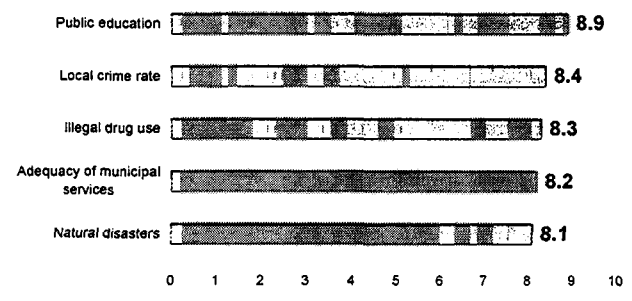
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

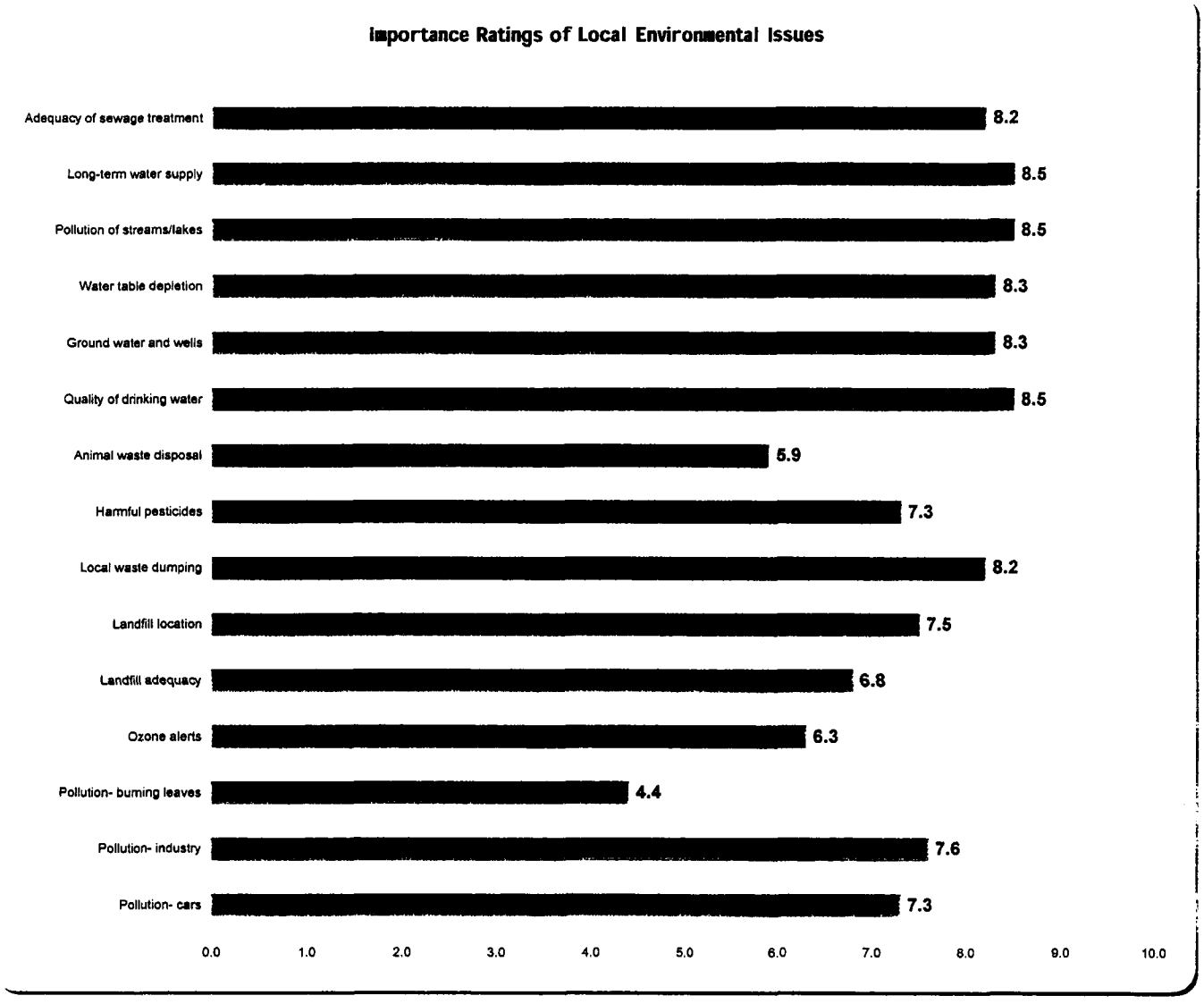
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 43%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

