

# Consolidation of Fire Apparatus Maintenance with the Fleet Services Division: *An Analysis of Potential Savings*

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March 1999



Office of the City Auditor  
Portland, Oregon





CITY OF  
**PORTLAND, OREGON**

OFFICE OF THE CITY AUDITOR  
Audit Services Division

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March 15, 1999

TO: Vera Katz, Mayor  
Jim Francesconi, Commissioner  
Charlie Hales, Commissioner  
Dan Saltzman, Commissioner  
Erik Sten, Commissioner  
David Kish, Director, Bureau of General Services  
Robert Wall, Chief, Bureau of Fire, Rescue & Emergency Services

SUBJECT: Study of cost savings potential of consolidating the Fire  
Bureau's apparatus maintenance in the Fleet Services Division

Attached is Report #255, a study of the cost saving potential of consolidating the Fire Bureau's apparatus maintenance in the City's Fleet Services Division. The study was conducted at the request of the City Council. It includes a background section, study results, and conclusions and observations.

We appreciate the cooperation and assistance we received from staff in the Bureau of General Services and the Fleet Services Division, and staff from the Bureau of Fire, Rescue and Emergency Services in conducting and preparing the report.

  
GARY BLACKMER  
City Auditor



# Consolidation of Fire Apparatus Maintenance with the Fleet Services Division: *An Analysis of Potential Savings*

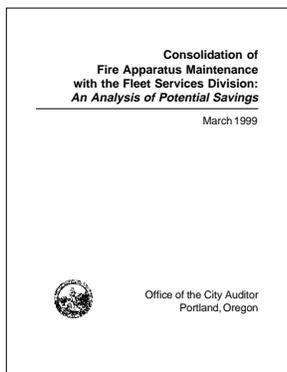
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March 1999

A Report by the Audit Services Division  
Report #255

Assisted by the Bureau of Fire, Rescue & Emergency Services,  
the Bureau of General Services, and  
the Office of Finance and Administration

Office of the City Auditor  
Portland, Oregon



## **Production/Design**

This report was produced in-house using desktop publishing software on Pentium Pro personal computers, and a Hewlett Packard Laserjet PCL/Postscript laser printer. It was printed at the Printing and Distribution Division of the City's Bureau of General Services. Adobe PageMaker 6.5 was used to design and layout the finished product. Tables were created and drawn manually using PageMaker. Text was initially written in Microsoft Word then imported into PageMaker for formatting and layout.

*Desktop Publishing:* Robert Cowan  
Ellen P. Jean

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# Table of Contents

## **Background**

Overview of Fire Logistics Operations	1
Overview of BGS Fleet Services Division Operations	3
Study Approach	5

## **Study Results**

Service Level Analysis	7
Cost of Service Analysis	11

<b>Conclusions and Observations</b>	<b>17</b>
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## **Appendices**

- A. City Council Resolution
- B. Study Plan
- C. Fire Logistics Organization Chart
- D. BGS Fleet Services Organization Chart
- E. Other Cities Survey

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## List of Tables

<b>Table 1</b>	Types and number of fire and emergency response apparatus	2
<b>Table 2</b>	Types and number of vehicles and equipment maintained by the Fleet Services Division	4
<b>Table 3</b>	Comparison of Current Fire Bureau service level and BGS proposed service level	8
<b>Table 4</b>	Cost of service analysis: Fire apparatus maintenance	14
<b>Table 5</b>	Estimated budgetary savings from transfer of apparatus maintenance to BGS	15

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# Background

The purpose of this study is to review service levels and to identify potential cost savings that would result from the transfer of maintenance responsibilities for fire and emergency response apparatus from the Bureau of Fire, Rescue, and Emergency Services (BFRES) to the Fleet Services Division of the Bureau of General Services (BGS).

We conducted this study in response to a City Council request contained in Council Resolution #35752, approved on December 16, 1998 (see Appendix A). The resolution called for the creation of a financial analysis team led by the City Auditor to determine if savings could be realized by consolidating all Fire apparatus maintenance into the existing central fleet maintenance operation. The resolution asked that the financial team provide a report to Council by March 15, 1999.

**Overview of Fire  
Logistics  
operations**

In accordance with City Code, fire and emergency response apparatus is currently maintained by the Apparatus Maintenance unit of the Fire Bureau's Logistics Section (see organization chart in Appendix C). The unit is responsible for maintaining over 67 pieces of apparatus with a total

shop staff of nine. Authorized positions include one Maintenance Supervisor, one Trades Supervisor, six Automotive Mechanics, and one Machinist. The unit reports to a Deputy Chief responsible for the Logistics Section.

The unit is responsible for maintaining, repairing, and replacing fire trucks and engines, emergency medical units, and other firefighting equipment. Work is generally performed at the Logistics maintenance facility located at 1135 SE Powell Blvd. Some maintenance work is also performed at fire stations, fire scenes, or special emergency locations. The normal operating hours of the garage are from 7:00am to 4:30pm Monday through Thursday and 7:00am to 3:30pm on Friday. One mechanic is also on call after hours.

Table 1 lists the total number and types of equipment currently maintained by the Apparatus Maintenance Unit.

In addition to fire and emergency response apparatus, the Fire Bureau also uses 61 sedans, 11 mini-vans, and 30

**Table 1** Types and number of fire and emergency response apparatus

Apparatus	In-service	Reserve
Fire engines / pumpers	27	11
Fire aerial trucks	9	3
Fire boats	3	1
Other emergency apparatus	13	-
<b>Total</b>	<b>52</b>	<b>15</b>

SOURCE: Bureau of Fire, Rescue and Emergency Services

other trucks and pieces of equipment that are owned and maintained by the Bureau of General Services, Fleet Services Division.

In 1993, the Audit Services Division completed an audit of the Logistics support program and concluded that the vehicles are maintained in good condition and provide reliable service to the Bureau. We recommended, however, that the section develop better historical information on repairs and costs, and that the Bureau explore options to reduce costs by either transferring maintenance responsibilities to BGS, or by eliminating some of the section's overhead. There has been limited implementation of these recommendations.

