AGENDA

FOR THE ***SPECIAL MEETING OF RED DEER CITY COUNCIL***

TO BE HELD IN THE COUNCIL CHAMBERS, CITY HALL

TUESDAY, FEBRUARY 24, 1998

COMMENCING AT ***7:00 P.M.***

EMERGENCY SERVICES MASTER PLAN DISTRIBUTION

Director of Development Services Director of Community Services Director of Corporate Services Norbert Van Wyk	= 4
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SANDRA

Box 5008
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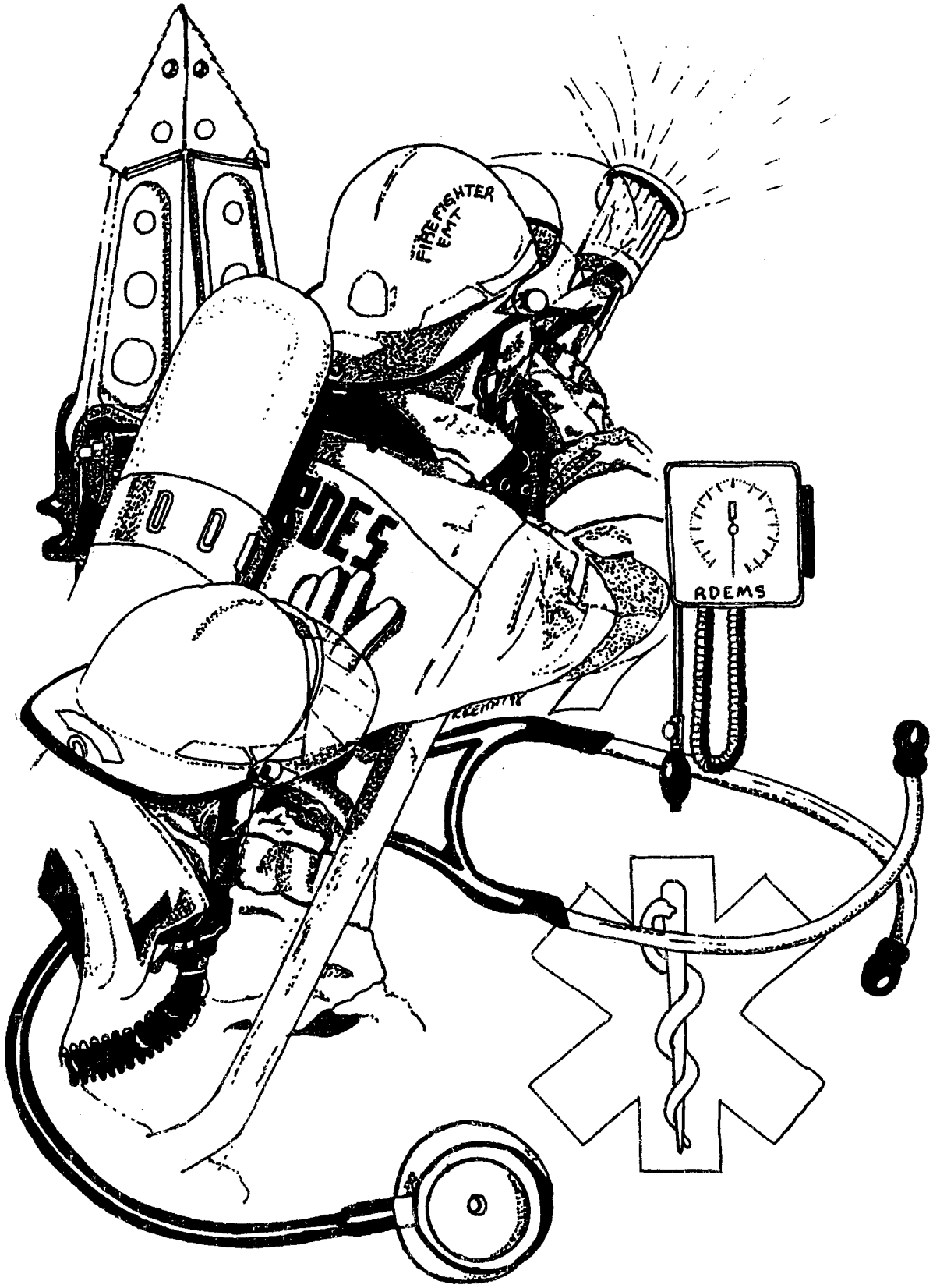
T4N 3T4

The City of Red Deer



EMERGENCY SERVICES MASTER PLAN

THE CITY OF RED DEER

EMERGENCY SERVICES MASTER PLAN

DECEMBER, 1997

Western Management Consultants

Box 5008
Red Deer, Alberta
T4N 3T4

The City of Red Deer

Emergency Services Department
4340 - 32 Street
Red Deer, AB T4N 6Z7

January 16, 1998

Members of Council
The City of Red Deer
Red Deer, AB T4N 3T4

Dear Councillors:

RE: EMERGENCY SERVICES MASTER PLAN

As the members of the Emergency Services Master Plan Steering Committee, we are pleased to present to City Council the final Emergency Services Master Plan.

We would like to express our appreciation to Dr. Bill Stuebing and Tony Skorjanc of the Red Deer College and their staff for the work they did on the public survey. We also wish to express our thanks to Lawrence Beaudry and Dianne Keefe of Western Management Consultants for the many hours of work they put into the public consultation, research and Master Plan preparation. The technical input of Chief Bill Hewitt provided valuable information key to successful completion of the Plan

The members of our Committee believe this is a document that will serve The City of Red Deer well, both today and in the future.

We recommend that Council accept this document as the Master Plan to provide the Emergency Services Department a framework to work within, in providing services to the City of Red Deer.

Respectfully submitted,

EMERGENCY SERVICES MASTER
PLAN STEERING COMMITTEE

Phil Hyde
Chairman

Diane McDonell
Citizen Representative

Gail Surkan
Mayor

Bev Hughes
Councilor

Bill Hull
Councilor

Jack MacDonald
IAFF Representative

Jim Lyman
IAFF Representative

Bryon Jeffers
Director of Development Services

Gordon Stewart
Fire Chief/ Manager

Michael C. Day
City Manager

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EXECUTIVE SUMMARY

INTRODUCTION

Objectives

The City of Red Deer determined that there was a need to develop an Emergency Services Master Plan to guide the management and delivery of emergency services for the next decade and beyond. Accordingly, a master planning process was initiated, the primary objectives of which were to:

- review current Emergency Services operations;
- consult extensively with the public with respect to satisfaction with current services, response time, use of auxiliary staff, and mandatory sprinklering in new residential development;
- review models of service delivery for fire prevention and suppression, emergency medical services, rescue, hazardous materials response, disaster planning, and 911 in other selected communities;
- establish the need for, characteristics, and timing of future emergency response stations; and
- develop a long-range Emergency Services Master Plan including recommended service mandate; service delivery model; standards; new station(s), equipment, staffing and training requirements; potential new technology applications; and cost estimates.

Approach

The development of the Master Plan was a joint effort that involved two external consulting firms and internal resources from the City of Red Deer. An independent survey firm was responsible for conducting the public telephone survey. Internal resources from the City of Red Deer conducted research in the areas of technology, fire-medic training, and response time models. The master plan consultant was responsible for the remaining components of the plan as well as development of the Master Plan document.

Overall direction to the project was provided by a Project Steering Committee comprising a cross-section of elected officials, City of Red Deer Emergency Services staff, and representatives of the public. The Steering Committee was actively involved in reviewing research results throughout the study and discussing and shaping the final recommendations.

Risk Management Strategy

The Emergency Services Master Plan is an operational planning document that will be subject to periodic review and updates to reflect changes in the operating environment. The Plan should not be viewed as a static document but rather a risk management platform that coordinates and integrates the efforts of a number or key players all of whom have shared responsibility and accountability for effective risk management.

While the City has major responsibilities for the provision of emergency services, the service delivery model and plan reflects the fact that emergency services are delivered in cooperation and partnership with citizens, the business community, community organizations, institutions and other municipalities. *Since effective risk management is a shared responsibility, the public and other stakeholders along with the City must play a key role.* This becomes even more important with the recommended increase in emphasis on prevention, and the adoption of a philosophy that equates true success with fire, accident and injury prevention.

Fundamental Principles

The master plan has been developed utilizing the following principles and beliefs as a foundation:

- The effective management of fire and medical emergency risk is a shared responsibility of individuals, the business community, community agencies and institutions, and the City.
- The Emergency Services Master Plan is an operational planning document and should be viewed as a risk management strategy – not a legislated mandate.
- High priority should be placed upon saving lives and protecting property while minimizing risks to Emergency Services personnel.
- High priority should be placed upon reducing the number of fire and medical emergencies through prevention and public education initiatives.
- Service levels and standards should be set taking into account competing priorities and availability of resources.
- Substantial opportunities should be provided for the public to have input into the development of the Emergency Services Master Plan.
- The Emergency Services Master Plan should be reviewed periodically and updated to reflect opportunities and challenges created by the changing emergency service environment.

CURRENT SITUATION REVIEW

Legislative and Regulatory Framework

Analysis of the legislative, regulatory and policy framework within which emergency services are delivered in the Province reveals the following findings which have implications for the Emergency Services Master Plan.

1. The City does not have the legislative authority to pass a municipal by-law mandating residential sprinklering at this time

2. Regular audits of the City's in-house inspection function are required under the new Safety Codes Act in order to maintain accredited municipal and agency status. Accordingly, the City should conduct periodic internal audits of its quality management plan for accredited municipalities and agencies in order to ensure a favorable external audit.

3. The possible introduction of performance-based codes in Canada and Alberta over the next five to ten years may have a significant impact on staff training in the Fire Prevention Bureau. In addition, higher recruitment standards may be required in the future.

4. Alberta statutes set reporting requirements to the Provincial Fire Commissioner with regard to the Fire Code, and to Alberta Health with respect to ambulance services. The City of Red Deer in purchasing or developing new management information systems must consider these reporting requirements.

5. Changes to the First Aid Regulations will require companies to develop a first aid response plan based upon an assessment of needs and the results to be achieved. This will likely create an opportunity for the Emergency Services Department to provide assistance, possibly on a cost recovery basis, to local employers in the development of first aid response plans.

6. Recent changes to the Labor Relations Act allow municipalities to apply to the Labor Relations Board to designate additional jobs as management or out-of-scope positions. These changes give the City the option of applying to the Board to designate the Chief Safety Codes Officer and/or Platoon Chiefs as out-of-scope positions.

7. Adoption of the recommendations of the Ground Ambulance Task Force could have significant implications for how Red Deer's Emergency Medical Services Department operates. The policy shifts recommended could adversely affect the

efficiency of the Emergency Services Department in the City of Red Deer given that the current service is a joint fire and ambulance operation.

8. The City of Red Deer and surrounding region should be able to access funding to support the development of a regional disaster plan and the running of tabletop exercises, through the Emergency Programs Branch of Alberta Transportation and Utilities.

9. The removal of government subsidies for the training of career and voluntary fire fighters will place increased cost burdens on municipalities. This presents the City with significant opportunities to develop and market courses and programs at its local fire-medic training facility. However, the Emergency Services Department will still need to meet AFTS standards and will likely have to continue to utilize the provincial training facility for some specialized training.

10. Lakeland College's plan to introduce pre-employment programs for fire fighters designed to train them to the EMT-A level should result in the development of a pool of qualified fire fighters. This may influence the need for The City of Red Deer's current policy of recruiting only paramedics and training them as fire-medics.

11. Potential streamlining of the EMT-P program to require only one year of training beyond the EMT-A qualification, and introduction of computer-based learning and self-study programs may make it cost-effective for the EMT-As currently employed within the Emergency Services Department to upgrade their qualifications to EMT-P standards.

12. The closure of the training facility in Edmonton operated by Alberta Public Safety Services reduces the availability and increases the cost of training for disaster planning for The City of Red Deer.

Technological Trends and Developments

The Emergency Services Department has made consistent efforts to research and implement, within fiscal constraints, cost effective technological advances that support the achievement of the Department's mandate. In addition, the following developments and trends in fire service, emergency medical and information technology that have implications for The City of Red Deer.

1. Significant advances are being made in fire sprinkler technology that have the potential to increase further its effectiveness at mitigating property damage and loss of life in a cost-effective manner. Efforts to educate the citizens of Red Deer with respect to the life safety aspects of the new technology will help to create a base of support for sprinklering. Demonstration projects and public education programs are potential vehicles that could be used in this regard.

2. Some municipalities in Canada and the United States have passed by-laws requiring residential sprinklering. The current legislative and regulatory climate in Alberta presents obstacles to Red Deer passing a mandatory sprinklering by-law. Opportunity does exist for The City of Red Deer to pursue changes in the legislation.

3. The development of "open access" technology, which allows fire departments to interface with private monitoring companies, presents an opportunity for the Emergency Services Department to participate in public/private partnerships to monitor fire alarms.

4. Significant advances have been made in the area of infrared vision systems. Utilization of these systems has significant potential to protect fire-medics and improve the life safety of potential fire victims. The use of cameras will improve significantly search capabilities in a fire situation which is of particular value in view of the manning levels of the Department.

5. The use of quints as first line engine companies would assure that any required ladder capability is available on the initial response. With current staffing levels, the Emergency Services Department cannot always send the aerial ladder on a first response basis. The increased capabilities of quints must be weighed against the increased capital and operating costs and their decreased speed and mobility.

6. Minipumpers may present some significant opportunities to support the Emergency Services Department's response to fire incidents in the river parks area.

7. Considerable advances have been made relative to the use of Class A foam pumpers. Given the significant fire suppression advantages offered by the use of Class A foam, any new apparatus acquired should contain plumbed-in foam tanks.

8. Advances in computer system technology will support complete integration of the Department's information management and dispatch functions. This has the potential to contribute significantly to the effectiveness and efficiency of the Department's operations.

Review of Other Municipalities: Summary of Major Findings

Six municipalities were selected for review as part of this study. Major findings and insights derived from the survey of municipalities include:

1. Municipalities in the sample target a 4 to 6 minute response time to fire and ambulance calls, with 5 minutes being the most common standard.

2. With the exception of Nanaimo, none of the municipalities in the sample have passed mandatory residential sprinklering By-laws.

3. Two of the municipalities surveyed have used agreements with developers as a mechanism for implementing mandatory residential sprinklering in selected sub-divisions. However, this approach was viewed as contributing to slower rates of development in the sub-divisions and dissatisfaction on the part of homebuilders.

4. Three of the municipalities surveyed use volunteer fire-medics to augment their career forces. This model appears to offer the greatest advantages for municipalities that include a large rural area. Typically, the volunteer force is responsible primarily for providing services in rural areas and the career force responds to the urban areas.

5. Effective use has been made of casual staff in the Medicine Hat ambulance service and permanent full-time staff ("rovers") in Lethbridge to improve scheduling and reduce overtime costs.

6. The municipalities surveyed have implemented innovative and creative practices in a variety of areas. Many of these, which are detailed in Exhibit 6 on pages 144-145, should be considered for the City of Red Deer.

Current Emergency Services and Programs

A review of the major services provided by the Emergency Services Department reveal the following key findings.

1. Fire Risks: The Fire Risk Evaluation Study identified a number of high-risk areas within the City that must be considered in planning fire station locations, apparatus and staffing requirements. These include:

   - unsprinklered high rise apartments, 3-storey walk-ups and seniors' facilities;
   - Michener Centre and group homes;
   - East Hill;
   - homes for the physically and mentally handicapped;
   - industrial facilities in the region surrounding the City; and
   - the urban forest within the river parkway.

2. Response Capabilities: With respect to response capabilities it was found that:

- Emergency Services Department apparatus is appropriate for its intended use, is effective and in compliance with commonly accepted industry standards.

- With the current number and configuration of fire stations, response time to the northern portion of The City and some sections in the East Hill will continue to exceed 8 minutes.

- An analysis by the Emergency Services Department indicates that relocating the existing three stations will not address concerns relating to response times.

- Building a fourth station in the East Hill area of the City should increase the quality of emergency response services and reduce response times to less than five minutes in East Hill.

- With current apparatus and staffing levels, the Emergency Services Department has the capacity to respond effectively to fires in Risk Class 1 structures; i.e., buildings such as single family residential and duplexes. At minimum staffing levels, the Department has the capacity to respond to Risk Class 2 structure fires; i.e., four-plexes, walk-up apartments and small stores and strip malls. However, the fourth station would provide the capacity to respond to risk Class 2 fires, provided there is no staff out on ambulance calls. Even with the fourth station, the Department would not have the capacity to respond effectively to Risk Class 3 and 4 structure fires. Risk Class 3 includes shopping centres and institutions and Risk Class 4 includes large institutions, high hazard industrial buildings, unsprinklered high rises and the downtown core.

- Continued coordination of the emergency response capabilities of the City, the County and other emergency response service providers in the area is vital to the interests of residents.

3. Response Times: Key findings with respect to response times include:

- The City's historical target is to respond to 90% of emergency calls within five minutes. The five minute response time is fairly consistent with the targets set by other urban municipalities across North America.

- In 1996, the Emergency Services Department responded to 65% of emergency calls within the five-minute target. The growth in new residential, commercial, and industrial development contributed significantly to this result.

- Adding a fourth fully staffed station would improve response times and ensure that the Department can respond effectively to Risk Class 2 fires at all times.

However, the fourth station would not provide the capacity to respond effectively to fires in Risk Class 3 and 4 structures.

4. Internal and External Organizational Relationships: Key findings and conclusions relative to internal and external organizational relationships include:

- Effective and productive working relationships exist between Emergency Services Department and the Engineering, Public Works, Licensing and Inspection and Land Development Departments. The City's current administrative structure formalizes and helps to strengthen these relationships.

- The water supply and distribution system is adequate to meet fire suppression needs, barring a major disaster. A notable exception to this is the availability of water within the urban forest area.

- The RCMP and the Emergency Services Department understand clearly their respective roles and functions when responding to emergency incidents and conducting fire investigations.

- The relationship between the City and the County is defined clearly in a Mutual Aid Agreement; and a positive spirit of cooperation appears to exist between emergency services personnel from both Departments. There are, however, significant opportunities for increased cooperation, particularly in the areas of training, disaster planning, and fire prevention and suppression.

- The City of Red Deer has one of the best ambulance services in the Province. Delivering ambulance services on a regional basis has the potential to provide better coverage of the David Thompson Regional Authority and may represent an opportunity for The City of Red Deer Emergency Services Department to expand their service mandate.

- The City of Red Deer has Mutual Aid Agreements that clearly define responsibilities and accountabilities for fire suppression, ambulance services and rescue services with 12 municipalities. Mutual Aid Agreements for hazardous materials response have not been formalized.

- More extensive use could be made of the services of the City's Human Resources and Finance Departments to support the Emergency Services Department's operations.

- Reduction in the internal capacity of the Michener Centre to respond to emergencies would have significant workload and response time implications for The City of Red Deer's Emergency Services Department. Efforts should be made to ensure the Michener Centre maintains its internal emergency response

capacity. The City should exert all influence possible to try to ensure the Province fulfills its responsibilities in this area.

5. Major Strengths: The major strengths of The City of Red Deer Emergency Services Department include:

- *Emergency Medical Services:* The City of Red Deer operates an advanced life support system, staffed by both Emergency Medical Technicians – Paramedic and Emergency Medical Technicians – Ambulance personnel. These technicians have training in advanced and basic procedures respectively beyond the normal scope of practice of pre-hospital care professionals practicing in the Province. The Medical Director, responsible for Emergency Medical Services, conducts regular audits and new technologies have been introduced as appropriate. The ambulance service is considered one of the best in the Province. The City of Red Deer was one of only five services audited by Alberta Health that did not have any deficiencies.

- *Investigations, Inspections and Safety Codes Enforcement:* The Fire Prevention Bureau is well positioned to continue to do an excellent job in the areas of inspections, investigations, and enforcement of the Safety Codes. The Fire Prevention Bureau has had its Quality Management Plan for accredited municipalities and for agency status accepted by the Alberta Safety Codes Council. Except for one individual, all Fire Prevention Bureau personnel are certified to the highest level. In addition, the Department has an information system to schedule and monitor inspections, and inspections are well coordinated with the Licensing and Inspection Branch.

- *Well Equipped Stations and Professional Career Force:* The City of Red Deer has three well-equipped stations and a well-trained professional fire-medic fighting force to respond to incidents.

- *Regional Cooperation:* The City of Red Deer has signed Mutual Aid agreements with 12 area municipalities. These agreements are comprehensive and provide back-up support to The City of Red Deer in the event of a major incident or potential disaster. The professional staffs in The City of Red Deer and the County of Red Deer have excellent working relationships.

- *State-of-the-art Communications:* The Emergency Services Department has implemented a state-of-the-art 911 service with computer aided dispatch. The Department is providing a call-answer service for many municipalities in the region. The Department also has an 800 Mhz system and access to the VHF provincial ambulance frequency. Communications staff are being trained to operate the enhanced 911 service. Consideration should be given to the new

"open access technology" which would allow the Emergency Services Department to monitor fire alarms in partnership with private industry.

- *Vehicle Extrication:* The Emergency Services Department has specialized equipment for vehicle extrication. As well, its staff has received specialized and ongoing training in the use of extrication tools.

- *First Response Capability for Hazardous Goods:* The City of Red Deer acquired a hazmat unit and a dangerous goods data base, with financial assistance from the province. As well, fire-medics have been trained to provide first response to hazardous materials incidents. However, staff are not trained to the technician or specialist level. If the City decides to pursue this, it will take significant staff and funds to accomplish.

- *Management and Control Systems:* Major strengths related to management and control systems include:

  - A strategic management system that sets out the Department's goals, budget, and performance measures for the Department is utilized.

  - The Department's organization structure and assignment of responsibilities is matched appropriately to functional requirements.

  - Plans are in place to ensure effective and timely building and equipment maintenance and upgrading.

  - The move to increase the level of involvement of front-line staff in decision-making is a positive direction. The establishment of a number of key staff committees should help to support this objective.

  - The Department has adopted training standards and a five-year training plan. In addition, the initiative shown in developing the training school should serve the Department and the City well from both a program quality and cost effectiveness perspective.

  - Quality assurance in the emergency medical area is provided through medical reviews of patient care reports.

  - Departmental performance is evaluated against pre-established targets and benchmarks including response times and customer satisfaction levels.

- The Master Plan development process includes substantial opportunities for public input regarding the quality of services and external evaluation of performance.

6. Areas Where Effectiveness Could Be Improved: Opportunities for improvement identified included:

➢ *Public Fire Safety Education:* Improvements could be made to the public fire safety education program. The City does not have a dedicated resource assigned to public fire safety education nor has staff been trained in the development and delivery of public fire safety education programs. The current school program is primarily focused on grades 3 through 5, instead of K to 12. The Department has limited resource materials to support public fire safety education programs in the schools or elsewhere.

➢ *Limited Capacity to Handle Simultaneous Incidents and High Rise Fires:* There are concerns with respect to the ability of the Department to handle simultaneous incidents and to respond to fires in high rises. At minimum manning, the Department does not have the resources to staff its ladder and to rescue potential victims from high rises, without relying on call-ins. The high number of ambulance calls further reduces the capacity of the Department to respond to significant fires.

➢ *Pre-Fire Plans:* Pre-fire planning processes require improvement. The-fire plans, which target 150 sites, have not been kept up to date. The Department has purchased a CAD system and intends to have on duty personnel update the plans.

➢ *Response Times:* Response times to parts of the East Hill and North Hill exceed established targets of five minutes by a substantial amount. Planning must take place to ensure response times are met, including provision of equivalent levels of service to the extent possible to all areas of the City as identified by citizens in the public survey.

➢ *Limited Capacity Re: Specialized Rescue Services:* The Department has limited capabilities in the area of specialized rescue services; i.e., water rescue, high angle rescue, and confined space and trench rescue. These specialized rescue programs are not as well developed as vehicle extrication nor has the staff received the necessary training. If these specialized rescue services are to be provided, the appropriate equipment and training will need to be addressed.

➢ *Disaster Planning:* Increased emphasis on disaster planning is required. The Emergency Plan is incomplete and poorly communicated to key stakeholders.

As well, no tabletop or field exercises have been conducted. In addition, The City of Red Deer has not taken leadership in developing a regional disaster plan.

- *Management and Control Systems:* Areas identified where the effectiveness of management and control systems could be improved include:

  - Too great an emphasis on seniority as a basis for promotions may result in sub-optimization of management and leadership capacity.

  - Consideration should be given to including Platoon Chiefs in the Department's Management Team and designating these positions as "out of scope".

  - The administrative policies and procedures manual should be reviewed and required policy enhancements implemented.

  - A rehabilitation policy for major incidents should be developed; i.e., policy regarding rest periods and health monitoring of fire-medics on the fire ground.

  - Employee recognition programs could be enhanced.

  - The management information systems should be integrated.

  - A structured approach to post-fire critiques should be utilized.

  - No internal audits have been conducted to ensure the Fire Prevention Bureau is in compliance with its quality management plan for inspections and investigations.

Public Consultation: Major Findings and Conclusions

A high priority was placed on ensuring that the community had meaningful input into the development of the Emergency Services Master Plan. Accordingly, the study process involved extensive public consultation including a comprehensive telephone survey, focus groups and an open public forum. The key findings and conclusions derived from the public consultation process include the following:

1. Satisfaction With Services: Satisfaction levels with current fire and ambulance services are very high. This was evidenced in the comprehensive telephone survey of residents as well as the input received during the focus groups sessions. The telephone survey of 1,000 residents indicated satisfaction levels of 84% and 94% for ambulance and fire protection respectively. Focus group participants noted that the current service levels and standards are very good and that the current staff comprises well-trained and multi-skilled professionals. The fire damage in the City has been minimal and the ambulance

service is excellent. Some focus group participants did, however, express concerns about the limited capacity of Emergency Services to respond to fires in high-rise structures; the potential shortage of ambulances in the event of multiple incidents; and the limited response capabilities in the areas of water and ice rescue, and major hazardous goods incidents.

2. Response Times: A significant majority of the citizens surveys (74%) do not support keeping property taxes lower if it means slower emergency response times. Ninety-four percent felt that, as the City grows, the current response times should be provided in all part of the community and 88% agreed that the City should spend the money necessary to ensure that the standard response time is provided in all parts of the City. These positions were generally supported by the majority of focus group participants. Some of the participants in the focus groups also expressed concerns about the response times being too long for the east side of the City including Rosedale, and the industrial area in the north west.

3. Mandatory Residential Sprinklering: Sixty-four percent of survey respondents agreed that greater safety was sufficient reason for sprinkler systems to be required in new home construction, while 61% similarly agreed that a possible saving to the City was also a sufficient reason. There was significantly less support for mandatory residential sprinklering from the focus group participants, many of whom cited concerns relating to increased building and sprinkler maintenance costs, potential for malfunctions and water damage, imposition of more municipal regulations, and inability to deal with external fires.

   The residential group expressed some support for mandatory sprinkler systems in multi-family dwellings. Similarly the Residential Sprinkler Task Force felt that it made sense to require residential sprinklering for high-risk groups including group homes for seniors and for mentally or physically handicapped persons. It was emphasized that the City has an important role to play in educating the public about fire prevention and the safety aspects of smoke detectors, fire extinguishers and residential sprinklers. One group suggested that the City introduce a sprinkler pilot project in a new residential subdivision to demonstrate the technology and to facilitate public education about the benefits of sprinklering.

4. Fees for Ambulance Services: Sixty-one percent of the residents surveyed agreed that ambulance services should be an Alberta Health Care insured service and 55% disagreed that patients should be responsible for a larger share of the costs. Forty-seven percent felt that the City should pay more of the cost of the ambulance service, while 34% disagreed.

5. Use of Volunteers/Auxiliaries: Overall, 57% of the citizens surveyed disagreed with the City using a combination of professional fire-medics and volunteers if this would result in a reduction in the quality of emergency services. Eighty-three percent would support the

use of volunteers in fire and ambulance services if the City could save money and if there was no reduction in the quality of emergency services. On the reverse question, 49% agreed that the City should employ only full-time professionals, 36% disagreed, and the remaining 15% were neutral. Focus group participants did not support the use of volunteers to replace existing career staff. Concerns most commonly identified included potential increases in response time, risk of injury and liability, limited expertise and high turnover rates, increased training costs. Most focus group participants indicated that they support the use of volunteers and auxiliaries by Emergency Services in back-up or support roles, but not in front-line or technical services.

6. Quality and Cost of Services: Ninety-three percent of all survey respondents agreed that the City should spend what is necessary to ensure that the current quality of emergency services is provided equally in all areas of the City. A total of 84% continued to agree with this proposition even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.

   The majority of focus group representatives indicated that the Emergency Services Department is providing excellent services within acceptable response times. All groups supported maintaining current service levels and one expressed a willingness to pay for enhanced services by reducing the service levels of other municipal operations or by paying additional taxes. Charging user fees for inspections, consultation and support was viewed as appropriate by the institutional group. The commercial/small business group indicated that basic emergency services should be covered by taxes, but that it would be appropriate to charge business for inspections or fire prevention education.

7. Service Enhancements: Participants in focus groups and the public meeting suggested a range of potential service enhancements including:

   - Increase public education about fire and accident prevention;
   - Increase inspection of smoke detectors, with residents being charged for the cost of that service
   - Provide additional information and education on hazardous materials;
   - Conduct more frequent toxic waste round-ups;
   - Increase the frequency of spot checks of high-risk facilities;
   - Increase staff training in specialized rescue, particularly high angle and confined space rescues.
   - Provide assistance to small industry with first aid response, evacuation plans, the management of hazardous materials and emergency preparedness;
   - Strengthen industry-municipal partnerships in disaster planning;

- Develop a regional approach to disaster planning;
- Appoint a full-time coordinator of disaster planning for the Red Deer region;
- Increase the amount of direct classroom instruction in the public school system;
- Provide accident prevention programs for seniors and residents of group homes;
- Increase the level of monitoring of fire alarms in public buildings and institutions.
- Develop guidelines and protocols for identifying, handling and disposing of hazardous materials;
- Improve the co-ordination of disaster plans including planning, training and testing of plans through tabletop discussions and exercises.

RECOMMENDED POLICY DIRECTIONS

Analysis of the study findings and conclusions lead to the identification of five priority issues that have strategic significance for the delivery of emergency services in the City of Red Deer including:

- Response Times: Adequate response times for both fire and ambulance services must be maintained.
- Preventative Focus: Increased focus must be placed on preventative initiatives.
- Public Education: The scope and quality of public education programs must be improved.
- Disaster Planning: Effective plans must be in place to manage disasters and major incidents.
- Service Delivery Structures: Service delivery structures for emergency services must match appropriately the functions to be performed and facilitate the cost-effective delivery of emergency services.

Response Times and Fire Suppression Capacity

1. With respect to fire and ambulance response times and fire suppression capacity, it is recommended that the City:

   1.1 Maintain an emergency call response time guideline of five minutes, 80% of the time within the City limits; [1]

   1.2 Proceed with the construction of Station #4 on the East Hill in order to maintain existing response times and service levels and develop a recruitment strategy and plan for staffing the fourth station;

   1.3 Continue to monitor the frequency of calls and response times for all neighborhoods in the City to ensure continued effective risk management;

   1.4 Conduct another station location study within the next three to five years to assess changing conditions and needs as the City continues to expand;

   1.5 Seek a service contract that defines the responsibilities of the provincial government relative to emergency service for the Michener Center.

   1.6 Consult with Alberta Environment and develop joint fire prevention plans and training programs to mitigate risks associated with the urban forest within the City;

   1.7 Actively lobby in support of Provincial legislation that provides a municipality with the option to mandate sprinklering as it deems necessary to manage fire risk effectively;

   1.8 Aggressively promote the life safety and protection of property benefits of residential sprinklers, including the demonstration of residential sprinkler technology in show homes;

   1.9 Develop and implement a detailed strategy and action plan designed to achieve the required legislative and regulatory changes and garner public and business support for sprinklering; and

   1.10 Investigate the development of fire limit areas where fire fighting facilities and protective wetting facilities are not available within 10 minutes of the alarm being received.

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[1] Response time guidelines will be reviewed periodically taking into account changes in technology and the environment, including alternate fire suppression methods such as sprinklering. In the future, other key strategies, such as prevention and the introduction of sprinklering, will be an important component of the risk management strategy. This clearly may affect the response time guidelines.

Comments

Response Times: The effective management of fire and medical emergency risk is a shared responsibility of the City, community agencies, the business community, and individual residents. An important component of an overall risk management strategy is prompt response to fire incidents and medical emergencies. The selection of a five-minute response time guideline is supported by a number of factors including:

- Research with respect to the rate of fire growth indicates that response time must be kept to five minutes in order to prevent unrestricted growth of the fire;
- Standards for Advanced Cardiac Life Support recommend that a heart attack patient receive CPR and oxygen within four minutes;
- Response time targets in the four to six minute range are fairly common for urban municipalities in Canada and the United States; and
- The majority of the participants in focus groups, and 88% of the residents surveyed felt that the City should spend the money necessary to ensure the current response guideline (five minutes) is maintained for all areas of the City.

Use of Sprinklers: There is compelling evidence that sprinkler systems save lives, reduce risks to fire-medics and limit property damage. In addition, the installation of sprinkler systems in residential subdivisions has the potential to reduce the infrastructure and operating costs associated with the management of fire risk.

Giving municipalities the legislative authority to implement mandatory sprinklering would facilitate the introduction of a phased approach to sprinklering beginning with higher risk structures such as group homes, nursing homes, and multi-family dwellings. Phased implementation combined with an aggressive public education program regarding the merits of sprinklering could help to set the stage for even broader public support for mandatory residential sprinklering in the future.

Prevention

2. The Emergency Services Department should increase its focus on prevention by:

   2.1 developing proactive strategies to mitigate risks associated with high-risk facilities including pre-plans, more frequent inspections, installation of sprinklers, and demolition of old vacant buildings.

   2.2 expanding the scope of its home inspection program to include information on the life safety aspects of residential sprinklers, automatic monitoring systems, and fire extinguishers, in addition to smoke detectors;

2.3 developing and implementing, in cooperation with Parks and Recreation, fire prevention and safety programs designed to limit the potential for a forest fire within the urban forest; and

2.4 promoting actively, the installation of supervised fire alarm systems within the community. The Department should also investigate integration of open access technology fire alarm reporting into their communication centre.

Comments

Inspections: Given the higher levels of risk associated with Risk Class 3 and 4 facilities, an increased focus on prevention through rigorous enforcement of the Codes is warranted. Clearly successful prevention of fires is by far the most cost effective and desirable approach to risk management. In-service engine crews could be utilized to conduct the recommended fire and safety inspections.

With respect to home inspections, the current program is focused primarily on ensuring that smoke detectors are operational and the use and maintenance of fire extinguishers. Utilizing the home inspection program to also promote the effective use of automatic alarm systems and residential sprinklers could be a very cost-effective way to educate residents regarding these important fire prevention options.

Urban Forest Protection: The City of Red Deer has a unique natural resource in its urban forest park. However, as noted in the risk assessment, this area is very vulnerable to fire as a result of the natural vegetation, difficulties associated with access for fire suppression equipment, and the lack of water to support fire suppression activities. Accordingly, fire prevention initiatives focused on protecting this area are strongly recommended.

Open Access Alarm Systems: Open access alarm systems improve response times since the Emergency Services Department provides the alarm monitoring service and thus gets the alarm earlier. This arrangement would not place the City in competition with local business since local alarm companies are currently purchasing their monitoring services from companies located out of Red Deer, some as far away as Cincinnati.

Public Education

3. The City should amend the Emergency Services By-law to include a strong focus on public education in the Department's mandate.

4. The Department should develop a comprehensive public education program designed to increase public knowledge and awareness relating to:

4.1 fire safety and risk reduction;

4.2 benefits of sprinklers;

4.3 handling and disposal of hazardous goods;

4.4 accident and injury prevention;

4.5 effective management of medical emergencies;

4.6 effective use of the 911 service; and

4.7 fire prevention in the urban forest.

Comments

The public consultation process identified strong community support for expanding public fire safety education; accident prevention programs; and education on the storage, handling, and disposal of hazardous wastes.

Investment in public safety education programming has great potential to reduce fire risk and accidental injury. Fire safety programs could be targeted to meet the needs of selected segments of the community, including those groups that are most vulnerable. Educational programs focused on accident and injury prevention and effective management of medical emergencies could include components such as:

- partnerships with the RCMP and other community organizations to support their public safety education efforts;
- accident prevention programs for seniors and residents of group homes;
- information on when to call an ambulance, what information is required by the dispatcher, and what to do until the ambulance arrives;
- first aid and CPR training; and
- consultation and advice to companies in developing first aid response plans.

Public education programs should be coordinated with other injury prevention and safe community initiatives. Partnerships and joint initiatives could be undertaken with other community organizations such as the David Thompson Health Authority, St. John's Ambulance, and service clubs. Some of the programs could be delivered on a full cost recovery basis.

Disaster Planning

5. With respect to disaster planning the City should:

   5.1 ensure resources and administrative accountabilities are in place to manage disaster plan development, training, exercises, and municipal and industrial liaison;

   5.2 review the Emergency Plan for local peace time emergencies and address the deficiencies identified to ensure it meets legislative requirements and is effectively integrated with the plans of other agencies;

   5.3 conduct annual exercises of one component of the plan on a regular basis and more comprehensive exercises every three to five years;

   5.4 in partnership with the David Thompson Health Region, take the initiative in regional planning for mass casualties as part of its disaster planning process;

   5.5 review the budget for disaster planning and ensure that disaster planning services have adequate resources to deliver the required services; and

   5.6 initiate discussions with the municipalities around Red Deer to determine their level of interest in participating, coordinating and contributing to the funding of regional disaster planning activities.

Comments

Disaster planning was found to be the greatest area of weakness within the emergency services mandate. The City's emergency plan is not comprehensive nor does it address all of the requirements of the Act. It does not integrate emergency plans from major institutions, industry or other municipalities in the region. No tabletop or field exercises have been conducted since 1988; and resources allocated for disaster planning are inadequate. While administrative responsibility for disaster planning has been assigned, no budget has been provided and a block of administrative time to manage the function has not been established.

Representatives of the fire departments of surrounding municipalities expressed some interest in regional disaster planning and funding. As well, the province has funds available for regional programs and major industry could be approached to contribute to the costs.

Service Delivery Structures

6. Regional Cooperation and Mutual Aid: With respect to regional cooperation and mutual aid, it is recommended that the City:

6.1 assess the costs and benefits of delivering additional emergency services on a regional basis;

6.2 strengthen inter-municipal aid agreements through ongoing joint planning meetings and inter-agency training sessions;

6.3 encourage the coordination of training of personnel and the standardization of response protocols for all fire departments within the mutual aid plan with the objective of producing an effective fire-medic fighting force with a uniform core of skills and knowledge; and

6.4 examine the feasibility of developing hazardous materials response agreements to provide emergency service to surrounding municipalities.

Comments

Expanded Regional Services: The City of Red Deer has developed and marketed a regional 911 service. Municipalities in the region expressed some interest in other services including fire training, inspections, special hazardous material response teams, training for emergency medical responders, and disaster planning.

Coordinated Training: All personnel should receive sufficient training to ensure compatible operations. Operational methods should be as uniform as practical. The new training facility should greatly facilitate inter-agency and inter-municipality training sessions.

Hazardous Materials Response: The hazardous materials response agreements should outline authorization to respond, the scope of the response, staffing and equipment, designation of incident commander, cost of service, and legal liability.

7. Auxiliaries and Volunteers: With respect to the use of auxiliaries and volunteers, the Department should:

7.1 utilize auxiliaries and volunteers only in a support capacity for the delivery of emergency services; and

7.2 develop a volunteer program focusing on public fire safety education. (Depending upon their interest and skill levels, the volunteers could either directly deliver educational programs or assist on-duty officers.)

Comments

Members of the public, fire-medics, and emergency room physicians expressed a preference for using volunteers or auxiliaries in support roles provided this did not have a negative impact on the quality and timeliness of service. Among the advantages noted with respect to the use of

volunteers were the availability of a larger pool of responders for emergencies, more trained resources in the event of a disaster, the potential to reduce costs, and increased community involvement and ownership in the delivery of emergency services.

There was general agreement that auxiliaries and volunteers could make a major contribution in a number of areas including public education programs, search and rescue operations, emergency preparedness and disaster planning. The volunteer program could initially focus on public education, and depending upon the success of the public education initiative, the program could expand to include providing support services at fire incidents. The use of volunteers would also have spin-off benefits in terms of community relations.

Some concerns were raised about using volunteers in place of a career force including the negative impact on response times, high turn-over rates of volunteers, the complexity of the skills required as a result of the dual role, training demands and costs, labor relations issues, and increased liability exposure. Utilizing City staff from other departments as auxiliaries to back up the Emergency Services Department was also seen as problematic for many of the same reasons.

8. Community-based Service Delivery: The Department should adopt a community-based, customer-focused approach to the delivery of emergency services. To achieve this the City should:

8.1 Enhance relationships with the community by:

8.1.1 ensuring the public understands the mission and service mandate of the Emergency Services Department as well as the public's shared responsibility for risk management;

8.1.2 establishing effective mechanisms to seek community input on risk management, service needs and satisfaction with services provided;

8.1.3 developing strong relationships with local communications media and effectively utilizing communications media to support community relations and public education initiatives; and

8.1.4 maintaining effective liaison with various community groups, such as the Red Deer Chamber of Commerce, Parent Advisory Councils, senior citizens' organizations, youth groups neighborhood associations, and multi-cultural groups.

8.2 Experiment with the use of fire districts to enhance the focus on the community and improve accountability.

Enhanced Community Relations: The public must be informed with respect to the services and programs that comprise the Department's current service mandate, and have opportunities to provide input on service priorities and satisfaction with services provided. A variety of channels for obtaining community input can be utilized including a complaint monitoring system, surveys, focus groups, and public forums.

Newspapers, newsletters, public service announcements on TV and radio, videos, exhibits and demonstrations, vehicle advertising, billboards, and speakers' bureaus can be used in the community relations program. Feature articles could be provided to local newspapers; radio and TV stations could be encouraged to report the weather from one of the fire stations; and tours and demonstrations could be provided for the media.

Fire Districts: The assignment of Engine Companies to specific fire districts would align the service more closely with the community, improve accountability and increase productivity. The Engine Company would be responsible for risk assessment and pre-fire plans in the fire district. As well, on-duty officers would conduct apartment and business inspections and provide public education within the fire district. This option is complicated to some extent by the fact that fire-medics currently rotate through the various stations to ensure familiarity with equipment at all locations. Utilizing a fire district structure would require alternate mechanisms to ensure that fire-medics are familiar with specialized equipment located only at specific stations.

9. Administrative/operational Enhancements: In addition to the policy level recommendations detailed above a number of recommendations relating to operations were made. These are detailed on pages 146-152 of the report.

BENEFITS AND INCREMENTAL COSTS

Benefits

The strategic priorities and the related recommendations offer significant benefits to the citizens, the City, the Emergency Services Department and the fire-medics. Some of the more notable benefits include:

- Current fire and ambulance response time targets will be maintained. This is consistent with the strong public support noted for maintaining current service levels in this area.

- Increased emphasis on inspections and fire prevention should have a positive impact on the safety of citizens and fire-medics as a result of the reduction in the number of fires.

- Substantial enhancements will occur in the area of public fire safety education.

- Increased public awareness of the life safety and property loss prevention benefits of sprinklering should result in increased use of this technology in the future as part of the City's overall fire risk management strategy.

- Increased emphasis on accident and injury prevention programs should contribute to a reduction in the number of medical emergencies as well as improve the general quality of life for citizens.

- The level of readiness of the City and other key stakeholders to respond effectively to major incidents or disasters will increase.

- The City, individual citizens, businesses, industries, institutions within the community, and surrounding municipalities will be encouraged to work as partners with joint responsibilities for the development and implementation of effective emergency risk management strategies.

- Increased resources to handle emergency incidents will be available as a result of the additional station, additional staff, and an expanded volunteer program.

- The Department will have increased capacity to handle ambulance calls. (e.g., There were 68 times in 1996 when three ambulances were out on a call. In 1997, there were 118 times).

- Administration will ensure that the staffing structure is designed to cover the varied responsibilities of the Department.

- Significant economic benefits should be realized including:

  - reductions in the number of fires and property loss as a result of effective fire prevention and public education programs;

  - reductions in overtime as a result of increased flexibility created by additional response capacity and alternate staffing arrangements;

  - increased levels of productivity as a result of more effective utilization of unassigned time to support increased prevention, inspection and public education activities, and refinements to the organization structure;

  - effective use of volunteers to support public education and injury prevention activities; and

  - reduced injuries and illness for fire-medics.

Incremental Costs

It is anticipated that a substantial number of the recommendations can be implemented by re-allocating current departmental resources or making more effective use of unassigned time. Recommendations that will likely require additional resources to implement were identified and preliminary estimates of associated costs were discussed as part of the commentary with the recommendation.

The largest component of both onetime and ongoing operating costs relates to building, equipping and staffing Station #4, estimated at $1,100,000 and $1,000,000 respectively. These estimates are based upon the current model used in the existing three stations. There are also very significant cost implications associated with the purchase of quints, the enhancement of Disaster Planning Services, and the purchase of computer and communications equipment. Exhibit 13 on Pages 155-156 summarizes these estimated incremental costs.

CHAPTER 1: BACKGROUND, OBJECTIVES AND METHODOLOGY

Background

The Municipal Government Act empowers municipalities in Alberta to pass by-laws to ensure protection of property and the health, safety, and welfare of people. The Act grants municipalities jurisdiction for the provision of ambulance services within their geographic boundaries and provides the option for a municipality to operate a fire department, subject to the provision of established minimum levels of service.

The City of Red Deer has exercised these options through the adoption of an Emergency Services By-law which sets the scope and authority under which the Emergency Services Department operates. The Department provides integrated fire and ambulance services and has a broad mandate, which includes:

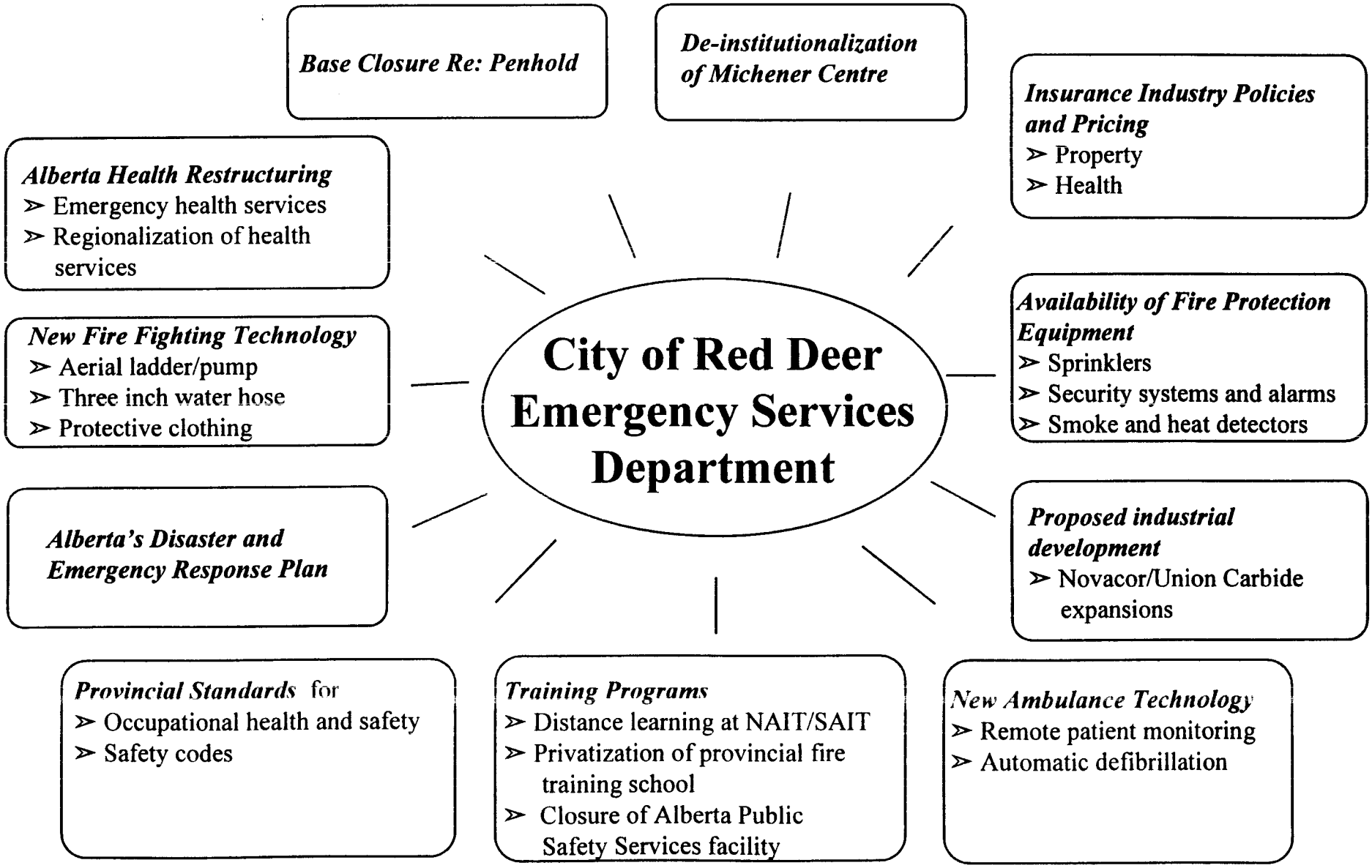
- fire suppression and investigation of fire incidents;
- basic and advanced life support ambulance services;
- specialized rescue services;
- first response to hazardous materials incidents;
- building inspections to ensure conformity to building and fire codes;
- 911 call answer and dispatch services for emergency and police services;
- public education aimed at preventing fires and accidents; and
- disaster planning for the City of Red Deer.

While the City has major responsibilities for the provision of emergency services, the service delivery model and plan must reflect the fact that emergency services are delivered in cooperation and partnership with citizens, the business community, community organizations, institutions and other municipalities. *Since effective risk management is a shared responsibility, the public and other stakeholders along with the City must play a key role.*

In addition, emergency services planning must take into account developments and trends that impact the environment within which the Emergency Services Department operates. Among the more significant of these developments and trends are the:

- regionalization of health care services;
- new industrial developments in the Red Deer region;

EXHIBIT 1
BUSINESS ENVIRONMENT



- privatization of the Alberta Fire Training School and closure of Alberta Public Safety Services training facility;
- financial pressures as a result of reductions in provincial grants;
- new sub-division development in response to population growth resulting in pressure to develop new fire station(s);
- availability of new technology for fire prevention and suppression including residential sprinklers and alarm systems;
- de-institutionalization of Michener Centre and the move to community-based services for the mentally handicapped;
- new health care technology including remote patient monitoring systems and automatic defribulators; and
- legislative changes including revisions to the Safety Codes Act.

Exhibit 1 on the opposite page depicts some of the more significant developments affecting the business environment within which the Emergency Services Department operates.

Project Scope and Objectives

The City determined that there was a need to develop a "Master Plan" to guide the management and delivery of emergency services for the next decade. Accordingly, a master planning process was initiated, the primary objectives of which were to:

- review current Emergency Services operations;
- consult extensively with the public with respect to satisfaction with current services, response time, use of auxiliary staff, and mandatory sprinklering in new residential development;
- review models of service delivery for fire prevention and suppression, emergency medical services, rescue, hazardous materials response, disaster planning, and 911 in other selected communities;
- establish the need for, characteristics, and timing of future emergency response stations; and
- develop a long-range Emergency Services Master Plan including recommended service mandate; service delivery model; standards; new station(s), equipment,

staffing and training requirements; potential new technology applications; and cost estimates.

Fundamental Principles

To guide the development of the master plan the following fundamental principles were established.

- The effective management of fire and medical emergency risk is a shared responsibility of individuals, the business community, industry and the City.
- The Emergency Services Master Plan is an operational planning document and should be viewed as a risk management strategy – not a legislated requirement or right.
- High priority should be placed upon savings lives and protecting property while minimizing risks to Emergency Services personnel.
- High priority should be placed upon reducing the number of fire and medical emergencies through prevention and public education initiatives.
- Service levels and standards should be set taking into account competing priorities and availability of resources.
- Substantial opportunities should be provided for the public to have input into the development of the Emergency Services Master Plan.
- The Emergency Services Master Plan should be reviewed regularly and updated to reflect opportunities and challenges created by the changing emergency service environment.

Methodology

The development of the Master Plan was a joint effort that involved two external consulting firms and internal resources from the City of Red Deer. An independent survey firm was responsible for conducting the public telephone survey. Internal resources from the City of Red Deer conducted research in the areas of technology, fire-medic training, and response time models. The master plan consultant was responsible for the remaining components of the plan as well as overall development of the Master Plan document.

Overall direction to the project was provided by a Project Steering Committee comprising a cross-section of elected officials, City of Red Deer Emergency Services staff, and representatives of the public. The Steering Committee was actively involved in reviewing research results throughout the study and discussing and shaping the final recommendations. Numerous Steering Committee meetings were held.

- An initial meeting was held in November, 1996, to review the detailed work plan for the project and to obtain the Steering Committee's input on the interview program.

- Several progress meetings were held to review the public questionnaire, to select municipalities for benchmarking, to review the number and composition of the focus groups, and to plan for the public forum.

- A presentation on preliminary findings from the internal review and visits to the other municipalities was made in April, 1997.

- Several meetings were held to review and discuss the draft report and recommend modifications or enhancements;

- Two meetings were held in the fall, 1997, to review and discuss the study recommendations.

- Modifications required as a result of these meetings were incorporated into the final report for presentation to Council.

A number of data collection methodologies were utilized in developing the Master Plan. These included:

- a comprehensive telephone survey of residents conducted by an independent survey firm;

- a review of background documents with respect to the Emergency Services Department;

- interviews with internal stakeholders including the Emergency Services Department and other departments in The City of Red Deer;

- on-site inspections of stations and equipment;

- interviews with external stakeholders in the Red Deer region including Michener Centre, the RCMP, the David Thompson Regional Health Authority, major industry representatives, utilities, local provincial representatives, and the County of Red Deer;

- a review of the legislation and statutes affecting the operation of the Emergency Services Department;

- interviews with provincial officials with respect to the regulatory and policy framework, including officials from Alberta Labor, Alberta Health, the Workmen's

Compensation Board, Alberta Transportation and Utilities, and the Alberta Energy and Utilities Board;

- interviews with educators and professional associations including NAIT, the Alberta Fire Training School, and Alberta Pre-Hospital Association;

- visits to six other municipalities review key policy directions and document innovative approaches to emergency services delivery that may be applicable in Red Deer;

- completion of a fire risk analysis of The City of Red Deer to support the fire location model and study;

- a review of developments in technology with applications to fire prevention, fire suppression, and emergency medical services;

- focus group sessions to obtain input from stakeholders including residents, small business, institutions, large industry, the Residential Sprinkler Task Force Committee, regional municipalities, and Emergency Services management; and

- a public forum to provide an additional vehicle for input from interested citizens or groups at large.

The bibliography and list of interviewees are found in Appendices A and B, respectively.

Organization of the Report

The report is organized into ten chapters as follows:

- Chapter 1 provides the background to the study, outlines the scope and objectives of the project, and reviews the approach taken to completing the master plan document.

- Chapter 2 reviews the external regulatory and policy environment impacting emergency services delivery and outlines the training and certification requirements for emergency services personnel.

- Chapter 3 details technological changes and developments that have implications for emergency services delivery.

- Chapter 4 for summarizes the key findings of the risk assessment conducted as part of the master plan development process and discusses emergency response time standards and capabilities.

- Chapter 5 reviews key internal and external relationships impacting the delivery of emergency services within the City of Red Deer.

- Chapter 6 reviews the major emergency services programs offered and identifies areas of strength as well as areas where effectiveness could be improved.

- Chapter 7 reviews the effectiveness of current management and control systems utilized by the Emergency Services Department.

- Chapter 8 reports the results of the extensive public consultation process undertaken to support the development of the Master Plan.

- Chapter 9 documents the findings of the survey of selected municipalities with respect to key policy directions, services provided, service delivery mechanisms, and management practices.

- Chapter 10 details the recommendations of the master plan including major policy directions as well as specific recommendations relating to administrative or operational issues.

CHAPTER 2: EXTERNAL REGULATORY AND POLICY ENVIRONMENT

Chapter Organization

This chapter outlines the key Alberta Government statutes and policies that govern or impact the provision of emergency services in the Province. In addition, training and certification requirements and standards for emergency service professionals are reviewed; and some of the major developments and trends in the external regulatory and policy environment are discussed.

Legislation and Policy Regulating Fire Services

The Municipal Government Act, the Safety Codes Act, and Provincial Building and Fire Codes are the primary statutes that regulate the provision of fire services in Alberta.

The Municipal Government Act

The Municipal Government Act empowers municipalities to pass by-laws to ensure the protection of property; and the health, safety, and welfare of people. It also provides the option for a municipality to operate a fire department, subject to providing minimum levels of protection; e.g., if response times exceed ten minutes, increased spacing between dwellings and the use of fire resistant construction materials is required to reduce risk.

The Safety Codes Act

The Safety Codes Act consolidates Provincial Government Safety Regulations relating to fire protection, buildings, electrical systems, elevating devices, gas systems, plumbing, private disposal systems, and pressure equipment. The Act provides flexibility as to how to carry out the enforcement of Codes. Options include maintaining an in-house inspection capability, developing regional services with neighboring municipalities, or contracting with an accredited agency.

Municipalities and corporations can be accredited to carry out inspections or investigations under this Act within the municipality or on behalf of other organizations, and may charge fees for the service. To receive accreditation, municipalities, corporations, and agencies must develop and submit quality management plans, and their inspectors/investigators must be certified as Safety Codes Officers.

The Alberta Building Code

The Alberta Building Code sets out the minimum standards for public health, fire safety, and structural safety, including building design and occupancy standards. The Alberta Building

Code, which was based upon the National Building Code of Canada, is currently under review with a new Code scheduled for adoption by September 1997.

The Alberta Fire Code

The Alberta Fire Code establishes standards for fire prevention, fire fighting, and life safety in existing buildings and within the community at large. It establishes standards for the prevention, containment, and fighting of fires originating outside of buildings; and sets standards for the safe storage and handling of dangerous goods and flammable and combustible liquids. Life safety is the primary objective of the Code, with protection of property being a secondary objective.

Enforcement of Building and Fire Codes

Developers and building owners cannot be required by municipalities to exceed the Provincial Codes; however, developers can enter into voluntary agreements that are more stringent. This has occurred in a few new subdivisions in Strathcona County, Medicine Hat, and Lethbridge.

The Minister of Labor can exempt a municipality from any or all provisions of the Act, or impose conditions under which exemptions may be granted. While exemptions to the Codes have been granted in the past, to date, Ministerial exemptions have not been used to mandate residential sprinklers.

The Province employs a Provincial Fire Commissioner who has responsibility for enforcement of fire discipline under the Safety Codes Act and the compilation of Provincial fire statistics. Municipalities with a fire department are required to report to the Provincial Fire Commissioner regarding fire incidents, fire related crimes, fire casualties, fire incidents involving mobile homes and recreational vehicles, and smoke detection/alarms.

Legislation and Policy Regulating Emergency Medical Services

The Municipal Government Act, the Ambulance Services Act, and the Health Disciplines Act are the primary statutes that regulate emergency medical services in Alberta.

The Municipal Government Act

The Municipal Government Act grants municipalities jurisdiction for the provision of ambulance services within their geographic boundaries. The municipality can establish the level of care, set service boundaries, and provide for the funding of the ambulance service through an ambulance service tax. It may provide the ambulance service directly, or enter into a contract with one or more external service providers.

The Ambulance Services Act

The Ambulance Services Act sets out three levels of service including emergency medical response, basic life support, and advanced life support. Minimum standards for staffing, vehicles, equipment, patient care, and reporting are specified for each of the three levels. Regulations under the Act also provide for patient confidentiality, licensing of ambulance operators, maintenance programs, and semi-annual vehicle inspections. The Medical Director is responsible for providing advice with respect to service levels, giving medical direction for dispatch systems, establishing field protocols, and conducting medical audits of the ambulance service. The Ambulance Advisory and Appeal Board handle appeals under the Act.

The Health Disciplines Act

Emergency medical personnel are designated as health disciplines under the Health Disciplines Act and can only provide services under the control of the Medical Director. Emergency medical technicians are established as a self-regulating profession. They are governed by specific regulations that set out requirements for registration, health services that may be provided, and conditions for annual renewal of registration.

Other Legislation Impacting Emergency Services

In addition to those statutes and regulation noted above, a number of other pieces of legislation impact the operating environment for Emergency Services in Alberta. These are detailed below.

The Employment Standards Act

The Employment Standards Act, which sets out minimum employment standards in Alberta, contains provisions that affect fire fighters. The most significant provisions include: a maximum work week of 44 hours before overtime is paid; 24 hour notice requirements before making shift changes; and the requirement to provide sleeping accommodation if the maximum number of hours worked per day exceed 12.

The Occupational Health and Safety Act

The Occupational Health and Safety Act sets out employers' responsibilities with respect to health and safety. Regulations under the Act address such issues as general safety, including use of protective equipment when entering hazardous environments; first aid; chemical hazards; ventilation; and noise levels.

The First Aid Regulation has been revised recently. This regulation stipulates the number of personnel who should have first aid training, recommends what first aid equipment and supplies should be available, and requires each employer to develop a first aid response plan based upon an assessment of need.

Alberta Labor is developing a post-exposure protocol to deal with exposure to communicable diseases. The protocol will require a designated officer in each ambulance service to report exposure to communicable diseases, including needle pricks. Appropriate procedures for follow up in the event of exposure to communicable disease from needle pricks will be required.

The Labor Relations Act

The Labor Relations Act defines fire fighters as employees, including officers and technicians employed by municipalities and assigned exclusively to fire prevention duties. Under the Act, all fire fighters are in one bargaining unit; strikes and lockouts are prohibited; and disputes over collective agreements are subject to compulsory interest arbitration. Changes have been made to the Labor Relations Act that allow municipalities to apply to the Board to designate additional jobs as management or out of scope positions.

The Insurance Act/Highway Traffic Act

The Insurance Act/Highway Traffic Act requires carriers and motor vehicle operators to carry public liability, property damage, and accident coverage. If an accident occurs on a numbered provincial highway, the Province will pay the standard rates and collect the costs incurred responding to the motor vehicle accident from the insurance company. The RCMP request emergency support when it is required; however, if the municipality sends out more vehicles than necessary, the province will not pay for them. In these circumstances, municipalities have the option of trying to collect directly from the insurance companies.

The Alberta Transportation and Dangerous Goods Control Act

The Alberta Transportation and Dangerous Goods Control Act authorizes a municipality to make by-laws which designate routes and time of travel for vehicles transporting dangerous goods. The Act also grants municipalities the power to prohibit the transport of dangerous goods on specified highways within the municipality.

The Public Safety Services Act

The Public Safety Services Act and its regulations set out responsibilities and powers in the event of a disaster, major incident, or emergency. A disaster under the Act is defined as a calamity caused by accident, war or insurrection, or forces of nature that could cause harm to people and damage their property. Each municipality is responsible for the preparation and implementation of disaster plans, and is required to establish a Municipal Disaster Services Agency and appoint a director. The City Council must approve disaster plans for the municipality, which are then reviewed and approved by the Minister for Transportation and Utilities.

If a state of emergency is declared, the Minister has to authorize the municipality to put its disaster plan into action. The Provincial Government may provide assistance to coordinate plan implementation during a local disaster; or if the disaster is regional in scope, the Provincial Disaster and Emergency Programs Branch may direct operations. The Minister has broad powers to acquire resources in the event of a disaster and has the sole responsibility for requesting support from the Federal Government, including the army.

Training and Certification Standards for Fire Fighters

National Fire Protection Association Standards

The National Fire Protection Association (NFPA) has established standards for fire fighters. Upon successful completion of the NFPA courses, candidates receive certification through the International Fire Service Accreditation Congress or the National Board on Fire Service Professional Qualifications. The basic fire fighter professional qualification (NFPA 1001) has six levels focusing on fire fighting, prevention, and specialized training. The fire fighting courses focus on forcible entry and basic rescue, ventilation, handling of equipment and hose, apparatus operations, and salvage. The fire prevention courses cover inspections, drills, and fire statistics. Specialized training in dangerous goods response and control, vehicle extrication, and trench rescue is also provided. Other NFPA standards and qualifications include:

- NFPA 1002 Fire Apparatus Drive Operator (pump, aerial apparatus, defensive driving);
- NFPA 1021 Fire Officer Professional Qualifications;
- NFPA 1035 Public Fire Educator;
- NFPA 1041 Fire Service Instructor; and
- Safety Codes Officer qualifications including general level 1, inspectors, and investigators.

Alberta Fire Training School

Alberta Labor established the Alberta Fire Training School in 1959 to provide fire fighting training to career and volunteer municipal and industrial fire fighting personnel. The first permanent facility opened in Vermillion in 1969, with additional facilities added in 1989 and 1993. In 1997, responsibility for the operation of the school was transferred from Alberta Labor to Lakeland Collage.

The Alberta Fire Training School is a modern state-of-the-art training facility located on a 50-acre site. Its facilities include:

- a modern fire station with a 10 apparatus bays, hose drying tower, and a mud room;
- three and seven story burn towers used to simulate apartment, house, and commercial fires;
- classrooms, laboratories, a theatre, and training props;
- training facilities for dangerous goods and dry chemicals; and
- multi-media command simulation.

Training Programs

The Alberta Fire Training School (AFTS) provides training courses that meet the National Fire Protection Association Standards (NFPA) and are accredited by the International Fire Service Accreditation Congress. Training is provided for fire fighters, officers, inspectors, investigators, public fire educators, and training officers. The courses for fire inspectors and fire investigators meet the requirements of the Alberta Safety Codes Act for the Fire Discipline. Courses can be credited toward a certificate in public administration or a B.Sc. in fire protection engineering technology from Athabasca University and the University of Cincinnati, respectively. The School has offered pre-employment training programs since April 1996; and Lakeland College is exploring the feasibility of establishing a certificate or diploma program in fire science.

The fire school teaches 40 different courses. The programs are delivered on-site to about 3,000 students annually. The school has a limitation of two candidates from the same department in each course in a given week. Another 3,000 students are taught Alberta Fire Training School courses on a regional basis using portable facilities. The fire fighting courses are generally offered in the summer, while the leadership courses are put on in the winter.

About 75% of the training spaces have been reserved for municipal fire departments. Except for Calgary and Edmonton, who have their own training facilities, most of the municipalities in the province use the Alberta Fire Training School. Some mid-size cities are making use of the facility for practical training for Level 6 fire fighters. As well, industry makes use of the facility and the School has some overseas contracts.

Other Fire Fighter Training Programs

In addition to the Alberta Fire Training School, the Province has a training facility at Hinton for forest fire fighters. The school plans to offer a joint certificate for forest fire and urban fire fighting.

There are also a number of fire fighter training programs in other provinces including:

- a program leading to NFPA certification offered at the Justice Institute in British Columbia;
- a degree program in fire science at UBC; and
- a combined fire fighting and EMT-A program offered at Manitoba Emergency Services College in Manitoba.

In addition, Manitoba is developing programs similar to those in Alberta with construction nearing completion on their practical training grounds.

Provincial Funding Support for Fire Fighter Training

Historically, the Alberta Government has paid for a large share of the training costs including subsidized tuition, travel, meals, and accommodation. However, travel is no longer subsidized; subsides for accommodation and meals are being eliminated; and the school has been directed to recover 100% of its costs of operation by 1998. These changes will impact municipalities significantly since in the past they paid only 30% to 40% of the tuition costs for their employees.

The City of Red Deer is building a local facility to train its fire-medics. However, the Emergency Services Department still wants to meet AFTS standards and will continue to utilize the training facility for some specialized training. Enhancing the local facility to accommodate specialized training is another option that could be considered in the future to reduce reliance on the AFTS.

Certification and Training Requirements for Emergency Medical Personnel

Certification of Emergency Medical Personnel

Three levels of emergency health care workers are trained in Alberta and licensed by the Alberta Pre-hospital Professions Association (APPA) - namely, Emergency Medical Responders (EMRs), Emergency Medical Technicians -- Ambulance (EMT-As), and Emergency Medical Technologists -- Paramedics (EMT–Ps. The Alberta Pre-hospital Professions Association has over 3,000 members comprising 1091 EMRS, 1691 EMT-As, and 620 EMT-Ps.

Under the proposed Alberta Professions Act, the Association is required to ensure that members maintain their competence. Currently, the Association does not measure or report on competency unless there is a complaint, a legal suit, or a concern by the Medical Director. The Association may examine what specialized skills are required for the various classifications, and assess patient care reports to determine how often individuals are using these skills. Random audits may also be used to test member competency.

To maintain their certification, EMT-As and EMT-Ps must have completed a minimum of 480 hours of patient care and training in the previous two years. In addition, they must complete 60 credits of continuing education per year. Since many of the EMT-As and EMT-Ps are working in fire suppression as well as emergency medical services, the Alberta Pre-hospital Professions Association is proposing to reduce the patient care and training requirement from 480 hours to 200 hours.

Training Programs

Training programs for emergency medical personnel fit into three categories as follows:

- *Emergency Medical Responders*: Both NAIT and SAIT train Emergency Medical Responders. The program is about 75 hours in length. The prerequisites for the program are first aid, CPR, and a 4th class driver's license. Most of the graduates work for rural ambulance services or as fire-medics, police officers, or sports therapists. Approximately one third of the EMRs province-wide are volunteers, and attrition rates are high – in excess of 40%.

- *Emergency Medical Technicians:* Emergency Medical Technicians - Ambulance (EMT-A) are trained at both SAIT and the Alberta Vocational College at Lac la Biche. SAIT offers a computer-based training program that has to be completed in a year. Lac La Biche has a four-month, full-time program with practicums. The program includes a four-week ambulance practicum and a one-week hospital practicum.

- *Emergency Medical Technologists:* The training program for Emergency Medical Technologists - Paramedic is a two-year program offered at both NAIT and SAIT. Since the first year of the program is a review of the EMT-A program, consideration is being given to streamlining the EMT-P program to reduce the additional training requirement for EMT-As to only one additional year. Preference is given to applicants for the EMT-P program who have resided in Alberta for 12 months, are registered as an EMT-A, and have one year of field experience. Both NAIT and SAIT are moving to computer-based learning and self-study programs.

Some cities, including Edmonton, Calgary, and Medicine Hat, have a part-time casual pool of EMT-As and EMT-Ps who are called in when the call volumes are high. The establishment of a casual pool has created some labor/management problems in these cities.

Other Developments and Findings Impacting the Regulatory Environment

In addition to the legislation and regulations detailed in the preceding sections of this chapter, there are a number of other developments that have the potential to impact the operating

environment for emergency services departments. The most significant of these are detailed below.

Recommendations of the Joint Task Group on Residential Sprinkling

The Associate Committee on the National Building Code of the National Research Council, established a joint task force to examine the costs and benefits of mandatory residential sprinklers. The Task Group concluded that the number of lives saved and the reduction in injuries and property damage did not justify the expenditure, except for residences for people with special needs such as mental or physical handicaps. Alternatives identified as having greater benefits relative to costs included: the installation of hard wired smoke detectors; the use of fire retardant framing, sheathing and paints; and the installation and proper maintenance of fire extinguishers.

The Task Group did identify potential benefits of sprinkling from savings as a result of reduced need for fire fighting resources and reduced demand for water. They supported public education and promotion of the use of sprinklers and concluded that sprinklers would be of benefit to residents living over 7.5 kilometers from the nearest fire hall. It was also noted that, if residential sprinkling were mandated, retrofits on existing homes had the greatest potential to save lives and reduce property damage, since the majority of residential fires occur in older rather than newer homes.

In completing their analysis, the Joint Task Group estimated costs per residence associated with residential sprinkling as follows: system installation - $1500 to $3000; increased city water main capacity requirements - $730 to $1214; annual maintenance costs - $70; and other associated costs - $750. The analysis placed monetary values for a life saved and an injury prevented at $1,000,000 and $60,000 respectively. Changes in technology that reduce costs would obviously have an impact on the findings.

Movement to Performance-based Codes

Building codes are in transition. Over the next five to ten years, a movement away from prescriptive codes to performance-based codes is anticipated. Improved understanding and a greater assurance of a specified level of safety are the considerations that underlie the move toward performance-based codes. Performance codes make the code's intent explicit in the form of goals and objectives, along with performance criteria by which achievement of the objectives can be verified.

How the objectives are met is left to the designer. This provides design flexibility with a common understanding of what should or should not happen. Current prescriptive codes have built-in redundancy to compensate for imperfect reliability. With performance-based codes, unnecessary redundancy should be eliminated, providing the designer can demonstrate that the proposed design satisfies the code's intent.

In a performance code, the expected performance is specified both as to what is to be accomplished and to what level, and the methods by which performance is to be measured are listed. Performance-based codes generally follow a five-part format, beginning with a goal statement for each chapter or section to clearly establish the intent. For example, the section on means of egress might begin "The goal of this section is to safeguard people from unreasonable risk of death or injury from fire while escaping to a safe place and to facilitate fire department operations".

There are specific objectives that describe the functions that need to be assured to achieve this goal. One such functional objective might be: "Buildings shall be provided with protected escape routes which ensure that adequate time is provided for occupants to escape without exposure to levels of smoke or temperatures which might cause injury or death".

Performance criteria are set out to judge compliance with the objectives. Performance criteria for this section might be: "Conditions at any occupied location within an escape route shall not exceed 93 degrees Celsius at eye level (i.e., 1.6m above floor level), a ceiling temperature of 260 degrees Celsius, or a carbon monoxide concentration of 0.15% by volume".

These sections constitute the mandatory portions of the performance code and are followed by two sections of advisory material. The first of these is verification methods, which cite test methods or calculations that can be used to verify that the performance criteria are met. In this example, the code might site BFRL's FASTlite or HAZARD I computer models as means to predict values for the limiting conditions.

Acceptable solutions represent "deemed to satisfy" approaches and generally include the prescriptive approaches from the prior codes. The provisions for escape routes would address specified widths, fire-resistant separations, travel distances and markings consistent with acceptable practice would be found.

The movement toward prescriptive performance-based codes will make it difficult for traditional inspectors to assess building design with respect to functional requirements. The skills sets required may result in having to use engineers to evaluate building designs and conformance with fire code objectives.

Provincial Support for Ambulance Services

Alberta does not have an integrated provincial ambulance system; however, the Province funds the air ambulance system, in-patient transfer, and outpatient services for seniors and families on social assistance.

- *Air Ambulance:* The Province contracts with private carriers to provide air ambulance services, at an annual cost of $4 million. Physicians can request the services of an air ambulance from dispatch centers in southern or northern

Alberta. The City of Red Deer does not generally use fixed wing aircraft for transporting patients as patient transfer by ground ambulance to Edmonton or Calgary is just as fast. However, STARS ambulance, which uses rotary wing, is sometimes used for medical emergencies.

- *In-patient Transfers:* Regional health authorities are provided with funding to cover costs for in-patient transfers within their respective regions. In 1995, there were approximately 58,000 in-patient transfers completed within the Province, at a cost of $15 million. Some of the regional authorities have contracted out in-patient transfers to private carriers or municipal emergency services departments.

- *Pre-hospital Services:* In 1995, approximately 117,000 ambulance trips were made at a total cost of $30 million. Currently, 110 agencies operate ambulance services in 141 locations in the Province under the Ambulance Services Act. These ambulance services include: 32 privately owned companies; 16 not-for-profit service providers; and 62 municipally owned services, including 21 hospital-based and 17 joint fire and ambulance operations. The Federal Government contributes about $10 million annually to cover the costs of ambulance services for First Nation's people.

- *Funding Pre-hospital and Outpatient Transfers:* There are no specific grants for municipal ambulance services providing pre-hospital or outpatient transfers. However, the Provincial Government currently provides about $100 million in unconditional grants to municipalities. About $15 million is considered to be support for the provision of ambulance services. As well, Alberta Health pays for ambulance services for seniors, while Alberta Family and Community Services is responsible for individuals on social assistance and the mentally and physically disabled. Seniors benefits are provided by Alberta Blue Cross at an estimated cost of $8 million.

Recommendations of the Ground Ambulance Task Force

The Alberta Government appointed a Ground Ambulance Task Force to study the feasibility of a provincial ambulance system. To date, no decisions have been made with respect to the recommendations put forward by the Task Force.

The Ground Ambulance Task Force examined alternate approaches to delivering ambulance services and recommended that 17 regional ambulance committees be established. The roles of the committees would vary depending upon the type of municipalities operating within the region. Specifically, two categories of municipalities would be established:

- Group A municipalities would continue to be responsible for operating ground ambulance services with the Regional Ambulance Advisory Committee for the

region primarily providing advice and coordination between municipalities and the RHAs; and

- Group B municipalities would have Regional Ambulance Service Committees established with direct responsibility for governance and delivery of ground ambulance services.

Municipalities, such as Red Deer, providing advanced life support and responding to 1,200 calls per year, would fall into the "A" category and would continue to operate ground ambulance services. The Regional Ambulance Service Committee would coordinate services between municipalities in the region, the RHAs, and other regions. The Province would provide conditional grants to cover the cost of basic life support systems.

While this option has some advantages, it could adversely affect municipalities that have made a significant investment in the infrastructure associated with providing medical emergency services, some of which is financed by municipal debt. In addition, since a number of municipalities operate combined fire and ambulance services, separation of the fire and ambulance functions could increase operating costs.

Initiatives Relating to Disaster Planning

The following initiatives and findings relating to disaster planning were identified as significant:

- *Development of a Generic Disaster Plan:* The Provincial Disaster and Emergency Programs Branch is developing a generic Disaster Plan that can be used by municipalities. The Branch also makes available model emergency by-laws and generic mutual aid agreements, reviews the disaster plan for municipalities, and will make briefings to City Council on a request basis.

- *Joint Emergency Preparedness Program Support:* The Joint Emergency Preparedness Program has a budget of $400,000 to enhance regional preparedness. The program will fund tabletop and field exercises. A regional exercise is planned in 1997 to plan a response in the event of a flood, associated with the Dickson Dam.

- *Closure of Provincial Disaster Training School:* The training facility that was operated by Alberta Public Safety Services in Edmonton has been closed; however, training is available from Emergency Preparedness Canada at Arnprior.

- *Disaster Planning Support for Upstream Oil and Gas Facilities*: The Province requires that disaster plans be developed to mitigate potential emergencies in the upstream oil and gas industry. Plans need to address who is to be contacted, roles and responsibilities of key players, and response protocols for fire fighting agencies in the event of major incidents or emergencies. The Alberta Energy

and Utilities Board (AEUB), the oil and gas industry, and Alberta Public Safety Services have developed a generic disaster plan for upstream oil and gas facilities that can be used as a guide in developing municipal or regional plans. In addition, the AEUB has a geographic information system and can locate all upstream oil and gas facilities if a map of the municipality is provided.

- Production facilities are located within the boundaries of Red Deer that have potential for blowouts. In addition, several crude oil, natural gas, and NGL pipelines cross the municipality's borders. Given these conditions, developing a coordinated plan to respond to a disaster or major incident involving upstream oil and gas facility or a pipeline, should be a high priority. The City's current disaster plan includes only a listing of the resources available from the oil field fire fighting firms.

Summary of Conclusions

Analysis of the legislative, regulatory and policy framework within which emergency services are delivered in the Province lead to several conclusions that have implications for the directions recommended in the Emergency Services Master Plan. These conclusions are as follows:

1. The City of Red Deer does not have the legislative authority to pass a municipal by-law mandating residential sprinklering at this time and is unlikely to obtain an exemption from the codes.

2. The removal of government subsidies for the training of career and voluntary fire fighters will place increased cost burdens on municipalities. This presents the City with significant opportunities to develop and market courses and programs at its local fire-medic training facility. However, the Emergency Services Department will still need to meet AFTS standards and will likely have to continue to utilize the provincial training facility for some specialized training.

3. Lakeland College's plan to introduce pre-employment programs for fire fighters designed to train them to the EMT-A level should result in the development of a pool of qualified fire fighters. This may influence the need for The City of Red Deer's current policy of recruiting only paramedics and training them as fire-medics.

4. Regular audits of the City's in-house inspection function are required under the new Safety Codes Act in order to maintain accredited municipal and agency status. The City of Red Deer will need to conduct periodic internal audits of its quality management plan for accredited municipalities and agencies in order to ensure a favorable external audit.

5. The possible introduction of performance-based codes in Canada and Alberta over the next five to ten years may have a significant impact on staff training in the Fire Prevention Bureau. In addition, higher recruitment standards may be required in the future.

6. Alberta statutes set reporting requirements to the Provincial Fire Commissioner with regard to the Fire Code, and to Alberta Health with respect to ambulance services. The City of Red Deer in purchasing or developing new management information systems must consider these reporting requirements.

7. Potential streamlining of the EMT-P program to require only one year of training beyond the EMT-A qualification, and introduction of computer-based learning and self-study programs may make it cost-effective for the EMT-As currently employed within the Emergency Services Department to upgrade their qualifications to EMT-P standards.

8. Adoption of the recommendations of the Ground Ambulance Task Force could have significant implications for how Red Deer's Emergency Medical Services Department operates. The policy shifts recommended could adversely affect the efficiency of the Emergency Services Department in The City of Red Deer given that it is a joint fire and ambulance operation.

9. The closure of the training facility in Edmonton operated by Alberta Public Safety Services reduces the availability and increases the cost of training for disaster planning for The City of Red Deer.

10. The City of Red Deer and surrounding region should be able to access funding to support the development of a regional disaster plan and the running of tabletop exercises, through the Emergency Programs Branch of Alberta Transportation and Utilities.

11. Changes to the First Aid Regulations will require companies to develop a first aid response plan based upon an assessment of needs and the results to be achieved. This will likely create an opportunity for the Emergency Services Department to provide assistance, possibly on a cost recovery basis, to local employers in the development of first aid response plans.

12. Recent changes to the Labor Relations Act allow municipalities to apply to the Labor Relations Board to designate additional jobs as management or out-of-scope positions. These changes give the City the option of applying to the Board to designate the Chief Safety Codes Officer and/or Platoon Chiefs as out-of-scope positions.

CHAPTER 3: TECHNOLOGICAL CHANGES AND TRENDS

Chapter Organization

This chapter details technological changes that have been implemented within the City's Fire and Emergency Medical Services. In addition, emerging technological developments in both the Fire and Emergency Medical Services are explored, and the implications of these technological changes and developments discussed.

Fire Service: Implementation of New Technologies

Among the new technologies introduced to the Fire Service over the past two decades are the following:

- Four-Inch Fire Hose: Previously, 2.5 inch fire hose was used to supply water to a pumper for fire fighting purposes. With the introduction of larger capacity fire pumpers, between four and six 2.5 inch hose lines were required to deliver water to the pumper. Using a four inch hose substantially reduces set-up time at the fire scene since it can deliver as much water as four 2.5 inch hose lines.

- Diesel Powered Apparatus: In 1979, the Department began switching its new apparatus from gasoline to diesel power. Today, nearly all emergency apparatus, including ambulances, are diesel powered. The advantages include more power from smaller engines and reduced fuel and maintenance costs.

- In-line Foam Eductors: All first line pumpers have been equipped with built-in foam eductors which can deliver class A foams or AFFF foam. The major advantage is quicker application of foam delivery through one of the 1 3/4-inch pumper discharge lines.

- Enclosed Crew Compartments: In 1987, the Department introduced its first fully enclosed pumper crew cab. All first line pumpers now have this feature. Fire-medics ride to emergencies in a fully enclosed, heated environment that increases safety for the fire-medics if the apparatus is involved in an accident.

- Aerial Ladder Truck: In 1986, the Department replaced its aging ladder truck with a new unit incorporating a number of features that increased the stability of the unit when working with the ladder fully extended. It was equipped with a built-in 4-inch waterway with a fixed 1,000 gpm electrically operated nozzle located at the tip of the ladder. The aerial can be set up for ladder operations more quickly and with less manpower than previous aerial ladders.

- Rescue Truck: In 1990, the Department purchased a new rescue truck to replace an older unit that was not large enough to carry the equipment that the Department required to meet its expanding mandate. The new unit was designed as a combination rescue/communications centre and hazardous materials intervention unit. The unit was purchased through grants from the Provincial/Federal RIPP Program, and funds from The City of Red Deer. The unit has a built-in computer utilizing a CAMEO software program to assist staff in managing dangerous goods incidents. In addition, an on-board fax machine allows the transfer of information from the Department's dangerous goods database directly to the rescue unit.

- Positive Pressure Ventilation Fans: Approximately four years ago, the Department switched from vacuum assisted exhaust ventilation fans to a new technology called PPV, or Positive Pressure Ventilation. In this process, fans are powered by gasoline engines, and can blow up to 21,000 cubic feet per minute of air into a structure to reduce smoke and heated gases, and to cool the interior fire temperatures. This allows fire-medics quicker access to the fire source. The PPV system has had a profound effect on how quickly fire-medics can reach the site of a fire, extinguish it, and save the lives of trapped occupants.

Fire Service - Emerging Technologies

Numerous new fire service technologies are in various stages of development including sprinkler systems, fire alarm systems, and new technologies for fire operations and new fire apparatus.

Fire Sprinklers

Technology for fire sprinklers, water mist systems, and fire alarm systems is becoming more sophisticated with the development of new sensors and microelectronics. Many fire service professionals believe that the most effective way to deal with life safety and the protection of buildings is through the installation of fire sprinklers. In the past century, sprinkler technology has evolved into a sophisticated science. These developments have allowed fire sprinklers to be utilized in most applications including sensitive storage and process areas, warehouses, and commercial and residential properties.