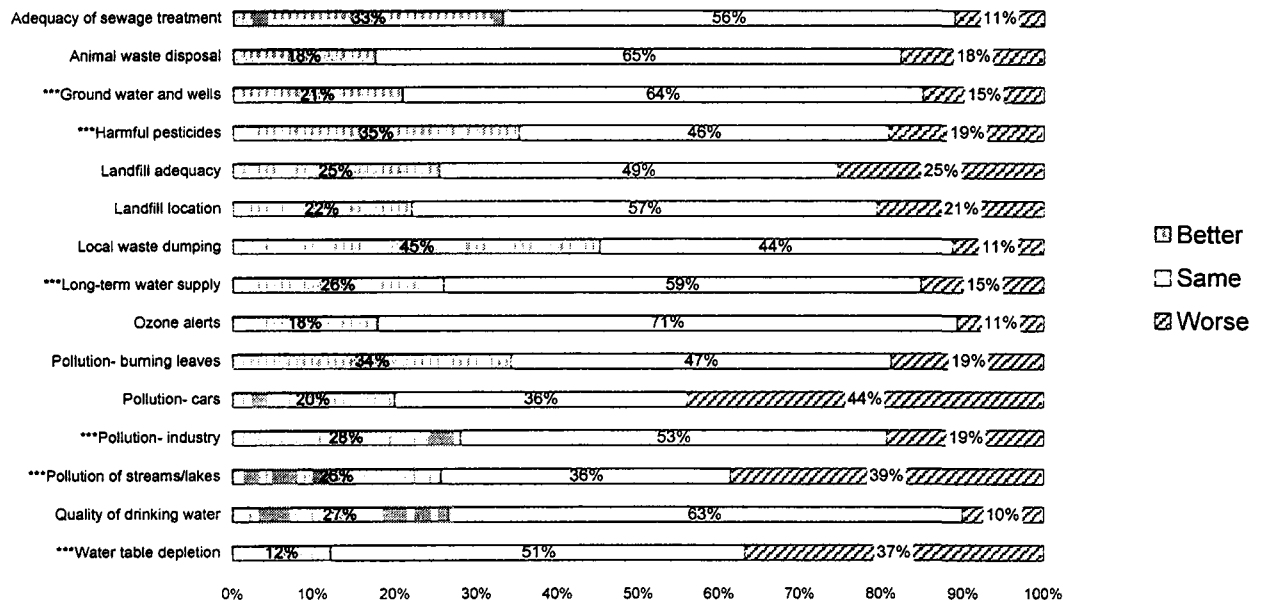
Houston/Galveston/Brazoria



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Little Rock/North Little Rock

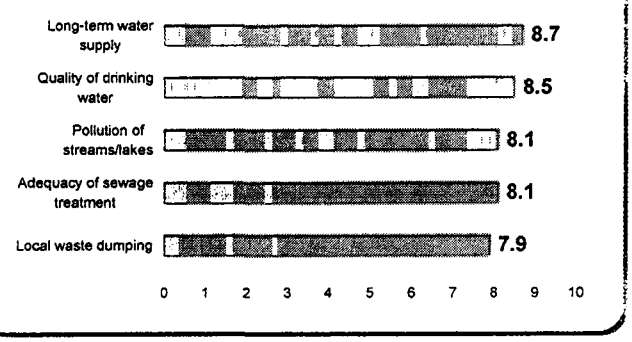
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

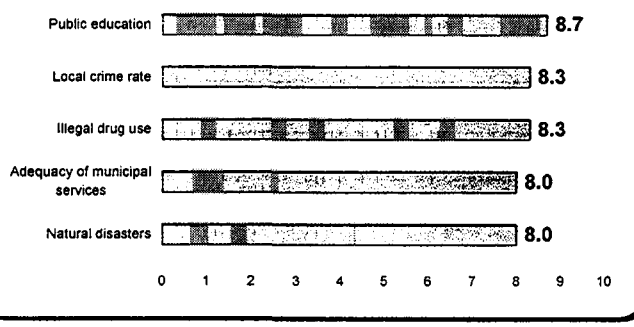
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

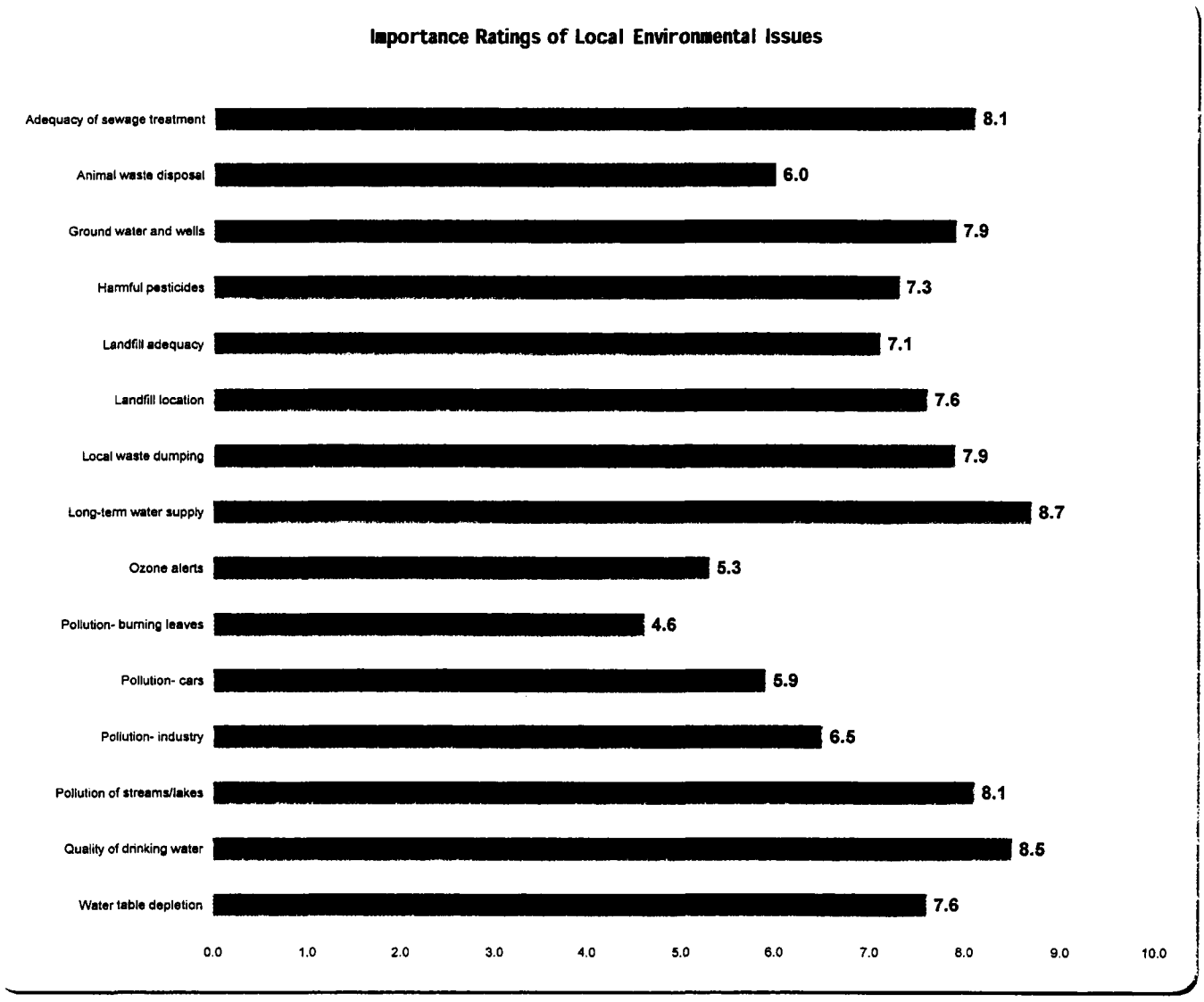
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 22%