**Overview of BGS  
Fleet Services  
Division  
operations**

The Fleet Services Division of the Bureau of General Services provides centralized fleet management and maintenance services to all City bureaus. The Division is responsible for over 2,400 vehicles and pieces of equipment and has a staff of 80. (See organization chart in Appendix D). The Division's 1998-99 budget is \$18,712,264.

The Division is responsible for acquiring, maintaining, repairing, and replacing vehicles for all City bureaus with the exception of firefighting apparatus. The Division performs this work at eight maintenance facilities throughout the city. The central maintenance garage is located at 2835 N. Kerby in Portland and is open from 6:30am to 11:30 pm Monday - Friday.

Table 2 summarizes the major categories of vehicles and equipment maintained by the Fleet Services Division.

**Table 2** Types and number of vehicles and equipment maintained by the Fleet Services Division

Sedans	483
Police sedans	271
Various trucks >16,000 GVW	905
Vans	94
Aerial platform/ladder trucks	23
Other	649
<b>TOTAL</b>	<b>2,425</b>

SOURCE: Bureau of General Services

In 1998, the Audit Services Division completed an audit of the Fleet Services Division that reviewed costs and performance. We found that Fleet Services has essential elements of a well managed fleet operation in place, including full cost recovery accounting, an internal service fund to track expenses, a consistently funded vehicle replacement procedure, and a management information system capable of capturing important maintenance data. In addition, we found that rates were relatively low, when compared to other cities we surveyed, and rates have declined in recent years when adjusted for inflation.

However, we found that although customer satisfaction had recently improved, there was still a concern about the Division's rationale for interagency charges. We recommended that the Division develop better performance measures to help monitor and improve fleet operations. We also

recommended that the Division develop service agreements with each bureau, that a Customer Service Committee be formed to meet regularly, and that important performance measures be tracked. There has been limited implementation of these recommendations.

**Study approach** In accordance with the City Council resolution, the City Auditor formed a financial team composed of staff from the City Auditor's Audit Services Division and representatives from the BFRES, BGS, and the Office of Finance and Administration. This team met several times in early January 1999 to develop a five-step plan to conduct the financial analysis (see Appendix B). The major steps in the analysis included:

- review and define the current level of maintenance services provided by the BFRES
- identify the current full cost of providing apparatus maintenance service at the BFRES
- prepare an estimate of the full costs required to provide the same or equivalent maintenance service at BGS's Fleet Services Division
- review and compare service levels and costs to identify potential savings opportunities
- prepare a written report to City Council on the results of the financial analysis

Staff from the Audit Services Division worked closely with the BFRES and BGS to help develop reports on the

services and costs associated with Fire apparatus maintenance. Two separate reports were prepared in February and submitted to the Audit Services Division. Auditors reviewed and evaluated the preliminary work of the teams to ensure that the service levels were defined appropriately and full costs were captured in the analysis. However, because some of the information needed to fully assess services and costs was not available, the team had to rely on estimates and testimonial evidence that may not provide precise data needed to reach firm conclusions. Consequently, the conclusions reached in this report need to be qualified by this limitation.

In addition to the review and analysis of reports prepared by BFRES and BGS, the audit staff contacted fleet managers in other cities to assess how apparatus maintenance services are provided. We contacted Charlotte, Austin, Indianapolis, Cincinnati, Phoenix, Sacramento, San Jose, and Seattle. The results of our phone interviews are summarized in Appendix E.

In addition, we reviewed prior audit reports and workpapers compiled by the Audit Services Division. An October 1993 audit report, titled *Bureau of Fire, Rescue and Emergency Services: Logistical Support Program*, evaluated the quality and cost of the Logistics Division, and a March 1998 report, titled *City Fleet Services: Review of Costs and Performance*, evaluated the performance of the BGS Fleet Services Division.

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# Study Results

The following sections analyze current Fire Bureau apparatus maintenance service and costs compared to proposed service levels and costs if consolidated with the Fleet Services Division. The analysis was prepared by the Audit Services Division based on reports provided by BFRES and BGS, and on additional research conducted by audit staff.

## **Service level analysis**

Table 3 compares the major components of the Fire Bureau Apparatus Maintenance section's current service levels compared to service levels proposed by the Fleet Services Division, should the Division assume responsibility for fire apparatus maintenance.

This table shows that consolidation would result in the same or equivalent service for most service level components. For example, the Fire Apparatus Maintenance unit performs preventive maintenance on first line apparatus every six months and on reserve units once per year. BGS Fleet Services Division indicates that they will provide the same maintenance level. Similarly, the Fire Apparatus Maintenance unit provides 24-hour emergency maintenance support to Fire operational units. Fleet Services would also provide 24-hour emergency maintenance support in the field.

**Table 3 Comparison of current Fire Bureau service level and BGS proposed service level**

	<b>Current Fire service level</b>	<b>Proposed BGS service level</b>	<b>Auditor comments</b>
<b>Vehicle availability</b>	1st line apparatus available 97% of time on average, except for wreck damage, warranty work, major repairs and parts waiting delays.	Same or higher based on Fire Bureau's method of calculating availability.	BGS availability standard may be higher than Fire because availability tracked on 24-hour basis without exceptions for special repairs.
<b>Preventive maintenance</b>	<ul style="list-style-type: none"> <li>• 1st line apparatus every six months</li> <li>• reserves &amp; others every 12 months</li> </ul>	Same.	None.
<b>Repair turnaround</b>	Actual repair turnaround performance is not tracked or recorded.	No turnaround goal proposed. BGS feels average vehicle availability is a better performance measure.	Average repair turnaround would be a meaningful indicator of timeliness.
<b>24-hour field support</b>	Goal: respond within 1 hour, 24 hours a day.	Same.	BGS will bill for actual call-back stand-by hours (see Auditor adjustment).
<b>Emergency Vehicle Technician (EVT) certification</b>	Certification not required at this time. Plan to train all mechanics to meet EVT certification.	Will train mechanics as required.	Other cities contacted indicated most are not currently training to meet EVT standards. BGS and Fire may incur extra costs if EVT certification becomes necessary.
<b>Maintenance of miscellaneous tools</b>	1 FTE performs this work in-house.	Will not perform tool maintenance.	This service and associated costs will remain at Fire. (See Auditor adjustments.)
<b>Fabrication</b>	Custom work performed in-house.	Same.	Work will be directly billed. (See Auditor adjustments.)
<b>Maintenance scheduling</b>	Requires extensive coordination to ensure maintenance does not interfere with fire operations.	Will provide appropriate coordination.	This service feature may require more time than is currently recognized in BGS proposal.

