

A COMPARATIVE ANALYSIS OF CEMETERIES IN SPATIAL PLANNING

1) INTRODUCTION

The article is focused on the development of the modern cemetery & crematorium as well as its importance to society. Cemeteries & Crematoriums represent a land use that serves society as a whole, regardless of whether the population is considered to be urban, non-urban, or some of both. This discussion focuses on an overview of cemeteries & crematoriums, as a component of the land use system, typical spatial planning matters to be considered in the formulation of spatial planning policy guiding development and criteria identified that relate to cemetery development: **need, planning horizon, location, size, growth, compatibility, environment, and permanency.**

Though cemeteries & crematoriums are an important social component, few municipalities actually plan for the burial and memorial needs of their citizens. Spatial planning policy in this regard typically tends to focus on the recognition of existing cemeteries & crematoriums, not the development of future interment & memorialize space, irrespective of the capacity status of the community's existing cemeteries & crematoriums. Few municipal planning documents provide policies intended to guide the consideration of the development of new cemeteries & crematoriums, and fewer still actually identify new cemetery lands.

Typically, spatial policy documents provide guidelines governing the location, development and/or expansion of residential, industrial, commercial, institutional and recreational land uses, cemeteries & crematoriums as a land use, however are largely overlooked.

2) CEMETERY PLANNING PROCESS

i. Planning for cemeteries

Cemeteries represent a land use that serves society as a whole, regardless of whether the population is considered to be urban, non-urban (rural), or some of both. This section presents an overview of cemeteries & crematoriums, as a component of the spatial planning system. The discussion focuses on the typical spatial planning matters that should be considered in the formulation of spatial plans as a guide to development. The context is in regards to the development of cemeteries & crematoriums in both inner and outer urban core areas.

Generally, there is government legislation that sets out the requirements and obligations for cemetery operations.

- Applicants must obtain the approval of the appropriate municipality within which the property is located.

- Applicants must also apply for a license to own a cemetery or crematorium.
- Once the required approvals are received, including land use, environmental and water use license approvals pursuant to the applicable legislation, the property may be used for cemetery related purposes.

Once a property is designated for cemetery use, a “Master Plan” must typically be prepared to determine the layout of future burial gardens, buildings and infrastructure required to support the operation and maintenance of the cemetery. With the first burial in a cemetery precinct the grave(s) cannot be moved without the approval of the administrator and the consent of the family.

It is important in determining the layout of the burial precincts, buildings and infrastructure, that a longer term view is taken. Burial preferences tend to remain consistent, with changes occurring over generations. Cemetery “Master Plans” do not change with regard to the layout of grounds once they are registered. This provides the public with a sense of stability, history and belonging as it defines their roots in a community. The only modifications to cemetery Master Plans may occur in undeveloped areas of the properties.

ii. Land Use Planning Horizons

Spatial planning policies make use of future conservative population growth forecasts, infectious diseases, urbanization, migration and mortality rates. Demographic statistics are core to urban planning and decision making and often form the basis of any planning process or project. These projections, however, are only considered to be reliable for fifteen to twenty years into the future. Therefore, the spatial planning policy related to human settlement patterns, housing preferences, employment opportunities, transportation options, resource distribution and infrastructure availability are also reliable for fifteen to twenty years. Traditional land uses are transitory in that they continually evolve over time, in relation to social preferences and requirements. Employment uses may relocate, residential areas intensify, and commercial developments evolve over time. Therefore, the planning horizon typically used in spatial planning policy documents shall be fifteen to twenty years. Typically, a 20-year horizon for the purpose of land use and infrastructure planning shall be employed as projections beyond this time period tend to be more speculative and thus less meaningful.

The planning horizon for cemeteries & crematoriums, however, does not fit the traditional spatial planning model. Cemeteries represent an intergenerational land use that must accommodate the general public interest regarding the memorialization of the dead. In demographic analysis, it shall generally be accepted that a new generation is produced every 20 to 30 years. For cemetery planning purposes, a median of 15 to 20 years shall be used.

When it comes to the interment of the deceased, regardless of method (inhumation, cremation, etc.), families generally wish to be located with their loved ones. Therefore, when family members visit their deceased relatives they typically would prefer to congregate at one or two locations within the cemetery rather than having to visit multiple graves, which would be the case if their relatives were scattered throughout the cemetery. For this reason, families often purchase or reserve several burial plots / spaces (a family plot) before there is an actual need (“pre-need”) to ensure that their loved ones can be accommodated. As a result, the requirement

for cemetery space is driven more by the family's pre-need expectations than actual mortality rates. Plots are typically purchased to accommodate several generations beyond the most immediate one. Sufficient land (opportunity), subjective geotechnical assessments, hydrological assessments and capital budget is necessary to ensure such purchases can be accommodated.

