



TOWN OF STONY PLAIN:

Cemetery Needs Assessment and Business Plan

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Executive Summary

The Town of Stony Plain does not have a municipal cemetery, and the Town's Strategic Plan identifies the examination of this as a high priority. Prior to making a significant investment in land, capital improvements, human resources and operating costs required to develop and operate a cemetery, the Town needed to establish a comprehensive business case.

The purpose of this Cemetery Needs Assessment and Business Plan was to gauge public interests, review trends and the market context, and evaluate the financial considerations that will provide the Town with a concrete basis for making the decision whether or not to establish a municipal cemetery.



The first major step in the process involved a statistically valid community survey, which was sent to a random selection of households; 402 surveys were completed. Over three-quarters of respondents (76%) agreed that the Town of Stony Plain should have a municipal cemetery. If there was a municipal cemetery/memorial garden in Stony Plain, 53% indicated that it would be highly or somewhat likely that they would be interred there. A sizeable majority of respondents (63%) would be comfortable using taxes to acquire and develop a cemetery, recognizing that it would have a park-like character and be available for other uses such as walking and community gatherings.

Focus groups confirmed interest in a municipal cemetery. The region has mostly faith-based cemeteries that are only available to members of their congregations with many of these at capacity. The only municipal cemetery nearby is in Spruce Grove and it does not meet the needs of all families. As a result, a significant number of Stony Plain mortalities are interred in Edmonton cemeteries or elsewhere.

We collected and analyzed demographic and funeral industry/cemetery trends, population and mortality projections, data on local cemeteries and funeral services, and

information on comparable cemeteries to estimate the market share of a cemetery in Stony Plain. We propose the offering of a wide range of services to maximize market share. These include plots for full burials and cremated remains, niches (columbaria, walls,), scattering gardens, placement of cremated remains below pavers or rocks, and green (or natural) burial.

Based on the anticipated capacity of the cemetery, we project a need for 2 hectares to accommodate interments over the next 30 years. Given that most cemeteries strive to serve the community for about 100 years, we project a need for a site of 9 to 15 hectares depending on the rate of population growth. The order-of-magnitude cost estimate for developing the cemetery to serve needs for 30 years is \$2,350,000, excluding land and utility costs.

The Business Plan provides conservative estimates of revenues and expenses. For the cemetery's revenues to cover operating costs, fees will need to be set at the low end of the range of cemetery service fees in Edmonton. In order to generate revenue that will support operating costs after the cemetery has ceased interments, we recommend that the Perpetual Care Fund fees be set at 40% of service fees.



I. Introduction

I.1 Overview

The Town of Stony Plain is a growing urban municipality located west of the City of Edmonton. It is a full-service community with numerous government, education, health care and social facilities and services. These are used by residents of Stony Plain and by those who live in the Tri-Municipal area.

The Town does not have a municipal cemetery, and the Town's Strategic Plan identified the examination of this as a high priority. Prior to making the significant investments in land, capital improvements, human resources and operating costs required to develop and operate a cemetery, the Town needed to establish a comprehensive business case.

The purpose of this Cemetery Needs Assessment and Business Plan was to gauge public interests, review trends and the market context, and evaluate the financial considerations that will provide the Town with a concrete basis for making the decision whether or not to establish a municipal cemetery. The project involved the following components:

Phase 1 - Needs Assessment

- ▶ a statistically valid community survey to identify expectations and perspectives on cemetery services, and opinions regarding a potential municipal cemetery in Stony Plain
- ▶ workshops with Town staff and stakeholders, and an open house with the community, to identify current practices, expectations and perspectives on cemetery services, and opinions regarding a potential municipal cemetery in Stony Plain
- ▶ collection of data on existing cemeteries in the region, demographic and mortality projections, cemetery trends, and estimates of market capture to identify the future use of a potential municipal cemetery
- ▶ preparation of criteria for acquiring cemetery lands

Phase 2 - Business Plan

- ▶ business plan that identifies revenue (including proposed cemetery fees and charges), land needs, capital and operating costs, and financial projections

1.2 Planning Process

The following were the key tasks involved in the project:

Community Survey

Invitations to participate in the community survey were sent to a random sample of 3,000 residences by mail, selected randomly from a complete residential address list provided by the Town. The letter requested participation by the “head of the household who has the next birthday” for random selection of the respondent in the household.

The survey invitation letters were printed on official Town letterhead, and the letter was signed by the Mayor. Potential participants were given the options of conducting the survey online, or completing a hard copy questionnaire. For those selecting hard copy, a Town telephone number was provided for requesting a copy to be sent by mail. Hard copy responses were entered into the online survey by the consultants.

Each invitation letter included a unique identifier linked to the address. This ensured that only one person in each household could complete the survey and it enabled tracking of non-respondents so a reminder mailing could be sent.

Letters were mailed on October 26, 2015, with a stated survey deadline of November 24, 2015. On November 17, 2015, reminder letters were sent to 1,000 of the original recipient list who had not responded to the survey, and the deadline was extended to December 1, 2015. There were 402 surveys completed, a response rate of 13.4%. This is considered a statistically valid response rate for the population of Stony Plain.

Workshops and Interviews

Two workshops were conducted, with participation as follows:

- ▶ Workshop for Town staff from Planning and Infrastructure, Community and Protective Services, Legislative Services, and the Office of the CAO
- ▶ Workshop with stakeholders including representatives from a funeral home, local cemeteries, faith leaders, seniors, and service clubs

The workshops included an introduction to the project, and input on the following:

- ▶ Information on current practices and trends
- ▶ What are the reasons why there should be a municipal cemetery in Stony Plain?
- ▶ What are the reasons why there should NOT be a municipal cemetery in Stony Plain?
- ▶ What design and service opportunities should be explored if there is to be a municipal cemetery?

- What could make the cemetery unique to and reflective of Stony Plain?

A comprehensive interview was conducted with Parkland Funeral Services regarding existing practices and trends in the region.

Data Collection

Information needed to support the preparation of the Needs Assessment and Business Plan was collected from numerous online sources, supplemented by interviews with existing cemetery operators.



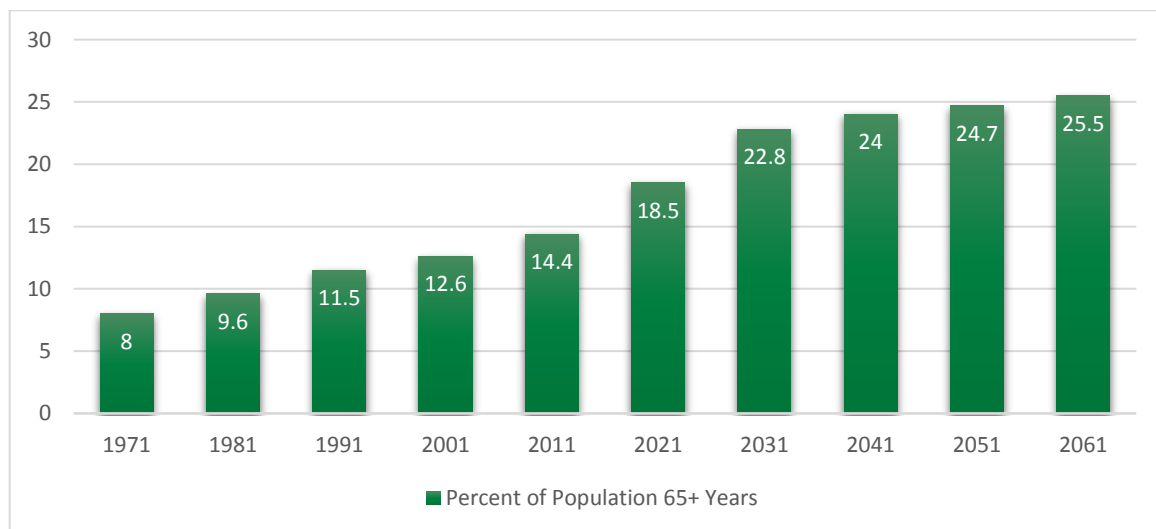
2. Demographic and Industry Trends

2.1 National and Provincial Demographic Trends

The population of seniors – defined as individuals aged 65 or older – in Canada is currently the fastest-growing age group in the country (Figure 2.1). In 1971, the median age in Canada was 26.2 years. This number rose significantly over the next 40 years to a median age of 40.6 years in 2011. The growth of the older-aged population is expected to continue over the next few decades due to a below-replacement fertility rate, increased life expectancies, and the aging of the baby boom generation. It was estimated in 2011 that there were over 5.0 million Canadians that were 65 years of age or older, which is expected to more than double to 10.4 million seniors by 2036.

The largest period of growth for the seniors' demographic is projected to occur during the 20-year period of 2011 to 2031. During this time, the population of seniors is expected to grow from 14.4% of Canada's total population to 22.8%, a 63% increase. By 2051, it is estimated that 25% of Canadians will be 65 or older. The rapidly aging population, consisting of comparatively well-educated and wealthy baby boomers, is already beginning to transform the death industry.

Figure 2.1 Percent of the Population 65 Years and Older in Canada (Historical and Projected)



SOURCE: STATISTICS CANADA

Alberta has seen a steady increase in its population of seniors. The 2001 census recorded the percentage of residents in Alberta aged 65 or older at 10.4%, and a provincial median age of 35.0. These figures increased to 11.1% and 36.5, respectively, in 2011. Alberta has

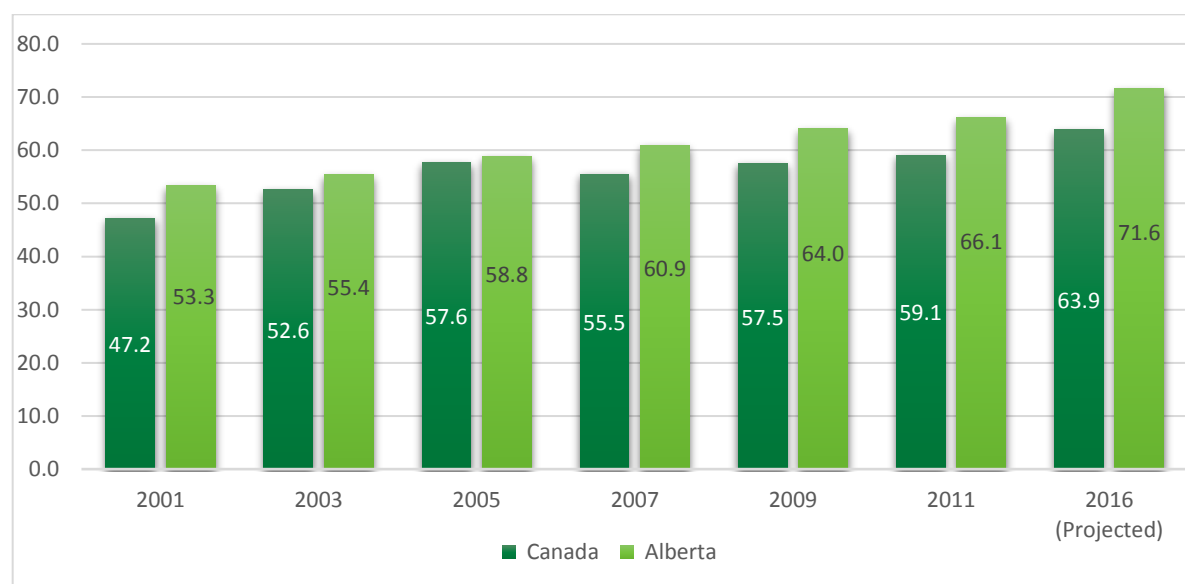
been emulating the national demographic trends of an aging population, but at a slower pace than other provinces as it had both the lowest median age and lowest proportion of seniors when measured against all other provinces in the 2011 census.

2.2 National and Provincial Cremation Trends

Throughout North America, there has been a steady increase in cremation compared to traditional full burial (Figure 2.2). Since 2001, the cremation rates in Canada, excluding Quebec, have increased from 47.2% in 2001 to 59.1% in 2011. It is projected that Canada will see 63.9% of all deaths cremated in 2016. The largest proportion of that increase occurred from 2001 to 2006, which saw a 10% increase in the proportion of deaths cremated. From 2006 to 2011, the increase flattened with an overall increase in deaths cremated by 1.9%.

Alberta has historically had a higher cremation rate than the national rate and this difference has proportionally increased over the last 15 years (Figure 2.2). Alberta had the second highest cremation rate among Canada's provinces in 2011 (behind B.C. at 80.6%). It is projected that Alberta's rate will rise to 71.6% in 2016.

Figure 2.2 Percentage of Deaths Resulting in Cremation in Alberta and Canada



SOURCE: CREMATION ASSOCIATION OF NORTH AMERICA

The Cremation Association of North America cites five major factors for the rise of cremations and the decrease of full burials, as follows:

1. **Cost** - Typical cremation costs average between \$1,000 and \$3,000, compared to a full traditional burial, which averages between \$6,250 and \$8,000.

2. *Range of Options* - The options for memorialization offered by cremation are diverse and appealing. Cremated remains can be placed in single or multiple locations, buried or sealed in niches in cemeteries, scattered in appropriate locations, or divided into keepsake urns, jewelry and other items that may be distributed among loved ones.
3. *Environmental Impact and Land Consumption* - Full burials requiring land and perpetual maintenance and care are seen by some as having more significant environmental impacts.
4. *Location and Transport* - Cremation allows for the easy and inexpensive transport of a loved one's remains.
5. *Religious Acceptance* - Many religions accept cremation and some have begun to plan and install columbaria on the grounds of their places of worship.

The evolution of burial practices within religions that have long histories in Canada has influenced the cemetery services offered in Canada. The allowance of cremations by the Catholic Church in 1963 has led to a continual increase in the number of Catholic cremations. There has also been a gradual increase in the amount of Jewish cremations, a practice that is contrary to Jewish traditions. Changing religious norms and the acceptance and convenience of cremation are factors in the increase of cremation as the most popular method of disposition in Alberta.



2.3 Interment and Cemetery Trends

Interment and memorialization options have been increasing, especially for cremated remains. Some of the common options include cremation burial plots, adding cremated remains within full burial plots, columbaria, other forms of niches, scattering gardens, and burial of cremated remains under paving stones, naturalized areas, or other features. Interring cremated remains in cemeteries enables families to visit the remains of their loved ones in a location that is permanent, protected and contemplative. Cemeteries are finding that a broader range of services can enable them to meet more diverse needs.