Cost of Sprinkler Systems

The cost of installing sprinkler systems varies depending upon the application and whether it is a commercial building, multiple family dwelling, residential building, or a single family residence. Figures quoted for the installation of sprinklers vary from area to area and community to community. Generally, costs for residential sprinkler installations in the lower mainland of British Columbia are estimated at approximately $1.05 to $1.37 per square foot. Calculations for

residential sprinklers include all floors of the dwelling (i.e., a 1,500 square foot bungalow will require that 3,000 square feet be sprinklered). High rise building sprinkler costs are generally quoted at approximately $1,300.00 per unit.

Although not approved to date, there are new residential sprinkler system designs under development, which are expected to reduce the cost of residential sprinkler systems. This new system is a looped system that is an integral part of the domestic water supply system. Currently, the Canadian Automatic Sprinkler Association does not have data on the cost effectiveness of the new system. Although the sprinkler heads are the same as for other quick response systems, many of the other component parts are not currently on the market.

Figures quoted for commercial applications vary even more than residential sprinkler systems because of the variation in equipment types. Typically, they cost between $1.50 and $2.50 per square foot, depending on the sprinkler system required. Sophisticated commercial systems for protecting sensitive areas may be considerably more expensive. (1)

There are several economic benefits that may offset the costs to property owners for the installation of automatic sprinkler systems. Building and fire code requirements may be modified when sprinklers are installed, resulting in overall construction cost savings relative to structures without sprinklers. Buildings with sprinkler systems require fewer fire suppression resources and personnel to perform fire control, smoke removal, and water removal. Requiring sprinkler systems in new and growing communities may help reduce the growth of fire department staffing while providing a high level of fire protection. These positive features will be enhanced with the proposed adoption of performance based codes in the next 5 to 10 years.

Some municipalities in California and Georgia provide incentives for developers such as reduced street width and fewer fire hydrants; and permit longer fire emergency response times for fully sprinklered areas. These concessions reduce infrastructure and fire protection costs. Currently, there is some experimentation being undertaken in the lower mainland of British Columbia. However, they do not appear to be as aggressive as the Americans are in their reforms. It can be expected, however, that Canadian municipalities will become much more aggressive in this area over the next 20 years.

Existing Canadian Sprinkler By-laws

The following by-laws are currently in place which mandate sprinkler systems within their municipal jurisdiction and typify the type of sprinkler legislation that is currently either in place or being considered by Canadian municipalities today:

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1 *All of the above figures are quoted on new construction. Retrofit sprinkler costs are generally multiplied by a factor of 4 or 5.*

- New Westminster, B.C. - The by-law requires sprinklers in all newly constructed, added to, altered or renovated buildings that contain three or more habitable accommodations.

- West Vancouver, B.C. - Within specified fire limit areas, all construction of new dwelling units or additions exceeding 50% of the gross floor area of an existing dwelling shall require the installation of a residential sprinkler system to the NFPA 13D standard.

- Sydney, B.C. - Fire sprinklers are required in newly constructed buildings in fire limit areas where such buildings exceed 600 sq. meters in building area; or when additions to building of over 800 sq. meters increase the area by more than 25%; or when there is a change of occupancy.

- City of Langley, B.C. - Fire sprinklers are required in all buildings in fire limit areas constructed, structurally renovated, or structurally altered after January, 1991.

- Pitt Meadows, B.C. - All commercial, industrial, and apartment zones in the District of Pitt Meadows under Zoning By-law 539, are established as fire limit areas. Fire sprinklers are required in all buildings in fire limit areas constructed, renovated, or altered after January, 1990.

- District of Port Coquitlam, B.C. - The areas zoned to permit commercial, industrial, institutional, and multiple family residential use by the District of Port Coquitlam Zoning By-law 2240 are established as fire limit areas. Fire sprinklers are required in all renovated or altered buildings in the fire limit area where the cost of the renovation or alteration exceeds 25% of the value of the building.

- Quebec City – The City has a by-law requiring all apartments and lodging units (except temporary lodging institutions) to be sprinklered.

- Westmount, Quebec - All new buildings must be sprinklered. All renovations to buildings exceeding more than 25% of the value of the building, with the exception of one and two family dwellings must be sprinklered.

- Cote St-Luc, Quebec – Sprinklers are required in all buildings that: have three or more storeys and are10, 000 sq. ft. or more in area; are occupied in whole or in part as a hospital, group home, or foster home; or are occupied as a rooming house with more than 10 rooms.

Sprinklers (Commercial Buildings)

The protection of premises such as libraries, museums, computer rooms, telecommunications switch rooms, valuable papers storage rooms, hazardous materials storage, material processing areas, and storage facilities has long been a problem in terms of sprinkler applications. New technology such as the Viking Corporation's "Firecycle" system is designed to respond quickly when fire poses a threat, yet limit water flow to what is necessary to control the fire. By incorporating specially designed detectors, these systems release water to control fire - and when the room cools, it shuts off the water flow. If the fire rekindles, the system senses the rising heat and releases water again. This cycling will continue until the threat is eliminated, while minimizing water used. Some of these systems are installed using dry piping in an effort to eliminate the threat of water damage to the installation if a sprinkler is damaged mechanically.

Sprinklers (Residential)

Life safety is considered vital to the fire service. It includes the safety of the occupants of a building, as well as the safety of the fire-medics who enter a building under emergency conditions. Statistics prove that the principal cause of fire related death is smoke inhalation. Residential sprinklers do not eliminate the need for smoke alarms. However, they do provide a quick and effective reaction to a fire within the dwelling.

Since 1970, the amount of combustible materials used in furnishings has doubled. The new materials have increased combustion rates and toxic gas emissions five to fifteen times over the combustion rates and toxic gas emissions of wood. Tests have been conducted that demonstrate when sprinkler systems are installed in buildings; fires are controlled with minimal risk to occupants and property. The improved control of toxic gas emissions is especially significant.

The most significant challenge for fire departments to deal with, however, is *response time.* The timeframe from the beginning of a fire, to detection and reporting, to actual response by the fire service, is critical to successful suppression efforts. An active suppression system such as "sprinklers" that can quickly extinguish an incipient fire, could become the primary fire safety system for a building, according to sprinkler advocates. In fact, statistical data shows that sprinklers are unique in achieving exceptional safety statistics, especially in terms of human lives saved.

The effectiveness of automatic sprinkler systems in reducing fire losses has been recognized by the insurance industry. Insurance rate reductions are available for commercial and apartment structures in which sprinkler systems are installed. When the Canadian Underwriters evaluate an area of a community, they allow for reduced water supply requirements based on the fact that buildings in the area are sprinklered. This same principle, however, has not been found to necessarily apply to smaller residential properties.

The principle disadvantage of residential sprinklers in a climate such as the Canadian prairies is that the sprinkler pipes must be placed on inside walls and kept away from cold exposures to prevent them from freezing. Therefore, they are not acceptable for use in attics, garages, crawl spaces, or other unheated spaces. This essentially limits the application of residential sprinkler systems to life safety and fire protection within heated spaces only. The application of residential sprinkler systems within residential settings should be viewed as primarily for *life safety - not property protection*. Commercial sprinkler systems, on the other hand, have been developed that are charged with air in unheated spaces, and, therefore, are more effective. This technology has not been developed for residential occupancies and the NFPA standard for residential fire sprinklers does not recognize pre-action systems.

In the Province of Alberta, the implementation of mandatory residential sprinklers is complicated by the fact that the Province has enacted building code legislation that prevents a municipality from passing by-laws that could mandate the use of sprinklers. Some municipalities, such as Strathcona County, however, have incorporated residential sprinkler requirements into local development agreements. In essence, this requires persons building homes within a specific subdivision to install fire sprinklers. It would appear that there is currently no mechanism for municipalities in Alberta to enact retrofit sprinkler legislation.

Water Mist Systems

Water mist fire protection systems have been used with some success in Europe. However, they have failed to achieve much attention in North America until recent years. This initial lack of interest stemmed from the reliance on a combination of separate systems including halon; carbon dioxide; and, to a lesser extent, an array of traditional sprinkler systems and other water spray protection schemes.

However, in view of the recent findings concerning the negative impact of halon on the environment, and the life-safety risks posed by the activation of carbon dioxide systems, steps have been taken to restrict the use of carbon dioxide systems while phasing out halon systems entirely. As a result, research efforts began in the late 1980s to find a suitable replacement system. Since the onset of these developments, water mist systems have been tested in numerous applications with varying degrees of success. Tests have included residential, computer, shipboard machinery space, combustion turbine, and library/records storage applications.

While no system has received blanket approval, many manufacturers have developed systems that are activated by various means including smoke detection, manual operation, and thermal activation of individual nozzles. This, in turn, activates pumps, traditional water supplies, or pressurized storage tanks, with pressures usually ranging from 100 to 2,000 psi. While some of these systems operate at high pressures, the injury potential for occupants and fire-medics is minimal due to the low system flows and small water droplet size. Water mist systems can be

expected to flow at about one-tenth the rate of water used by automatic sprinklers, decreasing the time needed for water removal and overhaul.

Water Mist technology extinguishes fires by using the following mechanisms:

- *Flame Cooling*: On activation of the system, the space or area to be protected is flooded with water mist. Due to the small size of the water mist particles, they rapidly absorb heat from the flames, making it difficult for the flaming combustion to continue. This rapid heat absorption causes the flames to be extinguished in the area affected by the water mist application.

- *Oxygen Displacement*: The displacement of oxygen is caused primarily by the production of steam. When the fine water mist particles interact with the flames or superheated gases, they are rapidly turned into steam. The steam, in turn, takes up much more volume than the water mist particles and, in the process of expansion, displaces the oxygen in the area of the steam. The displacement effect is more pronounced in the flaming region of the fire, since it is where the oxygen is consumed.

- *Obstructed/Shielded Fire Penetration*: The fine spray mist allows the small water particles to penetrate into many of the obstructed or shielded fire areas where traditional sprinklers cannot reach. Additionally, these qualities allow the water mist to be drawn into spaces open to the water mist nozzles (i.e., computer cabinets).

- *Radiant Heat Exposure Protection*: When total compartment application is desired, system activation in the space results in the enclosure being flooded with water mist. The water mist, not converted to steam, settles on the surfaces of surrounding fuels, providing a form of pre-wetting that protects the other fuels from the fire's radiant exposure. This protection helps to prevent adjacent fuels from igniting. By cooling the ceiling, walls, and contents, the water mist also helps to delay or prevent flashover.

Fire Alarm Systems

Fire alarm systems have developed significantly in concert with advances in computer technology and microelectronics. Today's fire alarm systems have the ability to sense fire when it is at its most incipient stage and to transmit a signal to alarm monitoring centers identifying the specific origin of the fire. It is expected that the fire alarm industry will continue to benefit from the advancement of microelectronics and computer system software.

Open Access

A new business process, recently introduced to the market by Fire Monitoring Canada, called "open access", allows fire departments or other public communication centers to enter into partnerships with their company. The system diverts fire alarm signals directly to the Emergency Services Department's communication centre. Currently, Ottawa and Mississauga are on-line with this new system and, according to the company; several other municipalities are currently on the waiting list.

A third party monitoring company (e.g., ADT or Brigadier) monitors most traditional fire alarm systems. Upon receipt of a fire alarm, the Emergency Services Department is contacted by the monitoring company and informed of the fire signal. The open access technology allows fire departments to not only receive the alarm faster by eliminating the monitoring centre, but also generate revenue for providing monitoring services.

Currently, some fire departments in Alberta are monitoring fire alarm systems. However, other departments have chosen not to do fire alarm monitoring because of the cost of equipment or reluctance to be seen as competing with private enterprise. The open access system provides a public/private partnership that includes many of the private alarm monitoring agencies. It therefore addresses the issue of competition with private industry. However, fire departments must purchase the receiving equipment to access the alarms. Costs associated with the purchase of this equipment will vary depending upon the type of computerized equipment within the Department's communication centre.

Micro-tech Ltd.

In 1992, Micro-tech Ltd. of Quebec City introduced a new smoke alarm monitoring system. The new system is essentially a standard "wired-in" smoke detection system that is connected directly to the Emergency Services Department's communication centre via the regular telephone system. The unique feature of this system is that it contains a 30-second delay switch that allows the occupant to stop the fire signal from going to the Emergency Services Department in the event that it is a known false alarm.

The problems associated with connecting residential smoke detectors to the Emergency Services Department's communication system is that false alarms may be emitted if detectors are installed in the wrong place, if the occupant burns toast, or some other activity accidentally creates a small amount of smoke. The Micro-tech system greatly reduces this problem by providing the above noted 30-second delay feature. As well, the homes equipped with the system qualify for an insurance rate reduction of approximately 10% on the fire portion of the premium.

This system is much less expensive than residential sprinklers and at the same time notifies the Emergency Services Department when a fire is in its most incipient stage, allowing for an effective

response to what usually will be a relatively small incident. The down side, when compared to sprinklers, is that there is a longer time delay between fire ignition and fire suppression.

Remote Utility Monitoring

Recently, utilities have been testing and evaluating remote reading of utility meters (i.e., gas, water, and electricity) through several different means. Although this research, to date, has been limited to reading utility meters, it is understood that the system is capable of reading an electronic signal from a smoke detector alarm system as well as a utility meter. There is little doubt that this system will be implemented within the next few years across Canada. The system may be able to monitor different types of alarms including fire, intrusion, and temperature.

New Technologies to Support Fire Operations

Technology aimed at protecting fire fighters at incidents is evolving. New standards are being developed for protective clothing. As well, carbon monoxide detectors, infrared vision systems, and improved incident command systems will enhance life safety for fire fighters.

Clothing

Standards for fire fighter station wear have been developed by the NFPA. However, they are not used widely. There appears to be two reasons for this limited usage. First, the products are primarily nomex-based and expensive to purchase. They are approximately five times the cost of cotton/polyester station wear. Secondly, nomex is uncomfortable to wear, especially in hot weather.

Fire fighter protective turnout gear (coat, pants, belaclavas, helmets, and gloves) in use today generally meet the NFPA standards. This standard is widely accepted by fire departments throughout the U.S. and Canada. These standards are regularly updated through a consensus process. Although there has been some speculation that this protective envelope may undergo a dramatic change in the foreseeable future, there is little evidence to indicate that such a change is taking place. Such a change, if it does occur, is expected to provide a similar level of protection. However, reduced weight and a more porous garment will provide for more comfort and a safer garment because of its lighter weight.

Standards for fire fighter protective clothing for the mitigation of dangerous chemical incidents has developed significantly over the past 15 years. Currently, the National Fire Protection Association has two standards that outline the appropriate requirements based on both chemical involvement and mode of operation. These standards are NFPA 1991 - *A Standard for Vapor-Protective Suits for Hazardous Chemical Emergencies* and NFPA 1992 - *A Standard for Liquid Splash Protection Suits for Hazardous Chemical Emergencies.*

These standards are developed by industry experts and have been updated in the last three years. They are under constant review by an international committee and are deemed by the

industry to be effective and adequate. Only minimal changes in protective clothing for dangerous goods incidents are expected over the next five to ten years.

Carbon Monoxide

Over the past three years, the gas detection industry has developed a new low cost product designed to measure dangerous levels of carbon monoxide within buildings. Carbon monoxide detectors have been available to the commercial market for a number of years. However, in 1993, First Alert developed the first low cost detector that was soon followed by a similar product by American Sensor. A number of tragic occurrences of carbon monoxide poisoning in dwelling units created a need for these detectors. The majority of those poisonings, at least on the Canadian prairies, were associated with cracked heat exchangers in furnaces or failures in class "A" chimneys.

When the original detectors were brought onto the market, there were some design flaws in the products and little training was provided for people who were using the detectors. This led to a significant increase in the number of responses associated with carbon monoxide - not all of which were necessary.

Since the first generation detectors, there have been several design changes that have reduced the number of faulty alarms. In addition, people who own the detectors and fire department responders have received better information. Design changes and information dissemination have reduced the detector failures. However, there will continue to be a significant number of fire responses associated with carbon monoxide on the Canadian prairies.

Infrared Vision Systems

The past five years has seen the development and considerable expansion of infrared vision systems for fire fighters. There are several types currently available on the market. The first is a small hand-held instrument that will signal variances in relative temperatures within a given area. The operator is notified of the hot spots by a difference in the sound emitted by the instrument and/or a flashing light on the instrument. These instruments, which cost approximately $500, are also valuable for detecting hot ballasts.

The more sophisticated systems allow the fire fighter to see warm bodies and fire through smoke, as well as determine the liquid level on pressurized liquid containers. One system is a hand-held camera and the other system clamps onto the fire fighter's helmet. These systems are very effective and cost approximately $23,000 - $35,000. The literature indicates that the clamp on system is the most effective. It allows the fire fighter to have his/her hands free to manage a hose line, to provide for his/her personal safety, and to maneuver obstacles while advancing or retreating from an area. The cost of these instruments has not declined, as they become more widely available. The City of Red Deer has examined infrared vision systems. Such instruments would assist the Emergency Services Department to detect hot spots and temperature differences, and reduce the incidence of re-kindle.

Incident Command Systems

Over the past few years, much attention has been given to the safety of fire fighters at emergency incidents as well as the effective management of incidents. A systematized incident command system was developed by Fire Chief A. Brunicini of Phoenix, Arizona. This system was enhanced and expanded to incorporate the management of major emergency operations. Currently, the International Association of Fire Chiefs and the International Association of Police Chiefs are developing an integrated emergency management system (IEMS). Over the past two years, these organizations have jointly developed and offered training courses and programs to both senior fire and police officers. The Canadian Association of Fire Chiefs supports the implementation of this program on a Canada-wide basis.

Fire Apparatus

Many factors have affected the evolution of fire apparatus. The development of diesel engines led to larger, more powerful vehicles. Civil unrest in the United States in the 1960s and 1970s resulted in enclosed cabs. Legislation and standards have brought about design and mechanical changes such as dual rear axles, seated and belted riding positions and antilock brake systems.

In the future, styling is expected to copy European trends with:

- larger crew cabs;
- more boxy body work with roll-up compartment doors and slide-out trays;
- more apparatus on commercial chassis (as opposed to custom chassis), including more on foreign-built chassis;
- more technological devices to make up for decreased staffing; and
- more fire fighter comfort and safety features designed into the vehicles.

These changes are expected to take place at a smooth, but steady pace, given that the average life expectancy of fire apparatus is 20 years.

Quints

There has been widespread development of multi-functional emergency response vehicles such as quints. A quint is an apparatus that can perform five functions; it has a pump booster tank, hose bed, a full complement of portable ladders, and truck company tools with an aerial device. Some cities are using a single quint to replace both an engine company and ladder company with a single crew.

The City of Red Deer has investigated the use of quints. The Department, with minimum staffing levels of 12 fire-medics, is often unable to staff the 100-foot aerial ladder on a first response basis. This seriously delays ventilation operations, ladder operations, and rescue operations. By operating a number of quints as first line engine companies, the Emergency Services Department would be assured of having the required ladder capability on the initial response.

While quints have a role in the fire service, their use as a traditional fire fighting system where engine and ladder companies have specific assigned missions and distinct responsibilities is sometimes limited. This is the situation in cities with older, attached multi-story structures in congested areas. The physical characteristics, coupled with the construction features in these areas, are not conducive to the operation of a quint.

Traditional fire tactics in these areas dictate that the engine company positions itself close to the nearest serviceable hydrant and hand-stretches a hose line to the involved floor. The ladder company positions its apparatus in front of the fire building to perform rescue and ventilation. Unsprinklered apartment buildings in many cities can be up to eight stories in height. The use of an aerial device is essential for buildings of this height. A quint would have to be positioned at the hydrant to supply water. Unless the hydrant was in front of the involved structure, its aerial ladder would be of no use. A quint positioned in front of the structure, with its limited staffing, cannot accomplish all functions of stretching the first attack line, stretching a supply line to the hydrant, laddering, and performing ventilation and search nearly as quickly as could an independent engine and ladder company.

Relying on the second unit to arrive to get a supply line in place can be dangerous, given the characteristics of many older city districts; i.e., narrow streets, parked vehicles, and overhead wires. The quint is more suited to areas where buildings are new, small in area and in height, with limited life hazard and exposure problems, and where fire load is light.

Combining the five functions into one quint can also impact the maintenance of the apparatus. Larger, complex apparatus with extensive electronic components can result in increased maintenance costs and more down time. When this type of vehicle is placed in service, it is important to have reserve vehicles of the same type for use as spares. Otherwise, the Department will have to resort to using a pumper or a ladder truck to replace the quint and, at the same time, be unable to provide all of the quint's functions. Potentially, the Department will have to replace the unit with both a pumper and ladder truck to provide the same level of service.

A number of urban departments have made the quint concept work. Most large departments which have introduced quints are experiencing tactical problems in their use. Baltimore is beginning to move its quints into reserve status. New York City decided against initiating a pilot program using quints. Buffalo, New York has begun to buy quints but is assigning them as regular ladder companies. Los Angeles County has also recently added several quints to its equipment roster.

Nevertheless, there are some benefits to multi-functional vehicles. When a vehicle is designed to enhance functions already being performed, or being introduced, a multi-purpose vehicle becomes a positive tool. For example, many departments have been providing first responder, EMS or paramedic services for years utilizing front-line fire apparatus. The amount of equipment for such functions, however, has increased with technology but the available space on the apparatus has not kept pace. Many departments are now designing apparatus with storage requirements in mind and are providing ample compartment space.

Minipumpers

The use of minipumpers is not a new technology. The concept was quite popular in the early 1970s. The City of Syracuse in New York implemented the mini-maxi response system. A mini-pumper and a conventional pumper would be dispatched together on a first line assignment. If the minipumpers could handle the call with its two-man crew, the conventional pumper with its four-man crew could be released for additional assignments. Many other cities experimented with the minipumpers in other service delivery models, but by the early 1980s, the minipumper concept almost completely disappeared.

The drawbacks to the minipumper are:

- pumping capacity, which is usually limited to 300 gpm;
- water tank capacity of 200 gallons; and
- crew size of two persons.

Because the driver must remain with the unit as pump operator, only one fire-medic is available to advance the hose line to fight the fire, ventilate the structure, and effect a rescue. A single fire-medic faces undue risks to life safety. On larger fires, the crew of the minipumper had to wait for the arrival of the larger conventional pumper before fire fighting actions could be undertaken.

Rescue Pumpers

In some departments, particularly those with a small ladder-to-engine company ratio, the first arriving engine initiates extrication and rescue. Extrication and rescue equipment requires significant storage room. Pumpers are now being designed with extra compartment space to carry these tools. Rescue-pumpers are becoming common in departments that do not have independent heavy rescue units. In some cases, rescue-pumpers are assigned to units located remote from heavy rescue companies. For example, the West Point Military Academy operates a heavy rescue truck from its campus headquarters station but also operates a winch-equipped rescue-pumper from a station located in a base housing area at nearby Stewart Airport. Several Ontario fire departments (e.g., Burlington) also have opted to convert their engines to rescue pumpers.

Pumper Tankers

The size of the booster tank on contemporary apparatus is growing. The larger tanks allow fewer fire-medics to operate longer on initial attack. A properly operated pre-connected line from a pumper positioned close to the average structure fire is able to control the majority of fires using water from the booster tank. Pumpers with larger booster tanks can operate at wild land fires and at locations remote from water sources for longer periods of time.
In areas where water supply is limited, pumper-tankers (vehicles carrying all of the standard engine company tools and equipment plus a booster tank of at least 5,000 litres) are becoming common as initial-attack vehicles. These units are larger than conventional pumpers; have dual rear axles; and have tanks with up to 15,000 litres of water.

Pumpers Equipped With Foam

Setting up a tanker shuttle operation takes time and manpower. Providing a larger water supply on scene early often makes the difference between extinguishing the fire or giving up the building. Departments that protect major highways, fuel storage facilities, railroad yards, and similar hazards are beginning to purchase foam-pumpers for assignment to these hazards. Foam-pumpers carry conventional engine company equipment as well as being equipped with a foam system and tank, foam turret, and pump-and-roll capability. Foam pumpers, arriving early at the scene of a flammable liquid incident, enhance the Department's ability to control these situations more safely.

Specialized Units

Some fire service functions have become very technical, and require specialized equipment and tools. Apparatus designed specifically for more than one function is becoming common. Hazmat, decontamination, collapse, cave-in, trench, cliff rescue, scuba operations, rehab, and even command post functions are requiring dedicated apparatus and certified personnel to perform these services. Often, the first generation of specialized vehicles is converted from older apparatus. In some cases, used vehicles are obtained from other agencies.

New York City's Collapse Unit went from a converted former heavy rescue truck to a custom built Super-vac tractor trailer with built-in generator, slide-out compartment shelving and plenty of storage space for specialized equipment and shoring material. New York City (and Edmonton) has tractor-trailers that are used for decontamination and as a command post.

Platform-On-Demand (POD) Units

Platform-on-demand units have been introduced slowly in North America. These units are standard throughout Europe and Japan and can accommodate a number of customized, special purpose PODs capable of being transported by a single transport vehicle. Another advantage of

POD vehicles is that there is no need to train and maintain dedicated qualified drivers. A person qualified to drive a pumper can operate a POD transporter.

Fairfax County, Virginia operates an International POD transporter. It currently has communication, command post, hazmat, and urban search and rescue PODs. Montgomery County, Maryland, operates a Mack POD transporter and utilizes cave-in, hazmat, urban search and rescue, multiple casualty incident, and vehicle extrication transporter PODs. Other departments, including Prince George's County, Maryland, have POD systems under development.

If a department has only one POD transporter and the vehicle is out of service, a transporter could be borrowed or rented from other city agencies or commercial trash haulers and escorted by police or fire vehicles when responding to emergency incidents.

Heavy Rescue Units

Many fire departments are organizing heavy rescue units. Earthquakes, hurricanes, other natural disasters, terrorist acts, a greater awareness of collapse, confined space, and other technical rescue situations, and the formation of federally sponsored urban search and rescue teams throughout North America, have been catalysts for the formation of heavy rescue units.

Occupational Health and Safety mandated training in areas such as hazmat, confined space rescue, trench rescue, coupled with the additional tools and equipment needed for these operations, justifies the need for such vehicles.

Fire Fighter Comforts

The comfort and safety of fire fighters is an important factor in apparatus design. Fire fighter comfort is often mandated by occupational health and safety regulations. Design considerations include:

- cab noise levels;
- ease of communications;
- climate control;
- reasonably comfortable riding positions;
- ease of access; and
- other creature comforts.

The introduction of bunker gear has led to design changes in apparatus. Departments are buying fully air-conditioned crew cabs on standard apparatus. The creation of dedicated fire ground rehab units is another consequence of bunker gear.

Generally, rehab vehicles offer climate controlled shelter areas, liquids for replenishment of lost body fluids, water misting equipment, medical monitoring equipment, and other facilities to allow fire fighters a rest period before returning to the emergency scene.

Apparatus Refurbishing

Financial restrictions have caused many fire departments to resort to rebuilding existing apparatus rather than buying new units. An entire sub-industry has been created to rehabilitate apparatus. Rehabilitation may involve minor bodywork and repainting to complete overhauls, including new cabs and chassis with other components from older vehicles being used. Some strange looking vehicles, bearing little resemblance to the original apparatus, have resulted. This trend to apparatus refurbishing will continue to grow as the cost of new apparatus escalates.

Roll-up Doors

Roll-up compartment doors are becoming standard on apparatus. While standard on European fire apparatus for many years, roll-up compartment doors are relatively new in North American apparatus. The main advantage of roll-up doors is unobstructed access to the compartment. With roll-up doors, fire fighters can easily place equipment on any angle if necessary.

Ladder Tenders

Providing medical responses with fire fighting companies has resulted in severe wear and tear on heavy apparatus. In the Southwest U.S., a new type of vehicle has been developed. Known as the ladder tender, this vehicle is assigned as the second piece of a ladder company. It has all of the equipment carried by regular ladder apparatus, except for the aerial. When the unit is dispatched to a medical response, all personnel respond with the ladder tender, leaving the aerial in the fire station. After responding to the incident, the unit is available and immediately capable of responding to fires to perform almost all functions of a ladder company. When the unit is dispatched from the station to a fire, it responds with the aerial ladder. This procedure has resulted in less wear and tear on the more expensive ladder trucks, extending their replacement cycle, while at the same time providing an acceptable level of fire fighting capability. Phoenix pioneered the concept of ladder tenders. Other departments are copying it.

Rear Wheel Steering

Other technological advantages are also making inroads. Seagrave introduced rear axle steering on straight frame vehicles in the late 1960s. This concept was utilized to a limited degree then but with larger contemporary rigs, the rear steering option is becoming an advantage. Quints,

tankers, pumpers, and heavy rescues have all been equipped with rear wheel steering by various manufacturers.

Rear-mounted Engines

Rear-mounted engines are another option. Mounting the engine at the rear of the vehicle provides advantages in terms of better overall weight distribution, and additional design options for the cab. The rear engine also permits quieter environments for easier communications.

Video Equipment

Video equipment is being utilized on larger fire apparatus to view the area to the rear. The driver monitors this camera in the cab and uses this system when backing up. It provides a cost-effective safety factor when manpower is limited. An option offered on some elevating boom devices, particularly those mounted on aircraft rescue and fire fighting vehicles, is a remote video camera used to examine areas, such as tail-mounted aircraft engines, that are inaccessible from the ground. Video equipment is also being used on command vehicles mounted to record the fire scene and fire ground operations, functioning much like equipment on police cars that video stopped vehicles.

Top-mounted Panels

Pump panels, mounted on the top of pumpers, are becoming more common in Canada and the colder parts of the U.S.A. This design allows the operator to have a better overall view of the fire scene and to react quickly to changing conditions. It also removes the pump operator from traffic hazards and the possibility of being struck by a vehicle.

Compressed Class "A" Foam Systems

Considerable research has been undertaken in the last five years on utilizing class "A" foam for structural and related fire suppression activities. Class "A" foam was traditionally used for forest fires to gain greater penetration. Research indicates that compressed class "A" foam mixed with air and water has a greater extinguishing capability than plain water. One advantage is the fact that the foam/water mix penetrates the burning surface and adheres to class "A" combustibles more readily than plain water. Another advantage is that it requires lighter hose lines. Thirty-eight mm, 45mm, and 65mm hose lines flowing at full capacities with an automatic or constant gallonage nozzle can be very difficult to manage, normally requiring from two to four trained fire fighters to maneuver them. When compressed class "A" foam is utilized, two fire fighters can usually maneuver the lines safely.

The compressed class "A" foam system is, however, relatively expensive to purchase and operate. This may be offset by quicker fire suppression and less property loss.

The City of Red Deer has experimented with this technology to a limited degree. The foam is highly effective in fighting fire in class "A" combustibles, and reduces the amount of water required to extinguish a fire. One drawback with the foam system is the metering equipment required to inject the foam into the water stream is extremely expensive to purchase and maintain.

Computer Technology

The Canadian fire service has seen considerable advances with improved computer technology. Some of the enhancements within the emergency services area are as follows.

Computer Management of Information and Dispatch

Crysis Ltd., a company located in New Market, Ontario, is one of the leaders in fire service emergency management technology. The Crysis system provides a geographical data based computer system that can perform or assist with the following functions:

- identify 911 phone call location on a computerized dispatch map;
- aid the dispatch of fire and emergency medical apparatus;
- dispatch apparatus based on specified criteria, including hazardous materials and related target hazards;
- pre-plan information on properties upon dispatch;
- provide hydrant locations and hydrant pressure and maintenance records;
- identify the property ownership;
- identify the occupancy for each property;
- provide zoning information on each property;
- track previous incidents at the location;
- provide a fire inspection record for each property;
- support the use of portable computers for inspections;
- list Department equipment and the related maintenance records;

- provide personnel records including training, transfers, personal information, and unit staffing needs;
- access information from the communication centre, offices, fire stations, and emergency response vehicles via mobile data terminals;
- monitor fire alarms (either "open access" or traditional monitoring systems); and
- Support the preparation of fire reports and enhanced statistical analysis.

These totally integrated information management systems for fire departments are expected to become more dynamic as computers advance in power and capability.

Computer Assisted Training and Education

The fire service has recently been able to gain the support of government to provide the funding necessary to develop effective computer-based training programs. In the last three years, a number of new computer-based training applications have become available at significantly lower costs. The International Fire Services Training Association, the primary publisher of all fire service training manuals in North America, has developed a number of high quality computer-based training programs. They include CD-ROM programs for incident command, basic fire operations, and hazardous materials operations.

Computer-based training materials permit individualized instruction, testing, and remedial skill development/training. This training format facilitates better utilization of fire fighter training time, and reduces the need for instructor contact time for the development of cognitive skills.

Computers are also being utilized for staff performance appraisals. Programs such as "Performance Now" are utilized to conduct evaluations of fire fighter and supervisor performance.

Local fire authorities can afford the new generation of computerized programs to develop emergency response models for their fire stations. The travel time for the first, second, and third engine companies and the rescue and aerial units required can be determined. These modern programs allow operators to simulate street closures, unmanned fire stations, and new proposed roadways and fire stations.

Another program models the growth of a fire within a structure, the length of time a fire would burn in a specific room, and when the fire alarm, smoke detector, or sprinkler system will activate. This type of fire modeling is useful in determining fire requirements and will undoubtedly be used with performance-based codes. Such programs will also be used by fire investigators to simulate fires that have occurred.

Emergency Medical Services - Implementation of New Technologies

Emergency medicine is a field in which technology changes constantly. Under the direction of the Medical Director, many new technologies have been introduced within The City of Red Deer each year. Some examples of technology which have been implemented are:

- modular ambulances;
- transcutaneous pacemakers;
- hands free defibrillation;
- 12 lead ECG monitoring;
- pulse oxymetry monitoring;
- tympanic temperature monitors;
- adenosine; and
- written treatment protocols.

Modular Ambulances

Emergency Services introduced its first modular style ambulance in 1983. At the time, the Department provided all outpatient transportation for the Red Deer Regional Hospital, and also transported an average of 1 1/2 patients per day to Calgary and Edmonton hospitals. This required the replacement of one ambulance a year. With the modular ambulance, instead of replacing an entire ambulance, the patient compartment can be lifted off the unit and a new chassis installed. With only minor repairs or maintenance to the patient module, a refurbished ambulance is added for $45,000, compared to the cost of a new one of $90,000. This innovation saved the City some $125,000 over six years.

Transcutaneous Pacemakers

Better known as external pacemakers, this technology is utilized on patients suffering from slow or very rapid heart rates that do not respond to pharmacological interventions. A pacemaker that can initiate a heartbeat is applied on the exterior of the chest and back. This technology is a temporary treatment that lessens the complications for those patients requiring further invasive hospital treatment such as surgery or the insertion of a permanent pacemaker.

Written Treatment Protocols

The use of written treatment protocols, authorized by the City's Medical Director, allows EMS staff to treat patients requiring immediate attention. The protocols outline the treatment(s) to be administered for patients being seen for a variety of events, which can commence immediately. Otherwise, treatments are delayed while waiting for a physician to give instructions by phone or radio.

Emergency Medical Services - Emerging Technologies

Emergency Medical Vehicles

Several companies are developing combination fire/ambulance units. In 1994, Emergency One (Superior) Fire Apparatus Manufacturers designed such a unit utilizing the Emergency One "Hush" chassis with an extended cab and lift to accommodate a stretcher. The unit provides space for adequate manning of advanced life support functions and a fully manned fire engine. There are several difficulties with this type of unit including licensing as an ambulance because of concerns about contamination. Often fire apparatus is required at an accident scene for hazard control after the patients have been transported to the hospital.

Trident Units (City of Phoenix)

The City of Phoenix, Arizona, has purchased a number of combination ambulance/minipumpers. These units are similar to a large ambulance, containing a crew cab for four fire fighters, a pump with two hose lines, and a small supply of water (approximately 200 US gallons). This unit can respond to motor vehicle accidents and similar incidents with a crew of sufficient size to manage the hazard at the scene and provide patient care and transport. The crew can also provide advanced life support functions. This combination equipment, however, is not adequate for structural fires

Conclusions and Key Implications of Technology Change for the City of Red Deer

There are a number of advances in fire service, emergency medical and information technology which provide opportunities for improving cost-effective service delivery. Conclusions, the key technological advances, and their implications for The City of Red Deer's Emergency Services Department are detailed below.

1. The Emergency Services Department has made consistent efforts to research and implement, within fiscal constraints, cost effective technological advances that support the achievement of the Department's mandate.

2. Some municipalities in Canada and the United States have passed by-laws requiring residential sprinklering. The current legislative and regulatory climate in

Alberta presents obstacles to Red Deer passing a mandatory sprinklering by-law. Opportunities exist for the City to pursue changes in the legislation.

3. Significant advances are being made in fire sprinkler technology that have the potential to increase further its effectiveness at mitigating property damage and loss of life in a cost-effective manner. Efforts to educate the citizens of Red Deer with respect to the life safety aspects of the new technology will help to create a base of support for sprinklering. Demonstration projects and public education programs are potential vehicles that could be used in this regard.

4. The development of "open access" technology, which allows fire departments to interface with private monitoring companies, presents an opportunity for the Emergency Services Department to participate in public/private partnerships to monitor fire alarms.

5. Significant advances have been made in the area of infrared vision systems. Utilization of these systems has significant potential to protect fire fighters and improve the life safety of potential fire victims. The use of cameras will improve search capabilities in a fire situation which is of particular value in view of the manning levels of the Department.

6. The use of quints as first line engine companies would assure that any required ladder capability is available on the initial response. With current staffing levels, the Emergency Services Department cannot always send the aerial ladder on a first response basis. The increased capabilities of quints must be weighed against the increased capital and operating costs and its decreased speed and mobility.

7. Minipumpers may present some significant opportunities to support the Emergency Services Department's response to fire incidents in the river parks area.

8. Considerable advances have been made relative to the use of Class A foam pumpers. Given the significant fire suppression advantages offered by the use of Class A foam, any new apparatus acquired should contain plumbed-in foam tanks.

9. Advances in computer system technology will support complete integration of the Department's information management and dispatch functions. This has the potential to contribute significantly to the effectiveness and efficiency of the Department's operations.

CHAPTER 4: FIRE RISKS, EMERGENCY RESPONSE STANDARDS AND CAPABILITIES

Chapter Organization

The first part of Chapter 4 provides a summary of the key findings of the Fire Risk Assessment that was conducted for the City of Red Deer as a component of the Master Plan development process. These findings provide the context for the discussion of emergency response time standards and response capabilities that follow in parts 2 and 3. The final section summarizes the key findings and conclusions relating to fire risks, emergency response standards, and fire suppression capabilities.

Fire Risk Evaluation

The Department undertook a complete fire risk assessment of the City in 1981 as part of a fire station location study. The findings of this study were reviewed during the second fire station location study conducted in 1988/89. The 1981 risk assessment was found to be deficient as it focussed on first-in responses only. The 1988/89 study remedied this by including an evaluation of second-in engines and aerial responses, as well as first engine responses.

The Insurance Advisory Organization underwriters undertook a fire risk assessment in 1981 and designated the City as a class 1 for residential and class 3 for commercial insurance rating purposes. No subsequent risk assessments have been undertaken. Recently, the Department ran the station location study program incorporating new roads that have been built since the last study. They also evaluated the response times in the East Hill area of the City.

The Master Plan consultants completed a neighborhood by neighborhood risk assessment to provide data to support the evaluation of emergency response station locations. The key findings of that study are summarized in this section of the report. Some of the major risks identified include unsprinklered high rises, residences for mentally handicapped persons, distance to the East Hill, and the potential for wild land fires in the parks area.

<u>Unsprinklered High Rise Apartments</u>

There are a number of unsprinklered high rise apartment blocks in the City. Some of these buildings are homes for senior citizens and all present a high risk from an emergency response perspective. They are unsprinklered and stairwell air management systems are unsatisfactory. Given a minimum staffing level of 12 fire-medics, a major fire in a high rise apartment or condominium building poses significant risk. To assist in managing the risk, these buildings are inspected bi-annually and the safety codes regulations are enforced.

Michener Centre and Group Homes

The Michener Centre is a facility that houses and cares for a large number of persons who are mentally handicapped. Although the fire risks at the actual centre are discussed elsewhere, a secondary issue associated with this population in the City is the downsizing of the Centre and the growth of group homes within various neighborhoods. These group homes house from 6 to 8 mentally handicapped persons in addition to the owners. They present an extra risk because they are not required to have built-in fire protection systems. In addition, they are not required by the Safety Codes Act to have regular inspections. These group homes are a concern as a result of past experience associated with group home fires. It is noteworthy that a proposal to amend the Alberta Fire Code to require sprinklers in group homes was rejected.

East Hill

An evaluation of the new, eastern portion of the City indicated that it is outside the established 3½ to 4 minute travel time target for emergency apparatus. The City is evaluating the utilization of mandatory sprinkler requirements for all occupied buildings in this area as a means of assisting in managing this risk. The City's interim report of the Residential Sprinkler Task Force was reviewed and the recommendations evaluated and they were found to be valid. However, it is important to understand that if mandatory residential sprinklering is accompanied by longer response times, safety issues remain since:

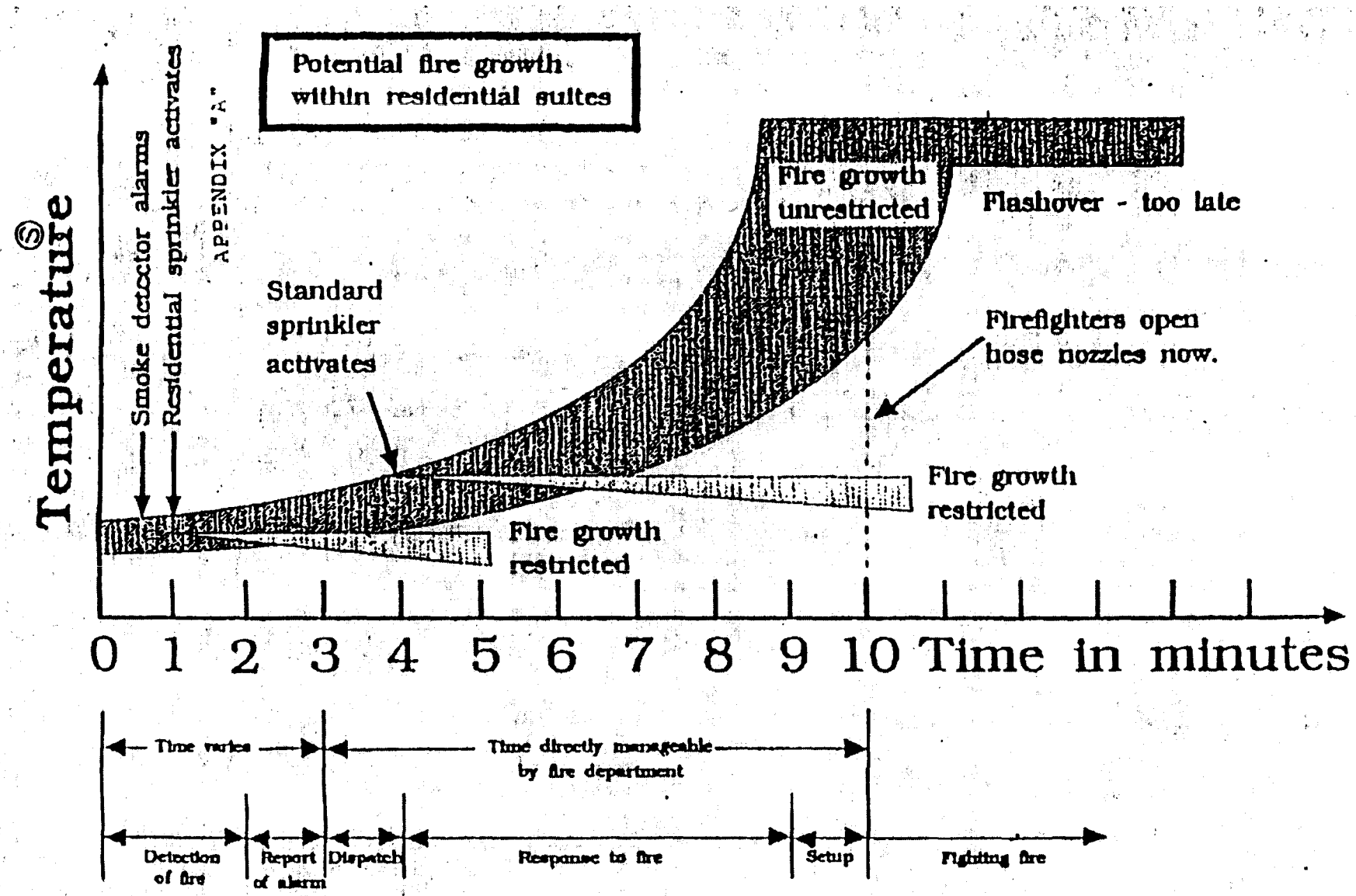
- sprinkler systems will not protect garages, attics, outbuildings, or other unheated structural components; and
- sprinkler systems will have no impact on fires that occur in dumpsters, fences, grass, garages, and outbuildings.

Wild Land Fires

Red Deer has a very attractive parkway that runs through the City. This parkway is located in the river valley and has a mix of mature pine, spruce, and hardwood trees. The parkway contains a significant area of natural growth. Although there is some clearing of underbrush each year, the area poses a significant risk for the development, growth, and rapid spread of fire. The park contains walking trails, buildings, and other amenities that attract people. However, it has no water supply and there is limited access for large fire apparatus to respond to incidents within the park system.

Currently, the Parks and Recreation Department provide the Emergency Services Department with a ¾-ton vehicle with a 300-gallon water tank to respond to incidents during the summer. The Emergency Services Department has budgeted for the purchase of a brush truck in the 1997 budget. The Department indicated that some consideration has been given to using a private water bombing company to assist with major fires in this area. However, these units are generally

EXHIBIT 2



NOTE: All times based upon national averages.

out of the area during the summer fire season, and, therefore, this source cannot be relied on to manage this risk. This parkway presents a significant fire risk. If a major fire were to spread through the parkway, its beauty would be potentially lost or changed forever.

Industrial Facilities in the Surrounding Region

There are some significant fire risks in the region surrounding the City. High risk facilities include the:

- airport in the County of Red Deer;
- the Union Carbide ethylene oxide/ethylene gyclol plant (the company has its own fire hall on site);
- Parkland Refinery in the Town of Bowden (the refinery has a large training ground and its own fire service);
- Nova Chemicals ethylene and polyethylene complex at Joffre (the company has its own fire and ambulance service); and
- Agrium fertilizer plant.

The detailed results of the Fire Risk Assessment are presented in Appendix C.

Emergency Services Response Times

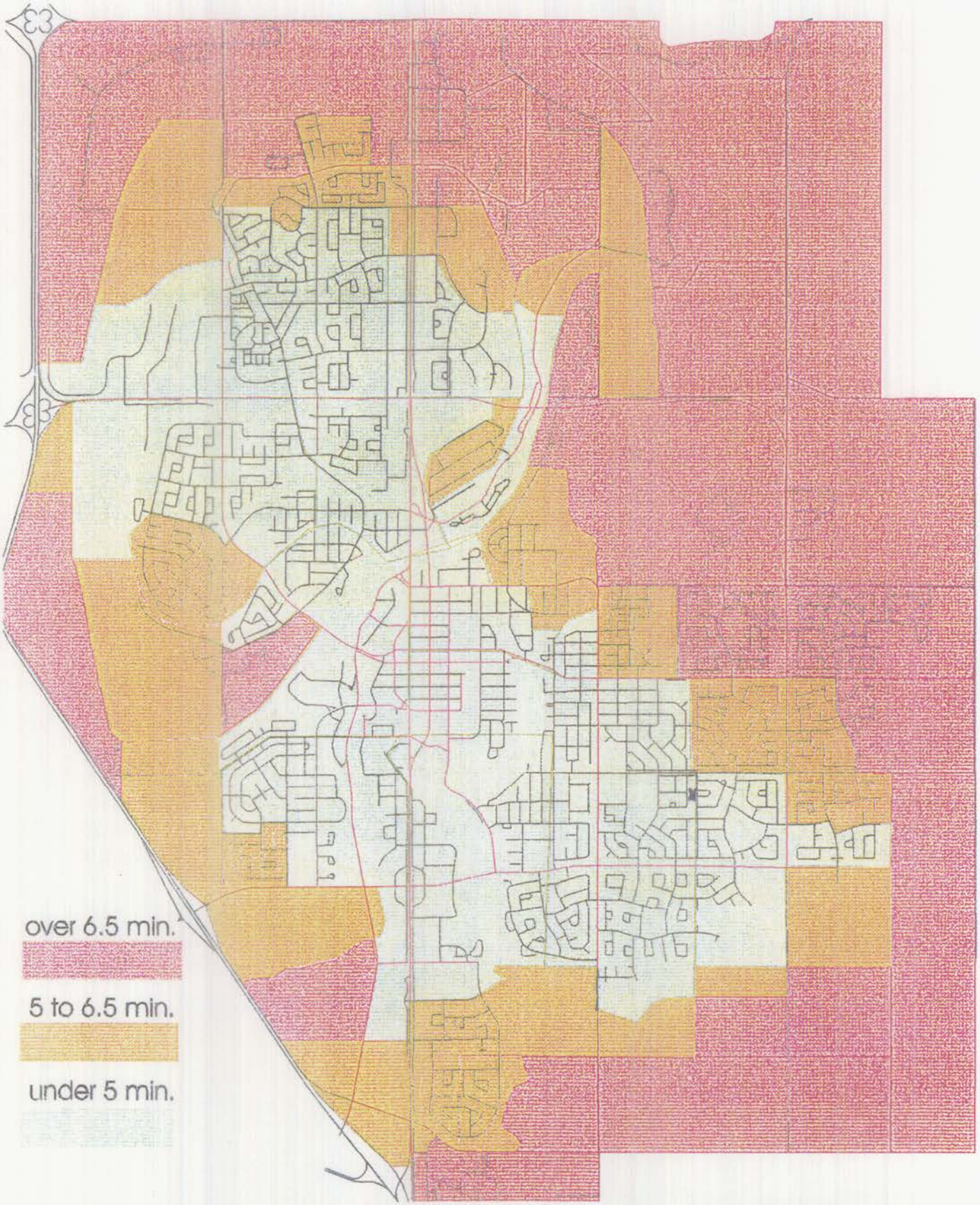
Fire Suppression - Standards and Guidelines

Rapid response is critical in fire suppression, emergency medical services, and rescue. The potential fire growth curve in Exhibit 2 shows the relationship between total response time in minutes and the temperature in a typical residential suite. The total response time includes the detection, reporting, dispatch, travel, and set up time to fight the fire. The time for detection and reporting of fires varies, but usually averages three minutes; dispatch takes about one minute; and set up at the fire scene requires one minute. This means that the emergency response time must be kept to five minutes in order to prevent unrestricted growth of the fire. Flash over occurs when internal temperatures are sufficient to cause spontaneous combustion. The risk of injuries, fatalities and increased property losses escalates dramatically once flash over occurs.

Medical Emergencies – Standards and Guidelines

Prompt response to a medical emergency improves the chances of survival and subsequent quality of life for acute patients. The American Heart Association has published standards for Advanced Cardiac Life Support, that have been adopted by the Canadian Medical Association. These standards recommend that a heart attack patient receive Basic Life Support (CPR and

EXHIBIT 3: 3 STATIONS, 5 MINUTE RESPONSE



oxygen) within four minutes, and Advanced Life Support (drugs, electrical conversion, or stimulation of the heart) within eight minutes to reduce the risks of subsequent permanent damage.

Time is also of the essence for trauma victims at motor vehicle accidents. Survival rates and subsequent quality of life for trauma victims are significantly reduced if the victim does not receive treatment within one hour of the injury. Within this hour, the call for help must be received, units must be dispatched and travel to the scene of the accident, and the patient must be extricated from the vehicle and then assessed, treated, and transported to the hospital. Lab work and X-ray must be completed while the patient is being prepared for surgery.

Response Times Within The City of Red Deer

The City of Red Deer adopted a response time guideline in 1980-81, which was reconfirmed by City Council in 1989-90. The target is to respond to 90% of emergency calls within five minutes. This includes travel time of 3 ½ minutes and 1 ½ minutes to receive the call, notify staff, and initiate the response. A response time target of five minutes is fairly consistent across North America within urban areas.

With new residential, commercial and industrial developments, the Emergency Services Department was only able to respond to 65% of the local calls in 1996 within the response guideline of five minutes. Service areas in the north of Red Deer and some portions of the East Hill experienced response times of 8 to 10 minutes.

Fire Station Location

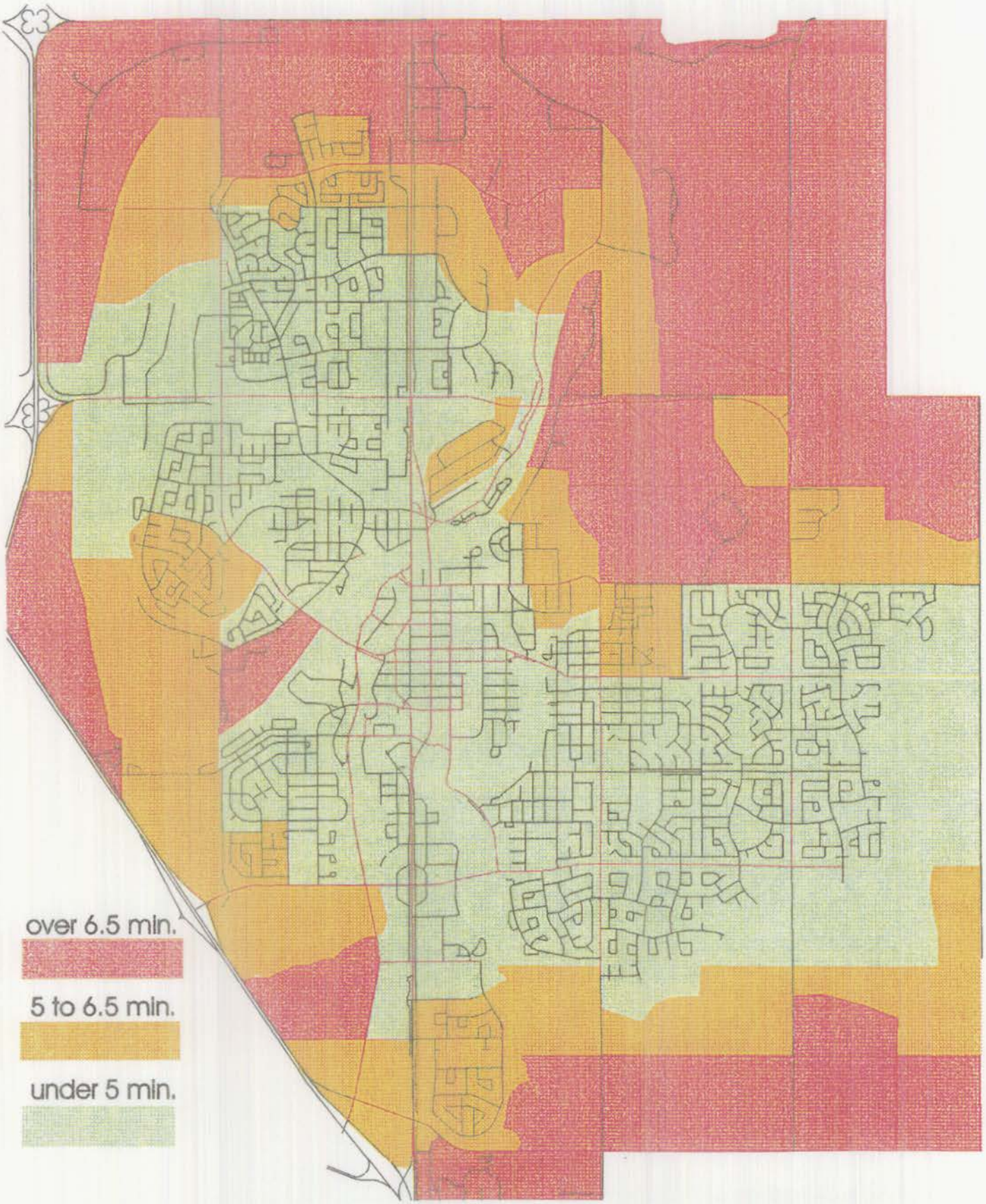
One significant variable impacting response time is the location of the fire stations relative to the fire. Other variables include roadway systems, traffic patterns, weather conditions, and the availability, training, and response readiness of fire fighting personnel. Emergency Departments must take into account all of these variables when making decisions with respect to fire station locations. Response times for the current station configuration in Red Deer are shown in Exhibit 3.

Existing Fire Stations in Red Deer

The City of Red Deer currently has three modern and well-equipped fire stations that provide emergency services to approximately 61,000 residents, living in a geographic area of 20 square miles. These stations are located at:

- 4941 - 46 Street – Station #1;
- 5839 - 67 Street – Station #2; and
- 4340 - 32 Street – Station #3.

EXHIBIT 4: 4 STATIONS, 5 MINUTE RESPONSE TIME



- All stations include an area for providing in-house training sessions, and are generally physically well suited to the needs of the Department. Station #3 contains the administrative offices of the Chief, the Deputy Chiefs, the platoon chiefs, the fire inspectors, and the communications (911) division. Stations 1 and 3 have facilities for female fire-medics, although the Department does not currently have any female fire fighting staff.

The location of two other fire stations operated by other fire departments could have implications for response times. Specifically, the County has built a new station at Delbourne Road and 30th Avenue; and Michener Centre operates an on-site fire station which responds to about 200 internal calls per year, most of which are false alarms.

Key Findings from Fire Station Location Studies

The City has conducted three fire location studies. The first study conducted in 1980, recommended construction of Station 3 and the relocation of Station 1. The second study in 1988/89 re-examined fire hazards and updated the location model to account for new transportation patterns and the relocation of the railroad. The second study concluded that:

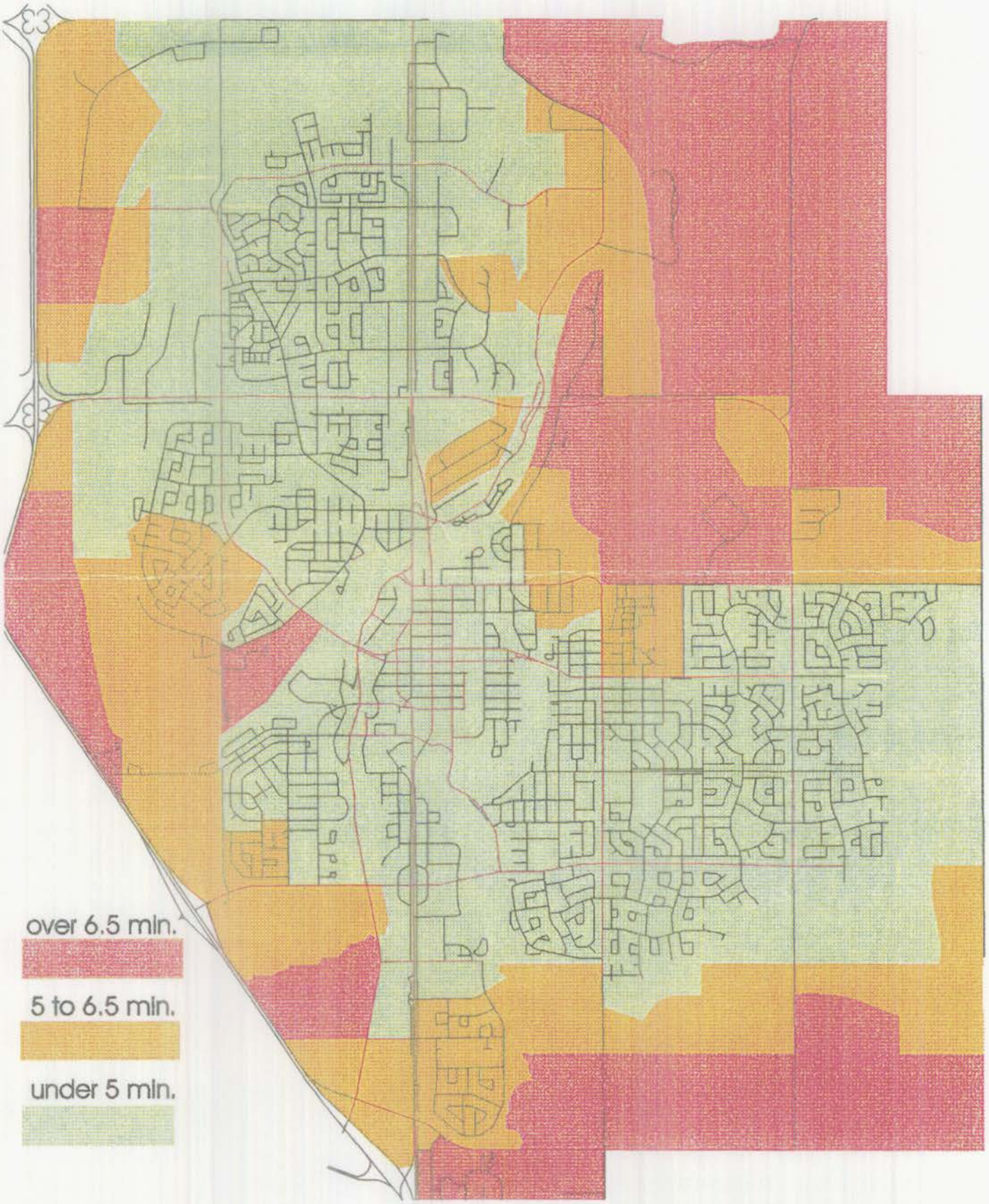
- Station #2 was not ideally located;
- there was an immediate need for a fourth station in the East Hill; and
- consideration should be given to building and operating a temporary (up to 20 years) station with two bays, one fire truck, one ambulance, and a four-person crew.

Based upon these recommendations, land was purchased in 1992 for the temporary station; however, it was recognized that the permanent site of the fourth station might eventually have to be located further from the City centre.

The third fire station location study in 1996/97 examined the number and configuration of fire stations necessary to improve response times in the East Hill and in the north of the City. The impact of the proposed fourth and fifth stations on response time is shown in Exhibits 4 and 5, respectively. The Emergency Services Department also examined relocating existing stations to better serve these areas, but found that reconfiguration was not a viable option.

Funding to construct a fourth fire station in the East Hill by 1998 was included initially in the 1995 budget. This target date was moved up from 1998 to 1997 in the 1996 budget. Capital costs of the new station are estimated at $1,100,000, and estimated annual operating costs are $1million.

EXHIBIT 5: 5 STATIONS, 5 MINUTE RESPONSE TIME



Fire Suppression Capability

Fire Industry Guidelines – Apparatus and Staffing

In addition to response time, the number of apparatus and staff at a fire scene are the critical factors in determining the safety and effectiveness of fire fighting performance. The depth of the response required depends on the expected fire fighting conditions. The National Fire Protection Association sets out the factors including hazard to the population, safety of the fire fighters, characteristics of the property and potential property loss, the incident command system, and budget constraints. Two fire suppression vehicles and a command officer are considered the minimum response to a structure fire.

The seminal study in evaluating the effectiveness of staffing levels for engine companies was conducted in the City of Dallas by McManis Associates and John T. O'Hagan and Associates. The effectiveness of three, four and five person engine companies were assessed using fire simulations of single family residential, apartment, and high rise office fires. The fire simulation results showed that staffing "below a crew size of four can overtax the operating forces and lead to high losses". There were only a few cases where the four-person crew was taxed beyond its limit. A staffing level of five was found to be desirable for brick veneer or combustible apartment house complexes and high rise office fires.

The City Of Red Deer Guidelines/Practices - Apparatus and Staffing

Staffing Levels

The City's operating policy is to maintain a minimum staffing level of four fire-medics per engine. Staff are organized into four platoons, each staffed by a chief officer and 16 fire-medics. The effective staffing complement is typically 13 to 14 after adjustments for holidays, illness, and off-site training. The minimum staffing level target is 12 fire-medics, although fire-medics are not called back in until staffing levels drop below eight.

The Emergency Services Department has a total staff complement of 93 persons. Table 1 indicates the allocation of staff by function and position. Table 2 shows the staffing levels that are maintained at each of the fire stations. Most fire-medics are cross-trained as emergency medical technicians (17 are paramedics) and eight are cross-trained as Safety Codes Officers.

Apparatus and Equipment

All front-line equipment is suitable for the function for which it is intended, and was reported to be in good mechanical condition. The Department apparatus replacement plan is effective and in compliance with normal replacement parameters. New apparatus specifications are based upon the standards recommended by the National Fire Protection Association and Underwriters

Laboratories of Canada. The Department has replaced most of the self-contained breathing apparatus within the past three years and has a relatively new breathing air compressor.

A detailed listing of apparatus at each of the fire stations is presented in Table 2. The Department has several other vehicles used for various official functions and duties that may be utilized in an emergency.

TABLE 1: FULL-TIME EQUIVALENT (FTE) EMERGENCY SERVICES DEPARTMENT STAFFING BY FUNCTION AND POSITION DESCRIPTION

Functions	**FTEs**
Administrative	6.0
Fire Prevention	5.5
Fire Suppression	56.5
Communications	9.4
Disaster Services	0.0
Ambulance	15.0
Total	***92.4***
Position Descriptions	**Number**
Fire Chief	1
Deputy Chiefs	3
Platoon Chiefs	4
Fire Marshall/Chief Safety Codes Officer	1
Fire Inspectors/Investigators/Safety Codes Officers	4
Dispatchers	11
Fire-medics (12 captains, 8 lieutenants, and 45 fire-medics)	65
Other including administrative support	4
Total	***93***

TABLE 2: EQUIPMENT AND STAFFING BY FIRE STATION

Station	***Staffing Complement***	***Equipment***
Station 1	8 Total Staff ➢ 1 captain; ➢ 2 lieutenants; ➢ 5 fire-medics	➢ 1995 Superior engine with 50' ladder/tower and 1250 IGPM pump; ➢ 1986 Superior 100' aerial ladder; ➢ 1990Superior rescue/hazmat/communications unit; ➢ 1980 Superior tanker with a 350 IGPM pump; ➢ 1976 Superior rescue unit (reserve unit); ➢ 1979 Thibault engine with 1750 IGPM pump (reserve unit); ➢ 1988 Ford modular ALS ambulance; ➢ 1986 Ford modular ALS ambulance; and ➢ Zodiac rescue boat. Note: The Department has tendered the purchase of a one ton pick-up truck to be equipped as a brush truck.
Station 2	4 Total Staff ➢ 1 captain ➢ 3 fire-medics	➢ 1988 Superior 1500 IGPM engine; ➢ 1981 Thibault 1050 IGPM engine c/w 75' ladder/tower and 200 gallon foam tank (reserve unit); ➢ 1976 foam tender (reserve unit); and ➢ 1988 Ford high-top ALS ambulance
Station 3	5 Total Staff ➢ 1 platoon chief ➢ 1captain ➢ 3 fire fighter/medics	➢ 1990 Superior 1500 IGPM engine; ➢ 1983 Superior 1050 IGPM engine (reserve unit); ➢ 1989 Ford high-top ALS ambulance (4 wheel drive); ➢ 1985 Ford modular ambulance (reserve unit); and ➢ 1994 Platoon Chiefs' response vehicle.

EXHIBIT 6
RECOMMENDED RESPONSE CAPABILITY FOR THE CITY OF RED DEER

Risk Class	Description	Flow/IGPM	First Engine	Second Engine	Third Engine	Aerial Ladder	Total Average
1	Typical modern 1 & 2 storey detached residential buildings.	400 - 1,000	4 min	7 min		7 min	2 Engines in 7 min 1 Aerial in 7 min
2	Close built 3 & 4 storey residential buildings, small mercantile and shopping centres.	1,200 – 8,000	3.5 min	5 min	7 min	3.5 min	3 Engines in 6 min 1 Aerial in 4 min
3	Large area, high fire load or life hazard; shopping centres and most institutions.	8,000 – 12,000	2.5 min	5 min	5 min	3.5 min	6 Engines in 15 min 3 Aerials in 20 min
4	High hazards in large institutions and industrial buildings and unsprinklered high-rise buildings. Closely built Core Area.	10,000 - 15,000	2.5 min	5 min	5 min	2.5 min	6 Engines in 20 min 3 Aerials in 10 min

Source: Modified Standards from IAO

Assessment of Response Capabilities

The City of Red Deer has the capability to respond effectively to Risk Class 1 fires (one and two storey detached residential buildings) with its current minimum staffing levels, and to Risk Class 2 fires, only if staffing is at full strength. The Emergency Services Department does not have the capability to provide a timely response to Risk Class 3 or 4 structure fires. Fire fighting would be delayed 15 to 20 minutes on fires in Risk Class 3 or 4 until fire-medics called in from the County Fire Department arrive. A description of the various fire risk classes in presented in Table 3 below.

TABLE 3: DESCRIPTION OF FIRE RISK CLASSES

Risk Class	***Description***
1	Typical modern 1 and 2 story detached residential buildings
2	Closely built 3 and 4 story residential buildings, small mercantile and shopping centres
3	Large area, high fire load or life hazard; shopping centres and most institutions
4	High hazards in large institutions and industrial buildings and unsprinklered high-rise buildings. Closely built core area.

The technical consultant to the project estimated the fire suppression capability of the Emergency Services Department with four stations, staffed with a chief officer and 21 fire-medics. Fire suppression capability in terms of water flow is significantly enhanced. The Emergency Services Department would have the capability to respond effectively to fires in Risk Class 2 structures, but would still have to rely on call-ins and the County of Red Deer to respond to fires in Risk Class 3 and 4 structures. The response profile recommended for the City of Red Deer is presented in Exhibit 6.

Summary of Major Conclusions

1. The Fire Risk Evaluation Study identifies a number of high-risk areas within the City that must be considered in planning fire station locations and apparatus and staffing requirements. These are detailed in Appendix C.

2. Emergency Services Department apparatus is appropriate for its intended use, is effective, and in compliance with commonly accepted industry standards.

3. The City's historical target is to respond to 90% of emergency calls within five minutes. A five minute response time is fairly consistent with the targets set by other urban municipalities across North America.

4. In 1996, the Emergency Services Department responded to 65% of emergency calls within the five-minute target. The growth in new residential, commercial, and industrial development contributed significantly to this result.

5. With the current number and configuration of fire stations, response time to the northern portion of The City and some sections in the East Hill will continue to exceed 8 minutes.

6. An analysis by the Emergency Services Department indicates that relocating the existing three stations will not address concerns relating to response times.

7. Building a fourth station in the East Hill area of the City should increase the quality of emergency response services and reduce response times to less than five minutes in East Hill.

8. With current apparatus and staffing levels, the Emergency Services Department has the capacity to respond effectively to fires in Risk Class 1 at all times, and 2 structures at full staffing levels. The Department does not have the capacity to respond effectively to fires in Risk Class 3 and 4 structures.

9. Adding a fourth fully staffed station would improve response times and ensure that the Department can respond effectively to Risk Class 2 fires at all times. However, the fourth station would not provide the capacity to respond effectively to fires in Risk Class 3 and 4 structures, without support from the County of Red Deer.

10. Continued coordination of the emergency response capabilities of the City, the County and other emergency response services in the area is vital to the interests of residents.

CHAPTER 5: INTERNAL AND EXTERNAL ORGANIZATIONAL RELATIONSHIPS

Chapter Organization

The delivery of emergency services is impacted by the Emergency Services Department's relationships with other City of Red Deer Departments and external organizations. This chapter reviews these key relationships focusing on three major service areas -- namely, Fire Services, Emergency Medical Services, and Disaster Planning. In addition, the Mutual Aid Agreements that Red Deer has in place with other municipalities are reviewed.

Fire Services

Effective functioning of the Fire Service requires close working relationships with a number of City departments. The current organizational structure, which has Engineering Services, Public Works, Licensing and Inspection, Land and Economic Development, as well as Emergency Services all reporting to one Director, helps to strengthen these relationships. Close working relationships must also be maintained with a number of external organizations including the Regional Health Authority, the County, the RCMP, Michener Centre, and private industry.

Engineering Services

City Engineering Services is responsible for the design and construction of the water storage, treatment, and distribution system as well as the design of the roadway systems in new subdivisions. Specific roles and functions that impact Emergency Services operations include:

- setting standards with respect to customer service and hydrant spacing in new subdivisions;
- reviewing redevelopment applications to assess if modifications to the water distribution system are required;
- trouble shooting for the Emergency Services Department to assess problems with water flows and propose solutions as required;
- modeling the water distribution system to predict pressures and flows based upon pipe size, elevation changes, and friction loses; and
- designing roadway systems that take into account the access requirements of fire engines and pumpers.

The Emergency Services Department has good working relationships with Engineering Services and has adequate opportunities to influence the design criteria for the water and roadway systems.

Public Works

City Public Works is responsible for the operation and maintenance of the water supply, water treatment, and water distribution systems.

- *Water Supply:* The Red Deer River is the primary source of water within The City of Red Deer. The City has four water storage reservoirs including:

• Bellview	750 m^3
• Glendale	9,000 m^3
• Mountview	10,454 m^3
• Mountview Tower	22,073 m^3
	42,277 m^3

The elevated reservoir is powered by an electric pump and has a back-up diesel generator.

Management is confident that the water supply and distribution systems are reliable, barring a major disaster. However, during a very dry summer, the City can experience a water shortage. During periods of water shortage, the City has rationed water based on house numbers to ensure that adequate supplies are maintained for fire suppression.

- *Water Treatment:* The City has two water treatment plants. The newest plant, built in 1980, has a capacity of 75 million liters. The older water treatment facility, which has a capacity of 32 million liters, is used for back up and normally takes three to four hours to put into service.

The distribution system utilizes minimum pipe size of 150mm and 200mm in the residential and industrial areas respectively, and is pressurized primarily by electric pumps. The water distribution system is designed to provide a flow rate of 4,500 liters per minute. The lowest water pressure across the system is in the southeast. Water pressure in this area is about 4,500 psi. The majority of the water distribution system is looped, except for an area east of 45 Avenue and south of Ross Street. In new subdivisions, a few mains come to a dead end in a Close. Valves have been placed to ensure that a maximum of 25 services will have to be shut-off for maintenance. New water mains are designed and installed by private contractors. The Public Works Department has a plan to upgrade the water system over a ten-year period.

- *Fire Hydrants:* Fire hydrants are placed every 120 meters in residential neighborhoods and every 180 meters in commercial areas of the City. Spacing is appropriate for the hose loads carried by vehicles. An inventory is maintained of hydrants with each Public Works hydrant identified by a number. The hydrant inventory shows what water capacity to expect from each hydrant. Public Works

is responsible for maintaining and testing of hydrants, which are inspected twice a year. In the spring, the flow rate is tested to ensure that there has been no damage from a cold winter and the condition of the bearings and valves is examined. In the fall, the hydrants are inspected for leaks and then winterized. If a hydrant is temporarily out of service, Public Works places a metal disk indicating that the particular hydrant is out of service and informs the Emergency Services Department of hydrant status.

Private contractors are responsible for installing hydrants in new subdivisions. Public Works adds the new hydrants to its inventory. The metal disk remains on the hydrant until bacteriological tests are completed.

There are about 200 hydrants on private property including the Red Deer Community College, Michener Centre, shopping malls, industrial plants, and mobile home parks. The owners are responsible for hydrant maintenance and may have to provide a certificate of service. As there are no local plumbing firms in the hydrant servicing business, the City provides this service on a fee-for-service basis.

The Emergency Services Department is responsible for informing Public Works that a hydrant is in use. During a large fire, requiring substantial water supplies in the winter months, Public Works may be required to assist to prevent flooding. Vacuum equipment will be used to pump up excess water. If the Emergency Services Department utilizes large quantities of water for training purposes, the Department is charged based on the flow rate and elapsed time.

- *Water Liaison Officer:* Some large municipal fire departments in North America have a water officer who is responsible for liaison with the Public Works Department. In The City Of Red Deer, the Public Works Manager deals with a variety of people in the Emergency Services Department, primarily the Chiefs. Consideration should be given to designating a water liaison officer.

Licensing and Inspection

The City Licensing and Inspection Branch and the Fire Prevention Bureau cooperatively review the plans and on-site inspections for construction projects. Occupancy inspections are also conducted jointly with the staff of the two branches meeting every Tuesday to schedule inspections. The City of Red Deer relies upon businesses to inform them of changes in occupancy, or notification of changes is provided by the Utilities Department.

Land and Economic Development

In preparing new subdivision plans, the City Land and Economic Development Department consults the Emergency Services Department on water requirements and structural design.

City Corporate Departments

While the Emergency Services Department is reasonably self-contained, it does make some use of corporate staff resources from Human Resources and Finance.

- *Personnel:* The City Personnel Department assists the Emergency Services Department with the recruitment, training and collective bargaining functions. During the recruitment process, it assists with testing, arranging medicals, interviewing, and conducting reference checks. The Emergency Services Department could make additional use of the resources of the Department in developing personnel policies and dealing with personnel issues and grievances.

- *Finance:* The Emergency Services Department prepares its own business plan and completes its financial analysis of investments. It could benefit, however, from utilizing the expertise of the City Finance Department to critique its analysis. As well, the Finance Department is responsible for the corporate information systems and could contribute to the development of a long-term information management plan for the Emergency Services Department.

The RCMP

RCMP supports the Fire Service at a fire scene by cordoning off the area to pedestrian or vehicle traffic and controlling crowds. In fire investigations, the Emergency Services Department is responsible for determining if arson was the cause, while police are responsible for completing the criminal investigations.

The RCMP takes the lead role in searches for missing persons. Volunteers from the Blackfalds Search and Rescue Club assist the detachment. The Club provides ground support to the RCMP in searches while the Radio Emergency Aid Patrol assists in communications. The Emergency Services Department supports search and rescue operations including the provision of specialized rescue services.

The County of Red Deer

The County of Red Deer, which surrounds the City, has a population of 18,000 and operates its own fire department.

- *Description:* The County's fire department was established 13 years ago and has four fire stations staffed by 40 volunteer fire fighters. In addition, the department has a full-time staff of three including a fire chief, deputy fire chief, and a secretary. The County fire department responds to approximately 80 incidents a year, of which approximately five are actual fires. As well, the chief and his deputy carry out inspections and conduct a limited public information program.

- *Stations and Equipment:* The County's No. 1 fire station is located on the south-east boundary of The City of Red Deer, while the other three stations are located at sites more distant from the City. Because of the County's geographical location around the City, the County fire department travels through the City to respond to some incidents north and east of Red Deer. The department has an annual operating budget of approximately $200,000 and provides service to the rural area - primarily south of the City. Fire fighting equipment available includes:

  - 3 engines (4,000 liters/min);
  - 3 tanker units (2,500 gallons each);
  - 1 brush truck (300 gal. capacity);
  - 1 rapid intervention unit located at the airport; and
  - 1 older back up engine.

  In addition, the County plans to purchase one new engine in 1997.

- *Volunteer Force:* Volunteer stations are located in hamlets throughout the County. Each rural station has a Chief, a volunteer force, and equipment. The County of Red Deer provides support for funding and training. The Fire Chief is trying to build a team by bringing these volunteer fire fighters together for training and sharing equipment among stations.

  There is a core group of volunteers who have received their training at the Alberta Fire Training School. Turnover among this core group of volunteers is low. They are paid a stipend when they are working, but receive no benefits other than short-term and long-term disability, WCB, and life insurance. The volunteers are a closely-knit group comprising primarily farmers and oil field workers. Factors identified as motivating individuals to become volunteers included the opportunity provided to keep first aid training up to date, the excitement of fire fighting, social reasons, or interest in becoming a career fire fighter.

  County volunteer fire fighters receive training from the Fire Chief in the County on a bi-weekly basis. They have a standardized curriculum based on the Alberta Fire

Training School Fire Fighter Level 1 and 2 and Pump A course. In addition, all of the officers have completed the provincial incident command course. Some members of the department have also attended other courses offered at the provincial training school.

- *Fire Hazards:* The higher risk facilities in the County of Red Deer include The City of Red Deer airport, fertilizer plants, and oil and gas facilities. The airport is located in the County of Red Deer, but is operated by The City of Red Deer. Currently, the airport manager is a City employee; however, the airport is being converted into a local airport authority. The County maintains a rapid intervention unit at the airport plus one engine with foam capability. If there is a potential air crash, the City Emergency Services Department receives an automatic call out because of the potential need to provide ambulance and/or rescue services. However, if it is a larger airplane, back-up fire suppression services may be requested as well. The airport has a major emergency plan that is reviewed by the County and the City Fire Chief. The disaster services planning position in the County is filled by the Senior Patrol Officer of the County's By-law Enforcement Department.

- *Response Time*: According to Fire Chief, the average response time for volunteers is 11.1 minutes. On weekends and evenings, the average turnout of volunteer fire fighters is around 30 per incident. Turnout rates are less than four volunteers per incident during the day.

- *Relationship With The City:* Although the City and the County have a Mutual Aid Agreement and a joint Fire Response Agreement, the City Emergency Services Department and the County Fire Department have not trained together or undertaken any joint emergency exercises. The County Fire Department is interested in making use of the new training facility in The City of Red Deer. The RCMP also believe that there are opportunities for the County and the City of Red Deer to work together in the areas of fire prevention and fire suppression in high rise apartments.

Novacor Chemicals

Although The City of Red Deer does not have any heavy industry within its borders, the Emergency Services Department shares resources and training with companies such as Novacor Chemical.

Novacor has a major petro-chemical complex at Joffre consisting of two ethylene crackers and polyethylene units. The company has applied to the Alberta Energy and Utilities Board for a permit to construct a third ethylene cracker and another polyethylene unit. The expansion is expected to be complete by the end of the decade. Novacor currently supplies ethylene to Union

Carbide in Prentis; and Agrium operates a fertilizer plant using off-gases from Novacor's ethylene unit. Amoco has announced plans for a new chemical plant utilizing feed stock from Nova.

The company operates its own emergency services department and has equipment, primarily for chemical, rather than structural, fires. The department has reduced its manning levels and now operates with two personnel per shift compared to four previously. Novacor's resources could be utilized in the event of a disaster, but they do not have the type of resources to assist on a regular basis. They have hazmat equipment with dry foam for dangerous goods incidents, but no pumps or aerial ladders. Novacor sponsors one of the City fire fighters on a specialized course at Texas A&M annually

Michener Centre

- Michener Centre is located on two sites on the northern edge of the City and is run by an independent Board. The Centre is relatively self-contained and provides many of the services that traditionally are provided by a municipality. This includes the primary power and water storage supply, as well as a self-contained fire department.

- *Clients Served:* The Centre provides residential and support services to persons between the ages of 25 and 90 who have varying degrees of mental and physical disability. The Centre has been going through a downsizing process over the past five years with the number of residents decreasing from 2,400 to about 600. The population is expected to level off at between 300 to 400 residents.

- *Facility:* The Michener Centre, which is owned by the Provincial Government, is a large complex with 63 buildings sitting on a 360-acre site. Of the 63 buildings, 29 are group homes with 6 - 10 clients in each and 12 are large residences with a capacity of 60 to 80 clients. There are also 2 workshops, 2 recreational buildings, 3 training centres and various other buildings that support the Centre's programs. Currently, the Centre has a staff to client ratio of approximately 1:8 during the day and 1:15 in the evening and at night. There have been no additions to the facility for the past 15 years. There are narrow fire lanes throughout the facility grounds between the buildings.

- *Fire Risk:* Michener Centre is a high-risk facility within the City. There are several old wooden structures, and the disabilities of many of the residents make them more vulnerable. Two buildings, which were previous nurses' residences, are among the most attractive facilities. The Centre is planning to install sprinklers in these buildings. However, longer-term, the Centre may dispose of the north site and consolidate in the southern section. The recreation, medical/dental services, and many of the group homes are on the south side.

- *Fire Service:* A Fire Chief, who is responsible for fire prevention and suppression, occupational health and safety, and WHIMS, heads the fire department for the Centre. The Chief is not a certified safety codes officer; however, he carries out inspections at the Centre on a regular basis. In addition, a private inspection company from Calgary completes an on-site inspection every five years. Consideration could be given to contracting this function to the Red Deer Emergency Services Department. This would allow Emergency Services Department staff to become more familiar with the Centre in the event of an emergency, as well as generate revenue for the Department.

The Centre maintains its own volunteer fire department and operates on an annual budget of approximately $250,000. It is equipped with a 5,000-liters/min triple combination engine as well as a suburban rescue unit. The department maintains an on-call crew of 12 fire fighters (staff with other primary job responsibilities) during the day, and a dedicated crew of five at night. Evening crews also carry out additional duties, such as fire inspections, flushing hydrants on the site, or checking fire extinguishers. Centre administration is considering reducing the evening crew to four.

Fire fighting staff are trained to the NFPA 1001 fire fighter standard (level 1, 2, and 3) and the NFPA 1002 level A, pump operator standard. Staff trainers are certified by the Alberta Fire Training Centre and provide ongoing training every second week for one hour.

It takes eight minutes for the City Emergency Services Department (Station #3) to respond to a call to the south site of the Michener Centre; response time to the north site is ten minutes. In the event of an alarm, the Centre's fire crews respond, evaluate the situation, and notify the City's communications centre of the situation within four minutes. In the event there is no response from the crews, the City is automatically called to respond. If the alarm comes from the main building, the City is automatically notified of the incident and put on stand-by. In addition, City Emergency Services could be put on stand-by for other alarms, depending on the information received by the communications centre.

The Centre has an average of 200 alarms per year, of which approximately 95% are false alarms. The other alarms have been minor incidents such as garbage bin and laundry fires. The last significant structural fire was in 1987.

