
Survey of Cities

As part of the best practices review on preventive maintenance for local government buildings, the Office of the Legislative Auditor surveyed the 96 Minnesota cities with a population of 8,000 or more and a stratified random sample of 200 smaller cities. The aggregate results of cities' responses to the survey are available [here](#).

The October 1999 survey went to city managers, administrators, or clerk-treasurers, who were asked to transfer the survey to the person most acquainted with preventive maintenance in their community. We received responses from 246 of the 296 cities surveyed for a response rate of 83.1 percent.

The survey asked cities about their preventive maintenance practices as well as obstacles limiting their ability to perform preventive maintenance. We also asked them about the management structure, staffing arrangements, and funding of their preventive maintenance for buildings.

Results of surveys sent to counties and school districts are also available on our website. Because city and county surveys contained similar questions, aggregate results combining both city and county responses are also available; for these aggregate results, contact project manager Jody Hauer at 651/296-8501 or jody.hauer@state.mn.us. For additional information on survey methodology, see Appendix A in the report.

Minnesota Office of the Legislative Auditor

Managing Preventive Maintenance for Local Government Buildings: A Best Practices Review

City Questionnaire

Name: _____

Title: _____

Telephone Number: _____

RESPONSE RATE:

We received responses from 163 of a sample of 200 cities with populations less than 8,000, and from 83 of the 96 Minnesota cities with a population of 8,000 or more, for an overall response rate of 83.1 percent.

Thank you for answering this questionnaire on preventive maintenance for local government buildings. Questions apply to preventive maintenance of city-owned buildings only—not including leased space, roads, or sewer or water systems. We recognize that responsibilities for preventive maintenance of buildings vary among cities. Please answer these questions only about the buildings for which you oversee maintenance. If your city has buildings managed by other people, you do not need to collect information from them.

Defining Preventive Maintenance—For purposes of this study, preventive maintenance means the repair and maintenance needed to extend the useful life of a building's components, including its roofing, plumbing, heating, ventilation, air conditioning, electrical systems, and exterior and interior construction and finishing. Preventive maintenance activities are those intended to prevent breakdowns, and they include periodic inspections, programmed minor and major maintenance, and minor repairs. They may also include predictive testing to determine building components' useful life.

In this definition, preventive maintenance includes regularly scheduled painting, resurfacing, lubricating, replacing parts, inspecting, testing, and renewing facility components. It does not include daily custodial work such as sweeping, mopping, emptying wastebaskets, cleaning restrooms, and moving furniture.

If you do not actively perform preventive maintenance for at least some building components, please answer questions 1 through 4 only.

1. **For approximately what percentage of your city-owned buildings does a centralized city facility manager oversee management of building maintenance and repairs?** *(Do not include the city's use of leased space in your estimate. Mark one box.) (N=243)*

Number Percent

64 26.3% 1. 100%—all buildings

30 12.3 2. 75 to 99%

19 7.8 3. 50 to 74%

6 2.5 4. 25 to 49%

11 4.5 5. 1 to 24%

79 32.5 6. None—each city department is responsible for the maintenance and repair of buildings it uses

34 14.0 7. Other *(Please describe.)* _____

2. If you perform at least some preventive maintenance for buildings you oversee, which of the following practices do you use? (Mark one response for each practice.)

Number Percent (N=233)

69 29.6% 1. We do not perform preventive maintenance (*Go to Question 3.*)