Full burials can occur in traditional plots or green burial sites. Green or natural burial is a trend that is gaining traction among western nations, including Canada. Green burial involves returning a body as naturally as possible to the earth. The body being interred is not embalmed or cremated; it is placed in a simple biodegradable shroud or casket and buried in a protected green space. Vegetation is planted (often native trees, shrubs and/or meadow plants) and allowed to naturalize, and the names of those interred in an area are usually inscribed on a communal marker or plaque.

This method is a low-impact alternative to traditional full burials, which introduce toxic chemicals into the environment from the embalming process, and typically involve large quantities of metal, hardwood and/or concrete used for caskets and liners. Green burial also has less environmental impact than cremations, which use large amounts of energy and materials to cremate a body. Cremated remains contain metals such as lead, boron, cadmium, chromium, and cobalt that can be toxic to the environment.

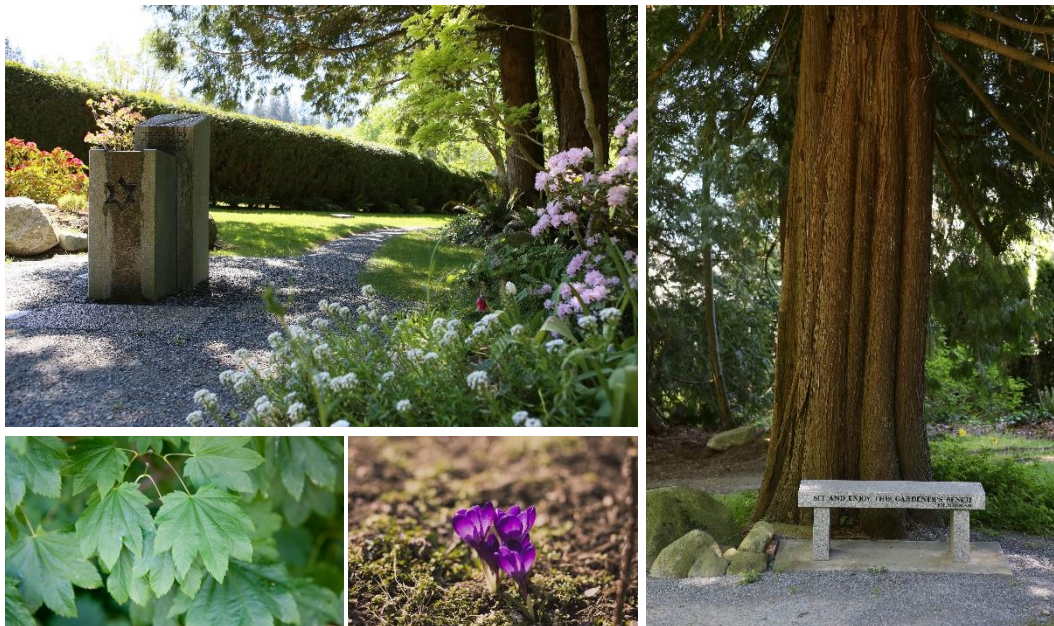


Natural or green burials are usually a less expensive option than a full burial and slightly more expensive than cremation and interment in a cemetery. Green burial can bypass expenses such as embalming, limousines, vaults, and headstones; on the other hand, there are costs for the use of land and vegetation. As an example, per Royal Oak Cemetery's current fee schedule in Victoria, the costs of green burials are between 65-75% of the cost of a full burial and 20% more than the cost of a cremation interment; this cemetery cremation interment fee does not include the cost of cremation, which in most cases would make the total cost of cremation higher than green burial.

There are over 270 natural burial sites in the United Kingdom, and an increasing number of cemeteries in North America are offering the service. The Green Burial Society of Canada was established in 2013. According to the Alberta Funeral Service Regulatory Board, Alberta has multiple cemeteries that can accommodate green burial, but no municipal cemetery officially offers or charges for this service. Variations of green burial known to occur in cemeteries include placement of unembalmed remains in a biodegradable covering within a traditional full burial plot (sometimes with an all-natural monument) and natural burials with individual rather than group markers.

There is also a trend towards memorials within cemeteries without actual interments. This method, which may be used to honour loved ones who are interred elsewhere, is attractive to families who have relocated or for honouring loved ones who lived in multiple locations. The memorials can take the form of benches, trees, memorial walls or plaques, paving stones, bricks, etc.

Ossuaries and mausolea are less common forms of interment. Both are typically used where land is very scarce and construction costs are not a limiting factor.



- ▶ Most new cemeteries are designed with park-like features to make the cemeteries more comforting for those visiting their loved ones, and to recognize that cemeteries can offer values a park space. Typical features include trees, plantings, shelters, and seating and gathering spaces. Some cemeteries also include water features and small buildings. Many cemeteries include natural areas, and trails that are interconnected with the municipal trail system.

2.4 Local Cultural Trends

The 2011 federal census recorded that the majority of Stony Plain residents (69%) had a Protestant, Catholic or other Christian-based religious background. The most noticeable cultural change in Stony Plain is the rise of the Filipino community, with Filipino residents increasing from 25 in 2006 (federal census) to 265 in 2011 (federal census). A primarily Catholic community, Filipinos still see full burial as the preferred interment method of choice. A Filipino tradition is to have lunch at the cemetery, and the burial takes place while the mourners are present.

The community survey conducted for this project found that 93% of respondents had no cultural requirements in relation to how their remains will be treated. However, of those respondents expecting to be interred in the region, there was an even split between those expecting to be interred in a church or other faith-based cemetery versus a non-denominational cemetery.



3. Existing Cemeteries

3.1 Local Cemeteries and Funeral Services

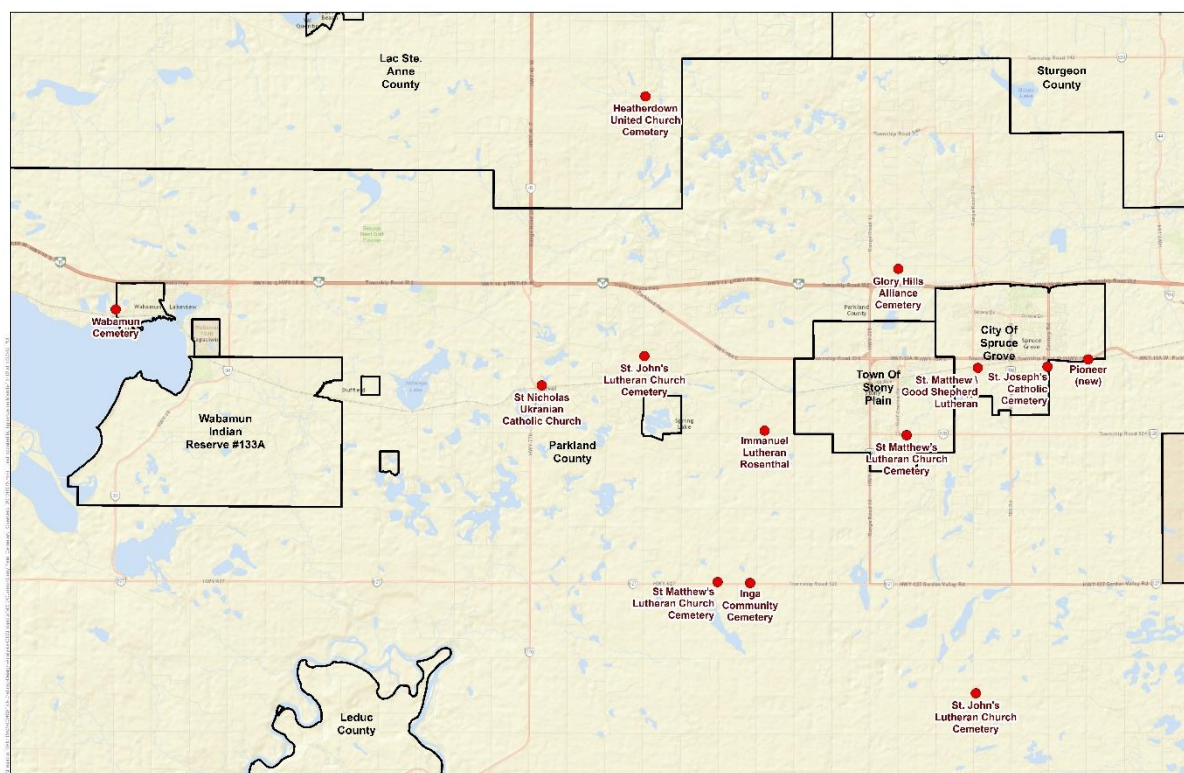
There are 13 cemeteries in the vicinity of Stony Plain (Figures 3.1 and 3.2). The majority of these are private church cemeteries, accessible to residents who are affiliated with the respective church. The St. Matthew's Lutheran Church and St. Matthew's & Good Shepherd Lutheran Church Cemeteries are available to congregation and sister congregation members while the St. Joseph's Catholic Cemetery will serve anyone in the Parkland County region who respects the traditions of the Catholic Church. The Inga Community Cemetery, just outside of Stony Plain, is a non-denominational cemetery and is near capacity.

Figure 3.1 Existing Local Cemeteries

| | Glory Hills Alliance Cemetery | St. Matthew's Lutheran Church Cemetery | Inga Community Cemetery | Pioneer Cemetery | St. Joseph's Catholic Cemetery | St. Matthew's & Good Shepherd Lutheran |
|-------------------|-------------------------------|--|-------------------------|-----------------------|--------------------------------|--|
| Denomination | Alliance | Lutheran | None | None | Catholic | Lutheran |
| Public/Private | Private | Private | Public | Public | Private | Private |
| Capacity | Full | Not Full | Full | Not Full | Not Full | Not Full |
| Services Offered: | | | | | | |
| Full Burial Plot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cremation Plot | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Columbarium | | ✓ | | | ✓ | |
| Trends | Minor Cremation Increase | 10% Cremation Increase | N/A | Increasing Cremations | Increasing Cremations | 50% Cremation Increase |

SOURCE: RELEVANT CEMETERY OPERATORS (OTHER LOCAL CEMETERIES ON THE MAP ARE NOT LISTED ABOVE BECAUSE THEIR OPERATORS COULD NOT BE REACHED FOR INFORMATION)

Figure 3.2 Local Cemetery Locations



The closest municipal cemetery is the Pioneer Cemetery in Spruce Grove. Pioneer is a non-denominational burial ground owned and operated by the City of Spruce Grove. Dating back to the 1800s, Pioneer Cemetery served as a burial ground to the pioneers of the communities of Spruce Grove, Stony Plain and Parkland County. The cemetery is open for visitation seven days a week but, given its location between a railway and a busy arterial road, it is not an ideal place for those hoping to pay respect to their loved ones peacefully. The cemetery only offers burials, so options for interring cremated remains are limited.

Most funeral services in Stony Plain are held at the Parkland Funeral Service's chapel, which seats 350, the Pavilion or the Legion. Most people in Stony Plain are embalmed after death. Funeral home staff in the area noted that interment costs are a significant factor for many community members and some families have chosen less expensive interment methods and cut back on or eliminated memorial services for financial reasons.

3.2 Regional Cemeteries and Funeral Services

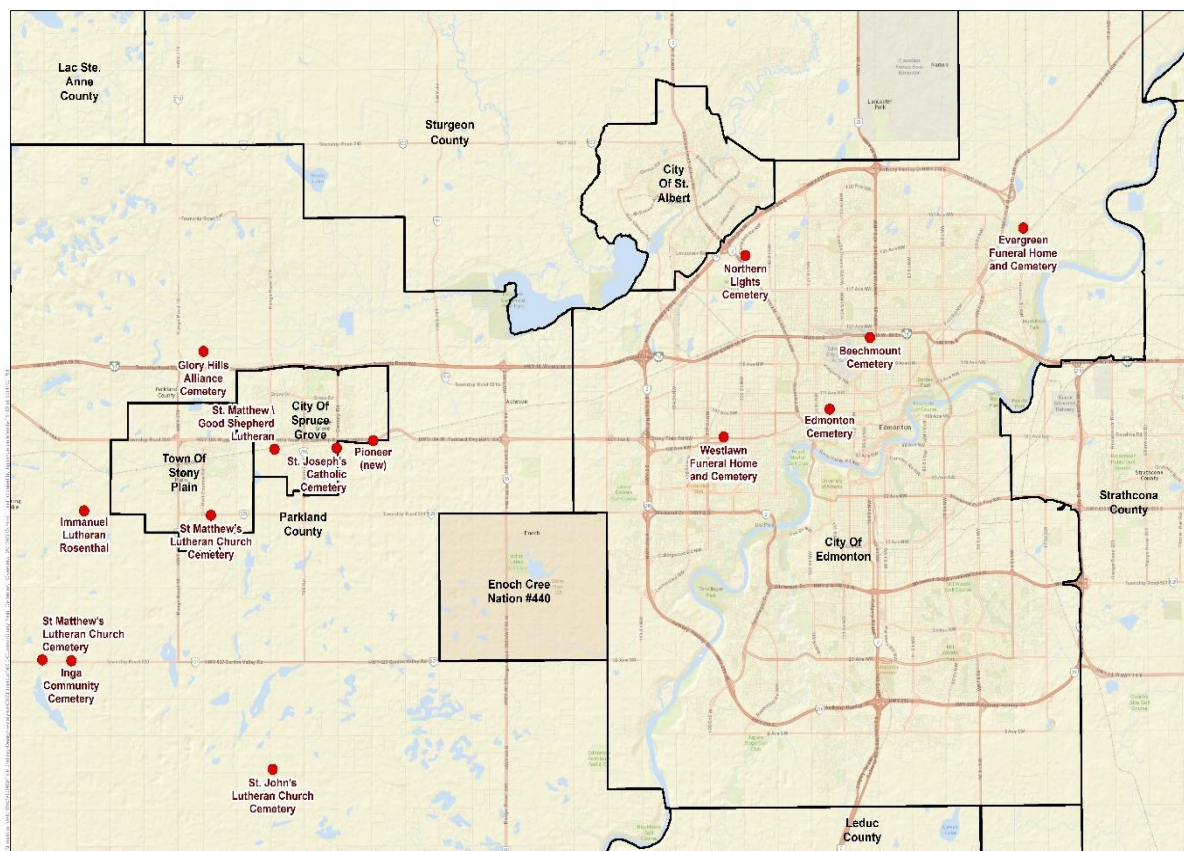
Because of the limited interment options available in Stony Plain, a significant number of Stony Plain residents are interred in Edmonton. There are seven municipal cemeteries in Edmonton, in addition to three private cemeteries. The cemeteries in Edmonton include the Northern Lights, Beechmount and Edmonton municipal cemeteries, as well as the Westlawn and Evergreen private cemeteries (Figures 3.3 and 3.4).