(continued on next page)

Table 3, continued

	<b>Current Fire service level</b>	<b>Proposed BGS service level</b>	<b>Auditor comments</b>
<b>Customer Service</b>	Goal: complete repairs, maintenance as promised, on time, be courteous and communicate delays daily.	Goal: timely repairs, courtesy and communication of delays.	In prior audits, we noted customer complaints about the clarity of service charges, rate information, and vehicle replacement.
<b>Service complaints</b>	Shop Foreman documents and resolves all complaints.	Same, and work with Fire Apparatus Comm. and liaison.	None.
<b>Pump and ladder tests</b>	Annual tests to meet National Fire Protection Association standards.	Same.	None.
<b>Reports and records</b>	Daily status sheet to each station, special maintenance memos with announcements, daily task sheet.	Same.	None.
<b>Warranty and recalls</b>	Administers warranty work, recalls and credits.	Same.	None.
<b>Road testing</b>	All vehicles in for safety repair must pass road test.	Road tests done when appropriate.	None.
<b>State conflagration mobilization</b>	Mechanics assigned to assist with wildfire suppression.	Same.	Cost will be directly billed. (See Auditor adjustments.)
<b>Sworn employee training</b>	Upon request, mechanics provide training on mechanical systems to fire companies.	May be performed by non-mechanics or training personnel	Costs will be directly billed only if done by mechanics. (See Auditor adjustments.)
<b>Apparatus Superintendent</b>	Manages repair and maintenance operation, handles complaints, prepares reports, and coordinates schedules.	BGS will assume these duties within current management structure.	See cost analysis.

SOURCE: Reports prepared by BGS and BFRES for this study

For some service components, Fleet Services proposes a different but equivalent level. For example, the Fire Apparatus Maintenance unit uses mechanics to provide training to fire companies on the various mechanical systems of fire apparatus. Fleet Services proposes to provide training to fire companies as requested but may use trainers or other non-mechanic staff to conduct such training.

In one area, Fleet Services does not propose to provide the same level of service. The Fire Maintenance Apparatus unit intends to train all mechanics so that they can receive the Emergency Vehicle Technician certification. Fleet Services indicates that they will provide trained and competent mechanics but may not provide EVT certification training unless required.

We believe the service levels may initially be different in two areas: customer service and maintenance scheduling.

**Customer service** – Fleet Services will have to work hard to provide the same level of customer service that the Fire Bureau receives from the in-house Apparatus Maintenance unit. Although Fleet Services proposes to provide responsive and courteous service, communication and access to fleet supervisors and mechanics will be more difficult due to a change in shop location, different email and management reporting systems, and the need to work with a larger maintenance organization with other fleet maintenance duties. To ensure good maintenance scheduling, resolution of billing and repair problems, and effective response to service needs, Fleet Services and the Fire Bureau need to develop good relationships and frequent and open communication.

**Maintenance scheduling** – To ensure that apparatus repair and maintenance does not unduly interfere with emergency operations, Fleet Services must learn and adapt to new maintenance scheduling methods. Although Fleet has learned to schedule police vehicles so that 24-hour public safety needs are addressed, it may take more time initially for the Fleet Services Division to develop and implement effective and efficient methods for scheduling fire apparatus repair and preventive maintenance.

**Cost of service analysis**

Tables 4 and 5, and the associated notes, compare the current costs and savings resulting from the transfer of fire apparatus maintenance to the Fleet Services Division. These estimates reflect the ongoing operating costs of fire apparatus maintenance but do not include capital costs for apparatus replacement or facility improvements. A separate review of these costs would be necessary to assess the impact of capital spending.

Audit staff made a number of adjustments to the initial cost of service estimates provided by BFRES and Fleet Services in order to fully account for costs not recognized in the initial estimates. For example, as explained more fully in the notes starting on page 15, we increased estimated costs of Fire Logistics Section management overhead and administration because the Division lacked reports on the time spent by the Deputy Chief on apparatus maintenance duties. Similarly, we added costs to the Fleet Services estimate to reflect expected costs for 24-hour mechanic callback, firefighter training, and state wildfire mobilization experiences which would be direct-billed to Fire.

Table 4 presents a full cost-of-service analysis of apparatus maintenance comparing Fire Bureau full costs to Fleet Services Division full costs. Using the full cost methodology, it is estimated that BGS Fleet Services Division could maintain fire and emergency response apparatus at about \$300,000 less per year than the Fire Bureau.

However, as shown in Table 5, actual Fire Bureau budget (cash) savings will be less for several reasons. First, although General Fund overhead is computed to determine full costs in Table 4, the Bureau does not actually get an overhead charge because it is part of the General Fund. Second, Fire Bureau department overhead costs will remain even with the transfer to BGS because apparatus maintenance is a relatively small part of the administrative burden of the Bureau. Finally, costs equivalent to a full-time Maintenance Mechanic would remain with the Bureau to repair and maintain small tools and other equipment.

Table 5 shows that the remaining Fire budget savings range from a high of \$157,000 to a low of \$40,000. Savings will vary depending on how the Bureau chooses to provide fleet coordinator responsibilities. If fleet coordination can be done within the Fire Bureau organization, reducing the responsibilities of Logistics management, more savings will be realized. If fleet coordination is provided by the Logistics Deputy Chief or through creating a new full-time position, less savings will be available.

It should also be noted, that these savings reflect the Fire Bureau budget requirements and do not represent citywide savings. Other City bureaus could see as much as

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\$84,000 in reduced General Fund and BGS overhead charges that the Fire Bureau will now pay.

In addition, we believe that actual costs and potential savings achieved from consolidation of the fire apparatus maintenance may not be known for several years. As the apparatus is integrated into the daily routines of the larger Fleet Services organization, economies of scale may produce additional savings in the form of reduced parts and inventory costs, lower overtime and premium pay, and more productive use of mechanic time.