Practice	For Most or All Building Components		For Some Building Components		For No Building Components	
	Number	Percent	Number	Percent	Number	Percent
a. Maintain a current inventory of the condition and use of buildings and their components (N=150)	51	34.0%	61	40.7%	38	25.3%
b. Prepare checklists or procedures describing preventive maintenance tasks for employees to perform (N=149)	29	19.5	74	49.7	46	30.9
c. Schedule and perform regular inspections, maintenance, and minor repairs of building components according to manufacturers' specifications (N=152)	66	43.4	68	44.7	18	11.8
d. Maintain comprehensive records of preventive maintenance activities and their costs (N=148)	29	19.6	74	50.0	45	30.4
e. Review preventive maintenance records to identify system problems before a major failure occurs (N=149)	36	24.2	70	47.0	43	28.9
f. Maintain a proper level of materials and spare parts for each building to support timely maintenance and minor repairs (N=150)	34	22.7	89	59.3	27	18.0
g. Inspect building systems and equipment prior to warranty expiration (N=149)	66	44.3	52	34.9	31	20.8
h. Develop procedures manuals with guidelines for planning, controlling, and budgeting preventive maintenance (N=146)	8	5.5	47	32.2	91	62.3
i. Perform preventive maintenance activities according to formal, written plans (N=147)	18	12.2	49	33.3	80	54.4
j. Report to policy makers on building conditions, needs, and costs and benefits of maintenance over other options (N=152)	69	45.4	71	46.7	12	7.9

2.(k) What practices related to preventive maintenance for buildings do you find particularly effective or innovative?

3. We would like to know about obstacles that limited your ability to do preventive maintenance. Please indicate how serious the items below have been for your city. (Mark one answer for each statement.)

Number Percent (N=232)

79 34.1% 1. We have not encountered significant obstacles to preventive maintenance (*Go to Question 4.*)

Obstacle	Very Serious		Somewhat Serious		Not Very Serious, If At All	
	Number	Percent	Number	Percent	Number	Percent
a. Numerous emergency or unscheduled major repairs that preclude conducting preventive maintenance (N=133)	7	5.3%	40	30.1%	86	64.7%
b. Insufficient staff available for the necessary work (N=146)	41	28.1	70	47.9	35	24.0
c. Labor shortages in the region (N=138)	11	8.0	39	28.3	88	63.8
d. Insufficient training or expertise on implementing preventive maintenance (N=140)	16	11.4	50	35.7	74	52.9
e. Competition with other city expenditures for limited dollars (N=144)	73	50.7	47	32.6	24	16.7
f. Funding new construction without considering resulting increased maintenance needs (N=139)	26	18.7	42	30.2	71	51.1
g. City decisionmakers have not made preventive maintenance a high priority (N=141)	22	15.6	59	41.8	60	42.6
h. Levy limits that prevent cities from increasing their tax levies above a prescribed threshold (N=139)	45	32.4	40	28.8	54	38.8
i. Inexperience with presenting building maintenance information to policy makers (N=134)	9	6.7	39	29.1	86	64.2
j. Financing restrictions that dissuade spending on preventive maintenance (<i>Please specify.</i>) (N=121)	22	18.2	33	27.3	66	54.5
k. Federal, state, or local requirements related to maintaining buildings or planning their maintenance (<i>Please specify.</i>) (N=116)	4	3.4	23	19.8	89	76.7
l. Other obstacles (<i>Please specify.</i>) (N=50)	7	14.0	8	16.0	35	70.0

4. We would like to know about practices for financing and managing maintenance projects that were deferred, that is, maintenance that was not performed when it should have been. If you have deferred some maintenance projects, what strategies have you found effective for reducing the backlog of deferred maintenance?

If you do not actively perform preventive maintenance for your buildings, please stop here and return this questionnaire in the postage-paid envelope or by faxing it to 651/296-4712. Thank you for responding.

5. How consistently, if at all, does your city use the following budgeting and financing practices for preventive maintenance? (Mark one answer for each practice.)

Practice	Consistently		Sometimes		Rarely, If Ever	
	Number	Percent	Number	Percent	Number	Percent
a. Each year, we budget a percentage of the replacement value of our buildings to provide adequate preventive maintenance. (N=141)	27	19.1%	31	22.0%	83	58.9%
b. We issue bonds for major preventive maintenance projects, instead of, or in addition to, levying taxes. (N=138)	6	4.3	24	17.4	108	78.3
c. We levy taxes specifically to acquire, maintain, and repair buildings. (N=140)	50	35.7	37	26.4	53	37.9
d. Our priorities for preventive maintenance projects do not compete with other city capital projects for funding. (N=137)	30	21.9	53	38.7	54	39.4
e. We have a capital improvement plan that includes financing for preventive maintenance. (N=141)	42	29.8	40	28.4	59	41.8
f. We plan for future expenditures with a master plan that estimates replacement or maintenance of building components. (N=138)	34	24.6	48	34.8	56	40.6
g. We set aside money for maintenance and repair based on the annual depreciation of building systems and equipment. (N=136)	19	14.0	39	28.7	78	57.4
h. We rely on reserved funds or accounts to finance preventive maintenance. (Please describe the funds.) (N=133)	30	22.6	56	42.1	47	35.3
i. Other (Please describe.) (N=17)	6	35.3	3	17.6	8	47.1