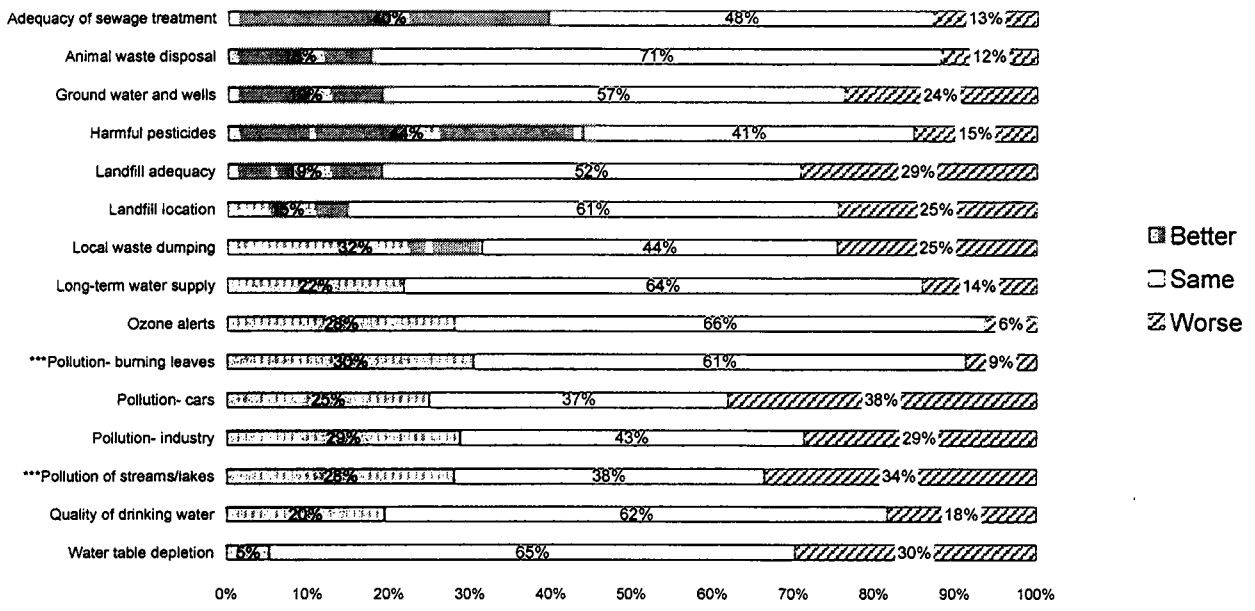
EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Little Rock/North Little Rock



New Orleans

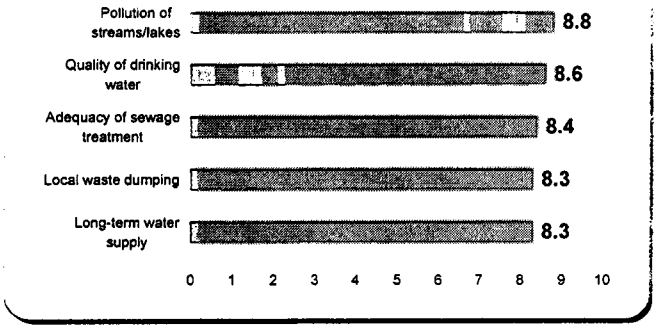
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

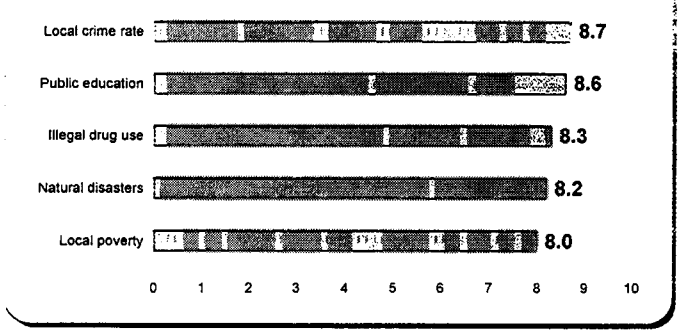
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