On the other hand, there may also be additional costs that cannot be fully recognized until consolidation actually occurs. For example, maintenance scheduling may require more time and cost than currently anticipated by Fleet Services. In addition, there could be unanticipated direct charges for accidents, apparatus damage, and equipment failure that would increase the current annual cost of the apparatus maintenance program. However, these costs would be incurred whether or not the function is consolidated with Fleet.

Finally, this cost savings analysis does not provide a complete evaluation of the potential savings that may be possible in the Logistics Section. For example, we did not analyze the Facilities Maintenance unit or other duties performed by the Section. The possible consolidation of Fire apparatus maintenance with the Bureau of General Services offers an opportunity for other management and service efficiencies within the Fire Logistics Section.

**Table 4 Cost of service analysis: Fire apparatus maintenance**

**I. Fire Bureau cost of service**

Preliminary Fire Bureau/Auditor cost of service		
Direct labor	\$515,000	
Indirect labor	14,000	
Direct material and services	680,000	
Indirect material and services	12,000	
Bureau and Logistics Division overhead	47,000	
General Fund overhead allocation	29,000	\$ 1,297,000

*Auditor's adjustments:*

(1) Additional indirect for Logistics Section's management, administration, M&S	29,000	
(1) Additional Bureau overhead	20,000	
(1) Additional General Fund overhead	1,000	
Facility operation	10,000	
(2) Adjust FY 1997-98 to FY 1998-99 dollars	40,000	100,000

<b>Auditor-adjusted Fire Bureau cost of apparatus maintenance</b>	<b>\$ 1,397,000</b>
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**II. BGS cost of service estimate**

Preliminary BGS cost estimate		
(3) Repair and maintenance services	300,000	
(4) Parts	330,000	
(5) Direct labor costs (4 FTE)	224,000	
(6) Fabrication work (1 FTE)	65,000	
(7) Bureau & Fleet Services Division overhead	44,000	
Contingency (5%)	41,000	\$ 1,004,000

*Auditor adjustments:*

(8) Inflate repair & maintenance services and parts to FY 1998-99 dollars	20,000	
Estimated annual direct bill charges:		
(9) Mechanic call back	4,000	
(10) State conflagration mobilization	1,000	
(11) Sworn firefighter training	16,000	
(12) General Fund overhead	40,000	81,000

<b>Auditor-adjusted BGS cost of apparatus maintenance</b>	<b>\$ 1,085,000</b>
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<b>III. Difference in cost of service (I. - II.)</b>	<b>\$ 312,000</b>
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(See notes on page 16)

**Table 5 Estimated Fire Bureau budgetary savings from transfer of apparatus maintenance to BGS**

<b>A. Current Fire Bureau cost of service</b>	\$1,397,000	
<sup>(13)</sup> less: General Fund overhead allocation	29,000	
less: Auditor adjustment to GF overhead	1,000	\$1,367,000
		<hr/>
<b>B. Fire Bureau costs after transfer to BGS</b>		
<sup>(14)</sup> Interagency agreement with BGS	\$1,085,000	
<sup>(15)</sup> Added General Mechanic	58,000	
<sup>(16)</sup> Unavoidable bureau overhead (Chief, finance, administration, human resources, information systems)	67,000	\$1,210,000
		<hr/>
<b>Fire Bureau savings if fleet coordination duties assumed outside of Logistics Division (A. - B.)</b>		\$157,000
<b>C. Fleet coordination in Logistics</b>	\$37,000	
<b>Fire savings if fleet coordination assumed by Deputy Chief of Logistics (A. - B. - C.)</b>		\$120,000
<b>D. Full-time Fleet Coordinator</b>	\$80,000	
<b>Fire savings if full-time Fleet Coordinator created in addition to Deputy Chief time (A. - B. - C. - D.)</b>		\$40,000

(See notes on page 16)

### Citywide savings

While the Fire Bureau can expect to realize the savings noted above, the interagency agreement proposed by BGS includes \$40,000 in General Fund overhead and \$44,000 in BGS and Fleet overhead that was previously allocated to and/or paid by other bureaus. The consolidation spreads these amounts over one more bureau (Fire) so that the other bureaus could collectively pay \$84,000 less. As a result, savings to the General Fund and other funds could be as much as \$84,000 higher than the savings to the Fire Bureau, or \$241,000, \$204,000, and \$124,000 respectively, for each of the options shown above.

**Notes to Tables 4 and 5:**

- (1) The original Fire Bureau cost of service report allocated 10% of Fire Logistics administrative and materials and services expenditures to apparatus maintenance based on the estimated time spent on the function. However, because precise time records are not available, we feel it is more accurate to allocate Fire Logistics administrative and materials and services costs based on total apparatus maintenance costs as a percent of total Fire Logistics costs (i.e., 27%). Changes to the Logistics Division allocation method resulted in increases to both the Bureau and General fund overhead allocation amounts. We have added the additional cost associated with these allocations.
- (2) The FY97-98 cost estimate was inflated to FY98-99 dollars in order to compare Fire Bureau costs to the FY98-99 estimates from BGS. Factors of 2.8% and 3.3% were used for materials and services and labor respectively. The source for the inflation adjustment is the US Department of Labor Statistics Consumer price index for Portland-Salem, CPI-U (1982-84=100) and inflation rates included in labor agreements.
- (3) BGS assumed that their cost for contracted repair and maintenance services would be approximately the same as the Fire Bureau's.
- (4) BGS assumed that there would be some productivity gains in their parts purchasing operation but could not identify any specific items. However, they would also apply a 17% mark-up to parts purchases. Total cost are expected to approximate the amount spent by the Fire Bureau in FY97-98.
- (5) Direct labor cost is calculated assuming 4 FTE to perform apparatus maintenance at \$58,000 per year for salary and benefits. These are the same labor rates currently in place at the Fire Bureau. However, we deducted \$8,000 for 279 hours mechanics would spend on sworn firefighter training (see note (11) below).
- (6) Fabrication work will be absorbed by current BGS staff and billed directly to the Fire Bureau. BGS and the Fire Bureau estimate that approximately one FTE is needed for this work. BGS estimated the salary and labor for the FTE at \$65,000.
- (7) BGS and Fleet Services overhead is charged at the rate of approximately 7.4%. This rate is applied to the cost estimates for repair and maintenance services and for direct labor and fabrication work. It is not applied to Parts costs since the parts markup already includes BGS and Fleet Services overhead.
- (8) An inflation adjustment of 2.8% is applied to repair and maintenance services and parts since the BGS estimate of these costs are based on the Fire Bureau's FY97-98 expenditures. Labor estimates for BGS are based on FY98-99 amounts and thus are not subject to an inflation adjustment.
- (9) The Fire Bureau reported 127 mechanic call back hours for FY97-98. We assume that BGS would direct bill for about 1/2 of that time. Costs are calculated at 64 hours at \$58.00.
- (10) The Fire Bureau reported relatively few hours in the past several years for State conflagration mobilization. We assume about 25 hours per year at \$58.00 per hour.
- (11) The Fire Bureau reported that mechanics spent 279 hours training sworn firefighters in the use of apparatus and related components in FY97-98. If BGS provides this training using mechanics, they would direct bill this service at a rate of \$58.00 per hour.
- (12) BGS general fund overhead is charged to their services at the rate of 3.75%. This rate is applied to the subtotal of the cost of service estimate.
- (13) Because the Fire Bureau is a General fund bureau, it is not charged for General Fund overhead; however, it is included in developing the full cost of service analysis for comparative purposes.
- (14) We assume that the auditor-adjusted BGS cost of service from Table 4 would be incorporated into an interagency agreement if consolidation is approved.
- (15) General mechanic position created in Fire Bureau to repair small tools as recommended by BGS.
- (16) These are Fire Bureau overhead costs which will not be reduced as a result of any consolidation.