The closest crematorium to Stony Plain is in Edmonton. It's a busy facility used by a number of funeral homes, and at times, the wait for a cremation can be a week.

Figure 3.3 Existing Regional Cemeteries (Municipal and Private)

| | Westlawn Cemetery | Evergreen Cemetery | Northern Lights Municipal Cemetery | Edmonton Municipal Cemetery | Beechmount Municipal Cemetery |
|----------------------------|-------------------------------|-----------------------|------------------------------------|-----------------------------|-------------------------------|
| Public/Private | Private | Private | Public | Public | Public |
| Undeveloped Land Available | Yes | Yes | Yes | No | No |
| Services Offered: | | | | | |
| Full Burial | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cremation Plot | ✓ | ✓ | ✓ | ✓ | ✓ |
| Columbarium | ✓ | ✓ | ✓ | ✓ | ✓ |
| Scattering/Memorial Garden | ✓ | ✓ | | | ✓ |
| Field of Honour | | ✓ | | ✓ | ✓ |
| Trends | Opening more memorial gardens | Increasing Cremations | N/A | N/A | N/A |

Figure 3.4 Regional Cemetery Locations



4. Stony Plain Cemetery Trends and Projections

4.1 Community Input

The community survey provides an overview of the perspectives of Stony Plain residents regarding cemetery services and a potential municipal cemetery. Information from the workshops generally confirmed the data from the survey.

The following is a summary of the survey results:

- ▶ About 35% of respondents expect to be interred in the region (Parkland County, adjacent counties or Edmonton). Of those, 45% prefer a faith-based cemetery and 44% prefer a non-denominational cemetery.
- ▶ Pre-need purchases of interment rights have been made by 14% of survey respondents.
- ▶ If there was a municipal cemetery/memorial garden in Stony Plain, 53% indicated that it would be highly or somewhat likely that they would be interred there.
- ▶ Over three-quarters of respondents (76%) agreed that the Town of Stony Plain should have a municipal cemetery.
- ▶ A sizeable majority of respondents (63%) would be comfortable using taxes to acquire and develop a cemetery, recognizing that it would have a park-like character and be available for other uses such as walking and community gatherings.
- ▶ Almost three-quarters of respondents (73%) expect to be cremated compared to 16% of respondents who expect to be buried.
- ▶ When asked what interment method will most likely be used for their remains, the top three selections were as follows:
 1. Placement/scattering of cremated remains in a private or natural location (26% / 103 respondents)
 2. Burial of cremated remains (20% / 81 respondents)
 3. Full burial (18% / 71 respondents)

Over three-quarters of community survey respondents agreed that the Town of Stony Plain should have a municipal cemetery.



- ▶ Of those expecting to be interred in the region, the first two choices were split evenly between burial of cremated remains and full burial (both at 31%). Placement of cremated remains in a niche was the third choice (15%)
- ▶ For most respondents (93%), cultural requirements were not a concern in relation to treatment of their remains.
- ▶ On the final open-ended question, the top three positive comments were that a cemetery is a good idea/long overdue/should be a priority (54 comments), nice to have a cemetery (45 comments), and nice to have a memorial area and/or scatter garden (33 comments). The top negative comment was concern about increased taxes for a new cemetery (37 comments). Other comments provided input on the design, location, and funding approach.

4.2 Stony Plain Demographics and Projections

Population Growth

The population of Stony Plain has experienced significant growth over the past 10 years, primarily due to activities resulting from Alberta's significant natural resource development and the Town's robust transportation connections with Edmonton. In recent years, Stony Plain has been among Alberta's fastest growing communities. In 2006, the Town's population was 12,363 and it grew to 16,127 in 2015 (Stony Plain Municipal Census, 2015), an annual growth rate of 2.7% over that period.

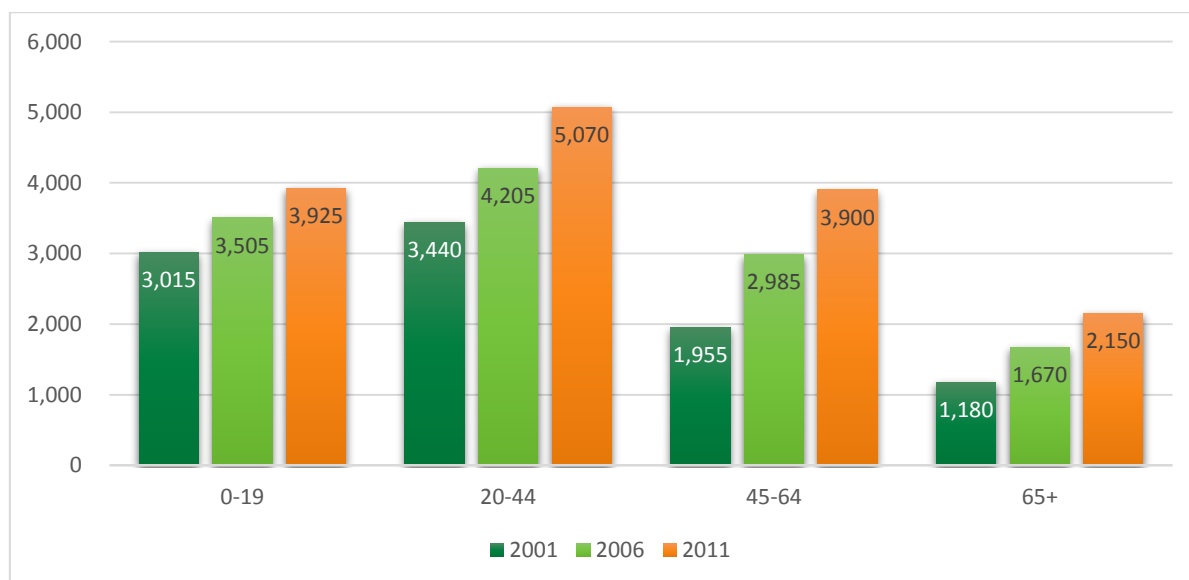


In 2013, the Capital Regional Board of Alberta estimated the Town of Stony Plain's future population as part of their *Population and Employment Projections Report* (Figure A.1). There are two estimated growth scenarios (low and high) for the 30 years between 2014 and 2044. The Town's population will grow to 32,200 based on the low growth assumption (a 2.4% annual growth rate) or to 40,000 under the high growth scenario (3.2% annual growth rate). Stony Plain's 2013 Municipal Development Plan is based on the average of these two scenarios (36,000 by 2044).

The average of the two growth scenarios (2.8% annually) has been adopted in the business plan for alignment with the Municipal Development Plan. Additional details on the Town's population and growth are included in Figure A.1 of **Appendix A**.

Stony Plain's population is increasing in age (Figure 4.1). The 2011 Federal Census recorded the median age of Stony Plain residents to be 37.7 years, compared to the provincial median age of 36.5. This is a reversal from the 2006 census in which Stony Plain's median age (36 years) was lower than the provincial median age (36.8 years). This has been due to the Town's gradual increase of residents aged 65 or older, increasing from 12% (1,180 people) of its total population in 2001 to 14% (2,150) in 2011. The Town is also experiencing high growth of the 45 to 64 age group, which increased from 20% (1,955) of the population in 2001 to 26% (3,900) in 2011. This suggests that the Town will likely face a more pronounced increase in its population of seniors within the next 10 to 20 years as this portion of the population ages.

Figure 4.1 Stony Plain Population by Age Group (2001-2011)



SOURCE: STATISTICS CANADA

Death Rates

Over the past few years, there has been a decline in Stony Plain's death rate. Between 2001 and 2005, the average death rate was 11.3 deaths/1,000 population, and by 2013 the death rate had fallen to 10.3 deaths/1,000 population. This decrease can be attributed to improved medical care and public health technology. This decreasing death rate is not expected to continue over the next 20 years, due to aging "baby boomers" and the Meridian Foundation and Good Samaritan facilities that have brought regional residents to the Town for end-of-life care.

As a result of these factors, the death rate in Stony Plain is expected to only marginally decline or possibly increase in the near future. So that Town deaths are not underestimated, we assume a gradual death rate increase for this report, reaching 10.6 deaths/1,000 population by the 2033 to 2037 period. The declining death rate trend can be expected to resume after 2038 as the baby boomer population bulge ends (see Figure A.1 in **Appendix A** for additional details).

4.3 Interment Projections

Burials and Cremations

Consistent with national trends, the ratio of cremations to burials has been growing in Alberta, and in 2014, cremations in the province had grown to 69% of deaths. This trend is expected to continue. The community survey results reflect these trends, as 73% of respondents expect to be cremated (with 78% of respondents aged 65 years or older expecting to be cremated).

Consistent with national trends, 73% of Stony Plain respondents expect to be cremated rather than buried.

For this analysis, we assume that cremations will make up 70% of total deaths occurring in Stony Plain in 2018. This is based on the cremation percentage projected for Alberta in 2018 and the survey responses of Stony Plain residents.

Given that the rising trend in cremations is expected to continue, cremations are projected to make up 78% of interments by 2047 (see Figure B.1 of **Appendix B** for further details).



Interment Market Share

Market share is the number of interments that take place at a cemetery each year in relation to the annual number of deaths within the community. Since the Town does not have a non-denominational municipal cemetery, projected market share cannot be based on past trends in the community. Other data must be used to calculate the expected market share for a new cemetery.

In the last decade, multiple municipalities in Alberta and BC have completed cemetery master plans that note the past market share of full burial and cremated remains interments in their municipal cemeteries (Figure 4.2). The market share of municipal cemeteries is affected by other available cemeteries in the region, costs of cemetery services, and the proportion of cremated remains that are scattered or kept outside of cemeteries. Although the average market share of cremated remains interments is 37%, the average for the analyses conducted in 2008 and later is significantly higher (40%).

Figure 4.2 Market Share of B.C. and Alberta Municipal Cemeteries

| Municipal Cemetery | Full Burial Interments as a Percentage of Total Municipal Full Burials | Cremated Remains Interments as a Percentage of Total Municipal Cremations | Years of Analysis |
|--------------------|--|---|-------------------|
| Lethbridge | 76% | 51% | 2003-2009 |
| Lacombe | 83% | 28% | 2010-2012 |
| Okotoks | 90% | 40% | 1999-2008 |
| Abbotsford | 44% | 18% | 1997-2005 |
| Maple Ridge | 73% | 29% | 2002-2005 |
| Fort St. John | 74% | 42% | 2007-2014 |
| Olds | 69% | 48% | 2006-2012 |
| Average | 73% | 37% | |

SOURCES: MUNICIPAL CEMETERY MASTER PLANS

We assume that 50% of all full burials in Stony Plain will be interred in the municipal cemetery. This percentage is expected to increase 2% every five years as the profile of the municipal cemetery becomes established, settling at 60% in 2043 and thereafter. This conservative estimate is based on about half of the survey respondents indicating a preference for a faith-based cemetery and the fact that it will take time for the Town cemetery to gain market share. Faith-based cemeteries in the region are currently completing approximately 25 annual full burial interments (or 50% of Town residents that have chosen to be buried in a cemetery). This trend is assumed to continue even after a municipal cemetery is developed.

We assume that 30% of cremation dispositions will be interred in the municipal cemetery. This market share is expected to increase by 3% every five years, levelling off at 45% in 2043 and thereafter. The greater proportional increase in market share of cremated remains is based on the proposed range of services offered, especially in comparison with other cemeteries in the region. Given the lack of past market share data, it will be important to review these assumptions based on actual interments.

Additional details on interment projections in Stony Plain are provided in Figure B.2 of Appendix B.

Interment Services

The 30-year projections in the business plan are based on community survey input and the relative use of interment types in comparable communities where the cemeteries offer a full range of services. The primary options for cremated remains are as follows:

- ▶ Cremated remains burial plots that typically accommodate up to two sets of remains
- ▶ Niches that can accommodate one or two sets of remains
- ▶ Placement of cremated remains in a full burial plot above a full burial – municipalities allow between two and eight sets of cremated remains in these plots
- ▶ Scattering gardens
- ▶ Placement of cremated remains in unique locations such as below pavers or rocks, sometimes in groups, e.g., family “estates”
- ▶ Placement of cremated remains in green burial areas that are naturalized

The options for full burial include traditional plots or green burial.

Similar to calculating market share for the new cemetery, the lack of municipal cemetery interment records and limited cemetery services in Stony Plain make it challenging to project the distribution of interment types. In existing cemeteries, the distribution of interment types for cremated remains depends on the services offered at the cemetery and the costs of these services. For example, Fort St. John does not charge a plot fee for additional cremated remains over a full burial, hence the City’s cemeteries see a lot of those.



On the Stony Plain community survey, residents were asked which interment method will most likely be used for their remains. The input received seems like a reasonable distribution in relation to the trends occurring at other cemeteries (Section 4.1).

We therefore assume that the municipal cemetery in Stony Plain will see 30% of cremated remains interred in full plots, 30% in cremation plots, 30% in columbarium niches and 10% in a scattering garden or green burial area.

We estimate that green burials will likely capture small portions of the market initially (5% of traditional burials), and that this form of interment will increase over time. Green burial and scattering gardens have the advantage of being less expensive than more traditional forms of interment.

Given the lack of past data on interment services in Stony Plain and the lack of cemeteries with a full range of services, it will be important to review these assumptions based on actual interments. Additional details on interment projections in Stony Plain are provided in Figure B.3 of **Appendix B**.