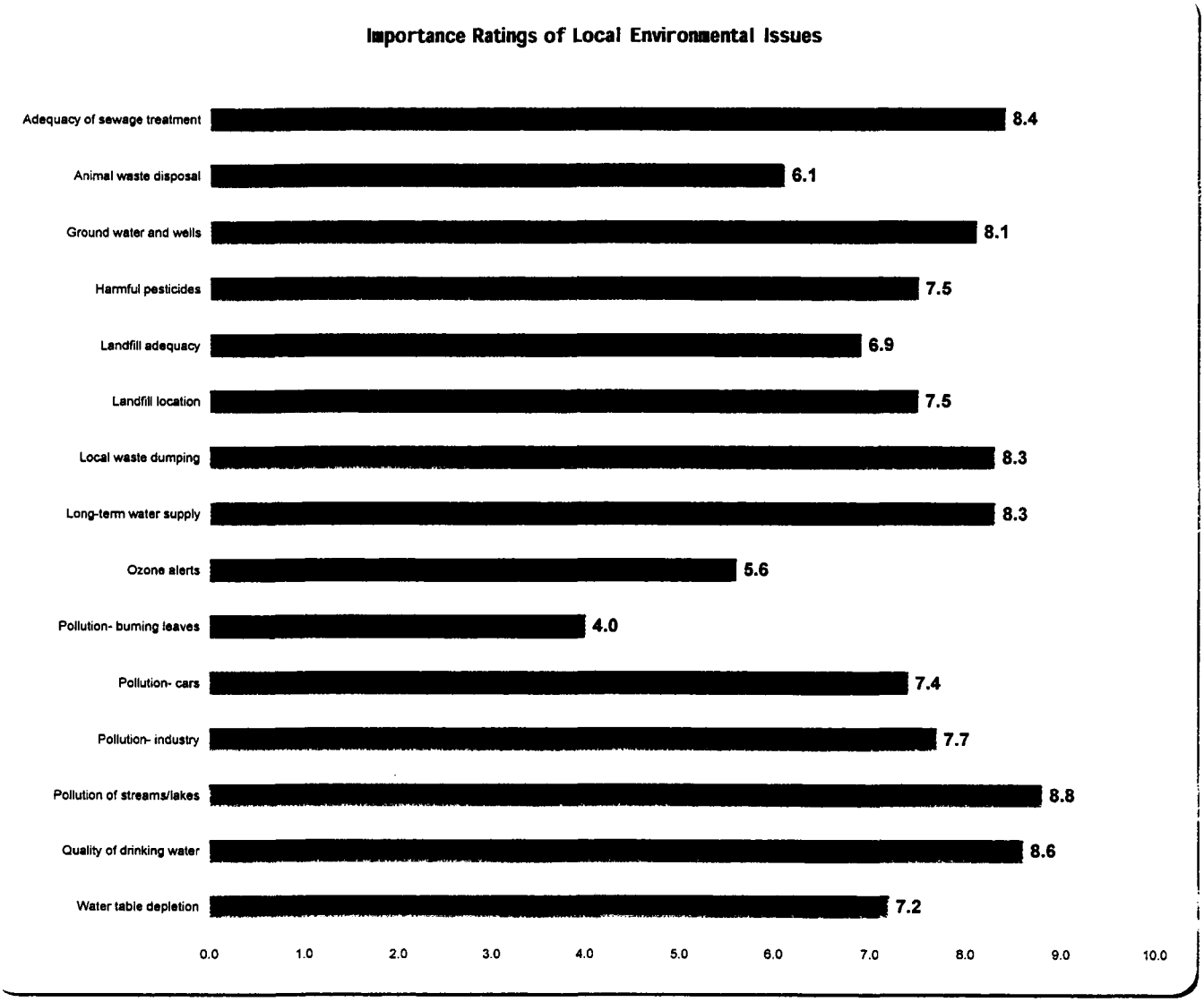
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 37%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