The institution is rationalizing its operations as a result of the downsizing. It may no longer be able to afford its own on-site fire service. As well, The City of Red Deer is growing up around the Michener Centre, and the City is providing service to the area.

- *Support to the County:* Michener Centre has an excellent working relationship with the County of Red Deer. The Michener Fire Chief provides training to the volunteers in the County. The County has asked Michener Centre if they would be prepared to provide back-up fire services, however, Michener Centre refused the request, as its volunteers have other duties.

Emergency Medical Services

Emergency Medical Services maintains close working relationships with the Regional Health Authority, the Red Deer General Hospital, the RCMP, STARS Air Ambulance, the County of Red Deer, and the Michener Centre.

David Thompson Regional Health Authority

The David Thompson Regional Health Authority has responsibility for the delivery of health services for a large geographic region comprising several municipalities. Since ambulance services are under the jurisdiction of individual municipalities, the Region is served by several municipal ambulance services. These include services operated by Red Deer, Rimbey, Ponoka, Innisfail, Elnora, Sylvan Lake, Eckville, Bashaw, Lacombe, and Rocky Mountain House.

While The City of Red Deer has a very good ambulance service, some of the smaller communities more distant from the Red Deer Hospital would benefit from service enhancements. For example, Sylvan Lake and Eckville provide only a basic life support service.

Red Deer General Hospital

The Red Deer Regional Hospital is the largest hospital within the David Thompson Health Authority. Historically, the Emergency Service Department provided hospital transfers for the Red Deer Hospital on a fee-for-service basis. This practice generated about $250,000 in annual revenue, with a net annual financial benefit to the City after factoring incremental costs of approximately $90,000. However, the hospital transfers made staffing and training very difficult and put additional miles on the ambulances resulting in more mechanical breakdowns. In addition, staff often had to be re-assigned to make trips to Calgary and Edmonton, which resulted in staff scheduling problems and difficulties coordinating training activities.

The Department now provides back up to Guardian Ambulance, which has the contract for inpatient inter-hospital transfers with the RHA. The RHA is attempting to coordinate ground trips to and from Calgary and Edmonton. Fixed wing ambulance service is not provided out of Red Deer, as ground ambulance is just as fast. However, the Region is making increasing use of the STARS ambulance.

STARS Air Ambulance

STARS Air Ambulance is required for some medical emergencies. These emergencies include neuro-surgery, thoracic surgery, newborn intensive care, and multiple traumas. Depending upon availability, STARS Ambulance is utilized on a seasonal basis to handle transfers of patients with head and chest injuries. The STARS Ambulance often lands right at the Red Deer Hospital to pick up a patient. In Southern Alberta, the ambulance is dispatched out of Medicine Hat and is responsible for contacting the receiving hospital.

Michener Centre

The Michener Centre has an ambulance that is used primarily for transport, rather than basic life support services. The Centre operates a 24-hour sick bay, which is the first contact in the event that a resident is ill. If a resident requires emergency medical services, the sick bay phones 911 and requests a City ambulance. On day trips, the person in charge of the group is responsible for phoning 911.

County of Red Deer

The City of Red Deer Emergency Services Department and the County of Red Deer Fire Department have an effective working relationship. The City Department provides ambulance and rescue services to a significant portion of the County. A serious medical or trauma incident within the County may receive a response from the City Emergency Services Department including ambulance, rescue unit, fire engine, and a command unit. The County does not participate as a first responder in these incidents because, as Chief Carson states, the City Department would be at the location before the County's volunteer force. The County also contracts with Eckville, Sylvan Lake, and Guardian Ambulance to provide ambulance services in other quadrants of the region.

The RCMP

Emergency Scene Assistance: The RCMP and Emergency Medical Services often work together in an emergency situation. They assist each other at vehicle accidents requiring vehicle extraction or emergency medical services; they often both respond to a drug overdose incident; and the RCMP also assists the paramedics in situations that could be potentially violent.

Victim Services: Victim Services operates out of the RCMP facility. It is staffed by 40 to 50 volunteers, many of whom are retired RCMP officers. The volunteers are put through an extensive screening and training process. As well as providing assistance to the general public, the Victim Services Unit helps the staff of the Emergency Services Department, the David Thompson Health Authority, and the RCMP deal emotionally with emergency situations.

EXHIBIT 7
MUTUAL AID AGREEMENTS

Location	Fire	Rescue	Ambulance Service
Town of Blackfalds	√		
Town of Bowden	√		
Village of Delburne	√		Red Deer Contract
Town of Eckville	√		BLS
Village of Elnora	√		
Town of Innisfail	√		ALS (private)
Town of Lacombe	√		ALS
Town of Olds	√		
Town of Penhold	√		
Town of Ponoka	√		BLS
County of Red Deer	√	√	Red Deer serves part of the County
Town of Sylvan Lake	√		ALS (private)

911 Service: The City of Red Deer operates the 911 service for the RCMP City detachment. When a call is received for the police, the dispatcher automatically relays the call. The RCMP operates an internal dispatch service from their communications centre. They also have a project room that is pre-wired and could serve as a back-up location for the 911 service in the event of an emergency.

Disaster Services

Michener Centre

Michener Centre is currently updating its disaster plan. Historically, in the event of a disaster, the residents would have been evacuated to the military base at Penhold. Since the base has closed, the Centre will be examining other facilities. Its disaster plan has never been tested. Michener Centre could provide a wide range of services including food, shelter, transportation, and medical services to The City of Red Deer in the event of a disaster not affecting the Centre. The fire suppression and ambulance services at Michener Centre are listed in the Resource Inventory of The City of Red Deer's Emergency Plan.

The RCMP

The RCMP is actively involved in disaster planning. The detachment has a fifteen man emergency unit that assesses risks and explores potential scenarios. The RCMP believes that the major risks facing the City from a police respective are zealots and bombings. There is a need for closer cooperation between the Emergency Services Department and the RCMP in disaster planning.

Novacor

Novacor's resources would be utilized in the event of a disaster. They have hazmat equipment with dry foam for dangerous goods incidents, but no pumps or aerial ladders.

Mutual Aid Agreements

The City of Red Deer has Mutual Aid Agreements for fire suppression, ambulance services, and rescue services with 12 municipalities. The Mutual Aid Agreements are shown in Exhibit 7, opposite. These mutual aid agreements cover the standard issues including:

- responsibility for activating the agreement;
- response of equipment and manpower at responding municipality's discretion;
- incident command structure;

- recovery of costs for services provided; and
- legal liability.

Municipalities normally rely on the closest municipalities for aid.

Summary of Key Findings and Conclusions

1. Effective and productive working relationships exist between Emergency Services Department and the Engineering, Public Works, Licensing and Inspection and Land Development Departments. The City's current administrative structure formalizes and helps to strengthen these relationships.

2. The water supply and distribution system is adequate to meet fire suppression needs, barring a major disaster. A notable exception to this is the availability of water within the urban forest area.

3. The Emergency Services Department has not designated a person as a Water Liaison Officer. Currently, the Public Works Manager deals with a number of Chiefs and other Emergency Services personnel with respect to water supply and distribution issues.

4. More extensive use could be made of the services of the City's Human Resources and Finance Departments to support the Emergency Services Department's operations.

5. The RCMP and the Emergency Services Department understand clearly their respective roles and functions when responding to emergency incidents and conducting fire investigations.

6. The relationship between the City and the County is defined clearly in a Mutual Aid Agreement; and a positive spirit of cooperation appears to exist between emergency services personnel from both Departments. There are, however, significant opportunities for increased cooperation, particularly in the areas of training, disaster planning, and fire prevention and suppression.

7. Reduction in the internal capacity of the Michener Centre to respond to emergencies would have significant workload and response time implications for The City of Red Deer's Emergency Services Department. Efforts should be made to ensure the Michener Centre maintains its internal emergency response capacity and the Province lives up to its obligations in this area.

8. The City of Red Deer has one of the best ambulance services in the Province. However, the same level and quality of service is not consistently provided throughout the David Thompson Regional Health Authority, since each municipality is responsible for its own ambulance services.

9. Delivering ambulance services on a regional basis has the potential to provide better coverage of the David Thompson Regional Authority and may represent an opportunity for the Emergency Services Department to expand their service mandate.

10. The City of Red Deer has Mutual Aid Agreements that clearly define responsibilities and accountabilities for fire suppression, ambulance services and rescue services with 12 municipalities. Mutual Aid Agreements for hazardous materials response have not been formalized.

CHAPTER 6: REVIEW OF CURRENT EMERGENCY SERVICES AND PROGRAMS

CHAPTER ORGANIZATION

Chapter 6 outlines the scope of emergency services contemplated in the Emergency Services By-law; reviews the major programs and services offered; and identifies areas of strength as well as opportunities to improve the effectiveness of service delivery.

SCOPE OF EMERGENCY SERVICES PROVIDED

The City of Red Deer has adopted Emergency Services By-law 3158/96 that sets the scope and authority under which the Emergency Services Department operates. Under the By-law, the Department provides the following services:

- fire prevention;
- enforcement of the Safety Codes Act;
- enforcement of City By-laws relating to fire protection;
- pre-fire planning;
- fire suppression;
- rescue services;
- emergency medical services;
- hazardous materials first response; and
- disaster planning.

FIRE PREVENTION

Fire Prevention Bureau - Legal Status

The City of Red Deer is an accredited municipality under the Safety Codes Act. As well, on September 27, 1996, the Department obtained agency accreditation which permits the Department to conduct fire inspections/investigations for other organizations. The City established the Fire Prevention Bureau as the primary structure responsible for inspections, investigations, and enforcement of the Safety Codes Act. The Bureau has had its Quality Management Plans for accredited municipalities and agencies approved by the Alberta Safety Codes Council.

Fire Prevention Bureau - Functions and Services

In addition to enforcement of the Safety Codes Act, the Fire Prevention Bureau enforces some City By-laws, issues permits, supports public education in fire prevention, and provides training to City employees and industry. Specific services and functions provided are discussed in this section of the report.

Review Building Plans and Issue Occupancy Permits

New construction is under the jurisdiction of the Building Inspection Department until such time that an occupancy permit is issued. At that time, the inspection process is turned over to the Emergency Services Department for ongoing inspections and compliance with the Alberta Fire Code.

The Fire Prevention Section works with the Licensing and Inspection Branch to review construction plans of new buildings. Developers provide two copies of the plan; Fire Prevention reviews the plans with respect to the requirements of the Fire Code; and the Licensing and Inspection Branch focuses on other aspects of the Alberta Building Code. Licensing and Inspection has seven inspectors, including four mechanical, two structural and one electrical. The reviews and inspections are required at certain stages of construction, which are specified in the Alberta Building Code. The on-site inspections are conducted separately by each Department.

When a change of occupancy occurs, the owner is required to re-submit plans and specifications to ensure compliance with the Alberta Building Code. To ensure the City is aware of these changes, the utility companies provide a monthly update to the City relative to occupancy changes. This information is made available to the building inspectors and the fire inspectors who do follow-up inspections to ensure the appropriate building permits are obtained and code requirements are met.

On specified days, one inspector from the Emergency Services Department and one inspector from the Building Department team up and inspect buildings and occupancies that are under construction, or where there has been a reported change in occupancy. This team effort is also used to evaluate premises for the purpose of issuing occupancy permits.

The City Building Department maintains a database back to approximately 1960. They do not keep data on single family, duplexes, or row housing; but they do keep information on commercial, industrial, and multi-family buildings.

Conduct Regular Occupancy Inspections

Existing buildings are inspected regularly based upon the occupancy class. Table 4 details the number of facilities in each occupancy class and the frequency with which inspections are carried out. In addition to the inspection program detailed in Table 4, special inspections are conducted

of facilities storing hazardous materials; i.e., explosives, flammable gases and liquids, oxidizers, poisons, and radioactive and corrosive materials. Building owners are responsible for sending equipment inspection reports to the Department. The Fire Prevention Bureau files an annual report with the Licensing and Inspection Branch documenting its inspection activities.

TABLE 4: REGULAR OCCUPANCY INSPECTIONS

Category		Number	Frequency
A	Assemblies	319	Annually
B	Institutions	22	Annually
C	Apartments	302	Annually
D	Business/Personal	408	Bi-annually
E	Mercantile	541	Annually
F	Industrial	664	Annually

Coordinate the Home Inspection Program

The Fire Prevention Bureau coordinates the home inspection program operated by the Emergency Services Department. Approximately 3,000 home inspections per year are conducted with homes targeted for inspection on a four-year cycle. The primary focus of the inspections is on ensuring that smoke detectors are operational. The Department has found that the batteries are often dead and that the smoke detectors themselves are sometimes ineffective after seven years. The Department has considered partnerships with a battery company to replace defective batteries. However, there is a concern that a battery replacement program could potentially affect the legal liability of The City of Red Deer.

Conduct Fire Investigations

The Alberta Safety Codes Act requires that all fires are investigated and the cause reported to the Provincial Fire Commissioner on a specified form. When a fire occurs, the Platoon Chief is the initial officer responsible for determining the cause and point of origin of the fire. If the fire is of a serious nature (death or injury occurrence) or determined to be incendiary, the Fire Marshal or one of his qualified investigators, is called to the investigation. (The Fire Marshal and three of his inspectors are certified to conduct fire investigations.) Typically, about 20 - 30 fires are investigated each year.

If the fire is determined to be incendiary, or if there is a death involved, the Fire Marshall contacts the RCMP who conduct the criminal investigation, or the investigation under the Coroners' Act. The RCMP identification section provides photographing and related services for the Emergency Services Department for serious fires. In addition, the Fire Marshal, the RCMP, and the insurance investigator (or adjusters) work together as a team to investigate large or complex incidents. The Fire Marshal a former member of the RCMP, believes this investigative system works well.

Insurance companies may also contract with private sector agencies for fire investigations. The firms used in the Red Deer area are TTS, Permit Pro, and Earl Mohar.

By-law Enforcement

The RCMP supervise The City of Red Deer By-law Enforcement Officers who control items such as unsightly and untidy premises; derelict vehicles; and fence, swimming pool enclosure, and other by-laws which impact safety within the City.

The Fire Prevention Bureau is also responsible for enforcing a number of related municipal by-laws including the:

- Dangerous Goods Route By-law;
- Civic Address By-law;
- Public Safety and Fire Permit By-law;
- Fire Works By-law for special celebrations; and
- Traffic By-laws related to fire safety; i.e., parking in fire lanes, parking within five meters of a hydrant, parking in the entrance to fire halls, and obstructing fire exits.

Consideration should be given to allocating the responsibility for all aspects of safety management within the "as-built" environment to the Emergency Services Department. This could include areas such as derelict vehicles, unsightly and untidy premises, dilapidated nuisance buildings, swimming pool enclosures, and unsafe excavations. Amalgamating this program with the current fire prevention program would allow the Department to allocate more resources to emergency response operations.

Issue Permits in Selected Areas

The Fire Prevention Bureau issues permits in a number of areas including:

- burning permits under the Public Safety and Fire Permit By-law;
- off route permits under the Dangerous Goods Route By-law; and
- permits for fire works under the Fire Works By-law.

Facilitate Public Fire Safety Education

While all of the staff members have some involvement in public fire safety education, no one has been assigned overall responsibility for the function. Staff members have not been designated to receive training in public fire safety education program development or delivery. In addition, the Department has no teaching props and only a few films and videos.

Currently, the Department focuses its education efforts on Red Deer school students at the grades 3 to 5 level (approximately 64 classes). One hour is spent in each class; each student is provided with a fire safety book; and teachers are given training in fire prevention. Station tours are also provided to school groups. The Learn Not To Burn manuals and class materials that are used by classroom teachers at the elementary level, are supported by a corporate grant from Nova Corporation.

Fire prevention education is also provided to City employees, public institutions, and private companies. The training focuses on the use of portable fire extinguishers and the safe storage of hazardous materials. A number of lectures and demonstrations are conducted each year. In addition, the Department provides counseling for juvenile fire setters, with the permission of their parents. They also recommend professional counseling resources to the parents of repeat offenders.

Each year, the Department has an open house and conducts a media campaign during Fire Prevention Week. Media releases emphasize the prevention of home fires, and the effective use of safety devices including smoke and carbon monoxide detectors. Fire Prevention Week has a different theme each year; the "stop, drop and roll" campaign was an example of a particularly successful Fire Prevention Week initiative.

Consideration should be given to reallocating some of the current inspection duties of the fire-medics to free up enough time to assign one fire prevention officer on a full-time basis to public education and community relations. Since most fires are in homes and are caused by human failure or carelessness, increased efforts in the area of public education should yield positive results. The focus of this public education initiative should be on groups most susceptible to fire death and injury. Volunteers trained by the Department could be used to support and enhance the public education program.

Fire Prevention Bureau - Staffing

The Safety Codes Act stipulates that certified Safety Codes Officers must carry out fire inspections and investigations. The regulations under the Act set out the scope of the inspections and investigations that can be carried out by each level of officer. Continuing education is required for Safety Codes Officers to maintain their certification.

Five Emergency Services Department staff members are assigned permanently to the fire prevention function as Safety Codes Officers. Four of the five have qualifications at the Inspector 3 and Investigator levels, and one is qualified at the Inspector 1 level.

The City is in the process of training fire-medics as Safety Codes Officers on a volunteer basis. To date, six officers have been certified. The Department is currently running a course for General Safety Codes Inspectors and another 12 fire-medics will soon quality as Safety Codes Officers. Three additional officers have sent in their applications.

The fire-medics trained as Safety Codes Officers conduct about four to six apartment inspections a month. However, they do not issue orders or carry out enforcement duties. When it is necessary to issue an order, the responsibility is taken over by a certified Safety Codes Inspector. Inspections are conducted by fire-medics only when the station is above minimum manning levels. Since the Bureau intends to begin conducting after hours inspections of occupancy and fire codes infractions, consideration should be given to incorporating this type and level of training at the new entry level of employment for all fire-medics.

Fire Prevention Bureau – Review of Selected Operational Practices

Fee Structure for Safety Code Inspections

Currently, the Department charges a fee of $40.00 per hour for Safety Code Act inspections. This fee is charged for the initial inspection and the first follow-up inspection is done at no additional charge. If the property owner does not have the work completed after the first re-inspection, the Department doubles the cost of the re-inspections to $80.00 per hour for all subsequent inspections where the requirements are not completed. This progressive charge assists the Department to gain compliance with fire code requirements. In addition to the progressive charges for inspections, the Fire Marshal has the power to prosecute property owners for non-compliance with his orders. Although not used often, the Fire Marshal uses this mechanism as a final step in the enforcement process when it is necessary.

Inspection Information Management System

A new information system was developed internally to schedule and monitor the status of inspections. All inspection reports are filed by location in the Fire Prevention Branch in Station #3. The files also contain the equipment inspection reports submitted by the building owners. There is also a fire safety plan for Class A and Class B occupancies. There are no links between the inspection reports and the pre-fire plans.

Although the fire inspection process is computerized and integrated into a common statistical data base, the Fire Marshal is unable to conduct an analysis of his program areas to determine program effectiveness, program efficiency, or adequacy of inspector staff numbers. The Department plans to upgrade its computer technology to allow for this type of analysis.

Review of Inspection Reports

The Department Head reviews each inspection report. The purpose of the review is to ensure that the Department is in compliance with the Safety Codes Act. No internal audits of the Bureau's performance have been conducted.

PRE-FIRE PLANNING

The Emergency Services Department has a basic pre-planning system that targets approximately 150 hazards. Many of these pre-fire plans were completed twelve years ago. Copies of these pre-plans are available in paper format in the platoon chief's vehicle and at central communications. The Department is in the process of computerizing these plans using a Computer Aided Dispatch System, which will allow them to be more easily updated and accessed. The intention is to use on-duty personnel to carry out inspections and pre-fire plans. Currently, there is no link between the inspection reports and the pre-fire plans, as the Department does not have an integrated information system.

The Department is in the process of inspecting dangerous goods storage locations and including them in the pre-planning process. While it is known that there are a significant number of small explosive magazines within the City, the exact number and location have not been documented. The Department is in the process of determining the number of sites, inspecting them for compliance with the Safety Codes Act regulations, and preparing pre-plans for them. Identifying these explosive magazines will assist both the Emergency Services Department and the RCMP in responding to incidents at these installations.

FIRE SUPPRESSION

Despite the fact that the Department has good equipment and a well-trained force, there are several areas of the City where the response time guideline of five minutes, including 3½ minutes of travel time, is not attainable. In addition, with a minimum manning level of 12, the Department would have difficulties managing major incidents in unsprinklered high rise buildings and other "high hazard" occupancies.
The Department has the capability, at normal manning, to deliver 600 IGPM of water in an initial offensive attack, plus provide truck company functions of ventilation, forcible entry and rescue. This equates to the capacity to extinguish approximately 30,000 cu. ft. of fire in an unobstructed area when all crews are on the scene. Typically, structure fires have significant obstructions and combustible contents that will reduce the extinguishing capacity by as much as 50%.

The Department has 12 Mutual Aid Agreements with surrounding fire departments. However, these departments are staffed by volunteer fire fighters. Because of the length of response time, they cannot be deemed effective for an aggressive *offensive* attack on a major fire. They could, however be utilized on a *defensive* operation to prevent major fires from spreading from building

to building. These volunteer fire departments could also assist the Department in the event of a major natural disaster.

The Department's response strategy for fire suppression is as follows:

- Single engine response to incidents such as refuse containers, grass fires, etc.; and

- Multiple engine response (3 engines and 1 ladder) to structure fires (the furthest station from the fire scene sends an ambulance and an engine with two fire-medics in each unit).

The Department utilizes the standard fire command and incident command system for managing incidents and utilizes a standardized system of critiquing incidents after the event.

In the event of more than one simultaneous fire or other incident, the Department's strategy is to split the resources to the best of their ability and, depending on the situation, to call for mutual aid. It is important that the Department continue to develop strategies for simultaneous incidents. The Department has about 450 simultaneous responses per year.

The Red Deer Fire Chief maintains a close liaison with the fire chiefs from surrounding municipalities. In addition to the mutual aid agreements, The City of Red Deer Emergency Services Department and the County of Red Deer Fire Department have established an emergency response agreement whereby they will assist each other when required and only charge back the actual costs of the response. To support this effort, the County Fire Chief has one City Emergency Services Department portable radio. The Red Deer Fire Chief also has an exhaustive resource list of the equipment and manpower available from the fire departments in the region. One of the challenges associated with utilizing surrounding fire departments, as a resource is the lack of a coordinated training program involving all departments. Consideration should be given to strengthening the working/training relationship with the fire departments of surrounding municipalities. These departments have the potential to add significantly to the City's *depth of response* for major incidents.

EMERGENCY MEDICAL SERVICES

Brief Program History

The City of Red Deer has been operating a basic life support (BLS) ambulance service through the Emergency Services Department since the late 1960s. Initially, emergency medical responders staffed the service. Since 1979, the Department has provided emergency medical technician training for existing personnel through SAIT. The long-term goal has been to create a dual cross-trained force. The Advanced Life Support (ALS) ambulance service was introduced in 1985. Since then, the Department has primarily recruited Emergency Medical Technologists -

Paramedics (EMT-Ps). Most of the staff with eleven years experience or less are EMT-Ps, while those with more than eleven years experience are Emergency Medical Technologists – Ambulance (EMT-As).

Program Direction

The priority medical dispatch system operates under the supervision of a Medical Director. Each year the Red Deer Regional Hospital designates two of its eight full time emergency room physicians as Director and Assistant Director. The Medical Director is the medical consultant to the ambulance service, responsible for developing medical protocols and auditing the basic and advanced life support systems. The codes used are well defined and the Medical Director provides an ongoing dispatch review function. Audits are completed for each advanced life support call and for 20 basic life support services; and the reports are reviewed with EMT-Ps and EMT-As. The Director is also responsible for responding to complaints with respect to pre-hospital medical treatment and facilitating the continuing education for EMT-Ps and EMT-As.

The hospital has on-line communication with the ambulance service during pre-hospital treatment. Vital signs, patient history and any requests for medical orders are communicated to the emergency physician. Most emergencies are handled in Red Deer. Occasionally, transport to Edmonton or Calgary is required if no orthopedic surgeon is available.

Dispatch and Response Time

The Department utilizes a medical dispatch protocol system to establish whether a BLS or an ALS ambulance should be sent on the call. On ALS incidents, an engine company is also sent to provide support for the ALS protocols and to assist with heavy lifting. This utilization of staff not only provides effective ALS utilization, but also reduces back injuries for staff. The downside of this practice is the negative public perception created by a fire engine and ambulance arriving at a location to handle a medical emergency. The commonly accepted medical standard of four minutes for BLS and eight minutes for ALS incidents is generally met.

Major Services Provided

Among the key services provided by the Emergency Medical Services Department are the following:

- Ambulance Services: The Department provides Basic Life Support and Advance Life Support Ambulance Services within the City of Red Deer.

- Outpatient Transfer: The City provides routine transfer of outpatients to hospitals, nursing homes, the mental health institute in Ponoka and other locations upon request. The City has a by-law that prohibits other agencies from providing this type of ambulance transfer. In-patient transfer is provided by the

hospitals, generally either through a private service provider, or via the STARS Air Ambulance if the transport is an emergency transfer to a major hospital in Edmonton or Calgary.

Note: There is currently a contract in place for the Sylvan Lake Funeral Home to transport bodies rather than tying up emergency response units

- Stand-by Ambulance Service: The Emergency Services Department provides stand-by basic life support services for public events such as rodeos and hockey games.

- Contract Ambulance Service: The City of Red Deer provides contract ambulance services to Village of Delburne and a portion of the County of Red Deer.

- Response to Incidents with Mass Casualties: The Department has the capacity to respond to an incident with mass casualties. A mass casualty incident kit (50 patient) is stored at the fire station; and The County of Red Deer also has a mass casualty kit of similar size.

- Public Education Services: Medical Emergency Services staff members provide public education to health care professionals and the community in the area of first aid training. As well, the Emergency Services Department participates in the PARTY program which aims to prevent alcohol and drug abuse. The PARTY program has been carried out on a volunteer basis, however, starting in October off duty fire-medics will be assigned to the program

Staffing Related Considerations

Staffing Levels on ALS Calls: Most Advanced Life Support calls are staffed by one paramedic. Emergency medical calls in the past have been staffed with two paramedics. Consequently, EMT-As in the City of Red Deer are trained to provide services beyond their normal scope of practice, such as administration of IVs. As more fire-medics with EMT – P qualifications are hired, the Emergency Services Department may assign two paramedics to each ALS call.

- De-certification of Paramedics: After ten years of experience, Lieutenants are allowed to drop their paramedic certifications in favor of maintaining EMT-A certification. This is done to reduce the levels of stress on some of the more senior fire-medics; and happens only if there are enough paramedics on the force to operate the emergency medical service effectively.

- Practicum Students: The Emergency Services Department and the Red Deer Hospital take practicum students. Both EMT-As and EMT-Ps are required to complete practicums as part of their training program.

- Use of Auxiliaries/Volunteers: The Medical Director believes that the use of auxiliaries in providing medical services would be a regressive move. Volunteers typically only have 75 hours of training and provide first response to medical emergencies. Their scope of practice is quite limited. As well, volunteers have a longer response time. How they would get to the scene of the emergency is another issue. Maintaining response standards may require that they be scheduled. The Medical Director also expressed concern about supervision of emergency medical responders and whether he would be prepared to accept the additional risk and potential liability associated with volunteers.

- Manpower Utilization: Paramedics work for the Red Deer Regional Hospital for $1 per year. In the past, they have worked 5 - 6 days per year in the hospital, including emergency, operating room, and maternity departments. However, given current staffing levels, paramedics are not available for providing hospital-based services. The hospital and the Emergency Services Department have considered hiring a pool of people and sharing these resources. However, the pool concept is not practical, as both the ALS service and the emergency room need the staff at the same time.

- EMS Advisory Committee: Relations with the union have improved with the establishment of the EMS Advisory Committee. The Committee seeks staff input in assessing equipment and supply needs; and the Committee assists by testing different equipment and recommending specifications for new purchases.

Results of the Provincial Ambulance Audit

The City of Red Deer's Emergency Medical Services underwent a provincial audit recently. It was one of the last services inspected by the Province and covered:

- dispatch;
- staffing, drivers' licenses and registration;
- equipment standards and safety;
- patient care records; and
- billing records.

Of the 110 inspections conducted by the Province, The City of Red Deer was one of only five services with no deficiencies.

RESCUE SERVICES

The Emergency Services Department provides a rescue service, the scope of which includes: search and rescue at fires; trench and confined space rescue; high angle rescue; water rescue; and vehicle extrication.

Vehicle Extrication

The Department's most utilized rescue program is vehicle extrication. The Department has a relatively new set of extrication tools and personnel are well trained in their use. The rescue unit responds with the ambulance when there is a potential extrication situation. The fees for vehicle extrication ($500.00/hour) are covered by insurance companies.

Other Specialized Rescue Services

The Department maintains some capability in the areas of water rescue, high angle rescue, and confined space and trench rescue. However, these programs are not well developed. For example, the trench rescue equipment was stored on the floor of the #1 Fire Station without a trailer. And while the surface water rescue team has a zodiac type boat, they only have life preservers for their personal safety when performing rescues.

The training on specialized rescue is obtained from the City of Calgary Fire Department. The training has been done on a periodic basis with a view to developing in-house staff with instructor qualifications. To date, the Fire Chief reports that the following progress with respect to specialized rescue services has been made.

- High angle training was initiated in 1995 and currently the Department has 6 instructors certified by Calgary Fire Department personnel. In 1996, 43 staff completed in-house training in compliance with Provincial Occupational Health and Safety standards.

- Trench rescue was initiated in late 1996 and currently 24 members of the Department have completed the on-site training program offered by the Alberta Fire Fighters Training School.

- Water rescue is under review by the Department.

Consideration must be given to adequately equipping and training these specialized rescue teams if the services are to be provided.

Search and Rescue Club

The Department also encourages members of their staff to work with a newly established Search and Rescue Club whose objective is to search for people who become lost within the Red Deer area. The involvement of staff in this program is voluntary and those members who participate and contribute their own time should be commended for their efforts. The location of missing persons is primarily a police function.

Michener Centre has its own search and rescue team, as occasionally some of its residents wander off. The search and rescue team acts as the first response team. It has its own vehicles and communication system. If the missing person is not found within a short period of time, the RCMP is called in.

HAZARDOUS MATERIALS

Response Strategies

The Department has established a first response capability to hazardous materials spills. Staff, as yet, have not been trained to the advanced technician or specialist level. The Emergency Services Department will respond to an incident with the hazmat unit and an engine company. The hazmat unit is stationed 1,000 ft. upwind of the spill. The dangerous goods detection unit is used to make a determination of the product and information is obtained by fax from the Department's dangerous goods database. The area around the scene is evacuated and cordoned off, and a command post is set up. The response team evaluates the situation and notifies provincial agencies (i.e., Transportation and Utilities and the Department of Environment) and the carrier. Depending on the nature and size of the spill, the Department may initiate clean-up activities. Normally, the carrier contracts for a local company to complete the clean up.

Equipment

The equipment for the hazardous material emergency service has been incorporated into the rescue unit located at Station #1. This is a common practice throughout North America, as it improves equipment utilization. The response unit is well equipped with an on-board fax machine, cellular phone, computerized plume dispersion modeling equipment, and toxic gas detectors. The hazardous materials response unit has four level "A" chemical entry suites on board and radio equipment for utilization outside the City's trunked radio systems range. In addition to the equipment on the unit, a computerized chemical database located in their communications centre can fax product information and mitigation procedures to the scene.

Mutual Aid

Although the Department has Mutual Aid Agreements with outside fire departments, consideration should be given to agreements for the provision of hazardous materials response. Because of the

potential for destroying expensive equipment, it would be beneficial to have written agreements, which ensures the City will be reimbursed for all costs plus their response fee to hazardous materials incidents.

Carbon Monoxide

The Emergency Department responds to about 65 - 70 calls per year with respect to carbon monoxide levels. The first generation detectors on the market often beep at low levels of detection posing limited risk to the residents. The staff of the Department has been trained in the use of CO meters.

Toxic Waste Round-up

The Emergency Services Department participates in the annual toxic waste round up.

DISASTER PLANNING

The City of Red Deer's Emergency Services Department has identified a number of potential emergency situations such as major transportation accidents, including airplane crashes; storms, gas leaks, large fires, forest fires, floods, and explosions. However, a formal risk analysis has not been completed for the City and area.

The authority for handling local emergencies is provided by By-law 3142/95. Under the By-law, there is a committee of City Council established to invoke a statement of local emergency. The Fire Chief is the Assistant Director of Disaster Services for the City of Red Deer, and is the person primarily responsible for pre-disaster planning and the City's overall preparedness for disasters.

The Emergency Operations Centre is located at Fire Station #3. The facility is constructed of concrete and is the nerve centre for emergency activities. The use of this facility as the command centre ensures that senior managers and the Mayor are close to the information source. In addition, this facility has back-up power and other amenities required to direct a response in the event of a major disaster.

Emergency Plan

A review of the plan revealed that it is well laid out and can be activated easily through step-by-step instructions. The plan contains a resource list that appears to be up-to-date and the various areas of responsibility appear to be well defined and easily accessible within the plan.

The disaster plan addresses:

- levels of emergency;

- the power to declare an emergency;
- notification of provincial authorities and requests for assistance;
- establishment/reporting to the Emergency Control Headquarters;
- structure, responsibilities, and lines of succession of the Disaster Services Agency;
- designation of the Emergency Reception Centre;
- establishment and role of the media centre; and
- available resources including equipment from municipalities with which Red Deer has a Mutual Aid Agreement.

However, the plan is missing several key elements including the:

- Red Deer Regional Hospital Plan;
- RCMP Plan; and
- Michener Centre Plan.

These elements should be included either in the City Emergency Plan or as an addendum to it and each plan should be evaluated by the Fire Chief to ensure the plans are well integrated.

Other elements that the current Emergency Plan does not provide for include:

- evacuation plans of facilities other than the separate schools;
- registration of emergency workers by the Personnel Department; (Registration is required to be eligible for WCB compensation in the event of an accident);
- provision for additional telecommunication support;
- public education on how organizations and individuals are notified in the event of a disaster;
- responsibility for assessment of damages;
- a public warning system; and
- service restoration plan.

Communication of the Emergency Plan

While the Emergency Plan is fairly comprehensive, the Plan has not been well communicated. Some of the key community leaders and those responsible for elements of the Disaster Plan are unaware of the Plan and their potential role in the event of a major disaster. City Council has not reviewed the current Emergency Plan.

Testing of Emergency Plan

In spite of significant risks, there has been no budget for tabletop discussions or field exercises to test the Emergency Plan. No exercise has been conducted since 1989, although one is planned for 1998. The social services component of the Emergency Plan has been tested as a result of three major evacuations and has been modified and updated to reflect insights derived from this experience. It is the most comprehensive component of the overall Emergency Plan. The City of Red Deer has plans to budget $16,000 for scenario development and training in 1997, and an exercise in 1998.

Alberta Transportation and Utilities has a $400,000 budget for supporting disaster exercises. The Department has worked with some of the surrounding municipalities on disaster plans and exercises. The City of Red Deer did not participate in these exercises nor did it access the funding available from the Alberta Government for disaster exercises.

Evacuation Plans

Evacuation plans have been developed for:

- public schools;
- separate schools;
- the Red Deer Hospital;
- the Michener Centre; and
- the Red Deer Community College.

However, these evacuation plans are not always up to date. Except for the separate schools, they have not been included in the Emergency Plan itself.

Mutual Aid

The private utilities and oil field fire fighting firms may be required to provide resources in the case of a disaster. However, these firms have not been involved in planning, do not know the key players, nor the resources which the City may require.

Mutual aid from surrounding municipalities and industry are critical in a disaster. Only limited joint training in fire fighting is currently taking place within the region. Without joint planning and training, municipalities may not be fully aware of each other's emergency plans.

911 SERVICE

Call/answer Services Provided

The City owns and operates its own call/answer and dispatch service. The 911 service provides call/answer for a number of municipal services including fire; emergency medical dispatch; police (local RCMP detachment); night trouble calls for public works, electric light and power, and community service; poison control; life line responses; and suicide prevention. When suicide calls are received, referrals are made to Alberta Mental Health or the Salvation Army.

Equipment and Facility

The 911 centre is located at Emergency Services Department Station #3 in a safe location in the interior of the building. The computer equipment is backed-up with an uninterrupted power supply and the building is equipped with a back-up generator and good security, both during the day and at night. The new dispatch centre will have improved security in the actual 911 operations room. Emergency back-up equipment is located at the RCMP headquarters in The City of Red Deer.

The system has TDD capability (Telecon Device for the Deaf) for speech/hearing impaired people. In addition, Department staff meets on an annual basis with the speech/hearing impaired groups and the 911 TDD capability is regularly tested.

The Department's dispatch system is connected to Station #1 and Station #2 via a landline and backed-up via the City-wide trunked radio system. This provides adequate capacity for Department emergency dispatching. The alarm system is tested twice each day - 08:00 and 18:00 - a good practice that should be continued. The new system has a built-in capacity to ensure that if the local system goes down, emergency calls will be answered in Lethbridge.

Staffing

Full-time dispatchers for the 911 system are augmented by part-time staff who cover for vacations and sick relief. Recently, the Department moved from having one dispatcher to two because the call answering time had fallen below the commonly accepted standard for the 911 answering

When the dispatcher receives a call from a facility with a pre-fire plan or dangerous goods stored on site, the existence of a pre-fire plan is identified and the plan is pulled. Likewise, the hazardous goods are identified. The Department maintains a hazardous goods database.

Public Education for 911 Services

Currently, the Department provides information on the 911 system to the public through advertisement of the 911 number on Emergency Services and RCMP vehicles, brochure mail-outs with utility bills, and shopping mall displays. Consideration should be given to an ongoing public education program to promote the use of 911 and raise the level of awareness about its use. Public service announcements, in-school campaigns, and inclusion in public education programs could enhance quick public access to the 911 system.
The most significant problems encountered by the 911 operators are nuisance or prank calls (primarily from children) and cellular phone calls that have skipped from distant locations. The Emergency Services Department has policies and procedures in place to control nuisance calls. The dispatcher can identify where the call oriented. If the call is received from a residence, the Department will contact the parents with respect to the problem. If several calls are received from a telephone booth, an unmarked police car will patrol the area. Problems with "cellular skips" will be remedied over the next few years by improvements in technology.

911 Regional Service

As a result of new Telus Telecommunication Services, The City of Red Deer has developed a regional 911 service. The service provides call/answer for emergency services. Contracts have been signed with about 30 municipalities including almost all the municipalities in the David Thompson Health Authority. The regional 911 service is expected to generate about $350,000 in revenue per year. The revenue from the call/answer service will help to offset the expansion of the local 911-call/answer-dispatch service. Call volumes required the purchase of a second dispatch console at a cost of $250,000.

In some communities, dispatch is carried out by a private telephone operator or a local taxi company. In the future, the City could contract with neighboring municipalities to provide both dispatch and call/ answer services. For example, Stettler is interested in a dispatch service.

Other Communications Systems

In addition to 911 call/dispatch, the Emergency Services Department owns and operates three additional communications systems including:

- an alarm monitoring system in City owned buildings;
- an 800Mhz trunk radio system; and
- access to the VHF provincial ambulance frequency.

Alarm Monitoring

The Department monitors alarm systems installed on City-owned property. However, it does not monitor outside alarms because of a Council resolve not to compete with private business. Several local companies operate alarm-monitoring services in Red Deer. However, all of the alarms are answered in centers outside Red Deer, one as far away as Cincinnati.

Consideration should be given to the new "open access" technology being promoted by companies like Fire Monitoring Canada, which allow the departments to monitor fire alarms in *partnership* with industry, rather than being in competition with them. This new technology could allow the Department to monitor local fire alarms and receive the signal directly rather than having it being directed to a third party reporting centre outside the City. In addition to providing a quicker response, this would also provide the Department with additional revenue through monitoring fees.

800 Mhz Trunk Radio System

An 800 Mhz system with five radio talk groups has been assigned to the Emergency Services Department. A City-wide committee has been established to plan for the utilization of the system; and a maintenance program has been set in place. The system-monitoring computer is currently located in the office of the Deputy Chief, Operations.

Consideration should be given to locating the system-monitoring computer in an area where it is available and accessible to the technical maintenance people. This would reduce the time that the Deputy Chief, Operations has to spend programming the system and troubleshooting computer problems.

VHF Provincial Ambulance Frequency

The dispatch centre also monitors the VHF provincial ambulance frequency. Occasionally, the Emergency Services Department provides back-up service if an ambulance breaks down or is required to meet the STARS Air Ambulance at a hospital or airport.

SUMMARY OF MAJOR CONCLUSIONS

The preceding review of the major services provided by the Emergency Services Department reveals a number of strengths, as well as opportunities for improvement in service delivery.

Strengths

The strengths of The City of Red Deer Emergency Services Department include:

1. **Investigations, inspections and Safety Codes Enforcement:** The Fire Prevention Bureau is well positioned to continue to do an excellent job in the areas of inspections, investigations, and enforcement of the Safety Codes. The Fire Prevention Bureau has had its Quality Management Plan for accredited municipalities and for agency status accepted by the Alberta Safety Codes Council. Except for one individual, all Fire Prevention Bureau personnel are certified to the highest level. In addition, the Department has an information system to schedule and monitor inspections, and inspections are well coordinated with the Licensing and Inspection Branch.

2. **Well Equipped Stations and Professional Career Force:** The City of Red Deer has three well-equipped stations and a well-trained professional fire-medic force to respond to fire incidents.

3. **Regional Cooperation:** The City of Red Deer has signed Mutual Aid agreements with 12 area municipalities. These agreements are comprehensive and provide back-up support to The City of Red Deer in the event of a major incident or potential disaster. The professional staff in The City of Red Deer and the County of Red Deer have excellent working relationships.

4. **Emergency Medical Services:** The City of Red Deer operates an advanced life support system, staffed by both Emergency Medical Technicians – Paramedic and Emergency Medical Technicians – Ambulance. These technicians have training in advanced and basic procedures respectively beyond that of the normal scope of practice of other pre-hospital care professionals practicing in the Province. The Medical Director, responsible for Emergency Medical Services, conducts regular audits. New technologies have been introduced as appropriate. Regular inspections of ambulance services are required by provincial legislation. The City of Red Deer was one of only five services without deficiencies audited by Alberta Health.

5. **Vehicle Extrication:** The Emergency Services Department has specialized equipment for vehicle extrication. As well, its staff have received specialized and ongoing training in the use of extrication tools.

6. **First Response Capability for Hazardous Goods:** The City of Red Deer acquired a hazmat unit and a dangerous goods data base, with financial assistance from the province. As well, fire-medics have been trained to provide first response to hazardous materials incidents. However, staff are not trained to

the technician or specialist level. If the City decides to pursue this, it will take significant staff and resources to accomplish.

7. **State-of-the-Art Communications**: The Emergency Services Department has implemented a state-of-the-art 911 service with computer aided dispatch. The Department is providing a call-answer service for many municipalities in the region. The Department also has an 800 Mhz system and access to the VHF provincial ambulance frequency. Communications staff are being trained to operate the enhanced 911 service. Consideration should be given to the new "open access technology" which would allow the Emergency Services Department to monitor fire alarms in partnership with private industry.

Areas Where Effectiveness could be Improved

Opportunities for improvement which were identified included:

1. **Public Fire Safety Education:** Improvements could be made to the public fire safety education program. The City has not assigned a dedicated resource to public fire safety education nor have staff been trained in the development and delivery of public fire safety education programs. The current school program is primarily focussed on grades 3 through 5, instead of K to 12. The Department has limited resource materials to support public fire safety education programs in the schools or elsewhere.

2. **Limited Capacity to Handle Simultaneous Incidents and High Rise Fires:** There are concerns with respect to the ability of the Department to handle simultaneous incidents and to respond to fires in high rises. At minimum manning, the Department does not have the resources to staff its ladder and to rescue potential victims from high rises, without relying on call-ins. The high number of ambulance calls further reduces the capacity of the Department to respond to major fires.

3. **Pre-Fire Planning:** Pre-fire planning processes require improvement. The-fire plans, which target 150 sites, have not been kept up to date. The Department has purchased a CAD system and intends to have on duty personnel update the plans.

4. **Response Times:** Response times to the East Hill and North Hill exceed established targets of five minutes by a substantial amount. There are areas of the City, primarily in the East Hill and the North Hill, outside the established guidelines of a five minute response time. The need for a reconfiguration of the existing stations and for additional stations is being analyzed by the Emergency Services Department using its fire station location model.

5. **Limited Capacity Re: Specialized Rescue Services:** The Department has limited capabilities in the area of specialized rescue services; i.e., water rescue, high angle rescue, and confined space and trench rescue. These specialized rescue programs are not as well developed as vehicle extrication nor have the staff received the necessary training. If these specialized rescue services are to be provided, the appropriate equipment and training will need to be addressed.

6. **Disaster Planning**: Among the services provided by the Emergency Services Department, disaster planning is the key area of weakness. The Emergency Plan itself is incomplete and poorly communicated to key stakeholders. As well, no tabletop or field exercises have been conducted. In addition, The City of Red Deer has not taken leadership in developing a regional disaster plan.

CHAPTER 7: MANAGEMENT AND CONTROL SYSTEMS

Chapter Organization

This Chapter reviews the management and control systems utilized by the Emergency Services Department including Planning and Budgeting, Policies and Procedures, Administrative Structure, Human Resource Management, Information Management, Facilities and Equipment Management and Monitoring and Evaluation.

Operational Planning and Budget Development

The City of Red Deer's Corporate Strategic Plan establishes City-wide priorities, desired results and performance measures. Each operating Department is responsible for developing operational plans that reflect the broad corporate priorities and provide for the effective delivery of services and programs for which the Department is responsible. Within the Emergency Services Department, the Chief and Deputies prepare both the operational plan and budget. Recently, increased emphasis has been placed on developing mechanisms and processes to broaden the base of staff input into the development of the Department's operational plan and budget, and this is a focus that should be continued.

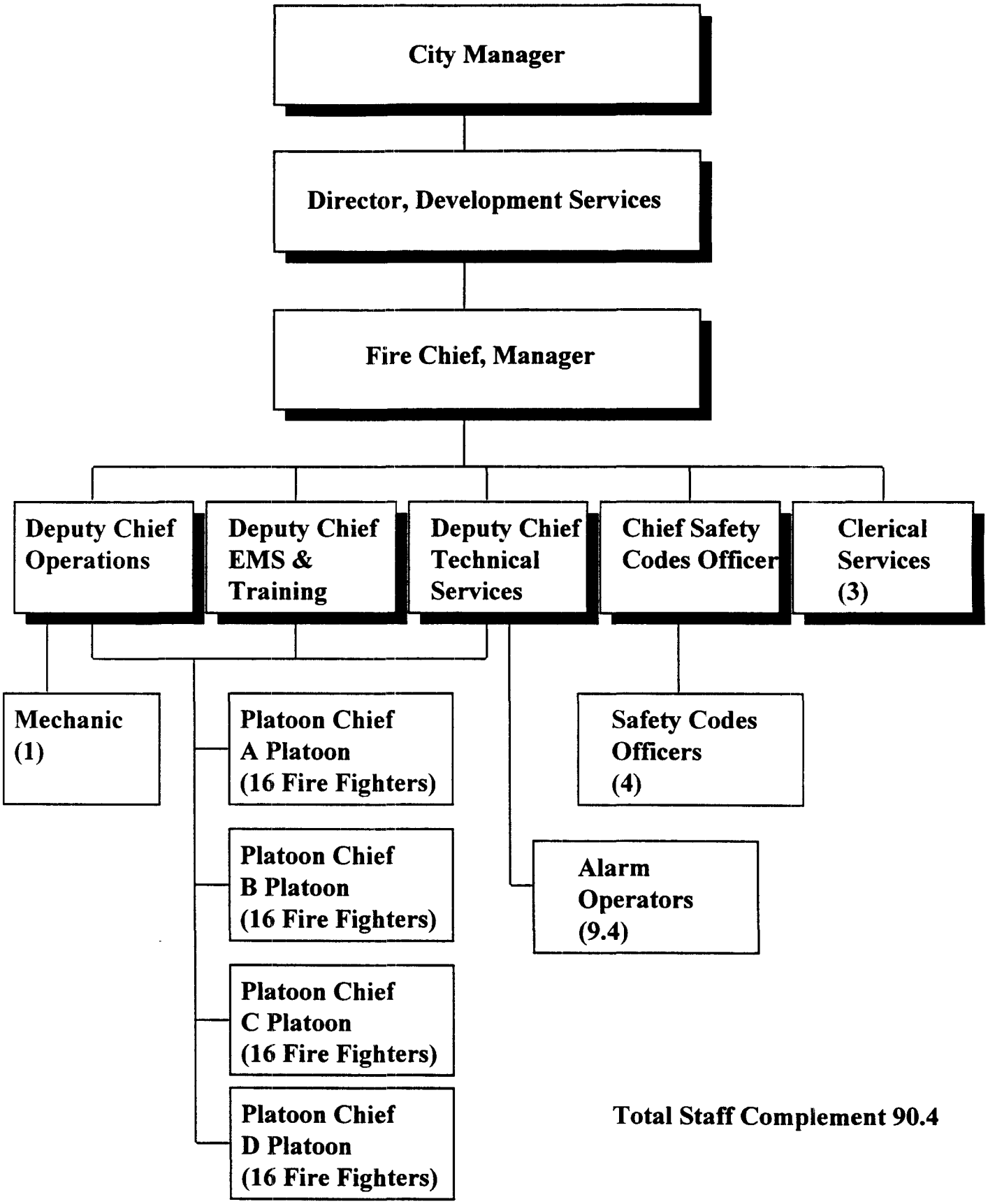
City and Departmental budgets are developed utilizing a continuous three-year cycle. While the City's Corporate Resources Department coordinates the budget development process, each Department is responsible for the preparation of its own capital and operating budget. The City does not utilize a standard methodology and report format for capital budgeting. However, Departments are often required to develop a report that documents the need, rationale and financial implications of large capital expenditures being proposed.

In recent years, the Emergency Services Department has prepared reports and financial analysis relating to the operation of regional 911 services, the fire-medic training facility, residential sprinklering, and new fire stations. Some of the reports prepared by the Emergency Services Department have been inaccurate and subject to numerous revisions. As a result, capital expenditures proposed by the Department have been subject to extensive scrutiny by senior management and City Council. Emergency Services management would benefit from utilizing the services of City Corporate Resources to assist with the preparation of future capital expenditure proposal reports.

Policy Development and Implementation

Scope of Authority: Under the Emergency Services By-law, City Council is responsible for establishing policy with respect to the Department. In the event of an emergency, the Emergency Services Department has been delegated broad authority to take the action deemed necessary to mitigate the emergency. These powers include: entering a premises or property; establishing safety zones; calling on the police for assistance; obtaining assistance from other municipalities;

EXHIBIT 8
ORGANIZATION CHART
EMERGENCY SERVICES



Total Staff Complement 90.4

Western Management Consultants

compelling adult persons to assist; commandeering privately owned vehicles; and pulling down buildings and structures.

Management Policies and Procedures: Emergency Services Department management is responsible for establishing operational policies and procedures. These policies are organized into a Management Policies and Procedures Manual. The Chief, Deputy Chiefs, Platoon Chiefs, Dispatch and Administration all have copies of the manual, and a manual is also available at each station. Typically, about five policy or procedures updates are issued each month.

Policies and procedures are clearly detailed and easy to understand. However, a review of the manual leaves the impression that some of the policies have been developed on an ad hoc basis in response to an individual incident. In some instances, an informal procedure instead of a formal policy may be preferable. The Fire Chief identified the need to review the policy manual with the objective of identifying gaps, overlaps, and policies and procedures that could be condensed or eliminated from the manual. In addition, several policies should be reviewed by the City's solicitor to ensure that they do not increase the City's liability exposure; i.e., policies dealing with fire suppression response procedures and response time.

Administrative Structure

The Fire Chief reports to the Director, Development Services, and is responsible for establishing the operational policies, regulations and structures necessary for the effective organization and administration of the Department. The Department is organized into five functional areas with specific functions and accountabilities as detailed in Table 5. The Organizational Chart in Exhibit 8 depicts the reporting relationships among the various positions within the Department.

TABLE 5: CURRENT ALIGNMENT OF FUNCTIONAL RESPONSIBILITIES

Functional Area	***Specific Functional Responsibilities***	***Accountability***
Operations	➢ fire fighting and rescue ➢ apparatus and equipment acquisition, operating and maintenance ➢ buildings and maintenance ➢ pre-fire planning ➢ hazardous materials safety ➢ media relations	A Deputy Chief who reports directly to the Fire Chief manages the Operations Division.

Emergency Medical Services and Training,	➢ emergency medical services; ➢ recruitment; ➢ Training Centre operations and marketing; ➢ staff training coordinator; and ➢ employee development.	A Deputy Chief who reports directly to the Fire Chief manages the Emergency Medical Services and Training Division.
Technical Services	➢ regional 911 system and staff ➢ 911 Service Agreements ➢ computer support systems ➢ financial systems ➢ budgets ➢ business plans ➢ disaster service and planning ➢ mapping ➢ communications	A Deputy Chief who reports directly to the Fire Chief manages the Technical Services Division.
Fire Prevention and Inspection	➢ enforcement of the Alberta Safety Codes Act ➢ fire inspections ➢ fire investigations ➢ enforcement of Department by-laws ➢ fire safety education ➢ examination of building plans	The Fire Prevention and Inspection Division is managed by the Chief Safety Codes Officer, who reports directly to the Fire Chief.

Clerical Services	➢ clerical services; ➢ invoicing; ➢ medical inventory; ➢ clothing and uniforms; and ➢ employee records.	Clerical support services are allocated among management staff. Overall responsibility for clerical services rests with the Fire Chief.

Platoon Structure

Fire-medics are organized into four platoons each comprising one Platoon Chief and 16 fire-medics. Platoons are scheduled and deployed to ensure that 24-hour fire and emergency medical response are provided throughout the City. Table 6 identifies the various positions within the Platoon structure and the key responsibilities associated with these roles.

Departmental Management

The Department has four senior managers plus four Platoon Chiefs and one Chief Safety Codes Officer. All positions in the Emergency Services Department are in the union except for the Chief and the three Deputies. The Chief and Deputy Chiefs have diverse and complementary expertise in fire prevention and suppression, emergency medical technology, information systems development, training and operations. Currently, the senior managers are focused heavily on administrative duties and spend most of their time in their offices. E-mail has replaced weekly management meetings and very little time is spent visiting the stations, communicating with front-line staff, responding to emergencies or liaising with stakeholders.

The Chief and Deputies do not actually take command of an incident, thus the Platoon Chiefs play an important leadership and management role. Since appointments to these positions have been heavily influenced by seniority, some Platoon Chiefs have risen through the ranks without the benefit of strong leadership and management skills. Given the nature of their roles and the recent amendments to the Alberta Labor Act, a strong case could be made for exempting the Platoon Chiefs and the Safety Codes Officer from the union.

The Emergency Services Department will have to review its organizational structure and assignment of administrative responsibilities in the light of the key directions that are approved in the Emergency Services Master Plan. In the event that increased leadership and management capacity can be developed at the Platoon Chief level, the potential may exist to reduce the number of levels of management within the Department or assign responsibility for new functions and initiatives to the current Deputy Chiefs.

TABLE 6: POSITION TITLES AND ASSOCIATED RESPONSIBILITIES

Position Title	***Key Responsibilities***
Platoon Chief	Platoon Chiefs are responsible for the effective management of operations and the supervision of the platoon during their shift. Specific functional responsibility areas include: ➢ fire fighting, ambulance, and rescue service; ➢ mitigation of hazardous materials incidents; ➢ home and apartment block inspections; ➢ accident investigation; ➢ public education and information; ➢ development of pre-fire plans for high risk structures and facilities; ➢ human resource management including supervision of staff, staff training, recruit testing, vacation scheduling, etc.; ➢ supervision of the use and maintenance of apparatus and equipment as well as SCBA tank management and hose testing; ➢ station maintenance; and ➢ Inventory management
Fire Captain	Each Captain has supervisory responsibility for an individual Station with specific duties including: ➢ supervising the development of pre-fire plans; ➢ supervising training; ➢ completing incident and activity reports; ➢ maintaining equipment and personnel records; and ➢ supervising fire prevention inspections.
Fire Lieutenant	Fire Lieutenants are front-line supervisors who spend most of their time providing emergency services. They are trained to provide rescue services and hazardous materials first response as well as fire fighting and emergency health services. Other specific responsibilities include: ➢ assisting with staff training; ➢ preparing pre-fire plans; ➢ reporting on incidents; ➢ maintaining up-to-date information on traffic routes; and ➢ conducting fire prevention inspections.

Fire Fighter – EMT	Fire Fighter – EMTs are responsibilities for: ➢ responding to fire and medical emergency calls; ➢ operating and maintaining equipment and apparatus; ➢ driving and operating ambulances; ➢ conducting home inspections; ➢ participating in drills and training; and ➢ cleaning fire stations and equipment. Some have been trained as Safety Codes Officers and conduct inspections of apartments. Fire fighter - EMTs must be available for call-in for 10-14 hours prior to their shift.

Facilities and Equipment Maintenance

Building Maintenance

The senior officers of the Department oversee the Emergency Services facility maintenance program. The key elements of the facility maintenance program include:

- a Ten-year Infrastructure Repair Plan;
- regular fire alarm inspections at all facilities;
- a Two-year HVAC maintenance program;
- annual maintenance of overhead doors; and
- a fire station safety inspection program.

As noted in an earlier chapter of this report, the Emergency Services facilities are maintained to a high standard

Equipment Maintenance and Replacement

The Emergency Services Department has a full-time mechanic who works regular shifts. He is responsible for testing pumpers and hydraulic ladders as well as conducting preventative maintenance on all apparatus and equipment within the Department, including fire hoses. The mechanic also maintains 45 sets of self-contained breathing apparatus and stand-by diesel generators. In addition, he attends major incidents to provide mechanical support to the Department in the event of mechanical breakdown. Although the mechanic has a shop on 32nd Street, he works on vehicles and apparatus in the stations as well. Additional mechanical support

is provided by Public Works which has a 14 bay garage with a full heavy-duty mechanic shop and nine mechanics on staff. Brake repairs and semi-annual safety inspections for ambulances are contracted out.

The Department has a replacement program for all apparatus. Engines are utilized as front-line units for 15 years and as reserve units for 5 to 10 years. Aerials are utilized as front-line units for 20 years and rescue units and the tanker are replaced every 15 to 20 years. The current guideline is to replace ambulances at 120,000 kms, subject to a review of maintenance costs. Currently, the Department has two operating ambulance units with 130,000 km and 160,000 km, respectively.

The apparatus life cycles utilized by the Department to plan for replacement are within industry standards. Consideration should also be given to developing a similar life cycle program for smaller equipment such as hose, extrication tools, and generators.

There is a centralized stores department, but it stocks only a few items. The Department tenders directly or uses the City's Purchasing Department to procure most supplies and equipment. The Emergency Services Department prepares detailed tender specifications for all its major equipment and supplies requirements.

Information Management Systems

The City of Red Deer has recently implemented a new financial management system. Departmental staff have been trained in the use of the new system and each department is responsible for monitoring its own expenditures against approved budget.

City Corporate Resources is responsible for information technology and planning. The Department develops standards for hardware and software and prioritizes the information needs of the Corporation. The City currently operates a corporate-wide computer network. Until recently, the Emergency Services Department operated its own separate information systems. However, the Department has recognized the need for integration and is now part of the City-wide area computer network. An ISDN telephone link from the computer system's file server at Station #3 to the system's file server at City Hall is in place. In addition, Stations #1 and #2 are connected to the City's file server via a dial up telephone connection.

Computer Systems/Software

Since the introduction of computer technology into the Emergency Services Department in 1982, a number of stand-alone computer systems and programs have been developed. Many of these internally developed systems are not well documented since they rely on software that has been developed in-house. Some commercial software packages have been purchased to manage various databases and to generate management reports. Table 7 provides details with respect to the in-house computer systems and commercially purchased software packages in

use within the Department. Computers that are used primarily for E-mail and daily inspection reports are located in the Captain's office in each station.

TABLE 7: COMPUTER SOFTWARE/SYSTEMS

In-house Systems/Software	Commercially Purchased Software
➢ Building inspection; ➢ Medical inventories; ➢ Response time; ➢ Emergency medical statistics; ➢ Training; ➢ Lock boxes; ➢ Life line; ➢ Membership records; ➢ Customer surveys; ➢ Capital inventory; ➢ Oil test results on vehicles; ➢ Uniform inventory; ➢ Budgeting	➢ Microsoft Access ➢ Safe chem 2 dangerous goods information; ➢ Fire hydrant testing and flow; ➢ CAD system for pre-fire plans; and ➢ Standard office software for spreadsheets, charts and graphics, and word processing.

Electronic Data Interchange

The Emergency Services Department has been actively attempting to implement an Electronic Data Interchange (EDI) system. Alberta Blue Cross currently has four test sites for EDI ambulance billing and the Emergency Services Department is on the waiting list for the next phase of implementation. In addition, a provincial subcommittee to Alberta Health has been set up to examine EDI for patient records and The City of Red Deer will be participating in this project.

Several years ago, The City of Red Deer initiated discussions with the Provincial Fire Commissioner's Office with respect to EDI. However, the Commissioner's Office has been reduced in size from 18 to 4 and lacks the resources to dedicate to the project. Consequently, The City of Red Deer has redesigned its reporting forms to gather information for both municipal and provincial reporting requirements.

Integrated Information System

The Department has budgeted for the acquisition of a new integrated FDM software computer-aided dispatch system. However, it plans to restrict the utilization of this system to the wide area 911 service. Consideration should be given to expanding the FDM program to provide a

Department-wide centralized computerized information management system which encompasses all areas of operations, administration, and support services.

Human Resource Management

The Emergency Services Department is responsible for most aspects of human resource management including: staff recruitment; staffing levels and manpower utilization/deployment; staff training, development and career progression; occupational health and safety; employee assistance programs; performance appraisals; employee recognition; and labor-management relations. The City's Corporate Personnel Department maintains the corporate personnel database, assists with the recruitment process, and in the negotiation of the Collective Agreement.

Recruitment Standards

The City of Red Deer has been providing ambulance services since 1962 adopting an EMT-A (BLS) standard in 1979 and a paramedic standard (ALS) in 1985. The Emergency Services Department recruits registered Emergency Medical Technologists (EMT-Ps) and then trains them as fire-medics. EMT-Ps must complete a two-year full-time program at NAIT or SAIT to register with the Alberta Pre-Hospital Professions' Association. The Department continues to employ fire-medics qualified as Emergency Medical Technicians - Ambulance (EMT-As). EMT-As complete a one year training program at SAIT or the Alberta Vocational College. The City of Red Deer does not employ Emergency Medical Responders (EMRs).

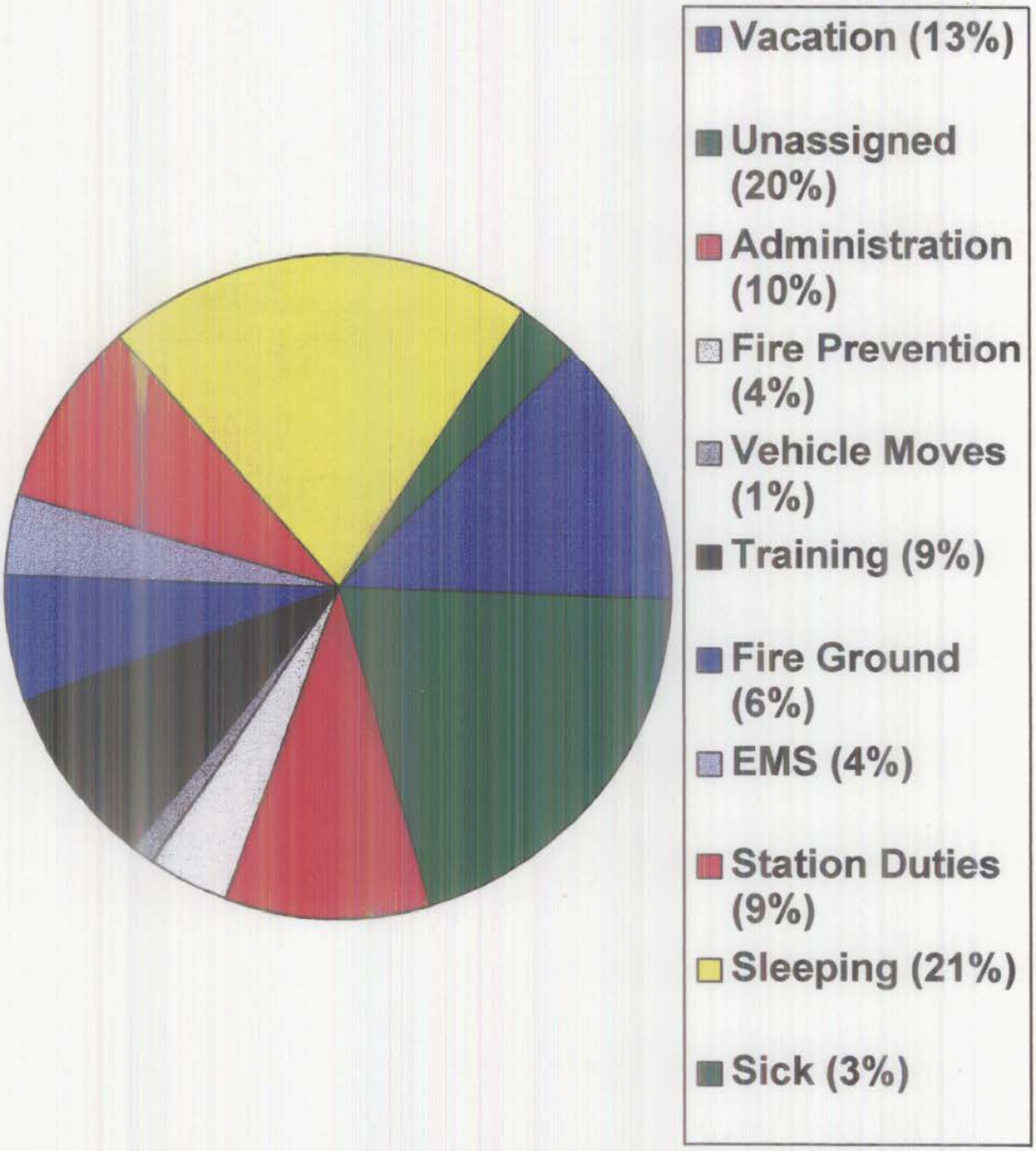
The Red Deer Emergency Services Department has trained its fire-medics at the Alberta Fire Training School at Vermillion. New recruits are generally not active in fire suppression until they have completed the Fire Fighter 1and 2 and Pump A courses. Ideally, the Department would like its new recruits to complete the Fire Fighter 3 and 4 levels as well.

Staffing Levels and Manpower Utilization

The Emergency Services Department currently has a complement of 93 staff with 65 fire-medics and four platoon chiefs providing front-line fire suppression and emergency medical services. At full complement, each of the four platoons has sixteen fire-medics and one Platoon Chief. However, with vacations, illness and training time, platoon strength is often at 12, which is considered the minimum staffing level. Opening a fourth station would require an additional 18 positions and would increase the minimum staffing at the start of a shift to 16 from the current level of 12.

The working conditions set out in the Collective Agreement impact the work schedule. Each platoon works a 42-hour week. Day shifts are 10 hours per day while night shifts are 14 hours. The fire prevention staff work 80 hours bi-weekly in nine days. The mechanic works a 40-hour week. Twenty-four hour notice of changes to shifts is required.

EXHIBIT 9
ESTIMATED MANPOWER UTILIZATION - 1996



All of the personnel are required to live within a 15 km radius of The City of Red Deer. Members of the shift coming on duty are available for call-ins. If manning falls below eight, fire-medics are called in using a paging system to bring the complement back up to eight. Overtime is paid for fire-medics called-in as detailed in the Collective Agreement.

The Emergency Services Department responds to an Advanced Life Support (ALS) ambulance call with two fire-medics in the ambulance and two fire-medics with the pumper truck. If the patient is critically ill or injured, then three fire-medics will accompany the patient to the hospital, while the fourth fire-medic returns to the station. If the patient is in less critical condition, two fire-medics will go with the ambulance and the other two will relocate to Station #1. This emergency medical response policy was adopted as it saves time on scene, saves money in reduced overtime cost compared to sending three fire-medics on all ALS calls, and reduces back injuries.

The Emergency Services Department enters time and attendance reports into the financial management system and monitors manpower utilization. Municipal fire departments often have low manpower utilization levels. However, emergency departments with dual trained staff usually have much higher utilization levels than a single service department. In Red Deer, there are about three times as many ambulance as fire calls. As well, ambulance calls have an average duration of one hour, while fire calls are typically of shorter duration due to the large number of false alarms. Fire suppression and emergency medical services account for the utilization of about 10% of total hours available.

Maintaining EMT-P/EMT-A certification, constant repetitive training for fire suppression, and specialized training utilize about 9% of total number of staff hours available. Station duties, including cleaning, maintaining inventories, and equipment maintenance account for about 9% of total time. The practice of using on-duty fire-medics to carry out home inspections, also improves utilization. As well, paramedics assist with their patients at the hospital, depending upon staffing levels. The Department's plan to utilize on-duty fire-medics with general level safety codes training to carry out apartment inspections and occupancy counts in assemblies will further increase utilization levels. Estimated manpower utilization for 1996 is found in Exhibit 9, opposite and shows that staff does have time available for added responsibilities in areas such as building inspections and public education.

Staff Training and Development

Significant improvements have been made in the organization and management of the Department's training programs. A new Deputy Chief has been hired and an Educational Advisory Committee was established a year ago. The Committee has representation from the union and meets on a quarterly basis to obtain user input with respect to training priorities. The Education Committee has promoted increased commitment to training, improved compliance with existing Emergency Services Department policies and procedures, and facilitated the introduction of new technology.

Adoption of NFPA Training Standards

The Department has adopted the NFPA training standards as minimum qualifications. The goal is to ensure that all the fire-medics have NFPA standards 1001 and 1002 within two years. Currently, about 50% - 60% of the fire-medics have achieved NFPA 1001 Fire Fighter Professional Training; and all fire-medics have NFPA 1002 Standards for operation of fire apparatus. Officers will be completing NFPA 1021 Fire Officer Professional Qualifications, Level 1 with the objective to have all officers at Level 1 within four years.

The Department utilizes the Alberta Fire Training School program for the delivery of training and the certification of fire-medics. In addition to the training provided directly through the Deputy Chief in charge of training, monthly training objectives are sent to the station Captains for on-duty crews. This training is delivered in the station by on-duty staff and the results reported to the Deputy Chief at the end of each month.

Continuing Education for Paramedics

To maintain their registration with the Alberta Pre-Hospital Professions' Association, EMT-Ps must complete 120 hours of active care and training each year. As well, they need continuing education in basic trauma, pediatrics, advanced life support, and cardio-pulmonary resuscitation. Most of the EMT-As in the Department work as part of an advanced life support team and function at a higher level than typically supported by basic EMT-A qualifications. To date, EMT-As have not been able to upgrade to the EMT-P level without completing the two year training program. However, the technical institutes intend to offer a one year full-time course to allow EMT-As to quality as EMT-Ps

Specialized Rescue Training

Specialized rescue training is required for fire-medics in the areas of vehicle extrication and high angle, trench, water, and rough terrain rescue. Currently, all fire-medics are trained in vehicle extrication and 24 individuals have completed trench rescue. About 85% - 90% are certified in high angle rescue. Some staff have been trained in water and rough terrain rescue as preparation to handle potential challenges associated with the extensive recreational use of the Red Deer River. The Department does not plan to train for under water rescue (diving) as this is considered too expensive.

The Department does not currently have the internal capability to provide training for high angle rescue, surface water rescue, or dangerous goods response. The City of Calgary Fire Department provides training in high angle and surface water rescue while the City of Edmonton Emergency Response Department provides training in the areas of dangerous goods emergency response.

Training Facility

City Council recently approved the expenditure of $500,000 for a new fire-medic training facility for The City of Red Deer. The new training facility is under construction and will be able to handle all the Department's training requirements except practical training required for the Fire Fighter 5 and 6 levels. Practical training for these levels requires facilities for pressure fuel fires and hydrocarbon burns. Since the additional cost of the equipment, required to offer this training would be about $1.2 million, it was determined that training in these areas could be accessed more cost-effectively through outside sources. Most of the training at the new facility will be during the day because the Emergency Medical Service is busier at night.

The Emergency Services Department projects that the construction and operation of the training facility will reduce future training costs by $809,300 compared to the costs of accessing the training at the Alberta Fire Training School. Anticipated savings will accrue as a result of reduced tuition fees, the elimination of costs for room and board while attending courses, and the elimination of overtime and extra pay since training can be delivered on-shift.

The Department also anticipates that it can improve its overall training effectiveness by providing an enhanced training program. It plans to do this by tailoring the programs to specifically meet the needs of the Department, utilizing its own equipment for training fire-medics, training its staff using groupings that include the actual work teams of City fire-medics, and maintaining greater control of its training schedule.

To staff the local courses at the new training facility, fire-medics are being trained as training officers at an accelerated pace. Training officers will be trained to NFPA 1041 Fire Service Instructor Levels I and II. Instructors are paid a premium of 15% over base pay for providing training for the Department.

The City of Red Deer will use the new training centre about 100 days per year. The training centre will be available to train volunteer and other career forces on evenings and weekends. Many of the municipalities with which the City has Mutual Aid Agreements are expected to use the new facility with the City providing training on a contract basis using certified instructors.

This facility will also provide an opportunity for the fire departments in the area to train together which will be beneficial in the event of a major incident requiring the combined efforts of the resources from more than one fire department. The Emergency Services Department also plans to partner with the Red Deer Community College and Lakeland College to deliver pre-employment programs. In addition, the Department is examining the potential to partner with the private sector to deliver industrial courses.

Management Development and Career Progression.

The Personnel Department is responsible for management development for the entire organization. It currently uses the Zenger Miller Program which includes sixteen one-week training modules that can be completed over a two-year period. The program is delivered in-house by eight certified trainers. About 10 staff in the Emergency Services Department have completed the program. The management development program is based on current management theory and practice, while the NFPA Officers Standards were developed based upon an older supervisory model.

Currently, the Canadian Association of Fire Chiefs, in cooperation with the Federation of Canadian Municipalities, the Canadian Association of Municipal Administrators, and the Canadian Council of Fire Marshals and Fire Commissioners, is in the process of developing a professional designation program for Chief Fire Officers. Essentially, three components will be required for the designation - an academic standard, demonstration of professional skills, and relevant work experience. This program is in the final stages of development with implementation scheduled to begin in the fall of 1997.

Promotion in the Emergency Services Department, under the Collective Agreement, is based primarily on seniority. Twice each year examinations are held which determine eligibility for promotion. The Department sets the exams and assesses performance. The Exam Board comprises both union and management representatives and eighty days notice of the exam is provided in order for fire-medics to prepare.

All candidates for a position who have achieved the minimum standard of 70% on the exam are eligible for promotion and the officer with the most seniority is selected. Fire-medics are not required to have completed the NFPA Officers' Training to write the exams for officer or lieutenant, although some of the interested candidates are completing the City's management development program or are pursuing officer training locally, through the Red Deer Community College. Candidates for Deputy Chief positions are required to live in The City of Red Deer. The typical career progression in the Emergency Services Department is as detailed in Table 8.

TABLE 8: CAREER PROGRESSION

Position	Years of Service
First Fire-medic	4
Qualified for Officer	15-18
Lieutenant	20-22
Captain	22+
Platoon Chief	25-30

The Fire Chief reported that the Department is currently developing a succession plan to address existing and future training requirements for fire-medics who are interested in advancing within the Department. This is an important initiative since employees who are interested in moving to senior positions should have the required leadership and management skills and aptitudes. Consideration should be given to having at least some of these courses delivered by non-fire service institutions since this will assist in encouraging innovation, leadership, and management development within the Department.

Occupational Health and Safety

The Occupational Health and Safety Program is focused on:

- training to ensure competency;
- hazard identification;
- safe work practices; i.e., safe vehicle operation, protective clothing, incident command, man down alarms, handling of dangerous goods;
- health promotion;
- station and equipment maintenance and regular inspections;
- safe work recognition;
- information system on accidents and injuries; and
- accident investigation.

The Senior Safety Management Committee, which has representation from "safety sensitive" departments, coordinates occupational health and safety efforts for the civic administration. The City as a whole has had a good safety record and has, as a result, qualified for rebates of in excess of $100,000 from the Workers' Compensation Board. The Emergency Services Department does not have a rehabilitation policy for major incidents. However, for the few incidents involving injuries, investigations have been conducted and modifications have been made to policies and procedures to address any safety concerns.

Employee Assistance Programs

The Personnel Department employs an occupational health nurse who acts as an employee advocate and in particular deals with stress leaves. The absence record for the Emergency Services Department of 3.2% is somewhat above the City average. However, the statistics are adversely affected by the 14-hour shift schedule in the Emergency Services Department, the

hazardous nature of the occupation, and exposure to infectious diseases. Annual medical or fitness tests are not required for fire-medics.

Critical incident stress debriefing has been provided for the staff of the Emergency Services Department when required. Alberta Mental Health representatives as well as some of the active staff and retirees of the Department have been trained to lead the sessions. The debriefing can be done one-on-one or in a group session. Department personnel can also get support from Victim Services, which is coordinated through the RCMP. Effective counselling helps victims and emergency service personnel deal with the emotional aspects of accidents.

Performance Appraisals

Staff performance evaluations are conducted three times during the probationary period and once per year for third class to first class fire-medics. The assessment is part of the reclassification process and is also used to identify training requirements. Once the level of first class fire-medic is attained, staff become part of a newly introduced process known as the Work Planning and Review process. This process is initiated with the employee at the beginning of the year and includes two reviews with the employee during the year.

Employee Recognition

In the past, staff members who had made outstanding contributions to the City were recognized by receiving a commendation from the Commissioner. As well, the Mayor and/or Commissioner used to send commendation letters to individuals recognizing them for their contributions; and these letters were placed on their personnel files. Many of the City's employee recognition programs have been dropped and no departmental initiatives have taken their place

Compensation and Benefits

The salaries and wages and fringe benefits are set out in the Collective Agreement. The Agreement also provides for incremental rates for extra time, trainers and senior work as well as shift differentials for night work. Fringe benefits include statutory holidays, vacations, sick leave, WCB coverage, medical and dental insurance, group life insurance, and clothing.

Labor-Management Relations

The labour relations' climate is generally positive with contracts being settled through the collective bargaining process and very few grievances being filed. While the union has gone four years without a raise and has taken a rollback in the benefits area, the fire-medics have suffered less than other civic unions in the current climate of fiscal restraint.

The new Fire Chief and the management team are trying to encourage decision-making closer to the front-line by involving fire-medics in important decisions that affect the operation of the

Department. (The involvement of the fire-medics in the development of the Emergency Services Master Plan is an illustration of this commitment.) To support this process, a number of staff/ management committees have been set up including the Emergency Medical Services, Education and Training, Hazardous Materials, Clothing, and Safety Committees.

Union executive members made two suggestions with respect to improving management-staff relations - namely:

- While staff value the opportunity to provide their input into a project, it is important that adequate resources are allocated to address the issues identified or front-line staff lose faith in both the process and management; and

- Communications between the senior management and staff could be improved if the senior managers visited the stations more often to talk with the staff, communicate what is happening, and listen to concerns.

Feedback Mechanisms

The Emergency Services Department has established a number of performance indicators that it tracks and utilizes to assess results against pre-established standards and benchmarks. Among these are measures such as response times, levels of customer satisfaction with services provided, and dollar value of property loss due to fire per 1,000 population. Other quality monitoring and reporting mechanisms include the quality management plan required under the Safety Codes Act; post-fire incident critiques, medical review of ambulance response procedures, and the annual report of the Department.

Quality Management Plans Under the Safety Codes Act

Each City Department is responsible for quality management and audit. The Fire Prevention Bureau has a quality management plan for fire prevention, inspections and investigation. The internal audit. which is required every six months, under the Safety Codes Act, has not been carried out. Alberta Labour will be periodically auditing the quality management plans of accredited municipalities and agencies.

Post-fire Critique

The Platoon Chief is responsible for conducting a post-fire analysis. The aim is to hold the informal session as soon after the incident as possible. Some Platoon Chiefs are more effective in this role than others.

Medical Review

The Medical Director is responsible for quality assurance for emergency medical services under the legislation He conducts monthly reviews of all advanced life support calls and a sample of

basic life support calls. The patient records are examined and changes in protocols are made if required. As well, the Medical Director follows up on any complaints received regarding the ambulance service.

Surveys of Customers

The Emergency Services Department conducts surveys of individuals receiving services from fire suppression and emergency health sections. Customer views on the quality of services are monitored. No formal customer feedback program is in place in the Fire Prevention Bureau. Surveys of a sample of builder owners and participants in public education programs should be conducted to allow the Fire Prevention Bureau to better evaluate the quality of its services.

Annual Report

The Department publishes an annual report which outlines for City Council and interested members of the public the following information:

- Department mission and organization chart;
- annual fire losses;
- review of response times to all areas of the City for first arriving units.
- number of emergency incidents by type on a five-year historical base.
- vehicle movements by Station in and outside the City;
- disaster services report;
- overview of activities for each section within the Department;
- overview of fire prevention activities;
- overview of fire losses; and
- statistics on emergency medical incidents.

This report contains information upon which both City Council and administration can make strategic decisions.

Fire Department Accreditation

Recently, an international accreditation congress was established to accredit fire departments. This program is a joint effort between the International Association of Fire Chiefs and the International City Management Association. The program identifies 240 key components within a public fire protection system for evaluation and measurement.

Fire Department accreditation is deemed by the Canadian Association of Fire Chiefs to be a partner program to the Professional Designation Program and is strongly supported by both the Canadian Association of Fire Chiefs and the International Association of Fire Chiefs.

Summary of Key Findings Re: Departmental Management and Control Systems

Strengths

The major strengths noted with respect to the Emergency Services Departments management and control systems were as follows.

- A strategic management system that sets out the Department's goals, budget, and performance measures for the Department is utilized.

- The Department's organization structure and assignment of responsibilities is matched appropriately to functional requirements.

- Plans are in place to ensure effective and timely building and equipment maintenance and upgrading.

- The move to increase the level of involvement of front-line staff in decision-making is a positive direction. The establishment of a number of key staff committees should help to support this objective.

- The Department has adopted training standards and a five-year training plan. In addition, the initiative shown in developing the training school should serve the Department and the City well from both a program quality and cost effectiveness perspective.

- Quality assurance in the emergency medical area is provided through medical reviews of patient care reports.

- Departmental performance is evaluated against pre-established targets and benchmarks including response times and customer satisfaction levels.

- The Master Plan development process includes substantial opportunities for public input regarding the quality of services and external evaluation of performance.

Areas Where Effectiveness Could Be Improved

Areas where effectiveness could be improved included:

- Department Management could operate more effectively as a management team.
- Too great an emphasis on seniority as a basis for promotion may result in sub-optimization of management and leadership capacity.
- There is a lack of clear accountability for carrying out pre-plans, fire drills, and apartment inspections. Pre-fire plans which are supposed to be prepared on about 150 - 200 high-risk structures and facilities have not been kept up to date.
- The administrative policies and procedures manual should be reviewed and required policy enhancements implemented.
- A rehabilitation policy for major incidents should be developed.
- Employee recognition programs could be enhanced.
- The management information systems should be integrated.
- An informal rather than structured approach is utilized to post-fire critiques. This practice should be reviewed.
- No internal audits have been conducted to ensure the Fire Prevention Bureau is in compliance with its quality management plan for inspections and investigations.
- Consideration should be given to including Platoon Chiefs in the Department's Management Team and designating these positions as "out of scope".

CHAPTER 8: PUBLIC CONSULTATION

Chapter Organization

City Council placed a high priority on ensuring that the community had meaningful input into the development of The City's Emergency Services Master Plan. Accordingly, the study process included three distinctive but inter-related public input mechanisms. These included:

- a comprehensive telephone survey of a broad cross-section of residents conducted by Community Research – Red Deer College;
- structured focus group meetings to seek input from specific stakeholder groups; i.e., residents, commercial/small business, large industry, public institutions, other municipalities in the region, and the Residential Sprinklering Task Force; and
- an open public meeting at which written or verbal submission on the key question were received.

This Chapter provides a brief summary of the key findings of telephone survey and references the comprehensive study conducted by Community Research, Red Deer College which as Appendix D to this Master Plan. In addition, the results of the focus groups and public forum are detailed.

Summary of Telephone Survey Results

As part of the public input process, Red Deer Community Research conducted a telephone survey of 1,000 residents to identify their attitudes towards issues affecting the City's emergency services. The sample completion rate was in excess of 85% with about half of the respondents completing the fire protection and ambulance components of the survey, respectively. Statistical analysis revealed that the samples can be regarded as representative of the adult population 99.75 time out of 100. The principal observations from the survey have been summarized in this section of the report. The detailed survey results are reported in Appendix D.

The major findings from the telephone survey are as follows:

- *Satisfaction levels with current fire and ambulance services:* High levels of satisfaction were reported with The City of Red Deer Emergency Services. Eighty-four percent of the ambulance survey sample and 94 percent of the fire protection sample reported that they were generally satisfied with the services currently provided.
- *Attitudes towards response times for fire and ambulance services:* In a set of strongly expressed sentiments, 74 percent of all respondents disagreed with the

proposition that the City should attempt to keep property taxes low if it means slower emergency response times; 94 percent felt that, as Red Deer grows, current standard response times should be provided in all parts of the community; and 88 percent agreed that the City should spend the money necessary to ensure that the standard response time is provided in all parts of the City.