We estimate that green burials will likely capture small portions of the market initially, (5% of traditional burials) and that this form of interment will increase over time.



In the estimates of revenue for interment types, burial of cremated remains in dedicated locations other than plots, e.g., under paving stones, is included within the category of cremation plots. Memorial plaques honouring those not interred in the cemetery are not listed specifically as revenues will likely be low.

Figure 4.3 provides the allocation of expected interments among the cemetery services based on the assumptions. It shows that there will be 1,153 traditional burials and 59 green burials in the next 30 years. In that same period, 2,447 cremated remains interments are expected with 742 full plot, 742 cremation plot, 742 columbaria and 222 scattering garden interments making up that total. This results in 0.65 cremated remains interred, on average, in each full burial plot. The summary is a conservative estimate so that cemetery revenue is not overestimated during this period.

Figure 4.3 Stony Plain Municipal Cemetery Projected Interment Summary

| Interment Service Offered | 2018- 2022 | 2023- 2027 | 2028- 2032 | 2033- 2037 | 2038- 2042 | 2043- 2047 | 30-Year Total |
|--|---------------|---------------|---------------|---------------|---------------|---------------|------------------|
| Traditional Burials | 143 | 161 | 180 | 199 | 215 | 254 | 1,153 |
| Green Burials | 8 | 8 | 9 | 10 | 11 | 13 | 59 |
| Total Burials | 151 (43%)* | 169 (39%) | 189 (36%) | 209 (32%) | 226 (29%) | 267 (29%) | 1,212 |
| Cremated Remains (In Full Plot) | 60 | 79 | 103 | 132 | 165 | 203 | 742 |
| Cremated Remains (In Cremation Plot) | 60 | 79 | 103 | 132 | 165 | 203 | 742 |
| Cremated Remains (In Columbaria Niche) | 60 | 79 | 103 | 132 | 165 | 203 | 742 |
| Scatterings | 18 | 24 | 31 | 40 | 49 | 61 | 222 |
| Total Cremations | 198 (57%)* | 260 (61%) | 339 (64%) | 437 (68%) | 543 (71%) | 669 (71%) | 2,447 |

*Percentage of Total Interments

SOURCE: ANALYSIS BY URBAN SYSTEMS



5. Cemetery Land Assessment

5.1 Interment Capacity Requirements

Stony Plain's municipal cemetery is expected to require space for 1,212 full and green burial and 2,447 cremated remains interments over the next 30 years (Section 4, Figure 4.3). Figure 5.1 identifies the minimum required capacity the proposed cemetery will require for each decade (based on the noted assumptions below the table). In order to allow for consumer selection and pre-need plots, a cemetery requires more capacity than the projected needs. Other comparable municipal cemeteries are, on average, 87% occupied (Figure 5.2). So that land needs are not underestimated, we therefore propose that the capacity be 15% higher than the minimum required space, resulting in enough developed land for 1,326 full burial plots and 568 cremation plots over the first 30 years (Figure 5.1).

Figure 5.1 Stony Plain Municipal Cemetery Capacity Requirements

| Phase | Service Type | Projected Quantity Required | Minimum Full Burial Capacity | Minimum Cremated Remains Capacity | Total Anticipated Capacity Needs (15% more) |
|-----------------|----------------------------------|-----------------------------|------------------------------|-----------------------------------|---|
| Phase 1 | | | | | |
| Years 2018-2027 | Full Burial Plots | 304 | 304 | 198 | |
| | Cremation Plots | 93 | | 139 | |
| | Columbarium Niches | 104 | | 139 | |
| | Green Burial Plots | 16 | 16 | | |
| | Scatter Garden (m ²) | 9 | | 42 | |
| | Phase 1 Total | | 320 | 517 | |
| Phase 2 | | | | | |
| Years 2028-2037 | Full Burial Plots | 380 | 380 | 247 | |
| | Cremation Plots | 157 | | 235 | |
| | Columbarium Niches | 176 | | 235 | |
| | Green Burial Plots | 19 | 19 | | |
| | Scatter Garden (m ²) | 15 | | 71 | |

| Phase | Service Type | Projected Quantity Required | Minimum Full Burial Capacity | Minimum Cremated Remains Capacity | Total Anticipated Capacity Needs (15% more) |
|----------------------------------|----------------------------------|-----------------------------|------------------------------|-----------------------------------|---|
| | Phase 2 Total | | 399 | 787 | |
| Phase 3 | | | | | |
| Years 2038-2047 | Full Burial Plots | 469 | 469 | 305 | |
| | Cremation Plots | 245 | | 367 | |
| | Columbarium Niches | 276 | | 367 | |
| | Green Burial Plots | 24 | 24 | | |
| | Scatter Garden (m ²) | 22 | | 110 | |
| | Phase 3 Total | | 493 | 1,150 | |
| Phases Capacity Aggregate | | | 1,212 | 2,455 | |
| Total Required Full Burial Plots | | 1,153 | | | 1,326 |
| Total Required Cremation Plots | | 494 | | | 568 |

SOURCE: ANALYSIS BY URBAN SYSTEMS

| Assumptions |
|---|
| <ul style="list-style-type: none"> ▶ Allow up to 6 cremated remains within a full burial plot ▶ Cremated remains per full burial plot as per Figure 4.3's projections ▶ Allow 2 cremated remains within a cremation plot ▶ 1.5 cremated remains per cremation plot (average) ▶ Allow 2 cremated remains within a niche ▶ 1/3 of columbarium niches have 2 cremated remains ▶ 5 cremated remains per m² in scattering garden ▶ 1 green burial per m² |

5.2 Land Needs

Our analysis of the property size required for the cemetery is based on the number of plots needed, as the other interment types use land more efficiently. The property size calculations are based on comparable cemeteries and include the space needed for

associated infrastructure, e.g., parking, service roads, paths, landscape buffers, trees, seating areas, maintenance yard, etc. Only full burial, green burial and cremation plots are included in these land area calculations because these interment types require the most space. Columbaria and scattering gardens are fairly space-efficient, and they can also be located within irregularly shaped areas and edges.

We estimate that Stony Plain will need a total of 1,894 full burial and cremation plots over the next 30 years. Most cemeteries accommodate between 750 and 1,500 full plots per hectare, with the majority of comparable communities at the lower end of that range (Figure 5.2). For cemeteries with a larger number of cremation plots, the total yield can be significantly higher. Based on the average yield of approximately 900 plots per hectare, Stony Plain will require about two hectares (five acres) for the cemetery to accommodate the capacity estimated for 30 years.

We estimate that Stony Plain will need a total of 1,894 full burial and cremation plots over the next 30 years.



Figure 5.2 also identifies the developed cemetery land per 10,000 population for the comparable communities, which is another common way of identifying cemetery land needs in planning documents. According to this measure, Stony Plain would require a larger site. The distinction is that the Town has not had a cemetery since its inception, so the land required for cemetery services to date has been located elsewhere.

Figure 5.2 Municipal Cemetery Sizes of Comparable Communities

| Municipal Cemetery | Developed Land (ha) | Total Plots | % of Plots Used | Plots per ha | Population (2011 Census) | Developed Land (ha) per 10,000 Population |
|--------------------|---------------------|-------------|-----------------|--------------|--------------------------|---|
| Fort St. John | 3.66 | 4,061 | 0.97 | 1,110 | 18,609 | 2.0 |
| Grande Prairie | 7.80 | 8,000 | 0.70 | 1,026 | 55,032 | 1.4 |
| Leduc | 4.00 | 2,566 | 0.90 | 642 | 24,279 | 1.6 |
| Olds | 5.00 | 4,717 | 0.95 | 943 | 8,235 | 6.1 |
| Lacombe | 7.20 | 5,500 | 0.82 | 764 | 11,707 | 6.2 |
| Average | 5.53 | | 0.87 | 900 | | 3.5 |

SOURCE: RELEVANT CEMETERY OPERATORS

Although cemetery needs in Stony Plain are estimated for 30 years, beyond which it is difficult to predict numbers, it is customary for cemeteries to be planned for a horizon of



100 years or more, thereby accommodating up to four familial generations. Figure 5.3 identifies four growth scenarios for the Town beyond the 30-year time frame and the cemetery size required to accommodate the Town's needs over the next 100 years. These estimates are based on the market share assumptions outlined for years 2043 to 2048 (noted in Section 4). Per these scenarios, Stony Plain would require between 9.4 and 15.2 hectares of municipal cemetery land.

Figure 5.3 Cemetery Land Supply Requirements Over The Next 100 Years

| Annual Growth Rate (Years 2048-2117) | Town Population in 2117 | Total Plot Capacity Required | Required Cemetery Size by 2117 (ha)* |
|---|----------------------------|---------------------------------|---|
| 0.5% | 55,500 | 8,500 | 9.4 |
| 1.0% | 78,500 | 10,000 | 11.1 |
| 1.5% | 111,000 | 11,500 | 12.8 |
| 2.0% | 156,500 | 13,700 | 15.2 |

*Based on 1,000 total plots/ha, and including the 2 ha required for the first 30 years

5.3 Land Criteria

The land for a cemetery needs to have the physical characteristics to support cemetery operations and to provide the type of atmosphere befitting the use. The following are site selection criteria:

Location

- ▶ Within the Town of Stony Plain today or where it is expected to expand
- ▶ Accessible by road
- ▶ Away from loud noises, e.g., highway, busy arterial road, railway, heavy industry
- ▶ Property is capable of being zoned to an appropriate designation

Physical Characteristics

- ▶ Sufficient size
- ▶ Relatively flat
- ▶ Ideally well-draining soil
- ▶ Water table lower than 2 metres below grade
- ▶ Environmentally sensitive areas are not part of the proposed cemetery development area

Desirable Characteristics

- ▶ Pleasant views
- ▶ Cleared land with some trees or ability to grow trees
- ▶ Including natural features or space and characteristics to naturalize a portion of the site
- ▶ Linked or ability to be linked to a trail system

5.4 Land and Capital Costs

A minimum site of 2 hectares is estimated to be required for a cemetery that will span 30 years. For a cemetery that will serve the community for 100 years, approximately 9 to 15 hectares will be required. Current costs of land on the edge of Stony Plain are approximately \$250,000 per ha, so land costs will be in the range of \$2,250,000 to \$3,750,000 for a long-term cemetery.

The following are some order-of-magnitude capital costs for developing the cemetery based on comparable projects. These costs include design fees and some contingency.

Figure 5.3 Cemetery Capital Costs

Development Costs per Hectare

| Item | Estimated Cost |
|---|--------------------|
| Roads | \$180,000 |
| Walkways | \$150,000 |
| Site Preparation and Grass | \$250,000 |
| Planting | \$250,000 |
| Features including columbaria, garden structures, benches, public art | \$200,000 |
| Fencing & Signage | \$70,000 |
| Total Cost | \$1,100,000 |

Specific Development Costs

| | |
|---|-----------|
| Maintenance Yard | \$150,000 |
| Utilities – water, power, sewer (as required) | tbd |

The order-of-magnitude cost estimate for developing two hectares of cemetery land, plus a maintenance yard, to serve needs for 30 years is **\$2,350,000**, excluding utility costs.

6. Business Plan

The business plan identifies future revenues and costs, and projects cash flow accordingly. A primary goal of the business plan is to avoid the need for the Town to subsidize cemetery operations. Many municipal cemeteries are self-supporting and do not rely on annual contributions from general revenues.

We assume that the initial capital expenditures for the cemetery land, design and development will be financed by the Town from other sources. Therefore, those one-time costs are not factored into this financial analysis.

6.1 Business Plan Assumptions

Figure 6.1 summarizes the assumptions carried forward from the analysis in the previous sections into the business plan. In all cases, estimates are conservative so the business plan does not overestimate revenues.

Figure 6.1 Stony Plain Past Trends and Future Projections

| Category | Past Trends | Projections | |
|-------------------------|--|--|---------------------------------|
| Population Growth Rates | 2.7% compound annual growth rate increase (over the last 10 years) | 2.8% annual average increase from the years 2018-2047, yielding a population of 36,000 by 2044 Based on the average of Alberta's Capital Regional Board low and high population scenario estimates for Stony Plain in year 2044 | |
| Death Rates | Average of 10.6 deaths per 1,000 population in Stony Plain from 2001 to 2013 Death rate of 10.5 per 1,000 population in 2001 Death rate of 10.3 per 1,000 population in 2013 | Time Period | Death Rate per 1,000 Population |
| | | 2018-2022 | 10.3 |
| | | 2023-2027 | 10.4 |
| | | 2028-2032 | 10.5 |
| | | 2033-2037 | 10.6 |
| | | 2038-2047 | 10.4 |
| | | Based on current death rate in Town with gradual increase to account for baby boomers over the next 20 years and a declining rate thereafter | |

| Category | Past Trends | | | Projections | | |
|---|---|-------------|------------------|--|----------------------------------|------------------|
| Percentage of Cremation versus Full Burial Interments | Percentage of provincial cremations increased from 53% to 69% of total deaths from 2001 to 2014 | | | Time Period | Cremations as % Total Interments | |
| | | | | 2018-2022 | 70% | |
| | | | | 2023-2027 | 72% | |
| | | | | 2028-2032 | 74% | |
| | | | | 2033-2037 | 76% | |
| | | | | 2038-2047 | 78% | |
| | | | | Initial % split based on both the split projected provincially in 2018 and Stony Plain survey respondents with gradual % increase in cremations given provincial and national trends | | |
| Percentage of Interments in a Stony Plain Municipal Cemetery to Total Town Interments for each Type | Municipal Cemeteries | Full Burial | Cremated Remains | Time Period | Burials | Cremated Remains |
| | Average of years analyzed (1997 to 2014) | 73% | 37% | 2018-2022 | 50% | 30% |
| | | | | 2023-2027 | 52% | 33% |
| | | | | 2028-2032 | 54% | 36% |
| | | | | 2033-2037 | 56% | 39% |
| | | | | 2038-2042 | 58% | 42% |
| | | | | 2043-2047 | 60% | 45% |
| | | | | Based on comparable municipal cemetery average with percentages initially lower given cemetery is yet to be established in the community and community survey interest in faith-based cemeteries | | |

| Category | Past Trends | | | | | Projections | |
|--|-----------------------|-----------|-----------|-------|---------|---|--|
| Distribution of Cremation Interment Services | % of Total Cremations | Full Plot | Crem Plot | Niche | Scatter | Cremated Remains Service Offered | % of Total Cremations (Survey Results) |
| | Community Survey | 30% | 30% | 30% | 10% | In Full Plot | 30% |
| | | | | | | In Cremation Plot | 30% |
| | | | | | | In Columbarium Niche | 30% |
| | | | | | | Scattering | 10% |
| | | | | | | Green Burials | 5% of Full Plot Burials |
| | | | | | | Projections based on Stony Plain survey results, which is similar to cemeteries with this range of services | |

SOURCES: ALBERTA VITAL STATISTICS; CREMATION ASSOCIATION OF NORTH AMERICA; MUNICIPAL CEMETERY MASTER PLANS; CAPITAL REGIONAL BOARD OF ALBERTA WITH ANALYSIS BY URBAN SYSTEMS

6.2 Revenues

To help gauge the market, five communities were selected for a comparison of services, practices and charges. Four of the communities are relatively close to Stony Plain and are of a similar size. The fifth community, the City of Grande Prairie, is included in this comparison to illustrate cemetery services and procedures in a larger community. Figure 6.2 provides a summary of the interment options and services offered by the comparable communities. None of these cemeteries offer green burial, and one is planning a scattering garden. Despite the limited services in the cemeteries of these communities, we feel that Stony Plain should consider these options as they are broader trends that may attract more use of the cemetery. Neither of these services is expensive to build.