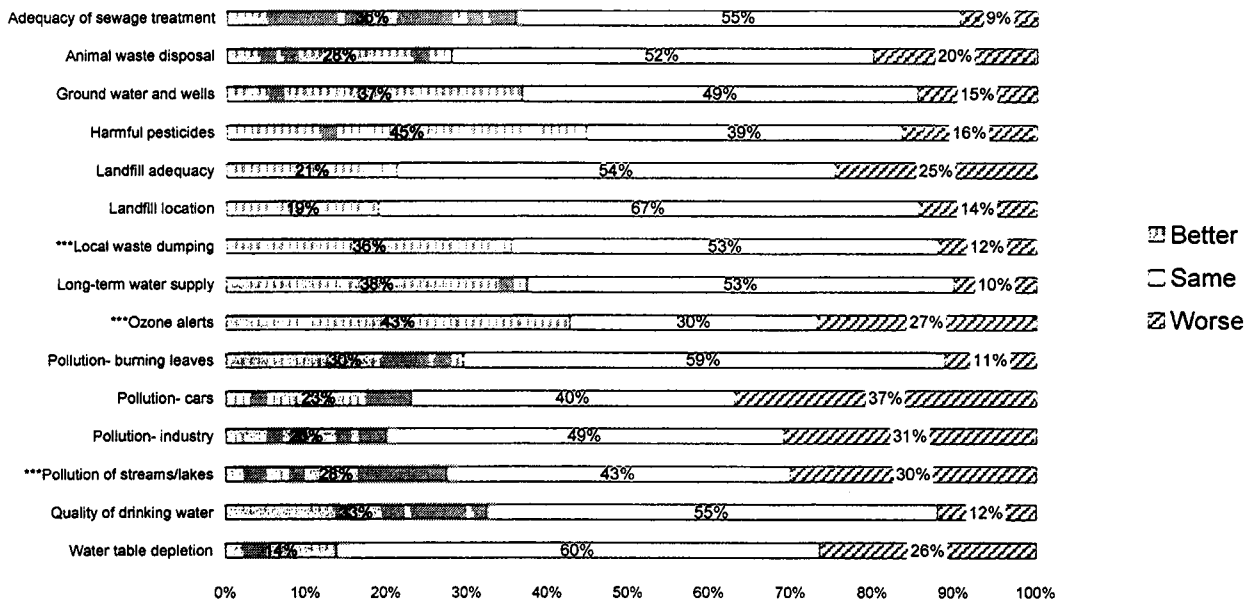
New Orleans



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Oklahoma City

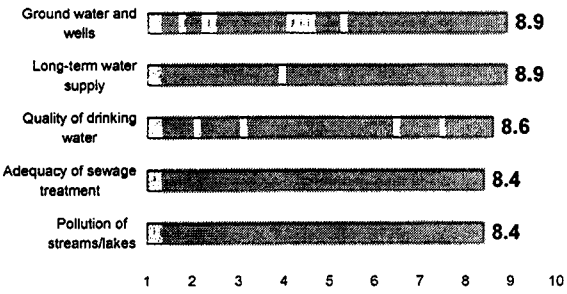
Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



*** Denotes issues in which at least 10% of respondents are actively involved

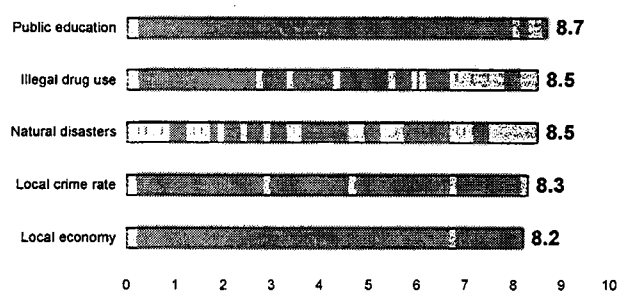
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

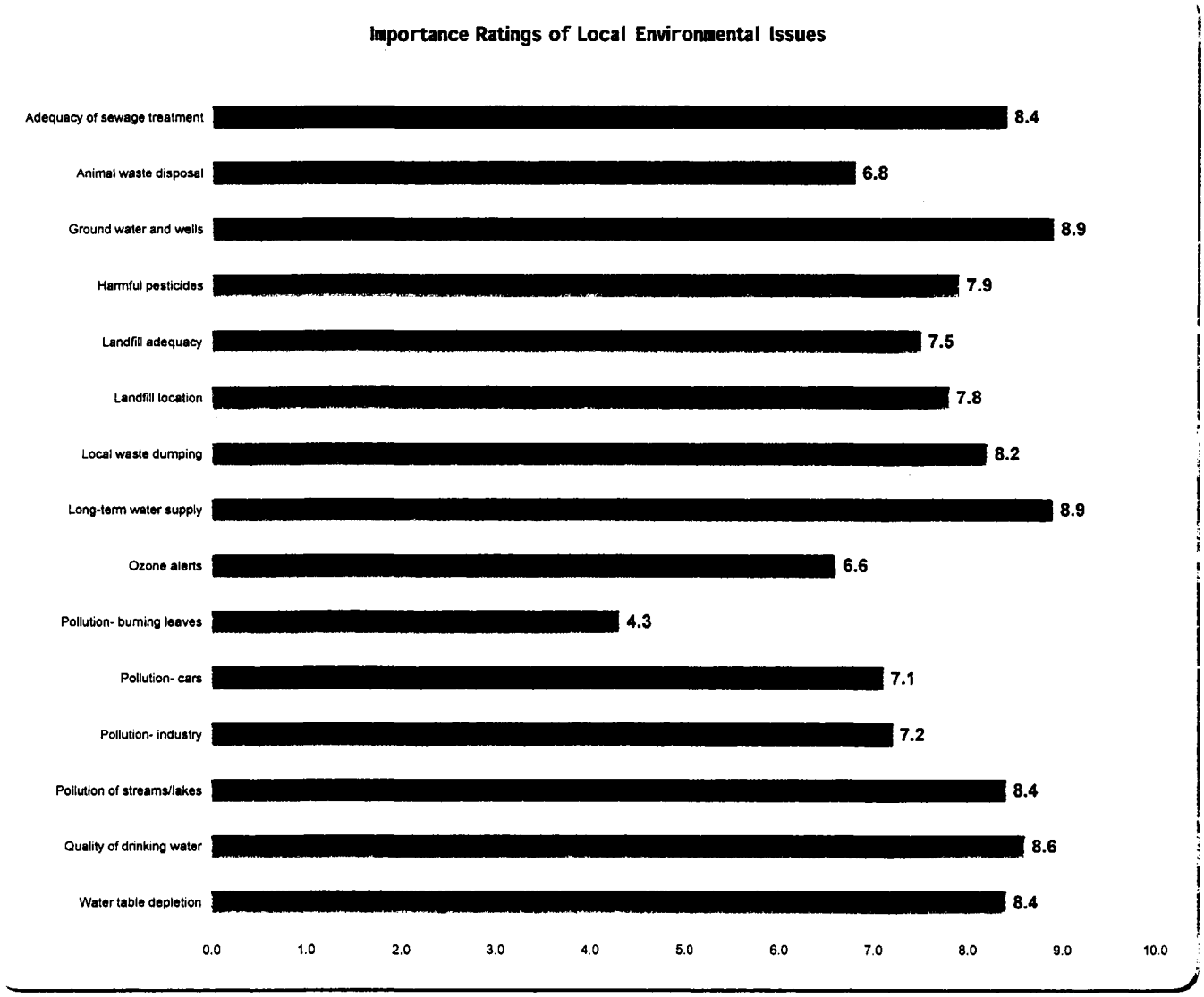
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 37%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