- *Attitudes towards residential sprinkler systems:* Respondents in the fire protection survey were supportive of residential sprinkler systems. Sixty-four percent agreed that greater safety was a sufficient reason for sprinkler systems to be required in new home construction, while 61 percent similarly agreed that a possible saving to the City was also a sufficient reason. Many respondents were sensitive to the cost of residential sprinkler systems with the sample evenly split on whether or not current costs were too expensive. However, this attitude shifted dramatically when respondents were informed of expected cost reductions from technical changes which will be available on the market within two years.

  On the issue of who pays, 72 percent of respondents agreed that home buyers should bear the entire cost of residential sprinkler systems and 76 percent disagreed that the City should pay the cost, even though the City would save tax dollars in the long run. The sample was split on whether costs should be shared between the home owner and the City, with 49 percent in agreement with the principle while 42 percent disagreed.

  On the key issue of whether the City should require residential sprinkler systems to be installed in all new houses built in Red Deer, 57 percent of the sample expressed agreement while 32 percent disagreed.

- *Attitudes towards fees for ambulance services:* Seventy-two percent of the ambulance survey sample agreed with the understanding that current fees for the City's ambulance service could prevent people from calling an ambulance, "even when it might be necessary". On the question of who should pay, 61 percent agreed that ambulance services should be an Alberta Health Care insured service and 55 percent disagreed that patients should be responsible for a larger share of the cost. In contrast to the typically one-sided distributions observed in most of the research, 47 percent agreed that the City should pay more of the cost of the ambulance service while 34 percent disagreed.

- *Attitudes towards the use of volunteers in fire and ambulance services:* Overall, 57 percent of the sample disagreed with the City using a combination of professional fire-medics and volunteers if this would result in a reduction in the quality of emergency services. Not surprisingly, 83 percent would support the use of volunteers ***if*** the City could save money in this way, and ***if*** there was no

reduction in the quality of emergency services. On the reverse question, 49 percent agreed that the City should employ only full-time professionals, 36 percent disagreed, and the remaining 15% were neutral.

- *Concerns for quality and cost of emergency services:* In a set of strongly expressed sentiments at the conclusion of the interviews, 93 percent of all respondents agreed that the City should spend what is necessary to ensure that the current quality of emergency services is provided equally in all areas of the City. A total of 84 percent continued to agreed with this proposition "even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built".

  Seventy-six percent of all respondents disagreed that the City should attempt to keep property taxes as low as possible if it meant a reduction in the quality of emergency services. On the question of whether the City could take money from other City services to pay for maintaining emergency services, the sample split with 43 percent in agreement and 38 percent in disagreement.

  In response to the final statement, "The City should provide the best fire fighting or ambulance service possible, even if it means raising property taxes to pay for it", 69 percent of all respondents expressed agreement, 18 percent disagreed, and 13 percent were neutral.

Focus Group Results

As part of the public consultation process, focus group sessions were held with representatives from, institutions, the commercial/small business sector, and large industry. These sessions were designed to gather input in the following key areas:

- level of satisfaction with the quality of current emergency services in the City and region;
- the adequacy of current response times for fire and ambulance;
- priorities for service enhancements;
- the utilization of auxiliaries/volunteers within the Emergency Services Department; and
- mandatory residential sprinklering.

In addition, sessions were held with representatives of municipalities within the region, Emergency Services Management, and the Residential Sprinkler Task Force Committee. The key themes emerging from each session are detailed in the following sections of this report under the appropriate headings.

Residential Focus Group Results

The residential focus group comprised City residents living in a wide range of accommodation including single family dwellings, multi-family complexes, seniors' residences, and trailer parks. The key themes emerging from the discussions follow:

- *Level and Quality of Services:* Participants were generally satisfied with the level and quality of services provided by the Emergency Services Department. Many cited positive experiences with the Department, and felt that the fire-medics and paramedics were very competent and professional. However, participants did question the need to send two vehicles to a medical emergency and they were concerned about the ease of access to secure buildings for emergency services personnel. Some participants also felt that the Department did not have sufficient resources to respond effectively to large building of industrial fires.

- *Adequacy of Response Times:* Focus group participants felt that response times on the east side of the City were too long and that this was an area of increasing concern because of rapid growth in this sector of the City. While not all meeting attendees agreed, the majority indicated that they would be prepared to pay additional taxes to maintain reasonable standards of safety.

- *Suggested Service Enhancements:* Potential service enhancements identified included the following:

  - There is a need for more public information about the services provided by the Department. Brochures in utility bills, newspaper articles, public service announcements on TV, and exhibits were identified as possible mediums for the dissemination of information.

  - Almost all of the participants identified a need for more public education in the areas of fire and accident prevention. Participants felt that public education programs should focus on schools, public institutions, and individual residents; and potentially could operate on a full or partial cost recovery basis.

  - Most participants felt that the City should inspect and install smoke detectors and bill residents for the service. Several participants suggested that the City examine the feasibility of contracting out inspections.

  - Participants expressed an interest in measures designed to prevent abuse by callers of the 911 service.

- *Use of Auxiliaries:* Participants discussed the relative advantages and disadvantages of using auxiliaries or volunteers for the provision of emergency

services. Advantages identified included: the availability of additional resources and an increased pool of trained resources in the event of a disaster; the potential reduction in overtime and costs; and the provision of career opportunities for volunteers interested in the emergency services area. Disadvantages identified included: the potential increases in response times; the potential loss of productivity; the risk of injuries to volunteers; and the potential liability exposure. The group concluded that they would want auxiliaries to perform only support functions under the direct supervision of professionals.

- *Mandatory Sprinklering:* Residential focus group participants did not support mandatory residential sprinklering. Resistance to the concept was rooted in a belief that citizen's were already over-regulated by government and that the decision to sprinkler a home should rest with the individual home-owner. There was however some support for sprinklering multi-family dwellings. Some participants suggested the City should consider introducing a pilot project in a new subdivision to demonstrate the technology and facilitate public education regarding the benefits of sprinklering.

Institutions Focus Group Results

Public institutions represented at the focus group session included health care, lodges and nursing homes, the community college, the school boards, churches, Michener Centre, corrections, and the media. The key themes emerging from the discussion follow.

- *Level and Quality of Services:* Participants felt that service levels and standards are very good; and that the Emergency Services Department is staffed by well trained, multi-skilled professionals. However, a number of concerns about resource availability and the capacity of the Department to respond to some situations were identified including the:

  - limited capability to respond effectively to high-rise fires;
  - potential shortages of ambulances in the event of multiple incidents;
  - inadequacy of resource levels; and
  - limited response capabilities in the areas of water and ice rescue, major hazardous goods incidents.

  It was judged to be too early to assess the effectiveness of the building inspection program given the recent adoption of the new safety codes legislation. Nevertheless, some participants suggested that the inspection function could be privatized.

  The participants felt that emergency services is a critical municipal service that is well supported by the community. The view was expressed that the public would be willing to pay for enhanced services either by reducing service levels in other municipal operations

or paying additional taxes. User fees for inspections, consultation, and support were viewed as appropriate.

- *Adequacy of Response Times:* Maintaining or enhancing current emergency response times was viewed by participants as a high priority. They also identified a need to improve response times in the industrial area in the northwest and the residential area in the southwest. They also felt that more public education of motorists to ensure that they give the right of way to emergency vehicles would help improve response times.

- *Suggested Service Enhancements:* Potential service enhancements identified by the group included the following.

  - Additional information should be available to the public about the services provided by the Department. Information could be provided by brochures in utility bills, feature articles in the newspaper, exhibits in high traffic areas, videos and newsletters targeted at institutions, speakers provided by a speakers' bureau, and communications on community cable television and local radio stations.

  - Public education programs in the schools could be enhanced through the active involvement of Emergency Services staff in professional in-service days for teaching staff and increased levels of direct instruction in the classroom.

  - Accident prevention programs could be developed for seniors and residents in group homes.

  - Increased focus could be placed by the Department on monitoring fire alarms in public buildings and institutions;

  - Increased support could be provided to institutions in terms of technical advice and consultation to assist with the development of first response plans.

  - Guidelines and protocols could be developed and communicated with respect to identifying, handling, and disposing of hazardous materials.

  - The Emergency Services Department should improve the coordination of disaster planning, training, and testing of plans through table top discussion and field exercises. (Each institution represented had a disaster plan; however, they did not believe that the plans were integrated adequately with the overall disaster plan for the City.)

  - Consideration should be given to allocating additional resources and training for water and ice rescue and victim retrieval.

- Provision should be made for ongoing input from the public and institutions through complaint monitoring, surveys, focus groups, and public forums.

➢ *Use of Auxiliaries:* A number of advantages and disadvantages associated with the use of volunteers/auxiliaries were identified including: the availability of a larger pool of responders for emergencies; more trained resources in the event of a disaster; the potential to reduce costs of emergency services; increased community involvement and networking; and enhanced public awareness. Disadvantages identified included: the limited expertise and training on the part of volunteers; the potential lack of public confidence in volunteers; concerns about timely availability of volunteers/auxiliaries; personal safety risks for volunteers; the potential liability to the City; and potential increases in response times.

The group did not support the use of volunteers/auxiliaries in providing front-line or technical services. However, they did believe that volunteers/auxiliaries would add value in a back-up and support role by fulfilling a role similar to auxiliaries in the RCMP. Services identified which they could provide included public education support at fire scenes, assistance with search and rescue activities, and assistance with disaster planning and response. The participants indicated that their organizations did not have the resources to provide volunteer/auxiliary support except in the event of a major incident or disaster.

➢ *Mandatory Sprinklering:* The advantages of mandatory sprinklering identified by the group included: the increased potential to save lives and protect the most vulnerable population; the reduced need for quick response times to fires in sprinklered areas; the reduced costs for fire protection; the reduced levels of property damage; and the potential for lower insurance rates.

Disadvantages noted included the: increased building costs; discrimination against the new home market; costs associated with annual inspections and maintenance of sprinkler systems; potential for sprinkler systems to malfunction; potential backlash from home builders and the negative impact this could have on relationships with City; and potential for water lines to freeze and result in property damage. It was also noted that old homes have a greater fire risk than new homes and yet these would not be sprinklered and that the design of modular homes would have to be altered to accommodate sprinklers.

The institutional focus group did not support mandatory residential sprinklering. It believed that the by-law would be very unpopular and that individual home owners should have the right to make their own decisions. However, session participants felt that the City had a major role to play in educating and promoting the benefits of sprinklering to the community.

Commercial/Small Business Focus Group Results

The retail, hotel, and construction industries and the local chamber of commerce were represented at the commercial and small business focus group. The key themes emerging from the discussions were as follows.

➢ *Level and Quality of Services:* Business community representatives expressed the view that The City's Emergency Services Department is well managed, responds quickly to emergency calls, and has a well trained and very professional staff. Other more specific observations and suggestions with respect to service quality included:

- Fire Suppression: Fire suppression crews respond quickly and extinguish fires in an efficient and effective manner. Fire damage has been minimal.

- Ambulance: The ambulance service is excellent. However, participants felt that too many vehicles were being sent to an emergency medical call. The dispatcher should be able to assess requirements and send the appropriate resources. In particular, they question the need to send out a fire truck to an emergency medical call. This can be problematic because the public may perceive that there is a fire at their place of business.

- Rescue Services: Rescue services were generally viewed as adequate; however, some participants questioned the capability of the Department to rescue individuals from high rise buildings and apartments.

- Hazardous Materials: While commercial and small business operations do not generally require sophisticated hazardous materials response, it was noted that fire-medics at the scene do not appear to have information on storage of hazardous materials from previous building inspections. Business representatives also felt that they could benefit from additional information and education on hazardous materials.

- Toxic Waste Round Up: The toxic waste round-up was viewed as important and business representatives felt that more frequent round-ups would be beneficial. the City should examine the feasibility of toxic waste round-ups in connection with garbage collection.

- Inspections: Representatives generally felt that an effective job was being done in the areas of inspections. It was noted that under the new Safety Codes Act, more frequent and comprehensive inspections are being carried out; and that The Fire Prevention Bureau has found previously unidentified violations of the fire codes.

- Disaster Planning: Business representatives expressed the view that disaster planning is critical. It was noted that The City of Red Deer needs a

comprehensive disaster plan and exercises to test potential scenarios; more information on the City's disaster plan; and assistance in preparing their own disaster plans.

- *Response Times*: Business community representatives indicated that current standards with respect to response time should be maintained. They also questioned whether the Emergency Services Department has the resources to respond to major incidents, requiring a secondary response; and whether the Department can handle simultaneous emergencies. Session participants indicated a qualified willingness to pay additional taxes to maintain service levels. They indicated that basic emergency services should be covered but that it would be appropriate for the City to charge businesses for inspections or fire prevention education. Some participants expressed the view that Alberta Health and/or the City should pay for medically required ambulances.

- *Use of Auxiliaries/Auxiliaries:* The business community representatives suggested that the City is too large to rely on volunteers or auxiliaries for front-line fire duty. They expressed concern about the availability of volunteers, the training requirements and costs, and the potential impact on employers. However participants did feel that training a pool of volunteers to provide support services to the Emergency Services Department would be very beneficial. These volunteers could deliver fire prevention education sessions, provide support at fire incidents, and assist in the event of a major disaster.

  They also expressed the view that it would be inappropriate to ask City employees to take on volunteer emergency response in addition to their current responsibilities. Some participants noted that "if municipal employees had sufficient time to respond to fire incidents, the City is probably over-staffed."

- *Residential Sprinklering*: Representatives of the business community saw few advantages to mandatory residential sprinklering apart from reduced insurance rates and increased protection for locations within the County where distances from a fire station result in lengthy response times. They did not want the City to use residential sprinklering as an excuse to reduce service levels, and they identified a number of concerns associated with mandatory sprinklering including the:

  - cost of sprinklering;
  - annual maintenance and service requirements;
  - potential for water damages;
  - inability of sprinklers to deal with the smoke problem;
  - imposition of additional municipal regulation;
  - insufficient number of fires to justify the cost; and

- potential to discourage new home owners from purchasing housing in the City.

Large Industry Focus Group Results

The large industry representatives included the petrochemical, metal-working, oilfield servicing, and transportation industries. The key themes emerging from the session were as follows:

➢ *Level and Quality of Services*: Industry representatives indicated that the Emergency Services Department is generally providing excellent services within acceptable response times. However, some opportunities for service enhancements were identified including the following:

- Increase the frequency of inspections of industry, including spot checks of high-risk facilities.
- Provide additional fire-medic training for LPG fires.
- Increase focus on staff training for rescue, especially for high angle and confined space rescues.
- Provide assistance to small industry in developing first aid response and evacuation plans. (Large industry has their own in-house capability.)
- Strengthen industry-municipal partnerships in disaster planning. (While most of the representatives of large industry indicated that their organizations have emergency preparedness plans, these plans have not been integrated with the City's disaster plan. The Department needs to conduct site visits of major industry and to organize on-going consultation and exercises.)
- Provide additional information to industry on the services provided by the Department and provide material to assist small industry in managing hazardous materials and emergency preparedness.
- Increase the involvement of the Emergency Services Department in public education and prevention. (Many of the large industry representatives indicated that their companies participate the "Partners in the School Program" and believe that the Emergency Services Department could also partner with schools). It was also suggested that additional information be provided to residents, including public service announcements on TV and radio.

➢ *Response Times*: The group was of the opinion that the City needs to maintain current response times. Lengthy response times in the northwest and the eastern parts of the City were raised as a concern. They also indicated that they would support increased taxation to maintain service levels.

- *Volunteers/Auxiliaries*: Industry representatives supported the use of auxiliaries/ volunteers in a support role in fire suppression and in dealing with disasters. They indicated that their companies may be able to provide some volunteers/auxiliaries to assist in a back-up role. The level of support would vary, as the first priority of their companies would be to provide protection to their own operations. However, a large pool of resources would be available in the event of a disaster. Many large companies have cross trained their operators and maintenance staff to assist in emergency response.

  The industry group listed a number of advantages and disadvantages of incorporating volunteers/auxiliaries into the Emergency Services Department. The advantages identified were the: potential cost savings; increased community involvement; and additional trained resources in event of a disaster. Disadvantages identified included the: potential longer response times; lower qualifications and training of volunteers compared with a career force; additional resources required to train and manage volunteers; and potential liabilities to the City.

- *Residential Sprinklering*: Industry focus group representatives identified a number of advantages relative to mandatory residential sprinklering including the: potential to save lives; response to a fire incident even if no one is home; reduced property damage in the event of a fire; and potential for reduced insurance costs. Disadvantages noted included the: the cost of residential sprinklers; requirements for annual inspections and maintenance; the possibility of false alarms; potential for increased water damage; and potential to discourage people from building a new home in the City because of additional costs. It was also noted that the need to provide ambulance services would continue even if mandatory sprinklering were in place and the costs of this service would have to be considered as part of the cost equation.

  While industry representatives believed that sprinklering would save lives and reduce property damage, they did not support a mandatory residential sprinklering program. They believed that the decision should be made by the residents, but that the City should actively educate the public on the safety aspects of sprinklers, and consider providing some incentives to encourage their use.

Municipalities Focus Group Results

The City has mutual aid agreements with 12 municipalities in the vicinity. Municipalities represented at the focus group included: the County of Red Deer, Lacombe, Blackfalds, Delburne and Eckville. Representatives from these communities included elected officials, Fire Chiefs and Deputy Fire Chiefs. The focus group session with regional municipalities addressed a range of issues including: mutual aid agreements; disaster planning; training; use of volunteers/auxiliaries; residential sprinklering; and opportunities for regional delivery of emergency services. The key themes emerging from the session were as follows.

- *Mutual Aid Agreements*: The Mutual aid agreements cover a range of issues including: responsibility for activating the agreement; level of response of equipment and manpower from neighboring municipalities; incident command structures and protocols; provision for the recovery of costs for services provided; and legal liability. It was noted that since municipalities tend to rely on their closest neighbors for aid, some of the mutual aid agreements have not been tested.

  Under the current arrangements The City of Red Deer provides emergency medical services, fire suppression, rescue, and hazardous materials response on a regional basis. Emergency medical services are provided to Delburne and a portion of the County of Red Deer. The City responds to fire incidents in the County of Red Deer, if lives are at risk or if assistance is requested by the County. The City also responds to motor vehicle accidents and provides a back-up and specialized rescue service to the region.

  The mutual aid agreements were judged to be adequate by session participants; although it was noted that they should be reviewed and updated on a regular basis. The extent and adequacy of ongoing communication among municipalities with respect to mutual aid was judged to be fair.

- *Disaster Planning*: The group identified the need for a regional approach to disaster planning. Concern was expressed that municipalities have very limited capability to deal with major risks such as floods, train derailments, and industrial accidents. It has been difficult to convince elected officials of the need for disaster planning, and as a result, municipalities have limited budgets for training, developing disaster plans, and conducting exercises. Concern was also expressed that the closure of some hospitals has affected the ability of communities to handle mass casualties.

  The participants identified the need for a full-time coordinator of disaster services in the Red Deer region. It was suggested that regional disaster planning be jointly funded by the municipalities, the province, and industry - with municipalities contributing on a per capita basis. The coordinator would be responsible for training, emergency plan development and exercises, and municipal and industry liaison.

- *Training*: Representatives from municipalities expressed an interest in training courses, particularly at the fire fighter 3 and 4 levels. Some indicated that they had hoped that the City would provide regional training at no cost because their municipalities do not have large training budgets. It was noted that if the City of Red Deer charges for courses, the fees would have to be competitive with other providers such as the Alberta Fire Training School. It was suggested that large industry in the region might be prepared to help subsidize the training of a volunteer force. (e.g. Novacor currently does not charge for training.)

Representatives noted that The City of Red Deer will need to consider the special training needs of volunteer forces. For example since some volunteers cannot take a week away from their job, training courses may need to be delivered on the evenings and weekends. Further, since some volunteers must be available to protect their communities, courses may have to be delivered for several municipalities together to avoid having the entire volunteer force from one community away at one time.

- *Residential Sprinklering:* Representatives from the surrounding municipalities indicated that they have no plans to introduce mandatory sprinklering in their municipalities. While participants were strongly in favour of the use of sprinklering, most felt that home owners should have a choice. It was felt that mandatory residential sprinklering would place a burden on some residents, especially low-income residents, and may not be cost effective. The participants noted that many residents were not maintaining their smoke detectors and fire extinguishers currently and that residential sprinklers would be of no benefit without annual inspections and maintenance. It was also noted that residential sprinklers would not protect residents from fires which start on the outside of the building.

  The participants did however agreed that municipalities have a role to play in educating the public about fire prevention and the life safety aspects of smoke detectors, fire extinguishers, and residential sprinklers.

- *Other Regional Services*: The group expressed an interest in the regional delivery of other emergency services. There may be an opportunity for the City to provide continuing education for Emergency Medical Responders (EMRs), and conduct inspections and investigations on a fee-for-service basis. A needs assessment could identify some of these opportunities.

Residential Sprinkler Task Force Committee

The Residential Sprinkler Task Force Committee was formed on April 25, 1995. The committee consists of City representatives and citizens at large drawn primarily from the development, engineering, and home-building industries. The Task Force has been examining the feasibility of mandating residential sprinklering and has in-depth knowledge and expertise in the various facets of the issue. The focus group session addressed a number of issues including: the positive and negative impacts of residential sprinklering; perceptions of the level of public support for sprinklering; whether mandatory sprinklering should be required on re-developments; how to implement a sprinklering by-law, if City council were to pursue this initiative; public education; and subsidies

The results of the session are summarized below under the appropriate headings.

➢ *Impact of Residential Sprinklering:* The members of the Task Force identified both the positive and negative impacts of residential sprinklering. The positive aspects of residential sprinklering included:

- enhanced life safety by putting a fire-medic in every home;
- the potential to reduce the costs of providing fire service;
- the potential savings from design changes associated with the water system; i.e., smaller pipe sizes and greater distance between hydrants would reduce costs;
- reduced property damage;
- the potential savings on insurance rates, although the fire portion of the premium is small;
- the opportunity provided to shift the focus of the Department from fire suppression to fire prevention; and
- the potential to increase the resources which can be utilized for emergency medical services.

The Task Force also identified some negative impacts of mandating residential sprinklering including the:

- cost of installing, operating and maintaining sprinkler systems;
- duplication of fire suppression resources with both residential sprinklering and fire stations;
- additional demands on contractors as a result of the need to manage an additional sub-trade;
- additional municipal regulation;
- esthetics of sprinkler systems;
- provision of sprinklers does not obviate the need for ambulance service;
- potential for malfunction and accidental water damage;
- different building standards that would exist for homes in the City compared to other municipalities in Alberta; and

- treatment of renovations.

➢ *Public Support For Residential Sprinklering:* With respect to perceived levels of public support for sprinklering, Task Force members noted the following:

- Some home builders and trades have been actively promoting residential sprinklering; however, they have not sold any systems in the City;

- Council has a major responsibility to provide adequate fire protection. However, house purchasers appear to put a low value on residential sprinklers. This suggests the City has a major role to play in the area of public education.

- Residents expect that the fire truck will respond quickly to fires to minimize property damage.

- Residential sprinklers are not perceived by the public to offer sufficient benefits, given the costs.

- Only 2% to 3% of new home owners are installing security systems, even though the cost is $400 to install a system and $20 per month for monitoring charges. This seems to suggest there would be limited interest in installing sprinkler systems.

Task Force members felt that The City of Red Deer has a significant role in educating home owners about the safety aspects of sprinklers. The Emergency Services Department could show case sprinklers in show homes; and builders could be encouraged to market sprinkler systems as a key selling feature of new homes.

➢ *Treatment of Re-development Projects*: The participants felt that with present technology and regulation, it would be difficult to require residential sprinklering on residential re-development since a larger water line is required. Once the use of the same size water service lines are possible, sprinklering re-developments will become more feasible.

It was also noted that requiring residential sprinklers on re-developments would not reduce the cost of providing fire service as the whole area needs to be sprinklered to achieve any savings. The Task Force did feel it made sense to require residential sprinklering for high-risk groups including group homes for seniors and mentally or physically handicapped persons.

➢ *Implementation of a City By-law:* The builders at the session pointed out that municipal by-laws requiring residential sprinklering are illegal as the province has uniform building and fire codes. The Alberta Fire Chiefs' Association presented a request for residential sprinklering to the Safety Codes Council. The Safety Codes Council, which has broad-based representation, turned the request down. There was no support as it was felt that

the costs did not justify the number of lives that might be saved. Task Force members felt that the Minister of Labour would be unlikely to grant an exemption to the codes for a municipality without the support of the Safety Codes Council.

- *Public Education*: The majority of the Task Force felt that residential sprinklering should be voluntarily; and that the Emergency Services Department should encourage residential sprinklering through public education. Task Force members felt the City should promote the benefits of sprinklering and ensure that home owners and builders are kept informed about costs. For example, the City could support the installation of sprinkler systems in show homes, work to gain acceptance from builders, and encourage the media to assist in promoting residential sprinklering.

- Subsidies: Task Force members identified a number of issues with subsidies or tax relief to support sprinkler installation. It was noted that subsidies may be justified if a strong business case could be made. For example, subsidies or tax relief for sprinklers in new areas may be justifiable given the offsetting quick response time in older subdivisions. However, subsidies may open the City to potential legal suits.

Emergency Services Management Focus Group Results

The Emergency Services Management focus group consisted of the retiring Fire Chief, the incoming Fire Chief, the Deputy Chiefs, and the Chief Safety Codes Officer. The purpose of the focus group was to obtain the views of management on external relations, management structure and decision-making, human resources management, and Master Plan implementation. The key themes from the session are detailed under the appropriate headings.

- *External Relations*: The discussion on external relations focused on five key areas, namely: public relations; public education; the need for fire districts; regional relationships; and the coordination of disaster planning.

  - Public Relations: The management group believes that more emphasis is needed on managing public relations. It was observed that the quality of public relations is a key determinant of public support for resource allocation decisions; and that customer feedback is important in determining the direction and focus of the Department. Participants also identified the need for the media to be involved in order to have an effective public relations program. Management believe that open houses and small displays during Fire Prevention Week and Emergency Medical Services Awareness Week should continue to be a priority. It was also noted that in the past volunteers from the Department's career force have been used to support public relations program; however, volunteer commitment can be influenced by the labour-management climate and some volunteers are suffering from "burn out".

- Public Education: Emergency Services management indicated that the Department's public education program has focused on the "Learn Not to Burn" Program in grades three to five in the schools. As well, fire extinguisher training has been provided for staff at public institutions and businesses, and home inspections are conducted. It was noted that with reduced staffing levels, the Emergency Services Department has not been able to respond to all requests to provide speakers at evening meetings; and that the Department does not have the resources to expand its current public education program. However, public education could be enhanced with the utilization of volunteers.

- Fire Districts: The group did not feel that the formation of fire districts was an appropriate approach to enhance the customer focus in the City. They felt that since the Department is relatively small, and it would be difficult to permanently assign fire-medics to particular stations. In addition, participants felt that all fire-medics needed to be familiar with all specialized equipment, most of which is located at the downtown station. As the City grows, it may become appropriate in to form fire districts; but Management sees fire districts as a big city solution which will not be suitable for Red Deer until it reaches the required threshold size.

- Regional Relationships: The management team believe that relationships with other municipalities can be enhanced through partnerships and resource sharing. At one time, the City provided fire suppression services under contract to the County of Red Deer. However, the County decided to establish its own service and build its own station. It was noted that fire risks in the County of Red Deer are growing due to residential development in perimeter areas, and the location of industry and big box retailers in the North and South.

  There is a Mutual Aid Agreement with the County of Red Deer. The City responds to requests from County fire officers, or if it is known that someone is trapped inside a building. In addition, the City of Red Deer provides 911 Call Answer service to the County on a contract basis. The group noted that the County has some specialized equipment for fighting grass fires that would be advantageous to the City.

  The City and the County are sharing training materials and equipment. However, there has been limited joint training. In the future, the City hopes to train County volunteers at the new training facility.

  Management indicated that communications among emergency services departments need to be improved. Each department operates on a different radio frequency which creates problems accessing the frequencies of neighboring municipalities for communication purposes. The equipment costs to facilitate improved communication would be about $20,000 per department.

- Coordination of Disaster Planning: Disaster planning was identified by management as an area of weakness. Participants noted that in the past a person with City Administration had responsibility for coordinating disaster services. When the Disaster Services Coordinator retired, the Emergency Services Department was assigned responsibility for disaster planning but the position was eliminated. The Department did recently update the resource inventory for the disaster plan and distribute it to City departments; however, an disaster planning exercise has not been conducted since 1989. Alberta Public Safety Services Programs were also negatively affected by recent provincial government budget cutbacks resulting in further reductions in support for disaster planning and training exercises. Management believe that at least one-half of a person-year is required to conduct risk assessments, meet with institutions and industry, and coordinate table top discussions and field exercises. It was noted that some additional resources could be accessed if disaster planning were conducted at a regional level.

➢ *Management Structure and Decision-making:* Management believes that their role is to set priorities and to keep the Department focused on the departmental operating plan. Success depends upon successfully communicating and creating support for the plan, and the quality of labour- management relations. Management believes that it would be beneficial to increase the involvement of fire-medics in developing the Department's strategic and operational plans. Management indicated that they have been trying to encourage more decision-making closer to the front line.

Session participants indicated that senior management responsibilities have been assigned based on experience, knowledge, and expertise. It was recognized that a re-alignment of responsibilities may be required, particularly in light of issues raised regarding disaster planning, public relations, and volunteers services.

Staff scheduling is being done by platoon chiefs, and a number of committees have been set up to involve fire-medics in major decisions relating to equipment, safety, and training. Increased front-line decision-making could have implications for the collective agreement. Work plans and performance measures are being developed for work groups and individuals within the organization. E-mail has been installed at the stations to facilitate communications with platoon chiefs and captains.

➢ *Human Resource Management*: Human resource management issues were discussed including: fire-medic culture; recruitment; productivity improvement; occupational health and safety; employee recognition; promotion policy; and volunteers. Key themes emerging from the discussions are summarized under the appropriate headings.

- Fire-medic Culture: The management group emphasized the need for personnel policies and practices to recognize the unique culture of the Emergency Services Department. Fire fighting demands significant technical competence and it is

critically important to fire-medics that their expertise be respected. It was also noted that given potential dangers on the job, fire-medics need to have a high level of trust in each other. They spend a lot time together, and their colleagues are almost as important to them as family.

- The schedule of two 10-hour days and two 14-hour nights over a 8-day period is considered an important working condition by the fire-medics. It was noted that fire-medics would strongly resist a change in the shift schedule, particularly the elimination of sleep time.

- Recruitment: The management group felt that the Department should continue to hire paramedics and train them to become first-class fire-medics. They did not believe that the Department will experience difficulty attracting an adequate number of paramedics and did not support reducing entrance qualifications to an emergency medical technician (EMT-A).

- Productivity Improvement: Session participants indicated that the Department has been actively seeking new business opportunities and investing in training to improve productivity. Specific results include: revenue from inspections and ambulance services is now helping to offset the cost of the Emergency Services Department; a regional 911 call answer service is provided on a contract basis and will be marketing its training facility in the future; and the Fire Prevention Bureau is an accredited agency, and The City of Red Deer is now in a position to market inspections to other municipalities. Other potential new business opportunities for the department identified included installing alarm boxes and alarm monitoring services.

  It was also noted that the Department has taken a number of initiatives to improve fire-medic productivity. For example, the staff are multi-skilled with expertise in fire fighting, emergency medical services, rescue inspections and by-law enforcement as a result of a substantial investment in training.

- Occupational Health and Safety: The Department's plan for occupation health and safety relies heavily on the professional and technical training of the staff. Sufficient resources are not available to have an officer assigned to handle occupational health and safety at fire.

- Employee Recognition: The management group agreed that enhanced employee recognition is important. It was noted that fire-medics are appreciated by the community, but management also needs to recognize their contributions and service.

- Promotion Policy: Management believes that defined competencies need to be developed for officer positions to the NFPA Standard, and that the Department

should move away from seniority-based promotions. It was argued that qualification examinations need to include leadership capabilities; and career paths need to be defined, setting out the courses and job experience required for advancement. This would give fire-medics greater ability to manage their own career progressions.

- Volunteers: Session participants believe that there is a role for volunteers in the Department. The manpower resources of the Department are stretched and volunteers could assist at fire incidents, with public education activities, and in the event of a disaster. They could provide support services. Volunteer fire fighters at the Michener Centre and the County of Red Deer could also provide back-up support.

➢ *Implementation of the Master Plan:* The management group indicated that the Master Plan for Emergency Services must reflect the needs of citizens, the level of service which the public is willing to support financially, and the required investments in manpower, facilities, and equipment to deliver the service. The importance of a long range plan with long term commitment was emphasized particularly in light of the potential changes in Council membership from term to term. It was noted that tangible changes and improvements must be achieved as a result of the master planning process; since only limited changes were made after the last internal audit and there is a high-level of skepticism within the Department. The management group believes strongly that a fourth station on the East side of the City is required to maintain service standards. They also noted the need to provide for on-going review and up-date of the Master Plan to ensure its continued relevance.

Public Meeting Results

The final component of the public input process was an open public meeting held on June 24th, 1997. The meeting was attended by 16 individuals, including about 8 to 10 elected officials or employees of the City or County fire departments. The public meeting, which was chaired by the external consultant, provided an opportunity for individuals and groups to present specific oral and/or written presentation with respect to the following key questions:

➢ How effectively do you feel emergency services are being delivered in Red Deer? Are there significant issues or concerns with the quality or the level of any of the key emergency services?

➢ Are there any major service gaps or areas where additional services are required?

➢ Some municipalities augment their fire departments with volunteers or auxiliary resources. What do you see as the potential advantages and disadvantages of

this practice for Red Deer? Should Red Deer use volunteer/auxiliary resources? Under what conditions? In which service areas?

- Consideration is being given to mandatory sprinklering in new residential developments. What do you see as the advantages and disadvantages of mandatory sprinklering? Would you support a mandatory sprinklering by-law for new residential developments?

- Do you have any other suggestions regarding emergency service within the City of Red Deer?

The key themes emerging from the public meeting are detailed below.

- *Quality and Level of Service:* The majority of those in attendance were generally satisfied with the level and quality of service. Specific strengths identified included fire suppression efforts, the 911 service, and the positive public profile that the Emergency Services Department's enjoys. Some concerns were noted with respect to the adequacy of response times in the Rosedale area and several participants questioned adequacy staffing levels. In addition, the efficiency of sending both an ambulance and fire truck on calls was challenged.

- *Suggestions For Service Enhancements:* The suggestions for service enhancements focused primarily on increasing the emphasis on fire prevention and public education. In addition, one participant suggested that the use of smaller lighter trucks manned by two staff members would be a more efficient way to deploy the Department's resources.

- *Use of Auxiliaries:* Session participants identified a number of potential advantages to using volunteers including the: potential reductions in cost; the diverse training and expertise of the resources in the community may be better used; a larger pool of trained human resources would be available to respond in the case of a disaster; and there would be increased community ownership and involvement in the delivery of emergency services. Potential disadvantages or concerns identified included the: potential negative affect on response time; potential issues and problems with the union; increased training costs; increased liability exposure for the City; and level of training and expertise of auxiliaries may be inadequate for effective response to emergency situations.

  Session participants had serious reservations about using auxiliaries to replace regular fire-medics; they expressed a strong preference for maintaining current staffing levels and using auxiliaries to add value by augmenting the existing staff. Specific areas identified where auxiliaries could potentially be used included: public education initiatives; preventative services; public relations; and disaster planning and management.

- *Mandatory Residential Sprinklering:* Mixed views were expressed with regard to mandatory residential sprinklering. Those supporting sprinklering focused primarily on

the potential to save lives and reduce property damage. Those opposed questioned the need for sprinklering since the City has done an excellent job in fire protection. They also expressed concerns about the high costs; the increase in regulatory control by government; and the increased potential for water damage as a result of equipment malfunction.

➢ *Other Suggestions:* Additional suggestions made by session participants to improve the quality of emergency services included:

- Ensure that lock boxes are properly maintained in secure buildings;
- Increase efforts in the area of fire prevention and public education;
- Use volunteers/auxiliaries in selected areas only and ensure that they are trained adequately; and
- Ensure a comprehensive assessment is completed to establish the need as well as the impact on costs and taxation levels before the City makes a decision to build a new fire station.

Summary of Major Findings and Conclusions

1. Satisfaction With Services: Satisfaction levels with current fire and ambulance services are very high. This was evidenced in both the comprehensive telephone survey of residents as well as the input received during the focus groups sessions. The telephone survey of 1,000 residents indicated satisfaction levels of 84% and 94% for ambulance and fire protection respectively. Focus group participants noted that the current service levels and standards are very good and that the current staff are well trained and multi-skilled professionals. The fire damage in the City has been minimal and the ambulance service is excellent. Some focus group participants did, however, express concerns about the limited capacity of Emergency Services to respond to fires in high-rise structures; the potential shortage of ambulances in the event of multiple incidents; and the limited response capabilities in the areas of water and ice rescue, and major hazardous goods incidents.

2. Response Times: A significant majority of the citizens surveys (74%) do not support keeping property taxes lower if it means slower emergency response times. Ninety-four percent felt that, as the City grows, the current response times should be provided in all part of the community and 88% agreed that the City should spend the money necessary to ensure that the standard response time is provided in all parts of the City. These positions were generally supported by the majority of focus group participants. Some of the participants in the focus groups also expressed concerns about the response times being too long for the east side of the City including Rosedale, and the industrial area in the north west.

3. Mandatory Residential Sprinklering: Sixty-four percent of survey respondents agreed that greater safety was sufficient reason for sprinkler systems to be required in new home construction, while 61% similarly agreed that a possible saving to the City was also a sufficient reason. There was significantly less support for mandatory residential sprinklering from the focus group participants, many of whom cited concerns relating to increased building and sprinkler maintenance costs, potential for malfunctions and water damage, imposition of more municipal regulations, and inability to deal with external fires.

   The residential group expressed some support for mandatory sprinkler systems in multi-family dwellings. Similarly the Residential Sprinkler Task Force felt that it made sense to require residential sprinklering for high risk groups including group homes for seniors and for mentally or physically handicapped persons. It was emphasized that the City has an important role to play in educating the public about fire prevention and the safety aspects of smoke detectors, fire extinguishers and residential sprinklers. One group suggested that the City introduce a sprinkler pilot project in a new residential subdivision to demonstrate the technology and to facilitate public education about the benefits of sprinklering.

4. Fees for Ambulance Services: Sixty-one percent of the residents surveyed agreed that ambulance services should be an Alberta Health Care insured service and 55% disagreed that patients should be responsible for a larger share of the costs. Forty-seven percent felt that the City should pay more of the cost of the ambulance service, while 34% disagreed.

5. Use of Volunteers/Auxilliaries: Overall, 57% of the citizens surveyed disagreed with the City using a combination of professional fire-medics and volunteers if this would result in a reduction in the quality of emergency services. Eighty-three percent would support the use of volunteers in fire and ambulance services if the City could save money and if there was no reduction in the quality of emergency services. On the reverse question, 49% agreed that the City should employ only full-time professionals, 36% disagreed, and the remaining 15% were neutral. Focus group participants did not support the use of volunteers to replace existing career staff. Concerns most commonly identified included potential increases in response time, risk of injury and liability, limited expertise and high turnover rates, increased training costs. Most focus group participants indicated that they support the use of volunteers and auxilliaries by Emergency Services in back-up or support roles, but not in front-line or technical services.

6. Quality and Cost of Services: Ninety-three percent of all survey respondents agreed that the City should spend what is necessary to ensure that the current quality of emergency services is provided equally in all areas of the City. A total of 84% continued to agree with this proposition even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.

The majority of focus group representatives indicated that the Emergency Services Department is providing excellent services within acceptable response times. All groups supported maintaining current service levels and one expressed a willingness to pay for enhanced services by reducing the service levels of other municipal operations or by paying additional taxes. Charging user fees for inspections, consultation and support was viewed as appropriate by the institutional group. The commercial/small business group indicated that basic emergency services should be covered by taxes, but that it would be appropriate to charge business for inspections or fire prevention education.

7. Service Enhancements: Participants in focus groups and the public meeting suggested a range of potential service enhancements including:

- Increase public education about fire and accident prevention;
- Increase inspection of smoke detectors, with residents being charged for the cost of that service
- Provide additional information and education on hazardous materials;
- Conduct more frequent toxic waste round-ups;
- Increase the frequency of spot checks of high-risk facilities;
- Increase staff training in specialized rescue, particularly high angle and confined space rescues.
- Provide assistance to small industry with first aid response, evacuation plans, the management of hazardous materials and emergency preparedness;
- Strengthen industry-municipal partnerships in disaster planning;
- Develop a regional approach to disaster planning;
- Appoint a full-time coordinator of disaster planning for the Red Deer region;
- Increase the amount of direct classroom instruction in the public school system;
- Provide accident prevention programs for seniors and residents of group homes;
- Increase the level of monitoring of fire alarms in public buildings and institutions.
- Develop guidelines and protocols for identifying, handling and disposing of hazardous materials;
- Improve the co-ordination of disaster plans including planning, training and testing of plans through tabletop discussions and exercises.

CHAPTER 9: SURVEY OF SELECTED MUNCIPALITIES

Chapter Organization

Chapter 9 documents the findings of a survey of six selected municipalities with respect to major policies, services provided, service delivery mechanisms, and management practices. Key policy issues reviewed include response time targets, approach to residential sprinklering, and the use of volunteers/auxiliaries. In addition, innovative services, delivery mechanisms and management practices are identified.

Approach

The Steering Committee and consulting team identified a number of municipalities as potential candidates for inclusion in the sample of municipalities to be surveyed. Key data for each municipality were reviewed, and based upon this initial assessment six municipalities were selected for more detailed analysis. These municipalities were the Cities of Kelowna, Nanaimo, Grande Prairie, Medicine Hat, and Lethbridge, and Strathcona County.

Site visits were made to each of the selected municipalities and interviews were conducted with senior managers for both the fire and ambulance services. Relevant documents such as annual reports, master plans, and disaster plans were also reviewed. The data collected were organized and summarized under the following categories:

- Community Profile;
- Programs and Services Provided;
- Response Times and Resources;
- Position on Residential Sprinklering;
- Use of Volunteers; and
- Innovative Approaches and Practices

Key Findings

Community Profile

The communities surveyed ranged in population and land area from 30,000 to 91,000 residents, and 16 to 305 square miles, respectively. Kelowna had the largest population (91,000) and Strathcona County the largest geographic area (305 square miles). Call volumes for fire ranged from 430 per year in Strathcona County to 3600 per year in Kelowna. Inspection volumes ranged from 1,000 in Strathcona County to 6,000 in Nanaimo. Consistent data on ambulance

calls were not available from all of the municipalities surveyed since not all of the municipalities provided BLS and ALS ambulance services. Exhibit 10 on page 138 profiles each municipality with respect to population, area, call volumes, inspection volumes, special characteristics and regional services.

Programs and Services Provided

All of the municipalities in the sample provide a range of emergency services in the areas of fire suppression, emergency medical, prevention, public education, specialized rescue, hazmat, and disaster planning. Grande Prairie is recognized for its public fire education and prevention program, and expertise in responding to hazardous materials incidents. Both Nanaimo and Strathcona County are leaders in disaster planning; while the City of Medicine Hat has sophisticated emergency medical services including air and ground ambulance and innovative accident prevention programs. Kelowna, Medicine Hat, and Grande Prairie have well-developed community and public relations programs. Lethbridge has its own training facility and has marketed its training expertise to surrounding municipalities. A more detailed comparison of the various programs and services offered by the municipalities in the sample is provided in Exhibit 11 on pages 139 and 140.

Response Times and Resources

All of the municipalities have established policies on response times for fire and ambulance services. Response time targets are in the 4 to 6 minute range, with 5 minutes being the most common standard. The City of Grande Prairie has developed a response guideline that varies depending on the degree of hazard. The response time and resources of each of the departments are compared in Exhibit 12 on page 142.

Residential Sprinklering By-laws

Only Nanaimo has adopted a residential sprinkler by-law. The by-law requires sprinklers in new residential units larger than a duplex or in renovations exceeding 50% of the appraised value. The Nanaimo Fire Department does not advocate mandatory sprinklering in single family homes or duplexes. Communities that have attempted to extend sprinklering to single family units and duplexes have not succeeded as a result of opposition and lobbying by the house building industry.

Municipalities in B.C. have been able to pass sprinklering by-laws as a result of a loophole in the Municipal Government Act. Section 734(1)(c) of the Act permits municipalities to pass by-laws in fire limit areas, which are defined as areas that are not adequately served by the fire department. There is some political pressure to remove the loophole in the Act so that building codes are uniform across the Province.

Medicine Hat and Strathcona County have agreements with developers requiring mandatory sprinklering in selected residential subdivisions. However, these agreements appear to have delayed residential development; adversely impacted relationships with the homebuilders; and have not resulted in lower insurance premium rates. The applicability of the agreements to subsequent homeowners may also be an issue. Several communities have demonstrated residential sprinklering technology in show homes as part of their public education program. Exhibit 13 on page 143 details current practice with respect to residential sprinklering for each municipality surveyed.

Volunteers/Auxiliaries

Kelowna and Nanaimo became mixed career and volunteer forces with the amalgamation of the improvement districts in the early 1970s. Strathcona County serves an urban area (Sherwood Park) as well as a very large rural area, and has located volunteer stations in the Country to improve response time. Volunteers in these three municipalities are trained in basic fire fighting, and respond primarily to incidents in the outlying and rural areas. In Strathcona County, volunteers are also recruited to deliver public education programs and conduct home inspections. Grande Prairie has a small volunteer force.

Managing a mixed fire fighting force is challenging, especially in communities where both volunteers and career forces respond to emergencies. The fire chiefs of these municipalities identified both the advantages and disadvantages of utilizing volunteer fire-medics. Advantages identified included the following:

- There is potential to realize significant savings relative to the costs associated with maintaining a career force, particularly in rural areas.
- There is a larger pool of trained individuals who can provide back up in the event of a large incident or a disaster.
- Volunteer forces have a very positive impact on the quality of fire service in rural areas.
- There is potential for improved community relations.

Disadvantages noted included:

- Volunteers are usually trained only in basic fire fighting and a first aid. This limits their effectiveness and increases risk when responding to more serious fire incidents.
- The effectiveness of the response is reduced because members of the team change from incident to incident.

- There are problems getting an adequate turnout of volunteers, especially during the daytime.
- The use of volunteers can strain labor relations with the career force.
- Response times for volunteer forces are longer which reduces their effectiveness.
- A substantial commitment of management resources is required to recruit and train volunteers.
- Turnover rates among volunteer forces are very high – often 25% or more.
- There is potential for abuse of Workers' Compensation Benefits.
- Separate facilities and equipment for career and volunteer forces are required.
- It is very difficult to maintain the skill levels of volunteers who often respond to a very small number of incidents in a year.

Another interesting practice introduced by one of the municipalities is the use of "rovers". The rovers work 672 hours in a 16-week cycle. The Department is required to give the rover eight hours notification prior to his shift. The City of Lethbridge introduced the concept about five years ago and has realized annual savings of between $200,000 and $300,000 as a result of reduced overtime.

Municipalities surveyed also make some use of volunteers or auxiliaries in the emergency medical services area. In Medicine Hat, the ambulance service employs casual staff to improve scheduling and reduce overtime. Often the casuals work as many hours as regular staff members, and are given priority by the Department when recruiting for regular positions. More detailed information regarding the extent to which volunteers and auxiliaries are used in the municipalities surveyed is provided in Exhibit 14 on page 144.

EXHIBIT 10: COMMUNITY PROFILES

City	Population	Area (sq. miles)	Call Volume	Inspections	Special Characteristics	Regional Services
Kelowna	91,000	89	3,600 fire	5,000	➢ Few large industries ➢ Rapidly growing community ➢ Mostly new structures	➢ Hazmat, ➢ disaster planning ➢ dispatch
Nanaimo	72,000	45	2,200 fire	6,000	➢ Rapidly growing community surrounded by forest and harbor	➢ Disaster planning initiative
Strathcona County	65,000	305	430 Fire 2,100 ambulance	1,000	➢ Urban/rural mix ➢ Large industry ➢ 35 fire services in the area	➢ Regional service given the County structure ➢ Regional disaster planning ➢ 911 service
City of Grande Prairie	30,000	16	400 fire 3,800 ambulance	1,100	➢ Large industry	➢ Public education ➢ fire suppression ➢ rescue ➢ ambulance and 911
City of Medicine Hat	45,000	---	500 fire	1,800	➢ River valley ➢ Large industry	➢ Ambulance
City of Lethbridge	65,000	47	1,000 fire 4,000 ambulance	1,200	➢ River valley ➢ Large industry ➢ Aging population	➢ Inspections/investigations, ➢ fire suppression, ➢ ambulance ➢ 911 ➢ disaster planning

EXHIBIT 11: PROGRAM SERVICES

Municipalities	Prevention	Public Education	Suppression	EMS
Kelowna	➢ More frequent inspections on high risk locations ➢ On-duty crews complete inspections ➢ No plan checks, only final occupancy	➢ Grades 1 – 3 ➢ Other requests ➢ House and truck safety	➢ Pre-plans current ➢ Ground support for wild land fires	➢ First response medical aid only
Nanaimo	➢ More frequent inspections on high risk locations ➢ On-duty crews complete inspections ➢ Fully automated information system	➢ Union led ➢ Orient every classroom ➢ House safety ➢ Training for industry ➢ Evacuation plans	➢ Pre-plans current ➢ Ground support for wild land fires ➢ Quick response unit	➢ First response medical aid
Strathcona County	➢ Home safety program using volunteers ➢ Inspections conducted by on-duty crews ➢ Fully automated inspection system ➢ Accident prevention	➢ Fire safety ➢ First aid, CPR prevention ➢ Schools and community ➢ Staffed by volunteers	➢ Pre-plans current ➢ Respond to wild land fires	➢ ALS
City of Grande Prairie Fire Department	➢ Safe community concept ➢ Public service announcements ➢ On-duty crews complete inspections	➢ Home education program ➢ Two fire fighters assigned to each school ➢ Training for institutions/ industry	➢ Pre-fire plans input in field ➢ Industrial fire fighting contract ➢ Quint for first response	➢ Co-responder
Ambulance Service	➢ Accident prevention program	➢ School program		➢ ALS ➢ Air ambulance
City of Medicine Hat Fire Department	➢ Inspections conducted by on-duty crews ➢ Fully automated inspection system	➢ K-7 school program ➢ Visit every school/class-room ➢ Training for industry/ service clubs	➢ Pre-fire plans current	➢ Co-responder
Ambulance Service	➢ Accident prevention ➢ Public service announcements	➢ School program		➢ ALS ➢ Air ambulance
City of Lethbridge	➢ On-duty crews conduct inspections ➢ Sun burn awareness	➢ K – 12 school program ➢ Fire safety house ➢ Training for institutions/ business ➢ Evacuation plans/drills ➢ CPR, trauma, EMS	➢ Pre-fire plans not current	➢ ALS

EXHIBIT 11: PROGRAM SERVICES (Continued)

	Rescue	Hazmat	Disaster Planning	Communications
Kelowna	➢ Vehicles ➢ Water and ice ➢ High angle and tower ➢ Over the bank	➢ First response only	➢ Comprehensive ➢ Coordinator ➢ Community awareness meetings ➢ Major exercise every year	➢ Dispatch only
Nanaimo	➢ Vehicles ➢ Inland water	➢ First response only	➢ Comprehensive ➢ Coordinator ➢ Community awareness meetings ➢ Volunteer training ➢ 1 – 2 exercises per year	➢ Dispatch only
Strathcona County	➢ Vehicles ➢ Water and ice ➢ High angle ➢ Confined space	➢ First response only ➢ Heavy industry cleans up their own up spills	➢ Comprehensive ➢ Community awareness meetings ➢ Annual exercises	➢ Regional 911 call answer and dispatch ➢ Fire alarm monitoring
City of Grande Prairie Fire Department	➢ Trench ➢ High angle ➢ Water and ice ➢ Assists at MVA	➢ Hazardous goods response ➢ Contract with Northern Alberta Nitrogen	➢ Comprehensive ➢ Community awareness meetings ➢ 2 - 3 exercises per year	➢ Regional 911 call answer and dispatch ➢ Linked to GIS
Ambulance Service	➢ Vehicles			➢ Regional Health Authority call answer and dispatch
City of Medicine Hat Fire Department	➢ Vehicle ➢ Trench ➢ High angle ➢ Aquatic	➢ First response only ➢ Industry has level 4 capability	➢ Separate department but participate in planning	➢ Monitor/dispatch only
Ambulance Service				➢ Regional 911 service
City of Lethbridge	➢ Vehicle ➢ Water and ice ➢ Underwater	➢ Limited capability ➢ Agreement with Calgary for incidents	➢ Disaster coordinator ➢ Table top exercise every year ➢ Major exercise every 3-4 years	➢ Police operate 911 ➢ Monitor/dispatch only ➢ Consideration to separate authority

EXHIBIT 12: RESPONSE TIMES AND RESOURCES

Municipalities	Response Times	Stations	Career Staff	Manning
Kelowna	Goal of 6 minutes, but varies depending upon location	4 career 4 volunteer	88	14 – 19
Nanaimo	Goal of 4 – 5 minutes, but varies depending upon location	3 career 2 composite 4 volunteer	59	8 – 11
Strathcona County	Goal of 5 minutes in urban areas	2 career 3 volunteer	57	12
City of Grande Prairie ➢ Fire	3.5 minutes to high hazard 5.0 minutes to normal hazard 6.0 minutes to undeveloped farmland	2 fire stations will replace downtown station	35	6
➢ Ambulance	5 minutes Starting to measure total response time	1 hospital-based station	27	1 – 3 crews
City of Medicine Hat ➢ Fire	Target response time of 6 minutes Some areas outside response time	2	60	9 – 10
➢ Ambulance	4 minutes for BLS 8 minutes for ALS	1 hospital-based	30	1 – 4 crews
City of Lethbridge	Goal of a 5 minute response time	4	120	20 - 25

NOTE: Numbers for Kelowna and Nanaimo do not include ambulance services since these are operated in B.C. by a Provincial Ambulance Authority.

EXHIBIT 13: RESIDENTIAL SPRINKLERING

Municipalities	By-law	Development Agreement	Application	Comments
Kelowna	No	No	---	➢ BC legislation only allows by-law in fire limit areas; some pressure to make the Codes consistent across BC ➢ Difficult to administer; different rules in same jurisdiction
Nanaimo	Yes	---	➢ Larger than duplex ➢ Renovations exceeding 50% of appraised value	➢ Introduced by-law as City couldn't afford expansion ➢ By-laws won't be politically acceptable if single family houses are included; strong lobby against including single family homes from house builders
Strathcona County	No	Yes	➢ Fountain Estates Subdivision	➢ Slowed the pace of residential development ➢ Adverse relationship with builders ➢ No savings on insurance premium rates
City of Grande Prairie	No	No	---	➢ Demonstration in show home
City of Medicine Hat	No	Yes	➢ New subdivision approved in 1996	➢ Concern that the restrictive covenant may only apply to the first home owner
City of Lethbridge	No	No	---	➢ One demonstration project

EXHIBIT 14: USE OF VOLUNTEERS/CASUALS/ROVERS

Municipalities	Reason	Volunteer Stations	Number of Volunteers	Qualifications	Training	Role
Kelowna	Amalgamation of improvement districts with volunteers	3	90 – 100	Same as career force	Practical training only	Basic fire fighting
Nanaimo	Amalgamation of improvement districts with volunteers	4 volunteer 2 composite	125	Same as career force	Practical training only	Basic fire fighting
Strathcona County	Volunteers in rural areas	3	106	Location important	Emergency medical responder Fire fighter 3	Fire fighting and EMS Public education
City of Grande Prairie ➢ Fire ➢ Ambulance	Volunteers to supplement career force	0	10 – 15	---	Practical training	Provide back-up to career force
City of Medicine Hat ➢ Fire ➢ Ambulance	Casuals to reduce overtime and improve scheduling	0	Several	Same standards as permanent staff	Same training as permanent staff	ALS service
City of Lethbridge	Rovers to reduce overtime and improve scheduling	0	7 Rovers	Same standards as regular staff	Same training as regular staff	ALS/fire fighting

Innovative Approaches and Practices

During the data collection process a number of innovative approaches to the delivery of emergency services were noted that may have significance for the City of Red Deer. These were organized relative to key service areas – namely, public education, disaster planning, prevention, fire suppression, emergency medical services, rescue and hazardous materials response, and communications. In addition, innovative management practices were documented. These approaches and practices are detailed in Exhibit 15 below.

Exhibit 15: Innovative Approaches and Practices

Public Education Programs
➢ All fire-medics involved in public education;
➢ School programs offered that cover grades K – 12, including visits to every classroom;
➢ Home education visits conducted that focus on fire and accident prevention, testing and installation of smoke detectors, and promotion of fire extinguishers and residential sprinklers;
➢ Education programs offered relating to Emergency Medical Services such as CPR and first aid;
➢ Residential sprinklers demonstrated in show homes;
➢ Training and consulting services provided for institutions, industry, and service clubs; and
➢ Assistance provided to institutions and businesses to develop evacuation plans and conduct fire drills.
Disaster Planning
➢ Regular assessments of community risks completed and comprehensive integrated disaster plans developed;
➢ Regular monthly meetings held with surrounding municipalities and industry to coordinate and plan regional disaster services;
➢ Regular disaster response training provided for volunteers;
➢ Annual table top and field disaster exercises held; and
➢ Half or full-time disaster coordinator designated to deal with the disaster planning function.

Prevention
➢ High risk structures inspected more frequently; ➢ On-duty crews used to conduct routine inspections; ➢ Integrated information systems with remote data input used to record data from inspections; and ➢ Injury prevention programs offered, including inspections of child safety seats, and fall prevention programs for senior citizens.
Fire Suppression
➢ On-duty crews used to update pre-plans on a regular basis; ➢ Computer-aided design (CAD) systems used to develop pre-plans and integrate these into the management information database; ➢ Agreements established to facilitate joint training with Forest Protection to improve capacity to deal with wild land fires; and ➢ Local training facilities established and operated for joint training with mutual aid partners.
Emergency Medical Services
➢ Paramedics rotated through various departments in the hospital to maintain their skills; ➢ Training modules developed for paramedics to meet the continuing education requirements of the Alberta Pre-Hospital Professions Association; and ➢ EMS calls reviewed by the Medical director – prospective and retrospective reviews.
Rescue and Hazardous Material Response
➢ Adequate training and equipment provided for a wide range of rescues including vehicle extrication, high angle and tower, confined space, water and ice, over the bank, and dive and underwater rescues; and ➢ Adequate equipment and training provided to support an effective Level 4 response for major industrial companies.

Communications
➢ Dispatchers trained and used to provide computer maintenance support;
➢ Fire alarm monitoring services provided on a fee-for-service basis; and
➢ Advanced call answer dispatch systems operated.
Management Practices
➢ Comprehensive emergency service master plans developed;
➢ Continuous improvement programs introduced;
➢ Self-managing work teams trained and utilized to deliver services;
➢ Broader staff functions assigned to fire-medics;
➢ Learning contracts used with fire-medics to support training and development goals;
➢ Comprehensive human resource and career management plans developed;
➢ NFPA standards for all positions and functions adopted as guidelines; and
➢ Comprehensive public relations programs implemented with active involvement of the local media

Summary of Major Findings

Major findings and insights derived from the survey of municipalities include:

1. Municipalities in the sample target a 4 to 6 minute response time to fire and ambulance calls, with 5 minutes being the most common standard.

2. With the exception of Nanaimo, none of the municipalities in the sample have passed mandatory residential sprinklering By-laws.

3. Two of the municipalities surveyed have used agreements with developers as a mechanism for implementing mandatory residential sprinklering in selected sub-divisions. However, this approach was viewed as contributing to slower rates of development in the sub-divisions and dissatisfaction on the part of homebuilders.

4. Three of the municipalities surveyed use volunteer fire-medics to augment their career forces. This model appears to offer the greatest advantages for municipalities that include a large rural area. Typically, the volunteer force is responsible primarily for providing services in rural areas and the career force responds to the urban areas.

5. Effective use has been made of casual staff in the Medicine Hat ambulance service and "rovers" in Lethbridge to improve scheduling and reduce overtime costs.

6. The municipalities surveyed have implemented innovative and creative practices in a variety of areas. Many of these, which are detailed in Exhibit 6 on pages 144 to 145, should be considered for the City of Red Deer.

CHAPTER 10: RECOMMENDATIONS

CHAPTER ORGANIZATION

This chapter details the recommendations of the study and is organized into three parts. Part I provides the major policy directions along with brief comments on the rationale for the recommendations in each major priority area. Part II deals with recommendations that are operational or administrative in nature; and Part III details the benefits and provides a preliminary estimate of the incremental costs associated with implementation of the various recommendations.

PART 1: RECOMMENDED POLICY DIRECTIONS

Analysis of the study findings and conclusions leads to the identification of five priority issues that have strategic significance for the delivery of emergency services in the City of Red Deer. The major policy related recommendations are organized under these five strategic priorities, delineated below.

- Response Times: Adequate response times for both fire and ambulance services must be maintained.
- Preventative Focus: Increased focus must be placed on preventative initiatives.
- Public Education: The scope and quality of public education programs must be improved.
- Disaster Planning: Effective plans must be in place to manage disasters and major incidents.
- Service Delivery Structures: Service delivery structures for emergency services must match appropriately the functions to be performed and facilitate the cost-effective delivery of emergency services.

Response Times and Fire Suppression Capacity

1. With respect to fire and ambulance response times and fire suppression capacity, it is recommended that the City:

    1.1 Maintain an emergency call response time guideline of five minutes, 80% of the time within the City limits; *

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* *Response time guidelines will be reviewed periodically taking into account changes in technology and the environment, including alternate fire suppression methods in use such as sprinklering.*

1.2 Proceed with the construction of Station #4 on the East Hill in order to maintain existing response times and service levels and develop a recruitment strategy and plan for staffing the fourth station;

1.3 Continue to monitor the frequency of calls and response times for all neighborhoods in the City to ensure continued effective risk management;

1.4 Conduct another station location study within the next three to five years to assess changing conditions and needs as the City continues to expand;

1.5 Seek a service contract that defines the responsibilities of the provincial government relative to emergency services for the Michener Center;

1.6 Consult with Alberta Environment and develop joint fire prevention plans and training programs to mitigate risks associated with the urban forest within the City;

1.7 Actively lobby in support of Provincial legislation that provides a municipality with the option to mandate sprinklering as it deems necessary to manage fire risk effectively;

1.8 Aggressively promote the life safety and protection of property benefits of residential sprinklers, including the demonstration of residential sprinkler technology in show homes; and

1.9 Develop and implement a detailed strategy and action plan designed to achieve the required legislative and regulatory changes and garner public and business support for sprinklering.

1.10 Investigate the feasibility of establishing fire limit areas where "fire fighting and protective wetting facilities" are not available within 10 minutes of an alarm being received.

Comments

Response Times: The effective management of fire and medical emergency risk is a shared responsibility of the City, community agencies, the business community, and individual residents. An important component of an overall risk management strategy is prompt response to fire incidents and medical emergencies. The selection of a five-minute response time guideline is supported by a number of factors including:

- Research with respect to the rate of fire growth indicates that response time must be kept to five minutes in order to prevent unrestricted growth of the fire;
- Standards for Advanced Cardiac Life Support recommend that a heart attack patient receive CPR and oxygen within four minutes;

- Response time targets in the four to six minute range are fairly common for urban municipalities in Canada and the United States; and

- The majority of the participants in focus groups, and 88% of the residents surveyed felt that the City should spend the money necessary to ensure the current response guideline (five minutes) is maintained for all areas of the City.

Use of Sprinklers: There is compelling evidence that sprinkler systems save lives, reduce risks to fire-medics and limit property damage. In addition, the installation of sprinkler systems in residential subdivisions has the potential to reduce the infrastructure and operating costs associated with the management of fire risk.

Giving municipalities the legislative authority to implement mandatory sprinklering would facilitate the introduction of a phased approach to sprinklering beginning with higher risk structures such as group homes, nursing homes, and multi-family dwellings. Phased implementation combined with an aggressive public education program regarding the merits of sprinklering could help to set the stage for even broader public support for mandatory residential sprinklering in the future.

Prevention

2. The Emergency Services Department should increase its focus on prevention by:

   2.1 developing proactive strategies to mitigate risks associated with high-risk facilities including pre-plans, more frequent inspections, installation of sprinklers, and demolition of old vacant buildings.

   2.2 expanding the scope of its home inspection program to include information on the life safety aspects of residential sprinklers, automatic monitoring systems, and fire extinguishers, in addition to smoke detectors;

   2.3 developing and implementing, in cooperation with Parks and Recreation, fire prevention and safety programs designed to limit the potential for a forest fire within the urban forest; and

   2.4 promoting actively, the installation of supervised fire alarm systems within the community. The Department should also investigate integration of open access technology fire alarm reporting into their communication centre.

<u>Comments</u>

Inspections: Given the higher levels of risk associated with Risk Class 3 and 4 facilities, an increased focus on prevention through rigorous enforcement of the Codes is warranted. Clearly successful prevention of fires is by far the most cost effective and desirable approach to risk

management. In-service engine crews could be utilized to conduct the recommended fire and safety inspections.

With respect to home inspections, the current program is focused primarily on ensuring that smoke detectors are operational and the effective use and maintenance of fire extinguishers. Utilizing the home inspection program to also promote the effective use of automatic alarm systems and residential sprinklers could be a very cost-effective way to educate residents regarding these important fire prevention options.

Urban Forest Protection: The City of Red Deer has a unique natural resource in its urban forest park. However, as noted in the risk assessment, this area is very vulnerable to fire as a result of the natural vegetation, difficulties associated with access for fire suppression equipment, and the lack of water to support fire suppression activities. Accordingly, fire prevention initiatives focused on protecting this area are strongly recommended.

Open Access Alarm Systems: Open access alarm systems improve response times since the Emergency Services Department provides the alarm monitoring service and thus gets the alarm earlier. This arrangement would not place the City in competition with local business since local alarm companies are currently purchasing their monitoring services from companies located out of Red Deer, some as far away as Cincinnati.

Public Education

3. The City should amend the Emergency Services By-law to include a strong focus on public education in the Department's mandate.

4. The Department should develop a comprehensive public education program designed to increase public knowledge and awareness relating to:

    4.1 fire safety and risk reduction;

    4.2 benefits of sprinklers;

    4.3 handling and disposal of hazardous goods;

    4.4 accident and injury prevention;

    4.5 effective management of medical emergencies;

    4.6 effective use of the 911 service; and

    4.7 fire prevention in the urban forest.

Comments

The public consultation process identified strong community support for expanding public fire safety education; accident prevention programs; and education on the storage, handling, and disposal of hazardous wastes.

Investment in public safety education programming has great potential to reduce fire risk and accidental injury. Fire safety programs could be targeted to meet the needs of selected segments of the community, including those groups that are most vulnerable. Educational programs focused on accident and injury prevention and effective management of medical emergencies could include components such as:

- partnerships with the RCMP and other community organizations to support their public safety education efforts;
- accident prevention programs for seniors and residents of group homes;
- information on when to call an ambulance, what information is required by the dispatcher, and what to do until the ambulance arrives;
- first aid and CPR training; and
- consultation and advice to companies in developing first aid response plans.

Public education programs should be coordinated with other injury prevention and safe community initiatives. Partnerships and joint initiatives could be undertaken with other community organizations such as the David Thompson Health Authority, St. John's Ambulance, and service clubs. Some of the programs could be delivered on a full cost recovery basis.

Disaster Planning

5. With respect to disaster planning the City should:

   5.1 ensure resources and administrative accountabilities are in place to manage disaster plan development, training, exercises, and municipal and industrial liaison;

   5.2 review the Emergency Plan for local peace time emergencies and address the deficiencies identified to ensure it meets legislative requirements and is effectively integrated with the plans of other agencies;

   5.3 conduct annual exercises of one component of the plan on a regular basis and more comprehensive exercises every three to five years;

5.4 in partnership with the David Thompson Health Region, take the initiative in regional planning for mass casualties as part of its disaster planning process;

5.5 review the budget for disaster planning and ensure that disaster planning services have adequate resources to deliver the required services; and

5.6 initiate discussions with the municipalities around Red Deer to determine their level of interest in participating, coordinating and contributing to the funding of regional disaster planning activities.

Comments

Disaster planning was found to be the greatest area of weakness within the emergency services mandate. The City's emergency plan is not comprehensive nor does it address all of the requirements of the Act. It does not integrate emergency plans from major institutions, industry or other municipalities in the region. No tabletop or field exercises have been conducted since 1988; and resources allocated for disaster planning are inadequate. While administrative responsibility for disaster planning has been assigned, no budget has been provided and a block of administrative time to manage the function has not been established.

Representatives of the fire departments of surrounding municipalities expressed some interest in regional disaster planning and funding. As well, the province has funds available for regional programs and major industry could be approached to contribute to the costs.

Service Delivery Structures

6. Regional Cooperation and Mutual Aid: With respect to regional cooperation and mutual aid, it is recommended that the City:

6.1 assess the costs and benefits of delivering additional emergency services on a regional basis;

6.2 strengthen inter-municipal aid agreements through ongoing joint planning meetings and inter-agency training sessions;

6.3 encourage the coordination of training of personnel and the standardization of response protocols for all fire departments within the mutual aid plan with the objective of producing an effective fire fighting force with a uniform core of skills and knowledge; and

6.4 examine the feasibility of developing hazardous materials response agreements to provide emergency service to surrounding municipalities.

Comments

Expanded Regional Services: The City of Red Deer has developed and marketed a regional 911 service. Municipalities in the region expressed some interest in other services including fire training, inspections, special hazardous material response teams, training for emergency medical responders, and disaster planning.

Coordinated Training: All personnel should receive sufficient training to ensure compatible operations. Operational methods should be as uniform as practical. The new training facility should greatly facilitate inter-agency and inter-municipality training sessions.

Hazardous Materials Response: The hazardous materials response agreements should outline authorization to respond, the scope of the response, staffing and equipment, designation of incident commander, cost of service, and legal liability.

7. Auxiliaries and Volunteers: With respect to the use of auxiliaries and volunteers, the Department should:

   7.1 utilize auxiliaries and volunteers only in a support capacity for the delivery of emergency services;

   7.2 develop a volunteer program focusing on public fire safety education. (Depending upon their interest and skill levels, the volunteers could either directly deliver educational programs or assist on-duty officers.)

Comments

Members of the public, fire-medics, and emergency room physicians expressed a preference for using volunteers or auxiliaries in support roles provided this did not have a negative impact on the quality and timeliness of service. Among the advantages noted with respect to the use of volunteers were the availability of a larger pool of responders for emergencies, more trained resources in the event of a disaster, the potential to reduce costs, and increased community involvement and ownership in the delivery of emergency services.

There was general agreement that auxiliaries and volunteers could make a major contribution in a number of areas including public education programs, search and rescue operations, emergency preparedness and disaster planning. The volunteer program could initially focus on public education, and depending upon the success of the public education initiative, the program could expand to include providing support services at fire incidents. The use of volunteers would also have spin-off benefits in terms of community relations.

Some concerns were raised about using volunteers in place of a career force including the negative impact on response times, high turn-over rates of volunteers, the complexity of the skills required as a result of the dual role, training demands and costs, labor relations issues, and increased liability exposure. Utilizing City staff from other departments as auxiliaries to back up the Emergency Services Department was also seen as problematic for many of the same reasons.

8. Community-based Service Delivery: The Department should adopt a community-based, customer-focused approach to the delivery of emergency services. To achieve this the City should:

8.1 Enhance relationships with the community by:

8.1.1 ensuring the public understands the mission and service mandate of the Emergency Services Department as well as the public's shared responsibility for risk management;

8.1.2 establishing effective mechanisms to seek community input on service needs and satisfaction with services provided;

8.1.3 developing strong relationships with local communications media and effectively utilizing communications media to support community relations and public education initiatives; and

8.1.4 maintaining effective liaison with various community groups, such as the Red Deer Chamber of Commerce, Parent Advisory Councils, senior citizens' organizations, youth groups neighborhood associations, and multi-cultural groups.

8.2 Experiment with the use of fire districts to enhance the focus on the community and improve accountability.

Comments

Enhanced Community Relations: The public must be informed with respect to the services and programs that comprise the Department's current risk management mandate, and have opportunities to provide input on service priorities and satisfaction with services provided. A variety of channels for obtaining community input can be utilized including a complaint monitoring system, surveys, focus groups, and public forums.

Newspapers, newsletters, public service announcements on TV and radio, videos, exhibits and demonstrations, vehicle advertising, billboards, and speakers' bureaus can be used in the community relations program. Feature articles could be provided to local newspapers; radio and

TV stations could be encouraged to report the weather from one of the fire stations; and tours and demonstrations could be provided for the media.

Fire Districts: The assignment of Engine Companies to specific fire districts would align the service more closely with the community, improve accountability and increase productivity. The Engine Company would be responsible for risk assessment and pre-fire plans in the fire district. As well, on-duty officers would conduct apartment and business inspections and provide public education within the fire district. This option is complicated to some extent by the fact that fire-medics currently rotate through the various stations to ensure familiarity with equipment at all locations. Utilizing a fire district structure would require alternate mechanisms to ensure that fire-medics are familiar with specialized equipment located only at specific stations.

PART II: ADMINISTRATIVE/OPERATIONAL RECOMMENDATIONS

In addition to the policy directions recommended in Part I, a number of recommendations are made relative to operations and management. These recommendations are organized under the following headings.

- Disaster Planning
- Human Resource Management
- Communications
- Public Fire Safety Education
- Hazardous Materials Management
- Organizational Structure
- Apparatus and Equipment
- Information Management
- Other Recommendations Relating to Operations Management.

Disaster Planning

The Emergency Services Department should review and revise disaster and emergency planning processes with a view to ensuring that:

1.1 the Emergency Plan is broad enough to encompass all situations that the community might face. (Special situation plans should be prepared for oil and gas facilities and dangerous goods sites);

1.2 the Emergency Plan is integrated with the plans of other agencies, local institutions, and industry; e.g., the RCMP, David Thompson Health Authority, and Michener Centre, etc.;

1.3 a public warning system is established and public education on how organizations and individuals are notified in the event of a disaster is provided;

1.4 responsibilities are assigned for registration of emergency workers and damage assessment;

1.5 regular meetings are held with local fire fighting firms to determine their equipment and manpower capabilities and discuss liabilities for any damages incurred;

1.6 a service restoration plan is included in the Emergency Plan;

1.7 each element within the Disaster Plan is dated to ensure it is reviewed and updated on a regular basis;

1.8 a quick reference guide to the Emergency Plan is provided;

1.9 ongoing training exercises, designed to increase the effectiveness of the City and the region in responding to major incidents or emergencies, are planned and conducted; and

1.10 regular community emergency planning meetings are held. (Representatives of the RCMP, Public Works, Social Services, Red Deer Regional Hospital, and other agencies who may be called upon in times of emergency to activate the emergency plan should be included in these planning meetings.)

Human Resource Management

1. The Emergency Services Department should review its human resources related policies and practices to ensure they are aligned with the City's Corporate human resources management plan.

2. Criteria for promotion to officer positions should be reviewed to ensure that they take into account, performance, ability to create effective teams, and leadership skills in addition to seniority.

3. The Emergency Services Department should re-evaluate its mix of EMT-Ps and EMT-As and consideration should be given to hiring a portion of the recruits from a pre-employment program for fire-medics. (Recruitment from pre-employment programs has been shown to reduce recruitment, selection, and initial training costs.)

4. The Emergency Services Department should attempt to add engineering expertise to the Inspection Branch. (It is expected that performance-based codes will be introduced within five to seven years in Alberta which will require inspectors to have an expanded skills set.)

5. The Emergency Services Department should consider utilizing rovers to provide more flexibility in staff scheduling. (In the City Of Lethbridge rovers have been used effectively to reduce costs and improve staff scheduling. Rovers are departmental staff who work 672 hours on a 16-week cycle.)

6. Fire-medics and officers should be required to complete annual medical examinations, and consideration should be given to adopting the wellness program developed by the IAFF and International Association of Fire Chiefs (IAFC). (Estimated cost of a wellness program is $350 - $500 per fire-medic. If the program were able to reduce absence rates due to illness by 1% the program would pay for itself.)

7. With respect to certification and training it is recommended that the Department:

   7.1 endorse NFPA qualifications as the standard for fire-medics, fire officers, training officers, and public fire safety educators;

   7.2 require all captains, lieutenants and first class fire-medics to obtain certification as General Safety Codes Officers. (There are 57 individuals without certification and each will need to take four courses. The incremental cost of delivering an on-site course is $72.00 per participant.)

   7.3 ensure fire-medics receive an appropriate mix of training including classroom, practice drills, pre-fire planning, and familiarization inspections. (The amount of training time per shift should be increased from 1.5 to 2 hours which is the norm for fire services.)

   7.4 utilize performance standards for positions and results from formalized incident critiques to develop training objectives;

   7.5 evaluate the performance of the staff during scheduled drills to ensure that they are utilizing the techniques covered by the training program;

   7.6 ensure appropriate resource materials are available to support the new training program. (The initial cost of acquiring the resources is estimated at $5,000 - $10,000, with an ongoing cost of $3,000 per year.)

   7.7 keep more detailed records documenting time invested in education and training in order to determine accurately the amount of unassigned time with a view to managing unassigned time more effectively.

Communications

1. Increase the level of security at the 911 communications centre. (This area should be utilized solely by the staff employed for the purpose of receiving requests for emergency assistance from the public, dispatching the assistance, coordinating communications with units providing emergency services, and providing overall coordination and control of emergency services operations.)

2. When hiring future communications staff, consider hiring personnel who can provide computer support as well as perform call answer and dispatch services. Strong preference should also be given to candidates with emergency services experience.

3. Locate the central computer, that controls the radio system in an area away from the Deputy Chief's office, and assign responsibility for computer technical support to a computer technician.

4. Equip fire officers responding to mutual aid incidents with radios that permit direct communications with the incident commander and sector managers. (The estimated cost of the required communication equipment to achieve this objective would be about $20,000 per municipality.)

Public Fire Safety Education

1. The Chief Safety Codes Officer should designate a public fire safety education officer to coordinate all fire safety education programs. The public fire safety education officer should be trained to meet the NFPA 1035 level of competence in public fire safety education. (Ten courses are required for level 1, and four and three additional courses are required for levels 2 and 3 respectively. Training costs at the Alberta Fire Training School are $1,900 per course.)

2. The fire safety education program in the schools should be expanded to cover K-12 as well as high-risk adult education programs, such as carpentry and welding classes. The Department should acquire some teaching props and resources for its public fire safety education program. (The cost for basic public fire safety education materials is $10,000 to $15,000. A portable fire safety house, costing about $30,000 - $40,000, should also be considered. The Department may be able to borrow a fire safety house from another municipality.)

3. The Department should assist commercial and industrial firms by instructing employees in fire safety practices on and off the job. Special efforts and emphasis should be placed on fire safety training programs in hospitals, schools, day cares, nursing homes, group homes for mentally handicapped, and other occupancies which have a high hazard to life. Fire-medics should participate in fire drills and evacuation exercises at high-risk facilities (Class 3 and 4).

Hazardous Materials

The Emergency Services Department should complete and maintain its inventory of hazardous materials sites in The City of Red Deer and the Hazmat data should be included as part of the dispatch information. Pre-plans should be developed for specific targets including flammable liquids and gases and explosive magazines. The Department should develop and adopt a formalized process for reviewing performance at hazardous materials incidents. In addition, work must be undertaken with the County to ensure the Department is apprised of hazardous materials stored within the County that could pose a safety risk for the City.

The City of Red Deer should periodically review the frequency of its toxic waste round up to ensure continued effectiveness.

The response capabilities of the Emergency Services Department, private industry, and other key groups to hazardous goods incidents should be articulated clearly and communicated to ensure a coordinated response. (The Emergency Services Department provides only first response to hazardous goods incidents. Staff are not trained to the technician or specialist levels in this area. Since industry and major carriers usually are required to have in place plans to respond to hazardous goods incidents, the respective roles, responsibilities, and capabilities of key players must be understood ensure effective mitigation of Hazmet incidents.)

Organizational Structure

1. The Emergency Service Department should undertake a review of its administrative structure once key policy decisions relating to the Emergency Services Master Plan Report have been made. (Many of the recommendations in the Master Plan have significant implications for workload and accountability. Since *organizational form should follow function*, a clear understanding of any proposed changes to the service mandate or the emphasis of the department is essential before revising the administrative structure. This review should include an examination of the number of layers of management within the Department to determine whether any layers could be eliminated.)

2. Increased focused should be placed upon developing a strong Senior Management Team (SMT) within the Emergency Services Department. (This will involve a clear definition of the SMT's role, operating principles, and expectations for team member behaviors. The SMT should include The Fire Chief/General Manager, all of the Deputy Chiefs, the Chief Safety Codes Officer, and Platoon Chiefs.)

3. The City of Red Deer should consider applying to the Labor Relations Board to classify Platoon Chiefs and the Chief Safety Codes Officer as out-of-scope positions.

4. Both direct service and administrative functions should be assigned to all officers and fully qualified fire-medics on each platoon. Job descriptions should be updated to reflect both staff and line functions of the positions.

Apparatus and Equipment

1. The Department should consider purchasing quints to use as first line engine companies, when existing engines are retired. (New apparatus should contain plumbed in foam tanks. A quint, with a 50 foot ladder, costs about $50,000 more than a standard engine, while a quint with a 75 foot ladder costs an additional $75,000.)

2. The City of Red Deer should purchase one infrared vision system. Infrared vision systems cost about $25,000 per unit. Additional systems should be considered after an evaluation.

3. An equipment preventative maintenance and replacement schedule should be developed for all major pieces of equipment, as well as apparatus.

4. The physical exercise facilities within the Department should be upgraded to include additional cardio-vascular conditioning equipment. (The cost of acquiring a treadmill, stationary bicycle, and stair climber is estimated at $14,000 per station.)

Management Information Systems

The new FDM dispatch system should be expanded to provide for a total integrated management information system for the Department.

(Additional modules available include incident reporting, personnel, training, training quiz, inspections, permits, roster, inventory, and equipment maintenance. The property module is common to all the modules. The cost of the modules depends on the number of users. Estimated cost of acquiring all the modules for ten users is $75,000. Annual maintenance costs are 15% of the value of the software.)

Portable terminals for the command vehicles and inspections should be considered. Provision should be made for a portable terminal and videos for the command vehicle and four data collection units for full-time inspectors.

(The costs of the portable terminals and data collection units are $15,000 and $7,000 respectively. These units can be integrated within the FDM Fire Management Information System. The Emergency Services Department will need to acquire a radio frequency (RF) or cellular communications system to support the portable terminals. A cellular system is the preferred option due to enhanced security compared to radio frequency. An IP address costs about $550 per month. As well, there would be charges of $100 per month for data transmission. Total costs of the cellular system are estimated at $7,800. Additional portable terminals for first line apparatus should be considered, after an evaluation.)

Other Recommendations Relating to Operations Management

1. The Management Team and the Occupational Health and Safety Committee should review the Department's incident command system to ensure adequate emphasis is given to on-scene personnel accountability and fire-medic rehabilitation at emergencies. (A rehabilitation policy is required under Occupational Health and Safety Regulations in NFPA Standard 1500.)

2. Standard operating guidelines and management policies should be reviewed continually to ensure relevance and ongoing effectiveness. In particular, the Department's operating guidelines for high rises should be reviewed and updated to match potential risk and Department resources. Practical training exercises should be undertaken to ensure effectiveness at high rise incidents.

3. The City of Red Deer should develop and implement formalized incident critiques for fire suppression, similar to the patient care reviews.

4. The Emergency Services Department should prepare for implementation of the post-exposure protocol on infectious diseases being developed by Occupational Health and Safety (An officer will need to be designated to administer the protocol and to report to Alberta Health.)

5. The Department's water rescue, trench rescue, and technical rope rescue programs should be reviewed to ensure that the necessary equipment is available and that staff are trained appropriately to successfully provide these specialized services The Department should develop and utilize a formalized process for reviewing Department performance at motor vehicle accidents and other rescues.

6. The Fire Prevention Bureau should conduct periodic internal audits to ensure it is in compliance with its quality management plans for accredited municipality and accredited agency status.

7. The Department should undertake a bi-annual fire risk analysis of the community (and surrounding area, in cooperation with the County of Red Deer).

8. Establish a protocol for updating the risk analysis on a regular basis.

PART III: BENEFITS AND INCREMENTAL COSTS

Benefits

The strategic priorities and the related recommendations offer significant benefits to the citizens, the City, the Emergency Services Department and the fire-medics. Some of the more notable benefits include:

- Current fire and ambulance response time targets will be maintained. This is consistent with the strong public support noted for maintaining current service levels in this area.

- Increased emphasis on inspections and fire prevention should have a positive impact on the safety of citizens and fire-medics as a result of the reduction in the number of fires.

- Substantial enhancements will occur in the area of public fire safety education.

- Increased public awareness of the life safety and property loss prevention benefits of sprinklering will result in increased use of this technology in the future as part of the City's overall fire risk management strategy.