Figure 6.2 Interment Options and Services for Comparable Communities

| Interment Options and Services | Lacombe | Grande Prairie | Whitecourt | Beaumont | Leduc |
|--------------------------------|---------|----------------|------------|----------|-------|
| Rights of Interment: | | | | | |
| Full Plots | ✓ | ✓ | ✓ | ✓ | ✓ |
| Child Plots | ◆ | ✓ | | ✓ | ✓ |
| Cremation Plots | ✓ | ✓ | ✓ | ✓ | ✓ |
| Columbaria | ✓ | ✓ | ✓ | | ✓ |

| Internment Options and Services | Lacombe | Grande Prairie | Whitecourt | Beaumont | Leduc |
|----------------------------------|----------------|----------------|------------|----------|-------|
| Religious Burial Sections | ◆ (Islamic) | ✓ (Islamic) | | | |
| Veterans/Military Burial Section | ✓ | ✓ | ✓ | | ✓ |
| Green Burial Section | | | | | |
| Scattering Gardens | ◆ | | | | |
| Max. Cremations (Full Plot) | 8 | 6 | 3 | n/a | 3 |
| Max. Cremations (Columbarium) | 2 | 2 | 2 | n/a | 2 |
| Max. Cremations (Cremation Plot) | 6 | 6 | 3 | n/a | 2 |
| Other Services: | | | | | |
| Double Depth | ✓ | ✓ | | | ✓ |
| Compulsory Grave Liners | | ✓ | | | ✓ |
| Monument Installations | ✓ | ✓ | ✓ | ✓ | ✓ |
| Weekend/Holiday Interment | ✓ | ✓ | ✓ | ✓ | ✓ |
| Perpetual Care | ✓ | ✓ | | | |
| Disinterment | ✓ | ✓ | ✓ | ✓ | ✓ |

◆ Indicates interment option or service is not available yet but is included in a recent cemetery master plan

SOURCE: RELEVANT MUNICIPAL WEBSITES

To provide context for cemetery fees, three comparisons are relevant. Figure 6.3 identifies the fees in the existing cemeteries in and around Stony Plain. Figure 6.4 provides the fees in the cemeteries in Edmonton used by many residents of Stony Plain. The private cemeteries in Edmonton have a range of fees for plots, and the averages are included here. Figure 6.5 lists the fees in the comparable Albertan communities.

Figure 6.3 Cemetery Fees for Local Cemeteries

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|------------------------|---------|------------|-----------|---------|---------|
| Full Burial Plot | | | | | |
| Glory Hills Alliance | \$1,200 | \$650 | \$0 | \$500 | \$2,350 |
| St. Matthew's Lutheran | \$650 | \$500 | \$0 | \$0 | \$1,150 |
| Inga Community | \$600 | \$100 | \$0 | n/a | \$700 |
| Pioneer | \$1,200 | \$650 | \$0 | \$500 | \$2,350 |

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|--|----------------|--------------|------------|--------------|----------------|
| St. Joseph's Catholic | \$1,500 | \$650 | \$0 | \$500 | \$2,650 |
| St. Matthew's & Good Shepherd Lutheran | \$1,650 | \$650 | \$0 | \$500 | \$2,800 |
| Average | \$1,133 | \$533 | \$0 | \$500 | \$2,166 |
| Cremation Plot | | | | | |
| Glory Hills Alliance | \$250 | \$650 | \$0 | \$500 | \$1,400 |
| St. Matthew's Lutheran | \$650 | \$500 | \$0 | \$0 | \$1,150 |
| Inga Community | \$150 | \$50 | \$0 | n/a | \$200 |
| Pioneer | \$1,200 | \$300 | \$0 | \$500 | \$2,000 |
| St. Joseph's Catholic | \$300 | \$650 | \$0 | \$500 | \$1,450 |
| St. Matthew's & Good Shepherd Lutheran | \$650 | \$300 | \$0 | \$500 | \$1,450 |
| Average | \$533 | \$408 | \$0 | \$500 | \$1,441 |
| Columbarium Niche | | | | | |
| Glory Hills Alliance | n/a | n/a | n/a | n/a | n/a |
| St. Matthew's Lutheran | \$1,250 | \$500 | \$0 | \$0 | \$1,750 |
| Inga Community | n/a | n/a | n/a | n/a | n/a |
| Pioneer | n/a | n/a | n/a | n/a | n/a |
| St. Joseph's Catholic | \$2,000 | \$150 | \$0 | \$500 | \$2,650 |
| St. Matthew's & Good Shepherd Lutheran | n/a | n/a | n/a | n/a | n/a |
| Average | \$1,625 | \$325 | \$0 | \$500 | \$2,450 |

Figure 6.4 Cemetery Fees for Edmonton Cemeteries

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|-------------------|----------------|--------------|-----------|--------------|----------------|
| Child Plot | | | | | |
| Westlawn | n/a | n/a | | n/a | n/a |
| Evergreen | n/a | n/a | | n/a | n/a |
| Northern Lights | \$900 | \$350 | Included | \$300 | \$1,550 |
| Edmonton | \$2,000 | \$350 | Included | \$300 | \$2,650 |
| Beechmount | \$2,000 | \$350 | Included | \$300 | \$2,650 |
| Average | \$1,633 | \$350 | | \$300 | \$2,283 |

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|----------------------|---------|------------|-----------|----------|---------|
| Full Burial Plot | | | | | |
| Westlawn | \$3,500 | \$1,050 | Included | \$600 | \$5,150 |
| Evergreen | \$3,500 | \$1,050 | Included | \$600 | \$5,150 |
| Northern Lights | \$2,250 | \$875 | Included | \$300 | \$3,425 |
| Edmonton | \$4,500 | \$875 | Included | \$300 | \$5,675 |
| Beechmount | \$4,500 | \$875 | Included | \$300 | \$5,675 |
| Average | \$3,650 | \$945 | | \$420 | \$5,015 |
| Cremation Plot | | | | | |
| Westlawn | \$2,300 | \$540 | Included | \$600 | \$3,440 |
| Evergreen | \$2,300 | \$540 | Included | \$600 | \$3,440 |
| Northern Lights | \$1,100 | \$350 | Included | \$100 | \$1,550 |
| Edmonton | \$1,500 | \$350 | Included | \$100 | \$1,950 |
| Beechmount | \$1,500 | \$350 | Included | \$100 | \$1,950 |
| Average | \$1,740 | \$426 | | \$300 | \$2,466 |
| Columbarium Niche | | | | | |
| Westlawn | \$4,500 | \$540 | Included | \$600 | \$5,640 |
| Evergreen | \$4,500 | \$540 | Included | \$600 | \$5,640 |
| Northern Lights | \$4,000 | Included | Included | Included | \$4,000 |
| Edmonton* | \$4,000 | Included | Included | Included | \$4,000 |
| Beechmount | \$4,000 | Included | Included | Included | \$4,000 |
| Average | \$4,200 | \$540 | | \$600 | \$5,340 |
| * Indoor Niches Only | | | | | |

Figure 6.5 Municipal Cemetery Fees for Comparable Albertan Communities

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|-------------------|-------|------------|-----------|---------|---------|
| Infant/Child Plot | | | | | |
| Grand Prairie | \$200 | \$275 | \$300 | \$600 | \$1,450 |
| Leduc | \$100 | \$250 | -- | \$250 | \$600 |
| Beaumont | \$250 | \$450 | -- | \$225 | \$925 |
| Whitecourt | \$400 | \$350 | -- | \$450 | \$1,200 |

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|--------------------------|----------------|--------------|--------------|--------------|----------------|
| Lacombe | \$375 | \$250 | \$200 | \$200 | \$1,025 |
| Average | \$265 | \$315 | \$250 | \$345 | \$1,175 |
| Adult Burial Plot | | | | | |
| Grand Prairie | \$400 | \$600 | \$700 | \$600 | \$2,300 |
| Leduc | \$850 | \$500 | -- | \$250 | \$1,600 |
| Beaumont | \$500 | \$500 | -- | \$250 | \$1,250 |
| Whitcourt | \$400 | \$350 | -- | \$450 | \$1,200 |
| Lacombe | \$550 | \$550 | \$200 | \$200 | \$1,500 |
| Average | \$540 | \$500 | \$450 | \$350 | \$1,840 |
| Cremation Plot | | | | | |
| Grand Prairie | \$250 | \$300 | \$250 | \$300 | \$1,100 |
| Leduc | \$500 | \$200 | -- | \$250 | \$950 |
| Beaumont | \$100 | \$150 | -- | \$225 | \$475 |
| Whitcourt | \$400 | \$150 | -- | \$450 | \$1,000 |
| Lacombe | \$300 | \$200 | \$200 | \$200 | \$900 |
| Average | \$310 | \$200 | \$225 | \$285 | \$910 |
| Columbarium Niche | | | | | |
| Grand Prairie | n/a | n/a | n/a | n/a | n/a |
| Leduc | \$1,300 | \$100 | -- | \$250 | \$1,650 |
| Beaumont | n/a | n/a | n/a | n/a | n/a |
| Whitcourt | \$750 | \$350 | -- | \$450 | \$1,550 |
| Lacombe | \$1,700 | \$70 | \$200 | \$200 | \$2,170 |
| Average | \$1,250 | \$210 | \$200 | \$325 | \$1,985 |

SOURCE: RELEVANT MUNICIPAL WEBSITES

Figure 6.6 Summary of Average Fees for Area Cemeteries

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|-----------------------|---------|------------|-----------|---------|---------|
| Child Plot | | | | | |
| Local Cemeteries | n/a | n/a | n/a | n/a | n/a |
| Edmonton Cemeteries | \$1,633 | \$350 | Included | \$300 | \$2,283 |
| Comparable Cemeteries | \$265 | \$315 | \$250 | \$345 | \$1,175 |

| Type of Interment | Lot | Open/Close | Care Fund | Weekend | Total |
|--------------------------|----------------|--------------|--------------|--------------|----------------|
| Average | \$949 | \$333 | \$250 | \$323 | \$1,729 |
| Full Burial Plot | | | | | |
| Local Cemeteries | \$1,133 | \$533 | \$0 | \$300 | \$1,966 |
| Edmonton Cemeteries | \$3,650 | \$945 | Included | \$420 | \$5,015 |
| Comparable Cemeteries | \$540 | \$500 | \$450 | \$350 | \$1,840 |
| Average | \$1,774 | \$659 | \$450 | \$357 | \$2,940 |
| Cremation Plot | | | | | |
| Local Cemeteries | \$533 | \$408 | \$0 | \$500 | \$1,441 |
| Edmonton Cemeteries | \$1,740 | \$426 | Included | \$300 | \$2,466 |
| Comparable Cemeteries | \$310 | \$200 | \$200 | \$200 | \$910 |
| Average | \$861 | \$345 | \$200 | \$333 | \$1,606 |
| Columbarium Niche | | | | | |
| Local Cemeteries | \$1,625 | \$325 | \$0 | \$500 | \$2,450 |
| Edmonton Cemeteries | \$4,200 | \$540 | Included | \$600 | \$5,340 |
| Comparable Cemeteries | \$1,250 | \$210 | \$200 | \$325 | \$1,985 |
| Average | \$2,358 | \$358 | \$200 | \$475 | \$3,258 |

From this analysis, it is evident that fees have a direct correlation with the related community's population size. Larger communities are more likely to have higher land values, a broader range of cemetery services, and higher levels of maintenance.

Other Revenue Sources

The Town will have an opportunity to introduce products beyond the sales of interment rights and services to generate additional revenue. This could include the sale of flowers, biodegradable memorialization products, interment and non-interment memorials, and commemoration keepsakes. Other municipal cemeteries also charge a small administration fee for higher-quality services, such as requested genealogy research or wall plaques. A list of potential fees for these types of products and services is included in Figure C.1 in **Appendix C**.

Pre-need sales, purchases made by a family prior to a death, are especially valuable because income is generated with little or no ongoing costs attached. Making residents aware of the cemetery can increase its profile and encourage more pre-need sales.

Under the Cemeteries Act (Alberta), pre-need monies must be held in trust by an authorized trustee and deposited into a pre-need assurance fund, until cemetery supplies and services are provided or the monies have been refunded to the purchaser (or benefiting person).

Cemetery Perpetual Care Fund

A Perpetual Care Fund (or Care Fund) is typically set up for the care and maintenance of the cemetery's grounds for the time when operating revenues may no longer be available. These funds are collected with each interment sale (lots, niches, etc.). The Cemeteries Act (Alberta) requires private cemetery operators to set aside 15% of revenues into a Perpetual Care Fund. The Act excludes cemeteries, columbaria or mausolea that are owned and operated by a religious denomination, religious auxiliary or municipality from having to establish a Perpetual Care Fund, but business best practices support this model to ensure long-term maintenance of the cemetery.