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# Conclusions and Observations

We believe that cost savings can be realized through consolidation of Fire fleet apparatus maintenance into the City's central fleet maintenance organization. Savings will be greatest if the Fire Bureau fleet coordination duties are done by the existing Fire Bureau organization. In addition, we believe that consolidation should not result in a meaningful reduction of service level or maintenance quality.

If consolidation is pursued, several key actions should be taken to provide reasonable assurance that savings are realized and service quality is maintained.

- **Develop a detailed operational agreement.** This agreement should include a detailed description of all maintenance services covered under both fixed- and direct-bill rates, a description of billing procedures, and an explanation of vehicle replacement procedures.
- **Establish formal communication and customer service systems.** Communications systems should include Fleet staff attendance at Fire Apparatus Committee meetings, and Fire Bureau participation on a Fleet Customer Service Committee (which should be established as a service to all City bureaus).

- **Reduce transition problems through retention of experienced fire mechanics.**  
This should be a priority for the transition process.
- **Track fire apparatus maintenance and repair costs to enable reporting of the actual savings to City Council.**

# Appendices

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# Appendix A City Council Resolution

## **RESOLUTION NO. 35752**

Consolidate the Vehicle and Equipment Maintenance section of the Bureau of Fire, Rescue and Emergency Services with the rest of the City fleet under the management of the Bureau of General Services. (Resolution)

**WHEREAS**, a 1993 audit of the Logistical Support Program in the Bureau of Fire, Rescue and Emergency Services concluded that savings could be achieved by combining the Vehicle and Equipment Maintenance section of BFRES with the rest of the City's consolidated fleet; and

**WHEREAS**, the report states: "Using a full cost of service analysis, the Bureau of General Services provides maintenance services at a lower hourly rate than the Fire Bureau's Logistical Support Program," and that significant overhead could be saved through consolidation; and

**WHEREAS**, the report states that the hourly overhead rate for Fire fleet is 100 percent higher than the overhead rate charged by BGS; and

**WHEREAS**, in 1993 the BFRES managers stated their concerns that quality fleet maintenance could not be assured with the transfer of these responsibilities to BGS; and

**WHEREAS**, a March 1998 audit of City Fleet Services, costs and performance, showed the consolidated fleet compared very favorably in terms of cost and service levels with other well managed cities around the country and with the private sector locally; and

**WHEREAS**, the BFRES fleet consists of approximately 185 vehicles of which approximately 120 are on full service contract with BGS and approximately 65 are still maintained by Fire; and

**WHEREAS**, BFRES operates one fleet maintenance center with six mechanics open approximately ten hours per day; and

**WHEREAS**, BGS operates four major fleet facilities and four smaller satellite facilities maintaining 2,500 pieces of equipment with 44 mechanics open 18 hours per day; and

**WHEREAS**, BGS has agreed to develop an operating plan which will address Fire Bureau service needs and provide at least the same vehicle availability to the Fire Bureau that they currently have, consistent with the high quality service given to the rest of the City's fleet; and

**WHEREAS**, savings from this consolidation will be used for staffing of new fire stations approved in the recent G.O. Bond; and

**WHEREAS**, the City recognizes its obligations to notify the affected labor organizations of this anticipated reorganization, and to bargain in good faith issues that the unions might bring forward, and will comply with applicable DCTU contract provisions and fulfill all bargaining obligations under the State Public Employees Collective Bargain Act; and

**WHEREAS**, the International Association of Machinists and Aerospace Workers (DCTU) and the Portland Firefighters' Union were appropriately notified of this anticipated reorganization on December 1, 1998; and

**WHEREAS**, it is prudent to have a financial team, led by the City Auditor, review the current costs of the Vehicle and Equipment Maintenance section and related staff of BFRES and certify that significant savings can be realized through consolidation;

**NOW THEREFORE, BE IT RESOLVED**, the Council directs a financial team be established, led by the Auditor, and assisted by personnel from the Office of Finance and Administration, BGS, and BFRES to establish the current costs of the BFRES Vehicle and Equipment Maintenance operation and certify that significant savings can be realized through consolidation. This report should be completed by March 15, 1999; and

**BE IT FURTHER RESOLVED** that the Council will consolidate the BFRES Vehicle and Equipment Maintenance section with the rest of the City fleet upon favorable review of the Auditor's report confirming that significant savings will occur from combining the operations; and

**BE IT FURTHER RESOLVED** that upon Council's acceptance of the Auditor's report, appropriate ordinances will be prepared to abolish or transfer positions and amend the City Code to effect the consolidation; and

**BE IT FURTHER RESOLVED** that concurrent with the financial analysis, bargaining of labor issues, if any, will take place; and

**BE IT FURTHER RESOLVED** that after bargaining has concluded and labor issues are resolved and Council consolidates the operations through the passage of Code amendments, work will proceed in completing the operational plan for the maintenance of BFRES vehicles and equipment by BGS.