- Increased emphasis on accident and injury prevention programs will contribute to a reduction in the number of medical emergencies as well as improve the general quality of life for citizens.

- The level of readiness of the City and other key stakeholders to respond effectively to major incidents or disasters will increase.

- The City, individual citizens, businesses, industries, institutions within the community, and surrounding municipalities will be encouraged to work as partners with joint responsibilities for the development and implementation of effective emergency risk management strategies.

- Increased resources to handle emergency incidents will be available as a result of the additional station, additional staff, and an expanded volunteer program.

- The Department will have increased capacity to handle ambulance calls. (e.g., There were 68 times in 1996 when all three ambulances were out on a call and 118 times in 1997).

- Significant economic benefits should be realized including:

  - reductions in the number of fires and property loss as a result of effective fire prevention and public education programs;

  - administration will ensure that the staffing structure is designed to cover the varied responsibilities of the Department;

  - reductions in overtime as a result of increased flexibility created by additional response capacity and alternate staffing arrangements;

- increased levels of productivity as a result of more effective utilization of unassigned time to support increased prevention, inspection and public education activities, and refinements to the administration structure;

- effective use of volunteers to support public education and injury prevention activities; and

- reduced injuries and illness for fire-medics.

Incremental Costs

It is anticipated that a substantial number of the recommendations can be implemented by re-allocating current departmental resources or making more effective use of unassigned time. Recommendations that will likely require additional resources to implement were identified and preliminary estimates of associated costs were discussed as part of the commentary with the recommendation.

The largest component of both onetime and ongoing operating costs relates to building, equipping and staffing Station #4, estimated at $1,100,000 and $1,000,000 respectively. These estimates are based upon the current costing model used in the existing three stations. There are also very significant cost implications associated with the purchase of quints, the enhancement of Disaster Planning Services, and the purchase of computer and communications equipment. Exhibit 16 on the following page summarizes these estimated incremental costs.

EXHIBIT 16: FINANCIAL IMPACT OF RECOMMENDATIONS IN MASTER PLAN

Recommendations	One Time Costs	Annual Costs
Construction of Station #4		
➢ Building	$575,000	
➢ Equipment	$525,000	
➢ Operating Costs		$1,000,000
Demonstration of Residential Sprinklering Technology in Show Homes	—	$3500
Public Fire Safety Education Props and Materials	$15,000	$5,000
Training for Fire Education Officer	$20,000	$2,000
Disaster Plan Operating Costs and training exercises		$ 40,000
Volunteer Program	$10,000	$2500
Wellness Program		$40,000
Codes Training for First Class Fire-medics	$16,000	$3,000
Resource Library	$10,000	$3,000
Physical Exercise Equipment	$50,000	$4,000
Quints to Replace Engines in Stations #1, #2, #3	$150,000	
Infrared Vision Unit	$25,000	
FDM Computer System	$75,000	$11,000
Communication With Mutual Aid Partners	$20,000	
Portable Terminals	$43,000	$8,000
TOTAL	**$1,534,000**	**$1,122,000**

APPENDIX A

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APPENDIX B

INTERVIEWS

The City of Red Deer

Mr. H. Michael Day
City Manager

Mr. Dennis Dubois
Deputy Fire Chief

Mr. Ken Haslop
Manager, Engineering Services

Mr. Ted Hickey
Deputy Fire Chief

Mr. Grant Howell
Personnel Manager

Mr. Byon Jeffers
Director, Development Services

Mr. Jim Lyman
IAFF Representative

Mr. Jack MacDonald
IAFF Representative

Dr. Gordon Neil
Medical Director

Mr. Dan Osborne
Deputy Fire Chief

Mr. Bob Oscroft
Retired Fire Chief

Mr. Gordon Stewart
Fire Chief

Mr. Ryan Stranger
Manager, Licencing & Inspection

Ms. Gail Surkan
Mayor

Mr. Mike Taylor
Lieutenant

Mr. Ron Wardner
Manager, Public Works

Mr. Ken Webster
Chief Safety Codes Officer

Mr. Allan Wilcox
Director, Corporate Services

External Stakeholders

Ms. Jane Akey
Executive Assistant, County Manager, County of Red Deer

Mr. Ken Campbell
Fire Master

Mr. Mitch Carson
Fire Chief, County of Red Deer

Mr. Steve Gallouix
Fire Chief, Michener Centre

Mr. Tom Janzen
Supervisor, Operations, TransAlta Utilities Ltd.

Mr. Al Martin
President, David Thompson Health Authority

Mr. Gord Peters
Emergency Services, Novacor

Mr. Gordon Stangier
Executive Director, Michener Centre

Mr. Bill Stephens
District Manager, Northwestern Utilities Limited

Mr. Scott Sutton
Inspector, RCMP

Mr. John Vogelzang
Senior Vice-President, David Thompson Health Authority

Alberta Government

Ms. Sharon Chadwick
Consultant, Occupational Health and Safety Services, Alberta Labour

Mr. Roger Clark
Executive Director, Motor Transport Safety & Carrier Services
Alberta Transportation and Utilities
Red Deer District Office

Mr. Gary Elford
Manager, Emergency Health Services Branch, Alberta Health

Mr. Don Gnatiuk
Manager, Alberta Fire Training School, Alberta Labour

Mr. David Knoble
Director of Operations, Disaster Services, Alberta Transportation & Utilities

Mr. Tom Makey
Fire Commissioner, Alberta Labour

Mr. Ed May
Red Deer District Office, Alberta Energy and Utilities Board

Mr. Rob Penney
Red Deer Regional Director, Alberta Transportation & Utilities

Mr. Leo Touchet
Red Deer District Office
Alberta Energy and Utilities Board

Mr. Chris Tye
Senior Technical Advisor, Building & Fire Safety Standards, Alberta Labour

Mr. Jim Watson
Community Liaison
Red Deer District Office
Workmen's Compensation Board

Associations, Institutions and Other

Ms. Mary Apply
Vice President, National Fire Protection Assocation

Mr. Ed Collens
FDM Software, Vancouver, B.C.

Mr. Marcel Ethier
Executive Director, Canadian Association of Fire Chiefs

Ms. Doris Graham
EMT - Paramedic Training, NAIT

Mr. E. David Hodgins
President, Alberta Fire Chiefs' Association

Mr. Rick McCollough
President, Canadian Council of Fire Marshalls and Fire Commissioners

Ms. Jackie Osbourne
Executive Director, Alberta Pre-Hospital Association

Mr. Don Pamplin
Canadian Automatic Sprinkler Association

Mr. Russell Sanders
Area Manager, National Fire Protection Association

Comparative Municipalities

Mr. Ted Beauchamp
Deputy Chief, Operations
Emergency Services Department
City of Lethbridge

Mr. Laird Burton
Fire Chief
Manager, Emergency Services
Assistant Director, Disaster Services
County of Strathcona

Mr. Ray Digby
Fire Chief
Fire, Rescue & Emergency Services
City of Nanaimo

Mr. Don Hart
Director, Grande Prairie Emergency Medical Services

Mr. Jim Pendergast
Deputy Fire Chief
Fire Department
City of Grande Prairie

Mr. Don Scott
Deputy Chief
Emergency Services Department
City of Lethbridge

Mr. Howard Snodgrass
Director of Ambulance Services
Medicine Hat Ambulance Service

Mr. Bill Stewart
Fire Chief
City of Grande Prairie

Mr. Tom Wickersham
Fire Chief
Emergency Services Department
City of Lethbridge

Mr. John Wyatt
Deputy Chief Operations/Fire Marshall
Fire Department
City of Medicine Hat

Mr. Gerry Zimmerman
Fire Chief
Fire Department
City of Kelowna

APPENDIX C

THE CITY OF RED DEER RISK ANALYSIS

INTRODUCTION

Risk is the potential for harm. It is often defined as "the potential for realization of unwanted, negative consequences of an event". Risk has three components:

- expected frequency of the event,
- expected degree of exposure; and
- potential for harm.

The risk of fire, entrapment of people, unplanned release of dangerous goods, emergency medical and trauma related emergencies from either natural or man-made causes, can never be completely eliminated. The objective of this risk analysis is to assist in identifying the probability and consequences of events that may require an emergency services response.

Based on the analysis of risk, the City can determine how it can best reduce the community's exposure to a "*socially acceptable level*" and determine what resources they are prepared to provide to reduce the risk to that level.

The term *risk analysis* is used to describe the identification of potential risks and broadly estimating the likelihood and magnitude of occurrences based on historical evidence applied to the current environment and projected into the foreseeable future.

For this review, the frequency of incidents by type was obtained from data contained in The City of Red Deer Emergency Response Department's annual reports. The expected degree of exposure and potential for harm was determined by an area-by-area inspection and evaluation of risk. Water flow information was obtained from the Emergency Service Department's fire hydrant flow records.

AVERAGE FREQUENCY OF OCCURRENCE (1992 - 1996)

Emergency medical incidents - 2,351 per year

Fire related incidents - 564.75 per year

1996 statistics were 2,535 ambulance responses and 521 fire related incidents.

The Fire Chief is of the opinion that these statistics should not change significantly over the next 5 to 10 years even with the anticipated population growth.

Within the scope of the risk analysis, the most significant element is the potential for fire related incidents (fires, dangerous chemical releases, significant rescue incidents, etc.). These incidents have the potential to grow and spread, providing a greater risk to the community. Emergency medical incidents, on the other hand, are primarily single victim incidents which do not have the potential to grow significantly and, therefore, do not present significant risk to the community. Emergency medical/ambulance does impact on the ability of the Emergency Services Department to manage fire-related emergency incidents and, therefore, the frequency of such incidents must be considered within the context of the risk analysis.

Although some of these incidents were for service outside The City of Red Deer, the number by comparison is insignificant for the purpose of this risk analysis.

MAGNITUDE OF OCCURRENCE

To evaluate potential magnitude of occurrence, a risk classification of 1 to 4 was developed for the City. This classification is similar to the risk classification system used by insurance underwriters for evaluating municipal fire protection and similar to what was used in 1981 by The City of Red Deer when the last risk analysis was completed.

The risk classification are as follows:

- Risk Class 1: Typical modern 1 & 2 storey detached residential buildings;
- Risk Class 2: Close built 3 & 4 storey residential buildings, small mercantile buildings, community centres, and most churches;
- Risk Class 3: Large area high fire load or life hazard; shopping centres, most institutions, larger apartment buildings, and sprinklered high rises; and
- Risk Class 4: High hazards in large institutions and industrial buildings, unsprinklered high rises, lumber yards, hospitals, and closely built core area buildings of combustible and ordinary construction.

AREA ANALYSIS

Exhibition South Area

This area includes the exposition grounds in the most southerly portion of the City. The major building in the exhibition park is the Altaplex Centrium. This building is fully sprinklered. Other buildings in the area are widely separated. The risk class for this area is 3 because of the large occupancy load during performing and sporting events. Maximum water flow in this area is approximately 4,895 IGPM @ 10psi residual pressure.

South Commercial/Residential Area

This area is located along the shoulder areas of Gaetz Avenue south between 19th Street and Molly Banister Drive. The area contains medium to large retail businesses, strip malls and the Bower Place Shopping Mall. These buildings are a mix of wood frame light construction and noncombustible buildings. Several of the buildings are sprinklered. These buildings are primarily day-time occupancies. The large shopping mall is sprinklered. The area also contains two dangerous goods storage locations. The risk class for this area is class 3.

This area also contains the Bower Place subdivision. The residential area contains approximately 920 housing units. It is composed primarily of modern, single family, detached, frame construction buildings. This area is generally risk class 1. Barrett Drive contains a number of 3 and 4 storey unsprinklered apartments. The risk classification for this area is class 3.

The maximum water flow in this area is approximately 4,760 IGPM @ 10psi residual pressure.

South Hill Commercial/Residential Area

This area is located along the shoulder areas of Gaetz Avenue between 28th Street and 39th Street. This area contains unsprinklered high-rise apartment blocks and hotels, a low rise motel, widely separated retail businesses, and strip malls. The building construction type is a mixture of wood frame and light noncombustible. The commercial area is non-residential. This area is risk class 4 because of the unsprinklered high rise buildings.

The residential area, located east and west of the commercial strip contains approximately 2,000 housing units. The building construction is primarily smaller 1 and 2 units essentially of wood frame construction. In addition, there are a significant number of 3 and 4 storey wood frame,

unsprinklered apartment blocks as well as a mobile home park. Mobile homes in the park are well spaced. This area is risk class 3.

The maximum water flow in this area is approximately 2,050 @ 10psi residual pressure.

Red Deer College Area

Red Deer College is located in the south west portion of the City. This educational institution occupancy is non-combustible construction. The arts theatre, new shop area, and mechanical sections of the College that have been constructed in the past decade are sprinklered. The campus site also contains a large number of student residences. The residences are composed primarily of detached wood frame construction with a number of 4 storey ordinary construction residences located in the south west portion of the campus. Access throughout the campus is good, however, response times to the residence area may be excessive. This campus is a risk class 3.

The maximum water flow in this area is approximately 1,600 IGPM @ 10psi residual pressure.

West Park Area

The West Park area of the City is composed of approximately 1,500 housing unit. They are primarily of wood framed single family detached construction with a number of wood framed duplexes, one and two storey row housing units, and 3 storey apartment blocks. The area has three schools. Separation between buildings is considered good. This area is a risk class 2.

The maximum water flow in this area is approximately 4,335 IGPM @ 10psi residual pressure.

Cronquist Business Park

This industrial area is composed of a mix of combustible and non-combustible one and two storey commercial/light industrial occupancies. It also contains The City of Red Deer Public Works yards, a lumber yard, and 5 dangerous goods storage locations. This area is risk class 4.

The maximum water flow in this area is approximately 6,500 IGPM @ 10psi residual pressure.

Red Deer Regional Hospital Centre

This Hospital is located at 3942 - 50 A. Avenue. The facility is constructed of non-combustible materials. It is a high-rise, multi-treatment hospital with a high non-ambulatory occupant load. The new portion of the hospital is sprinklered, however, the original portion is currently not sprinklered. This area has a number of unsprinklered apartment buildings, including one of 6 stories in the immediate area. It is a risk class 4.

The maximum water flow in this area is approximately 4,900 IGPM @ 10psi residual pressure.

Mountainview Subdivision

This area is composed primarily of approximately 650 housing units. Dwellings are primarily wood frame construction. The area is predominately mature properties with some interface with the urban forest. The area contains one school and Fire Station #3. This area is a risk class 1 generally. The school is a risk class 3.

The maximum water flow in this area is approximately 5,000 IGPM @ 10psi residual pressure. (A flow test in this area in 1995 shows a flow rate of 3,005 @ 10psi residual, however, the City has upgraded the system in this area since that time and, therefore, the estimated flow rate is 5,000 IGPM.)

Grandview Subdivision

This area contains approximately 465 housing units. The area is composed of primarily single family detached, wood frame construction. It also contains 3 storey walk-up apartment blocks of wood frame construction. Also contained within the subdivision are one school and three churches. This area is generally a risk class 1. The school is a risk class 3.

The maximum water flow in this area is approximately 5,660 IGPM @ 10psi residual pressure.

Morrisroe Subdivision

This area contains approximately 1,135 housing units. The construction is predominately wood-frame. The construction type is generally single family with some 5 and 6 unit row housing of combustible construction. It contains a light commercial area and four schools. This area is a risk class 2 generally, however, the schools are risk class 3.

The maximum average water flow in this area is approximately 3,740 IGPM @ 10psi residual pressure.

Sunnybrook Subdivision

The Sunnybrook area contains approximately 665 housing units. It is composed primarily of single family detached dwellings of wood frame construction. In addition, there are 3 storey apartments, a mixture of 4 - 6 storey apartments of wood frame construction as well as one 7 storey unsprinklered apartment building. The area has one school. There is an interface along the western portion of this area between residences and the urban forest in this subdivision. This area is risk class 2 generally, however, the 6 and 7 storey unsprinklered apartment blocks are a risk class 4.

The maximum average water flow in this area is approximately 3,420 IGPM @ 10psi residual pressure.

Anders Subdivision

The Anders subdivision contains approximately 700 housing units, however, this newer subdivision will continue to grow in the immediate future. The area contains some large single family houses of wood frame construction. The area currently has one school. It is a risk class 2 area primarily due to the larger size homes.

The maximum average water flow in this area is approximately 3,035 IGPM @ 10psi residual pressure.

Lancaster Subdivision

The Lancaster area currently contains approximately 150 housing unit lots. It is new and is experiencing growth. It is composed primarily of one and two family houses. The area also has two large modern style high schools. These schools are fully sprinklered. This area is, therefore, a risk class 1.

The maximum water flow in this area is approximately 3,965 IGPM @ 10psi residual pressure.

Deer Park Subdivision

The Deer Park area currently contains approximately 1,100 housing units and is experiencing considerable growth. It is composed of single family detached housing units of wood frame construction. A number of these houses are relatively large in size and are built in close proximity to one another. The area also contains a number of three and four dwelling row-housing units all of wood frame construction. This subdivision contains an elementary school and a small commercial centre. The area is generally a risk class 1. The commercial area is a risk class 2 as is the school because it is sprinklered.

The maximum water flow in this area is approximately 3,005 IGPM @ 10psi residual pressure.

Eastview Subdivision

This subdivision currently contains approximately 1,630 housing units, however, it continues to grow. The eastern portion of this subdivision is composed primarily of one and two family detached housing units with some 2 storey row housing units predominantly of wood frame construction. The larger size houses tend to reduce separations between these housing units. A small suburban commercial centre is found in the eastern portion of Eastview as well. The area contains two schools. The risk class in the eastern portion of Eastview is 2.

The western portion of Eastview also contains primarily single and duplex family housing units. Many of these houses are large, modern single family homes well separated from one another. There are a number of four-plexes and townhouses present in this part of Eastview. The general risk class for the western portion of Eastview is 1.

The maximum water flow available in this area is approximately 7,765 IGPM @ 10psi residual pressure in the northern portion of the subdivision and 3,010 IGPM @ 10psi residual pressure in the south portio of the subdivision.

Parkvale Subdivision

This subdivision contains approximately 425 housing units and is located on the edge of the urban forest. It is composed primarily of single family, detached, wood constructed houses with a number of three storey apartment blocks. The subdivision contains two arenas and a curling rink. One area is fully sprinklered and the other two are partially sprinklered. Also contained within the area is a senior's lodge, senior's townhouses, museum, senior's recreation family, and a City recreational complex. It is generally a risk class 2, however, the area with the arenas is a risk class 3.

The maximum water flow in this area is approximately 2,765 IGPM @ 10psi residual pressure.

Clearview Subdivision

The Clearview subdivision contains approximately 925 housing units in a variety of closely-built row housing and condominium units as well as 3 storey apartments of wood frame construction and some four-plexes. The area is a risk class 2.

The maximum water flow available in this area is approximately 4,070 IGPM @ 10psi residual pressure.

Rosedale Subdivision

This subdivision contains approximately 750 housing units and continues to grow. The area is composed primarily of one and two family housing units of wood frame construction. Many of the homes located in this area are large and some buildings are located in close proximity to each other. The area also contains wood frame four-plexes. The risk class for this area is generally a class 1.

The maximum available water flow in this area is approximately 6,100 IGPM @ 10psi residual pressure.

Michener Centre (north and south campuses)

The two Michener Centre campuses contain approximately 63 buildings which are predominantly non-combustible construction. The campuses have good access roads and fire hydrants are provided throughout the campus. The area is risk class 4 because of the age of the buildings and the type of occupancy.

The maximum available water flow in this area is approximately 6,110 IGPM @ 10psi residual pressure.

Waskasoo

This subdivision contains approximately 215 housing units. The construction type is generally wood frame construction. The area contains one elementary school (unsprinklered), two large high schools, the memorial centre, a school division maintenance building, and an elementary school. This area is a risk class 3.

The maximum available water flow in this area is approximately 2,700 IGPM @ 10psi residual pressure.

Michener Hill Subdivision

This subdivision is located adjacent to, and west of the south campus of the Michener Centre. It contains approximately 450 housing units and is composed primarily of mature, single family detached housing of wood frame construction. The area also contains a 6 storey non-sprinklered condo unit. It is generally a risk class 1. The 5 storey condo unit is a risk class 4.

The maximum available water flow in this area is approximately 1,630 IGPM @ 10psi residual pressure.

Downtown Core Area

The downtown core area of the City contains non-combustible high-rise and a mix of low-rise, small to large office and commercial buildings of ordinary construction. It contains the City's Fire Station #1 as well as older single family wood frame housing along the eastern fringe. The area also contains two schools. The northern portion of the area contains 3 storey "taxpayer" type commercial buildings, 3 storey unsprinklered apartment buildings, underground parking garages, and a number of 2 and 3 storey buildings of ordinary construction. This area contains approximately 1,450 housing units. It also contains one school. These occupancies plus the older hotels and apartments along 55th Street and the 6 storey Red Deer Lodge (sprinklered on the main floor only) make this area a class 4 risk.

The maximum available water flow in this area is approximately 6,300 IGPM @ 10psi residual pressure in the southern portion, 4,000 IGPM @ 10psi residual pressure in the northern portion, and 4,900 IGPM @ 10psi residual pressure in the Red Deer Lodge area.

Woodlea Subdivision

This area borders on the western side of the urban forest and contains approximately 315 housing unit. It contains a 5 storey apartment building and 4 storey wood frame apartment buildings. The residential portion of the subdivision is comprised of smaller single family detached wood frame construction. The northern portion of the area has a significant number of 3 storey apartment blocks. The commercial portion of this area is made up of primarily non-combustible construction. The commercial and apartment block area of this subdivision are risk class 3. The eastern residential portion is risk class 1.

This area has a maximum water flow of approximately 2,330 IGPM @ 10psi residual pressure.

Northwest Commercial Downtown Area

This area is located in the northwest portion of the downtown area. It contains older, non-combustible constructed commercial buildings in addition to a large sprinklered retail grocery business and a fully sprinklered dairy. The area also contains a strip mall. Other commercial buildings are widely separated. The area is a risk class 3.

This area has a maximum water flow of approximately 9,015 IGPM @ 10psi residual in the south area and 6,060 IGPM in the north area.

Fairview Subdivision

This subdivision contains approximately 925 housing units composed primarily of single and two family detached wood frame construction. In addition, it has row housing and a small suburban commercial center on the eastern fringe. The subdivision also has 1 school. Most of this area is a risk class 1. The area containing the suburban commercial center and the row housing is a risk class 2.

This area has a maximum water flow of approximately 4,250 IGPM at 10psi residual pressure.

North Red Deer Subdivision

This subdivision contains a number of 3 and 4 storey wood frame apartment blocks. It also contains smaller detached single and two family wood frame constructed housing units. The total number of housing units is approximately 780. The area is mature with some buildings closely built. It also contains a significant suburban commercial area in the eastern portion. The area

contains three schools. The area also contains one explosive magazine. The risk class for this area is generally risk class 2. The apartments and commercial area are risk class 3.

This area has a maximum water flow of approximately 6,350 IGPM at 10psi residual pressure.

Oriole Park Subdivision

This subdivision is composed primarily of 1 and 2 family wood frame constructed housing units. It also contains four-plexes, small apartment blocks and row housing. The total number of housing units is 1,150. The subdivision contains the Home Leisure Shopping Center which is primarily a non-combustible constructed strip mall. The area also contains one school. The general risk class for the area is 2.

This area has a maximum water flow of 6,232 IGPM @ 10psi residual pressure in the north portion of the subdivision and 3,215 IGPM @ 10psi residual pressure in the southern portion of the subdivision.

Riverside Light Industrial Area

This area is comprised of widely spaced 1 and 2 storey commercial centers of primarily light, non-combustible construction with some wood frame construction. A lumberyard and railway line are also located in the area. The Parkland Mall is located in the Riverside district as well. This area contains eight dangerous goods storage locations and one explosive magazine. The risk class for this area is 4.

This area has a maximum water flow of approximately 6,900 IGPM @ 10psi residual pressure.

Highland Green Subdivision

There are approximately 1,590 housing units within this subdivision. Village Park Condominiums are also located in this part of Highland Green. The western portion of the subdivision contains small single and double family housing units of primarily wood frame construction as well as 3 storey walk-up apartments and some older 2 storey apartments. Also located in the area are Hilltop Estates Condominiums, a 2 storey row housing complex of wood frame construction. The area also contains the Highland Green Shopping Center - a light frame strip mall which is fully sprinklered. The eastern portion of this subdivision contains 3 storey apartment buildings as well as single family wood frame, modern style housings. The area contains three schools.

Wedgewood Gardens is a large 4 storey unsprinklered apartment complex with a risk class of 3. The remainder of the subdivision is a risk class 2.

River Crest Manor, a 6 storey unsprinklered apartment complex of non-combustible construction is a risk class 4.

The Gaetz Avenue shoulder commercial area is characterized by a mixture of wood frame strip malls and other wood frame and non-combustible light frame commercial construction. It is a risk class 3.

This area has a maximum water flow of 5,400 IGPM @ 10psi residual pressure.

Pines Subdivision

The residential area of this subdivision contains approximately 825 housing units made up of single family detached wood frame housing units. This subdivision has one school. This area is generally risk class 1.

The area also contains a single story, wood frame senior's residence and a 2 storey senior's apartment block with a risk class of 3.

This area has a maximum water flow of approximately 6,450 IGPM at 10psi residual pressure.

Normandeau Subdivision

The residential portion of this subdivision contains a mobile home park in the southern portion of the subdivision and a number of three storey apartments in the northern portion of the subdivision. The remainder of the residential portion of the subdivision is composed of single family detached wood frame housing units of wood frame construction. This subdivision contains approximately 1,485 housing units and one school. The area also contains two large mobile home parks. Mobile homes are adequately separated. This area is a risk class 2.

The shoulder area of Gaetz Avenue east of the residential subdivision is made up of commercial one story buildings of mixed combustible and non-combustible light frame construction. This area contains eleven dangerous goods storage locations and one explosive magazine. This area has a risk classification of 3.

This area has a water flow availability of approximately 6,400 IGPM @ 10psi residual pressure.

Glendale Subdivision

This subdivision contains approximately 1,675 housing units, made up of primarily modem, single and two family, wood frame constructed. The area also contains 3 storey apartments and some larger homes in addition to wood frame row housing units and four-plexes. The subdivision has three schools and one mobile home park. This area is generally risk class 2.

This area has a maximum water flow capacity of approximately 7,000 IGPM at 10psi residual pressure.

Kentwood Subdivision

This area is a relatively small subdivision containing approximately 300 housing units - primarily of modem, 1 and 2 family wood frame construction. The area also contains three churches. This area is a risk class 1.

Information on the available water supply in this area was not available.

Northlands Industrial Area

This is a light industrial area. The area is composed of a mix of non-combustible and combustible buildings. The buildings are adequately spaced. There are twenty-four dangerous goods storage locations and five explosive magazines in this subdivision. The area is a risk class 3.

This area has a maximum water flow of approximately 5,200 IGPM @ 10psi residual pressure.

Riverside Heavy Industrial Area

This is a heavy industrial area and contains large manufacturing and processing buildings and one large warehouse building which is sprinklered. All buildings are widely spaced and the meat packing plant is sprinklered. The feed mills have open conveyer legs. The subdivision contains thirteen dangerous goods storage locations and one explosive magazine. This area is a risk class 4.

This area has a maximum water flow of 6,600 IGPM @ 10psi residual pressure.

Edgar Industrial Area

This area contains a mixture of combustible and non-combustible construction. The area contains a 5 storey hotel which is partially sprinklered. The Canadian Pacific Railway runs through this area and south along the west side of the City. This subdivision, therefore, has dangerous goods transported through the area on rail cars. This area contains nine dangerous goods storage locations and three explosive magazines. There is one level railway crossing in this subdivision. This area is a risk class 3 with the exception of the hotel which is a risk class 4.

This area has a maximum water flow of 11,100 IGPM @ 10psi residual.

Goldenwest Industrial Area

This industrial park contains a number of large and medium size manufacturing occupancies. It also contains fourteen hazardous materials storage facilities and two explosive magazines. The area is generally a risk class 4.

There was no data available on maximum water flow capacities in this area. The water mains were installed in 1996 and flow tests have not yet been completed.

PROJECTED GROWTH

"The City of Red Deer Community Profile and Demographic Analysis", dated February, 1996, outlines the projected growth pattern for the City over the next 24 years. This profile shows an average population growth of approximately 1.25% per year over the 24 year period. If this expectation is met, the City will grow to a population of approximately 81,000 by 2020.

Since the development of the report, both Union Carbide and Nova have announced major expansions to their operations in the Red Deer area. It can, therefore, be assumed that these two plant expansions will cause a further increase in the growth rate for The City of Red Deer.

The report also outlines the areas of the City which will be expanded for residential development. The plan indicates that this development will take place primarily in the northwest, southeast, and east district of the City - although the greatest land mass for residential development appears to be in the southeast portion of the City. The report outlines that the City attempts to maintain sufficient land for both commercial and residential growth for a 20 year period.

Information received from City Administration outlined the residential and industrial/commercial expansion within the City will occur in the following sequence:

1. Stage one (1997 - 2000)

   - fill in currently planned subdivision land in Clearview, Rosedale, Deer Park, Lancaster, Anders, an Kentwood subdivisions

2. Stage two (beyond 2000)

   - North Kentwood
   - West Glendale
   - East Rosedale
   - East Deer Park
   - Lancaster
   - South Anders

3. Stage three

   - South Anders
   - South Sunnybrook
   - West of West Park
   - West of Oriole Park

4. Stage four

- South of Anders and Sunnybrook and north of Delbume Road
- West of Glendale expansion

5. Stage five

- East of Gaetz Lake

Planned industrial growth will occur within, or immediately adjacent to the already established industrial parks.

COMMUNITY RELATED RISK

URBAN FOREST AREA

The City of Red Deer has several areas of natural grassland and brush which present a significant problem from a risk management perspective. The most significant risk is that located in the urban forest along the Red Deer River. This very scenic parkway presents a series of passive parks and recreational facilities for the residents of the City. Although the Emergency Services Department is planning to purchase a 4x4 brush truck for response into this, and other like areas in the City, it must be considered a high risk area from a fire management perspective during dry, windy weather conditions and a low risk area during winter months.

OIL WELLS

Currently there are three oil wells located in The City of Red Deer. There are two working pump jacks located within the Riverside Heavy Industrial Park and one located within the quarter section of the Lancaster subdivision. These oil wells pump product into on-sight storage tanks which is trucked away from the area.

There are a large number of oil wells in the vicinity of The City of Red Deer as well. Gathering stations are located adjacent to the City and have pipelines which extend north to the main line that transports the oil and gas to Edmonton.

A search was conducted through the ERCB relative to sour gas wells and pipelines. Nine known sour wells were identified by the ERCB in the region - of which one is capped, three are suspended in their operation and five are producing. These wells are located in the following section-township-ranges in the County of Red Deer:

16-33-036-27W4(capped)	- level 2
14-09-037-26W4 (flowing)	- level 1
14-16-037-26W4 (flowing)	- level 1
06-22-037-27W4 (suspended)	- level 2
12-39-038-26W4 (flowing)	- level 1
10-22-039-26W4 (flowing)	- level 1
15-22-039-26W4 (gas inj.)	- level 1
15-22-039-26W4 (suspended)	- level 1
05-23-039-26W4 (suspended)	- level 1

ERCB officials indicated that these wells are 20 to 30 years old and that their relative danger is in the 5% range. This presents a relatively low danger to the City, however, officials need to be aware of their presence for emergency planning purposes.

Before a new oil well can be drilled or a major re-work of an existing well can occur, the oil company must file an extensive emergency response plan with all jurisdictions adjacent to the field, including the ERCB. If a release of sour gas were to occur it would be ignited immediately with no immediate danger to surrounding populations. The oil companies are responsible for all fire suppression and related requirements at their facilities.

The City Emergency Response Department does not respond to any oil upset conditions except at the request of the ERCB. The City's primary responsibility, in the event of such an incident, is to activate their disaster plan, and to assist in evacuation procedures if necessary.

PIPELINES

Northwestern Utilities operates a natural gas distribution system within The City of Red Deer. Their primary feeders come into the City at 600 psi, and then are stepped down to lower distribution pressures. In addition to the Northwestern line which comes into the City, there is a natural gas transmission line located in the County of Red Deer on the northern boundary of the City. This pipeline runs between Rocky Mountain House and the Nova plant at Jofree.

GAS STORAGE FACILITIES

On the east side of the City, approximately 1 km east of Deer Park subdivision, there is a natural gas plant. The area between the Deer Park subdivision and the City border has been established as a buffer zone between the City and the plant. This buffer area should be retained as a restricted development area.

DANGEROUS GOODS TRANSPORTATION

Since the relocation of the Canadian Pacific Railroad tracks to the Edgar subdivision, the risk of a major dangerous goods incident occurring within the populated area of the City has been reduced significantly. The actual volume of dangerous goods products moving through or near The City of Red Deer is unknown, although believed to be significant. The Province of Alberta was contacted relative to this information, however, volumes of such products are not collected. The Province did identify the dangerous goods products which are most common within the transportation

system are corrosives, compressed flammable gases, flammable liquids, explosives (primarily ANFO), and oxidizers.

All dangerous goods transported on City roads are required to stay on designated dangerous goods routes which have been established by City Council. Trucks leaving those routes are subject to permitting requirements pursuant to the City of Red Deer Dangerous Goods Route Bylaw.

APPENDIX D

Report of the Red Deer Emergency Services Survey

Prepared for The City of Red Deer

Dr Bill Stuebing
and
Tony Skorjanc

Community Research Red Deer College June 1997

CONTENTS

1. INTRODUCTION

This project was conducted by staff of the Red Deer College on behalf of the City of Red Deer and its Emergency Services Master Plan Steering Committee. The principal researchers were Dr. Bill Stuebing of the Department of Social Sciences and Humanities (Sociology) and Mr. Tony Skorjanc, Institutional Research Officer. The content and specific methodologies for the survey were developed in consultation with the members of the Emergency Services Master Plan Steering Committee.

OBJECTIVES

The research was designed and undertaken to identify attitudes held by citizens of Red Deer towards certain issues affecting the City's Emergency Services. These included:

- general satisfaction with current fire and ambulance services;
- attitudes towards response times for fire and ambulance services;
- attitudes towards residential sprinkler systems;
- attitudes towards fees for ambulance services;
- attitudes towards the use of volunteers in fire and ambulance services; and
- concerns for quality and cost of emergency services.

METHODOLOGY

This research was designed as a telephone survey and intended to provide a valid and reliable description of the attitudes held by the adult population of the City of Red Deer. To this end, careful attention was given to the content and design of the interview schedule and the selection and completion of the sample.

Interview Schedules

The design and development of the interview schedule was undertaken by the principal researchers in consultation with the Steering Committee.

During the development of the questions it became apparent that a single questionnaire would be too lengthy for practical purposes. A decision was made to divide the survey into two separate questionnaires, one dealing with fire protection and the other with ambulance services. In part, the difficulty with the length of the interview was a function of the need to provide respondents with basic technical information as a lead-in to many of the questions. Where ever possible, parallel wording was employed in the two questionnaires so that some aggregating of fire protection and ambulance items was possible.

Both interview schedules were pretested for respondent comprehension, length, and ease of use. In their final forms, the interviews required an average of between 20 and 25 minutes to complete. The individual questions and the information statements given to respondents are reproduced and discussed in the report as part of the description of findings. A copy of the full schedule is provided as an appendix to this report.

The interviews were conducted by telephone between February 6 and April 9, 1997 by the interviewers of the Red Deer College Office of Institutional Research and responses were direct-entered into cumulative data files using the College's Ci3 Computer Assisted Telephone Interviewing software.

Sampling

The sample design involved a two-stage process. The first phase involved a computer-generated, random selection of telephone numbers from active Red Deer exchanges. This resulted in a random sample of households. After contacting a household, a sampling protocol based on the Kish procedure for sampling within clusters was employed to select the eligible respondent over the age of 18.[1] No substitutions were allowed. Such a procedure is designed to provide the equivalent of a pure random sample.

The original plan of the research called for a single sample of 1000 respondents. However, when the interview schedules were split, the sample design was similarly divided into two samples of 500.

A total of 2,587 telephone contacts were made.[2] Of these, 1,406 were either non-residential, numbers not in service, or resulted in contacts outside the Red Deer city limits. Of the remainder, 177 resulted in refusals and 1,004 in completed interviews, 500 in the fire protection sample and 504 in the ambulance sample.

The sample completion rate is in excess of 85 percent and may be regarded as superior In recent years, telephone surveys in Canada rarely achieve a completion rate of 70 percent and completion

1 Leslie Kish, *Survey Sampling*, John Wiley & Sons, Inc., New York, 1967. pp 396-401.

2 Contacting selected numbers, verifying eligibility, sampling and interviewing required extensive callbacks, typically between 5 and 10 calls for each number. In the end, the interviewers logged over 12,000 calls.

rates over 75 percent are conventionally regarded as excellent.[3]

Validity and Reliability

Sampling procedures and sample size are related to the concern for the truth of the findings or the believability of the results. In general, this is understood as the issues of sample confidence (validity) and the precision with which proportions that are observed in the sample may be understood to accurately describe corresponding proportions in the population as a whole (reliability).

The determination of both validity and reliability requires a true random sample, a criterion on which the present sample qualifies. Thus, in general, such samples with 500 respondents randomly selected from a population of approximately 43,000 is considered to be accurate within ±4 percent, nineteen times out of twenty.

Both the confidence level and the reliability of the sample have been affected by the decision to divide the survey into two samples of 500. Reliability is also affected by the distribution in the population of the attitudes measured.

The 95 percent confidence level ("nineteen times out of twenty") is the most commonly employed in social research. However, this estimate applies only to a single sample. When two samples are drawn and demonstrate similar distributions, as is the case here, the overall confidence level is the product of the separate estimates. For this reason, the research as a whole may be regarded as having a confidence level of 0.9975 or, in other words, to be accurate 99.75 times out of 100.

Sample proportions (the observed distributions of attitudes in the samples) are interpreted as estimates of the distributions of the same attitudes in the population as a whole. However, the true population proportions are, typically, sightly different than those computed for any sample. Reliability refers to the range around the observed sample values within which probability theory predicts the population values actually fall.

The decision to split the original sample into two samples of 500 slightly reduced the reliability of these estimates from ±3 percent to ±4 percent. Notwithstanding, the overall reliability of the aggregated samples for the analysis of the parallel questions remains at ±3 percent.

However, such reliability estimates are based on an assumption that favorable and unfavorable attitudes are evenly divided in the population (i.e., an occurrence rate of 50 percent). As occurrence rates approach 85%, which isl frequently observed in this report, the reliability estimates improve to ±3 percent for the separate samples and to ±2 percent for the two aggregated samples.

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3 Winston Jackson, *Methods: Doing Social Research*, Prentice Hall Canada, Scarborough, Ont., 1995. pp. 107-121. The demonstrably high completion rate here is attributed to respondents' genuine desire to provide input to the Emergency Services issues and to their perception of the legitimacy of the survey. An even higher rate might have been possible but, at the request of the Steering Committee, follow up on initial refusals was limited to a letter and a single additional contact.

Table 1:1 **Sample reliability as indicated by a comparison of sample characteristics and City of Red Deer census data for the population over 18 years of age.**

Criterion	Fire Survey (N=500)	Ambulance Survey (N=504)	Total 2 Samples (N=1004)	City of Red Deer (1995 Census) (N=43,077)
Gender				
Male	47.4%	49.8%	48.6%	48.2%
Female	52.6%	50.2%	51.4%	51.8%
Totals	100.0%	100.0%	100.0%	100.0%
Age				
20-34 years	36.7%	35.4%	36.1%	37.5%
35-49 years	33.9%	34.5%	34.2%	33.7%
50-64 years	16.0%	15.1%	15.6%	15.5%
65 years or more	13.4%	15.1%	14.2%	13.3%
Totals	100.0%	100.0%	100.0%	100.0%
District[4]				
Northeast	20.8%	19.6%	20.2%	18.6%
North	15.5%	13.7%	14.6%	18.6%
Central	10.8%	11.3%	11.1%	8.2%
West	14.6%	19.0%	16.8%	16.9%
Southeast	29.0%	26.2%	27.6%	29.3%
East	9.2%	10.1%	9.7%	8.3%
Totals	100.0%	100.0%	100.0%	100.0%
Home Ownership				
Own	58.7%	58.3%	58.6%	56.0%
Rent	41.3%	41.7%	41.4%	44.0%
Totals	100.0%	100.0%	100.0%	100.0%

4 The identification of districts in this report reflect the categories contained in the *City of Red Deer Community Profile & Demographic Analysis (February 1996)*. Northwest includes Glendale, Kentwood, Normandeau and Pines; North includes Fairview, Highland Green, North Red Deer and Oriole Park; Central encompasses Downtown, Parkvale, Waskasoo, and Woodlea; West includes Bower Place, South Hill, West Park and Red Deer College; Southeast takes in Anders, Clearview, Eastview, Grandview, Michener Hill, Morrisroe and Sunnybrook; and East includes Deer Park, Lancaster Meadows and Rosedale.

The reliability of the samples is illustrated in Table 1:1 where the observed sample proportions may be seen to be within the reliability estimates when compared to known population distributions of four variables drawn from the City's *Demographic Profile.*

In short, the Emergency Services Survey samples described in this report may be confidently regarded as representative of the adult population of Red Deer as a whole.

However, we must caution against the impact of refusals. There is one caution that must be acknowledged, the impact of refusals. While the research literature indicates that moderate refusal rates have no significant impact on the descriptive accuracy of a survey, the attitudes of the 15 percent who declined to be interviewed remain unknown and thus represent a possible, however unlikely, source of error.[5]

ANALYSIS AND INTERPRETATION

The sampling procedures were designed to allow attitudes identified in the samples to be generalized as representative of the adult population of the City of Red Deer. However, before such generalization could be assured with confidence, the distributions of responses observed in the samples required appropriate testing for independence.

As indicated previously, some variability in the distribution of responses is an expected property of any sample.[6] An important assumption of survey research is also that such variability is truly random in its occurrence. To test this assumption, the observed distributions of responses were cross tabulated by the categories of relevant background variables and the distributions in the resulting sub-samples compared for systematic differences[7].

The statistical test employed in this research computes the probability that the observed distribution of responses could have occurred under the assumption that the only source of variability is random chance.

If that probability is sufficiently large, it may be concluded that the original distribution exists *independent* of differences in the background variable. If the probability is small, it is concluded that random variability alone does not explain the distributions, that the differences are systematically related to variation in the background variable, and that the original distribution is *not independent*

5 Jackson, *Methodology.* pp 405-406. A moderate non-response rate is usually taken to mean between 25 and 40 percent.

6 Hence the importance of determining the reliability estimates for the sample.

7 An example of this procedure would be comparing patterns of responses between men and women respondents or between the different residential districts within the City of Red Deer.

of differences in the background variable.[8]

Where distributions of respondents' attitudes are found to be independent, the patterns may be freely interpreted as representative of the population as a whole regardless of any differences in the population measured by the background variables.

Conversely, when a lack of independence is concluded, generalization to the population must be made with caution, taking into account the effect of the background variable.[9]

Eight background variables were included for the purpose of testing the independence of attitudes. The variables included measures of gender and age, two measures of area of residence (residential district and Emergency Services response area) and four measures of dwelling characteristics (type of dwelling, ownership, the number residing in the home, and the likelihood that respondents and/or their family will build or buy a new home within the next three years).[10] The distribution of the background variables in the sample is described in Table 1:2.

In subsequent sections of the report where the distributions of respondents' attitudes are presented, appropriate qualifications to interpretation are provided where ever indicated by the tests of independence. All contingent distributions which were found to be statistically significant are described in the tables contained in Appendix B. However, consideration of the effects of background variables has been tempered by two pertinent and related realities, one technical and the other practical.

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8 Reflecting the ordinal character of the data recording respondents' attitudes, the principle statistical test employed for this purpose was the Chi Square test of independence. To identify small probabilities, the 0.05 level of statistical significance was chosen. Thus, a statistically significant relationship (lack of independence) was concluded when the probability that the variation in the distributions of attitudes between the different categories of a background variable was computed to have a probability of occurring by random chance of 5% or less. The analysis of independence was conducted with Statistical Package for the Social Sciences software.

9 For example, if an attitude is found to exist independent of age categories in the sample, it may be interpreted as being similarly distributed for all age categories. On the other hand, if a lack of independence was concluded, this would suggest different distributions of the attitude for different age categories and these differences would have to be specified, (e.g., older citizens feel this way while younger citizens feel that way).

10 While additional variables were at first considered for inclusion in the study, the decision to restrict the analysis to these eight reflected both the desire to not unnecessarily lengthen the interviews and the consensus of both the Steering Committee and the principle researchers regarding their particular relevance to the issues being considered and to the interests of the City in undertaking the survey.

The neighborhoods included in the three Emergency Services response areas are: Central Area, served by Station 1 (Downtown, Parkvale, South Hill west of 50th Avenue, Waskasoo, West Park, Woodlea and Red Deer College), North, served by Station 2 (Fairview, Highland Green, Glendale, Kentwood, Normandeau, North Red Deer, Oriole Park, and Pines), and South served by Station 3 (Anders, Bower Place, Clearview Meadows, Deer Park, Eastview, Grandview, Lancaster Meadows, Michener Hill, Morrisroe, Mountview, Rosedale, South Hill east of 50th Avenue, and Sunnybrook).

While respondents' neighborhoods were identified in the collection of the data, neighborhood-based subsamples were to small to permit reliable analysis and have therefore not been included in this report.

Table 1:2 Distributions of background variables within the fire protection and ambulance service samples

Background Variable	Values	Fire Survey (N=500)	Ambulance Survey (N=504)	Total 2 Samples (N=1004)
Gender	Male	47.4%	49.8%	48.6%
	Female	52.6%	50.2%	51.4%
	Totals	100.0%	100.0%	100.0%
Age	18-34 years	40.0%	37.7%	38.9%
	35-49 years	32.1%	33.2%	32.7%
	50-64 years	15.2%	14.5%	14.9%
	65-90 years	12.7%	14.5%	13.6%
	Totals	100.0%	100.0%	100.0%
Response Area	Central - Station 1	19.4%	22.8%	21.1%
	North - Station 2	36.4%	33.3%	34.9%
	South - Station 3	44.2%	43.8%	44.0%
	Totals	100.0%	100.0%	100.0%
Residential District	Northeast	20.8%	19.6%	20.2%
	North	15.5%	13.7%	14.6%
	Central	10.8%	11.3%	11.1%
	West	14.6%	19.0%	16.8%
	Southeast	29.0%	26.2%	27.6%
	East	9.2%	10.1%	9.7%
	Totals	100.0%	100.0%	100.0%
Type of Dwelling	Single detached	55.7%	52.1%	53.9%
	Single attached	20.1%	19.0%	19.5%
	Apartment	24.2%	28.9%	26.6%
	Totals	100.0%	100.0%	100.0%
Number Residing in the Home	One person	20.0%	25.8%	22.9%
	Two persons	37.0%	35.9%	36.5%
	Three persons	18.2%	15.5%	16.8%
	Four persons	16.6%	13.5%	15.0%
	Five or more	8.2%	9.3%	8.8%
	Totals	100.0%	100.0%	100.0%

(. . . continued)

Table 1:2 Distributions of background variables within the fire protection and ambulance service samples (continued)

Background Variable	Values		Fire Survey (N=500)	Ambulance Survey (N=504)	Total 2 Samples (N=1004)
Home Ownership	Own		58.7%	58.3%	58 6%
	Rent		41.3%	41.7%	41 4%
		Totals	100.0%	100.0%	100 0%
Likelihood to Build or Buy New Home	Likely		78.2%	78.4%	78 3%
	Neutral		3.8%	4.8%	4 3%
	Unlikely		18.0%	16.8%	17 4%
		Totals	100.0%	100.0%	100 0%

A technical consideration that should be understood is the fact that in all statistical testing, increasing sample sizes also increases the power of the test to detect small effects. Thus in large samples such as the two employed in this research, there is the potential to detect differences that have "statistical" significance but lack any real practical significance or meaning.[11]

The practical consideration is related and resides in the axiom of interpretation that: "A difference to be a difference must make a difference."

To illustrate using a real example from this research, if a difference in attitudes is observed by gender, where 97 percent of women surveyed hold a particular attitude while only 90 percent of males hold a similar attitude, and the difference is statistically significant, how much does this observation really affect the generalization that respondents as a whole (94 percent) almost unanimously profess the particular view?

Statistical conventions are best understood as a guide, not an absolute rule. Interpretation should properly challenge observations based purely on statistical tests by asking the questions "Does the difference make a difference?" and "What does this observation really mean?"

11 Another technical concern is related to the observation that decisions made on the basis of probabilities apply only to each individual test. However, if one were to simultaneously conduct 100 tests employing a 0.05 level of statistical significance, one could logically expect that approximately 5 tests would lead to a false conclusion of statistical significance even if only random variability was present. In the present instance, over 450 separate tests were conducted for this research and on this basis, one could expect that 5%, or about 22 or 23 individual tests, could lead to falsely concluding a lack of independence. It is this observation in addition to the fact that fewer than 10% of tests overall were observed to be statistically significant that leads to the general understanding that the distributions in the samples are largely independent of the eight background variables.

CONCLUSIONS

In many respects, the results of the two surveys are fairly unequivocal. Most of the distributions of responses are decidedly one-sided and the influence of background variables is very limited for research of this type.

Attitudes expressed by the respondents were found to be generally unaffected either by area of residence (whether indicated by residential district or by Emergency Services response areas) or by the dwelling characteristics (type of dwelling, number residing in the dwelling, and likelihood to build or buy a new home). Some limited differences in the distributions of attitudes were observed in relation to gender, age, and whether the respondent owns the dwelling or is renting. However, in most instances, these differences could be said to have only moderated the pattern of the distributions and not substantially altered them.

Except where noted, ***the distributions of attitudes described in this report may be fairly said to be generally characteristic of the samples. The nature of the samples permits these observations to be validly generalized to the adult population of Red Deer as a whole.***

A brief description of the principal observations follows:

1. General satisfaction with current fire and ambulance services

High levels of satisfaction were reported with the City of Red Deer Emergency Services. Eighty-four percent of the ambulance survey sample and 94 percent of the fire protection sample reported that they were generally satisfied with the services currently provided.

2. Attitudes towards response times for fire and ambulance services

In a set of strongly expressed sentiments, 74 percent of all respondents disagreed with the proposition that the City should attempt to keep property taxes low if it means slower emergency response times; 94 percent felt that, as Red Deer grows, current standard response times should be provided in all parts of the community; and 88 percent agreed that the City should spend the money necessary to ensure that the standard response time is provided in all parts of the city.

3. Attitudes towards residential sprinkler systems

Respondents in the fire protection survey were supportive of residential sprinkler systems. Sixty four percent agreed that greater safety was a sufficient reason for sprinkler systems to be required in new home construction while 61 percent similarly agreed that a possible saving to the City was also a sufficient reason. Respondents were sensitive to the cost of residential sprinkler systems with the sample evenly split on whether or not current costs were too expensive. However, this attitude

shifted dramatically when respondents were informed of expected cost reductions from technical changes which will be available on the market within two years.

On the issue of who pays, 72 percent of respondents agreed that home buyers should bear the entire cost of residential sprinkler systems and 76 percent disagreed that the City should pay the cost even though the City would save tax dollars in the long run. The sample split more evenly on whether costs should be shared between the home owner and the City, with 49 percent in agreement with the principle while 42 percent diagreed.

On the key issue of whether the City should require residential sprinkler systems to be installed in all new houses built in Red Deer, 57 percent of the sample expressed agreement while 32 percent disagreed.

4. Attitudes towards fees for ambulance services

Seventy-two percent of the ambulance survey sample agreed with the understanding that current fees for the City's ambulance service could prevent people from calling an ambulance, "even when it might be necessary." On the question of who should pay, 61 percent agreed that ambulance services should be an Alberta Health Care insured service and 55 percent disagreed that patients should be responsible for a larger share of the cost. In contrast to the typically one-sided distributions observed in most of the research, 47 percent agreed that the City should pay more of the cost of the ambulance service while 34 percent disagreed.

5. Attitudes towards the use of volunteers in fire and ambulance services

Overall, 57 percent of the two samples disagreed with the City using a combination of professional fire fighters and volunteers if this were to result in a reduction in the quality of emergency services. Not surprisingly, 83 per cent would support the use of volunteers *if* the City could save money in this way, and *if* there was no reduction in the quality of emergency services. On the reverse question, 49 percent agreed that the City should employ only full-time professionals, 36 percent disagreed, and the remaining 15 % were neutral.

6. Concerns for quality and cost of emergency services.

In a set of strongly expressed sentiments at the conclusion of the interviews, 93 percent of all respondents agreed that the City should spend what is necessary to ensure that the current quality of emergency services is provided equally in all areas of the city and a total of 84 percent continued to agree with this proposition "even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built."

Seventy-six percent of all respondents disagreed that the City should attempt to keep property taxes as low as possible if it meant a reduction in the quality of emergency services. On the question of

whether the City could take money from other City services to pay for maintaining emergency services, the sample split with 43 percent in agreement and 38 percent disagreeing.

In response to the final statement, "The City should provide the best fire fighting or ambulance service possible, even if it means raising property taxes to pay for it," 69 percent of all respondents expressed agreement, 18 percent disagreed, and 13 percent were neutral..

GUIDE TO CHARTS AND TABLES IN THE REPORT

On the following pages, a considerable amount of information is provided in charts and tables. To facilitate the interpretation of these data, the following considerations should be observed.

For each question in the survey, responses are described in two ways. First, the simple distribution of responses is described by a bar chart. These charts provide a concise summary of each distribution and the percentage of response in each category is printed on the bar to make comparisons easier. The main caution here is that the reader should be alert to the fact that the scale used to measure percentages (the chart's vertical axis) varies from chart to chart. This presents little difficulty when making comparisons between categories of response within any chart; however, comparisons *between different* charts should make use of the calculated percentages and not rely on the height of any bar.

The second way that the data are described for each question is with a contingency table. Here, the distribution of responses for a question is described for each of the categories of a second variable. In most of the report, the second variable is the five residential districts of Red Deer. To interpret these contingency distributions, note that the categories of the question are in the rows and the five districts describe the columns. In each cell of the table, a count of the number of responses described by the respective row and column categories is provided. In addition, percentages have been calculated on each column (the column will thus total 100 percent). A column is thus the partial distribution of responses associated with a particular district. The extreme left column is the distribution of the total sample for the question.

To interpret a table, one is advised to read the percentages across each row. Comparisons may be made between columns and the total for the sample in each row. The contingency distributions in Appendix B may be similarly interpreted, noting that the grouping categories (column headings) vary.

There is one final caution. Please note that for the chart and table relative to each question, there may be small discrepancies between the total percentages in the table and the percentages depicted by the chart. This is because the effective sample size for each is slightly different. The charts are based on all respondents answering the question while the tables reflect only those respondents who *both* answered the question *and* provided information on residential district. Small differences in the totals between the chart and table are routine and direct comparisons between chart and table totals will frequently be slightly approximate.

2. GENERAL SATISFACTION WITH RED DEER EMERGENCY SERVICES

At the beginning of the interview, before specific issues were addressed, respondents were asked to respond to the question:[1]

> **On a scale of "1" to "7" where "1" means Very Dissatisfied and "7" means Very Satisfied, and you can choose any number between "1" and "7":**
> **In general, how satisfied are you with the fire fighting/ambulance service currently provided by the City of Red Deer? (Questions 8 and 34)**

The generally high levels of satisfaction with the City's emergency services reported by respondents is depicted in the charts and tables on the following pages. Overall, 90 percent of the two samples described themselves as satisfied. Satisfaction with fire protection services is independent of all eight background variables, including area of residence. While reported satisfaction with ambulance services is greater for females than for males and for older more than younger respondents, none of these contingent distributions alters the general pattern.[2] The latter observation, together with all contingent distributions discussed in this report, is shown in Appendix B.

As indicated by Tables 2:1 and 2:3, respondents who expressed an opinion identified fast response times and the professional competence of personnel as the perceived principal strengths of the two services. However, 44% of the fire protection sample and almost 55% of the ambulance sample were unable to express an opinion. Most of the respondents who were unable to express an opinion cited a lack of direct knowledge or experience as the reason.

The proportions who identified specific weaknesses of the fire protection service (Table 2:2) tended to identify concerns for response times, particularly on the east side of the City and parts of the North. There was also a perception that the department was short of staff and/or resources. Concerns for the ambulance service centered on user fees as well as response times in some more distant parts of the City (Table 2:4). Consistent with the strong expression of overall satisfaction, 71% of the fire protection sample and 76% of the ambulance sample were unable to identify specific weaknesses.

The pattern of greater proportions unable to identify either strengths or weakness of the ambulance service together with the greater proportion of middle-range responses to the question of general satisfaction with the ambulance service, could be understood to suggest that the higher levels of satisfaction with fire protection is reflective of respondents' greater familiarity with that service.

The general observation remains, however, that the vast majority of respondents expressed some satisfaction with the City's Emergency Services.

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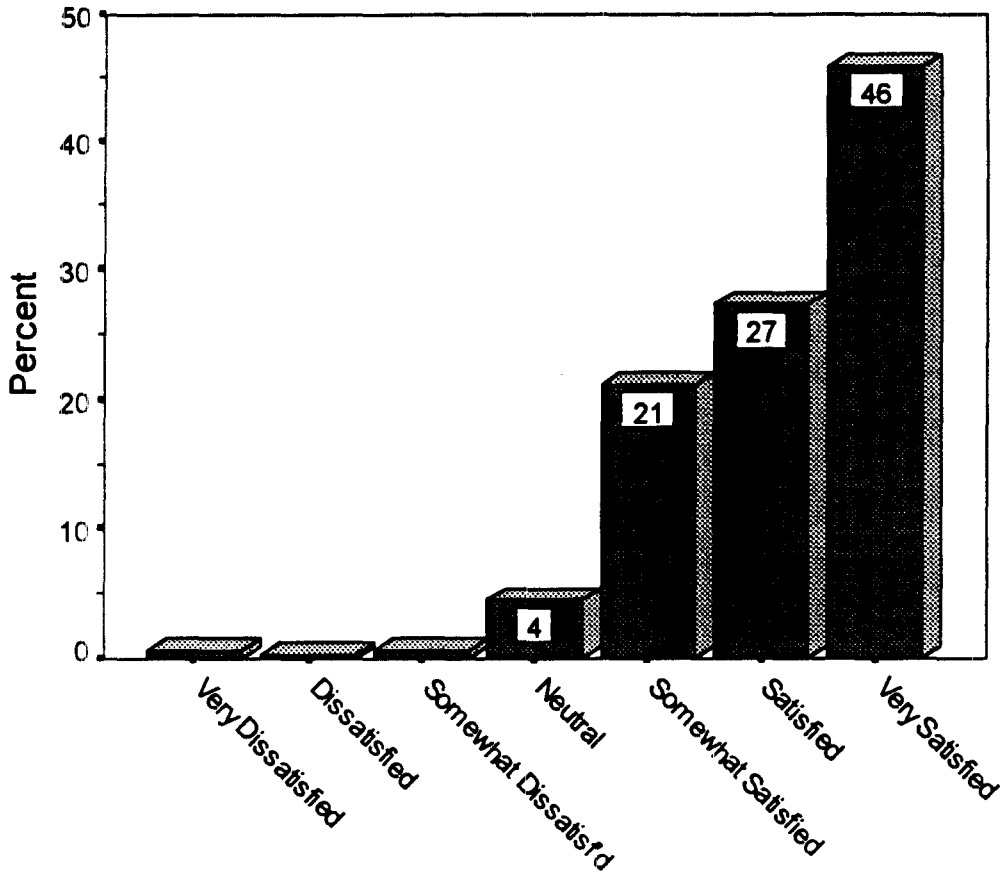
1 The content and sequence of the two questionnaires is fully presented in Appendix A.

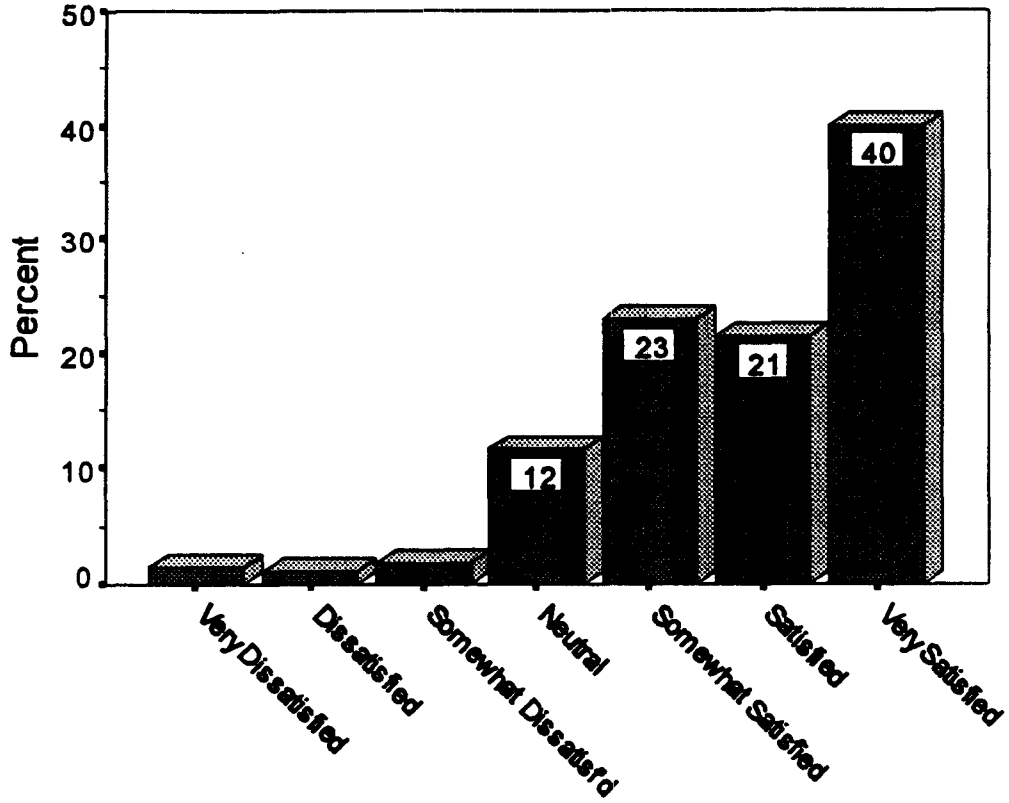
2 For example, 90 percent of females describe themselves as satisfied in contrast to 79 percent of males in the sample. The difference is statistically significant but neither group substantially differs from the general pattern of 84 percent satisfaction.

Question 8: In general, how satisfied are you with the fire fighting service currently provided by the City of Red Deer?



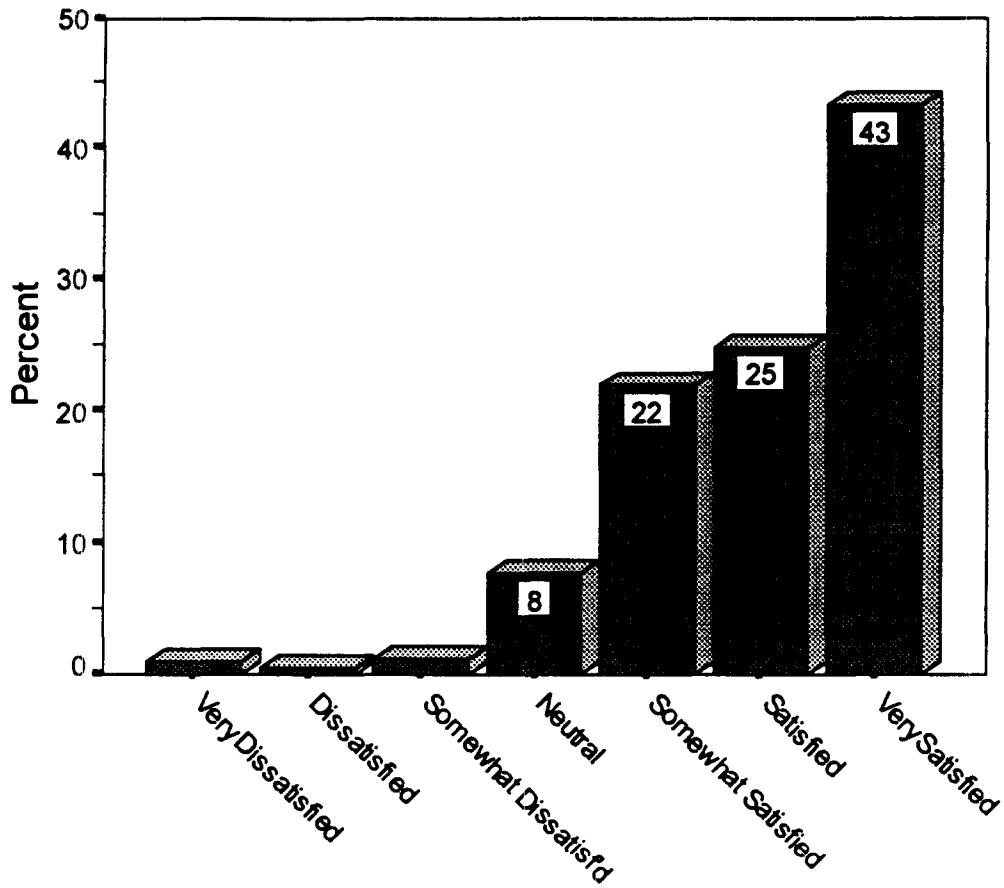
			District						Total
			Northwest	North	Central	West	Southeast	East	
Satisfaction with current fire fighting service?	Dissatisfied	Count		3			1		4
		% within District		4.9%			.9%		1.1%
	Neutral	Count	3	4	3	2	3	1	16
		% within District	4.2%	6.6%	7.3%	4.3%	2.8%	3.4%	4.5%
	Satisfied	Count	69	54	38	44	102	28	335
		% within District	95.8%	88.5%	92.7%	95.7%	96.2%	96.6%	94.4%
Total		Count	72	61	41	46	106	29	355
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 34: In general, how satisfied are you with the ambulance service currently provided by the City of Red Deer?



			District						Total
			Northwest	North	Central	West	Southeast	East	
Satisfaction with current ambulance service?	Dissatisfied	Count	2		1	3	5	1	12
		% within District	3.6%		3.0%	5.3%	7.0%	3.3%	4.3%
	Neutral	Count	8	4	3	6	7	4	32
		% within District	14.5%	13.3%	9.1%	10.5%	9.9%	13.3%	11.6%
	Satisfied	Count	45	26	29	48	59	25	232
		% within District	81.8%	86.7%	87.9%	84.2%	83.1%	83.3%	84.1%
Total		Count	55	30	33	57	71	30	276
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregated Questions 9 and 34: **In general, how satisfied are you with the emergency services (fire fighting/ambulance) currently provided by the City of Red Deer?**



			Sample		
			Ambulance	Fire Protection	Total
Satisfaction with current fire-ambulance services?	Dissatisfied	Count	12	4	16
		% in Sample	4.3%	1.1%	2.5%
	Neutral	Count	32	16	48
		% in Sample	11.6%	4.5%	7.6%
	Satisfied	Count	232	335	567
		% in Sample	84.1%	94.4%	89.9%
Total		Count	276	355	631
		% in Sample	100.0%	100.0%	100.0%

Table 2:1 "In your opinion, what are the strengths of the City's fire fighting service?"

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Response time is fast; prompt	152	30.4%
The number of fire halls and their locations; well situated	53	10.6%
Concerned for the people they serve; commitment; caring	50	10.0%
Excellent training; take their job seriously; proficient	38	7.6%
Public education; programs for children	25	5.0%
Committed to the community; charity work	24	4.8%
Good equipment; facilities	19	3.8%
Provide a good service; doing a good job	18	3.6%
Offer both ambulance and fire fighting; cross-training	13	2.6%
You hear good things about it	8	1.6%
The 911 service	4	0.8%
Other statements **	14	2.8%
Don't know; unable to say; no experience with it	221	44.2%

Table 2:2 "In your opinion, what are the limitations or weaknesses of the City's fire fighting service?"

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Too few fire stations; lack of station #4	40	7.9%
Short of manpower; could use more fire fighters	27	5.4%
Response time on east side is slow; response time in North Red Deer; outlying areas don't have the same response times	26	5.2%
Why does the ambulance come with the fire truck? Wonder why a fire truck goes to ambulance calls; waste of taxpayers money	19	3.8%
Inadequate funding; cutbacks; budget restraints	10	2.0%
In winter, streets hard to navigate; need more snow clearing	4	0.8%
Equipment from one area responding in another area	2	0.4%
Other statements **	28	5.6%
Don't know of any; unable to say	362	71.8%

* These percentages have been calculated on the sample size of 500 respondents. Many respondents mentioned more than one theme and are counted more than once, thus the column should not be totaled.

** Statements reported as 'Other' are listed in Appendix C.

Table 2:3 "In your opinion, what are the strengths of the City's ambulance service?"

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Response efficient, effective; quick to respond	141	28.0%
The people that work there; excellent staff; professional	58	11.5%
Training very good; qualifications of personnel are superb	38	7.5%
Excellent service	34	6.7%
Fire stations are in good locations of the city	25	5.0%
They are combined with the fire department	9	1.8%
Well equipped; top-notch equipment	5	1.0%
Lots of staff	3	0.6%
Availability of 911; 911 service is good	3	0.6%
Other statements **	27	5.4%
Don't know; unable to say; never used it	276	54.8%

Table 2:4 "In your opinion, what are the limitations or weaknesses of the City's ambulance service?"

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Costly for those who don't have Blue Cross or anything; I remember getting the bill...it was unbelievable; it's very expensive; no way I could afford it	31	6.2%
Need to reassess if there are enough fire stations; need more in the east part of Red Deer	24	4.8%
Why do they send a fire truck on an ambulance call? It is ridiculously costly and very inefficient	17	3.4%
Short of staff, lack of personnel; understaffed	15	3.0%
Not fast enough; the response time could be quicker	15	3.0%
Not enough ambulances or staff	7	1.4%
Lack of funding; cutbacks	3	0.6%
Other statements **	20	4.0%
Don't know of any; unable to say	381	75.6%

* These percentages have been calculated on the sample size of 504 respondents. Many respondents mentioned more than one theme and are counted more than once, thus the column should not be totaled.

** Statements reported as 'Other' are listed in Appendix C.

3. RESPONSE TIMES FOR FIRE AND AMBULANCE SERVICES

One issue of key concern to the City and to the Emergency Services Master Plan Steering Committee is the relationship between the quality of services and the cost to the taxpayer of providing the services. However, while the committee may address the appropriate balance between quality and cost, the nuances of such a balance are beyond the scope of a telephone interview and are better left to some of the parallel activities in which the committee is engaged such as public meetings and focus groups. For this reason, the interviews were confined to testing general attitudes rather than responses to specific service models.

The quality of the City's Emergency Services may be broadly understood as having two principal dimensions, how fast the service can be delivered, and what type of service is provided after the personnel arrive. The City of Red Deer presently operates a technically sophisticated configuration of emergency services and reduction in the type of fire fighting or ambulance services delivered was regarded, by the Steering Committee, as unlikely. Hence, the focus for the survey was primarily that of response time.

From a functional perspective, the concerns for response time in the provision of both fire fighting and ambulance services each rest on a set of technical considerations. It was decided that informed citizen input could only be assured if respondents were first provided the opportunity to consider some of the relevant information. For this purpose, a set of short summary statements were prepared for each survey to be read to respondents in advance of the questions. The statements reflected a synthesis of the available literature and professional knowledge and were each extensively reviewed and approved by the committee.

In the fire-protection survey, respondents were thus read the following statements.

> **To begin, I would like to describe what happens in a typical fire. At first, a fire grows slowly. It spreads from item to item in the room only as the flames contact each item. At the same time, the fire produces more and more heat until the air in the room becomes superheated. Then, suddenly, this superheated air causes everything in the room that can burn to burst into flames. At this point, which fire fighters call flashover, everything in the room burns totally.**
>
> **In Red Deer, the standard for fire fighter response times is designed to allow fire fighters enough time to get to the scene of a fire and begin fighting the fire BEFORE flashover occurs.**

In the ambulance survey, respondents were told:

> **The amount of time it takes an ambulance to arrive on the scene once a call has been received is called response time. The chances that a patient will survive a serious medical emergency are directly related to response time and the speed with which treatment is started. In Red Deer, the ambulance service is staffed by paramedics who are trained to start treatment at the scene and the standard for ambulance response times is designed to allow staff to get to the scene of an emergency and to start treatment quickly.**

After the interviewer had confirmed respondents' understanding of the information provided, similarly worded statements were presented to the respondents in each sample and the strength of their disagreement or agreement recorded.

> **Some communities accept slower fire fighter/ambulance response times so that taxpayers pay less for fire fighting services. On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?**
>
> **The City should attempt to keep property taxes low, even if it means slower fire fighter/ambulance response times; (questions 11 and 37) and**
>
> **As Red Deer grows and develops new residential areas, the standard fire fighter/ ambulance response time should be provided in all parts of the Community. (questions 12 and 39)**

As indicated by the distributions described in the charts and tables on the concluding pages of this section, respondents indicated a strong preference for quality services in general and appropriate response times in particular. Slight differences on these two questions were observed in the fire protection sample related to home ownership (renters indicated a higher preference than home owners), and related to gender in the ambulance survey (females indicating a relatively stronger preference). In neither case, however, were the differences sufficient to challenge the general observation.[1]

One component of response time is the number and location of fire stations. Consultation with the City Treasurer's Office provided the estimate that each additional fire station constructed by the city would add an annual cost of $35 to the average property tax bill. With this information, the following statement was given to respondents in both samples.

> **To achieve the standard fire fighter/ambulance response time in new residential areas of the City means that additional fire stations must be built as the City grows. To build, equip, and staff a new fire station will add approximately $35 per year to the average residential tax bill. Taking this into account and using the 7 point scale, how much do you agree or disagree with the following statement?**
>
> **The City should spend the money necessary to ensure that the standard fire fighter/ ambulance response time is provided in all areas of the City. (questions 13 and 40)**

Overall, 88% of all respondents expressed agreement with the statement while 53% of the fire protection sample and 44% of the ambulance sample professed to agree strongly ("7"). This observation was independent of the eight background variables.

Because of the unlikelihood that the nature and type of services provided would be diminished, less emphasis was given to this second dimension of quality. However, since the ambulance survey

1 Tables describing the contingent distributions for these questions by home ownership and gender may be found in Appendix B together with all of the statistically significant contingent distributions described in this report.

employed a shorter interview, one question was added to that schedule reflecting the distinction between the City's current Advanced Life Support (ALS) service and the less expensive -and reduced quality- Basic Life Support (BLS) system.

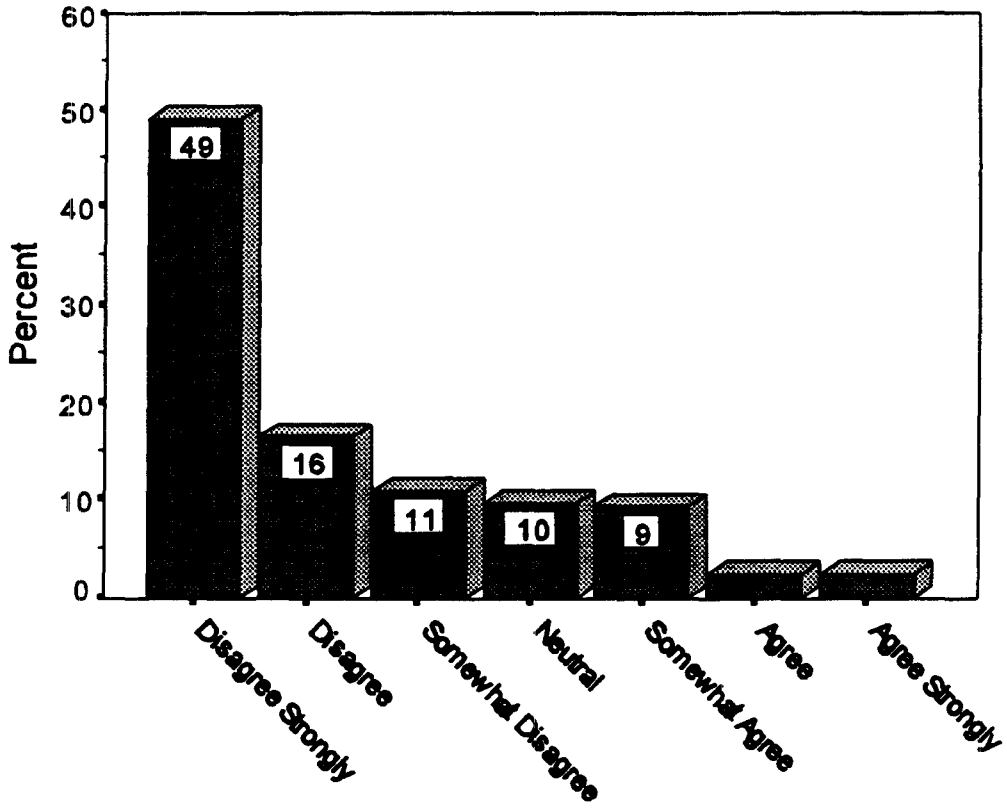
38. Some communities accept less highly trained ambulance staff so that taxpayers pay less for ambulance services. Keeping this in mind, how much do you agree or disagree that the City should attempt to keep property taxes low, even if it means that the ambulance staff will provide less treatment at the scene.

Within the overall pattern of general disagreement with this statement there is a difference by gender in which women express greater disagreement (84%) than men (73%), however the fundamental nature of respondents' preferences is clearly that of disagreement..

Similarly, the respondents in both samples have expressed preferences for quality of services provided and particularly for appropriate response times. They have also indicated that if they were required to choose between quality of services and cost, quality would remain the clear preference for the majority of those surveyed.

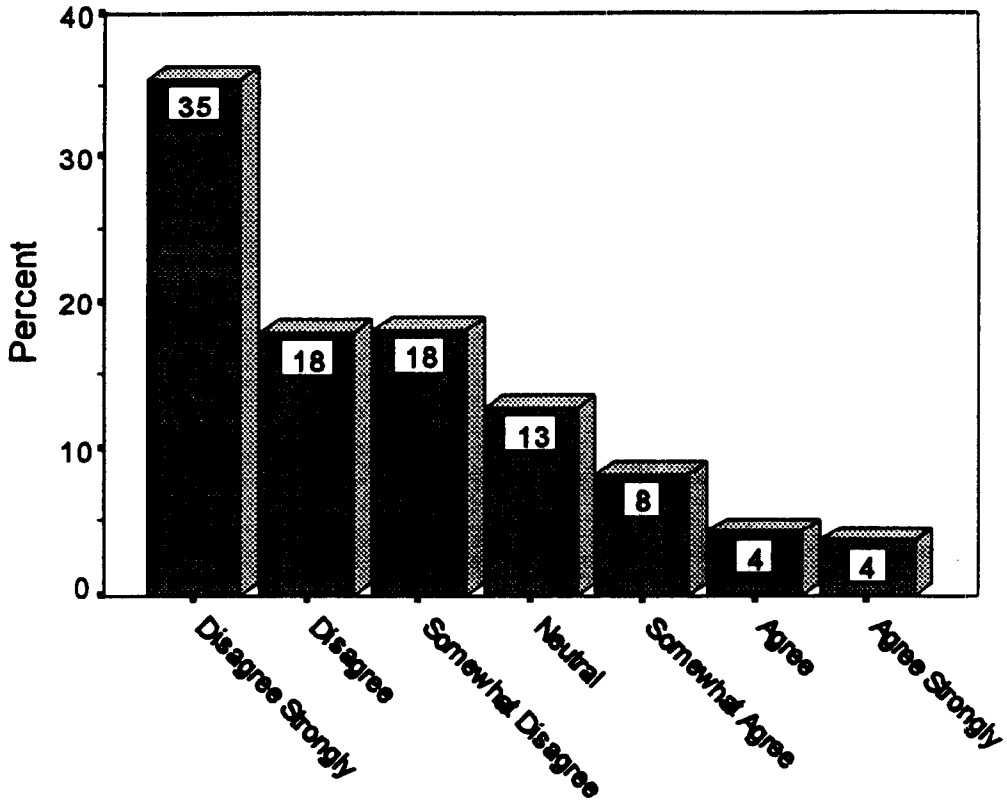
Given the nature and character of the two samples, these observations may be confidently extended to the adult population of Red Deer as a whole.

Question 11: The City should attempt to keep property taxes low, even if it means slower fire fighter response times.



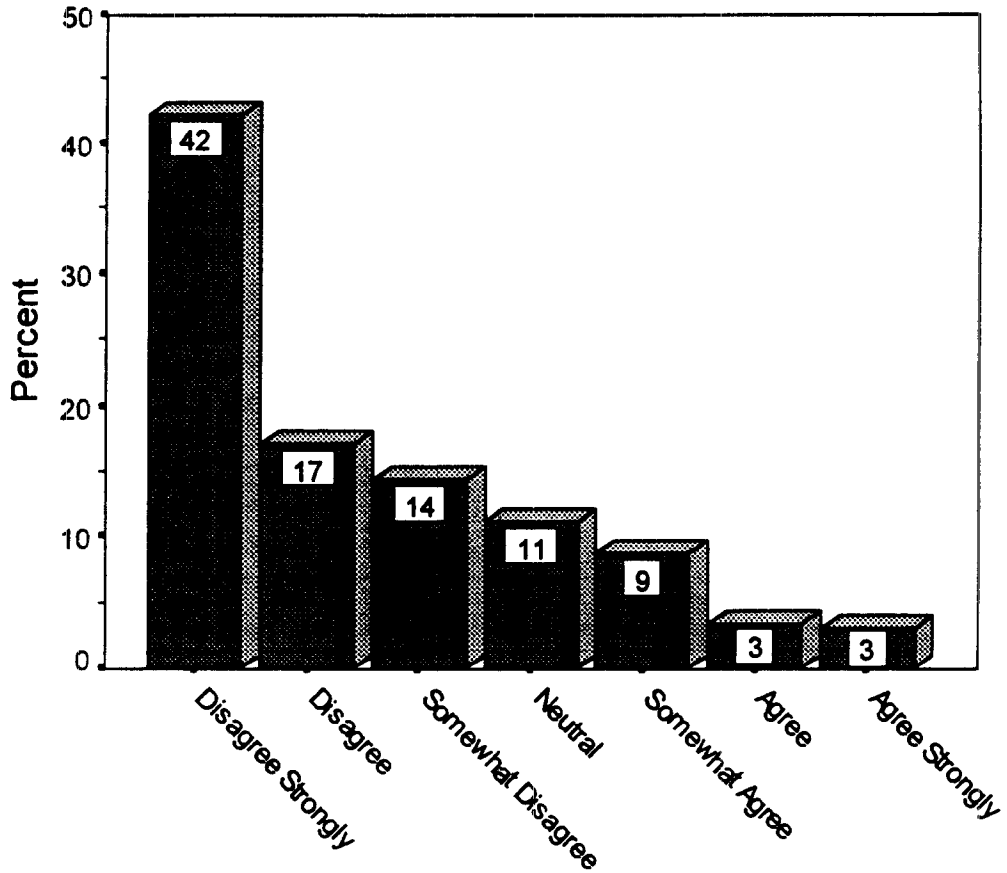
			District						Total
			Northwest	North	Central	West	Southeast	East	
Keep property taxes low, even if response times are slower	Disagree	Count	82	63	32	60	109	33	379
		% within District	79.6%	80.8%	60.4%	82.2%	75.7%	71.7%	76.3%
	Neutral	Count	12	6	6	5	14	5	48
		% within District	11.7%	7.7%	11.3%	6.8%	9.7%	10.9%	9.7%
	Agree	Count	9	9	15	8	21	8	70
		% within District	8.7%	11.5%	28.3%	11.0%	14.6%	17.4%	14.1%
Total		Count	103	78	53	73	144	46	497
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 37: The City should attempt to keep property taxes low, even if it means slower ambulance response times.



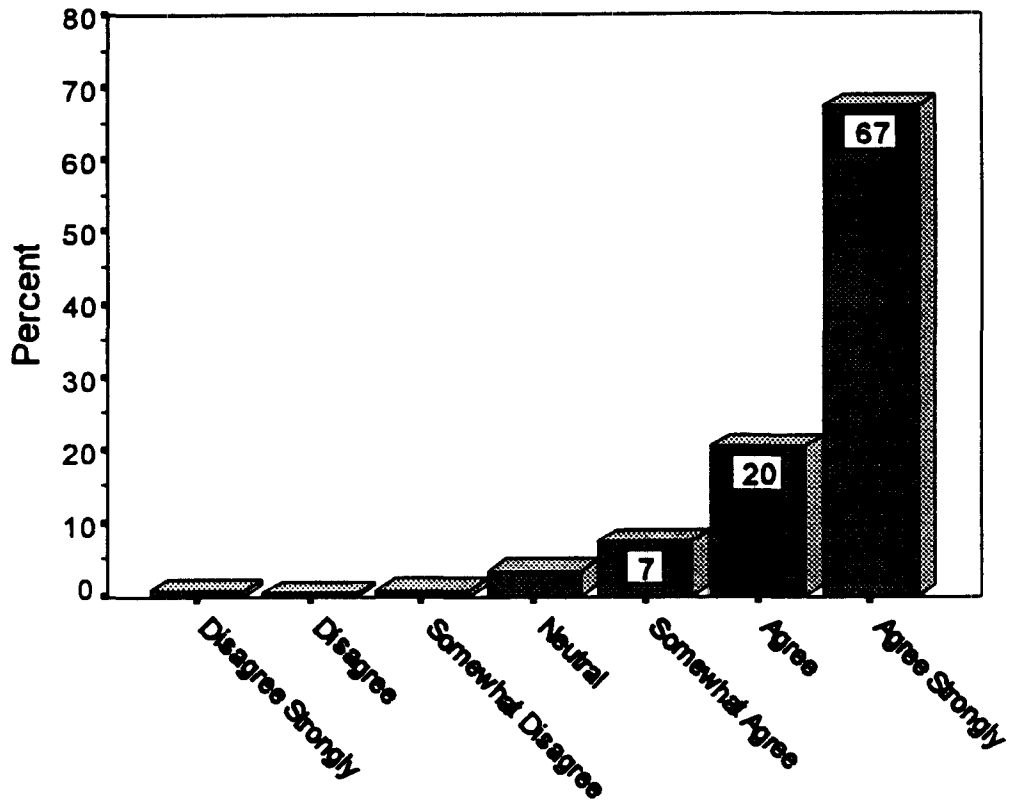
			District						Total
			Northwest	North	Central	West	Southeast	East	
Keep property taxes low even if response times are slower	Disagree	Count	68	49	36	62	99	34	348
		% within District	70.8%	73.1%	66.7%	66.0%	76.7%	69.4%	71.2%
	Neutral	Count	15	6	7	18	12	4	62
		% within District	15.6%	9.0%	13.0%	19.1%	9.3%	8.2%	12.7%
	Agree	Count	13	12	11	14	18	11	79
		% within District	13.5%	17.9%	20.4%	14.9%	14.0%	22.4%	16.2%
Total		Count	96	67	54	94	129	49	489
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Questions 11 and 37: The City should attempt to keep property taxes low, even if it means slower fire fighter/ambulance response times.