Whereas the municipal planning & provincial process required to obtain the necessary land use & environmental approvals (Official Plans, Zoning, Master / Site Development Plans, Environmental Impact Assessment / Basic Assessment Report, Traffic Impact Statement / Assessment, Water Use License) may range from 5 to 10 years, the planning horizon required to ensure society's expectations for the accommodation of their deceased must take a long term view. In the cemetery business, 15-20 years is considered to be short term considering the average generation replacement rate is 25 years. Since many generations have to be accommodated, a significantly longer planning horizon is required, in the order of 50 to 100 years. Even at this range, a 100 year planning horizon can typically only accommodate up to 4 family generations.

Unlike traditional land uses, cemeteries & crematoriums are considered to represent a permanent use. From a practical perspective, there is no redevelopment or reuse potential for lands initially used for cemetery purposes. A cemetery's development horizon, therefore, is intended to span many family generations, and contributes to the social and cultural history of an area. The longer planning horizon is required in order to accommodate multi-generational burial needs as well as for site maturation. At the same time, the planning horizon accommodates community development by contributing to the social and cultural history of the area once they are established, providing an intergenerational link to the personal histories of the families that have interred their loved ones in the cemetery. The use of an extended planning horizon is therefore justified by the unique characteristics of this land use.

iii. Permanency of Cemeteries

In society today cemeteries & crematoriums tend to be considered a permanent land use. It is unusual to move cemeteries once established, especially if they are large, although this has not always been the case. History is full of examples where cemeteries and burial grounds have been removed and/or relocated. Countless other examples occurred where burial grounds, graveyards and cemeteries were removed, relocated and/or redeveloped due to changing societal priorities at the time, or concern over the state of congestion and the condition of the older burial sites.

Continued development and redevelopment in urban areas has put pressure on older cemeteries. As burial space became unavailable many sites were closed in the late nineteenth and early twentieth centuries and they eventually became dishevelled. Other urban priorities put pressure on local authorities to look to alternatives with respect to the use of the land.

Over time, however, attitudes and perceptions have changed as society places more value on these sites.

Newspapers and web postings frequently carry reports of controversial proposals that threaten burial grounds, spawning groups intent on ensuring their preservation. Urban sites often are seen as a community amenity to be preserved. In this regard, these cemeteries, as well as others like them, ground the community and represent a use of land that, in the context of the community, is permanent.

The new cemeteries ranged in size, depending on their locational characteristics and market demands. With an increasing population & mortality rate there is a corresponding need to accommodate the deceased.

Cemeteries & crematoriums provide a necessary and required public service. The fundamental market factors influencing the need for cemetery lands has not changed. Increasing population levels in our urban and non-urban areas is driving a need for the provision of new cemetery lands to address these trends. As a result, the modern cemeteries typically required large properties to ensure that they would be able to meet the burial needs and wishes of their clients for many generations. Often this entails being able to offer a full range of burial and interment options on one site.

The principal issue to consider, regardless of size, is whether or not the new cemetery adequately responds to the needs of its catchment area. In this regard, the need for the cemetery is assessed in the context of the planning horizon applicable to this form of development, and not against the horizon typically used in spatial planning. Generally, cemeteries should operate on the base of a 100-year horizon for planning purposes, representing a multi-generational approach (i.e. 4+ generations). The preference for larger properties in the context of the amount of land that is required to support the use, relates directly to the determination of need.

iv. Locational Considerations

Historically, new “large” cemeteries have been established outside of the existing urban area where sufficient land can be assembled for their development. In early cases, a combination of concern respecting potential health issues in increasingly crowded urban areas, aesthetics, and the ability to find and secure sufficient land motivated the location of new cemeteries beyond the city limits. In modern times developers of new cemeteries should pursue non-urban locations primarily for economic reasons as the competition for land between residential, commercial, industrial and recreational land uses within existing urban areas is intense. The opportunity to find land of the size required to accommodate a modern cemetery within urban areas is limited due to this competition. Furthermore, the establishment of a new cemetery is typically a controversial endeavour.