Commissioner Gretchen Miller Kafoury  
Commissioner Jim Francesconi  
David O. Kish:G. Khater  
December 16, 1998

**Adopted by the Council:**

**BARBARA CLARK**  
Auditor of the City of Portland  
By

Deputy

# Appendix B Study Plan

Date: 1/14/99; revised 3/8/99

JOB # 255

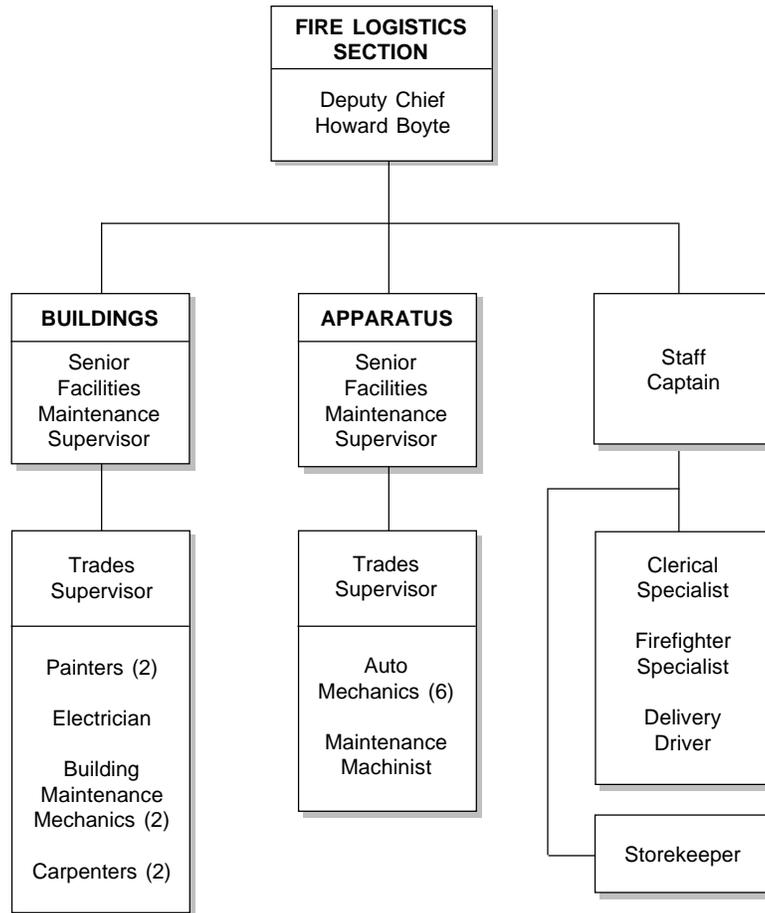
Title: Consolidation of Fire Apparatus Maintenance and BGS Fleet Services

		<input type="checkbox"/> = planned completion    X = actual <input checked="" type="checkbox"/> = planned & actual											
		JAN				FEB				MAR			
		4	11	18	25	1	8	15	22	1	8	15	
<b>A</b>	<b>PREPARE STUDY PLAN</b>	<b>RESPONSIBLE PARTY</b>											
	Meet as team to discuss roles and purpose	<b>Team</b>											
	Interview primary parties	<b>Auditors</b>											
	Collect existing analysis and work on subject	<b>Auditors</b>											
	Prepare study plan to accomplish purpose	<b>Auditors/Team</b>											
<b>B</b>	<b>OBJECTIVE: Define current service level</b>	<b>Fire Bureau/Auditors</b>											
	Determine and document current, actual service levels for the following items (at a minimum):												
	1) Vehicle availability												
	2) Vehicle reserve level												
	3) Frequency and level of preventive maintenance, and related benefits												
	4) Certification of mechanics to work on specialized equipment.												
	5) Repair timeliness, turnaround												
	6) 24-hour maintenance support (field support)												
	7) Compliance with NFPA standards for pump tests and aerial devices, and other tests and equipment												
	8) New equipment preparation (Code 3 prep)												
	9) Special fabrication requests												
	10) Daily and periodic reports to stations on vehicle availability												
	11) Mechanics time to train firefighters on how to operate apparatus equip.												
	12) Repairs, testing, servicing of related tools, such as float pumps, power fans, chain saws, Hurst rescue tools, generators, small tools, etc.												
	13) Coordination with Fire Bureau to avoid operational conflicts such as Chief's inspections, company inspections, training requirements, company evaluations, BOEC/Fire Management Area (FMA) coordination, etc.												
	14) Other services as identified by the Bureau												
<b>C</b>	<b>OBJECTIVE: Cost of current service level</b>	<b>Fire Bureau/Auditors</b>											
	Develop and provide 3-year cost-of-service data for the above services, following OF&A <i>Cost of Service Guidelines</i> . Costs should agree with IBIS 13-3 amounts and be broken down into:												
	1) Direct costs - personnel services, materials & services, and minor capital outlay in direct support of vehicle maintenance only												
	2) Indirect costs - personnel services, materials & services, and minor capital outlay that indirectly supports vehicle maintenance only												
	3) Overhead costs - General Fund overhead, Bureau overhead, Division overhead and Logistics Section overhead, together with an Indirect/Overhead Allocation Plan												
<b>D</b>	<b>OBJECTIVE: BGS estimate to provide services</b>	<b>BGS/Auditors</b>											
	BGS will prepare a written estimate which contains a narrative description and details the cost of providing service levels equivalent to those outlined in Objective B. The estimate should include:												
	1) total estimated charges for providing services described in Objective B												
	2) cost breakout by direct, indirect and overhead categories												
	3) a description of BGS commitment to meet each of the service level items described in Objective B												
	4) staffing levels, duties, training, organization chart												
	5) general billing procedures												
	6) key service delivery points: e.g., hours of operation, quality assurance program, where work will be performed, etc.												
	7) staff certification on fire apparatus and specialized equipment												
	8) supervision of personnel												
	9) time line for implementing transition and operational plan												
	10) how BGS will coordinate with Fire on in-service vehicles												
<b>E</b>	<b>OBJECTIVE: Identify potential for savings</b>	<b>Auditors/Team</b>											
	Determine potential for savings												
	• Confirm consistency of current & proposed service levels												
	• Compare current Fire costs to BGS service estimate												
	• Identify potential savings for potential reallocation to station staffing												
	• Make conclusions on savings/service levels												
<b>F</b>	<b>PREPARE A WRITTEN REPORT TO CITY COUNCIL</b>												
	Draft report	<b>Auditors/Team</b>											
	Team review	<b>Auditors/Team</b>											
	Final report submitted to City Council	<b>Auditors</b>											