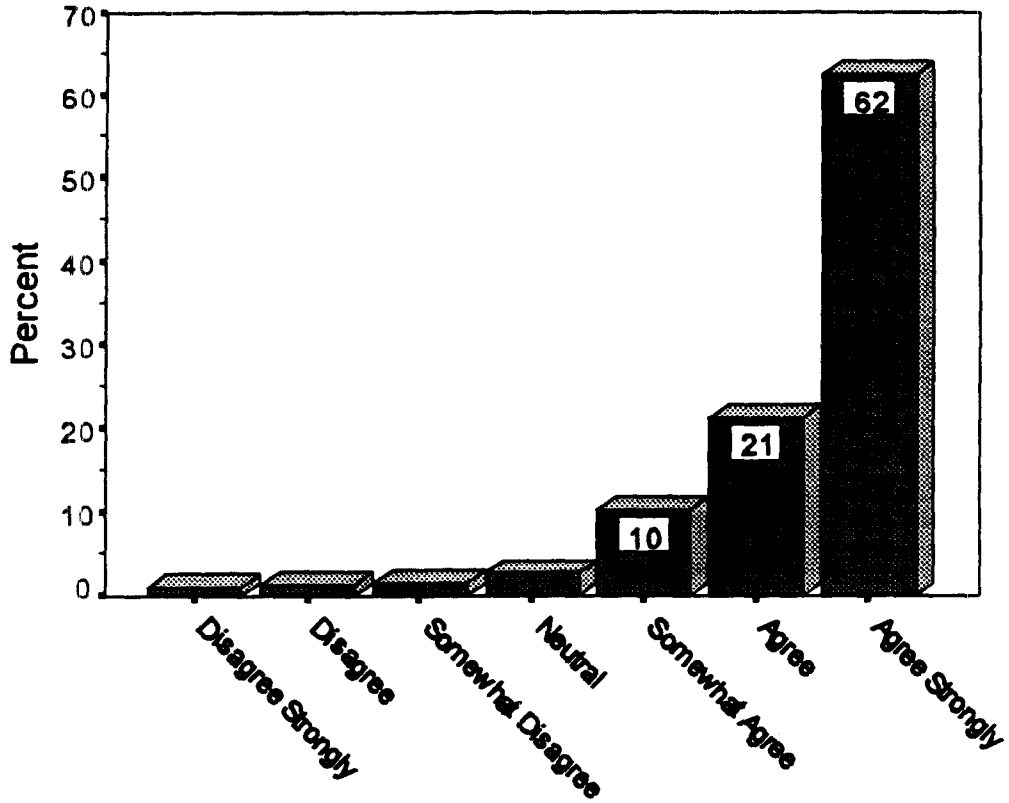
			Sample		
			Ambulance	Fire Protection	Total
Keep property taxes low even if response times are slower	Disagree	Count	348	379	727
		% in Sample	71.2%	76.3%	73.7%
	Neutral	Count	62	48	110
		% in Sample	12.7%	9.7%	11.2%
	Agree	Count	79	70	149
		% in Sample	16.2%	14.1%	15.1%
Total		Count	489	497	986
		% in Sample	100.0%	100.0%	100.0%

Question 12: As Red Deer grows and develops new residential areas, the standard fire fighter response time should be provided in all parts of the Community.



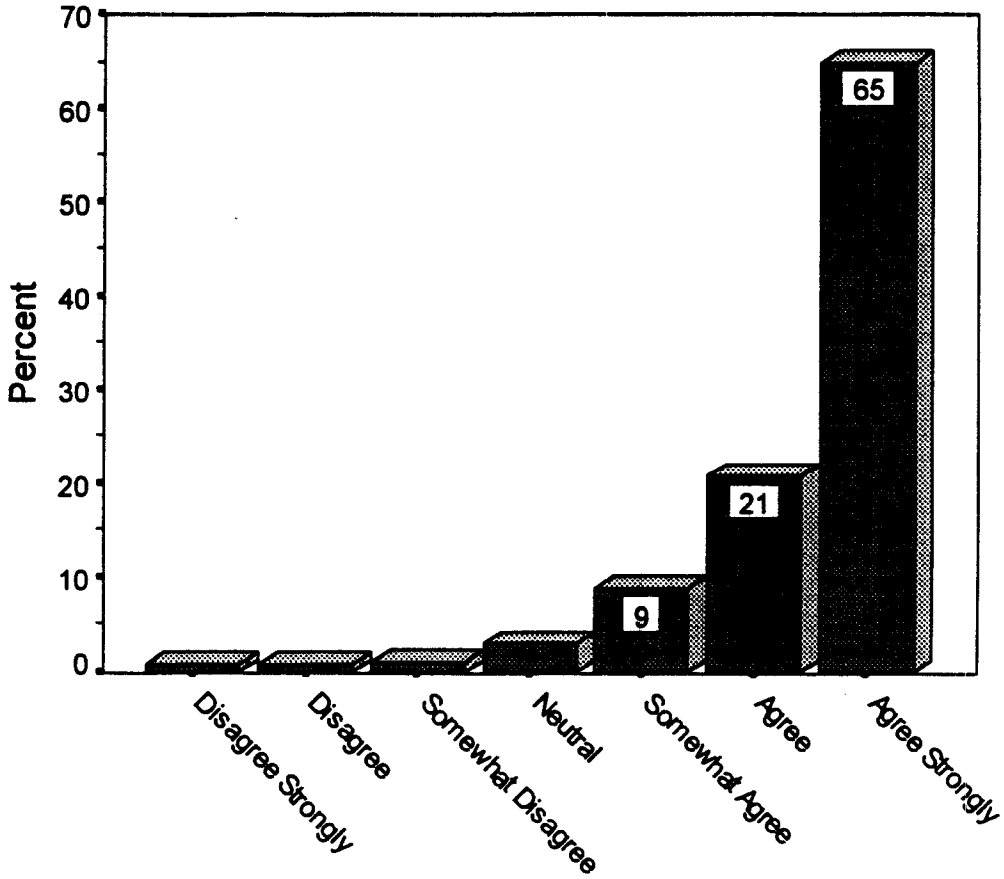
			District						Total
			Northwest	North	Central	West	Southeast	East	
Insure standard response times in all parts of community	Disagree	Count	1	1	1	1	2	3	9
		% within District	1.0%	1.3%	1.9%	1.4%	1.4%	6.5%	1.8%
	Neutral	Count	3	1	3	1	8	1	17
		% within District	2.9%	1.3%	5.6%	1.4%	5.5%	2.2%	3.4%
	Agree	Count	99	76	50	71	135	42	473
		% within District	96.1%	97.4%	92.6%	97.3%	93.1%	91.3%	94.8%
Total		Count	103	78	54	73	145	46	499
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 39: As Red Deer grows and develops new residential areas, the standard ambulance response time should be provided in all parts of the Community.



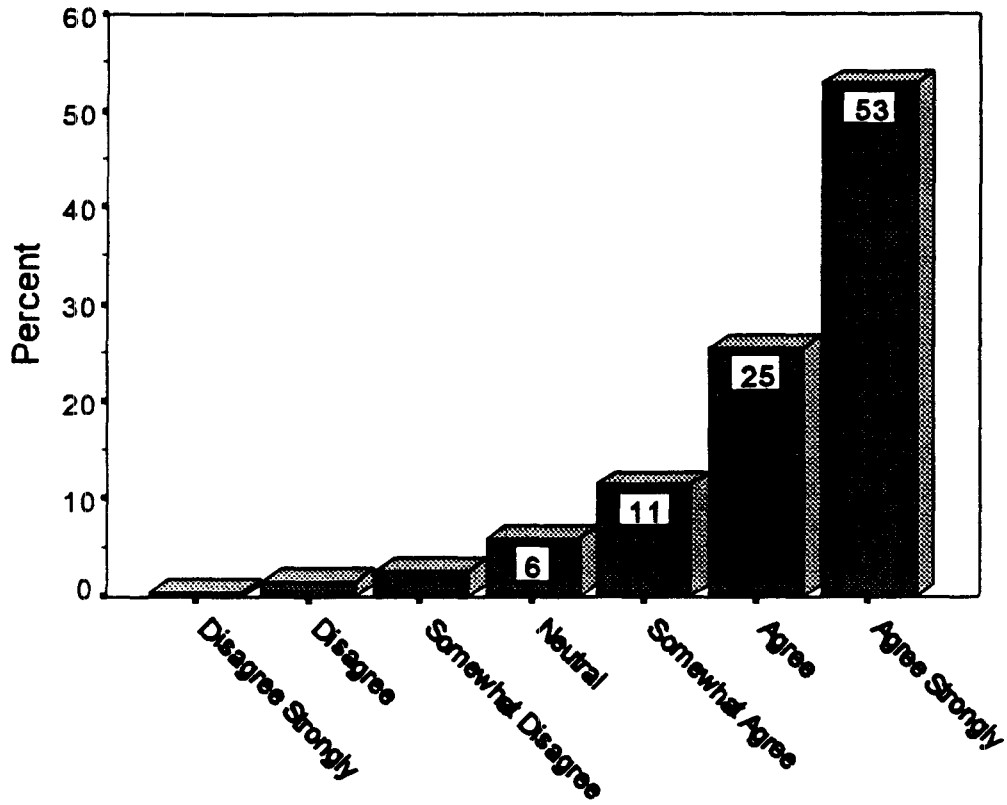
			District						
			Northwest	North	Central	West	Southeast	East	Total
Insure standard response times in all parts of community	Disagree	Count	3	3	3	3	5	1	18
		% within District	3.0%	4.3%	5.3%	3.2%	3.8%	2.0%	3.6%
	Neutral	Count		2		7	4		13
		% within District		2.9%		7.4%	3.0%		2.6%
	Agree	Count	96	64	54	85	123	50	472
		% within District	97.0%	92.8%	94.7%	89.5%	93.2%	98.0%	93.8%
Total		Count	99	69	57	95	132	51	503
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Questions 12 and 39: **As Red Deer grows and develops new residential areas, the standard fire fighter/ambulance response time should be provided in all parts of the Community.**



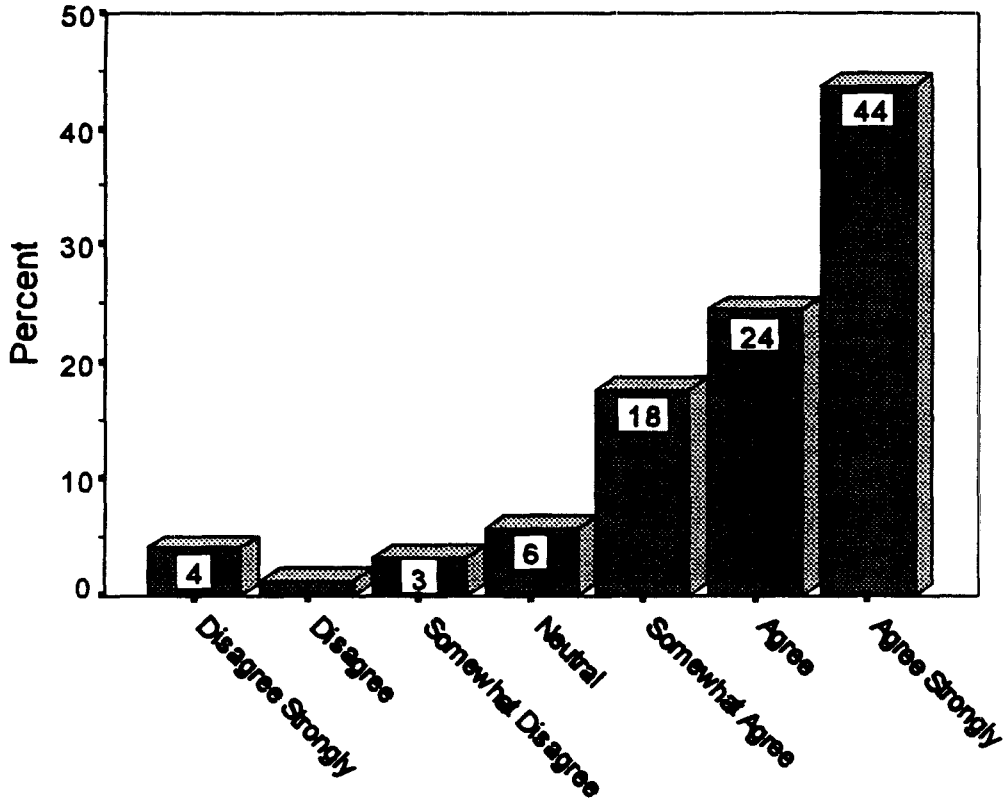
			Sample		
			Ambulance	Fire Protection	Total
Insure standard response times in all parts of community	Disagree	Count	18	9	27
		% in Sample	3.6%	1.8%	2.7%
	Neutral	Count	13	17	30
		% in Sample	2.6%	3.4%	3.0%
	Agree	Count	472	473	945
		% in Sample	93.8%	94.8%	94.3%
Total		Count	503	499	1002
		% in Sample	100.0%	100.0%	100.0%

Question 13: The City should spend the money necessary to ensure that the standard fire fighter response time is provided in all areas of the City.



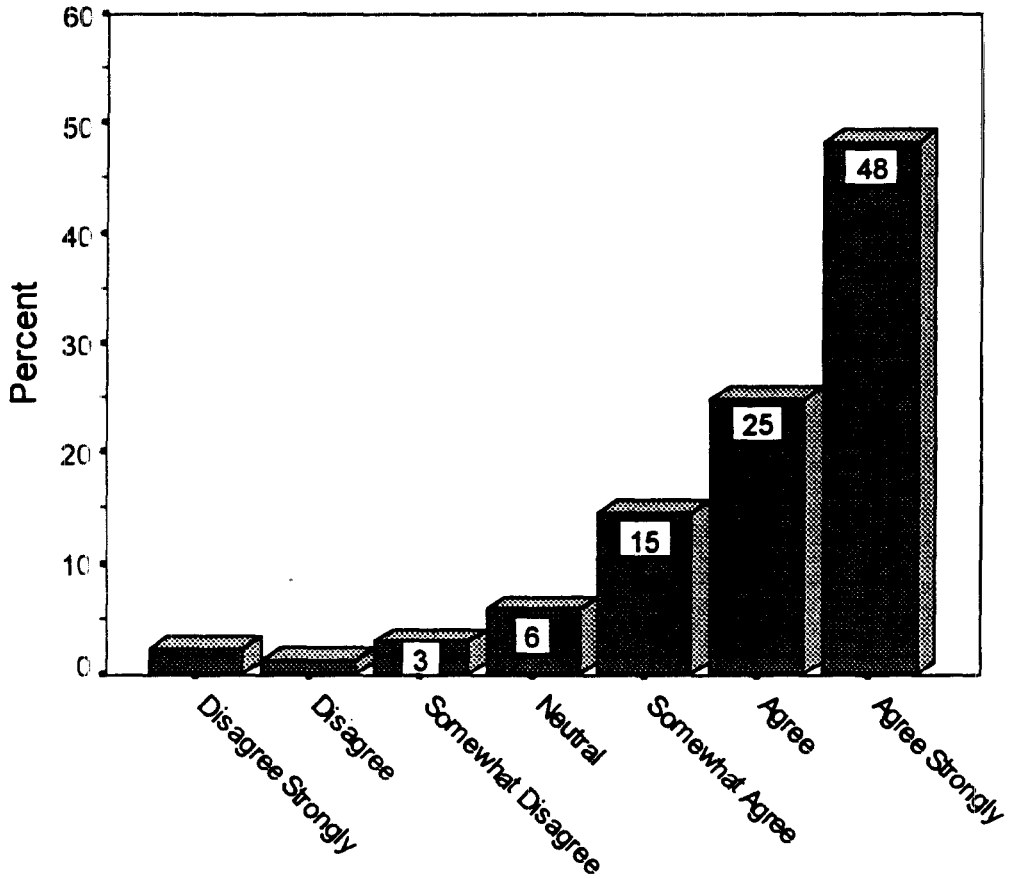
			District						Total
			Northwest	North	Central	West	Southeast	East	
Increase taxes ($35) to ensure standard response times	Disagree	Count	4	3	4	1	9	1	22
		% within District	3.8%	3.8%	7.4%	1.4%	6.3%	2.2%	4.4%
	Neutral	Count	4	4	1	3	11	6	29
		% within District	3.8%	5.1%	1.9%	4.2%	7.6%	13.3%	5.8%
	Agree	Count	96	71	49	67	124	38	445
		% within District	92.3%	91.0%	90.7%	94.4%	86.1%	84.4%	89.7%
Total		Count	104	78	54	71	144	45	496
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 40: The City should spend the money necessary to ensure that the standard ambulance response time is provided in all areas of the City.



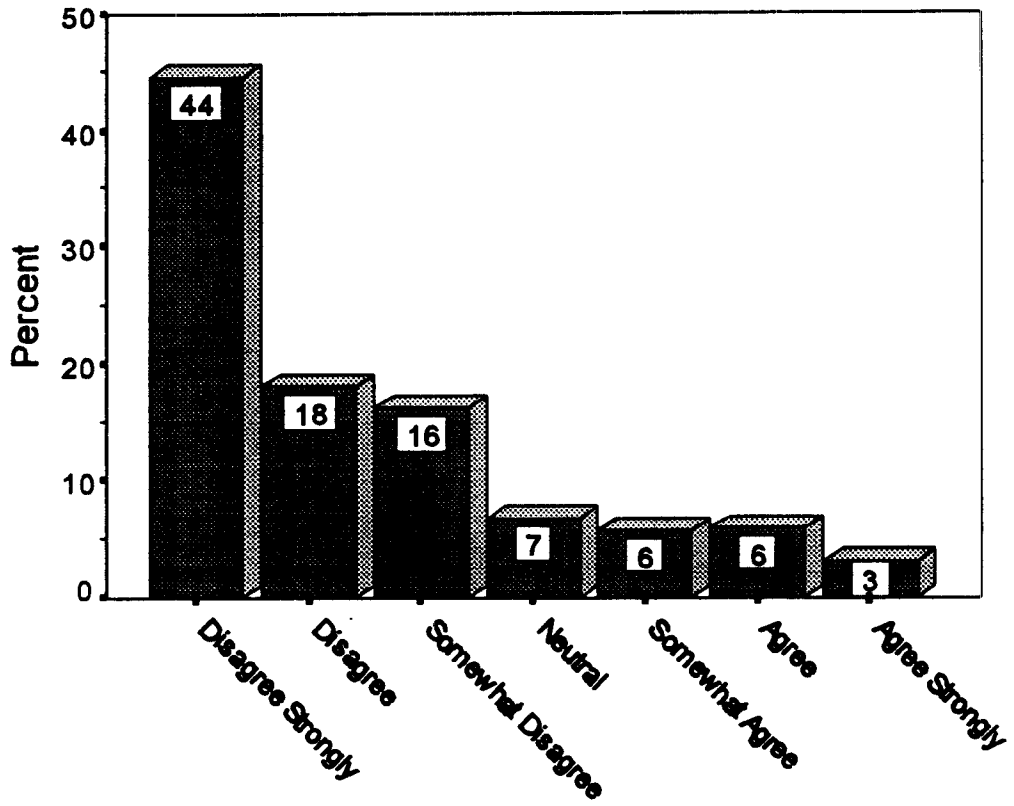
			District						
			Northwest	North	Central	West	Southeast	East	Total
Increase taxes ($35) to ensure standard response times	Disagree	Count	8	5	6	9	13	1	42
		% within District	8.2%	7.4%	10.7%	9.4%	10.2%	2.0%	8.5%
	Neutral	Count	6	5	2	6	5	5	29
		% within District	6.1%	7.4%	3.6%	6.3%	3.9%	10.0%	5.8%
	Agree	Count	84	58	48	81	110	44	425
		% within District	85.7%	85.3%	85.7%	84.4%	85.9%	88.0%	85.7%
Total		Count	98	68	56	96	128	50	496
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Questions 13 and 40: **The City should spend the money necessary to ensure that the standard fire fighter/ambulance response time is provided in all areas of the City.**



			Sample		
			Ambulance	Fire Protection	Total
Increase taxes ($35) to ensure standard response times	Disagree	Count	42	22	64
		% in Sample	8.5%	4.4%	6.5%
	Neutral	Count	29	29	58
		% in Sample	5.8%	5.8%	5.8%
	Agree	Count	425	445	870
		% in Sample	85.7%	89.7%	87.7%
Total		Count	496	496	992
		% in Sample	100.0%	100.0%	100.0%

Question 38: The City should attempt to keep property taxes low, even if it means that the ambulance staff will provide less treatment at the scene.



			District						Total
			Northwest	North	Central	West	Southeast	East	
Keep property taxes low even if treatment at scene is less	Disagree	Count	74	54	45	76	101	35	385
		% within District	75.5%	81.8%	81.8%	80.9%	79.5%	70.0%	78.6%
	Neutral	Count	9	5	2	5	8	4	33
		% within District	9.2%	7.6%	3.6%	5.3%	6.3%	8.0%	6.7%
	Agree	Count	15	7	8	13	18	11	72
		% within District	15.3%	10.6%	14.5%	13.8%	14.2%	22.0%	14.7%
Total		Count	98	66	55	94	127	50	490
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4. ATTITUDES TOWARDS RESIDENTIAL SPRINKLER SYSTEMS

A second issue of concern to the City and the Emergency Services Master Plan Steering Committee is the possibility of incorporating a requirement for the installation of residential sprinkler systems in new home construction as part of the overall strategy for fire protection in Red Deer.

While basic sprinkler technology was first developed near the end of the last century, the more recent development of practical residential sprinkler systems was first introduced onto the market in 1982. Most frequently identified as "Quick Response Sprinkler" (QRS) systems, residential sprinklers have increasingly attracted attention across North America for the potential to "provide a new way of combating fire and provide a level of protection that cannot be equaled by traditional fire fighting methods"[1] In Red Deer, QRS systems have been a subject for the City's Residential Sprinkler Task Force Committee since April of 1995.

Civic interest in QRS systems focuses on two considerations, the potential for increasing the safety of home occupants and for possible savings in the cost of providing fire fighting service to fully sprinklered communities. These considerations, together with concerns for the associated costs of installing QRS systems, provide the basis for the questions included in the fire protection survey to assess citizens' attitudes in this matter.

As with the concern for response times, a set of statements were prepared to provide a fair summary of background information to respondents as a method for assuring informed response.[2]

> **Now I would like to read you a few statements about fire safety and modern home sprinkler systems.[3]**
>
> **Over 70% of all fire-related deaths in Alberta happen from fires in the home. Direct contact with the flames is rarely the cause of death; the majority of victims are in areas of the house away from the fire. The major causes of death are heat, smoke and poisonous gasses coming from the fire.**
>
> **A recent innovation in fire safety has been the development of modern home fire sprinkler systems. Concealed in the ceilings and walls of houses, modern home sprinkler systems activate within an average of 1 minute from the time a fire begins. The system sounds an alarm and one or two sprinkler heads at the location of the fire spray a fine mist of water on the fire.**

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1 City of Edmonton Emergency Response Department, *Residential Fire Sprinkler Systems: Technical Review Committee Report*, The Alberta Fire Chiefs Association, Edmonton, 1993. P. 23.

2 An extensive range of resources were consulted in the preparation of the statements including the Alberta Fire Marshall's Office, the National Fire Prevention Association, the U. S. Fire Administration, and Mr Don Pamplin, formerly the fire chief for the City of Vancouver (the only Canadian city to presently require the installation of QRS systems in new residential construction) and currently Executive Director of the Canadian Automatic Sprinkler Association.

3 The phrase "modern home sprinkler system" was used throughout the interview in an effort to differentiate QRS systems from the more familiar commercial and industrial sprinklers, to communicate that this is a more recent technology, and to avoid more technically correct labels which, it was felt, held a potential to be more confusing.

Putting water on the early stages of a fire in this way prevents the growth of the fire as well as the growth of heat, smoke and poisonous gases which usually cause deaths. In most cases, the sprinklers will extinguish the fire before it can grow. Studies have shown that modern home sprinkler systems almost eliminate fire related deaths and that damage to property is dramatically reduced. (At this point, the interviewer would confirm the respondent's understanding before proceeding.)

At present, it costs about $3000 to install a modern home sprinkler system to the main floor and basement of an average 1200 square foot bungalow when it is being built. There are also maintenance costs for the system which average $150 a year.

Some communities have decided to make modern home sprinkler systems required in new house construction for two reasons. First, by extinguishing fires or preventing them from growing, home sprinklers significantly improve the safety of the occupants of a home and of fire fighters called to respond to a fire. (At this point, the interviewer would again pause to the respondent's understanding before proceeding.)

The second reason some communities have decided to make modern home sprinkler systems required in new house construction is that when all new houses in an area have sprinkler systems, fire fighter response times can be slower, and the community as a whole saves money by not having to build as many new fire stations, buy as many fire trucks, or hire as many additional fire fighters.

After the interviewer had confirmed the respondent's understanding of this last information, three statements were presented to broadly assess respondents' attitudes.

On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

14. **If modern home sprinkler systems can provide greater safety for occupants and fire fighters, that is reason enough to require them to be built into new houses.**

15. **If requiring new houses to have modern home sprinkler systems can save tax dollars for everyone living in Red Deer, that is reason enough to require them to be built into new houses.**

16. **In general, modern home sprinkler systems are not necessary because smoke detectors provide people with enough protection.**

Descriptions of the distributions of responses are provided in the charts and tables which conclude this section of the report.[4]

Overall, 64 percent of respondents expressed agreement with the statement that increased safety was a sufficient reason to require home sprinklers; 61 percent of respondents similarly agreed with the statement that saving tax dollars was a sufficient reason to require them. Proportions disagreeing with the statements were 24 and 26 percent respectively with the remainder neutral.

4 All statistically significant contingent distributions identified in this section are displayed in Appendix B.

Both distributions were observed to be independent of all background variables except gender. Gender is a factor to the extent that female respondents reported greater agreement to both questions 14 and 15 by a margin of 12 percent.

Fifty-two percent of respondents disagreed with the statement that residential sprinkler systems were unnecessary because of the protection which smoke detectors provide. Thirty percent agreed with this statement and 18 percent were undecided. Home ownership was a factor here, with 47 percent of home owners expressing disagreement with the statement that residential sprinklers were unnecessary in contrast to 59 percent of renters.

In the past few years, the City's consideration of the possibility of requiring QRS systems in new home construction has generated some local controversy, principally centered around concern for the cost of such systems. This issue was addressed by the following statement.[5]

> **17. By adding approximately $3000 to the cost of building a new house, modern home sprinkler systems are just too expensive to be required in Red Deer.**

Respondents were evenly divided on this question, with 43 percent expressing agreement while 44 percent disagreed. This observation was independent of all background variables.

The issue has been altered somewhat, however, by a decision of the National Fire Prevention Association (NFPA). The NFPA is responsible for establishing the standards for residential sprinkler systems and in May, 1966 it approved a set of very significant changes to the standards to allow the use of half-inch pipe and fittings. The Fire Marshals Association of North America currently estimates that this change will reduce installation costs by approximately two-thirds, eliminate the need for annual inspections and reduce maintenance costs. This more cost-effective system is expected to be available on the market some time in 1998.[6]

On this basis, the concern for cost was followed up with the following statement.

> **New developments in technology may reduce the costs of modern home sprinkler systems to approximately $1000 and eliminate the annual maintenance costs. It is expected that this new system could be on the market within the next two years. Using the 7 point scale, how much do you agree or disagree with the following statements?**
>
> **18. If modern home sprinkler systems added $1000 to the cost of building a new house, they would still be too expensive to be required in Red Deer.**

As can be observed by the distribution of respondents attitudes, this change would be expected to have a dramatic effect on concerns for the cost of QRS systems. Presented with this information, the proportion of respondents indicating that the cost would be too great declined to 15 percent while

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5 Estimates for the cost of installing QRS systems varied from $.90 per square foot to $1.25. Given local sensitivity to this issue, it was decided that the highest estimate would provide the fairest test of the question. The $3000 figure thus represents the cost of installation for a 1200 square foot bungalow (main floor and basement).

6 Fire Marshals Association of North America, *Codes and Standards Update*, April 1996. p. 11.

the proportion of respondents who disagreed with the statement that QRS systems "would still be too expensive" increased to a total of 80 percent, with over half of all respondents indicating "strong disagreement" (response alternative 7).

In a statistically significant observation with little practical effect, respondents in the North Emergency Services response area reported greater agreement and fewer "neutral" responses while still reporting 78 percent disagreement.[7]

A matter related to the cost of residential sprinklers is the question of who should pay for the installation of QRS systems. Three approaches to this issue were identified for respondents who were then asked to express agreement or disagreement with each.

> **If the City required modern home sprinkler systems to be installed in all new house construction, there are several ways that the systems could be paid for.**
>
> **One way is that the new house buyers or builders could pay all of the costs themselves since they would benefit from greater safety and protection. Another way is that the City could use taxpayer dollars to pay for all or part of the costs because the City as a whole would save tax dollars in the long run since it would not have to build, equip or staff as many fire stations in areas with required sprinklers. (At this point, interviewers confirmed respondents' understanding before continuing with the statements.)**
>
> **Using the 7 point scale where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following alternatives?**
>
> **19. New house buyers or builders should pay the entire cost of their modern home sprinkler system just like they pay for any other part of their house.**
>
> **20. The City should pay the entire cost of modern home sprinkler systems because the City as a whole would save tax dollars in the long run.**
>
> **21. The cost of required sprinklers should be shared by the City and house buyers and builders.**

The majority of respondents initially agreed that home buyers or builders should pay the entire cost (72 percent) and, similarly, disagreed that the city should pay the entire cost (75 percent). Then, presented with the option of a sharing of the cost, the sample split with 49 percent of respondents agreeing that the cost should be shared while 43 percent expressing disagreement. Respondents who disagreed with a sharing of costs, however, did tend to express their opinion more strongly.

Although not affecting the overall pattern of the distribution of responses, renters were10 percent less likely to agree that home buyers should pay the entire cost, 10 percent less likely to disagree that the city should pay, and 10 percent more likely to agree that costs of installing QRS systems should be shared.[8]

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7 See Appendix B.

8 See Appendix B.

With the exception of those who expressed strong disagreement with question 21, respondents were then asked:

> **22. If new house builders and buyers paid for part of the cost of required home sprinklers and the City paid for part, what percentage do you think the City should pay? For example: 25%? 50%? 75% or some other percentage.**

Respondents verbatim responses were recorded and are summarized in Table 4:1. Amongst respondents who answered this question, the single most common suggestion was that the City should pay half, which was indicated by 35.5 percent of those responding. A total of 90 percent of respondents would suggest suggested a City share of half or less, with 35 percent representing the view that the City should contribute nothing toward the cost.

The question of whether the City of Red Deer should require the installation of QRS systems in new home construction was addressed near the conclusion of the interview as part of a set of policy issues.[9]

Following this introduction:

> **Now I would like to ask you a few general questions about the concerns that you would think are important if you were a member of Red Deer City Council making decisions about a plan for Emergency Services in the City of Red Deer.**

respondents were asked:

> **On a scale of 1 to 7, where 1 is Strongly Disagree and 7 is Strongly Agree, and you can choose any number between 1 and 7, please tell me how much you agree or disagree that the following items should be included in Red Deer's Emergency Services plan.**
>
> **31. The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer.**

In total, 56 percent of respondents agreed with this statement. However the pattern of agreement was stronger for females than for males. Sixty-three percent of all female respondents expressed agreement, including 28 percent who agreed strongly (7) compared with 50 percent of male respondents who agreed with 21 percent who agreed strongly. By contrast, only 23 percent of females disagreed compared with 40 percent of males.[10]

In an attempt to identify the key elements underlying their position, respondents were the asked this follow-up question.

> **32. Please tell me what was the most important reason for your answer to the last question. (The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer).**

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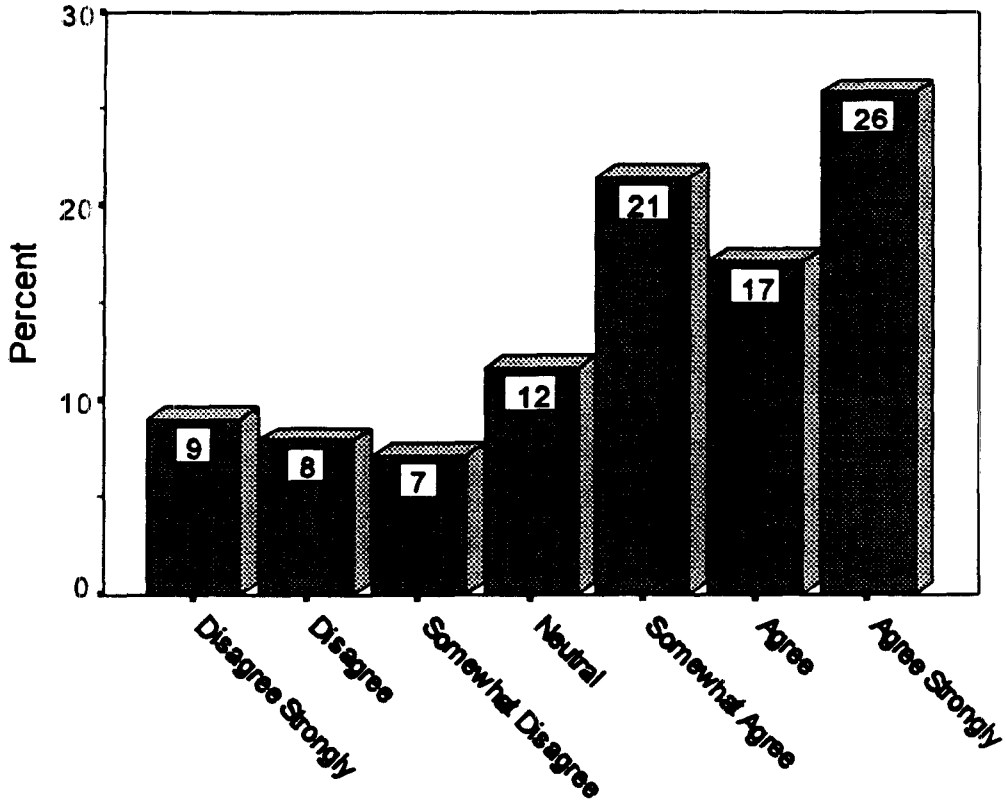
9 The full set of these issues is discussed in section 7 of the report.

10 See Appendix B.

Respondents' verbatim answers were recorded and are tabulated in Table 4:2.[11] As indicated by the data, two factors predominated these responses. Those who agreed with the City requiring QRS systems overwhelmingly cited safety reasons as their concern. Those who disagreed with the proposal were more likely to cite their belief that the matter is properly one of individual choice and that the City should not be involved in making sprinkler systems mandatory.

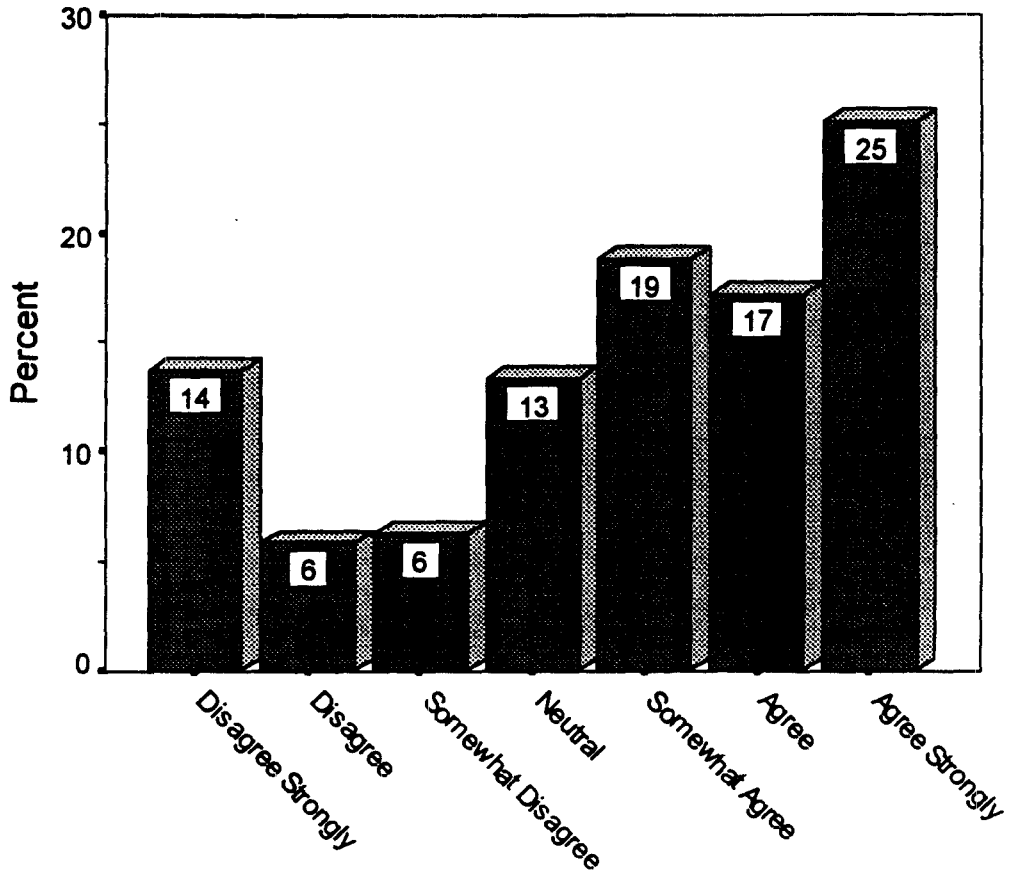
11 When reviewing Table 4:2, the reader should note that the grouping of respondents is slightly different than is presented in the rest of the report. Here the central category includes responses 3, 4 and 5 ("somewhat disagree" through "somewhat agree") instead of just those who provided a "neutral" response (4) as has been done elsewhere. Thus "agree" includes only response categories 6 and 7 while "disagree" includes only categories 1 and 2. This has been done in order to more clearly separate reasons for agreement and reasons for disagreement.

Question 14 If modern home sprinkler systems can provide greater safety for occupants and fire fighters, that is reason enough to require them to be built into new houses.



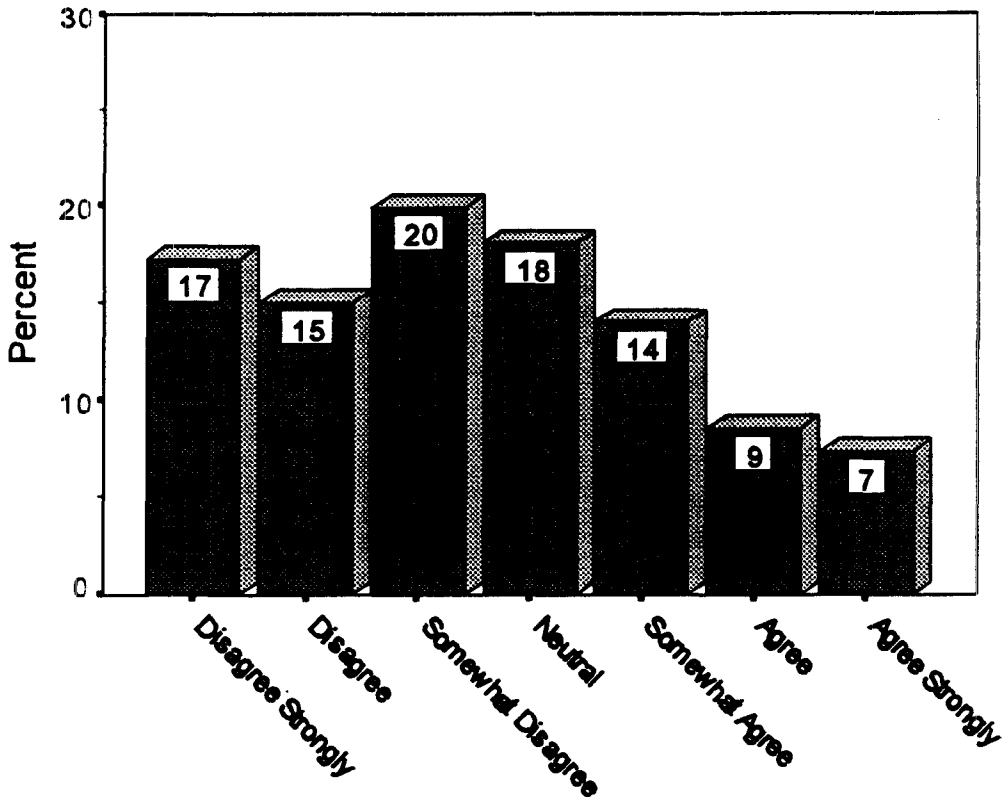
			District						
			Northwest	North	Central	West	Southeast	East	Total
Sprinklers safer - reason to require them	Disagree	Count	20	19	14	15	37	13	118
		% within District	20.0%	24.4%	25.9%	20.8%	26.1%	28.9%	24.0%
	Neutral	Count	12	11	2	5	23	4	57
		% within District	12.0%	14.1%	3.7%	6.9%	16.2%	8.9%	11.6%
	Agree	Count	68	48	38	52	82	28	316
		% within District	68.0%	61.5%	70.4%	72.2%	57.7%	62.2%	64.4%
Total		Count	100	78	54	72	142	45	491
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 15 If requiring new houses to have modern home sprinkler systems can save tax dollars for everyone living in Red Deer, that is reason enough to require them to be built into new houses.



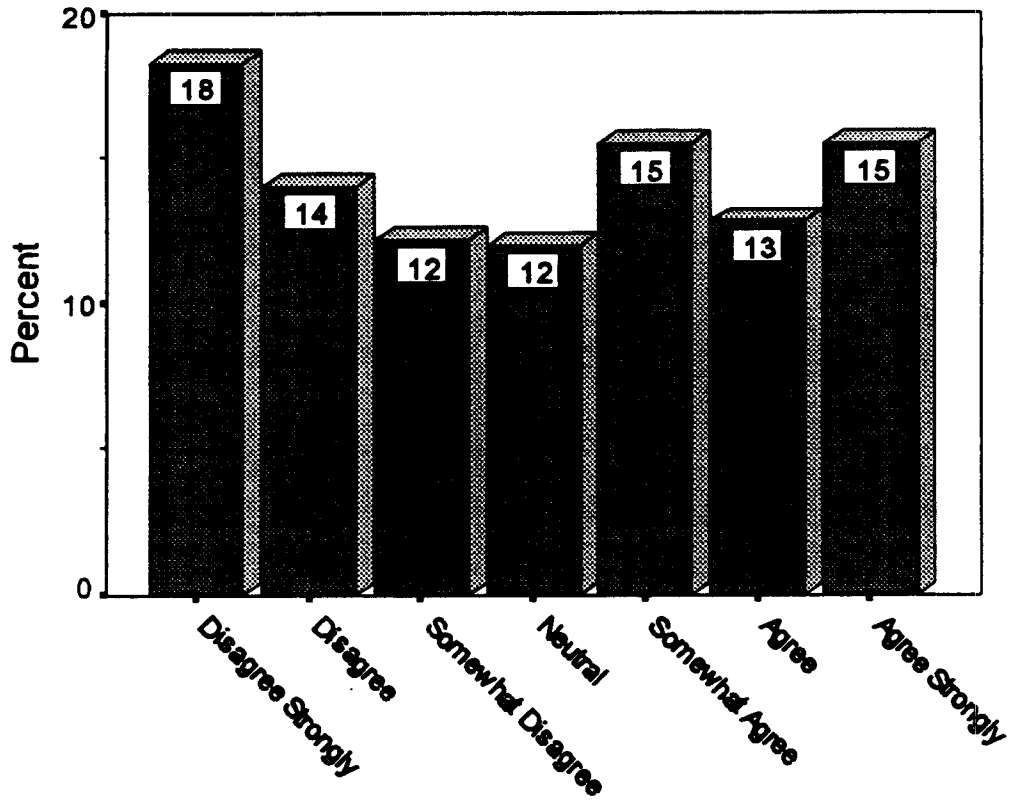
			District						Total
			Northwest	North	Central	West	Southeast	East	
Sprinklers save tax dollars - reason to require them	Disagree	Count	20	23	14	13	42	16	128
		% within District	19.6%	29.5%	25.9%	18.1%	29.2%	34.8%	25.8%
	Neutral	Count	14	12	6	12	19	3	66
		% within District	13.7%	15.4%	11.1%	16.7%	13.2%	6.5%	13.3%
	Agree	Count	68	43	34	47	83	27	302
		% within District	66.7%	55.1%	63.0%	65.3%	57.6%	58.7%	60.9%
Total		Count	102	78	54	72	144	46	496
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 16 In general, modern home sprinkler systems are not necessary because smoke detectors provide people with enough protection.



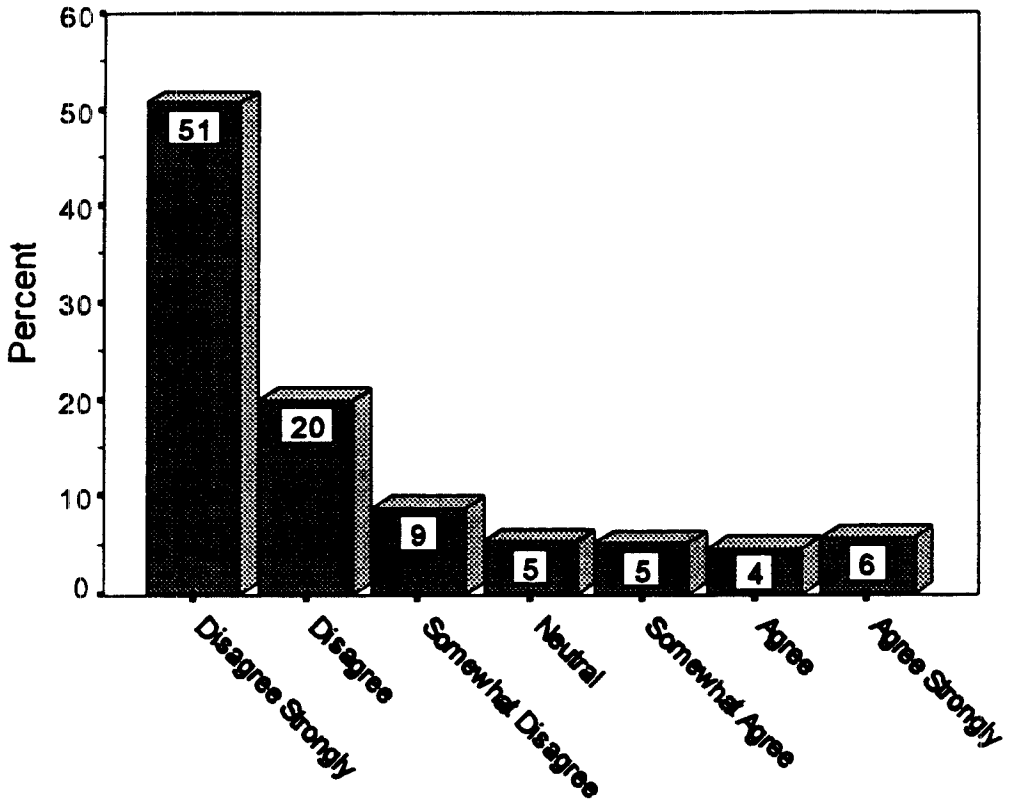
			District						Total
			Northwest	North	Central	West	Southeast	East	
Sprinklers not necessary -smoke detectors enough	Disagree	Count	57	40	27	38	71	24	257
		% within District	56.4%	51.3%	50.9%	52.8%	49.7%	52.2%	52.1%
	Neutral	Count	22	10	12	17	24	4	89
		% within District	21.8%	12.8%	22.6%	23.6%	16.8%	8.7%	18.1%
	Agree	Count	22	28	14	17	48	18	147
		% within District	21.8%	35.9%	26.4%	23.6%	33.6%	39.1%	29.8%
Total		Count	101	78	53	72	143	46	493
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 17 By adding approximately $3000 to the cost of building a new house, modern home sprinkler systems are just too expensive to be required in Red Deer.



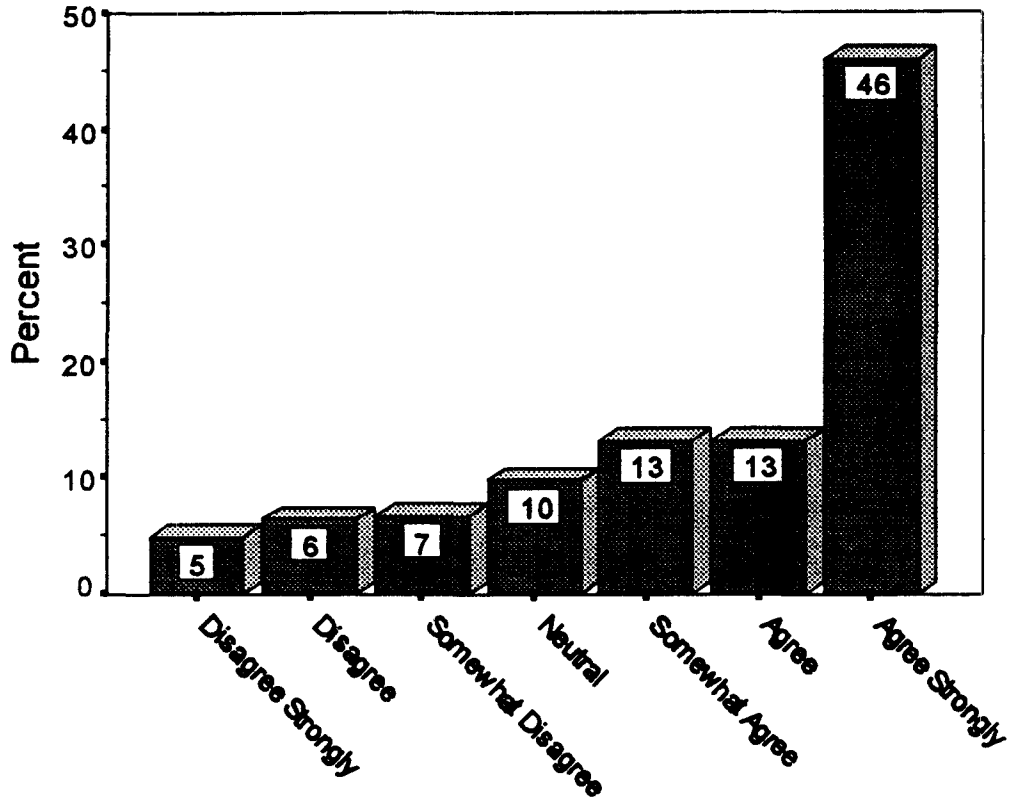
			District						Total
			Northwest	North	Central	West	Southeast	East	
At $3000 - sprinklers too expensive	Disagree	Count	49	30	26	34	57	20	216
		% within District	50.5%	38.5%	50.0%	47.9%	39.9%	44.4%	44.4%
	Neutral	Count	13	7	5	7	22	4	58
		% within District	13.4%	9.0%	9.6%	9.9%	15.4%	8.9%	11.9%
	Agree	Count	35	41	21	30	64	21	212
		% within District	36.1%	52.6%	40.4%	42.3%	44.8%	46.7%	43.6%
Total		Count	97	78	52	71	143	45	486
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 18 If modern home sprinkler systems added $1000 to the cost of building a new house, they would still be too expensive to be required in Red Deer.



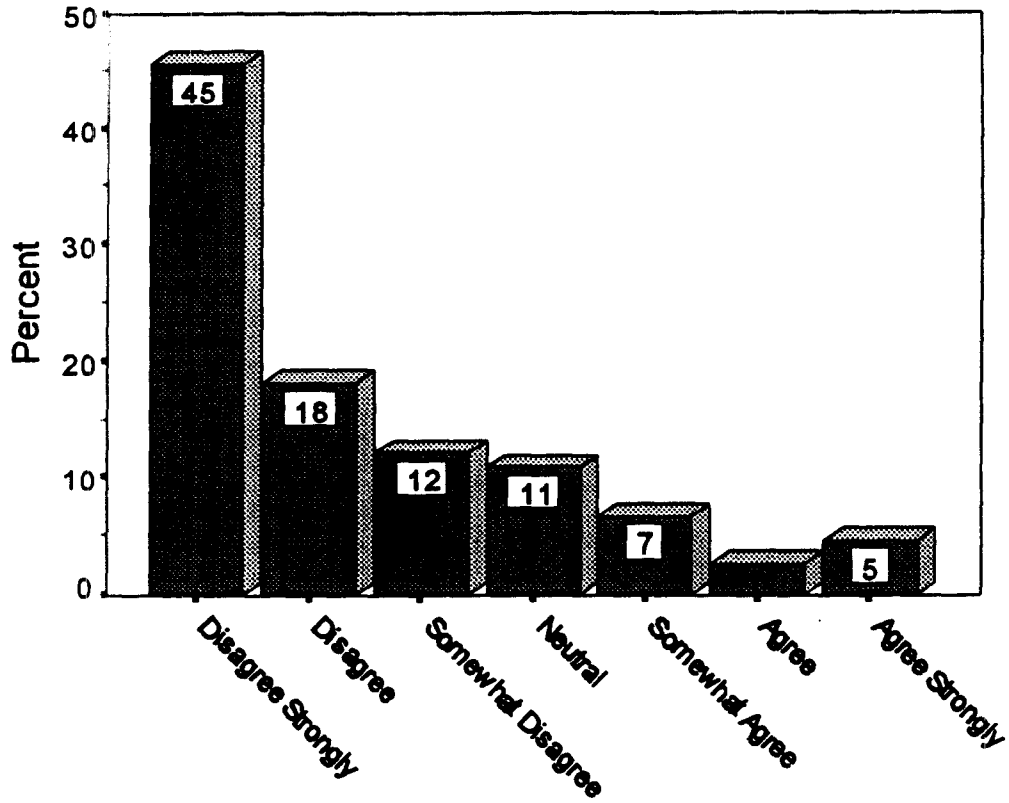
			District						Total
			Northwest	North	Central	West	Southeast	East	
At $1000 - sprinklers still too expensive	Disagree	Count	80	60	39	60	113	37	389
		% within District	77.7%	78.9%	75.0%	83.3%	79.0%	84.1%	79.4%
	Neutral	Count	3	2	4	6	7	4	26
		% within District	2.9%	2.6%	7.7%	8.3%	4.9%	9.1%	5.3%
	Agree	Count	20	14	9	6	23	3	75
		% within District	19.4%	18.4%	17.3%	8.3%	16.1%	6.8%	15.3%
Total		Count	103	76	52	72	143	44	490
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 19 New house buyers or builders should pay the entire cost of their modern home sprinkler system just like they pay for any other part of their house.



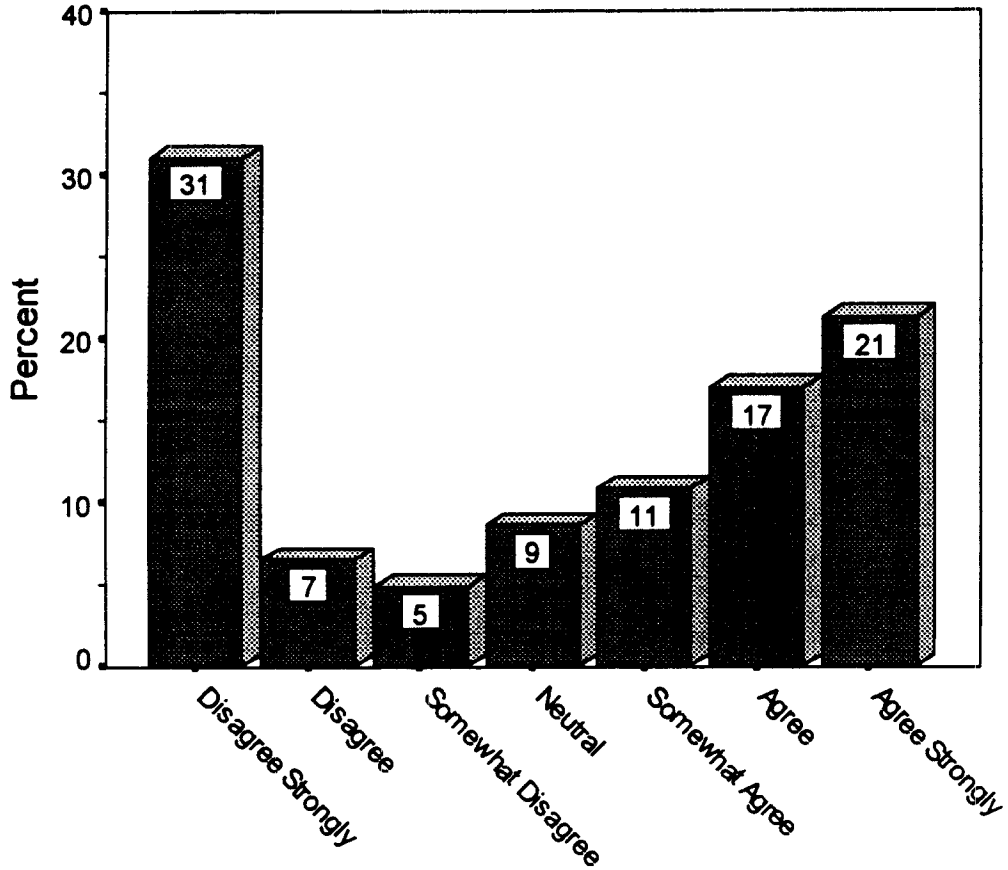
			District						Total
			Northwest	North	Central	West	Southeast	East	
Home buyers or builders pay cost of sprinklers	Disagree	Count	14	12	12	15	27	9	89
		% within District	13.7%	15.6%	22.6%	20.8%	18.8%	19.6%	18.0%
	Neutral	Count	13	9	5	4	13	4	48
		% within District	12.7%	11.7%	9.4%	5.6%	9.0%	8.7%	9.7%
	Agree	Count	75	56	36	53	104	33	357
		% within District	73.5%	72.7%	67.9%	73.6%	72.2%	71.7%	72.3%
Total		Count	102	77	53	72	144	46	494
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 20 The City should pay the entire cost of modern home sprinkler systems because the City as a whole would save tax dollars in the long run.



			District						Total
			Northwest	North	Central	West	Southeast	East	
City pay cost of sprinklers	Disagree	Count	68	62	39	58	108	34	369
		% within District	68.7%	80.5%	73.6%	82.9%	75.5%	73.9%	75.6%
	Neutral	Count	15	3	8	7	16	4	53
		% within District	15.2%	3.9%	15.1%	10.0%	11.2%	8.7%	10.9%
	Agree	Count	16	12	6	5	19	8	66
		% within District	16.2%	15.6%	11.3%	7.1%	13.3%	17.4%	13.5%
Total		Count	99	77	53	70	143	46	488
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 21 The cost of required sprinklers should be shared by the City and house buyers and builders.



			District						Total
			Northwest	North	Central	West	Southeast	East	
City and home buyers or builders share cost of sprinklers	Disagree	Count	37	33	19	35	65	19	208
		% within District	37.0%	43.4%	35.2%	48.6%	45.8%	41.3%	42.4%
	Neutral	Count	10	7	4	4	13	4	42
		% within District	10.0%	9.2%	7.4%	5.6%	9.2%	8.7%	8.6%
	Agree	Count	53	36	31	33	64	23	240
		% within District	53.0%	47.4%	57.4%	45.8%	45.1%	50.0%	49.0%
Total		Count	100	76	54	72	142	46	490
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

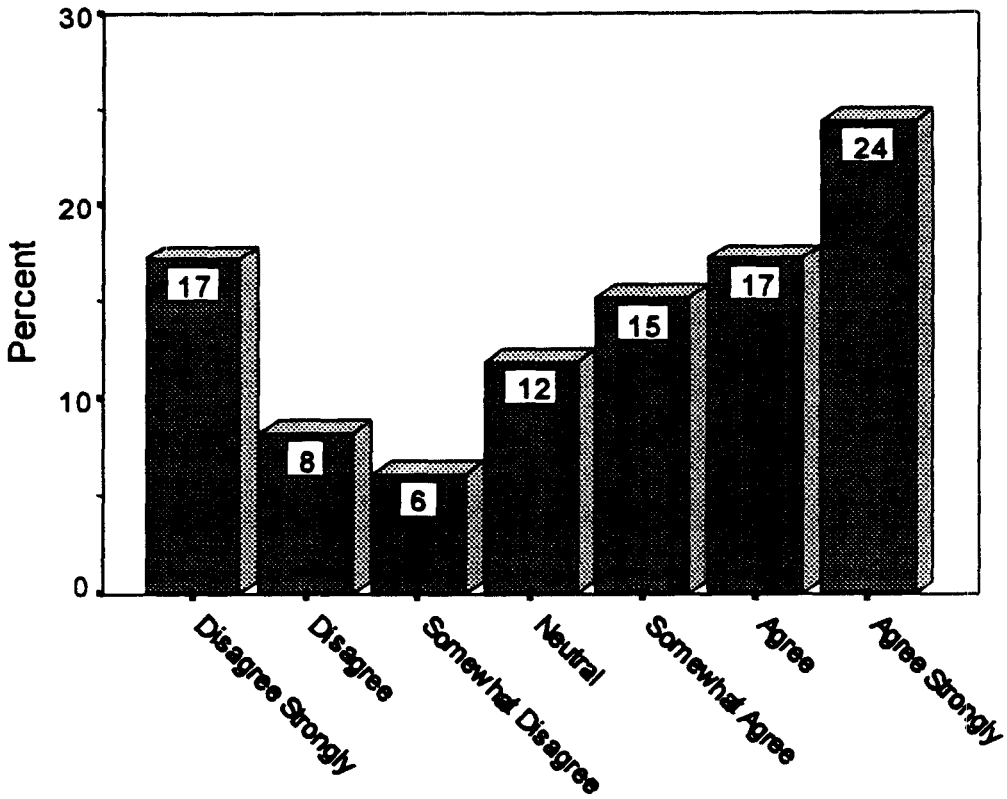
Table 4:1 "If new house builders and buyers paid for part of the cost of required home sprinklers and the City paid for part, what percentage do you think the City should pay? For example: 25%? 50%? 75% or some other percentage."

Proportion Suggested*	Number of Respondents	Percent of all Respondents	Percent of those Responding	Cumulative Percent of all Respondents
Nothing; strongly disagree**	156	31.2%	. .	31.2%
Nothing; 0 percent	18	3.6%	5.7%	34.8%
2 to 5 percent	2	0.4%	0.6%	35.2%
10 to 15 percent	11	2.2%	3.5%	37.4%
20 to 25 percent	81	16.2%	25.5%	53.6%
30 to 35 percent	48	9.6%	15.1%	63.2%
37.5 to 40 percent	22	4.4%	6.9%	67.6%
Half; 50 percent	113	22.6%	35.5%	90.2%
60 to 65 percent	13	2.6%	4.1%	92.8%
70 to 75 percent	9	1.8%	2.8%	94.6%
100 percent	1	0.2%	0.3%	94.8%
Don't know	23	4.6%	. .	99.4%
No response	3	0.6%	. .	100.0%
Totals:	500	100.0%	100.0%	

* Admittedly, the response categories provided in this table are unusual in their asymmetry. The categories have been chosen to summarize the distribution of the responses.

** A total of 156 respondents strongly disagreed with the suggestion that the City should share the cost with home buyers (Question 21) and for this reason were not asked this follow-up question. However, they have been included here as representing the view that the City should not share in the cost of installing residential sprinkler systems in order to provide a more accurate description of the distribution of attitudes regarding this issue.

Question 31 The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer.



			District						Total
			Northwest	North	Central	West	Southeast	East	
City should require sprinklers in all new houses	Disagree	Count	28	27	15	21	47	16	154
		% within District	27.7%	34.6%	28.8%	29.6%	33.1%	35.6%	31.5%
	Neutral	Count	14	6	4	8	24	2	58
		% within District	13.9%	7.7%	7.7%	11.3%	16.9%	4.4%	11.9%
	Agree	Count	59	45	33	42	71	27	277
		% within District	58.4%	57.7%	63.5%	59.2%	50.0%	60.0%	56.6%
Total		Count	101	78	52	71	142	45	489
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4:2 **Distribution of respondents' reasons for response to question 31: "The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer" by aggregated response categories.**

	Respondents Answer to Question 31			
Reason Cited	**Strongly Disagree or Disagree (n=124)**	**Somewhat Disagree to Somewhat Agree (n=162)**	**Strongly Agree or Agree (n=203)**	**Total Sample (N=489)**
Sprinklers provide greater safety	. .	17.3%	61.1%	31.1%
Lower cost to City and taxpayers	. .	6.8%	11.3%	7.0%
Inexpensive for what they do	. .	4.3%	9.9%	5.5%
Everyone should have it	. .	2.5%	4.9%	2.9%
Would support if cost is reduced*	1.6%	6.2%	1.0%	2.9%
Both homeowner and taxpayer benefit	. .	1.2%	4.9%	2.5%
Personal choice; City should not be involved	43.5%	27.8%	1.5%	20.9%
Too expensive	19.4%	11.1%	. .	8.6%
Fire department, smoke detectors sufficient	15.3%	4.3%	. .	5.3%
Sprinklers can cause additional damage	7.3%	3.1%	. .	2.9%
Would still need stations for ambulances	1.6%	0.6%	. .	0.6%
Use Tax incentives instead	1.6%	0.6%	. .	0.6%
Could cause people to be careless with fire	0.8%	0.6%	. .	0.4%
Would support if cost is shared	. .	1.9%	2.0%	1.4%
Would support if City paid for them	. .	2.5%	. .	0.8%
Would support if home owner pays	0.8%	2.5%	0.5%	1.2%
Other reasons	4.0%	0.6%	. .	1.2%
Undecided, need more information	3.2%	4.9%	. .	2.5%
No reason provided	0.8%	1.2%	3.0%	1.8%
Totals:	100.0%	100.0%	100.0%	100.0%

* Most respondents mentioned the figure of $1000 provided in question 18.

5. ATTITUDES TOWARDS FEES FOR AMBULANCE SERVICES

In part of the ambulance survey, respondents were asked for some of their views of fees that are charged by the Emergency Services Department for ambulance services.

Respondents were read the following introduction.

> **Ambulance and emergency medical services are not covered by Alberta Health Care. In Red Deer approximately half of the cost of the ambulance service is paid for by the City from taxes. The other half of the cost is covered by charging a fee to the patient. At present, the minimum charge to a patient for an ambulance call is $200. In some cases, this charge is covered by a patient's private insurance or by some other government programs such as Social Services or Alberta Blue Cross for seniors.**

After the interviewer had confirmed the respondent's understanding of this information, the first question dealt with whether or not the fees charged might prevent some people from using the ambulance service.

> **On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?**
>
> **41. If everyone knew that patients must pay a minimum of $200 for ambulance service, some people might not call an ambulance even when it might be necessary.**

A substantial majority of respondents agreed with this statement (72 percent), almost half of them agreeing strongly (response alternative 7). The distribution was independent of the eight background variables.

Respondents were then asked to assess three alternatives approaches for paying the costs of ambulance services.

> **42. Ambulance services should be an insured service paid for by the Provincial Government under Alberta Health Care, even if this means higher provincial taxes.**
>
> **43. A larger share of the cost of ambulance calls in Red Deer should be charged directly to the patients who use it.**
>
> **44. More of the cost of providing ambulance services should be paid for by the City from tax dollars and less charged directly to patients who use it.**

Overall, 61 percent of respondents agreed with the statement that ambulance should be an insured service under AHC with a total of 30 percent agreeing strongly. The distribution was linked to respondents' ages with 55 percent of those under 50 years of age expressing agreement as compared with 76 percent of those aged 50 and over.[1]

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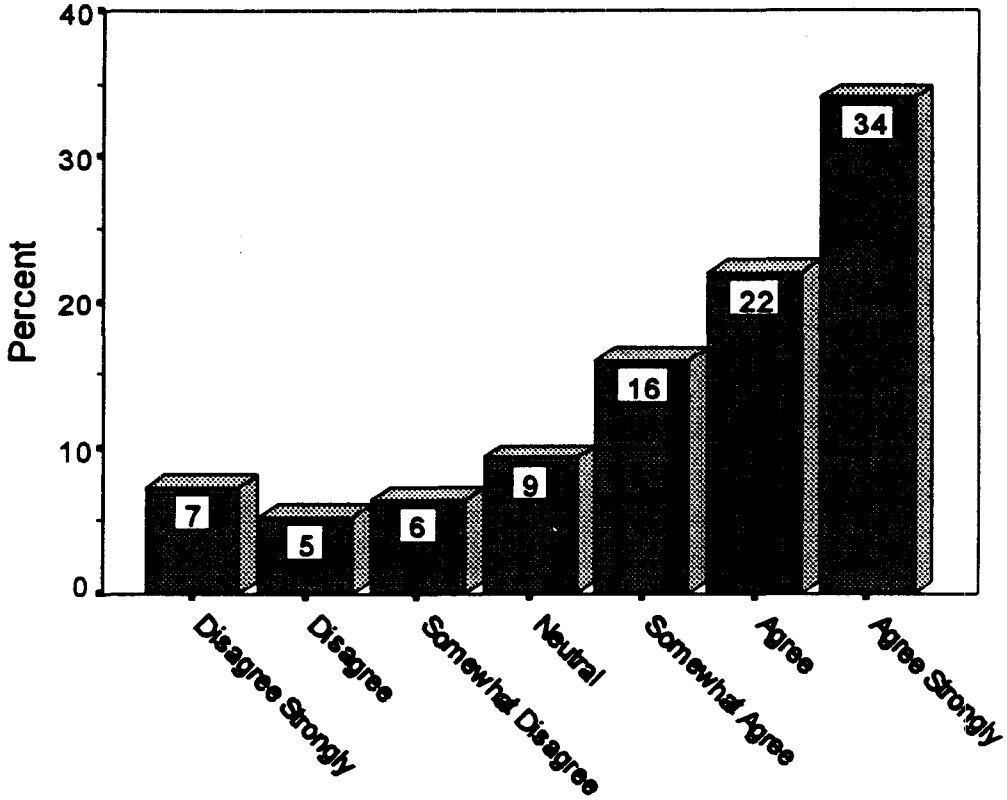
1 See Appendix B.

A total of 55 percent of respondents disagreed with the proposition that a greater share of the cost should be charged to the patient (28 percent expressing strong disagreement). By contrast, while 28 percent expressed agreement, 13 percent of respondents stated what might be described as only "mild" agreement (response alternative 5).

In general, 47 percent of respondents agreed with the proposition that more of the cost of the ambulance service should be borne by the City while 33 percent disagreed and the remainder were neutral on the issues. While agreement was the majority opinion in all cases, those who agreed were more likely to be female (52 percent) than male (41 percent), and renters (56 percent) in contrast with home owners (41 percent).[2]

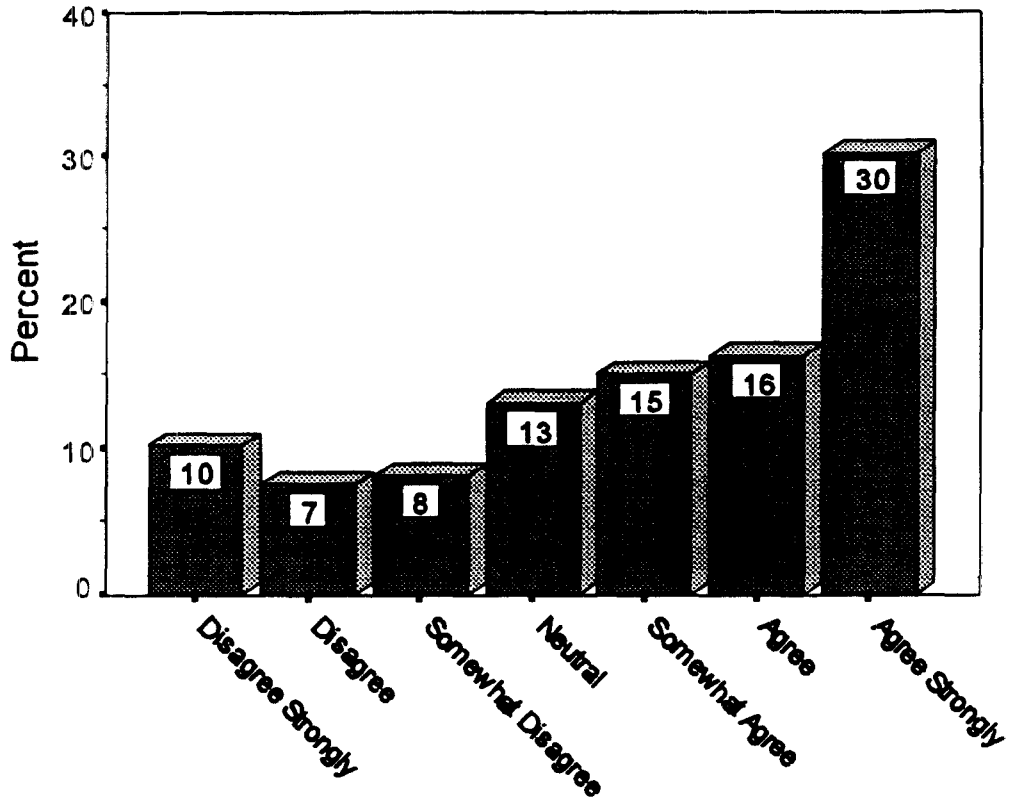
2 Complete descriptions of these contingent distributions are provided in Appendix B.

Question 41 If everyone knew that patients must pay a minimum of $200 for ambulance service, some people might not call an ambulance even when it might be necessary.



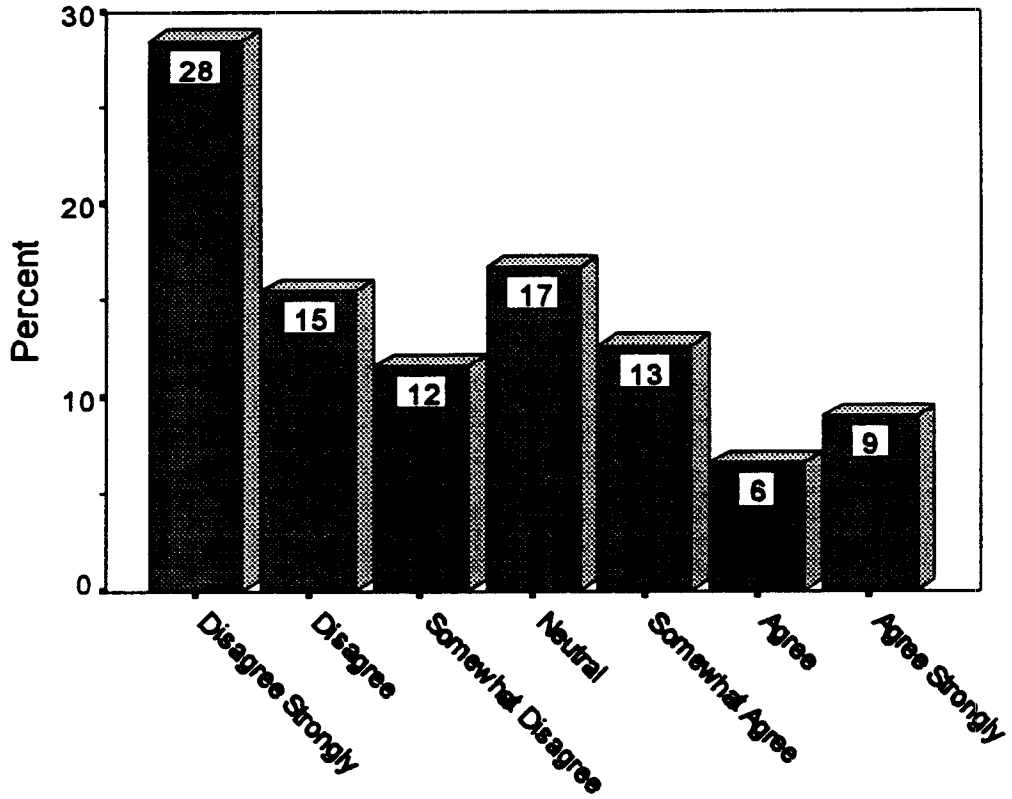
			District						Total
			Northwest	North	Central	West	Southeast	East	
At cost of $200, some people might not call ambulance	Disagree	Count	20	11	9	20	22	12	94
		% within District	20.4%	16.2%	16.4%	21.1%	16.8%	24.0%	18.9%
	Neutral	Count	7	7	6	10	13	3	46
		% within District	7.1%	10.3%	10.9%	10.5%	9.9%	6.0%	9.3%
	Agree	Count	71	50	40	65	96	35	357
		% within District	72.4%	73.5%	72.7%	68.4%	73.3%	70.0%	71.8%
Total		Count	98	68	55	95	131	50	497
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 42 Ambulance services should be an insured service paid for by the Provincial Government under Alberta Health Care, even if this means higher provincial taxes.



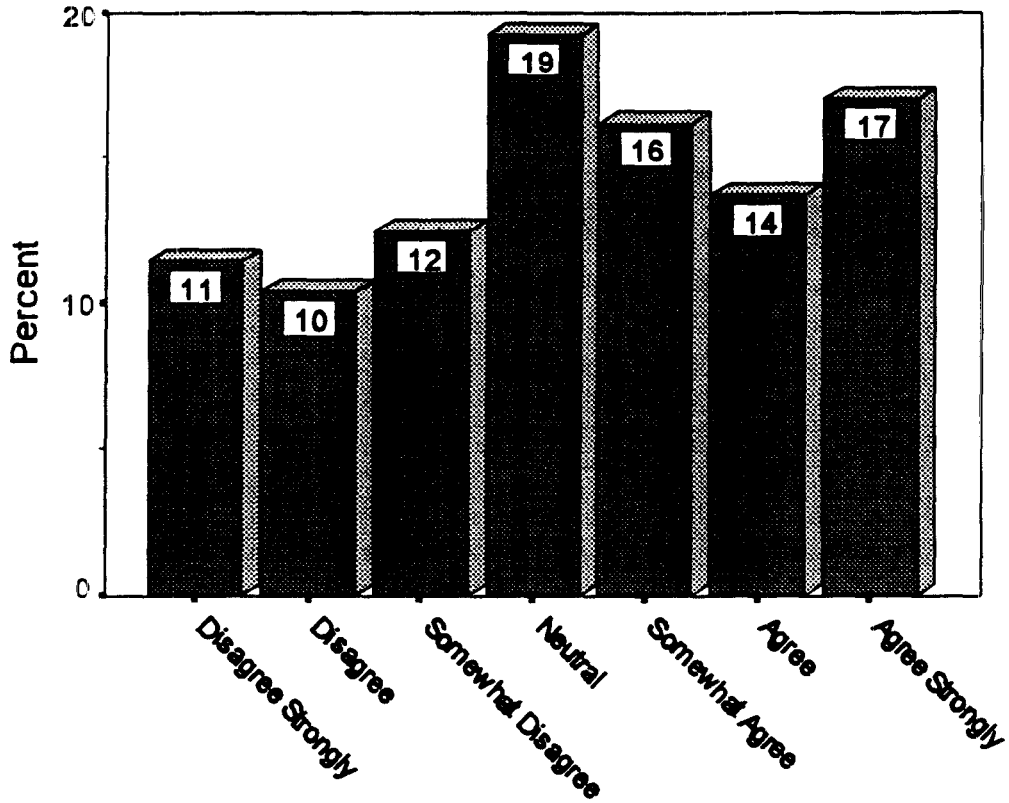
			District						Total
			Northwest	North	Central	West	Southeast	East	
Ambulance costs should be paid by Alberta Health Care	Disagree	Count	30	13	11	19	36	18	127
		% within District	30.6%	19.4%	20.4%	20.4%	27.3%	36.0%	25.7%
	Neutral	Count	13	15	4	12	15	5	64
		% within District	13.3%	22.4%	7.4%	12.9%	11.4%	10.0%	13.0%
	Agree	Count	55	39	39	62	81	27	303
		% within District	56.1%	58.2%	72.2%	66.7%	61.4%	54.0%	61.3%
Total		Count	98	67	54	93	132	50	494
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 43 A larger share of the cost of ambulance calls in Red Deer should be charged directly to the patients who use it.



			District						Total
			Northwest	North	Central	West	Southeast	East	
Bill patient for larger share of ambulance costs	Disagree	Count	48	42	35	54	69	25	273
		% within District	49.0%	62.7%	61.4%	58.7%	53.5%	50.0%	55.4%
	Neutral	Count	20	7	13	16	22	4	82
		% within District	20.4%	10.4%	22.8%	17.4%	17.1%	8.0%	16.6%
	Agree	Count	30	18	9	22	38	21	138
		% within District	30.6%	26.9%	15.8%	23.9%	29.5%	42.0%	28.0%
Total		Count	98	67	57	92	129	50	493
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 44 More of the cost of providing ambulance services should be paid for by the City from tax dollars and less charged directly to patients who use it.



			District						
			Northwest	North	Central	West	Southeast	East	Total
Larger share of cost should be paid from City taxes	Disagree	Count	33	18	13	30	52	19	165
		% within District	34.7%	28.1%	23.2%	32.3%	40.9%	38.8%	34.1%
	Neutral	Count	21	8	12	19	25	8	93
		% within District	22.1%	12.5%	21.4%	20.4%	19.7%	16.3%	19.2%
	Agree	Count	41	38	31	44	50	22	226
		% within District	43.2%	59.4%	55.4%	47.3%	39.4%	44.9%	46.7%
Total		Count	95	64	56	93	127	49	484
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

6. ATTITUDES TOWARDS THE USE OF VOLUNTEERS IN FIRE AND AMBULANCE SERVICES

The City and the Emergency Services Master Plan Steering Committee were also interested in citizens' attitudes towards the possibilities for incorporating a volunteer component with a core of full-time professional staff in the delivery of fire and ambulance services. Questions were included in both interviews for this purpose.

The researchers' review of relevant documents, their search for effective models of mixed volunteer/ professional services, and consultation with others investigating the same issue led to the conclusion that the incorporation of a volunteer component into the City's existing standards of service delivery would either lead to a reduction in the quality of emergency services, in terms of both levels of training and response times, or would be prohibitively expensive and impractical.[1]

Nevertheless, it is *not* the researchers' role to determine the feasibility of a mixed volunteer/ professional model of service delivery. This responsibility is more properly left to the consultants working with the Steering Committee who have been given this task as part of their mandate. The purpose of this research is more restricted to the measurement and description of citizens' attitudes.

However, our conclusions do have a bearing on the findings of this study and the reader is cautioned that particular questions incorporated into the interviews should not be interpreted as validation of the premise on which the questions are based. For this reason, the appropriate caveats are noted in the discussion of the findings.

The questions regarding the possible use of volunteers were introduced in the following fashion.

> **Now I'd like to talk to you about the possibility of adding volunteer-auxiliary staff to Red Deer's fire fighting services.**
>
> **The City might be able to save money on fire fighting/ambulance services by using both full-time professional fire fighters and a number of volunteer auxiliary staff who could be called upon to assist when needed. On the other hand, using auxiliary fire fighters could lower the quality of fire fighting/ambulance services, since volunteers would not be as highly trained as full-time professionals and volunteers would respond more slowly.**

Again, after the interviewer has confirmed the respondent's understanding of this information, the following questions were asked.

> **On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?**

1 Our review led us to the conclusion that, barring a significant alteration in the standards for the delivery of emergency services, the only practical role for volunteers would be in what would be essentially ancillary roles such as public education and inspections.

If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of fire fighting/ambulance services. (Questions 23 and 45)

If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting/ambulance services, then the City should do it. (Questions 24 and 46)

The City of Red Deer should employ only full-time professionals to work in fire fighting/ambulance services. (Questions 25 and 47)

Overall, 61 percent of the fire protection sample and 53 percent of the ambulance sample disagree with the notion that the City should attempt to save money by using volunteers if their use resulted in a reduction in the quality of the service provided. In both instances, most of those who were opposed to the proposal disagreed strongly (response alternative 1).