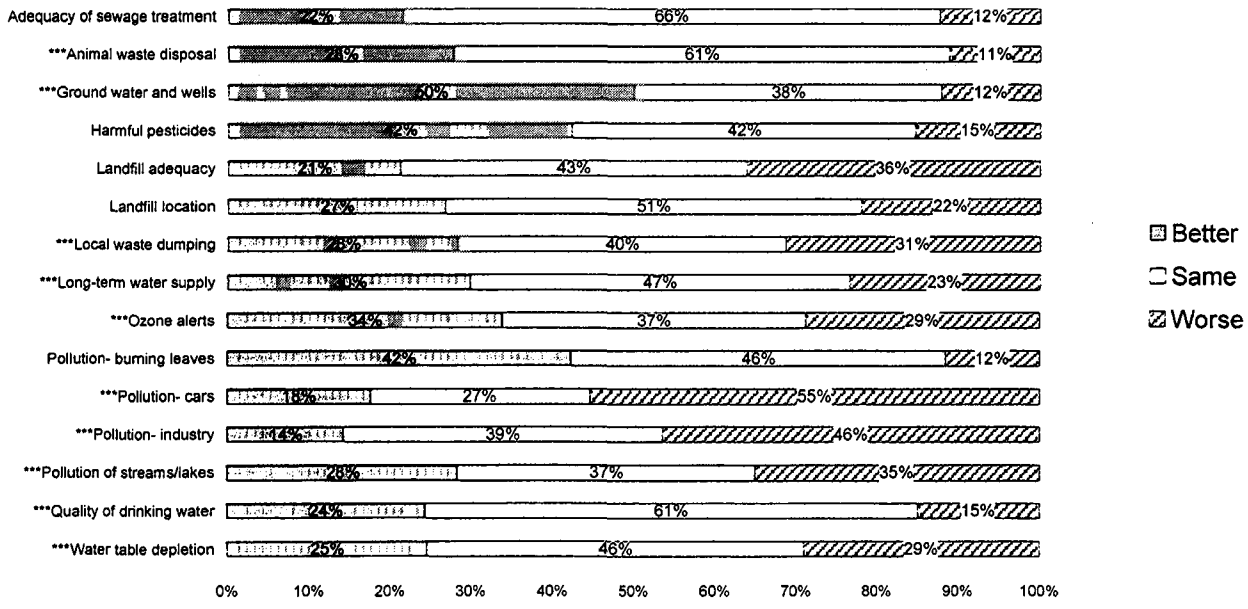
Oklahoma City



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

San Antonio

Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



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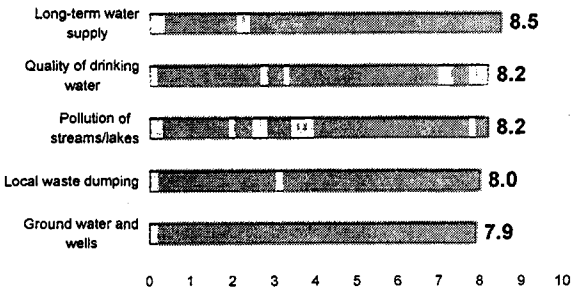
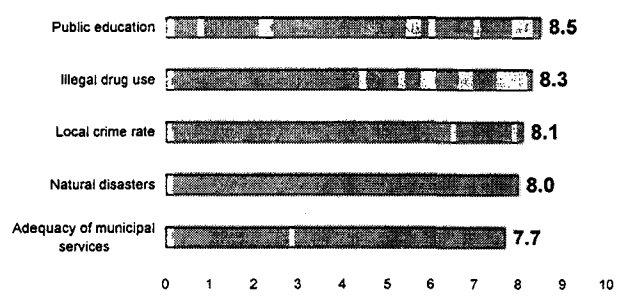
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