# Appendix C Fire Logistics Organization Chart

## Bureau of Fire, Rescue and Emergency Services: Fire Logistics Section

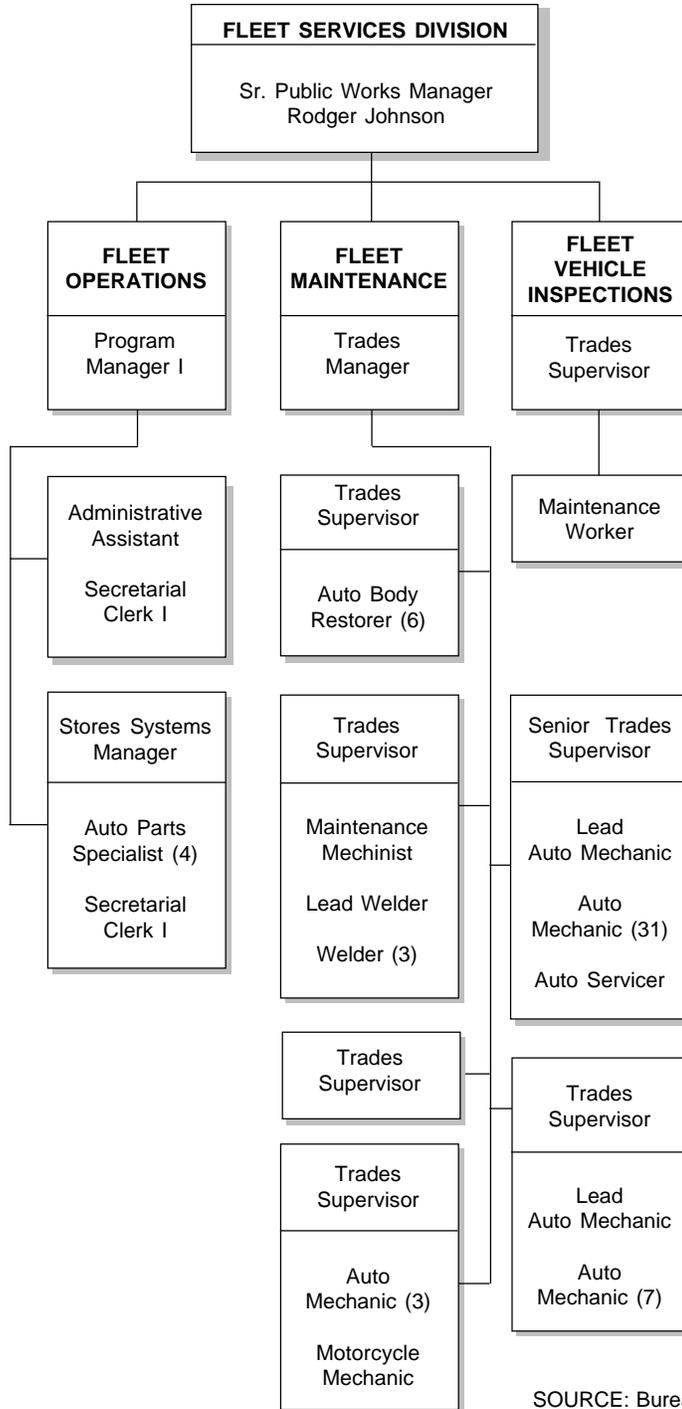


SOURCE: BFRES 1999/2000 budget proposal.



# Appendix D BGS Fleet Services Organization Chart

## Bureau of General Services: Fleet Services Division



SOURCE: Bureau of General Services



## Appendix E Other City Survey

About one year ago we completed an audit of Fleet Services in which we contacted 14 cities to compare rates and service. To find out how other cities organize the centralized fire apparatus maintenance function, we contacted the cities from that list who centralized services. Nine of the original fourteen cities we contacted in the audit have centralized fire apparatus maintenance. One city's overall maintenance program is in such poor condition that we did not contact them for this study.

Six of the eight cities we contacted have one facility dedicated only to, or mostly to, fire equipment maintenance. These facilities have a core group of mechanics trained to work on fire apparatus. Two cities have mechanics rotate to work on all types of equipment.

None of the cities require mechanics to be Emergency Vehicle Technicians (EVT) at this time. However, two fleet managers said they recognize that the EVT certification will be needed at some point, and will train their mechanics accordingly.

Every city we contacted has a fleet liaison. In three cities the liaisons are part time. In four, the liaisons are full time. Three of those are sworn employees.

## **SUMMARY OF FINDINGS: Audit Services Division survey of other cities**

City:   All   (eight cities)

### **1) Do you provide centralized service for the Fire department emergency apparatus?**

Yes (All)

### **2) Generally, what does that consist of?**

See individual sheets in work papers for equipment lists

### **3) How are mechanics assigned to work on fire equipment?**

Charlotte: Rotated from other tasks. All equally trained.

Austin: One facility dedicated to Police, Fire and ambulance equipment.

Indianapolis: Rotated from all other tasks. Inherited six mechanics. Three original fire mechanics are left and they are cross-trained.

Cincinnati: One facility is dedicated to fire equipment, with five mechanics and a crew chief (who can work on eq.) They can be moved in and out of the facility as needed.

Phoenix: One facility for fire eq. The best mechanics are chosen to get extra training to work at facility. 25 mechanics work there.

Sacramento: One facility dedicated to fire eq. Core group of mechanics (3 journey level + 1 Mech. I who rotates) only work on fire eq.