Even if a suitable land parcel was available for development, the use of such land for cemetery purposes is unlikely, although a societal necessity, in light of the pressures on urban areas to accommodate “traditional” land uses within the existing urban limits”. Consider, for example, the utilization of land within urban areas. Urban land is typically supplied with urban services (sanitation and stormwater sewers, water mains, etc.), which are not necessarily required by cemeteries. The utilization and thus requirement for these services is low, such that private servicing can typically suffice for the development. Where infrastructure costs are high, the question must be asked as to whether or not it makes sense to use 40 or more hectares of land

for a use that does not require the infrastructure / municipal services that has been supplied for urban living.

Cemeteries are different in land use terms from other “traditional” land uses, which may experience constant change as the community itself evolves. Low density residential areas may give way to medium and high density development, industrial areas may evolve and relocate to respond to changing transportation systems, commercial areas may intensify and reinvent themselves as the community surrounding them evolves.

All of these processes are not recognized by planning policy, and in the case of the City of Cape Town, such evolution / intensification of urban places is actually mandated by legislation. Even municipal green spaces may undergo changes in land use designation over time. Cemeteries, however, do not undergo these changes, except in extreme and correspondingly rare cases.

v. Land Use Compatibility

Cemeteries, as a land use, have been consistently demonstrated to represent a compatible development form with most traditional land uses, both urban and non-urban. These include: residential, commercial, industrial, institutional, parks and open space land uses. In terms of their impact on land values, studies have demonstrated that the value of land around cemeteries are not adversely impacted by the cemetery. This may be because cemeteries are often considered to be park-like, and therefore represent a public amenity.

In some cases, neighbouring residents have actually opposed intensification plans of a cemetery as they were concerned about the potential impact on their ability to enjoy the cemetery as a place for passive recreation.

The reasons for the separation of cemeteries from urban uses originally were based on a number of considerations as discussed previously. In land use terms, however, they represent a rather nonthreatening development form. The qualities that make them attractive and valued by society, the pastoral landscapes, their park-like appearance, contribute to their overall compatibility with all other land uses. Certainly, over time cemeteries have become part of the urban fabric from where they were displaced once again. This is evident in cases whereby an urban area has grown to encompass the cemetery which was once considered to be in the non-urban area.

These examples attest to the compatibility of the cemeteries with other, in these cases, urban land uses. This compatibility, however, also limits their ability to expand in order to accommodate more families. As previously noted, the competition for urban land is increasing. Land use conversions and intensifications accommodate the more common land uses and are generally not realized for cemetery expansions.

In terms of non-urban areas, there are as well, no compatibility issues. While it is true that cemeteries compete with other land uses in non-urban areas, it is equally true that the

characteristics of their use does not constrain or otherwise impede the ability of other non-urban uses to function.

In light of these considerations, the logical location to establish a new cemetery is within a non-urban area that is relatively close to its intended catchment area.

vi. Need Considerations

The question of the “need” for new cemeteries is commonly raised when a proponent brings forward just such an application for municipal land use approval. Spatial planning typically focusses on population projections when determining the amount of land needed within communities to accommodate future growth. These projections influence the development of spatial planning policy for Official Plans related to the traditional land use forms (residential, commercial, industrial / employment, social, institutional, conservation, open space and parks, and transportation). The policies are intended to articulate the municipal vision to guide future development and growth within the region / municipality.

The issue is, however, that the focus is for the purpose of preparing policy and plans for the living. There does not appear to be any consideration given respecting how society is supposed to accommodate the deceased. In simplistic terms, for every new resident of a municipality, someone is eventually going to die.

Furthermore, the projections must consider not just age composition, but religion and ethnicity as well, as these factors influence the nature, type and amount of cemetery land that is going to be required in future.

The decision highlights three elements related to the determination of need: The demand; the supply; and, the planning horizon (“timeframe”) within which need will be demonstrated. In consideration of the planning horizon in relation to cemetery planning, therefore, needs analysis must consider longer term projections than would be undertaken for traditional development, and look for potential shifts in societal attitudes towards death and cemeteries in order to fully appreciate how much land for cemetery purposes will be ultimately required. As noted in the previous discussion, changes in the business structure respecting how cemeteries are provided and operated by the profession, changes in preferences regarding inhumation, including cremation, and the effects on the amount and type of burial space that will be required, and so on, all must be considered when assessing need. Nevertheless, innately it is clear that with an overall population increase, the requirement to deal with the dead is not going to disappear. Cemeteries, in one form or another, are going to be necessary for the foreseeable future.