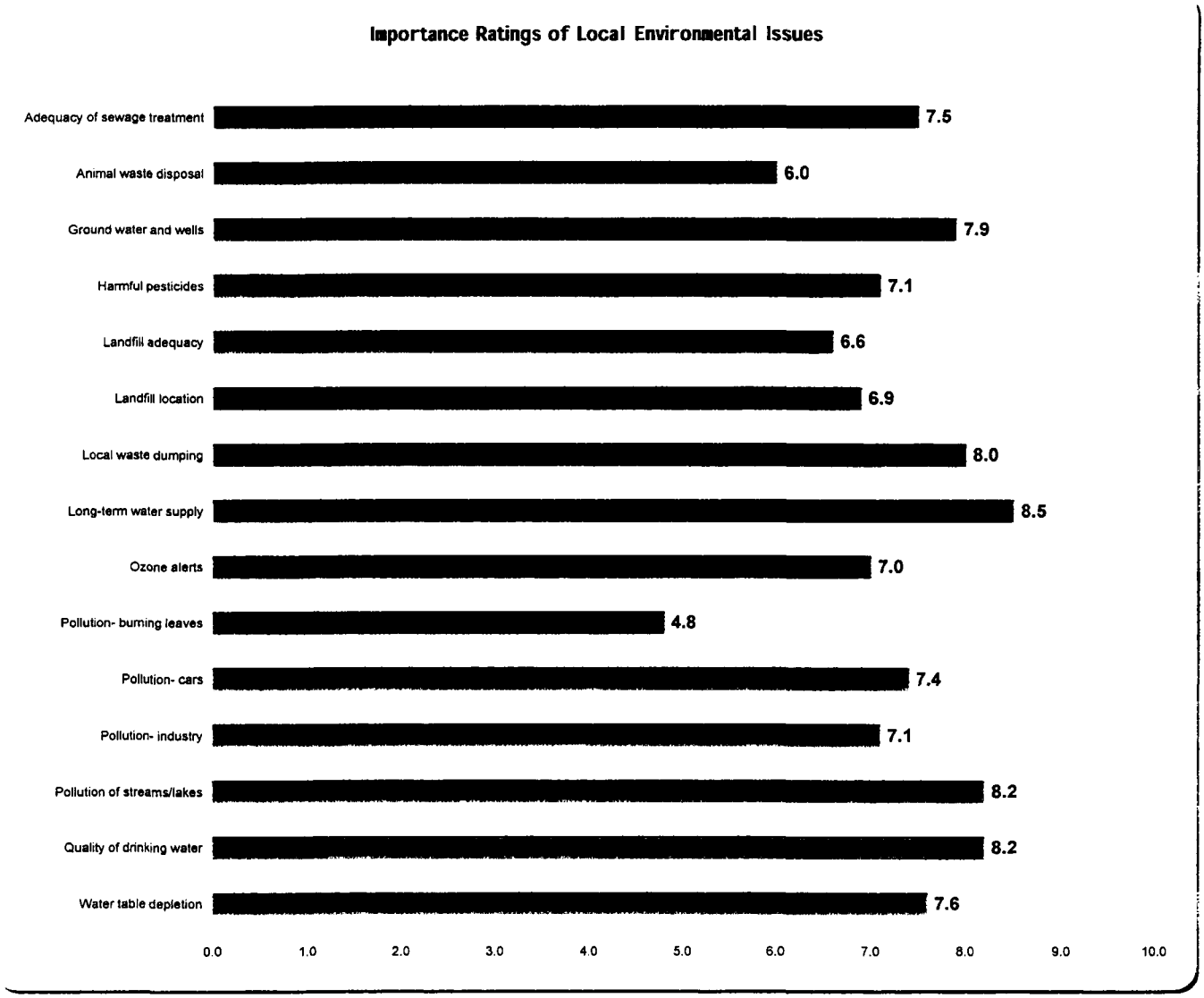
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 35%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