San Jose: One facility 100% dedicated to fire eq with six trained mechanics (one is a lead) and one mechanic assistant. Another facility works on fire eq. But also on other things.

Seattle: One garage dedicated to fire (it also works on police motorcycles). A core group of mechanics are used based on seniority and recommendations. Mechanics like to work there because they can't be assigned a night shift. They do have mobile service truck that goes out to the stations.

### **4) What are the training standards for the mechanics who work on the apparatus (are they EVT certified, or some equivalent)?**

Charlotte: All ASE. Will be EVT trained in future but no timetable.

Austin: One EVT Master level, others working toward because it will be a nationwide requirement. Will probably offer pay incentive for EVT certification.

Indianapolis: EVT not required. Don't have plans to require EVT certification. Would pay a \$1 more per hour for cert.

Cincinnati: Training is mostly OJT (continuity and familiarity). They have no special certifications. Not familiar with EVT.

Phoenix: Not aware of EVT certification. They get factory training, OJT, familiarity, manuals.  
 Sacramento Not familiar with EVT. Trained every year for one week at California Fire Mechanics Academy. Probably surpasses EVT.  
 San Jose: Don't know about EVT., Fire mechanics are a core group trained by the California Fire Academy. Pretty sure this would surpass any other certification.  
 Seattle: Not sure how they will handle EVT, it might only be a recommendation. They receive training from manufacturers especially on aerial ladders and pumpers. But most of this can be done in a one day session for each major piece of equipment.

**5) How do you handle work and testing of aerial ladders (i.e., do you do the work or is it contracted out)?**

Charlotte: Contracted  
 Austin: In house inspections and small work. If structural damage, they ask LTI what should be done.  
 Indianapolis: Contracted  
 Cincinnati: Contracted.  
 Phoenix: Contracted.  
 Sacramento Contracted for inspections and structural work, maintenance in house.  
 San Jose: Contracted.  
 Seattle: In house, sometimes hires a contractor to check their work.

**How about pumpers?**

Charlotte: Fire Department  
 Austin: No response.  
 Indianapolis: Contracted, but Fire Department monitors and controls..  
 Cincinnati: In house.  
 Phoenix: Fire department.  
 Sacramento Fire department.  
 San Jose: In house. Mechanics certified to do this.  
 Seattle: In house.

**6) Do you use NFPA standards for preventive maintenance?**

Charlotte: No. Regular checklist that Fire Department used.  
 Austin: Yes.  
 Indianapolis: Yes. Plus Fire Department and manufacturer recommendations.  
 Cincinnati: In house standards, and manufacturers.  
 Phoenix: No. Use manufacturers standards, can't imagine they are different.  
 Sacramento No. Use own checklists, experience.  
 San Jose: Yes.  
 Seattle: Yes + manufacturer recommendations. Their own checklist is tighter than the NFPA.

**For work on aerial ladders and pumpers?**

Charlotte: Same as above.  
Austin: Yes.  
Indianapolis: Yes.  
Cincinnati: Same as above.  
Phoenix: Same as above.  
Sacramento: Same as above.  
San Jose: Yes.  
Seattle: Same as above.

**7) Do you provide 24 hour response to fire repair needs?**

Charlotte: Yes.  
Austin: Yes.  
Indianapolis: Yes.  
Cincinnati: Yes.  
Phoenix: Yes.  
Sacramento: Yes.  
San Jose: Yes.  
Seattle: Yes.

**8) How is 24-hour response provided (a mechanic wears a pager, takes repair truck home, etc.)?**

Charlotte: Eight mechanics rotate wearing a pager. \$32/week to carry pager. Takes truck home.  
Austin: Facilities open 6am – 11pm. One mechanic on standby with a truck and a pager.  
Indianapolis: Facility closes at midnight, so mechanics rotate each week carrying a pager and a service truck. No pay for standby (Fleet took this away when took over, Did not set well with FD. Union said it was okay. Part of competition effort.)  
Cincinnati: Fire shop open 8-4:30 but there are night shifts open at others 24 hours per day. So there is no call back or standby. All their OT is scheduled, not emergency. If they can't work on something they send out a spare.  
Phoenix: Regular facilities open 5 days, 24 hours. Weekends a mechanic takes a pager but no truck.  
Sacramento: Facilities open 5 days 8-4:30pm. Each mechanic rotates every two weeks taking home pager and service truck. Standby time is \$120 per week (he thinks), with minimum of 2 hours OT if called back.  
San Jose: Facilities are open 5 days 6-4:pm. Each mechanic takes pager home for one week with a service truck. They get paid 16 hours for standby with a minimum of 3 hours overtime if called back.  
Seattle: Shop Foreman and a mechanic wears pager. Does not take a truck home. Paid 10% of salary for standby and 2 hour minimum OT for call back.

**9) How quickly must the mechanic on duty respond?**

Charlotte: Within 1 hour on scene.  
Austin: <30 minutes on scene.  
Indianapolis:<30 minutes on scene.  
Cincinnati: No exact goal, but like to arrive within 30 minutes.  
Phoenix: < 1 hour on scene.  
Sacramento <30 minutes.  
San Jose: No goal.  
Seattle: No goal, usually < 1 hour.

**10) How often are mechanics called to the scene of a fire?**

Charlotte: Varies. Sometimes called for 2 alarm fires..  
Austin: Doesn't know. No standby pay, but there is a minimum of 3 hours for callback.  
Indianapolis:Varies. See comments.  
Cincinnati: Not very often, at 3 alarm or better.  
Phoenix: Varies.  
Sacramento About 2 times per week.  
San Jose: Automatically called back for a 3<sup>rd</sup> alarm.  
Seattle: Twice per month.

**11) Fire Department liaison?**

Charlotte: Yes. Does not work on fleet full time.  
Austin: Yes. Full time Chief stationed in the garage.  
Indianapolis:Yes. In Support Services.  
Cincinnati: A Captain who handles Fleet and Hydrants (sometimes).  
Phoenix: No response.  
Sacramento A woman in Operations is their liaison and works closely with a Fire Captain. Sometimes they might work a whole day with them, but that's rare. Usually Fleet has to call them to ask if they need anything. Not near 100% dedicated.  
San Jose: Yes, A Captain who is full time liaison.  
Seattle: Yes full time civilian.





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