If the cemetery's Perpetual Care Fund is inadequately funded, the cemetery will require municipal tax resources or some other form of subsidy in the future. Some cemeteries have been increasing the amounts collected for this purpose. The City of Calgary, for example, sets aside 40% of revenue from the sale of all lots, niches and monuments for deposit in their Perpetual Care Fund. The 2008 Cemetery Master Plan completed for the City of Edmonton municipal cemeteries recommended to minimally raise their Perpetual Care Fund to 25%.

6.3 Costs

The Town will incur two types of costs related to a new cemetery:

- ▶ One-time capital costs – these costs are investments in land, site preparation, roads, paths, structures, and landscape work
- ▶ On-going annual operating costs – these costs are related to the day-to-day operations of a cemetery



The cost estimates for capital investments for the next 30 years are in Section 5.4. These costs are not accounted for in cash flow calculations.

The Cemeteries Act (Alberta) and regulations dictate that all cemeteries must be kept in good order and repair. This means that cemetery owners must maintain the grounds of the cemetery, including all interment space, structures and markers, walkways and fences to ensure the safety of the public and preserve the dignity of the cemetery.

The largest operating cost for a municipal cemetery is staff salaries and benefits. Operations staff should have skills in horticulture and turf maintenance in addition to knowing how to perform interments from preparation to restoration. Office staff members need training in general administration, records management and bereavement support. Skills in sales, community outreach (grief seminars, tours, memorial services), and marketing are also important.

The number of operations staff required depends on three variables – the area of developed land to be maintained, number of annual interments, and burial equipment available. The administration staff required depends on the number of annual interments and the level of services offered. Based on the average interments per FTE (full-time equivalent) at comparable cemeteries (Figure 6.7), the Stony Plain municipal cemetery would require a minimum of 1.6 FTEs at the outset.

The business plan assumes an initial complement of 1.7 FTEs so that the cemetery is adequately staffed and operating costs are not underestimated going forward (as outlined in Figure 6.8). More staff may be required in the summer than in the winter for maintenance work. Additional FTEs are added for subsequent years as cemetery operations expand (maintaining approximately 42 annual interments per FTE throughout).

Figure 6.7 Current Cemetery Staffing of Comparable Communities

| Municipal Cemetery | Developed Land (Ha) per FTE | Annual Interments per FTE |
|--------------------|-----------------------------|---------------------------|
| Fort St. John | 1.59 | 25 |
| Grand Prairie | 3.12 | 40 |
| Leduc | 2.67 | 67 |
| Beaumont | 2.67 | 30 |
| Lacombe | 5.76 | 60 |
| Average | 3.16 | 44 |

SOURCE: RELEVANT CEMETERY ADMINISTRATORS

Figure 6.8 Cemetery Staff Requirements for Stony Plain Municipal Cemetery

| Cemetery Positions | 2018- 2022 Average | 2023- 2027 Average | 2028- 2032 Average | 2033- 2037 Average | 2038- 2042 Average | 2043- 2047 Average | 30-Year Average |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------|
| Cemetery Clerk (Annual FTE) | 0.5 | 0.5 | 0.6 | 0.8 | 0.9 | 1.1 | |
| Grounds Manager (Annual FTE) | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.4 | |
| Equipment Operator (Annual FTE) | 0.5 | 0.6 | 0.7 | 0.9 | 1.0 | 1.3 | |
| Labourer (Annual FTE) | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | |
| Groundskeeper (Annual FTE) | 0.1 | 0.2 | 0.4 | 0.4 | 0.5 | 0.6 | |
| Total Annual FTEs | 1.7 | 2.0 | 2.5 | 3.1 | 3.6 | 4.4 | |
| Annual Interments | 69 | 85 | 105 | 128 | 153 | 186 | |
| Interment per FTE | 40 | 42 | 42 | 41 | 42 | 42 | 42 |
| Annual Staff Operating Costs | \$122,000 | \$150,000 | \$206,000 | \$289,000 | \$384,000 | \$515,000 | \$280,000 |

Equipment is the other major component of operating costs. Equipment owned by the Town is currently being used to full capacity so we assume that the Town will purchase dedicated equipment for the cemetery so that it is available to meet service demands in a timely manner. A maintenance building on site is also included so the equipment can be easily available.

The cost of the equipment, noted in Figure 6.9, is depreciated annually based on the estimated service life of the equipment. Projected annual equipment costs gradually increase over time as the cemetery expands and number of interments increase. Equipment costing less than \$5,000 is not usually depreciated but is included as a miscellaneous expense in the business plan so that costs are not underestimated. The depreciation expense is included in total annual expenditures in Figure 6.14.

Another option is to contract out the cemetery maintenance equipment when required. This is less efficient and more expensive as it would require cemetery staff to book equipment at contractors' prices without guaranteed availability.

Figure 6.9 Cemetery Equipment Cost Projections for Stony Plain

| Implementation Year | Asset | Quantity Needed | Service Life | Cost Estimates | Annual Depreciation |
|---------------------|-----------------------------------|-----------------|--------------|----------------|---------------------|
| 2018 | Backhoe | 1 | 10 | \$90,000 | \$9,000 |
| 2018 | Gator | 1 | 10 | \$13,500 | \$1,350 |
| 2018 | Lawnmower | 1 | 7 | \$7,000 | \$1,000 |
| 2018 | Lowering Device | 1 | 5 | \$5,000 | \$1,000 |
| 2018 | Chain/Cable Rigs | 1 | 10 | \$5,000 | \$500 |
| 2018 | Miscellaneous Burial Equipment | 1 | 5 | \$5,000 | \$1,000 |
| 2018 | Miscellaneous Lawn Maintenance | 1 | 5 | \$5,000 | \$1,000 |
| 2018 | Miscellaneous General Maintenance | 1 | 5 | \$5,000 | \$1,000 |

The Town will also need cemetery management software to achieve efficiency in the administration of the cemetery's operations. These systems include management of sales, record keeping and mapping of plots. The software can assist in genealogical research, meeting regulations, and enabling visitors to locate interments. The cost of software has been included in 'All Other Expenses' in the cost projections.

A summary of total operating cost projections is included in Figure 6.10, with the assumptions noted below. Operating costs per interment are expected to increase over time due to an expanding workforce and the compounding of salaries due to inflation.

Figure 6.10 Cemetery Operating Cost Projections

| Category | 2018-2022 Average | 2023-2027 Average | 2028-2032 Average | 2033-2037 Average | 2038-2042 Average | 2043-2047 Average | 30-Year Average |
|-------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
| Staff Salaries & Benefits | \$122,000 | \$150,000 | \$206,000 | \$289,000 | \$384,000 | \$515,000 | |
| Equipment Depreciation | \$16,000 | \$18,000 | \$19,000 | \$22,000 | \$24,000 | \$26,000 | |
| All Other Expenses | \$4,000 | \$4,000 | \$5,000 | \$5,000 | \$6,000 | \$6,000 | |
| Total Annual Operating Costs | \$142,000 | \$172,000 | \$230,000 | \$316,000 | \$414,000 | \$547,000 | \$303,500 |
| Annual Interments | 69 | 85 | 105 | 128 | 153 | 186 | 121 |
| Operating Costs Per Interment | \$2,068 | \$2,027 | \$2,200 | \$2,467 | \$2,711 | \$2,940 | \$2,512 |

Assumptions

- ▶ 2% compounded increase in annual operating costs to account for inflation (additional 3-5% annual increase in salary costs to account for gradual staff additions)
- ▶ \$62,000 initial Clerk salary/benefits per FTE
- ▶ \$72,000 initial Operations salary/benefits per FTE
- ▶ Base the number of cemetery staff needed on 42 annual interments per FTE
- ▶ Cemetery software program installed to increase the efficiency and breadth of record keeping for the cemetery operations

6.4 Financial Projections

Revenue Projections

Recommended cemetery service fees are based on three considerations – the fees currently charged by comparable communities, affordability to Town residents, and the interest in covering operating costs. Incorporating these considerations, this report proposes a scenario in which fees will fund cemetery operations (Figure 6.11). These fees are comparable to the lower end of the fee range of Edmonton's cemeteries. This seems reasonable given that many of Stony Plain's residents work or conduct other business and activities in Edmonton. Fees would need to be increased by 2.5% annually starting in year ten of operations (2027) to allow operations to remain self-funding. The annual fee increase could be reduced to 1.85% annually from 2038 and thereafter to maintain the targeted budget surplus (Figures 6.14 and 6.15).

The alternative would be for the Town to set fees at lower rates initially and to increase them relatively soon. This is cumbersome in terms of changing the bylaw, and it would be difficult for the community to understand rapidly escalating fees.

As discussed in Section 6.2, other products could be sold at the cemetery. The business plan does not include these; however, additional products could enable fees to be slightly lower.

Figure 6.11 Proposed Fees For Self-Supported Cemetery

| Type of Service | 2018 Proposed Fees |
|--------------------------|--------------------|
| Interment - Open & Close | |
| Child Plot | \$350 |
| Adult Plot | \$850 |

| Type of Service | 2018 Proposed Fees |
|-----------------------|--------------------|
| Cremation Plot | \$350 |
| Columbarium Niche | \$300 |
| Double Depths | \$400 |
| Green Burial | \$450 |
| Scattering | \$150 |
| Weekend/Holiday | \$500 |
| Reservation/License | |
| Child Plot | \$750 |
| Adult Plot | \$1,700 |
| Cremation Plot | \$1,000 |
| Columbarium Niche | \$2,000 |
| Double Depths | \$500 |
| Green Burial | \$1,000 |
| Permit & Installation | |
| Upright Memorial | \$425 |

Perpetual Care Fund Projections

The objective of Perpetual Care Fund projections is to identify the principal amount in the Perpetual Care Fund that would allow the interest earned to reasonably cover a minimum standard of annual cemetery maintenance at the time when operating revenues cease. The calculations are based on determining the principal amount required to support a 30-year capacity for the cemetery (where revenues cease thereafter), assuming an annual interest rate of 2.0% and one part-time groundskeeper necessary to maintain the cemetery when interments cease (0.5 FTE is expected to be required to adequately maintain a cemetery of 2 ha).

By setting Perpetual Care Fund fees at 40% of the right of interment fees and installation fees for upright memorials (Figure 6.12), the Care Fund will have a principal amount of \$2,500,000 by 2047, generating \$50,000 in earned interest annually. With a full-time groundskeeper salary expected to be approximately \$95,000 in 2047, this earned interest would be sufficient to cover the maintenance required at the cemetery.

Given that the cemetery will continue to be used as park space after interments cease, it is reasonable to consider that the Town fund a portion of maintenance costs at that time if the proposed Perpetual Care Fund fees are considered unaffordable to residents. However, many cemeteries in larger communities have Care Funds in this range. Figure

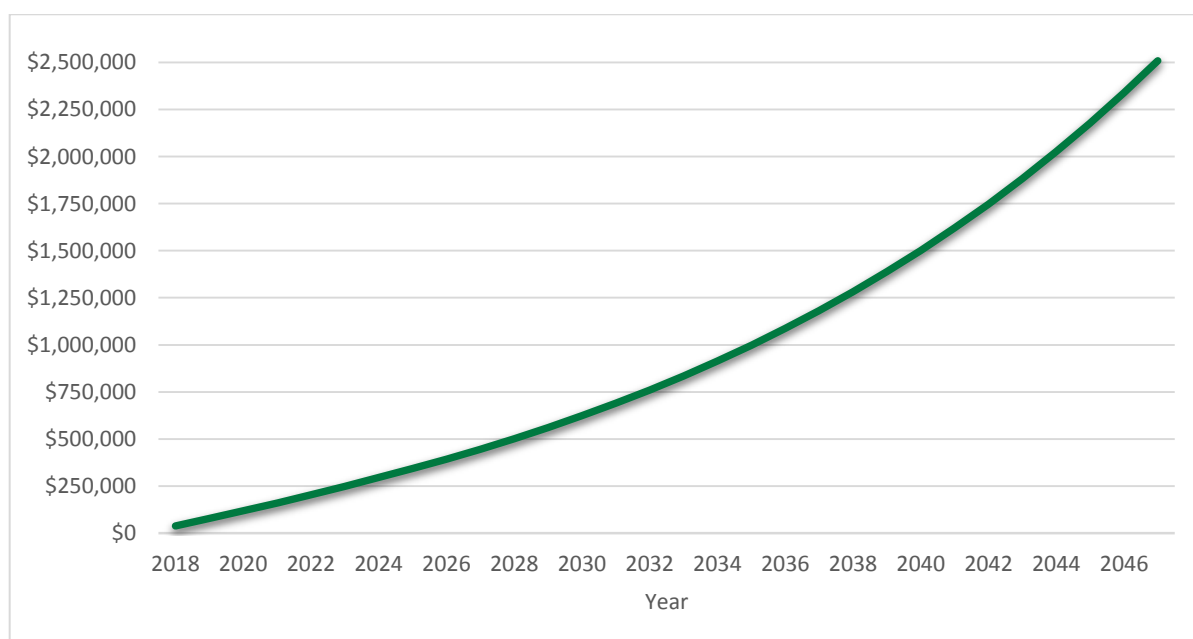
6.13 illustrates the accumulated amount of fees in the Perpetual Care Fund over the 30-year period.