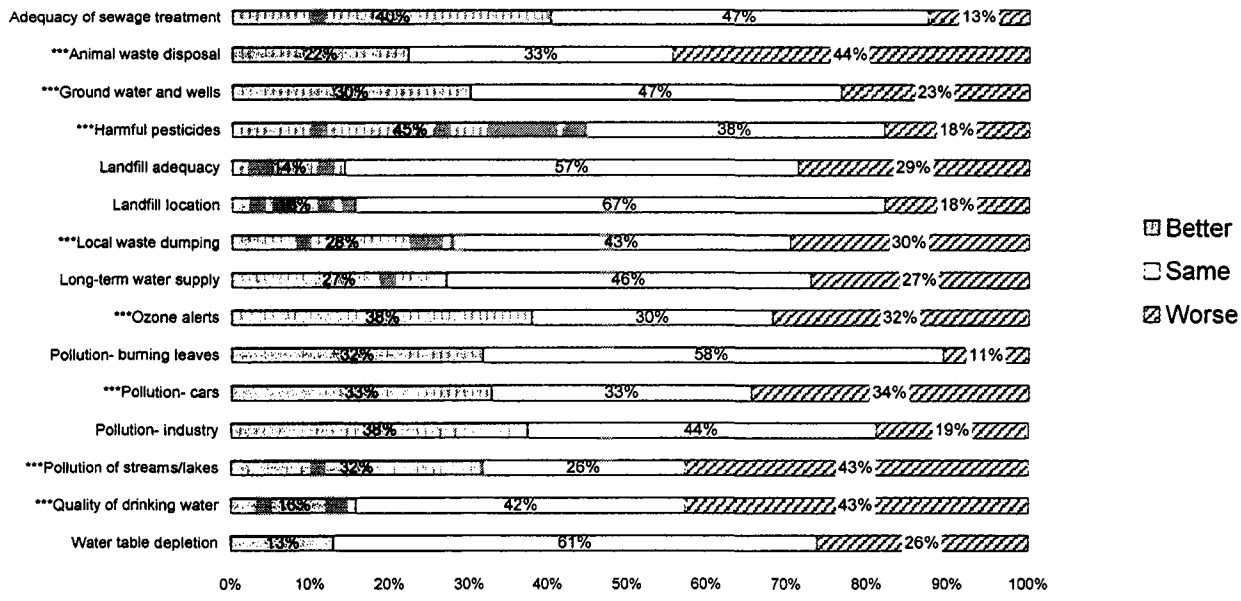
San Antonio



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Tulsa

Ratings of Local Environmental Issues
Better, Same, or Worse During Last 5 Years



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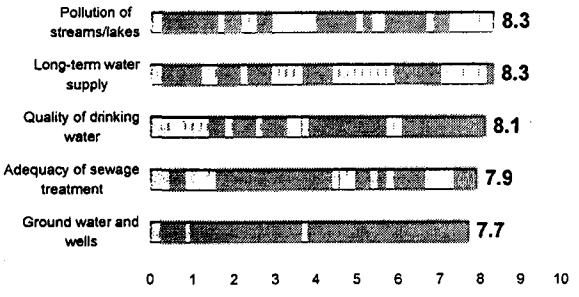
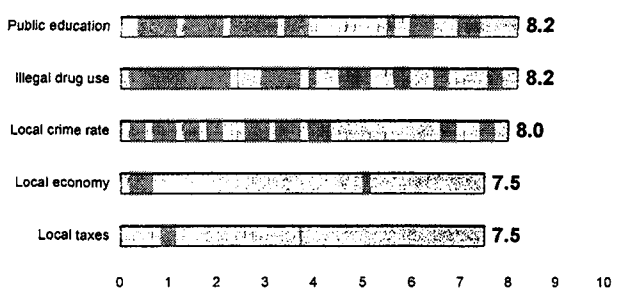
Most Important Local Environmental Issues

Mean Importance Ratings



Most Important Local Non-Environmental Issues

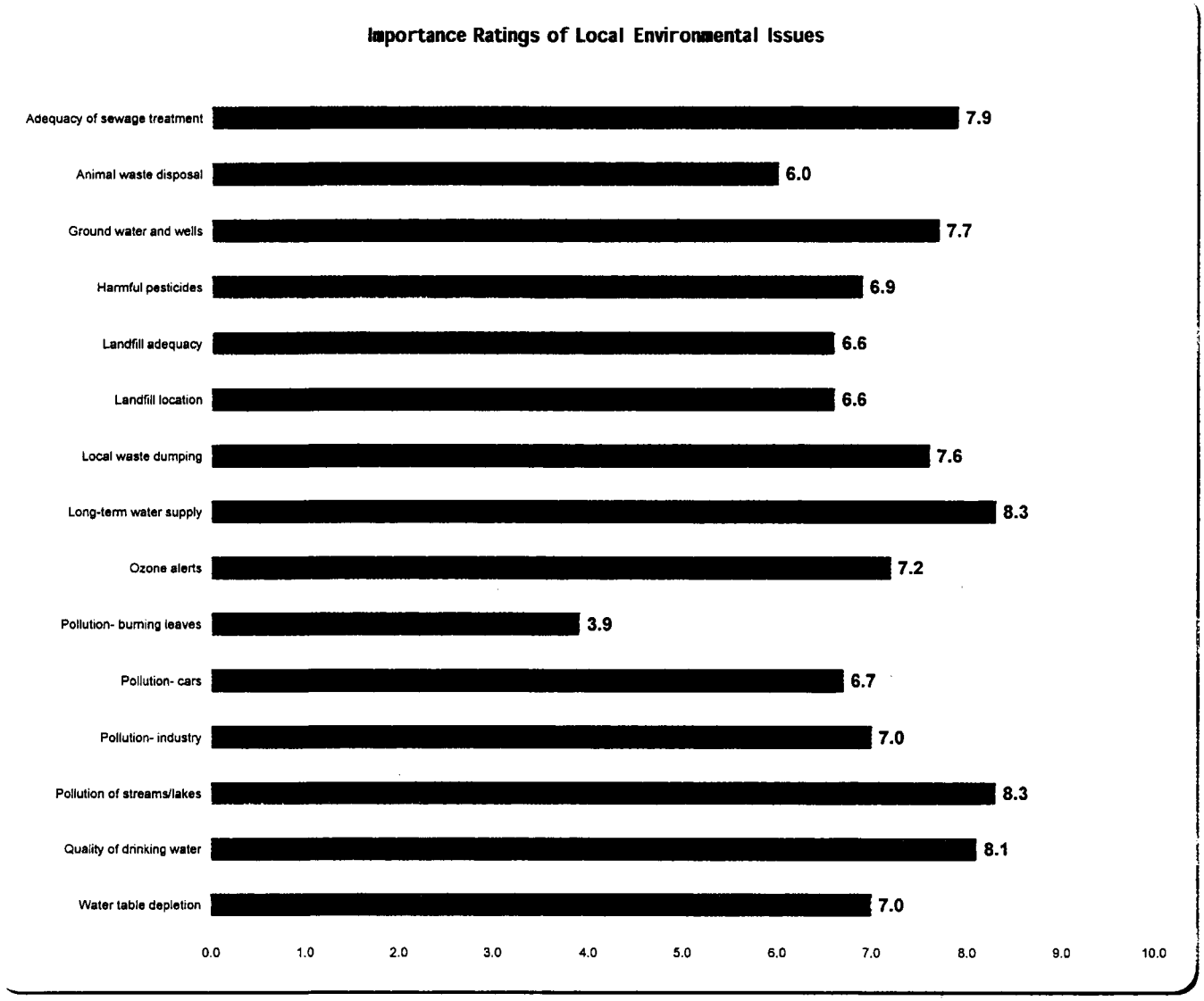
Mean Importance Ratings



Percentage of respondents whose families have been negatively affected by local environmental issues..... 32%

EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES

Tulsa



EPA- EMPACT LOCAL URBAN ENVIRONMENTAL ISSUES STUDY OF 86 METROPOLITAN CITIES