In the fire protection sample, 27 percent of respondents agreed with the statement, as did 36 percent in the ambulance sample. In the ambulance sample, agreement was more likely to come from home owners (39 percent) than from renters (31 percent). However, renters were more likely to be undecided (17 percent) and, as a result, while the proportions of those disagreeing with statement 45 remained essentially similar (53 percent of home owners and 51 percent of renters).[2]

The parallel wording of the questions to the two samples allowed for the analysis of the aggregated distribution of the full sample of 1,004 respondents. Thus, in the two samples taken together, a total of 57 percent of respondents disagreed with the statement, 32 percent disagreeing strongly. Thirty-two percent of respondents agreed with the statement, with homeowners reporting greater agreement than renters

The second question presented to respondents is a hypothetical question since a mixed model could not be developed to meet the assumptions of the question.[3] However, as a measure of respondents' attitudes, it is not surprising that 79 percent of the fire protection sample, 86 per cent of the ambulance sample, and 83 percent of respondents overall would agree with the City saving money by using volunteers if there was an assurance that there would be no reduction in the quality of fire fighting and ambulance services. In the fire protection sample, greatest agreement came from respondents aged 18 to 34 (90 percent) and in the ambulance sample, from female respondents (89 percent).

The final question in this set asked respondents whether they agreed/disagreed that the City should employ only full-time professionals to provide emergency services. Since the posing of the previous question could be expected to affect respondents' consideration of this statement, the order of these

2 All of the statistically significant contingent distributions indicated in this section are described fully in Appendix B.

3 Including this question in the survey was a topic of some discussion between the researchers and the Steering Committee since it was felt that by including the question, the impression might be created for the respondents that such a model for service delivery is possible. In the end, the question was included at the request of the Committee.

two questions (questions 24 & 46 and 25 & 47) was reversed in half of the interviews[4]. In addition, the location of this question within in a context of the possibilities for the City to save money by incorporating the use of volunteers, could be expected to have had some unmeasured effect on levels of agreement with the statement.

For these reasons, the levels of agreement only recorded here could be regarded as low estimates of the levels of support for the use of full-time professionals which would characterize the population generally.[5]

In the fire protection sample, 52 percent of respondents agreed with this statement (employ only full-time professionals) compared with 32 percent who disagreed. The ambulance sample was more closely divided with 43 percent expressing agreement and 40 percent disagreement.

In both samples, greater agreement was found amongst older respondents. In the ambulance sample, residential district was a factor with greatest agreement found among residents of the West district (55 percent) and greatest disagreement among residents of the Central and East districts (50 percent).[6]

For the two samples aggregated, agreement with the statement was observed at 49 percent of all respondents and disagreement at 36 percent, with the remainder neutral.

Comparing the two samples, it can generally concluded that respondents typically disagree with cost-saving reductions in the quality of emergency services through the use of volunteers if there would be an associated decline in the quality of the services, and agree with the exclusive employment of full-time professionals. Differences between the distributions in the two samples suggest that respondents' sensitivity to a reduction in quality is greater for fire fighting services.[7]

---

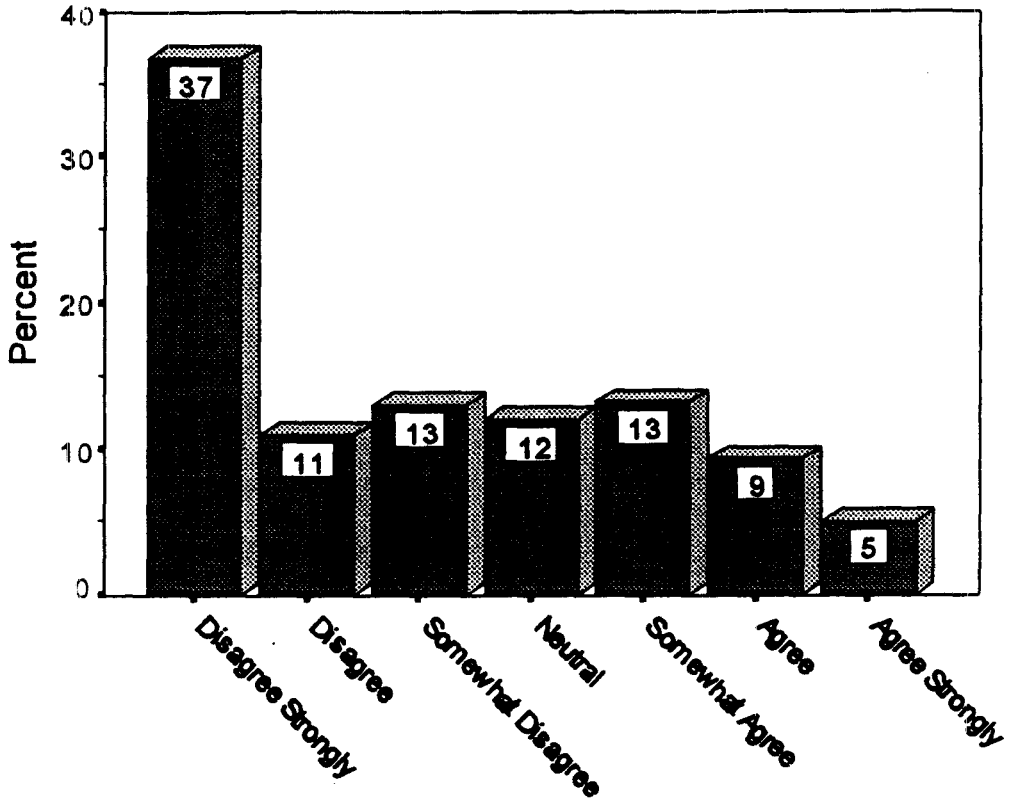
4 This concern was borne out in the fire protection sample where reversing the order of the questions is associated with a statistically significant 13% increase in agreement with the statement. A similar but non-significant increase of 6% was observed in the ambulance sample. The contingent distributions are displayed in Appendix B.

5 A further suggestion that these might be low estimates is provided by the levels of satisfaction (overall 90%) reported with existing emergency services at the outset of each interview and reported in Section 2.

6 Note that this last observation is described in the contingency distribution table associated with Question 47 in the concluding pages of this section of the report. For consistency, the table is also included in Appendix B.

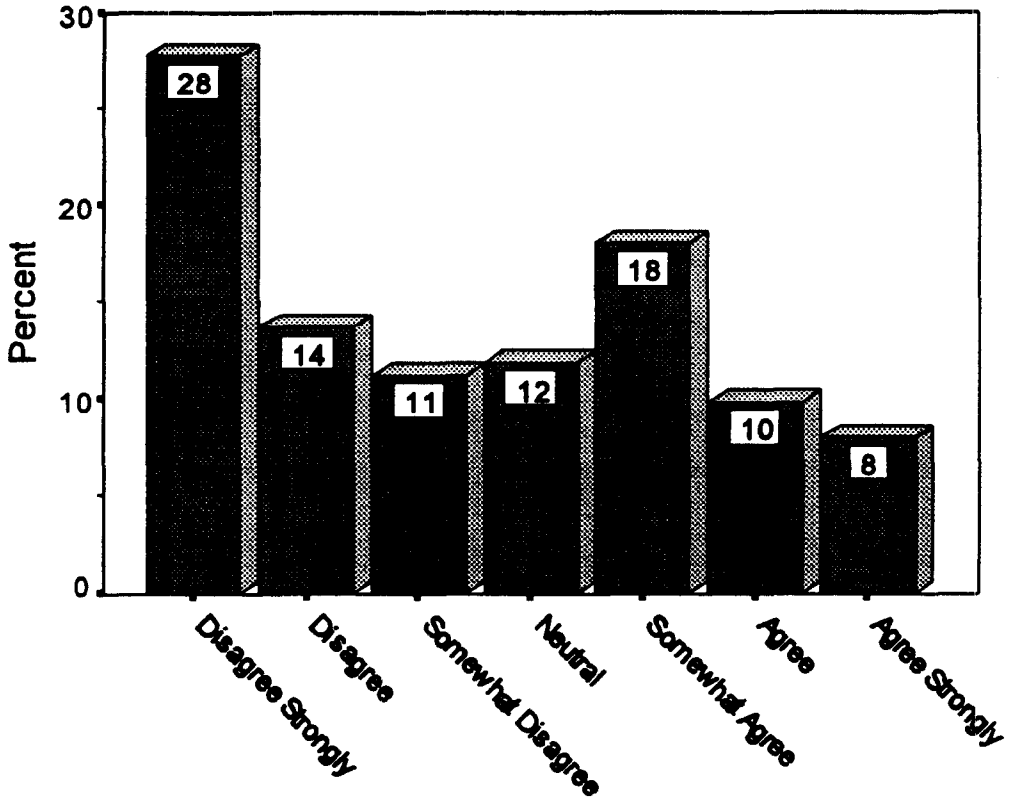
7 This conclusion is valid to the extent that both samples are random samples of the same population.

Question 23 **If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of fire fighting services.**



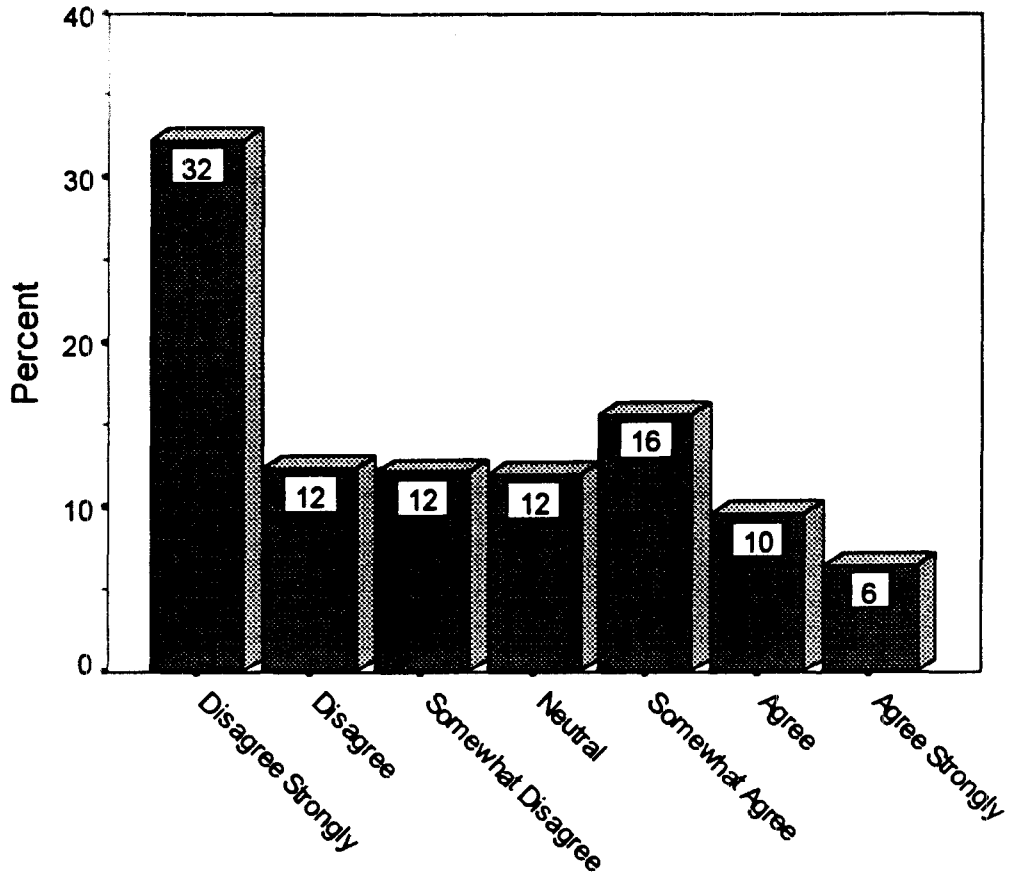
			District						
			Northwest	North	Central	West	Southeast	East	Total
Use Auxiliaries even if quality of services is reduced	Disagree	Count	66	45	26	46	85	26	294
		% within District	68.0%	58.4%	52.0%	63.9%	59.4%	56.5%	60.6%
	Neutral	Count	10	7	8	10	16	7	58
		% within District	10.3%	9.1%	16.0%	13.9%	11.2%	15.2%	12.0%
	Agree	Count	21	25	16	16	42	13	133
		% within District	21.6%	32.5%	32.0%	22.2%	29.4%	28.3%	27.4%
Total		Count	97	77	50	72	143	46	485
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 45 **If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of ambulance services.**



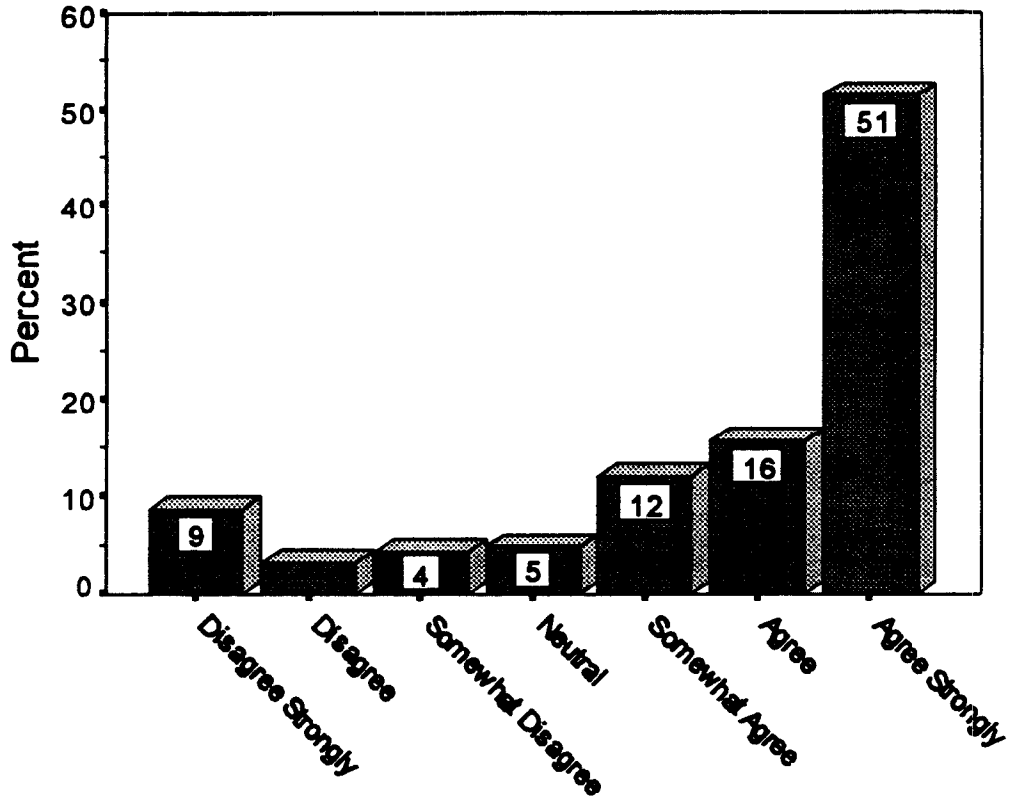
			District						
			Northwest	North	Central	West	Southeast	East	Total
Use Auxiliaries even if quality of services is reduced	Disagree	Count	46	36	30	53	68	25	258
		% within District	47.4%	54.5%	52.6%	56.4%	53.1%	51.0%	52.5%
	Neutral	Count	16	3	9	10	13	7	58
		% within District	16.5%	4.5%	15.8%	10.6%	10.2%	14.3%	11.8%
	Agree	Count	35	27	18	31	47	17	175
		% within District	36.1%	40.9%	31.6%	33.0%	36.7%	34.7%	35.6%
Total		Count	97	66	57	94	128	49	491
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 23 and 45 **If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of fire fighting/ ambulance services.**



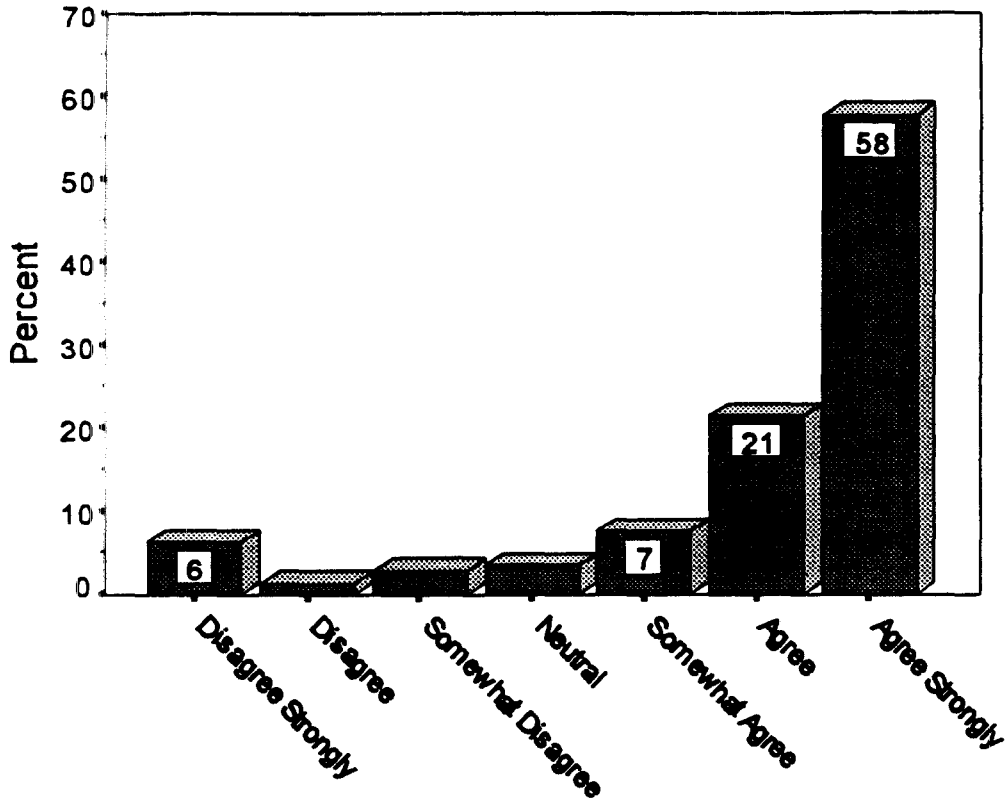
			Sample		
			Ambulance	Fire Protection	Total
Use Auxiliaries even if quality of services is reduced	Disagree	Count	258	294	552
		% in Sample	52.5%	60.6%	56.6%
	Neutral	Count	58	58	116
		% in Sample	11.8%	12.0%	11.9%
	Agree	Count	175	133	308
		% in Sample	35.6%	27.4%	31.6%
Total		Count	491	485	976
		% in Sample	100.0%	100.0%	100.0%

Question 24 If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting services, then the City should do it.



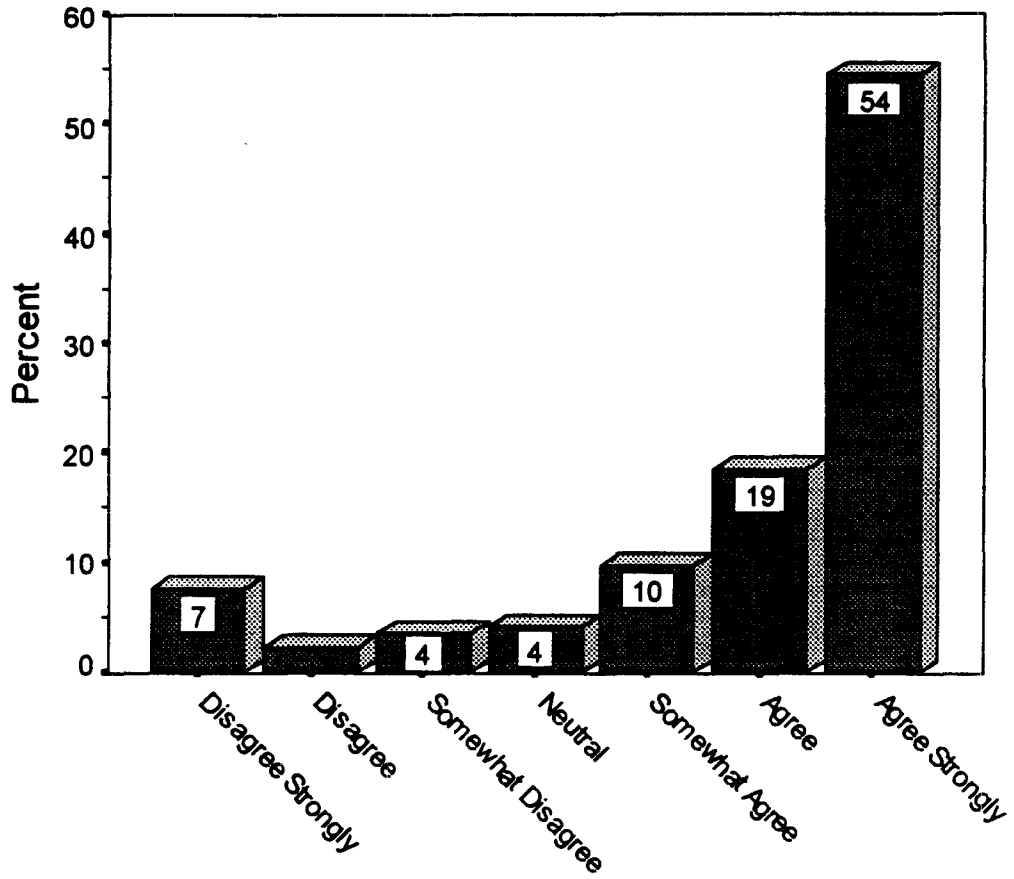
			District						Total
			Northwest	North	Central	West	Southeast	East	
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	11	15	4	13	27	10	80
		% within District	10.9%	19.5%	7.5%	17.8%	19.0%	21.7%	16.3%
	Neutral	Count	7	1	2	2	8	4	24
		% within District	6.9%	1.3%	3.8%	2.7%	5.6%	8.7%	4.9%
	Agree	Count	83	61	47	58	107	32	388
		% within District	82.2%	79.2%	88.7%	79.5%	75.4%	69.6%	78.9%
Total		Count	101	77	53	73	142	46	492
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 46 **If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of ambulance services, then the City should do it.**



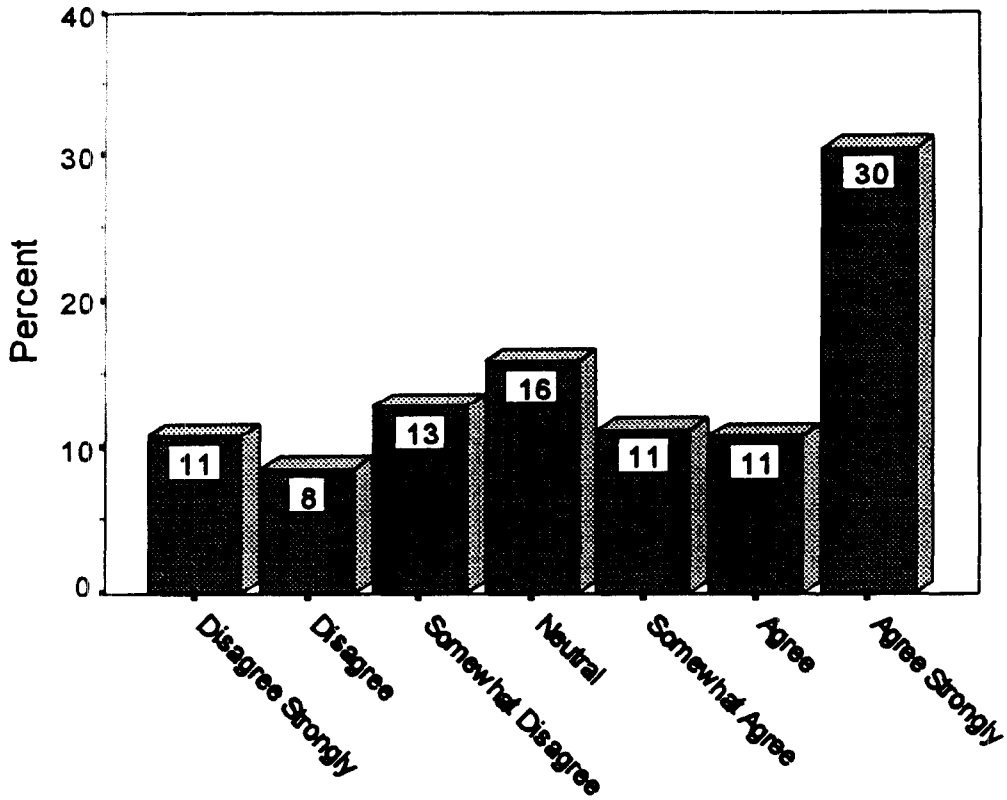
			District						Total
			Northwest	North	Central	West	Southeast	East	
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	9	8	5	11	13	5	51
		% within District	9.2%	11.8%	8.8%	11.8%	10.0%	9.8%	10.3%
	Neutral	Count	2	3	2	4	4	2	17
		% within District	2.0%	4.4%	3.5%	4.3%	3.1%	3.9%	3.4%
	Agree	Count	87	57	50	78	113	44	429
		% within District	88.8%	83.8%	87.7%	83.9%	86.9%	86.3%	86.3%
Total		Count	98	68	57	93	130	51	497
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 24 and 46 **If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting/ambulance services, then the City should do it.**



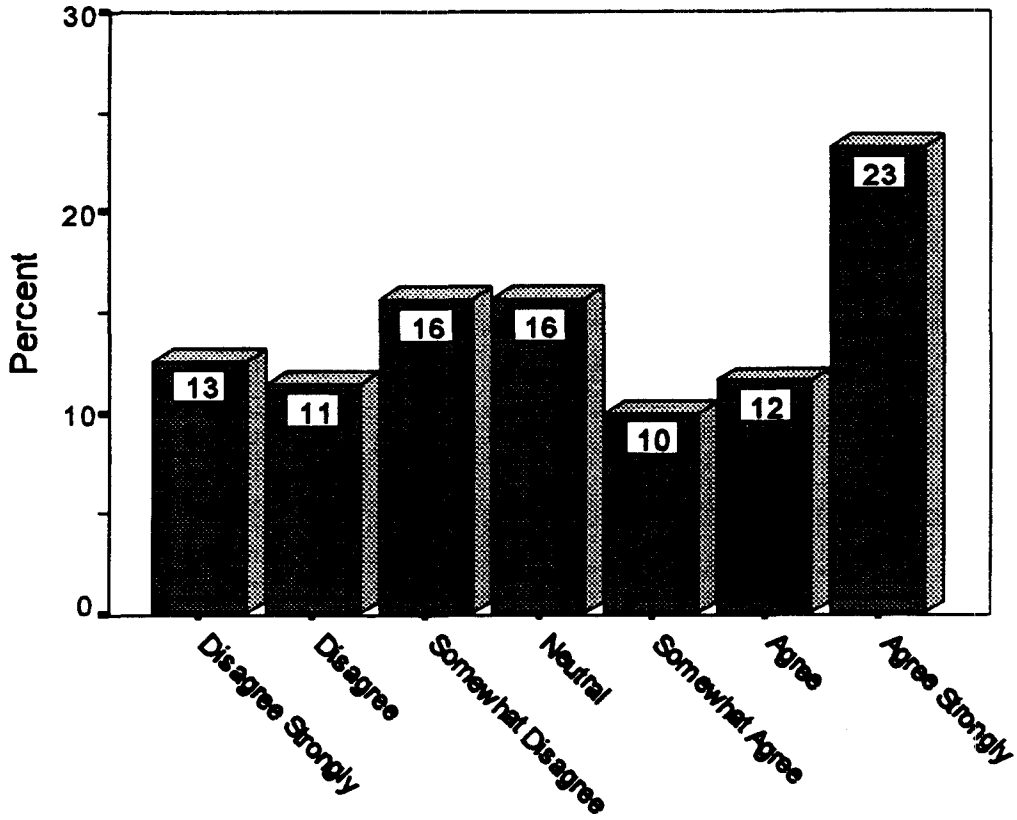
			Sample		
			Ambulance	Fire Protection	Total
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	51	80	131
		% in Sample	10.3%	16.3%	13.2%
	Neutral	Count	17	24	41
		% in Sample	3.4%	4.9%	4.1%
	Agree	Count	429	388	817
		% in Sample	86.3%	78.9%	82.6%
Total		Count	497	492	989
		% in Sample	100.0%	100.0%	100.0%

Question 25 The City of Red Deer should employ only full-time professionals to work in fire fighting services.



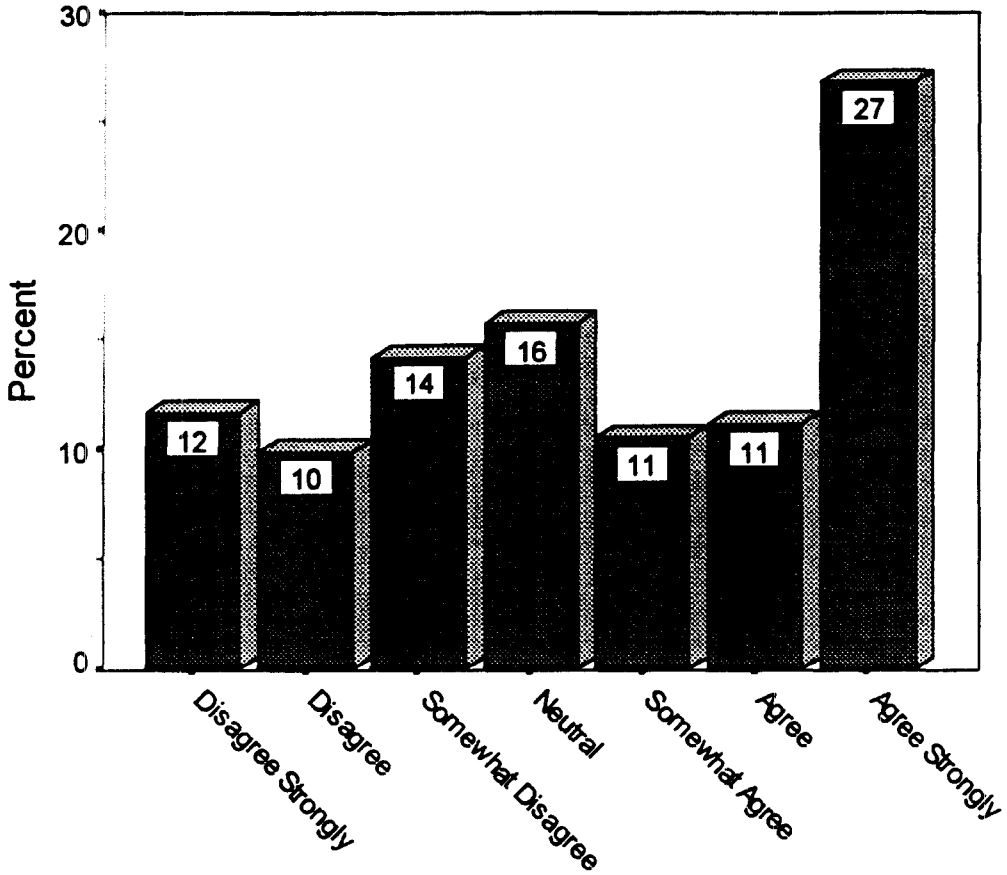
			District						Total
			Northwest	North	Central	West	Southeast	East	
Employ only full-time professional fire-fighters	Disagree	Count	24	26	24	20	47	14	155
		% within District	24.0%	33.8%	46.2%	28.6%	33.3%	30.4%	31.9%
	Neutral	Count	22	13	7	13	18	4	77
		% within District	22.0%	16.9%	13.5%	18.6%	12.8%	8.7%	15.8%
	Agree	Count	54	38	21	37	76	28	254
		% within District	54.0%	49.4%	40.4%	52.9%	53.9%	60.9%	52.3%
Total		Count	100	77	52	70	141	46	486
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 47 The City of Red Deer should employ only full-time professionals to work in ambulance services.



			District						Total
			Northwest	North	Central	West	Southeast	East	
Employ only full-time professionals	Disagree	Count	35	33	27	25	50	25	195
		% within District	35.7%	47.8%	50.0%	26.6%	39.4%	50.0%	39.6%
	Neutral	Count	19	7	11	17	17	6	77
		% within District	19.4%	10.1%	20.4%	18.1%	13.4%	12.0%	15.7%
	Agree	Count	44	29	16	52	60	19	220
		% within District	44.9%	42.0%	29.6%	55.3%	47.2%	38.0%	44.7%
Total		Count	98	69	54	94	127	50	492
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 25 and 47 **The City of Red Deer should employ only full-time professionals to work in fire fighting/ambulance services.**



			Sample		
			Ambulance	Fire Protection	Total
Employ only full-time professionals	Disagree	Count	195	155	350
		% in Sample	39.6%	31.9%	35.8%
	Neutral	Count	77	77	154
		% in Sample	15.7%	15.8%	15.7%
	Agree	Count	220	254	474
		% in Sample	44.7%	52.3%	48.5%
Total		Count	492	486	978
		% in Sample	100.0%	100.0%	100.0%

7. CONCERNS FOR QUALITY AND COST OF EMERGENCY SERVICES.

The final set of questions in both the fire protection and ambulance surveys dealt generally with the concern for a balance between the quality and cost of emergency services. The questions were designed both to summarize some of the issues dealt with earlier in the interviews and to provide an opportunity for respondents to provide their views on broad policy matters.

The questions were therefore introduced in the following manner:

> **Now I would like to ask you a few general questions about the concerns that you would think are important if you were a member of Red Deer City Council making decisions about a plan for Emergency Services in the City of Red Deer.**
>
> **On a scale of 1 to 7, where 1 is Strongly Disagree and 7 is Strongly Agree, and you can choose any number between 1 and 7, please tell me how much you agree or disagree that the following items should be included in Red Deer's Emergency Services plan.**

Five similarly worded, parallel questions were included in both interviews.[1]

> **The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City. (Questions 26 and 48)**
>
> **The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built. (Questions 27 and 49)**
>
> **The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of fire fighting/ambulance services. (Questions 28 and 50)**
>
> **The City should provide the best fire fighting/ambulance service possible, even if it means taking money from other City services to pay for it. (Questions 29 and 51)**
>
> **The City should provide the best fire fighting/ambulance service possible, even if it means raising property taxes to pay for it. (Questions 30 and 52)**

The distributions of responses to these questions described in the charts and tables which conclude this section are (with two minor exceptions which do not substantially alter the overall patterns) independent of all eight background variables. For this reason, the proportions in the sample may be

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1 A sixth question was included in the fire protection survey together with a follow up probe:

31. The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer.

32. Please tell me what was the most important reason for your answer to the last question.

These questions are discussed in Section 4 of this report.

easily generalized to the population as a whole.

Responses to the first three questions appear relatively unequivocal.

Should the City spend what is necessary to ensure that the current quality of emergency services are provided equally in all areas of the City? Ninety-one percent of respondents in the fire protection sample and 94 percent of respondents in the ambulance sample agree.

More specifically, should the City should spend what is necessary to provide the current quality of emergency services equally in all areas of the City, even if each new fire station would add approximately $35 a year to the average tax bill? Eighty-seven percent of the fire protection sample and 81 percent of the ambulance sample agree.[2]

On the other hand, should the City attempt to keep property taxes as low as possible, even if this approach results in a reduction in the quality of emergency services? Here, 78 percent of the fire survey sample and 75 percent of the ambulance sample would disagree.[3]

Respondents are more divided on whether it would be appropriate for the City to take funds from other City services in order to insure the best possible fire fighting and ambulance services. Here the fire sample split with 41 percent in disagreement to 38 percent agreeing. The ambulance sample was somewhat less divided, with 34 per cent disagreeing while 49 percent were in agreement.

However, compared with the distributions for the first three questions, respondents in both fire and ambulance sample were not particularly strong in the expression of their views regarding whether the City should allocate funds from other services for fire fighting and ambulance, with a disproportionately greater number of middle or neutral responses (alternatives 3, 4 and 5).[4]

Finally, should the City provide the best emergency services possible, even if this means increasing property taxes? Here a substantial majority of both samples expressed agreement, 72 and 68 percent of the fire and ambulance samples respectively. However, it should also be noted that, again in comparison with the distributions for the first three questions, this agreement is comparatively soft (i.e., fewer "strongly agree" and more "somewhat agree").

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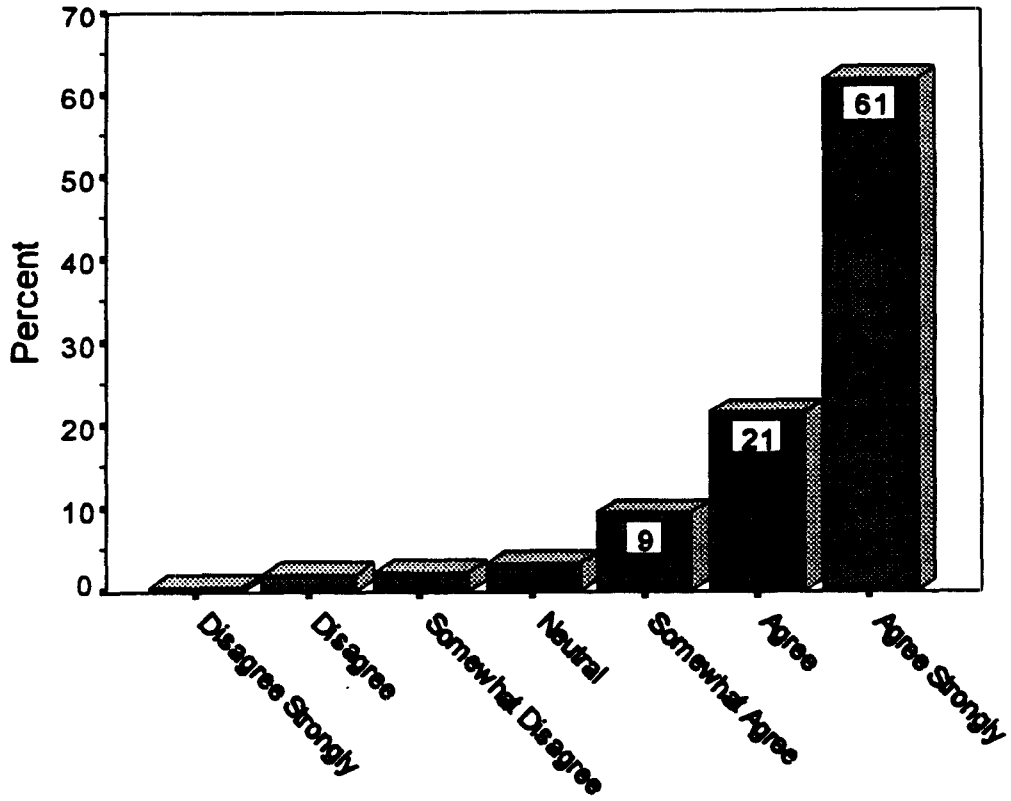
2 As described in Appendix B, in the ambulance survey sample, a statistically significant difference was found in the contingent distribution by home ownership in which 77 percent of home owners expressed agreement compared with 86 percent of renters.

3 The second statistically significant contingent relationship in this set of questions was observed in the fire protection sample where 72 percent of younger (under 35) and older (65 and older) respondents expressed disagreement in contrast to 84 percent of those between 35 and 64 years of age. See Appendix B.

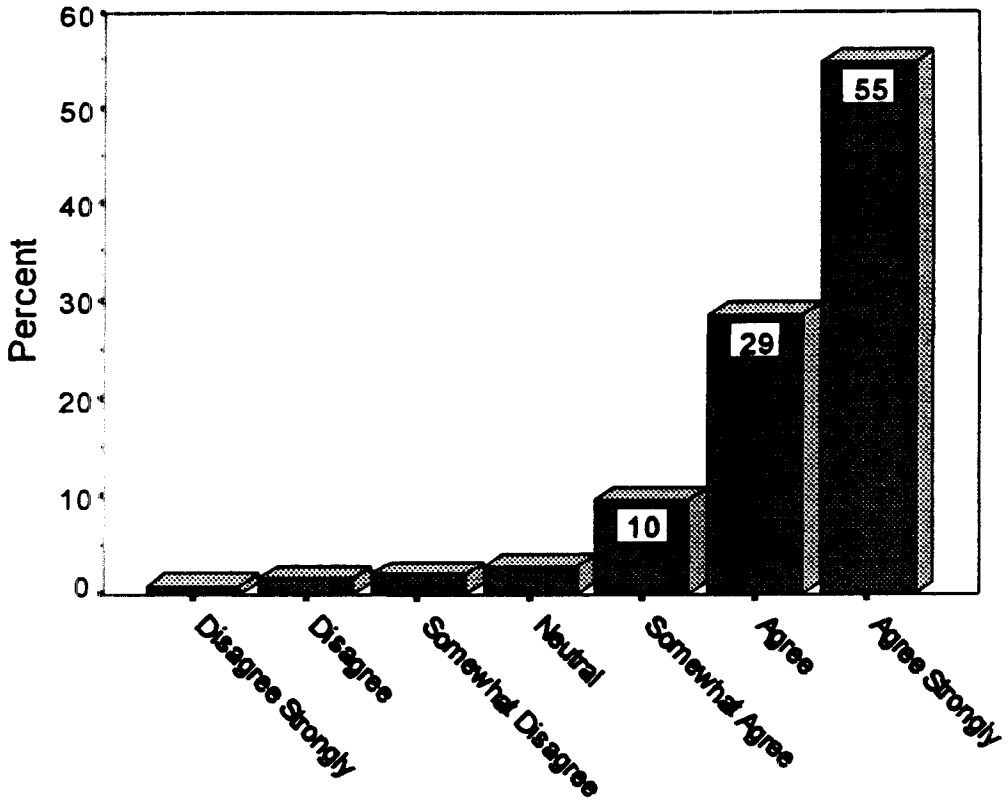
4 This observation is dissimilar to most of the distributions observed in both surveys which were decidedly one-sided. A reasonable explanation is that in answering this question, many respondents experienced a conflict between the value they place on the quality of emergency services and their regard for other City services.

Question 26. The City should spend what is necessary to ensure that the current quality of fire fighting service is provided equally in all areas of the City.



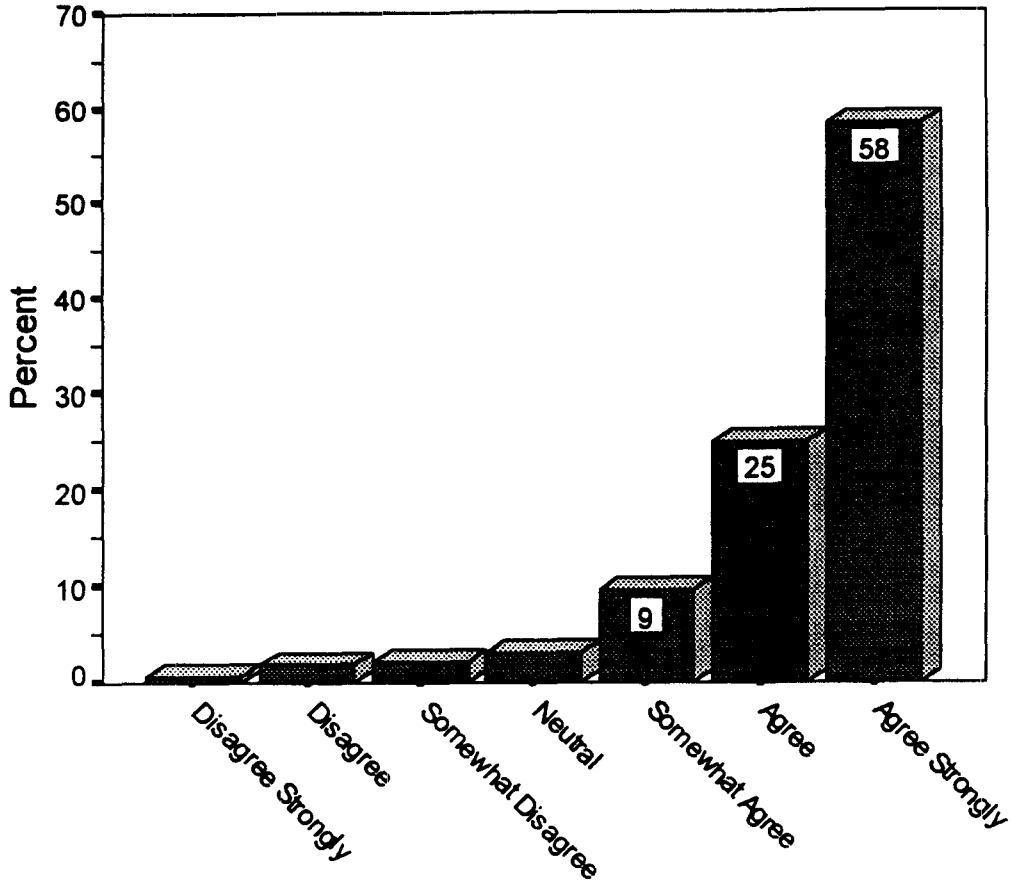
			District						Total
			Northwest	North	Central	West	Southeast	East	
Spend to ensure current quality in all areas of City	Disagree	Count	6	3	5	1	4	4	23
		% within District	5.8%	3.9%	9.3%	1.4%	2.8%	8.7%	4.6%
	Neutral	Count	4	1	2	2	5	2	16
		% within District	3.9%	1.3%	3.7%	2.8%	3.5%	4.3%	3.2%
	Agree	Count	93	73	47	69	135	40	457
		% within District	90.3%	94.8%	87.0%	95.8%	93.8%	87.0%	92.1%
Total		Count	103	77	54	72	144	46	496
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 48. The City should spend what is necessary to ensure that the current quality of ambulance service is provided equally in all areas of the City.



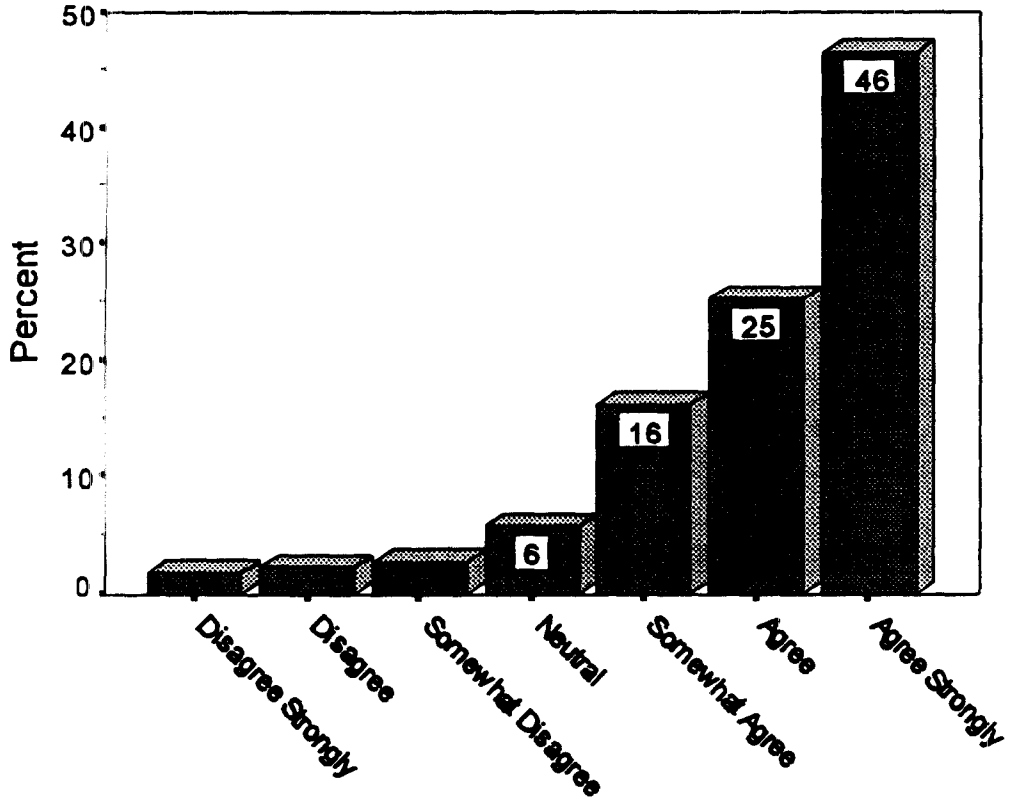
			District						Total
			Northwest	North	Central	West	Southeast	East	
Spend to ensure current quality in all areas of City	Disagree	Count	4	2	2	7	7		22
		% within District	4.1%	2.9%	3.6%	7.4%	5.4%		4.4%
	Neutral	Count	1	2	2	3	3	3	14
		% within District	1.0%	2.9%	3.6%	3.2%	2.3%	5.9%	2.8%
	Agree	Count	93	64	52	85	120	48	462
		% within District	94.9%	94.1%	92.9%	89.5%	92.3%	94.1%	92.8%
Total		Count	98	68	56	95	130	51	498
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 26 and 48. The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City.



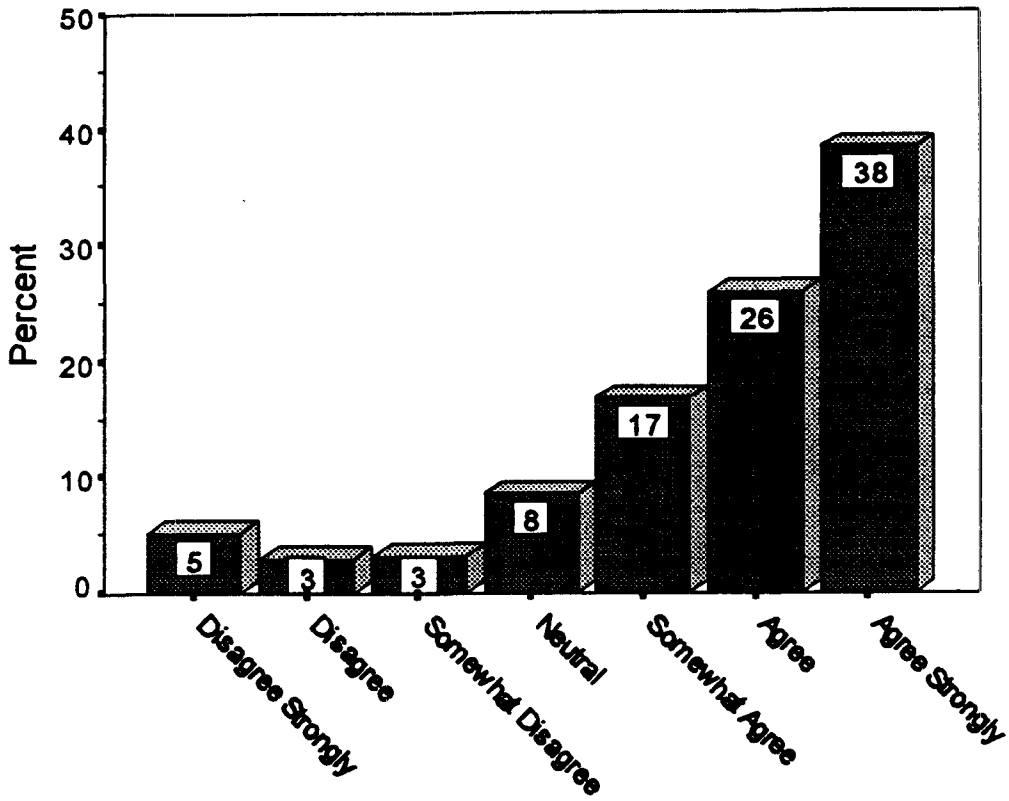
			Sample		
			Ambulance	Fire Protection	Total
Spend to ensure current quality in all areas of City	Disagree	Count	22	23	45
		% in Sample	4.4%	4.6%	4.5%
	Neutral	Count	14	16	30
		% in Sample	2.8%	3.2%	3.0%
	Agree	Count	462	457	919
		% in Sample	92.8%	92.1%	92.5%
Total		Count	498	496	994
		% in Sample	100.0%	100.0%	100.0%

Question 27. The City should spend what is necessary to ensure that the current quality of fire fighting service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.



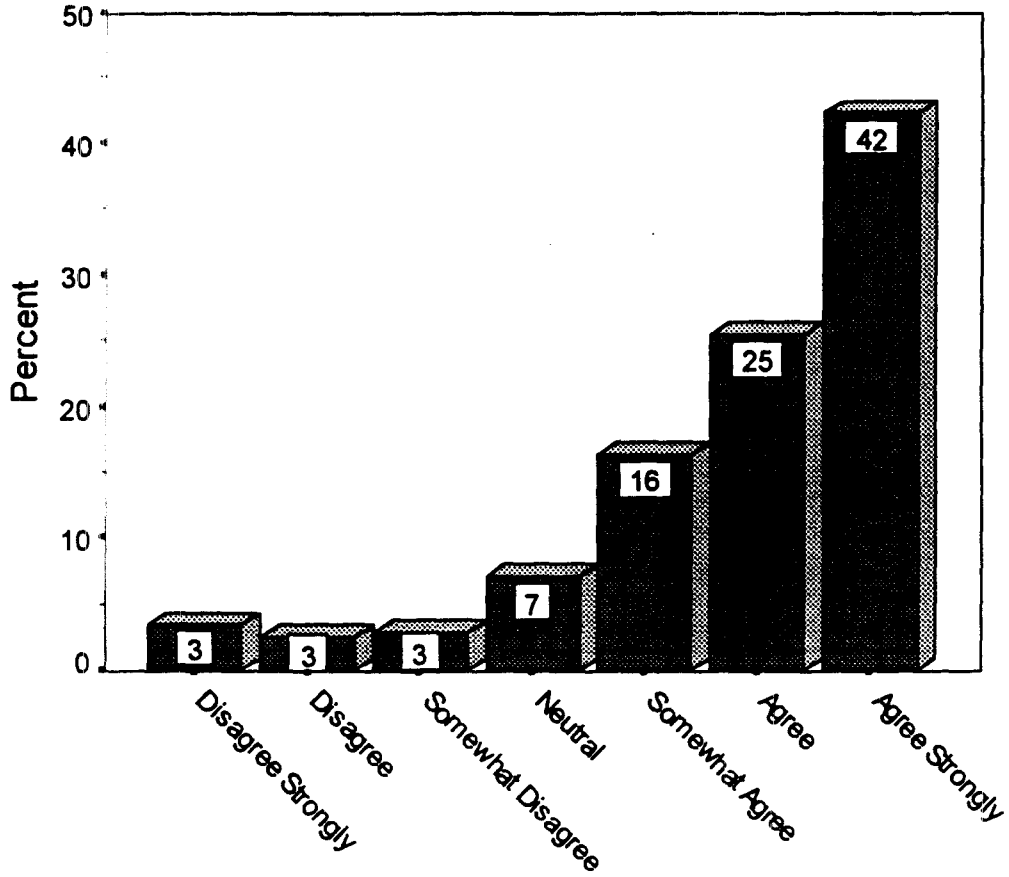
			District						Total
			Northwest	North	Central	West	Southeast	East	
Spend even if average tax of $35 for each new station	Disagree	Count	4	3	5	2	14	5	33
		% within District	3.9%	3.8%	9.4%	2.8%	9.7%	11.1%	6.7%
	Neutral	Count	9	3	2	1	9	4	28
		% within District	8.8%	3.8%	3.8%	1.4%	6.3%	8.9%	5.7%
	Agree	Count	89	72	46	68	121	36	432
		% within District	87.3%	92.3%	86.8%	95.8%	84.0%	80.0%	87.6%
Total		Count	102	78	53	71	144	45	493
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 49. The City should spend what is necessary to ensure that the current quality of ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.



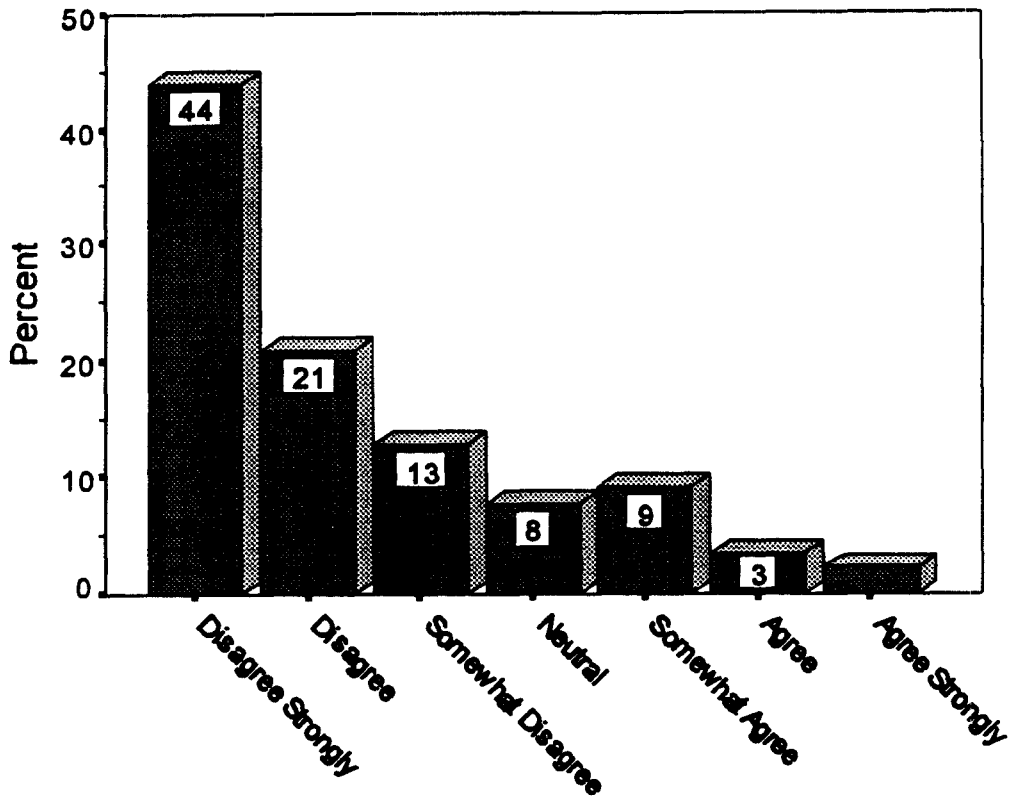
			District						Total
			Northwest	North	Central	West	Southeast	East	
Spend even if average tax of $35 for each new station	Disagree	Count	9	8	8	7	18	4	54
		% within District	9.2%	11.6%	14.0%	7.7%	13.7%	8.0%	10 9%
	Neutral	Count	7	6	7	9	9	4	42
		% within District	7.1%	8.7%	12.3%	9.9%	6.9%	8.0%	8 5%
	Agree	Count	82	55	42	75	104	42	400
		% within District	83.7%	79.7%	73.7%	82.4%	79.4%	84.0%	80 6%
Total		Count	98	69	57	91	131	50	496
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100 0%

Aggregate Question 27 and 49. The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.



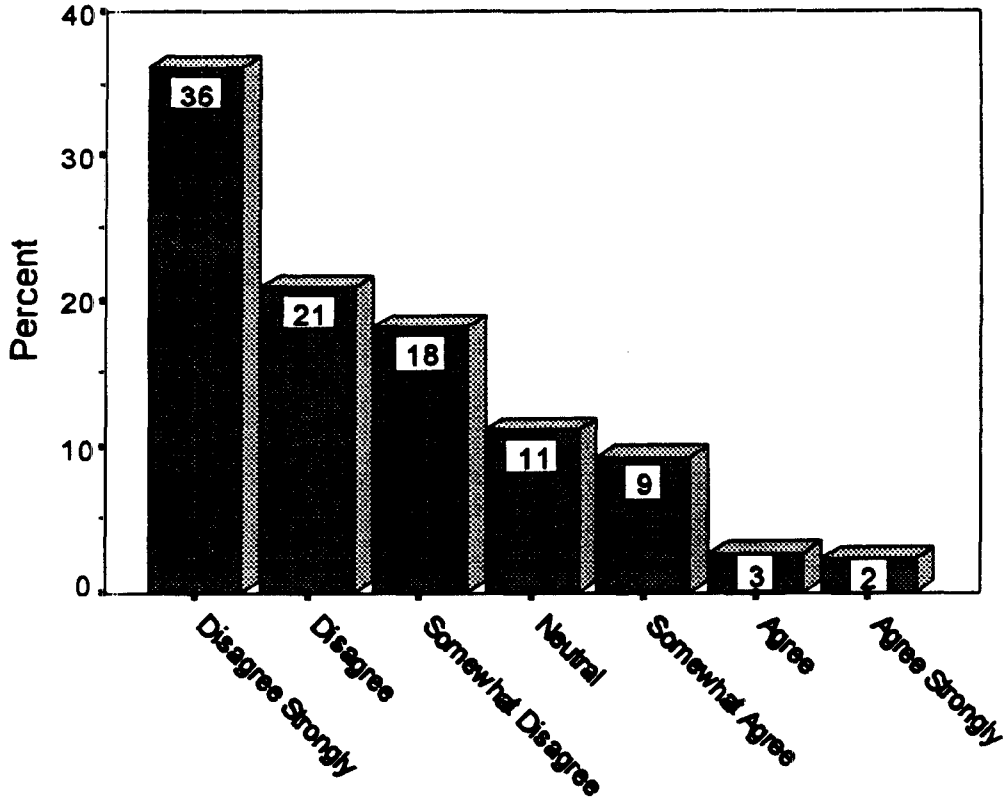
			Sample		Total
			Ambulance	Fire Protection	
Spend even if average tax of $35 for each new station	Disagree	Count	54	33	87
		% in Sample	10.9%	6.7%	8.8%
	Neutral	Count	42	28	70
		% in Sample	8.5%	5.7%	7.1%
	Agree	Count	400	432	832
		% in Sample	80.6%	87.6%	84.1%
Total		Count	496	493	989
		% in Sample	100.0%	100.0%	100.0%

Question 28. The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of fire fighting services.



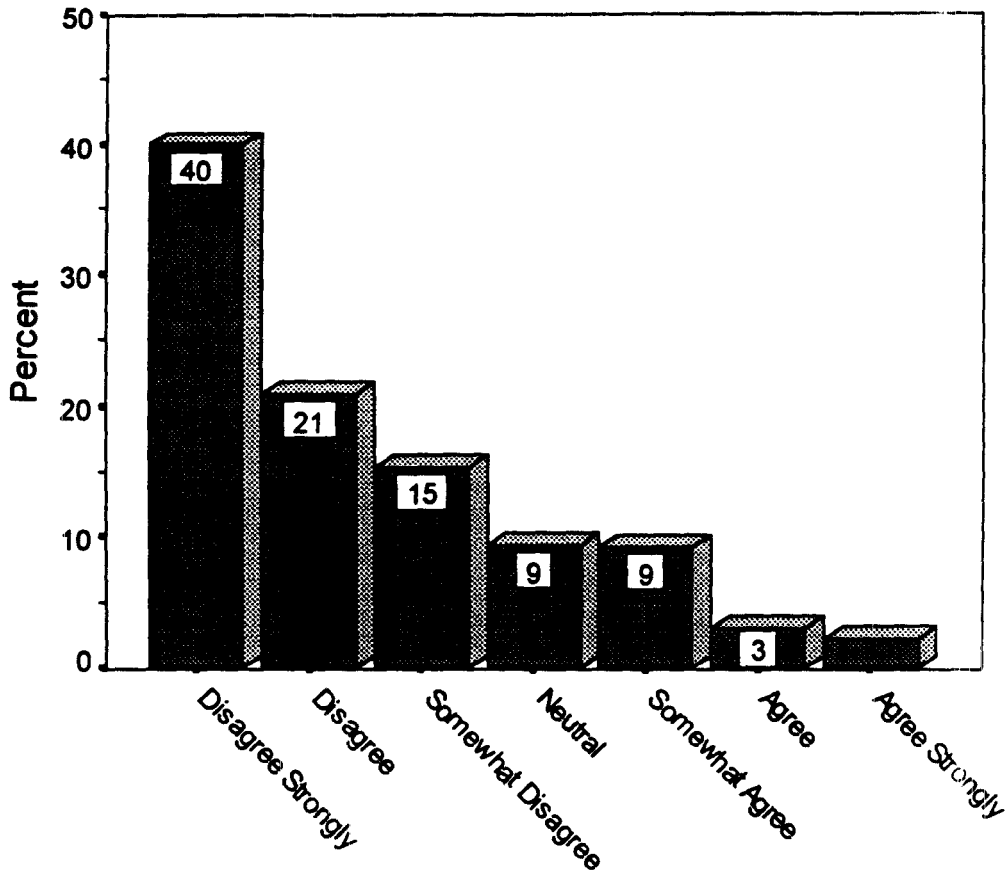
			District						Total
			Northwest	North	Central	West	Southeast	East	
Keep taxes low even if fire-fighting services reduced	Disagree	Count	78	63	40	58	109	35	383
		% within District	76.5%	81.8%	75.5%	79.5%	76.2%	76.1%	77.5%
	Neutral	Count	11	4	6	8	8	1	38
		% within District	10.8%	5.2%	11.3%	11.0%	5.6%	2.2%	7.7%
	Agree	Count	13	10	7	7	26	10	73
		% within District	12.7%	13.0%	13.2%	9.6%	18.2%	21.7%	14.8%
Total		Count	102	77	53	73	143	46	494
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 50. The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of ambulance services.



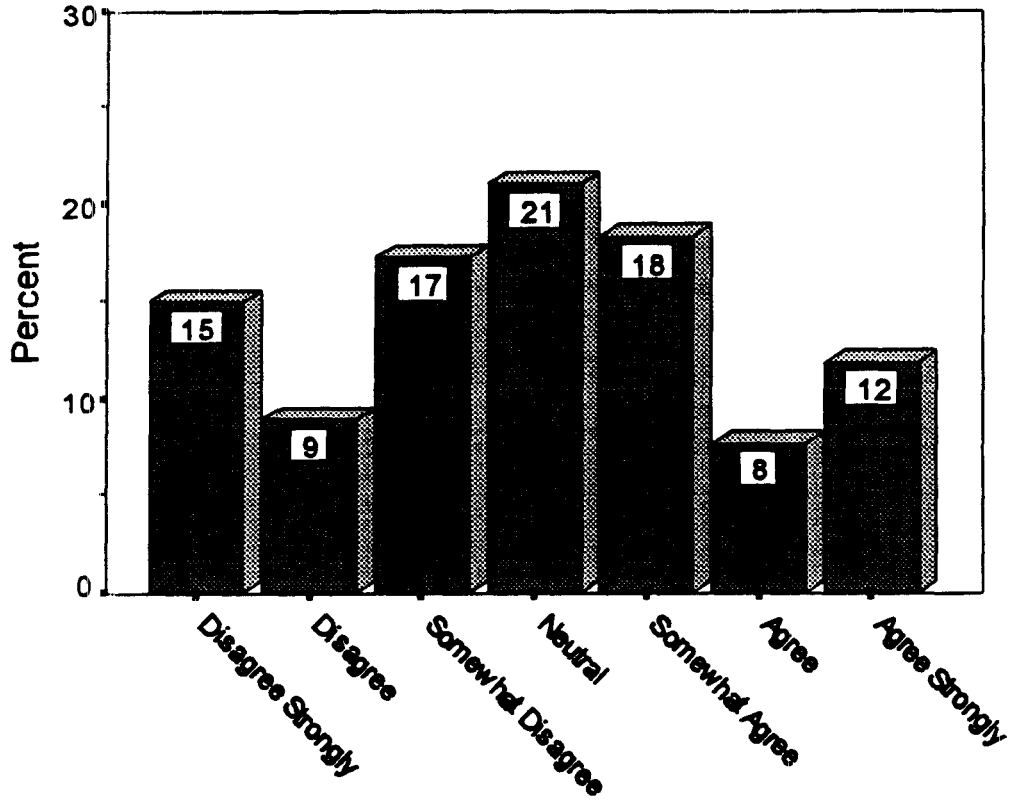
			District						Total
			Northwest	North	Central	West	Southeast	East	
Keep taxes low even if ambulance services reduced	Disagree	Count	72	53	42	74	98	35	374
		% within District	72.7%	77.9%	73.7%	77.9%	76.0%	68.6%	74.9%
	Neutral	Count	11	12	7	8	12	5	55
		% within District	11.1%	17.6%	12.3%	8.4%	9.3%	9.8%	11.0%
	Agree	Count	16	3	8	13	19	11	70
		% within District	16.2%	4.4%	14.0%	13.7%	14.7%	21.6%	14.0%
Total		Count	99	68	57	95	129	51	499
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 28 and 50. The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of fire fighting/ambulance services.



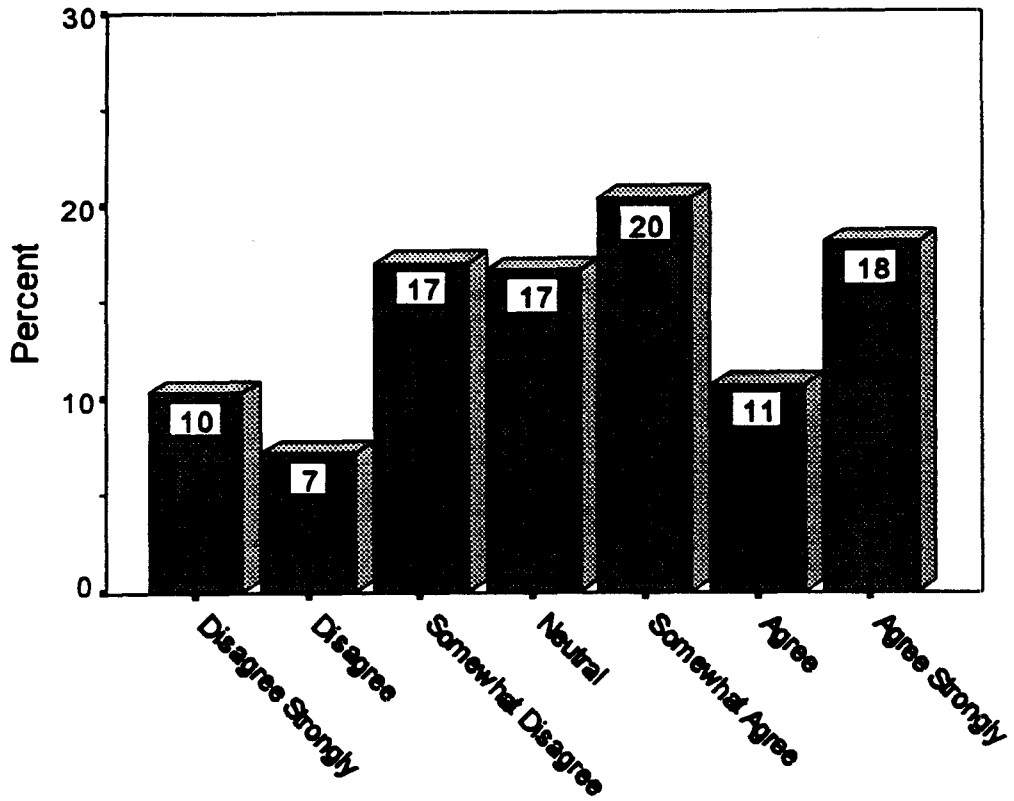
			Sample		
			Ambulance	Fire Protection	Total
Keep taxes low even if fire-ambulance services reduced	Disagree	Count	374	383	757
		% in Sample	74.9%	77.5%	76.2%
	Neutral	Count	55	38	93
		% in Sample	11.0%	7.7%	9.4%
	Agree	Count	70	73	143
		% in Sample	14.0%	14.8%	14.4%
Total		Count	499	494	993
		% in Sample	100.0%	100.0%	100.0%

Question 29. The City should provide the best fire fighting service possible, even if it means taking money from other City services to pay for it.



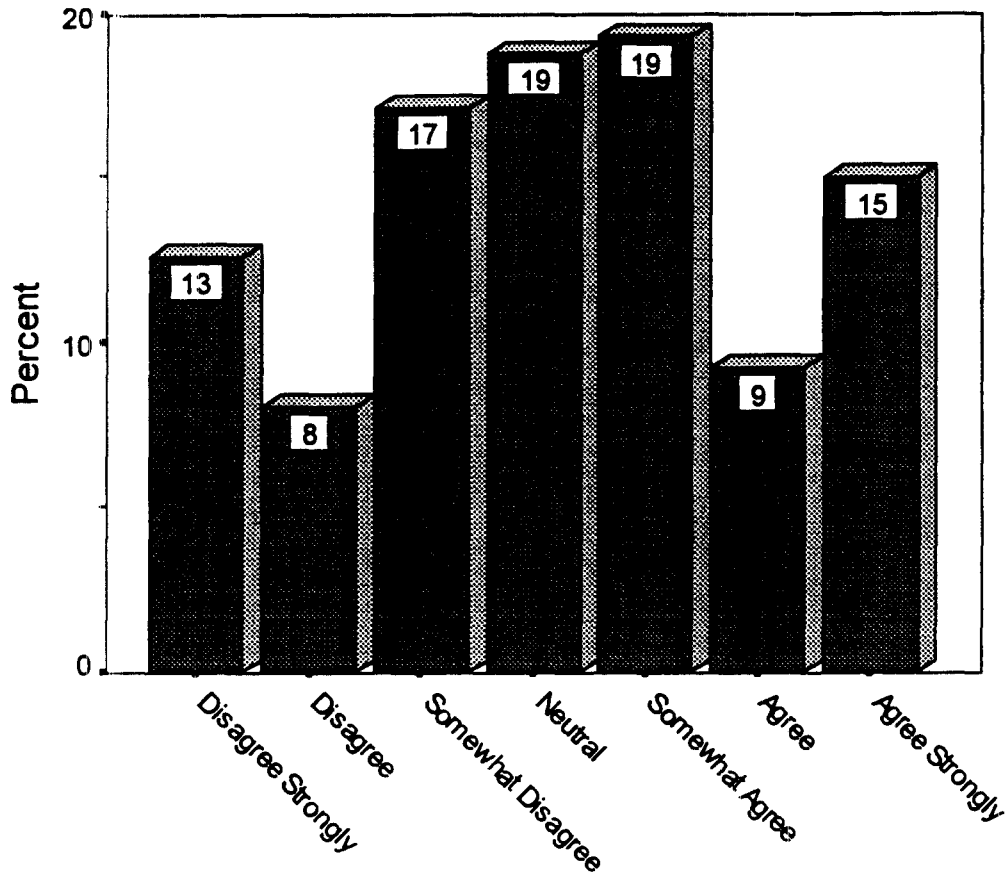
			District						
			Northwest	North	Central	West	Southeast	East	Total
Best fire-fighting even if money taken from other services	Disagree	Count	38	34	18	31	58	19	198
		% within District	37.6%	44.2%	36.7%	44.3%	41.7%	42.2%	41.2%
	Neutral	Count	18	15	10	16	33	9	101
		% within District	17.8%	19.5%	20.4%	22.9%	23.7%	20.0%	21.0%
	Agree	Count	45	28	21	23	48	17	182
		% within District	44.6%	36.4%	42.9%	32.9%	34.5%	37.8%	37.8%
Total		Count	101	77	49	70	139	45	481
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 51. The City should provide the best ambulance service possible, even if it means taking money from other City services to pay for it.



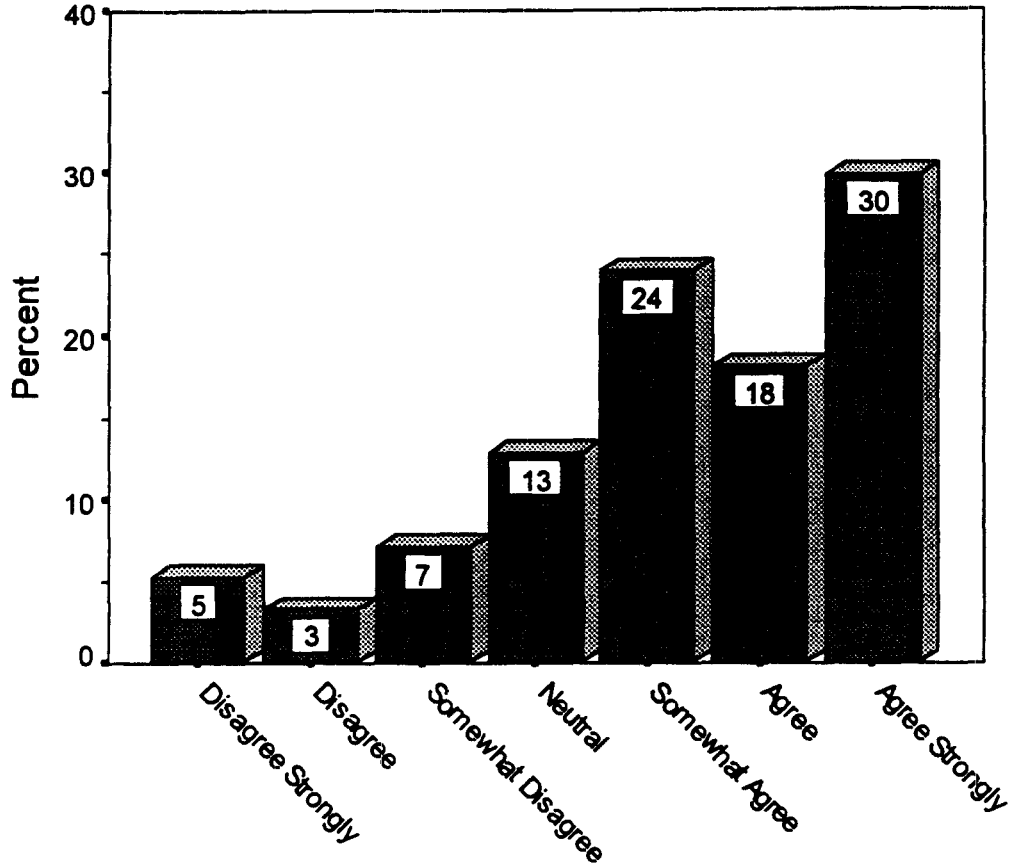
			District						Total
			Northwest	North	Central	West	Southeast	East	
Best ambulance service even if money taken from other services	Disagree	Count	29	26	25	33	38	17	168
		% within District	30.2%	38.8%	46.3%	35.1%	29.2%	36.2%	34.4%
	Neutral	Count	18	7	8	12	26	10	81
		% within District	18.8%	10.4%	14.8%	12.8%	20.0%	21.3%	16.6%
	Agree	Count	49	34	21	49	66	20	239
		% within District	51.0%	50.7%	38.9%	52.1%	50.8%	42.6%	49.0%
Total		Count	96	67	54	94	130	47	488
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 29 and 51. The City should provide the best fire fighting/ambulance service possible, even if it means taking money from other City services to pay for it.



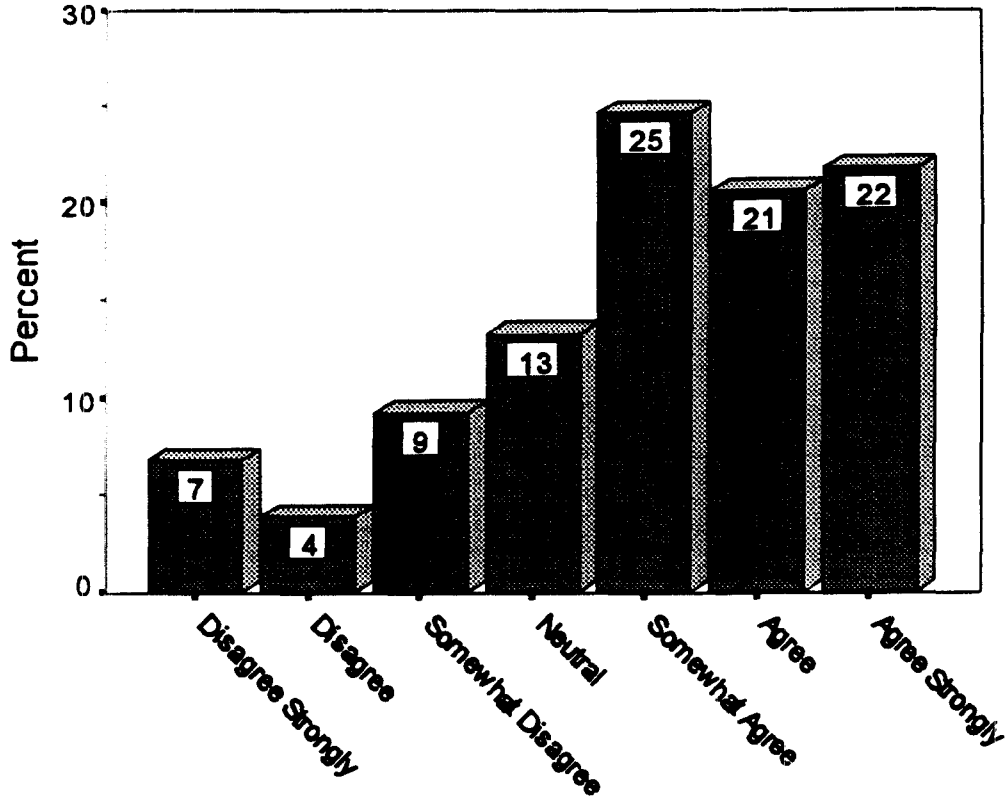
			Sample		
			Ambulance	Fire Protection	Total
Best emergency services even if money from other services	Disagree	Count	168	198	366
		% in Sample	34.4%	41.2%	37.8%
	Neutral	Count	81	101	182
		% in Sample	16.6%	21.0%	18.8%
	Agree	Count	239	182	421
		% in Sample	49.0%	37.8%	43.4%
Total		Count	488	481	969
		% in Sample	100.0%	100.0%	100.0%

Question 30. The City should provide the best fire fighting service possible, even if it means raising property taxes to pay for it.



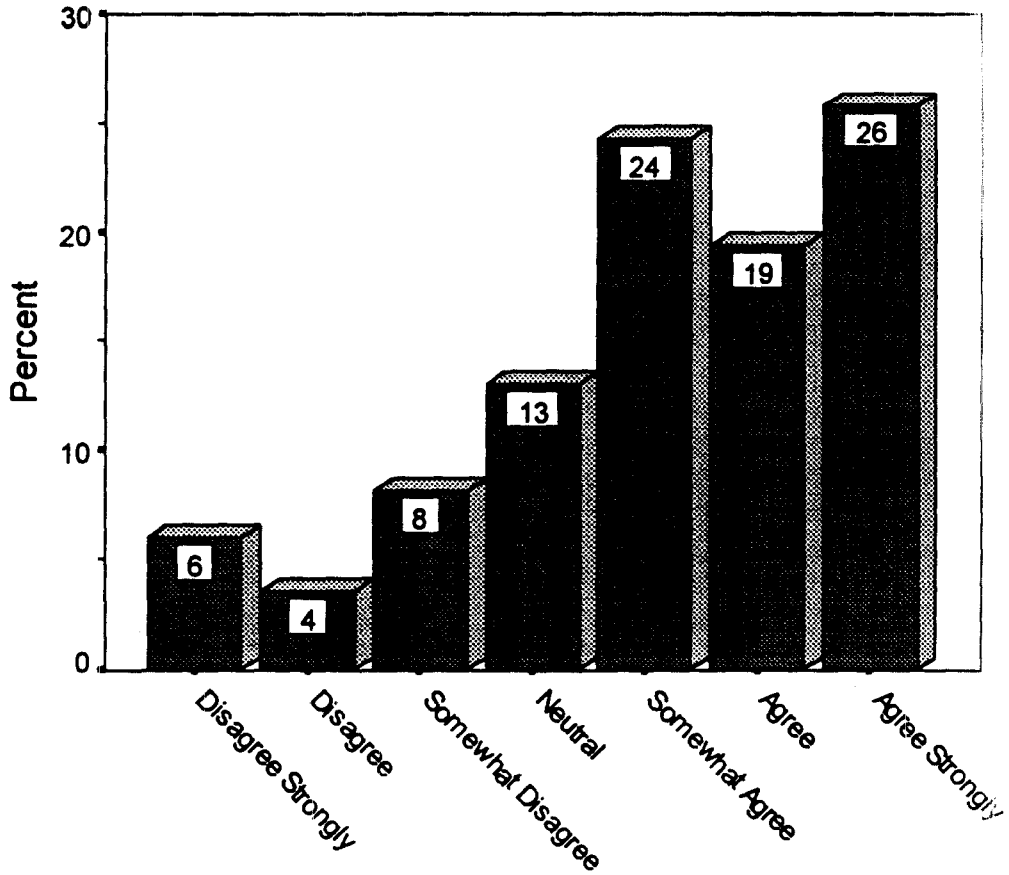
			District						
			Northwest	North	Central	West	Southeast	East	Total
Best fire-fighting even if property taxes are increased	Disagree	Count	16	9	10	6	27	9	77
		% within District	15.5%	11.7%	19.2%	8.3%	19.0%	19.6%	15.7%
	Neutral	Count	18	8	12	6	16	3	63
		% within District	17.5%	10.4%	23.1%	8.3%	11.3%	6.5%	12.8%
	Agree	Count	69	60	30	60	99	34	352
		% within District	67.0%	77.9%	57.7%	83.3%	69.7%	73.9%	71.5%
Total		Count	103	77	52	72	142	46	492
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 52. The City should provide the best ambulance service possible, even if it means raising property taxes to pay for it.



			District						Total
			Northwest	North	Central	West	Southeast	East	
Best ambulance service even if property taxes are increased	Disagree	Count	16	11	15	16	27	12	97
		% within District	16.5%	16.9%	27.3%	16.8%	21.1%	23.5%	19.8%
	Neutral	Count	16	11	5	12	14	7	65
		% within District	16.5%	16.9%	9.1%	12.6%	10.9%	13.7%	13.2%
	Agree	Count	65	43	35	67	87	32	329
		% within District	67.0%	66.2%	63.6%	70.5%	68.0%	62.7%	67.0%
Total		Count	97	65	55	95	128	51	491
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Aggregate Question 30 and 52. The City should provide the best fire fighting/ambulance service possible, even if it means raising property taxes to pay for it.