Figure 6.12 Care Fund Fee Schedule

| Type of Service | 2018 Proposed Fees |
|-------------------|--------------------|
| Child Plot | \$400 |
| Adult Plot | \$680 |
| Cremation Plot | \$400 |
| Columbarium Niche | \$800 |
| Green Burial | \$400 |
| Upright Memorial | \$170 |

*Assume care fund fee is 40% of interment and memorial installation fees

Figure 6.13 Accumulated Municipal Cemetery Perpetual Care Fund



Budget Cash Flow Projections – Self-Supported Scenario

The annual cash flow is projected to be positive from when the cemetery's operations commence in year 2018 and thereafter (Figures 6.14 and 6.15). **Appendix D** provides a projected budget cost summary. The revenue generated by the Perpetual Care Fund fees has not been included in the scenario's cash flow projections as monies contributed to this Fund are kept separate for later cemetery maintenance. These projections do not

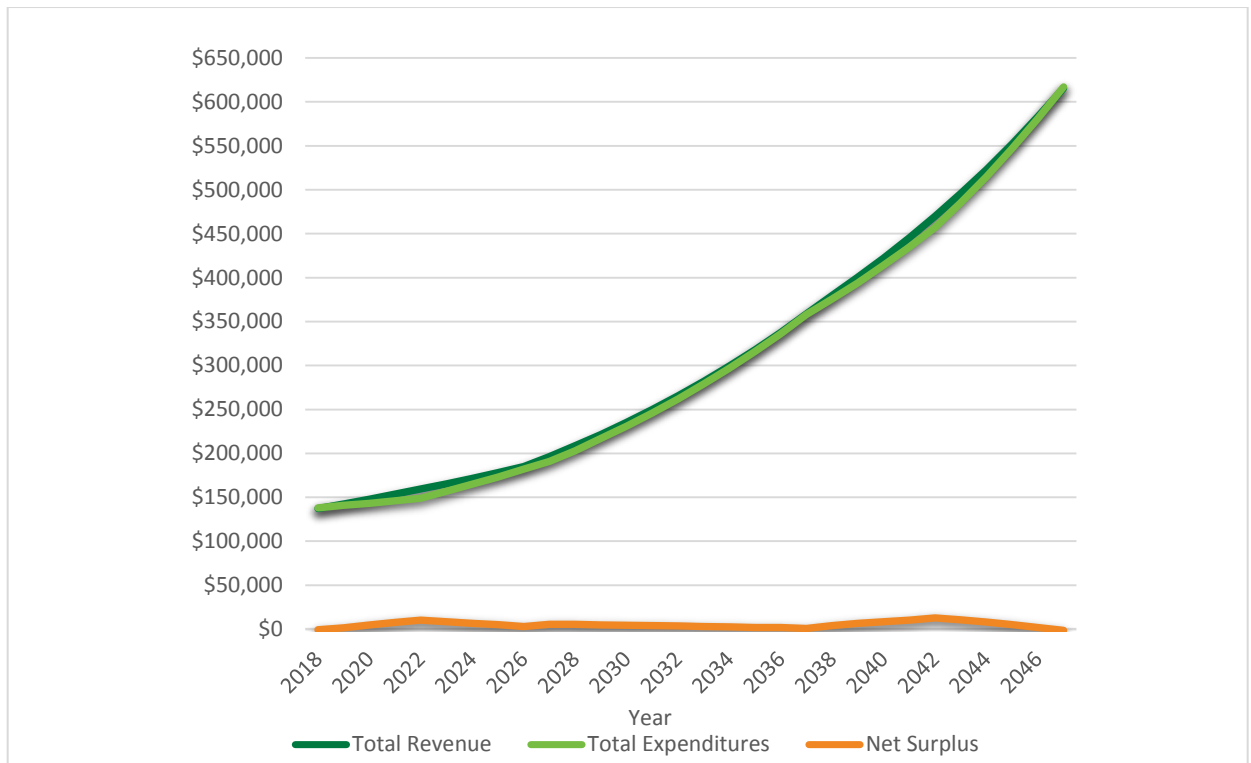
include potential revenue sources such as various memorialization products, memorial benches/trees, double depth plot fees and memorial wall plaque fees.

Figure 6.14 Budget Cash Flow Projections for Self-Supported Stony Plain Municipal Cemetery

| Year | Total Revenue | Total Expenditures | Net Surplus (Deficit) |
|------|---------------|--------------------|-----------------------|
| 2018 | \$138,000 | \$138,000 | \$0 |
| 2019 | \$142,000 | \$141,000 | \$1,000 |
| 2020 | \$148,000 | \$143,000 | \$5,000 |
| 2021 | \$154,000 | \$146,000 | \$8,000 |
| 2022 | \$159,000 | \$149,000 | \$10,000 |
| 2023 | \$165,000 | \$157,000 | \$8,000 |
| 2024 | \$172,000 | \$165,000 | \$7,000 |
| 2025 | \$178,000 | \$173,000 | \$5,000 |
| 2026 | \$185,000 | \$182,000 | \$3,000 |
| 2027 | \$196,000 | \$191,000 | \$5,000 |
| 2028 | \$209,000 | \$203,000 | \$6,000 |
| 2029 | \$222,000 | \$217,000 | \$5,000 |
| 2030 | \$235,000 | \$231,000 | \$4,000 |
| 2031 | \$250,000 | \$246,000 | \$4,000 |
| 2032 | \$266,000 | \$262,000 | \$4,000 |
| 2033 | \$282,000 | \$279,000 | \$3,000 |
| 2034 | \$299,000 | \$297,000 | \$2,000 |
| 2035 | \$318,000 | \$316,000 | \$2,000 |
| 2036 | \$338,000 | \$336,000 | \$2,000 |
| 2037 | \$359,000 | \$358,000 | \$1,000 |
| 2038 | \$379,000 | \$376,000 | \$3,000 |
| 2039 | \$400,000 | \$394,000 | \$6,000 |
| 2040 | \$422,000 | \$414,000 | \$8,000 |
| 2041 | \$445,000 | \$435,000 | \$10,000 |
| 2042 | \$470,000 | \$457,000 | \$13,000 |
| 2043 | \$496,000 | \$485,000 | \$11,000 |
| 2044 | \$524,000 | \$515,000 | \$9,000 |

| Year | Total Revenue | Total Expenditures | Net Surplus (Deficit) |
|------|---------------|--------------------|-----------------------|
| 2045 | \$553,000 | \$547,000 | \$6,000 |
| 2046 | \$583,000 | \$581,000 | \$2,000 |
| 2047 | \$617,000 | \$617,000 | \$0 |

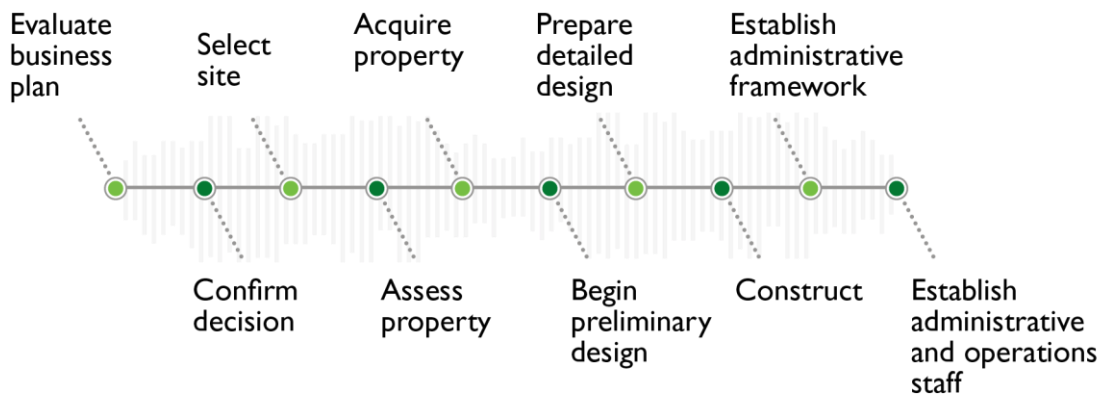
Figure 6.15 Budget Cash Flow Projections for Self-Supported Stony Plain Municipal Cemetery



7. Implementation Plan

7.1 Next Steps

Establishing a new cemetery is a big decision for the Town. Unlike most other land uses, cemeteries almost always last indefinitely. The following are the steps that will be required to move forward:



1. Evaluate the business plan – the model is set up so that parameters and assumptions can be changed easily and their effects determined
2. Confirm the decision to proceed on establishing a municipal cemetery
3. Undertake a site selection process, involving planners and real estate professionals
4. Assess the property as part of a due diligence review, including an environmental assessment and geotechnical assessment
5. Acquire a property and conduct a site survey
6. Undertake preliminary design for the entire property, considering site plan options, and including community engagement
7. Prepare a detailed design for the first phase of cemetery development
8. Construct the Phase One plan
9. Establish the administrative framework for cemetery operations, including a Cemetery Bylaw, cemetery management software, marketing strategy, website, and space for a clerk (with appropriate private space for meeting families – could be on the cemetery site, in City Hall or elsewhere)
10. Establish the administrative and operations staff complements required, with proper training and experience

The business plan is based on multiple projections and assumptions, as it is impossible to predict the complex trends that affect cemetery planning. It is therefore critical that the progress of cemetery operations be monitored over time, and adjusted as needed.

- ▶ Evaluate use of services, revenues, costs, and operations on an annual basis, and make adjustments accordingly. Review trends, revenues (service and Perpetual Care Fund fees), costs, staffing, and their implications over the past year, and set annual service fees accordingly. A projected cost summary for the 30 years is noted in Figure D.I of **Appendix D**.
- ▶ Conduct a comprehensive review of all aspects of cemetery operations every five years, and make adjustments accordingly.

Marketing of cemetery services in Stony Plain will be important to building a positive profile in the community, which will enhance market share and encourage pre-need sales. A marketing strategy should be in place by the time the municipal cemetery is near completion. This could include press releases, stories, newsletters, on-site events, a comprehensive cemetery webpage on the Town's website.





APPENDIX A:

*Population, Mortality and Internment
Trend Analysis*



APPENDIX A: Population, Mortality and Interment Trend Analysis

Figure A.1 Stony Plain Population and Mortality Rates – Past and Projected

| Year | Population | Annual Growth Rate | Total Deaths | Death Rate (per 1000 People) |
|------|------------|--------------------|--------------|------------------------------|
| 2001 | 9,589 | | 101 | 10.5 |
| 2002 | 10,055 | 4.9% | 124 | 12.3 |
| 2003 | 10,544 | 4.9% | 134 | 12.7 |
| 2004 | 11,118 | 5.4% | 123 | 11.1 |
| 2005 | 11,724 | 5.4% | 113 | 9.6 |
| 2006 | 12,363 | 5.4% | 125 | 10.1 |
| 2007 | 12,859 | 4.0% | 123 | 9.6 |
| 2008 | 13,375 | 4.0% | 141 | 10.5 |
| 2009 | 13,912 | 4.0% | 146 | 10.5 |
| 2010 | 14,470 | 4.0% | 147 | 10.2 |
| 2011 | 15,051 | 4.0% | 149 | 9.9 |
| 2012 | 15,313 | 1.7% | 150 | 9.8 |
| 2013 | 15,580 | 1.7% | 161 | 10.3 |
| 2014 | 15,851 | 1.7% | 147 | 10.3 |
| 2015 | 16,127 | 1.7% | 149 | 10.3 |
| 2016 | 16,580 | 2.8% | 150 | 9.5 |
| 2017 | 17,045 | 2.8% | 176 | 10.3 |
| 2018 | 17,524 | 2.8% | 180 | 10.3 |
| 2019 | 18,016 | 2.8% | 186 | 10.3 |
| 2020 | 18,522 | 2.8% | 191 | 10.3 |
| 2021 | 19,042 | 2.8% | 196 | 10.3 |
| 2022 | 19,576 | 2.8% | 202 | 10.3 |
| 2023 | 20,126 | 2.8% | 209 | 10.4 |
| 2024 | 20,691 | 2.8% | 215 | 10.4 |
| 2025 | 21,272 | 2.8% | 221 | 10.4 |
| 2026 | 21,869 | 2.8% | 227 | 10.4 |

| Year | Population | Annual Growth Rate | Total Deaths | Death Rate (per 1000 People) |
|------|------------|--------------------|--------------|------------------------------|
| 2027 | 22,483 | 2.8% | 234 | 10.4 |
| 2028 | 23,115 | 2.8% | 243 | 10.5 |
| 2029 | 23,764 | 2.8% | 250 | 10.5 |
| 2030 | 24,431 | 2.8% | 257 | 10.5 |
| 2031 | 25,117 | 2.8% | 264 | 10.5 |
| 2032 | 25,822 | 2.8% | 271 | 10.5 |
| 2033 | 26,547 | 2.8% | 281 | 10.6 |
| 2034 | 27,293 | 2.8% | 289 | 10.6 |
| 2035 | 28,059 | 2.8% | 297 | 10.6 |
| 2036 | 28,847 | 2.8% | 306 | 10.6 |
| 2037 | 29,657 | 2.8% | 314 | 10.6 |
| 2038 | 30,489 | 2.8% | 317 | 10.4 |
| 2039 | 31,345 | 2.8% | 326 | 10.4 |
| 2040 | 32,225 | 2.8% | 335 | 10.4 |
| 2041 | 33,130 | 2.8% | 345 | 10.4 |
| 2042 | 34,060 | 2.8% | 354 | 10.4 |
| 2043 | 35,017 | 2.8% | 364 | 10.4 |
| 2044 | 36,000 | 2.8% | 374 | 10.4 |
| 2045 | 37,011 | 2.8% | 385 | 10.4 |
| 2046 | 38,050 | 2.8% | 396 | 10.4 |
| 2047 | 39,118 | 2.8% | 407 | 10.4 |

SOURCES: FEDERAL AND MUNICIPAL CENSUSES (POPULATION); ALBERTA VITAL STATS (TOTAL DEATHS); POPULATION PROJECTIONS BASED ON TOWN OF STONY PLAIN'S 2044 POPULATION ESTIMATES (CAPITAL REGIONAL BOARD OF ALBERTA); PROJECTIONS SHADED IN BLUE





APPENDIX B:

Projected Needs Analysis



APPENDIX B: Projected Needs Analysis

Figure B.1 Projected Burial and Cremation Rates

| Year | Total Town Deaths* | Projected Burial Percentage | Projected Cremation Percentage | Projected Burials | Projected Cremations |
|------|--------------------|-----------------------------|--------------------------------|-------------------|----------------------|
| 2018 | 180 | 30.0% | 70.0% | 54 | 126 |
| 2019 | 186 | 30.0% | 70.0% | 56 | 130 |
| 2020 | 191 | 30.0% | 70.0% | 57 | 134 |
| 2021 | 196 | 30.0% | 70.0% | 59 | 137 |
| 2022 | 202 | 30.0% | 70.0% | 60 | 141 |
| 2023 | 209 | 28.0% | 72.0% | 59 | 151 |
| 2024 | 215 | 28.0% | 72.0% | 60 | 155 |
| 2025 | 221 | 28.0% | 72.0% | 62 | 159 |
| 2026 | 227 | 28.0% | 72.0% | 64 | 164 |
| 2027 | 234 | 28.0% | 72.0% | 65 | 168 |
| 2028 | 243 | 26.0% | 74.0% | 63 | 180 |
| 2029 | 250 | 26.0% | 74.0% | 65 | 185 |
| 2030 | 257 | 26.0% | 74.0% | 67 | 190 |
| 2031 | 264 | 26.0% | 74.0% | 69 | 195 |
| 2032 | 271 | 26.0% | 74.0% | 70 | 201 |
| 2033 | 281 | 24.0% | 76.0% | 68 | 214 |
| 2034 | 289 | 24.0% | 76.0% | 69 | 220 |
| 2035 | 297 | 24.0% | 76.0% | 71 | 226 |
| 2036 | 306 | 24.0% | 76.0% | 73 | 232 |
| 2037 | 314 | 24.0% | 76.0% | 75 | 239 |
| 2038 | 317 | 22.0% | 78.0% | 70 | 247 |
| 2039 | 326 | 22.0% | 78.0% | 72 | 254 |
| 2040 | 335 | 22.0% | 78.0% | 74 | 261 |
| 2041 | 345 | 22.0% | 78.0% | 76 | 269 |
| 2042 | 354 | 22.0% | 78.0% | 78 | 276 |
| 2043 | 364 | 22.0% | 78.0% | 80 | 284 |

| | | | | | |
|------|-----|-------|-------|----|-----|
| 2044 | 374 | 22.0% | 78.0% | 82 | 292 |
| 2045 | 385 | 22.0% | 78.0% | 85 | 300 |
| 2046 | 396 | 22.0% | 78.0% | 87 | 309 |
| 2047 | 407 | 22.0% | 78.0% | 90 | 317 |

SOURCE: ANALYSIS BY URBAN SYSTEMS

*Total Town Deaths brought over from 'Stony Plain Population & Mortality Rates' Figure (A.1)

Figure B.2 Projected Stony Plain Municipal Cemetery Market Share

| Year | Projected Town Burials* | Projected Town Cremations* | Municipal Cemetery Full Burials | Municipal Cemetery Cremated Remains |
|------|-------------------------|----------------------------|---------------------------------|-------------------------------------|
| 2018 | 54 | 126 | 27 | 38 |
| 2019 | 56 | 130 | 28 | 39 |
| 2020 | 57 | 134 | 29 | 40 |
| 2021 | 59 | 137 | 30 | 41 |
| 2022 | 60 | 141 | 30 | 42 |
| 2023 | 59 | 151 | 31 | 50 |
| 2024 | 60 | 155 | 31 | 51 |
| 2025 | 62 | 159 | 32 | 52 |
| 2026 | 64 | 164 | 33 | 54 |
| 2027 | 65 | 168 | 34 | 55 |
| 2028 | 63 | 180 | 34 | 65 |
| 2029 | 65 | 185 | 35 | 67 |
| 2030 | 67 | 190 | 36 | 68 |
| 2031 | 69 | 195 | 37 | 70 |
| 2032 | 70 | 201 | 38 | 72 |
| 2033 | 68 | 214 | 38 | 83 |
| 2034 | 69 | 220 | 39 | 86 |
| 2035 | 71 | 226 | 40 | 88 |
| 2036 | 73 | 232 | 41 | 90 |
| 2037 | 75 | 239 | 42 | 93 |



| Year | Projected Town Burials* | Projected Town Cremations* | Municipal Cemetery Full Burials | Municipal Cemetery Cremated Remains |
|------|-------------------------|----------------------------|---------------------------------|-------------------------------------|
| 2038 | 70 | 247 | 41 | 104 |
| 2039 | 72 | 254 | 42 | 107 |
| 2040 | 74 | 261 | 43 | 110 |
| 2041 | 76 | 269 | 44 | 113 |
| 2042 | 78 | 276 | 45 | 116 |
| 2043 | 80 | 284 | 48 | 128 |
| 2044 | 82 | 292 | 49 | 131 |
| 2045 | 85 | 300 | 51 | 135 |
| 2046 | 87 | 309 | 52 | 139 |
| 2047 | 90 | 317 | 54 | 143 |

SOURCE: ANALYSIS BY URBAN SYSTEMS

*Total Town Burials and Cremations brought over from 'Burial and Cremation Rates' Figure (B.1)

Figure B.3 Projected Distribution of Services Provided

| Year | Projected Full Burials* | Projected Cremated Remains* | Cremated Remains (In Full Plot) | Cremated Remains (Columbaria) | Cremated Remains (In Cremation Plot) | Weekend Interments |
|------|-------------------------|-----------------------------|---------------------------------|-------------------------------|--------------------------------------|--------------------|
| 2018 | 27 | 38 | 11 | 11 | 11 | 11 |
| 2019 | 28 | 39 | 12 | 12 | 12 | 11 |
| 2020 | 29 | 40 | 12 | 12 | 12 | 12 |
| 2021 | 30 | 41 | 12 | 12 | 12 | 12 |
| 2022 | 30 | 42 | 13 | 13 | 13 | 12 |
| 2023 | 31 | 50 | 15 | 15 | 15 | 13 |
| 2024 | 31 | 51 | 15 | 15 | 15 | 14 |
| 2025 | 32 | 52 | 16 | 16 | 16 | 14 |
| 2026 | 33 | 54 | 16 | 16 | 16 | 15 |
| 2027 | 34 | 55 | 17 | 17 | 17 | 15 |
| 2028 | 34 | 65 | 19 | 19 | 19 | 16 |

| Year | Projected Full Burials* | Projected Cremated Remains* | Cremated Remains (In Full Plot) | Cremated Remains (Columbaria) | Cremated Remains (In Cremation Plot) | Weekend Interments |
|----------------------|-------------------------|-----------------------------|---------------------------------|-------------------------------|--------------------------------------|--------------------|
| 2029 | 35 | 67 | 20 | 20 | 20 | 17 |
| 2030 | 36 | 68 | 21 | 21 | 21 | 17 |
| 2031 | 37 | 70 | 21 | 21 | 21 | 18 |
| 2032 | 38 | 72 | 22 | 22 | 22 | 18 |
| 2033 | 38 | 83 | 25 | 25 | 25 | 20 |
| 2034 | 39 | 86 | 26 | 26 | 26 | 20 |
| 2035 | 40 | 88 | 26 | 26 | 26 | 21 |
| 2036 | 41 | 90 | 27 | 27 | 27 | 21 |
| 2037 | 42 | 93 | 28 | 28 | 28 | 22 |
| 2038 | 41 | 104 | 31 | 31 | 31 | 23 |
| 2039 | 42 | 107 | 32 | 32 | 32 | 24 |
| 2040 | 43 | 110 | 33 | 33 | 33 | 25 |
| 2041 | 44 | 113 | 34 | 34 | 34 | 25 |
| 2042 | 45 | 116 | 35 | 35 | 35 | 26 |
| 2043 | 48 | 128 | 38 | 38 | 38 | 28 |
| 2044 | 49 | 131 | 39 | 39 | 39 | 29 |
| 2045 | 51 | 135 | 41 | 41 | 41 | 30 |
| 2046 | 52 | 139 | 42 | 42 | 42 | 30 |
| 2047 | 54 | 143 | 43 | 43 | 43 | 31 |
| 30 Year Total | 1,153 | 2472 | 742 | 742 | 742 | 589 |

SOURCE: ANALYSIS BY URBAN SYSTEMS

*Projected Burials/Cremated Remains brought from 'Stony Plain Municipal Cemetery Market Share' Figure (B.2)



Figure B.3 Projected Distribution of Services Provided (Continued)

| Year | Total Reservations & Licenses | Reservations & Licenses (Columbaria) | Reservations & Licenses (Full Plot) | Reservations & Licenses (Cremation Plot) | Total Upright Memorials |
|------|-------------------------------|--------------------------------------|-------------------------------------|--|-------------------------|
| 2018 | 47 | 9 | 33 | 8 | 26 |
| 2019 | 49 | 9 | 34 | 8 | 27 |
| 2020 | 50 | 9 | 35 | 8 | 27 |
| 2021 | 51 | 9 | 36 | 8 | 28 |
| 2022 | 52 | 10 | 36 | 8 | 29 |
| 2023 | 57 | 11 | 38 | 10 | 32 |
| 2024 | 58 | 12 | 39 | 10 | 33 |
| 2025 | 60 | 12 | 40 | 10 | 34 |
| 2026 | 62 | 12 | 41 | 11 | 35 |
| 2027 | 63 | 12 | 42 | 11 | 36 |
| 2028 | 68 | 15 | 44 | 13 | 40 |
| 2029 | 70 | 15 | 45 | 13 | 41 |
| 2030 | 72 | 15 | 46 | 14 | 42 |
| 2031 | 74 | 16 | 48 | 14 | 43 |
| 2032 | 76 | 16 | 49 | 14 | 44 |
| 2033 | 82 | 19 | 51 | 17 | 49 |
| 2034 | 84 | 19 | 52 | 17 | 50 |
| 2035 | 86 | 20 | 53 | 18 | 51 |
| 2036 | 89 | 20 | 54 | 18 | 53 |
| 2037 | 91 | 21 | 56 | 19 | 54 |
| 2038 | 96 | 23 | 56 | 21 | 58 |
| 2039 | 98 | 24 | 58 | 21 | 59 |
| 2040 | 101 | 25 | 59 | 22 | 61 |
| 2041 | 104 | 25 | 61 | 23 | 63 |
| 2042 | 107 | 26 | 63 | 23 | 64 |
| 2043 | 116 | 29 | 67 | 26 | 70 |
| 2044 | 119 | 30 | 69 | 26 | 72 |
| 2045 | 123 | 30 | 71 | 27 | 74 |

| Year | Total Reservations & Licenses | Reservations & Licenses (Columbaria) | Reservations & Licenses (Full Plot) | Reservations & Licenses (Cremation Plot) | Total Upright Memorials |
|---------------|-------------------------------|--------------------------------------|-------------------------------------|--|-------------------------|
| 2046 | 126 | 31 | 73 | 28 | 77 |
| 2047 | 130 | 32 | 75 | 29 | 79 |
| 30 Year Total | 2,463 | 556 | 1524 | 494 | 1,450 |

Reservation Assumptions for Figure B.3

- ▶ 0.65 cremated remains per full burial plot (average)\$62,000 initial Clerk salary/benefits per FTE
- ▶ 1.5 cremated remains per cremation plot (average) per FTE
- ▶ 1/3 of columbarium niches have 2 cremated remains

Other Assumptions for Figure B.3

- ▶ 15% of total interments occur on weekends
- ▶ 40% of total interments will have an upright memorial installed
- ▶ Percentage of total cremations: 30% in Full Plot; 30% in Columbarium Niche; 30% in Cremation Plot; 10% Scattering

SOURCE: ANALYSIS BY URBAN SYSTEMS



APPENDIX C:

Projected Revenue Services



APPENDIX C: Projected Revenue Sources- Fee Schedule

Figure C.1 Proposed Fees on Cemetery Products and Services

| Additional Product/Service | Fees* |
|-------------------------------------|---------------|
| Upright Monument (size dependent) | \$300-\$1,500 |
| Flat Marker (size dependent) | \$200-\$600 |
| Flat Marker Permit and Installation | \$175 |
| Vault/Liner Installation | |
| Casket (Concrete) | \$600 |
| Cremation (Concrete) | \$200 |
| Disinterment | |
| Casket | \$600 |
| Urn | \$300 |
| Flower Container- Supply & Install | \$50 |
| Urns | |
| Wood/Ceramic/Metal | \$50-\$300 |
| Biodegradable | |
| Journey Paper | \$70 |
| Rock Salt | \$200 |
| Administration Fee | \$50 |

*Fees based on similar products and services offered in Edmonton and Vancouver municipal cemeteries.



APPENDIX D:

Projected Cemetery Cost Summary



APPENDIX D: Projected Cemetery Cost Summary

Figure D.1 Projected Cemetery Cost Summary

| Category | Proposed Items | Estimated Cost Years 2018-2022 | Estimated Cost Years 2023-2027 | Estimated Cost Years 2028-2032 | Estimated Cost Years 2033-2037 | Estimated Cost Years 2038-2042 | Estimated Cost Years 2043-2047 | Funding Source |
|------------------------|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------|
| Cemetery Capital Costs | Phase 1 | TBD | TBD | | | | | General Revenue |
| | Phase 2 | | | TBD | TBD | | | |
| | Phase 3 | | | | | TBD | TBD | |
| | Record Software System | \$4,000 | \$6,000 | \$6,000 | \$7,000 | \$8,000 | \$9,000 | |
| Equipment | Accumulated Amortization | \$80,000 | \$88,000 | \$97,000 | \$108,000 | \$119,000 | \$131,000 | Cemetery Revenue |
| Staffing | 1.7 FTE between years 2018-2022 | \$612,000 | \$639,000 | \$701,000 | \$774,000 | \$907,000 | \$994,000 | Cemetery Revenue |
| | Add 0.3 FTE between years 2023-2027 | | \$113,000 | \$125,000 | \$140,000 | \$160,000 | \$175,000 | |
| | Add 0.5 FTE between years 2028-2032 | | | \$206,000 | \$233,000 | \$267,000 | \$292,000 | |
| | Add 0.6 FTE between years 2033-2037 | | | | \$279,000 | \$320,000 | \$351,000 | |
| | Add 0.5 FTE between years 2038-2042 | | | | | \$267,000 | \$292,000 | |

| Category | Proposed Items | Estimated Cost Years 2018-2022 | Estimated Cost Years 2023-2027 | Estimated Cost Years 2028-2032 | Estimated Cost Years 2033-2037 | Estimated Cost Years 2038-2042 | Estimated Cost Years 2043-2047 | Funding Source |
|----------------------|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------|
| | Add 0.8 FTE between years 2043-2047 | | | | | | \$468,000 | |
| Total Cost Estimates | | \$696,000 | \$846,000 | \$1,135,000 | \$1,541,000 | \$2,048,000 | \$2,712,000 | |