5.(j) What practices for budgeting or financing preventive maintenance do you find particularly effective?

6. In the buildings for which you are responsible, which of the following staffing arrangements are used for preventive maintenance? (Mark one.) (N=149)

Number	Percent	
35	23.5%	1. We rely on in-house personnel to perform most or all preventive maintenance.
16	10.7	2. We contract with private services to perform most or all preventive maintenance.
96	64.4	3. We rely on in-house staff to perform some preventive maintenance and contract with private services for some preventive maintenance.
2	1.3	4. Other (Please specify.)

6.(a) Do you participate in shared maintenance services? (Mark all that apply.) (N=147)

Number	Percent	
4	2.7%	a. We share preventive maintenance services with other cities, counties, or schools in our region.
48	32.7	b. We share preventive maintenance services with other departments in the city.
8	5.4	c. We share preventive maintenance services for buildings we jointly own with another jurisdiction.
94	63.9	d. We do not have shared maintenance services.

6.(b) What staffing or cooperative arrangements for preventive maintenance of buildings do you find particularly useful or effective?

7. Do you have a written, long-range plan for building maintenance and repairs that extends out at least three to five years?

All Respondents
Number Percent (N=152)

114	75.0%	1. No (Go to Question 8.)
38	25.0	2. Yes
7.(a) If yes, please indicate whether your long-range plan contains the following. (Mark all that apply.)		

Respondents With
a Written,
Long-Range Plan
Number Percent (N=39)

15	9.9	15	38.5%	a. An inventory of buildings and their components, including their condition and expected remaining useful life
30	19.7	30	76.9	b. An estimate of costs to maintain or replace the components
8	5.3	8	20.5	c. A list of deferred maintenance by level of severity and the amounts needed to reduce the existing backlog
7	4.6	7	17.9	d. Other (Please specify.)

7.(b) In your opinion, how effective is your long-range planning compared to other jurisdictions with whom you may be familiar? (Circle one.) (N=71)

	<u>Very Effective</u>	<u>Somewhat Effective</u>	<u>Neither Effective Nor Ineffective</u>	<u>Somewhat Ineffective</u>	<u>Very Ineffective</u>
Number:	12	30	21	8	0
Percent:	16.9%	42.3%	29.6%	11.3%	0.0%

8. What practices, if any, do you use to evaluate the efficiency and effectiveness of your preventive maintenance? (Mark all that apply.) (N=119)

Number	Percent	
18	15.1%	a. Set goals for preventive maintenance and measure progress toward meeting them
61	51.3	b. Review records of preventive maintenance activities and system repairs to identify potential problems
51	42.9	c. Analyze costs and benefits of preventive maintenance to quantify savings
56	47.1	d. Survey building occupants to assess satisfaction levels about building environments
11	9.2	e. Follow a quality assurance program that includes evaluating work based on predetermined maintenance work standards and planning for corrective actions when needed
46	38.7	f. Compare trends in frequency of malfunctioning components and equipment
6	5.0	g. Other (<i>Please specify.</i>) _____

9. Finally, we also are interested in knowing about successful practices used to manage indoor air quality. If you follow specific practices for identifying and controlling indoor air quality problems, which do you find particularly effective?

[illegible]

Thank you for your responses.
Please return this questionnaire in the
enclosed envelope by *Monday, November 8, 1999* to:

**Office of the Legislative Auditor
Program Evaluation Division
Centennial Building – 1st Floor South
St. Paul, MN 55155
(Phone: 651/296-4708) or fax to: 651/296-4712**