			Sample		
			Ambulance	Fire Protection	Total
Best emergency services even if property taxes are increased	Disagree	Count	97	77	174
		% in Sample	19.8%	15.7%	17.7%
	Neutral	Count	65	63	128
		% in Sample	13.2%	12.8%	13.0%
	Agree	Count	329	352	681
		% in Sample	67.0%	71.5%	69.3%
Total		Count	491	492	983
		% in Sample	100.0%	100.0%	100.0%

8. CONCERNS AND COMMENTS

The final question in both surveys asked respondents: "Do you have any other concerns or comments you would like to make about the fire fighting/ambulance services in the City of Red Deer. Respondents' verbatim statements were recorded and are summarized in Table 8:1 and Table 8:2.

Table 8:1 Distribution of responses to Question 33: "Do you have any other concerns or other comments that you would like to make about the fire fighting services in the City of Red Deer." (N = 500)

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Overall, the fire department is doing a wonderful job; excellent; I am very pleased; good group and do a great job; wonderful	34	6.8%
Not the place to try and save money; keep up the high standard; quality service to be maintained	12	2.4%
Concerned with response times on East side; build new fire station; need new stations; Kentwood station	10	2.0%
No new fire halls; tax new areas higher to pay for new halls; functional stations only, not castles like downtown	4	0.8%
I wonder how come the ambulance and fire truck show up on the same call? A waste of resources	7	1.4%
Don't think money should come from other City services; Taking from other areas concerns me	6	1.2%
Not keen on volunteers in emergency services; should not have to rely on volunteers	6	1.2%
Go volunteer over the next 5 years (50/50 split); trained volunteers would provide the same service as professionals	4	0.8%
Volunteers only if they complimented the service; volunteers in non-emergency roles only	4	0.8%
By having volunteers, how much would the quality decrease?	3	0.6%
We need more fire fighters; they need more staff	4	0.8%

(...continued)

Table 8:1 Distribution of responses to Question 33: "Do you have any other concerns or other comments that you would like to make about the fire fighting services in the City of Red Deer." (continued)

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Good experience; I was very impressed with their services	4	0.8%
Sprinklers should be personal choice	4	0.8%
Other concerns regarding sprinklers **	11	2.2%
Do not really want taxes to go up but at the same time want the very best response times in case it's needed; have the best regardless of cost	3	0.6%
Keep taxes low but give best service possible (without volunteers); Keep excellent service without raising taxes or taking from other areas (an no volunteers)	2	0.4%
Nothing specific; haven't heard anything against them; adequate for size of the city	4	0.8%
Drivers who don't give emergency vehicles the right of way; should be heavily penalized	2	0.4%
The 911 services is great; feeling of security with 911	2	0.4%
Other concerns or comments **	20	4.0%
Don't know of any; nothing; don't know	367	73.4%

* These percentages have been calculated on the sample size of 500 respondents. Many respondents mentioned more than one theme and are counted more than once, thus the column should not be totaled.

** Statements reported as 'Other' are listed in Appendix C.

Table 8:2 Distribution of responses to Question 56: "Do you have any other concerns or other comments that you would like to make about the ambulance services in the City of Red Deer." (N = 504)

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
Fantastic job; very prompt; they're doing a good job Excellent service; Fine system	30	5.6%
Ambulance should respond without fire trucks; Does a fire truck have to go with the ambulance every time?	16	3.2%
Volunteers are an effective resource; volunteers should be used; O.K to combine volunteers with professionals	14	2.8%
The $200 charge is too high; people who cannot afford it concerns me; too expensive	13	2.6%
People who misuse the service; repeat abusers	13	2.6%
Good experience with the ambulance; the service is super	12	2.4%
Concerned about cutbacks; afraid to use the service if cuts are made; would not like to see quality change	11	2.2%
Equal response times to all parts of City; East Hill station; response time to Kentwood; everyone should get the same quality of service	10	2.0%
Rather pay $35 a year in taxes than the $200 plus; the $35 should only be charged to the area that needs it, keep taxes down; how do other communities pay for it?	8	1.6%
Do not agree with volunteer staff; only trained professionals	8	1.6%
Should be provincial responsibility; AHC should pay	7	1.4%
Drivers in Red Deer not aware of emergency vehicles	6	1.2%
Look carefully before using volunteers; use only for low risk things; worry if volunteers used	6	1.2%
$35 a year doesn't seem like too much to help people in Red Deer	5	1.0%
I definitely want the ambulance to be there for me; If I ever need one; I want to count on good quality	5	1.0%
Take the money from other areas; The money is just not going to the right areas	4	0.8%

(...continued)

Table 8:1 Distribution of responses to Question 33: "Do you have any other concerns or other comments that you would like to make about the fire fighting services in the City of Red Deer." (Continued)

Response Themes	Number of Times Mentioned	Times mentioned as Percent of all Respondents*
911 is excellent; keep 911 within the City	3	0 6%
Why do we have to build a whole fire station to get ambulance service?	3	0 6%
Don't take money from other areas	3	0 6%
Survey is biased; not enough information given	2	0 4%
What do they (staff) do when they're not on a call?	2	0 4%
Other concerns or comments **	18	3 6%
Don't know of any; nothing; don't know	331	65 7%

* These percentages have been calculated on the sample size of 504 respondents. Many respondents mentioned more than one theme and are counted more than once, thus the column should not be totaled.

** Statements reported as 'Other' are listed in Appendix C.

APPENDICES

APPENDIX A: THE INTERVIEW SCHEDULES[1]

Introduction

Hello, my name is _____, and I am calling on behalf of the City of Red Deer. Have I reached xxx-xxxx?

The Red Deer City Council needs to make some important decisions about fire fighting services (or ambulance services) in the City of Red Deer. To make these decisions, the Council would like to know what the citizens of Red Deer would like.

Participation in this study is voluntary and the opinions from your household are very important to the City of Red Deer to help develop the plan for fire fighting services (or ambulance services). Your telephone number was randomly selected by a computer to take part in the study, and any of the responses you provide to the questions will be kept completely confidential and anonymous.

a. Are you 18 years old or more?

b. Is this the main telephone number used at this household?

In order to determine which member of your household is eligible to participate in this study, could you please give me some information about this household?

(Interviewer completes a separate household information scansheet and after coding the age and gender of all occupants, identifies the eligible respondent.)

(If the interviewer is speaking to the household member eligible to be interviewed, skip to ✱; if not, the interviewer continues:)

May I please speak with (name of eligible household member)?

Hello, is this (name of eligible household member)?

My name is _____, and I am calling on behalf of the City of Red Deer.

The Red Deer City Council needs to make some important decisions about fire fighting services (or ambulance services) in the City of Red Deer. To make these decisions, the Council would like to know what the citizens of Red Deer would like.

1 The text of the interview schedules is reproduced here in a condensed format. The significant omissions include the Ci3 software coding and instructions, directions and keys to facilitate interviewers' movements within the forms, and repetitive response categories. None of the item wording has been altered.

Your participation in this study is voluntary and your opinions are very important to the City of Red Deer to help develop the plan for fire fighting services (or ambulance services).

Your telephone number was randomly selected by a computer to take part in the study, and any of the responses you provide to the questions will be kept completely confidential and anonymous, and only grouped statistics will be used for reporting purposes.

*

The interview takes approximately 25 minutes to complete.

May I interview you now? *(If no, interviewer makes an appointment for a more suitable time; if yes, the interviewer continues:)*

If there are any questions which you do not wish to answer, please tell me and we will continue to the next question.

1. In which area of the City of Red Deer do you live?

2. What type of house or building do you currently live in?
   (Interviewer codes response in the following categories)
   - Single house
   - Duplex
   - 4 Plex
   - Row house
   - Town house
   - Condominium
   - Apartment with 3 stories or less (not incl. Basement level)
   - Apartment with 4 or more stories (not incl. Basement level)
   - Mobile home
   - House attached to a non-residential building
   - Basement suite
   - Senior citizens home
   - Other (specify)

3. Do you own or rent the home in which you live, or do you have other arrangements?

4. What is your postal code? (*If unknown interviewer asks*: "What is your address?")

5. On a scale of "1" to "7" where "1" means Very Unlikely and "7" means Very Likely, and you can choose any number between 1 and 7, how likely are you to build or buy a new house in Red Deer within the next 3 years?

(Interviewer refers to the call sheet to determine whether to proceed with fire or ambulance schedule and skips to the appropriate form)

Fire Protection Services Survey Schedule

Now I would like to ask you a few general questions about fire fighting services provided by the City of Red Deer.

8. On a scale of "1" to "7" where "1" means Very Dissatisfied and "7" means Very Satisfied, and you can choose any number between "1" and "7":
   In general, how satisfied are you with the fire fighting service currently provided by the City of Red Deer?

9. In your opinion, what are the STRENGTHS of the City's fire fighting service? *(Verbatim response recorded)*

10. In your opinion, what are the LIMITATIONS or WEAKNESSES of the City's fire fighting service? *(Verbatim response recorded)*

Now I would like to read you a few statements about fire in houses and then ask you a few questions.

To begin, I would like to describe what happens in a typical fire. At first, a fire grows slowly. It spreads from item to item in the room only as the flames contact each item. At the same time, the fire produces more and more heat until the air in the room becomes superheated. Then, suddenly, this superheated air causes everything in the room that can burn to burst into flames. At this point, which fire fighters call flashover, everything in the room burns totally.

In Red Deer, the standard for fire fighter response times is designed to allow fire fighters enough time to get to the scene of a fire and begin fighting the fire BEFORE flashover occurs.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

Some communities accept slower fire fighter response times so that taxpayers pay less for fire fighting services. On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

11. The City should attempt to keep property taxes low, even if it means slower fire fighter response times.

12. As Red Deer grows and develops new residential areas, the standard fire fighter response time should be provided in all parts of the Community.

To achieve the standard fire fighter response time in new residential areas of the City means that additional fire stations must be built as the City grows. To build, equip, and staff a new fire station will add approximately $35 per year to the average residential tax bill. Taking this into account and using the 7 point scale, how much do you agree or disagree with the following statement?

13. The City should spend the money necessary to ensure that the standard fire fighter response time is provided in all areas of the City.

Now I would like to read you a few statements about fire safety and modern home sprinkler systems.

Over 70% of all fire-related deaths in Alberta happen from fires in the home. Direct contact with the flames is rarely the cause of death; the majority of victims are in areas of the house away from the fire. The major causes of death are heat, smoke and poisonous gasses coming from the fire

A recent innovation in fire safety has been the development of modern home fire sprinkler systems. Concealed in the ceilings and walls of houses, modern home sprinkler systems activate within an average of 1 minute from the time a fire begins. The system sounds an alarm and one or two sprinkler heads at the location of the fire spray a fine mist of water on the fire.

Putting water on the early stages of a fire in this way prevents the growth of the fire as well as the growth of heat, smoke and poisonous gases which usually cause deaths. In most cases, the sprinklers will extinguish the fire before it can grow. Studies have shown that modern home sprinkler systems almost eliminate fire related deaths and that damage to property is dramatically reduced.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

At present, it costs about $3000 to install a modern home sprinkler system to the main floor and basement of an average 1200 square foot bungalow when it is being built. There are also maintenance costs for the system which average $150 a year.

Some communities have decided to make modern home sprinkler systems required in new house construction for two reasons. First, by extinguishing fires or preventing them from growing, home sprinklers significantly improve the safety of the occupants of a home and of fire fighters called to respond to a fire.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

The second reason some communities have decided to make modern home sprinkler systems required in new house construction is that when all new houses in an area have sprinkler systems, fire fighter response times can be slower, and the community as a whole saves money by not having to build as many new fire stations, buy as many fire trucks, or hire as many additional fire fighters

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

14. If modern home sprinkler systems can provide greater safety for occupants and fire fighters, that is reason enough to require them to be built into new houses.

15. If requiring new houses to have modern home sprinkler systems can save tax dollars for everyone living in Red Deer, that is reason enough to require them to be built into new houses.

16. In general, modern home sprinkler systems are not necessary because smoke detectors provide people with enough protection.

17. By adding approximately $3000 to the cost of building a new house, modern home sprinkler systems are just too expensive to be required in Red Deer.

New developments in technology may reduce the costs of modern home sprinkler systems to approximately $1000 and eliminate the annual maintenance costs. It is expected that this new system could be on the market within the next two years. Using the 7 point scale, how much do you agree or disagree with the following statements?

18. If modern home sprinkler systems added $1000 to the cost of building a new house, they would still be too expensive to be required in Red Deer.

If the City required modern home sprinkler systems to be installed in all new house construction, there are several ways that the systems could be paid for.

One way is that the new house buyers or builders could pay all of the costs themselves since they would benefit from greater safety and protection. Another way is that the City could use taxpayer dollars to pay for all or part of the costs because the City as a whole would save tax dollars in the long run since it would not have to build, equip or staff as many fire stations in areas with required sprinklers.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

Using the 7 point scale where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following alternatives?

19. New house buyers or builders should pay the entire cost of their modern home sprinkler system just like they pay for any other part of their house.

20. The City should pay the entire cost of modern home sprinkler systems because the City as a whole would save tax dollars in the long run.

21. The cost of required sprinklers should be shared by the City and house buyers and builders.

22. If new house builders and buyers paid for part of the cost of required home sprinklers and the City paid for part, what percentage do you think the City should pay? For example: 25%? 50%? 75% or some other percentage. *(Verbatim response recorded)*

Now I'd like to talk to you about the possibility of adding volunteer-auxiliary staff to Red Deer's fire fighting services.

The City might be able to save money on fire fighting services by using both full-time professional fire fighters and a number of volunteer auxiliary staff who could be called upon to assist when needed. On the other hand, using auxiliary fire fighters could lower the quality of fire fighting services, since volunteers would not be as highly trained as full-time professionals and volunteers would respond more slowly.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

23. If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of fire fighting services.

(NOTE: The order of questions 24 and 25 was reversed in one-half of the interviews)

24. If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting services, then the City should do it.

25. The City of Red Deer should employ only full-time professionals to work in fire fighting services.

Now I would like to ask you a few general questions about the concerns that you would think are important if you were a member of Red Deer City Council making decisions about a plan for Emergency Services in the City of Red Deer.

On a scale of 1 to 7, where 1 is Strongly Disagree and 7 is Strongly Agree, and you can choose any number between 1 and 7, please tell me how much you agree or disagree that the following items should be included in Red Deer's Emergency Services plan.

26. The City should spend what is necessary to ensure that the current quality of fire fighting service is provided equally in all areas of the City.

27. The City should spend what is necessary to ensure that the current quality of fire fighting service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.

28. The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of fire fighting services.

29. The City should provide the best fire fighting service possible, even if it means taking money from other City services to pay for it.

30. The City should provide the best fire fighting service possible, even if it means raising property taxes to pay for it.

31. The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer.

32 Please tell me what was the most important reason for your answer to the last question. (The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer). *(Verbatim response recorded)*

33. Do you have any other concerns or other comments you would like to make about the fire fighting services in the City of Red Deer? *(Verbatim responses recorded)*

*(This completes the distinctive fire protection survey questions and interviewer skips to **, following the ambulance service survey)*

Ambulance Service Survey

Now I would like to ask you a few general questions about ambulance services provided by the City of Red Deer.

34. On a scale of "1" to "7" where "1" means Very Dissatisfied and "7" means Very Satisfied, and you can choose any number between "1" and "7":
In general, how satisfied are you with the ambulance service currently provided by the City of Red Deer?

35. In your opinion, what are the STRENGTHS of the City's ambulance service? *(Verbatim response recorded)*

36. In your opinion, what are the LIMITATIONS or WEAKNESSES of the City's ambulance service? *(Verbatim response recorded)*

Now, I would like to read you a few short statements about ambulance services in Red Deer and then ask you a few questions.

In Red Deer, fire fighting and ambulance services are combined in a single operation and all employees of the Fire Department are trained to work in both fire fighting and ambulance calls. This is more cost-efficient than separate ambulance and fire services since the same staff perform two jobs instead of just one.

When many people think of the fire department, they think mostly of fire trucks and fire fighters. Yet emergency medical services are a very important part of the fire department's role. In fact, at least three-quarters of all calls to the fire department are for an ambulance.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

The amount of time it takes an ambulance to arrive on the scene once a call has been received is called response time. The chances that a patient will survive a serious medical emergency are directly related to response time and the speed with which treatment is started. In Red Deer, the ambulance service is staffed by paramedics who are trained to start treatment at the scene and the standard for ambulance response times is designed to allow staff to get to the scene of an emergency and to start treatment quickly.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

Ambulance and emergency medical services are not covered by Alberta Health Care. In Red Deer approximately half of the cost of the ambulance service is paid for by the City from taxes The other half of the cost is covered by charging a fee to the patient. At present, the minimum charge to a patient for an ambulance call is $200. In some cases, this charge is covered by a patient's private insurance or by some other government programs such as Social Services or Alberta Blue Cross for seniors.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

37. Some communities accept slower response times so that taxpayers pay less for ambulance services. Keeping this in mind, how much do you agree or disagree that the City should keep property taxes low, even if it means slower ambulance response times.

38. Some communities accept less highly trained ambulance staff so that taxpayers pay less for ambulance services. Keeping this in mind, how much do you agree or disagree that the City should attempt to keep property taxes low, even if it means that the ambulance staff will provide less treatment at the scene.

39. As Red Deer grows and develops new residential areas, the standard for ambulance response times should be provided in all parts of the community.

To achieve the standard for ambulance response times in new residential areas of the City means that fire stations must be built as the City grows. To build, equip and staff a new fire station will add approximately $35 per year to the average residential tax bill. Keeping this in mind, how much do you agree or disagree with the following statement?

40. The City should spend the money necessary to ensure that standard ambulance response times are provided in all areas of the City.

41. If everyone knew that patients must pay a minimum of $200 for ambulance service, some people might not call an ambulance even when it might be necessary.

42. Ambulance services should be an insured service paid for by the Provincial Government under Alberta Health Care, even if this means higher provincial taxes.

43. A larger share of the cost of ambulance calls in Red Deer should be charged directly to the patients who use it.

44. More of the cost of providing ambulance services should be paid for by the City from tax dollars and less charged directly to patients who use it.

Now I'd like to talk to you about the possibility of adding volunteer-auxiliary staff to Red Deer's ambulance services.

The City might be able to save money on ambulance services by using both full-time professional fire fighters who are trained as paramedics and a number of volunteer auxiliary staff who could be called upon to assist when needed. On the other hand, using auxiliary fire fighters could lower the quality of ambulance services, since volunteers would not be as highly trained as full-time professionals and volunteers would respond more slowly.

(*Interviewer confirms respondent's understanding:* Do you have any questions about the information I have just read to you?)

On a scale of "1" to "7" where "1" means Strongly Disagree and "7" means Strongly Agree, and you can choose any number between 1 and 7, how much do you agree or disagree with the following statements?

45. If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of ambulance services.

(NOTE: The order of questions 46 and 47 was reversed in one-half of the interviews)

46 If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of ambulance services, then the City should do it.

47. The City of Red Deer should employ only full-time professionals to work in ambulance services.

Now I would like to ask you a few general questions about the concerns that you would think are important if you were a member of Red Deer City Council making decisions about a plan for Emergency Services in the City of Red Deer.

On a scale from 1 to 7, where 1 is Strongly Disagree and 7 is Strongly Agree, and you can answer any number between 1 and 7, please tell me how much you agree or disagree that the following items should be included in Red Deer's Emergency Services plan.

48. The City should spend what is necessary to ensure that the current quality of ambulance service is provided equally in all areas of the City.

49. The City should spend what is necessary to ensure that the current quality of ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built.

50. The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of ambulance services.

51. The City should provide the best ambulance service possible, even if it means taking money from other City services to pay for it.

52. The City should provide the best ambulance service possible, even if it means raising property taxes to pay for it.

53. Do you have any other concerns or other comments you would like to make about the ambulance services in the City of Red Deer?

**

Conclusion

54. Have you read anything in the newspaper about this survey?
(If the response is yes, interviewer asks which newspaper and what was read. Responses were recorded verbatim)

55. Have you heard anything on the radio or seen anything on the TV about this survey?
(If the response is yes, interviewer asks what was heard or seen. Responses were recorded verbatim)

56. Is there anything else you would like to tell us about emergency services in Red Deer or about this survey?

Thank you for taking the time to complete this survey. Goodbye.

APPENDIX B: CONTINGENT DISTRIBUTIONS

The distributions of respondents' responses to the questions in both fire protection and ambulance interviews were tested for independence against eight background variables: residential district; Emergency Services response areas; gender; age; type of dwelling; number residing in the dwelling; home ownership; and likelihood to build or buy a new home.

Where contingent distributions were found to be statistically significant, they are identified and discussed in the text. All contingent distributions discussed in the text are reproduced in this appendix.[1]

CONTINGENT DISTRIBUTIONS IN SECTION 2

"In general, how satisfied are you with the ambulance service currently provided by the City of Red Deer?" by gender.

			Respondent gender		
			Male	Female	Total
Satisfaction with current ambulance service?	Dissatisfied	Count	9	3	12
		% within Respondent gender	6.8%	2.1%	4.3%
	Neutral	Count	19	13	32
		% within Respondent gender	14.4%	9.0%	11.6%
	Satisfied	Count	104	128	232
		% within Respondent gender	78.8%	88.9%	84.1%
Total		Count	132	144	276
		% within Respondent gender	100.0%	100.0%	100.0%

1 All contingent distributions were tested for independence using the Chi-Square procedure with the level of statistical significance set at 0.05. While none of the Chi-Square values have been reported, all of the contingent distributions in this appendix were observed to be statistically significant. Of the more than 450 contingent distributions tested, those reported here were the only tests to be statistically significant. As a further guide to interpreting these tables, please refer to the discussion in Section 1 of the report.

"In general, how satisfied are you with the ambulance service currently provided by the City of Red Deer?" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Satisfaction with current ambulance service?	Dissatisfied	Count	4	3	3		10
		% within Aggregated Ages of Respondents	4.9%	3.3%	8.8%		4.0%
	Neutral	Count	13	15	1	1	30
		% within Aggregated Ages of Respondents	15.9%	16.7%	2.9%	2.2%	11.9%
	Satisfied	Count	65	72	30	45	212
		% within Aggregated Ages of Respondents	79.3%	80.0%	88.2%	97.8%	84.1%
Total		Count	82	90	34	46	252
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

"In general, how satisfied are you with the fire fighting/ambulance service currently provided by the City of Red Deer?" by gender.

			Respondent gender		
			Male	Female	Total
Satisfaction with current fire-ambulance services?	Dissatisfied	Count	12	4	16
		% within Respondent gender	3.8%	1.3%	2.5%
	Neutral	Count	29	19	48
		% within Respondent gender	9.3%	6.0%	7.6%
	Satisfied	Count	271	296	567
		% within Respondent gender	86.9%	92.8%	89.9%
Total		Count	312	319	631
		% within Respondent gender	100.0%	100.0%	100.0%

"In general, how satisfied are you with the fire fighting/ambulance service currently provided by the City of Red Deer?" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Satisfaction with current fire-ambulance services?	Dissatisfied	Count	5	3	5	1	14
		% within Aggregated Ages of Respondents	2.5%	1.5%	5.6%	1.1%	2.4%
	Neutral	Count	19	23	1	3	46
		% within Aggregated Ages of Respondents	9.4%	11.2%	1.1%	3.3%	7.8%
	Satisfied	Count	178	180	83	88	529
		% within Aggregated Ages of Respondents	88.1%	87.4%	93.3%	95.7%	89.8%
Total		Count	202	206	89	92	589
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

CONTINGENT DISTRIBUTIONS IN SECTION 3

"The City should attempt to keep property taxes low, even if it means slower fire fighter response times" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Keep property taxes low, even if response times are slower	Disagree Strongly	Count	141	102	243
		% within OWN OR RENT HOME	48.3%	50.0%	49.0%
	Disagree	Count	43	39	82
		% within OWN OR RENT HOME	14.7%	19.1%	16.5%
	Somewhat Disagree	Count	27	27	54
		% within OWN OR RENT HOME	9.2%	13.2%	10.9%
	Neutral	Count	38	10	48
		% within OWN OR RENT HOME	13.0%	4.9%	9.7%
	Somewhat Agree	Count	28	17	45
		% within OWN OR RENT HOME	9.6%	8.3%	9.1%
	Agree	Count	8	4	12
		% within OWN OR RENT HOME	2.7%	2.0%	2.4%
	Agree Strongly	Count	7	5	12
		% within OWN OR RENT HOME	2.4%	2.5%	2.4%
Total		Count	292	204	496
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The City should attempt to keep property taxes low, even if it means slower ambulance response times" by gender.

			Respondent gender		
			Male	Female	Total
Keep property taxes low even if response times are slower	Disagree	Count	158	190	348
		% within Respondent gender	65.3%	76.9%	71.2%
	Neutral	Count	40	22	62
		% within Respondent gender	16.5%	8.9%	12.7%
	Agree	Count	44	35	79
		% within Respondent gender	18.2%	14.2%	16.2%
Total		Count	242	247	489
		% within Respondent gender	100.0%	100.0%	100.0%

"The City should attempt to keep property taxes low, even if it means slower ambulance response times" by number residing in home.

			Number in House - Aggregated					
			one	two	three	four	5 or more	Total
Keep property taxes low even if response times are slower	Disagree	Count	86	118	55	51	38	348
		% within Number in House	69.4%	66.3%	71.4%	77.3%	86.4%	71.2%
	Neutral	Count	14	33	5	5	5	62
		% within Number in House	11.3%	18.5%	6.5%	7.6%	11.4%	12.7%
	Agree	Count	24	27	17	10	1	79
		% within Number in House	19.4%	15.2%	22.1%	15.2%	2.3%	16.2%
Total		Count	124	178	77	66	44	489
		% within Number in House	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

"The City should attempt to keep property taxes low, even if it means slower fire fighter/ambulance response times" by gender.

			Respondent gender		
			Male	Female	Total
Keep property taxes low even if response times are slower	Disagree	Count	333	394	727
		% within Respondent gender	69.8%	77.4%	73.7%
	Neutral	Count	65	45	110
		% within Respondent gender	13.6%	8.8%	11.2%
	Agree	Count	79	70	149
		% within Respondent gender	16.6%	13.8%	15.1%
Total		Count	477	509	986
		% within Respondent gender	100.0%	100.0%	100.0%

"The City should attempt to keep property taxes low, even if it means slower fire fighter response times" by number residing in home.

			Number in House - Aggregated					
			one	two	three	four	5 or more	Total
Keep property taxes low even if response times are slower	Disagree	Count	158	256	122	120	71	727
		% within Number in House	71.5%	70.5%	72.6%	80.5%	83.5%	73.7%
	Neutral	Count	24	53	16	9	8	110
		% within Number in House	10.9%	14.6%	9.5%	6.0%	9.4%	11.2%
	Agree	Count	39	54	30	20	6	149
		% within Number in House	17.6%	14.9%	17.9%	13.4%	7.1%	15.1%
Total		Count	221	363	168	149	85	986
		% within Number in House	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

"As Red Deer grows and develops new residential areas, the standard fire fighter response time should be provided in all parts of the Community" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Insure standard response times in all parts of community	Disagree	Count	8	1	9
		% within OWN OR RENT HOME	2.7%	.5%	1.8%
	Neutral	Count	14	3	17
		% within OWN OR RENT HOME	4.8%	1.5%	3.4%
	Agree	Count	271	201	472
		% within OWN OR RENT HOME	92.5%	98.0%	94.8%
Total		Count	293	205	498
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"As Red Deer grows and develops new residential areas, the standard ambulance response time should be provided in all parts of the Community" by gender.

			Respondent gender		
			Male	Female	Total
Insure standard response times in all parts of community	Disagree	Count	10	8	18
		% within Respondent gender	4.0%	3.2%	3.6%
	Neutral	Count	11	2	13
		% within Respondent gender	4.4%	.8%	2.6%
	Agree	Count	230	242	472
		% within Respondent gender	91.6%	96.0%	93.8%
Total		Count	251	252	503
		% within Respondent gender	100.0%	100.0%	100.0%

"As Red Deer grows and develops new residential areas, the standard fire fighter/ambulance response time should be provided in all parts of the Community" by gender.

			Respondent gender		
			Male	Female	Total
Insure standard response times in all parts of community	Disagree Strongly	Count	5	3	8
		% within Respondent gender	1.0%	.6%	.8%
	Disagree	Count	5	3	8
		% within Respondent gender	1.0%	.6%	.8%
	Somewhat Disagree	Count	7	4	11
		% within Respondent gender	1.4%	.8%	1.1%
	Neutral	Count	20	10	30
		% within Respondent gender	4.1%	1.9%	3.0%
	Somewhat Agree	Count	49	39	88
		% within Respondent gender	10.1%	7.6%	8.8%
	Agree	Count	108	100	208
		% within Respondent gender	22.2%	19.4%	20.8%
	Agree Strongly	Count	293	356	649
		% within Respondent gender	60.2%	69.1%	64.8%
Total		Count	487	515	1002
		% within Respondent gender	100.0%	100.0%	100.0%

"The City should spend the money necessary to ensure that the standard fire fighter response time is provided in all areas of the City" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Increase taxes ($35) to ensure standard response times	Disagree	Count	15	7	22
		% within OWN OR RENT HOME	5.2%	3.4%	4.4%
	Neutral	Count	18	11	29
		% within OWN OR RENT HOME	6.2%	5.4%	5.9%
	Agree	Count	258	186	444
		% within OWN OR RENT HOME	88.7%	91.2%	89.7%
Total		Count	291	204	495
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The City should spend the money necessary to ensure that the standard ambulance response time is provided in all areas of the City" by gender.

			Respondent gender		
			Male	Female	Total
Increase taxes ($35) to ensure standard response times	Disagree	Count	28	14	42
		% within Respondent gender	11.4%	5.6%	8.5%
	Neutral	Count	15	14	29
		% within Respondent gender	6.1%	5.6%	5.8%
	Agree	Count	202	223	425
		% within Respondent gender	82.4%	88.8%	85.7%
Total		Count	245	251	496
		% within Respondent gender	100.0%	100.0%	100.0%

"The City should spend the money necessary to ensure that the standard fire fighter/ ambulance response time is provided in all areas of the City" by gender.

			Respondent gender		
			Male	Female	Total
Increase taxes ($35) to ensure standard response times	Disagree Strongly	Count	15	7	22
		% within Respondent gender	3.1%	1.4%	2.2%
	Disagree	Count	9	4	13
		% within Respondent gender	1.9%	.8%	1.3%
	Somewhat Disagree	Count	17	12	29
		% within Respondent gender	3.5%	2.3%	2.9%
	Neutral	Count	32	26	58
		% within Respondent gender	6.7%	5.1%	5.8%
	Somewhat Agree	Count	81	63	144
		% within Respondent gender	16.8%	12.3%	14.5%
	Agree	Count	120	127	247
		% within Respondent gender	24.9%	24.9%	24.9%
	Agree Strongly	Count	207	272	479
		% within Respondent gender	43.0%	53.2%	48.3%
Total		Count	481	511	992
		% within Respondent gender	100.0%	100.0%	100.0%

CONTINGENT DISTRIBUTIONS IN SECTION 4

"If requiring new houses to have modern home sprinkler systems can save tax dollars for everyone living in Red Deer, that is reason enough to require them to be built into new houses" by gender.

			Respondent gender		
			Male	Female	Total
Sprinklers save tax dollars - reason to require them	Disagree Strongly	Count	46	22	68
		% within Respondent gender	19.5%	8.5%	13.7%
	Disagree	Count	15	14	29
		% within Respondent gender	6.4%	5.4%	5.8%
	Somewhat Disagree	Count	15	16	31
		% within Respondent gender	6.4%	6.2%	6.3%
	Neutral	Count	34	32	66
		% within Respondent gender	14.4%	12.3%	13.3%
	Somewhat Agree	Count	38	55	93
		% within Respondent gender	16.1%	21.2%	18.8%
	Agree	Count	38	47	85
		% within Respondent gender	16.1%	18.1%	17.1%
	Agree Strongly	Count	50	74	124
		% within Respondent gender	21.2%	28.5%	25.0%
Total		Count	236	260	496
		% within Respondent gender	100.0%	100.0%	100.0%

"In general, modern home sprinkler systems are not necessary because smoke detectors provide people with enough protection" by gender.

			OWN OR RENT HOME		
			OWN	RENT	Total
Sprinklers not necessary -smoke detectors enough	Disagree Strongly	Count	43	42	85
		% within OWN OR RENT HOME	14.9%	20.6%	17.3%
	Disagree	Count	43	31	74
		% within OWN OR RENT HOME	14.9%	15.2%	15.0%
	Somewhat Disagree	Count	50	48	98
		% within OWN OR RENT HOME	17.4%	23.5%	19.9%
	Neutral	Count	54	35	89
		% within OWN OR RENT HOME	18.8%	17.2%	18.1%
	Somewhat Agree	Count	45	24	69
		% within OWN OR RENT HOME	15.6%	11.8%	14.0%
	Agree	Count	31	11	42
		% within OWN OR RENT HOME	10.8%	5.4%	8.5%
	Agree Strongly	Count	22	13	35
		% within OWN OR RENT HOME	7.6%	6.4%	7.1%
Total		Count	288	204	492
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"If modern home sprinkler systems added $1000 to the cost of building a new house, they would still be too expensive to be required in Red Deer" by response area.

			Response Area			
			Central	North	South	Total
At $1000 - sprinklers still too expensive	Disagree Strongly	Count	51	86	111	248
		% within Response Area	53.7%	48.0%	51.4%	50.6%
	Disagree	Count	17	39	42	98
		% within Response Area	17.9%	21.8%	19.4%	20.0%
	Somewhat Disagree	Count	6	15	22	43
		% within Response Area	6.3%	8.4%	10.2%	8.8%
	Neutral	Count	10	5	11	26
		% within Response Area	10.5%	2.8%	5.1%	5.3%
	Somewhat Agree	Count	5	9	11	25
		% within Response Area	5.3%	5.0%	5.1%	5.1%
	Agree	Count	1	14	7	22
		% within Response Area	1.1%	7.8%	3.2%	4.5%
	Agree Strongly	Count	5	11	12	28
		% within Response Area	5.3%	6.1%	5.6%	5.7%
Total		Count	95	179	216	490
		% within Response Area	100.0%	100.0%	100.0%	100.0%

"New house buyers or builders should pay the entire cost of their modern home sprinkler system just like they pay for any other part of their house" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Home buyers or builders pay cost of sprinklers	Disagree Strongly	Count	12	12	24
		% within OWN OR RENT HOME	4.2%	5.9%	4.9%
	Disagree	Count	18	14	32
		% within OWN OR RENT HOME	6.2%	6.9%	6.5%
	Somewhat Disagree	Count	18	15	33
		% within OWN OR RENT HOME	6.2%	7.4%	6.7%
	Neutral	Count	21	27	48
		% within OWN OR RENT HOME	7.3%	13.2%	9.7%
	Somewhat Agree	Count	32	33	65
		% within OWN OR RENT HOME	11.1%	16.2%	13.2%
	Agree	Count	40	25	65
		% within OWN OR RENT HOME	13.8%	12.3%	13.2%
	Agree Strongly	Count	148	78	226
		% within OWN OR RENT HOME	51.2%	38.2%	45.8%
Total		Count	289	204	493
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The City should pay the entire cost of modern home sprinkler systems because the City as a whole would save tax dollars in the long run" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
City pay cost of sprinklers	Disagree Strongly	Count	140	82	222
		% within OWN OR RENT HOME	49.5%	40.2%	45.6%
	Disagree	Count	53	35	88
		% within OWN OR RENT HOME	18.7%	17.2%	18.1%
	Somewhat Disagree	Count	36	23	59
		% within OWN OR RENT HOME	12.7%	11.3%	12.1%
	Neutral	Count	26	27	53
		% within OWN OR RENT HOME	9.2%	13.2%	10.9%
	Somewhat Agree	Count	11	21	32
		% within OWN OR RENT HOME	3.9%	10.3%	6.6%
	Agree	Count	6	6	12
		% within OWN OR RENT HOME	2.1%	2.9%	2.5%
	Agree Strongly	Count	11	10	21
		% within OWN OR RENT HOME	3.9%	4.9%	4.3%
Total		Count	283	204	487
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The cost of required sprinklers should be shared by the City and house buyers and builders" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
City and home buyers or builders share cost of sprinklers	Disagree	Count	138	70	208
		% within OWN OR RENT HOME	48.4%	34.3%	42.5%
	Neutral	Count	24	18	42
		% within OWN OR RENT HOME	8.4%	8.8%	8.6%
	Agree	Count	123	116	239
		% within OWN OR RENT HOME	43.2%	56.9%	48.9%
Total		Count	285	204	489
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"If new house builders and buyers paid for part of the cost of required home sprinklers and the City paid for part, what percentage do you think the City should pay?" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
AGG: If shared, percentage the City should pay?	Nothing	Count	12	5	17
		% within OWN OR RENT	7.0%	3.4%	5.4%
	25% or less	Count	57	37	94
		% within OWN OR RENT	33.1%	25.5%	29.7%
	26% -50%	Count	95	87	182
		% within OWN OR RENT	55.2%	60.0%	57.4%
	51% -75%	Count	7	16	23
		% within OWN OR RENT	4.1%	11.0%	7.3%
	100%	Count	1		1
		% within OWN OR RENT	.6%		.3%
Total		Count	172	145	317
		% within OWN OR RENT	100.0%	100.0%	100.0%

"The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer" by gender.

			Respondent gender		
			Male	Female	Total
City should require sprinklers in all new houses	Disagree Strongly	Count	51	33	84
		% within Respondent gender	21.9%	12.9%	17.2%
	Disagree	Count	26	14	40
		% within Respondent gender	11.2%	5.5%	8.2%
	Somewhat Disagree	Count	18	12	30
		% within Respondent gender	7.7%	4.7%	6.1%
	Neutral	Count	22	36	58
		% within Respondent gender	9.4%	14.1%	11.9%
	Somewhat Agree	Count	33	41	74
		% within Respondent gender	14.2%	16.0%	15.1%
	Agree	Count	34	50	84
		% within Respondent gender	14.6%	19.5%	17.2%
	Agree Strongly	Count	49	70	119
		% within Respondent gender	21.0%	27.3%	24.3%
Total		Count	233	256	489
		% within Respondent gender	100.0%	100.0%	100.0%

CONTINGENT DISTRIBUTIONS IN SECTION 5

"Ambulance services should be an insured service paid for by the Provincial Government under Alberta Health Care, even if this means higher provincial taxes" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Ambulance costs should be paid by Alberta Health Care	Disagree Strongly	Count	12	20	7	5	44
		% within Aggregated Ages of Respondents	7.1%	13.2%	10.4%	7.7%	9.7%
	Disagree	Count	15	17	2	1	35
		% within Aggregated Ages of Respondents	8.8%	11.3%	3.0%	1.5%	7.7%
	Somewhat Diagree	Count	15	13	4	6	38
		% within Aggregated Ages of Respondents	8.8%	8.6%	6.0%	9.2%	8.4%
	Neutral	Count	32	19	5	2	58
		% within Aggregated Ages of Respondents	18.8%	12.6%	7.5%	3.1%	12.8%
	Somewhat Agree	Count	29	14	9	15	67
		% within Aggregated Ages of Respondents	17.1%	9.3%	13.4%	23.1%	14.8%
	Agree	Count	25	28	11	11	75
		% within Aggregated Ages of Respondents	14.7%	18.5%	16.4%	16.9%	16.6%
	Agree Strongly	Count	42	40	29	25	136
		% within Aggregated Ages of Respondents	24.7%	26.5%	43.3%	38.5%	30.0%
Total		Count	170	151	67	65	453
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

"More of the cost of providing ambulance services should be paid for by the City from tax dollars and less charged directly to patients who use it" by gender.

			Respondent gender		
			Male	Female	Total
Larger share of cost should be paid from City taxes	Disagree Strongly	Count	37	18	55
		% within Respondent gender	15.2%	7.5%	11.4%
	Disagree	Count	22	28	50
		% within Respondent gender	9.1%	11.6%	10.3%
	Somewhat Disagree	Count	33	27	60
		% within Respondent gender	13.6%	11.2%	12.4%
	Neutral	Count	51	42	93
		% within Respondent gender	21.0%	17.4%	19.2%
	Somewhat Agree	Count	31	47	78
		% within Respondent gender	12.8%	19.5%	16.1%
	Agree	Count	36	30	66
		% within Respondent gender	14.8%	12.4%	13.6%
	Agree Strongly	Count	33	49	82
		% within Respondent gender	13.6%	20.3%	16.9%
Total		Count	243	241	484
		% within Respondent gender	100.0%	100.0%	100.0%

"More of the cost of providing ambulance services should be paid for by the City from tax dollars and less charged directly to patients who use it" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Larger share of cost should be paid from City taxes	Disagree Strongly	Count	40	15	55
		% within OWN OR RENT HOME	14.1%	7.5%	11.4%
	Disagree	Count	32	18	50
		% within OWN OR RENT HOME	11.3%	9.0%	10.3%
	Somewhat Disagree	Count	37	23	60
		% within OWN OR RENT HOME	13.0%	11.5%	12.4%
	Neutral	Count	60	33	93
		% within OWN OR RENT HOME	21.1%	16.5%	19.2%
	Somewhat Agree	Count	44	34	78
		% within OWN OR RENT HOME	15.5%	17.0%	16.1%
	Agree	Count	33	33	66
		% within OWN OR RENT HOME	11.6%	16.5%	13.6%
	Agree Strongly	Count	38	44	82
		% within OWN OR RENT HOME	13.4%	22.0%	16.9%
Total		Count	284	200	484
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

CONTINGENT DISTRIBUTIONS IN SECTION 6

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of ambulance services" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Use Auxiliaries even if quality of services is reduced	Disagree Strongly	Count	112	66	178
		% within OWN OR RENT HOME	39.4%	33.0%	36.8%
	Disagree	Count	33	20	53
		% within OWN OR RENT HOME	11.6%	10:0%	11.0%
	Somewhat Diagree	Count	33	30	63
		% within OWN OR RENT HOME	11.6%	15.0%	13.0%
	Neutral	Count	31	26	57
		% within OWN OR RENT HOME	10.9%	13.0%	11.8%
	Somewhat Agree	Count	32	32	64
		% within OWN OR RENT HOME	11.3%	16.0%	13.2%
	Agree	Count	31	14	45
		% within OWN OR RENT HOME	10.9%	7.0%	9.3%
	Agree Strongly	Count	12	12	24
		% within OWN OR RENT HOME	4.2%	6.0%	5.0%
Total		Count	284	200	484
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, the City should do it, even if it means a reduction in the quality of fire fighting/ambulance services" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Use Auxiliaries even if quality of services is reduced	Disagree Strongly	Count	195	118	313
		% within OWN OR RENT HOME	34.4%	29.0%	32.1%
	Disagree	Count	76	44	120
		% within OWN OR RENT HOME	13.4%	10.8%	12.3%
	Somewhat Disagree	Count	58	60	118
		% within OWN OR RENT HOME	10.2%	14.7%	12.1%
	Neutral	Count	53	62	115
		% within OWN OR RENT HOME	9.3%	15.2%	11.8%
	Somewhat Agree	Count	82	70	152
		% within OWN OR RENT HOME	14.5%	17.2%	15.6%
	Agree	Count	61	32	93
		% within OWN OR RENT HOME	10.8%	7.9%	9.5%
	Agree Strongly	Count	42	21	63
		% within OWN OR RENT HOME	7.4%	5.2%	6.5%
Total		Count	567	407	974
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting services, then the City should do it" by age category.

			Aggregated Ages of Respondents				Total
			18 to 34	35 to 49	50 to 64	65 to 90	
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	13	31	19	12	75
		% within Aggregated Ages of Respondents	6.9%	20.7%	26.4%	20.7%	16.0%
	Neutral	Count	6	10	2	4	22
		% within Aggregated Ages of Respondents	3.2%	6.7%	2.8%	6.9%	4.7%
	Agree	Count	169	109	51	42	371
		% within Aggregated Ages of Respondents	89.9%	72.7%	70.8%	72.4%	79.3%
Total		Count	188	150	72	58	468
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of ambulance services, then the City should do it" by gender.

			Respondent gender		Total
			Male	Female	
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	34	17	51
		% within Respondent gender	13.6%	6.9%	10.3%
	Neutral	Count	7	10	17
		% within Respondent gender	2.8%	4.0%	3.4%
	Agree	Count	209	220	429
		% within Respondent gender	83.6%	89.1%	86.3%
Total		Count	250	247	497
		% within Respondent gender	100.0%	100.0%	100.0%

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting/ambulance services, then the City should do it" by gender.

			Respondent gender		
			Male	Female	Total
Use Auxiliaries only if no reduction in quality of services	Disagree Strongly	Count	38	36	74
		% within Respondent gender	7.9%	7.1%	7.5%
	Disagree	Count	18	4	22
		% within Respondent gender	3.7%	.8%	2.2%
	Somewhat Disagree	Count	22	13	35
		% within Respondent gender	4.6%	2.6%	3.5%
	Neutral	Count	18	23	41
		% within Respondent gender	3.7%	4.5%	4.1%
	Somewhat Agree	Count	41	55	96
		% within Respondent gender	8.5%	10.8%	9.7%
	Agree	Count	90	93	183
		% within Respondent gender	18.7%	18.3%	18.5%
	Agree Strongly	Count	255	283	538
		% within Respondent gender	52.9%	55.8%	54.4%
Total		Count	482	507	989
		% within Respondent gender	100.0%	100.0%	100.0%

"If the City can save taxpayers money by using a combination of full-time professional fire fighters and volunteer auxiliaries, and if there is NO reduction in the quality of fire fighting/ambulance services, then the City should do it" by age category.

			Aggregated Ages of Respondents				Total
			18 to 34	35 to 49	50 to 64	65 to 90	
Use Auxiliaries only if no reduction in quality of services	Disagree	Count	22	49	29	20	120
		% within Aggregated Ages of Respondents	6.1%	16.2%	21.0%	16.3%	13.0%
	Neutral	Count	11	16	4	7	38
		% within Aggregated Ages of Respondents	3.0%	5.3%	2.9%	5.7%	4.1%
	Agree	Count	329	237	105	96	767
		% within Aggregated Ages of Respondents	90.9%	78.5%	76.1%	78.0%	82.9%
Total		Count	362	302	138	123	925
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

"The City of Red Deer should employ only full-time professionals to work in ambulance services" by residential district.

			District						
			Northwest	North	Central	West	Southeast	East	Total
Employ only full-time professionals	Disagree	Count	35	33	27	25	50	25	195
		% within District	35.7%	47.8%	50.0%	26.6%	39.4%	50.0%	39.6%
	Neutral	Count	19	7	11	17	17	6	77
		% within District	19.4%	10.1%	20.4%	18.1%	13.4%	12.0%	15.7%
	Agree	Count	44	29	16	52	60	19	220
		% within District	44.9%	42.0%	29.6%	55.3%	47.2%	38.0%	44.7%
Total		Count	98	69	54	94	127	50	492
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

"The City of Red Deer should employ only full-time professionals to work in fire fighting/ambulance services" by residential district.

			District						
			Northwest	North	Central	West	Southeast	East	Total
Employ only full-time professionals	Disagree	Count	59	59	51	45	97	39	350
		% within District	29.8%	40.4%	48.1%	27.4%	36.2%	40.6%	35.8%
	Neutral	Count	41	20	18	30	35	10	154
		% within District	20.7%	13.7%	17.0%	18.3%	13.1%	10.4%	15.7%
	Agree	Count	98	67	37	89	136	47	474
		% within District	49.5%	45.9%	34.9%	54.3%	50.7%	49.0%	48.5%
Total		Count	198	146	106	164	268	96	978
		% within District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

"The City of Red Deer should employ only full-time professionals to work in ambulance services" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Employ only full-time professionals	Disagree Strongly	Count	25	20	10	4	59
		% within Aggregated Ages of Respondents	14.6%	13.3%	15.2%	6.3%	13.1%
	Disagree	Count	22	18	5	8	53
		% within Aggregated Ages of Respondents	12.9%	12.0%	7.6%	12.5%	11.8%
	Somewhat Diagree	Count	30	26	6	7	69
		% within Aggregated Ages of Respondents	17.5%	17.3%	9.1%	10.9%	15.3%
	Neutral	Count	33	21	7	5	66
		% within Aggregated Ages of Respondents	19.3%	14.0%	10.6%	7.8%	14.6%
	Somewhat Agree	Count	14	16	6	10	46
		% within Aggregated Ages of Respondents	8.2%	10.7%	9.1%	15.6%	10.2%
	Agree	Count	18	16	12	10	56
		% within Aggregated Ages of Respondents	10.5%	10.7%	18.2%	15.6%	12.4%
	Agree Strongly	Count	29	33	20	20	102
		% within Aggregated Ages of Respondents	17.0%	22.0%	30.3%	31.3%	22.6%
Total		Count	171	150	66	64	451
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

"The City of Red Deer should employ only full-time professionals to work in fire fighting/ambulance services" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Employ only full-time professionals	Disagree Strongly	Count	46	37	13	13	109
		% within Aggregated Ages of Respondents	12.9%	12.3%	9.5%	10.8%	11.9%
	Disagree	Count	39	32	10	9	90
		% within Aggregated Ages of Respondents	10.9%	10.7%	7.3%	7.5%	9.8%
	Somewhat Disagree	Count	65	38	13	14	130
		% within Aggregated Ages of Respondents	18.2%	12.7%	9.5%	11.7%	14.2%
	Neutral	Count	66	44	17	13	140
		% within Aggregated Ages of Respondents	18.5%	14.7%	12.4%	10.8%	15.3%
	Somewhat Agree	Count	39	34	11	14	98
		% within Aggregated Ages of Respondents	10.9%	11.3%	8.0%	11.7%	10.7%
	Agree	Count	35	37	19	15	106
		% within Aggregated Ages of Respondents	9.8%	12.3%	13.9%	12.5%	11.6%
	Agree Strongly	Count	67	78	54	42	241
		% within Aggregated Ages of Respondents	18.8%	26.0%	39.4%	35.0%	26.4%
Total		Count	357	300	137	120	914
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

Response distributions for Question 25 ("The City of Red Deer should employ only full-time professionals to work in fire fighting services") by the order in which questions 24 and 25 were presented to respondents.

			Order in which question 24 and question 25 were presented		
			Question 24 presented first	Question 25 presented first	Total
Employ only full-time professional fire-fighters	Disagree	Count	90	65	155
		% by order of questions	37.0%	26.7%	31.9%
	Neutral	Count	42	35	77
		% by order of questions	17.3%	14.4%	15.8%
	Agree	Count	111	143	254
		% by order of questions	45.7%	58.8%	52.3%
Total		Count	243	243	486
		% by order of questions	100.0%	100.0%	100.0%

Response distributions for Question 46 ("The City of Red Deer should employ only full-time professionals to work in ambulance services") by the order in which questions 45 and 46 were presented to respondents.

			Order in which question 45 and question 46 were presented		
			Question 45 presented first	Question 46 presented first	Total
Employ only full-time professionals in ambulance service	Disagree	Count	105	90	195
		% by order of questions	43.2%	36.1%	39.6%
	Neutral	Count	36	41	77
		% by order of questions	14.8%	16.5%	15.7%
	Agree	Count	102	118	220
		% by order of questions	42.0%	47.4%	44.7%
Total		Count	243	249	492
		% by order of questions	100.0%	100.0%	100.0%

Aggregate response distributions for Questions 25 and 46 ("The City of Red Deer should employ only full-time professionals to work in fire fighting/ambulance services") by the order in which questions 24/25 and 45/46 were presented to respondents.

			Order in which questions were presented		
			24 / 45 first	25 / 46 first	Total
Employ only full-time professionals	Disagree Strongly	Count	71	43	114
		% by order of questions	14.6%	8.7%	11.7%
	Disagree	Count	58	39	97
		% by order of questions	11.9%	7.9%	9.9%
	Somewhat Disagree	Count	66	73	139
		% by order of questions	13.6%	14.8%	14.2%
	Neutral	Count	78	76	154
		% by order of questions	16.0%	15.4%	15.7%
	Somewhat Agree	Count	57	46	103
		% by order of questions	11.7%	9.3%	10.5%
	Agree	Count	48	61	109
		% by order of questions	9.9%	12.4%	11.1%
	Agree Strongly	Count	108	154	262
		% by order of questions	22.2%	31.3%	26.8%
Total		Count	486	492	978
		% by order of questions	100.0%	100.0%	100.0%

CONTINGENT DISTRIBUTIONS IN SECTION 7

"The City should spend what is necessary to ensure that the current quality of ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Spend even if average tax of $35 for each new station	Disagree Strongly	Count	22	3	25
		% within OWN OR RENT HOME	7.6%	1.4%	5.0%
	Disagree	Count	10	4	14
		% within OWN OR RENT HOME	3.5%	1.9%	2.8%
	Somewhat Disagree	Count	9	6	15
		% within OWN OR RENT HOME	3.1%	2.9%	3.0%
	Neutral	Count	26	16	42
		% within OWN OR RENT HOME	9.0%	7.7%	8.5%
	Somewhat Agree	Count	43	40	83
		% within OWN OR RENT HOME	14.9%	19.2%	16.7%
	Agree	Count	71	57	128
		% within OWN OR RENT HOME	24.7%	27.4%	25.8%
	Agree Strongly	Count	107	82	189
		% within OWN OR RENT HOME	37.2%	39.4%	38.1%
Total		Count	288	208	496
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built" by home ownership.

			OWN OR RENT HOME		
			OWN	RENT	Total
Spend even if average tax of $35 for each new station	Disagree Strongly	Count	30	4	34
		% within OWN OR RENT HOME	5.2%	1.0%	3.4%
	Disagree	Count	19	6	25
		% within OWN OR RENT HOME	3.3%	1.5%	2.5%
	Somewhat Disagree	Count	19	9	28
		% within OWN OR RENT HOME	3.3%	2.2%	2.8%
	Neutral	Count	44	26	70
		% within OWN OR RENT HOME	7.6%	6.3%	7.1%
	Somewhat Agree	Count	87	75	162
		% within OWN OR RENT HOME	15.1%	18.2%	16.4%
	Agree	Count	145	106	251
		% within OWN OR RENT HOME	25.1%	25.8%	25.4%
	Agree Strongly	Count	233	185	418
		% within OWN OR RENT HOME	40.4%	45.0%	42.3%
Total		Count	577	411	988
		% within OWN OR RENT HOME	100.0%	100.0%	100.0%

"The City should spend what is necessary to ensure that the current quality of fire fighting/ambulance service is provided equally in all areas of the City, even if it means that the average taxpayer would have to pay approximately $35 a year more for each new fire station that is built" by gender.

			Respondent gender		
			Male	Female	Total
Spend even if average tax of $35 for each new station	Disagree Strongly	Count	21	13	34
		% within Respondent gender	4.3%	2.6%	3.4%
	Disagree	Count	12	13	25
		% within Respondent gender	2.5%	2.6%	2.5%
	Somewhat Disagree	Count	22	6	28
		% within Respondent gender	4.6%	1.2%	2.8%
	Neutral	Count	32	38	70
		% within Respondent gender	6.6%	7.5%	7.1%
	Somewhat Agree	Count	78	84	162
		% within Respondent gender	16.1%	16.6%	16.4%
	Agree	Count	119	133	252
		% within Respondent gender	24.6%	26.3%	25.5%
	Agree Strongly	Count	199	219	418
		% within Respondent gender	41.2%	43.3%	42.3%
Total		Count	483	506	989
		% within Respondent gender	100.0%	100.0%	100.0%

"The City should attempt to keep property taxes as low as possible, even if it means a reduction in the quality of fire fighting services" by age category.

			Aggregated Ages of Respondents				
			18 to 34	35 to 49	50 to 64	65 to 90	Total
Keep taxes low even if fire-fighting services reduced	Disagree Strongly	Count	73	71	37	22	203
		% within Aggregated Ages of Respondents	38.8%	46.7%	52.1%	37.9%	43.3%
	Disagree	Count	41	34	13	11	99
		% within Aggregated Ages of Respondents	21.8%	22.4%	18.3%	19.0%	21.1%
	Somewhat Disagree	Count	21	19	12	8	60
		% within Aggregated Ages of Respondents	11.2%	12.5%	16.9%	13.8%	12.8%
	Neutral	Count	20	5	4	8	37
		% within Aggregated Ages of Respondents	10.6%	3.3%	5.6%	13.8%	7.9%
	Somewhat Agree	Count	21	15	2	4	42
		% within Aggregated Ages of Respondents	11.2%	9.9%	2.8%	6.9%	9.0%
	Agree	Count	6	5	2	4	17
		% within Aggregated Ages of Respondents	3.2%	3.3%	2.8%	6.9%	3.6%
	Agree Strongly	Count	6	3	1	1	11
		% within Aggregated Ages of Respondents	3.2%	2.0%	1.4%	1.7%	2.3%
Total		Count	188	152	71	58	469
		% within Aggregated Ages of Respondents	100.0%	100.0%	100.0%	100.0%	100.0%

APPENDIX C: LISTING OF 'OTHER' RESPONSES

In the report, several tables list respondents' substantive response to open-ended questions. In the summaries of these comments, the category of 'other' is used to collectively represent responses that were dissimilar from all others. The individual responses that have been characterized in this way are reproduced here.

Table 2:1 "In your opinion, what are the strengths of the City's fire fighting service?"

Other responses:

- Lots of staff Good response time.
- 24 hr on call well trained.
- Adequate for what services they provide.
- The fire stations are housed(maned), the building are well spaced throughout Red Deer.
- Instead of having an alarm summons volunteers.
- Its adequate in that we have enough men and equipment for the city.
- Get out fires in pretty good condition.
- Adequate manpower.
- Emergency services in place for seniors.
- Ample firefighters, enough stations, paramedics dually trained and good response times.
- Have lots of fire fighters.

Table 2:2 "In your opinion, what are the limitations or weaknesses of the City's fire fighting service?"

Other responses:

- She has heard reports from people that they have run into problems with the attitudes of the dispatchers, e.g., one woman was told she was wasting their time. (Interviewer's comment: Respondent has a EMT background)
- I would of liked to see the fire department continue with the 911 service, maybe they were under staffed or under paid.
- (More of an administration thing) as to what fire hall responds to what area in case of a fire?
- Locations - one on 67 street comes out onto a one way, which means they can't head west easily.
- Cost overhead.

- May not have all the training needed. Have cutbacks been felt in this area? I sure hope not.
- If a child called 911 and didn't know the address how would fire dept know where to go (Interviewer's note: I told her that the 911 service displays that information on the screen.)
- Take too many days off want too much money they're unionized.
- They just didn't attack the fire, neighbors had to take a guy off the hose and go in to put out the fire themselves. It was pretty pathetic.
- Cost of service to the individual who needs the service.
- I don't know if they are well enough equipped to handle a large scale fire.
- Spacing -who decides how close a car can be parked to a hydrant. Is it the fire department or city council? Thinks that too much space is wasted (she got a ticket for parking to close to a fire hydrant recently.)
- Peoples response to fire trucks. People don't know what to do to get out of the way of the fire truck. Some people just sit there in their cars and don't know what to do. More education is needed to improve response times.
- I won't know of today, in the past, they weren't that well equipped.
- They should not have appointed a financial wizard as head of dept to keep costs down they should instead hire a person that has been brought up through the ranks and knows the workings of the job and has been trained in all its facets. Believes that Council had no business making a political appointment to this position as it is too vital a service and should only have hired an experienced professional emergency service fire fighter to this job.
- Personal experience- was an apt complex manager - wanted fire chief to educate a tenant's children (because they were starting fires in the bldg) on fire safety and he refused so wasn't impressed as she felt it was an important issue.
- Don't spend enough time in the schools educating children
- Not aware of any limitation, maybe better training facilities.
- Public not giving them the right of way
- Some of the residential areas are hard to get at so would slow down response times, especially in the winter when the city does not remove snow from these streets.
- No problems with them at all, maybe they don't need such fancy stations though.
- Always putting themselves on the line and risking their lives.
- Manpower and equipment depends on amount of overtime required - if there are great amounts of overtime then there is a problem with manpower and equipment volunteer fire fighters do not belong in a city fire department as it could compromise the safety of the public.
- Sometimes they are busy
- Should be more paramedics than fire fighters

Table 2:3 "In your opinion, what are the strengths of the City's ambulance service?"

Other responses:

- She believes that just having an ambulance service in Red Deer is super.
- The number of ambulances of available
- Having the secondary roads for the ambulances to get in and out and around quicker they have the stars service here.
- Good that there is an ambulance service in Red Deer.
- Always available response time excellent.
- Seems to be enough ambulances to serve the city.
- Seem to be efficient drivers, well controlled crowds at the scene, I think they do a good job.
- They have good looking EMT's. They are involved in the community.
- Had twin boys born premature and stars had them to U of A Hospital in 15 minutes. The boys were treated very well. I was extremely impressed with the service. I know they aren't with the city, they were great! I never heard anything negative with Red Deer's service mind you. I'm sure they do a good job.
- The city is accessible and a smaller size. And their are a lot of paramedics here, it's one of the best serviced cities in Alberta.
- Don't know, that they're here if needed.
- The paramedics - the fact that they're available.
- Just moved from a small town, there seemed to be lots of ambulances here so would provide faster response.
- That they have an ambulance service.
- Impressed by the number of years of service that the fire/ambulance personnel have put into the fire department.
- They have more than one station.
- Availability quickness.
- From my limited understanding, they have a broad range of services available. 911 services is important. I feel that there would be adequate services.
- Good access in town for ambulance service.
- They are there when you call them and when you need them.
- Fairly modern.

Table 2:3 "In your opinion, what are the limitations or weaknesses of the City's ambulance service?"

Other responses:

- Firemen got lost coming to my neighbor's house two years ago - scary!
- Paramedic combined with fire fighters is more risky. No one person is the best at both, we should have some more specialized in one area and the others in the other area.
- Were rude about the fact that no one was at the front door of the business to direct them, even though they were told over the phone to come on through because there was no staff available to guide them.
- Some of the ambulances are more rough than others. E.g., the larger ambulance is very rough on the current road conditions.
- Access to the complaint or to the need, a lot of areas that are very difficult to get to.
- With the cutbacks and this new e911 people might not get as good a service if they are not paying for e911.
- They drive very slow.
- Paramedics should be better trained (or at least keep training on an going basis).
- He's not sure but it could be... finding addresses late at night??
- Need better construction of main roads for easier access of the ambulances.
- Not enough opportunities to get in and work as a paramedic. Such a limited profession.
- No, maybe a few too many paramedics came?
- City road conditions and drivers on the street not moving out of the way of an ambulance.
- Some paramedics must realize that when people are ill or have been in an accident, the paramedics should not lose their cool (individual could be in shock or to just befuddled to answer clearly to questions put before them) above concern is from a personal experience.
- Being dispatched centrally from hospital rather than from fire dept don't think that is good.
- No, I don't really think there would be any limitations. Just watch they don't waste taxpayers money on too fancy of stations.
- Rough on furniture! I know life is more important but they were very rough with my coffee table and a chair, left marks in the wall. There were so many people(paramedics and firefighters) they needed a lot of room. I always wondered why does the big fire truck and all the fire fighters have to come too? That seems to be a waste of taxpayers' money.
- Has heard it is not as easy to contact as it was or have it paid for by an insurance company.

Table 4:2 Please tell me what was the most important reason for your answer to the last question. (The City should require modern home sprinkler systems to be installed in all new houses built in Red Deer).

Other responses:

- Conflict between money and safety
- If sprinkler systems installed it may effect firefighter response times and that would not be good.
- She thinks that it is an okay idea for the city to require sprinkler systems to be installed "but" the responsibility really should be left up to the homeowners/builders to keep firefighting quality good.
- "If you want a Cadillac you should have to pay for it" (Interviewer's comment: This is a direct quote. I read it back plus the question and he answered the same way again.)

Table 8:1 Do you have any other concerns or other comments you would like to make about the fire fighting services in the City of Red Deer?

Other comments regarding residential sprinklers:

- What about putting them in older homes, all nursing homes should have them.
- If the sprinkler systems cost $3000 they should be subsidized by the city; however at $1000 the cost of the systems should be paid by the house builders or buyers.
- If sprinklers are required, should be a consideration of tax base to accompany it.
- Should strongly promote/mandate smoke and co detectors and have mandatory inspection of the two - should also promote more safety and education instead of sprinklers.
- If sprinkler systems are required, must be Canadian made.
- If plans for new fire halls are already in the making then why make sprinklers mandatory? With smoke detectors and other safety devices, sprinklers aren't necessary.
- The city obviously wants to implement it; why don't they give some sort of incentive , say a 50% drop in the cost of installation, which goes towards the price of a house lot.
- If it prevented me from building a house, I would be pissed off .
- If you build a new fire station, offset the cost to the developer until the tax base can recover it. If sprinkler system is mandatory, create fund from tax savings for future needs. We will still have to build a station, just not as soon.
- For existing homes with less fireproofing materials, it would be just as important to put them in.

- It's safer for firefighter also to have sprinklers.

Other responses:

- They should not be hiring all paramedics but rather paramedics for ambulances and fire fighters for fighting fires. By doing this the city could possibly save money for the taxpayers.
- Ambulance paramedic services are really needed, so far we haven't had to deal with an major disaster here. Are they prepared to deal with it?
- Some of the fire services could be contracted out to private companies, (e.g., fire inspection or fire permits).
- I'd like to see them continue to use paramedics as opposed to EMT's alone who have less training.
- I'd like to see the fire trucks have mandatory street light remote controls, in order to speed up there response times. Be able to change traffic lights.
- I know Gord Stewart, he's a good guy, I just need to give him a hard time.
- How would putting in a home sprinkler system affect insurance premiums?
- I noticed that the firefighters do a lot of volunteer work in the community, and that's positive.
- The recruiting policies should rely on the best person for the job, they shouldn't drop standards. I feel a lot of places are discriminating against the white male.
- Why are vehicles moved around from station to station, it does not seem to make much sense.
- Get more staff and put them on 3 shifts per day they should feel lucky to have the jobs they have as they are overpaid and always whining about lack of money and manpower.
- We should ensure that paramedics and fire fighters are extensively cross trained. Volunteers would not be able to ensure quality and could not be counted on to perform their job as they are unpaid workers
- In the survey the "best possible" vs."adequate service" was used to describe services. I would have chosen more strongly agreed responses, to survey questions. Do we need 40 fire stations in Red Deer (which would be the best service)?
- The City should concentrate tax dollars on services to the general public and stop wasting money on special interest groups such as sports hall fame, arts/culture. If city knew how to budget, taxes would not have to be increased.
- What arrangements have been made with the fire station and 911 service? Where she lives (seniors' apartment) so many lives depend on these services. She would like this question clarified.
- Use fire prevention week to inform people of fire safety in schools or other public places.
- I appreciate they go around to schools and teach fire safety.
- Wanted to know about laws governing the number of people that can live in a household.

- That ambulance service response times might be slowed down if firefighting times are slowed down. People who need emergency services for other than fires could have their lives put at risk.
- How many staff are on a shift (especially midnight) and how long does it usually take to respond to a fire call? If she was to put in a fire call does she pay a fee for it or does it come out of taxes?

Table 8:2 Do you have any other concerns or other comments you would like to make about the ambulance services in the City of Red Deer?

Other responses:

- A lot of people think you need a fire station in every neighborhood, but this is not the case. Just building another station & staffing it could be more of an expense, than a benefit. Improvements in communication & transportation, including routes and road conditions, could increase efficiency.
- Ambulance service would be better if the city would spend the money to keep the city streets plowed in the winter. These bad roads are what can cause the accidents that the ambulances are called out for or make the response time to a house slower.
- City should consider privatizing the emergency services, Take money from snow removal budget and give to ambulance services, if we choose to live in this country, we should be prepared to put up with snow, especially since the city causes more problems on streets after they remove it.
- City of Red Deer should notify new residents of emergency facilities, fire hall access and should give out pamphlets describing the blue box program.
- Feel they should explore other options, it's not that cut and dried. Perhaps an EMT and paramedic per vehicle. City should separate fire and ambulance, we are probably large enough to do that.
- For the new fire stations, they should lease them. And everyone would save money and be happy. A group of investors would raise the funds and the city would least the hall from the investors and the city would not have the maintenance cost either.
- Fire and ambulance should be kept together so that all the fire fighters are also trained for the ambulance.
- Have apprenticeship program, training practicum for part time workers to get them qualified.
- How many ambulances are there in Red Deer?
- I think you should split your shifts up and mix an EMT with a paramedic for each call. Save money and offer just as great of service.
- I hope I never have to use one

- If there is a death at the scene of an accident there should be no charge to the family for the ambulance call.
- Just interested in how they come up with the fees for ambulances. From what you said, a call is worth $400. Wow! Why so much? Sounds extravagant.
- Like the idea our people have advanced life support treatment training unlike other places that only provide basic treatment to stabilize the patient.
- No. Everything she has heard has been good.
- Relating to (Question 48), what are the response times for ambulances in the City of Red Deer? And another comment: people should use the ambulance service based on the degree of severity of the injury. If you can drive yourself or can get someone else to drive you, do that instead of calling an ambulance.
- The city needs to question the minimums and maximums of response times and the cost that is included.
- Thinks that the ambulance service is short staffed.

APPENDIX D: CONCLUDING QUESTIONS

At the outset of the research, the concept of undertaking a scientific survey of citizens' attitudes towards emergency services received a critical reception in some local media. The trivialization of the nature and purpose of the research, the published scepticism regarding its validity and utility, and the consequent negative response which the survey appeared to receive from citizens as suggested by letters to local media, raised the concern that the essentially negative publicity surrounding the survey would affect the quality of the data collected.

As a precaution, two questions were included at the conclusion of each survey questionnaire to identify any bias resulting from information presented in the media, and, if necessary, to provide a capability in the analysis to neutralize any such bias through the application of statistical controls.

54. **Have you read anything in the newspaper about this survey?**
(If the response was yes, the interviewer asked which newspaper and what was read. Responses were recorded verbatim)

55. **Have you heard anything on the radio or seen anything on the TV about this survey?**
(If the response was yes, the interviewer asked what was heard or seen. Responses were recorded verbatim)

As it turned out, the concerns which led to including these questions may have been exaggerated. As indicated by the data in Table D:1, only 11.6 percent of respondents recalled having read anything about the survey and only 5.9 percent reported having heard or seen anything from the electronic media. Nevertheless, tests of the independence of all data were conducted using these two variables. No relationship was found between any of the data in the study and either variable.

In addition to these controls, an opportunity to asses public reaction to the survey was presented by the final question in the interview which was a variation on the standard debriefing question found in most surveys of this type.

56. **Is there anything else you would like to tell us about emergency services in Red Deer or about this survey?**

The addition of the phrase "or about this survey" opened the door for respondents to provide feedback on their experience with the survey in their own terms, in addition to providing them with a final opportunity to express any additional comments which they felt should be included. The tabulation of their comments is displayed in Table D:2.

A total of 51 percent of respondents chose to make some final comment. Half of those, 27 percent of the total sample, took this opportunity to comment on the survey.

Of these respondents, 82 percent commented positively on the survey itself and on their appreciation for the City using this approach to solicit their opinions and concerns for consideration in the development of emergency services policy. An additional 14 percent of respondents commenting on the survey made observations relating to technical aspects of the interview schedules such as the

wording of specific questions or the knowledge base required to provide some response. Only 12 respondents (4 percent of those commenting on the survey) expressed criticism of the survey, citing various concerns including a dislike for surveys generally. In general, any anticipated backlash was not experienced. Instead, respondents who made a final comment regarding the survey predominantly expressed support and appreciation.

Other categories of respondents' additional comment are also identified in Table D:2.

Table D:1 Distributions of respondents reporting recollection of receiving information regarding the surveys in the media.

Source	Fire Protection Sample (N=500)	Ambulance Sample (N=504)	Aggregated Samples (N-1004)
Have you read anything in the newspaper about this survey?			
Yes	11.8%	11.3%	11.6%
No	87.2%	88.1%	87.6%
Don't Know	1.0%	0.6%	0.8%
Totals	100.0%	100.0%	100.0%
Have you heard anything on the radio or seen anything on TV about this survey?			
Yes	4.8%	6.9%	5.9%
No	93.4%	92.5%	92.9%
Don't Know	1.8%	0.6%	1.2%
Totals	100.0%	100.0%	100.0%

Table D:2 Distribution of responses to Question 56: "Is there anything else you would like to tell us about emergency services in Red Deer or about this survey?"

Category of Response	Fire Protection Sample (N=500)	Ambulance Sample (N=504)	Aggregated Samples (N-1004)	Total Valid Response (N=514)*
No; nothing else to add	49.4%	48.2%	48.8%	. .
Good survey; good to have input	22.8%	20.8%	21.8%	42.6%
A question was unclear; too long	3.6%	3.6%	3.6%	7.0%
Don't like surveys; waste of time	1.2%	1.2%	1.2%	2.3%
Services great; experience was good	6.8%	7.3%	7.1%	13.8%
Keep quality high; spending priority	3.6%	4.2%	3.9%	7.6%
Concerns for costs, increasing taxes	2.8%	2.0%	2.4%	4.7%
Use volunteers	0.4%	1.2%	0.8%	1.6%
Don't use volunteers	1.8%	1.6%	1.7%	3.3%
Ambulance fees too high	0.6%	2.0%	1.3%	2.5%
Don't send fire truck with ambulance	1.0%	0.6%	0.8%	1.6%
Same quality everywhere; new station	0.8%	0.6%	0.7%	1.4%
Don't require residential sprinklers	0.8%	0.4%	0.6%	1.2%
Residential sprinklers good idea	0.8%	. .	0.4%	0.8%
Don't change anything; no new station	0.2%	0.4%	0.3%	0.6%
Concerns about 911 service	0.2%	0.2%	0.2%	0.4%
Other comments, concerns	1.8%	2.6%	2.2%	4.3%
Want more information	0.8%	1.8%	1.3%	2.5%
Comment on other services such as police, hospital emergency, etc.	0.6%	1.4%	1.0%	1.9%
Total	100.0%	100.0%	100.0%	100.0%

* Percentages in this column are based on the 514 respondents who provided some additional comment.

FILE

Council Decision - February 24, 1998 Meeting

DATE: **February 26, 1998**

TO: **Fire Chief/General Manager,**
Emergency Services Department

FROM: **City Clerk**

RE: **1. EMERGENCY SERVICES MASTER PLAN**
2. CONTINUANCE OF AN EMERGENCY SERVICES COMMITTEE

Reference Report: Emergency Services Master Plan, dated December 1997

Resolution:

"RESOLVED that Council of The City of Red Deer, having considered the Emergency Services Master Plan dated December 1997 and as presented to Council February 24, 1998, hereby approves said Plan in principle."

Report Back to Council Required:

Yes, relative to status of Emergency Services Master Plan Steering Committee.

Comments/Further Action:

Council directed:

1. That the Administration, in conjunction with the Emergency Services Master Plan Steering Committee, review the feasibility of establishing the Emergency Services Master Plan Steering Committee as a standing committee of Council.

2. It was further directed that the said review include:

   (a) A recommendation as to if such a committee is required and if so, recommendations regarding the Committee's mandate and membership.

   (b) Serious consideration to be given to amalgamating this Committee with the Policing Committee to form an Emergency/Protective Services Committee. As the focus of the Emergency Services Master Plan is on prevention and risk management, there would be synergies in bringing these two bodies together.

(c) It was further suggested that the taxi management responsibilities of the Policing Committee possibly be transferred to the Transportation Advisory Board.

3. Please contact and include the Policing Committee and the Transportation Advisory Board at the onset of the review to enable those Committees affected to have full opportunity to provide input into the recommendations to Council.

4. ***It is recommended that this report be presented to Council in July or early August.*** Advertising for citizens-at-large for Council Committees is done in September and this time line would allow sufficient time to receive nominations for consideration at the 1998 Organizational Meeting of Council to be held November 2, 1998.

On behalf of Council, thank you to the Committee and all members of the Administration for their diligent work in the preparation of the Emergency Services Master Plan.

Kelly Kloss
City Clerk

/clr

c Director of Development Services
Director of Community Services
Director of Corporate Services
O.i/c Red Deer City Detachment
Inspections & Licensing Manager
Social Planning Manager
Transit Manager
Emergency Services Master Plan Steering Committee
Red Deer Policing Committee
Transportation Advisory Board
Sandra Ladwig, Council & Committee Secretary
Cheryl Adams, Council & Committee Secretary

Red Deer Policing Committee/Taxi Commission
Transportation Advisory Board

Box 5008
Red Deer, Alberta
T4N 3T4

The City of Red Deer

Office of the City Clerk

FILE

February 26, 1998

Alberta Urban Municipalities Association
8712 - 105 Street
Edmonton, AN T6E 5V9

Fax: (403) 433-4454

Att: Mr. John McGowan,
Executive Director

Dear Sir:

RE: AUMA POSITION ON LOTTERY BOARDS AND VIDEO LOTTERY TERMINALS

At the City of Red Deer's special meeting of Council held Tuesday, February 24, 1998, consideration was given to the above. At that meeting, Council passed the following resolution:

> "RESOLVED that Council of The City of Red Deer, having considered report from the Social Planning Manager dated February 23, 1998, re: AUMA Position On Lottery Boards and Video Lottery Terminals, hereby:
>
> 1. Supports the AUMA in reaffirming its position that video lottery terminals are a Provincial issue and the Province should deal with all the concerns;
>
> 2. Agrees that AUMA be requested to add to the above position that should there be any type of vote on video lottery terminals, the responsibility of defining the process for the vote, all related costs and the handling of outcomes (including legal issues and costs), should all remain with the Province."

On behalf of Council, I would like to thank you for the opportunity to provide input on this issue. Please do not hesitate to contact me should you require any further information or clarification of Council's decision in this regard.

Sincerely,

Kelly Kloss
City Clerk

/clr

c Director of Community Services
Director of Corporate Services
City Solicitor

4914 - 48th Avenue, Red Deer, AB Canada T4N 3T4
Tel (403) 342-8132 Fax: (403) 346-6195 E-mail: cityclerk@city.red-deer.ab.ca Web: http://www.city.red-deer.ab.ca

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T4N 3T4

The City of Red Deer

Office of the City Clerk

February 26, 1998

Alberta Urban Municipalities Association
8712 - 105 Street
Edmonton, AN T6E 5V9

Fax: (403) 433-4454

Att: Mr. John McGowan,
Executive Director

Dear Sir:

RE: AUMA POSITION ON LOTTERY BOARDS AND VIDEO LOTTERY TERMINALS

At the City of Red Deer's special meeting of Council held Tuesday, February 24, 1998, consideration was given to the above. At that meeting, Council passed the following resolution:

> "RESOLVED that Council of The City of Red Deer, having considered report from the Social Planning Manager dated February 23, 1998, re: AUMA Position On Lottery Boards and Video Lottery Terminals, hereby:
>
> 1. Supports the AUMA in reaffirming its position that video lottery terminals are a Provincial issue and the Province should deal with all the concerns;
>
> 2. Agrees that AUMA be requested to add to the above position that should there be any type of vote on video lottery terminals, the responsibility of defining the process for the vote, all related costs and the handling of outcomes (including legal issues and costs), should all remain with the Province."

On behalf of Council, I would like to thank you for the opportunity to provide input on this issue. Please do not hesitate to contact me should you require any further information or clarification of Council's decision in this regard.

DATE: **February 23, 1998**

TO: **KELLY KLOSS**
City Clerk

FROM: **COLLEEN JENSEN**
Social Planning Manager

RE: **AUMA POSITION ON LOTTERY BOARDS AND VIDEO LOTTERY TERMINALS**

I have reviewed the information as circulated by AUMA regarding the above noted issues. I provide the following comments for Council's consideration.

COMMUNITY LOTTERY BOARDS
Over the past two years Council has considered the issues of Lottery Boards on a number of occasions. The position that has been taken each time is that municipalities should be the body that should distribute lottery funds, and further that existing boards should be used to review applications and recommend distribution. This has clearly been communicated to the provincial government, both by correspondence and in questionnaires.

Over the past several months the issue of who pays for the administration of the lottery granting process has also been before most Council's across Alberta. The Province has taken the position that municipalities will have to pick up administrative costs that will be incurred up-front, such as receipt of applications, copying for review, filing, tracking of proposals, correspondence back to applicants etc. This will result in considerable cost, as well as the work of supporting the Community Lottery Board process.

RECOMMENDATION:

That Council for The City of Red Deer support Option #1, as outlined in the AUMA brief, which is to stay with the existing position that municipal councils should handle the distribution of lottery money. Further, Council should request AUMA to take a strong position that any and all administrative costs for the distribution of lottery funding be the responsibility of the province, with an administration grant provided to municipalities.

As an alternate solution, Option #4 could be supported, whereby Council would appoint the Lottery Board locally, and leave all remaining tasks to the Provincial Community Development Department including working with the Board and administrative costs. This is not ideal, as the coordination of local grant giving will likely be much less effective in this model.

VIDEO LOTTERY TERMINALS
Council for The City of Red Deer has taken a position on video lottery terminals, and in fact put forward a successful resolution to AUMA in 1995 which requested the province to prohibit video lottery terminals and machines of similar nature within Alberta. The response of the government to this resolution was that if a community decides, by plebiscite, to prohibit VLTs in its community, then the government will honor that decision. As outlined in the AUMA brief, there are now issues of jurisdiction and legal challenges arising for those communities that have followed this process.

RECOMMENDATION:

That Council for The City of Red Deer support Option #1, whereby AUMA would reaffirm its position that VLTs are a provincial issues and the province should deal with all the concerns. AUMA should be requested to add to their position that should there be any type of vote, the responsibility of defining the process for the vote, all related costs and the handling of outcomes (including legal issues and costs) should all remain with the province.

COLLEEN JENSEN
Social Planning Manager

8712-105 Street
Edmonton, Alberta
T6E 5V9
Phone: 433-4431
Fax: 433-4454

AUMA

Fax URGENT

To:	Mayor/CAO	**From:**	John McGowan
Fax:	NewsFax Service	**Date:**	February 17, 1998
Pages:	3	**CC:**	President Gordon Graydon

x **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Attached are two briefings on issues the AUMA Board will be considering at their next Board meeting on February 27, 1998.

The Board is meeting with the Minister of Community Development to discuss both Community Lottery Boards and VLTs.

The Board would appreciate your review and comments on the attached briefing. If you believe there is a need for changes or additions to the issues or the options we would like to hear them.

Finally do you feel the AUMA should amend its' position on these two matters?

I would appreciate your comments by the end of the week so we can give a summary to the Board.

THANK YOU

John McGowan

Community Lottery Boards

ISSUE:

Should the AUMA change or add to its position on the distribution of provincial lottery funds?

PRESENT POSITION OF AUMA:

Municipal councils should handle the distribution of lottery funds. There isn't a need for a duplicate decision making process when it comes to one time grant distribution.

CURRENT ISSUES BEING DEALT WITH BY MUNICIPALITIES:

1. Municipalities are expected to appoint members to a Community Lottery Board.
2. Municipalities are expected to establish an administrative process for decision making by the Community Lottery Boards.
3. Some municipalities are expected to appoint members to Community Lottery Board, which cover a large number of municipalities.
4. The $50 million lottery fund is being distributed as a one-time grant (these funds can't be used for operating or new buildings).
5. Municipalities are expected to review the applications to determine if there is duplication in grant applications (particularly where a municipal council has already given funds for a similar purpose).
6. The Community Development Department will handle the administrative process such as grant application forms, reviewing non-profit status, distribution of grant funds to organizations and the establishment of an accountability process directly with those who received funds.

OPTIONS AVAILABLE FOR AUMA BOARD POSITION:

1. That AUMA stay with its existing position since this is a one-time grant distribution.
2. Municipalities accept the responsibility for the formation and management of the Community Lottery Board decision making process. The principles being that this will ensure needed funds are getting back into the community. That any administrative costs are tracked for future reference.
3. That the Association request the Province allow those municipalities required to be a part of a Community Lottery Board, be allowed to establish there own if the municipal Council feels it's necessary.
4. That a municipality is allowed to nominate Community Lottery Board members and then leave all the remaining tasks to the Community Development Department.

VIDEO LOTTERY TERMINALS (VLTs)

ISSUE:

Should the AUMA change or add to its position on video lottery terminals in communities.

PRESENT POSITION OF AUMA:

The placement and removal of VLTs is under provincial jurisdiction and municipalities should not be involved in their removal.

CURRENT ISSUES BEING DEALT WITH BY MUNICIPALITIES:

1. Municipalities are being asked to place a question on the ballots for the upcoming municipal elections dealing with the removal of VLTs.
2. Municipalities are receiving petitions to hold a plebiscite on the removal of VLTs in their communities.
3. Municipalities who have held votes are being challenged in court. The municipal council is expected to deal with the court action and citizens are challenging the council to pressure the province as a result of the vote.
4. The Premier has announced a summit to discuss the VLT issue.
5. Some municipalities and interest groups have suggested the province hold a province wide vote at the upcoming municipal elections.

OPTIONS AVAILABLE AS AN AUMA BOARD POSITION:

1. That the Board reaffirms its position that VLTs are a provincial issue and the province should deal with all the concerns.
2. That the Board asks the Province to cover all costs related to the voting on a VLT issue (including legal costs). Is there a difference if municipalities are petitioned for a question vs. council placing a question on the ballot directly?
3. That the Board supports the Premier in the development of a summit on VLTs.
4. That the Board asks the Province to hold a provincial vote similar to the Senatorial Selection vote.
5. That legislation be amended to clarify that municipalities should not be required to hold these types of plebiscites (there will be a question on how one gets a community's view on a general issue).