vii. Intensification Use

In setting the context for its policies relating to growth, the City of Cape Town has identified the importance of intensifying urban areas as a means to control sprawl, and make better use of

infrastructure in the **Cape Town Spatial Development Framework 2012, District Spatial Plans 2012, Cape Town Densification Strategy, Draft Social Infrastructure Plan 2035 & Growth Management Strategy Plan:**

- To ensure the development of healthy, safe and balanced communities, choices about where and how growth occurs in the City of Cape Town need to be carefully made.
- Better use of land and infrastructure is made by directing growth and public transport to existing urban areas.
- This plan envisages increasing intensification of the existing built- up area, with a focus on urban growth centres, intensification corridors, major transit station areas, Brownfield sites and Greenfields.
- Concentrating new development in these areas also provides a focus for transit and infrastructure investments to support future growth.

The Cape Town Spatial Development Framework, District Spatial Plans, Cape Town Densification Strategy, Draft Social Infrastructure Plan & Growth Management Strategy Plan encourages the optimization of the use of land and infrastructure to ensure that Cape Town communities are healthy and balanced communities as a way to improve the overall quality of life for the citizens of metropolis.

It is important to optimize the use of the existing land supply to avoid over- designating new land for future urban development. This plan's emphasis on intensification and optimizing the use of the existing land supply represents a new approach to city-building in the City of Cape Town, one which concentrates more on making better use of our existing infrastructure, and less on continuously expanding the urban area.

When dealing with traditional land use forms this is logical: The same principles in relation to cemetery development, however, are not as clear. Originally, one of the factors in relocating cemeteries out of urban areas was the negative effect that overcrowding within burial grounds and cemeteries is having on urban areas. The results of early intensification attempts for cemeteries were somewhat suspect, and ultimately were deemed to be socially unacceptable.

For traditional land uses the rationale for intensification is logical in terms of the utilization of a community's land resource basis. The concept of intensification as contemplated by the City of Cape Town is problematic in relation to cemetery planning. In fact, within urban areas, however, the intensification principle has a negative effect in regards to cemetery development since the cemeteries cannot compete for the limited land resources within existing urban areas. The land utilization discussion presented previously highlights this issue in the context of the rational use of land within urban areas. It has been noted that 'modern' cemeteries typically require large parcels of land, the average being 64 hectares. Since cemeteries do not require the provision of municipal services to the extent other land uses do, there is a question with respect to the logic of using "valuable land", in the context of the cost to provide municipal infrastructure, to a use that is not going to utilize the services. In other words, it would be more logical to maximize the return on the municipal investment in the provision of infrastructure by providing the services to land uses that require them rather than utilizing the land for cemeteries. The suggestion that all development should be directed to existing urban areas, therefore, just does not work in the context of cemetery planning.

Notwithstanding the foregoing, the concept of intensification in relation to how cemeteries utilize their existing land resource is regularly applied by the cemetery developers, albeit with limited results. Infilling “solutions” is neither appropriate, nor socially desirable. Other, socially acceptable solutions are required. Post Roman burial practices have historically focused on the development of burial plots to accommodate inhumation. Once land within a cemetery is registered and sold for a certain burial preference it remains that way ‘forever’. As burial preferences evolved over time they included the accommodation of cremated human remains. Innovative use of the land, including the removal of roads between gardens, the construction of niche structures and mausoleums, all assist cemeteries in accommodating more burials.

Nevertheless, such intensification opportunities for existing cemeteries are generally limited, and focus by necessity on the utilization of small parcels of surplus land that might be utilized for the construction of niche structures to house cremated human remains: The solution for society is the development of new cemeteries.

viii. Environmental Considerations

The development of new cemeteries is often a controversial issue. Local residents are typically nervous about the proposed development, and spatial planners do not understand the complexities of cemeteries as a land use, nor do they have adequate spatial policy which they can turn to assist in their consideration of the proposal.

The analysis of groundwater samples collected at wells located down gradient [SIC] of certain council cemeteries sites, indicates that cemeteries are not a significant source of groundwater contamination by formaldehyde. In addition, the calculated loading estimates for formaldehyde and nitrates being released from cemeteries supports a low potential for groundwater contamination.

It appears that from the collected works that does exist, the potential for groundwater contamination depends on a variety of factors related to burial practice, soil composition, the nature of the water table, and location of surrounding potable water sources.

Even the scattering of ashes outside of cemeteries can cause problems, or their perception:

Ash-scattering is a deeply private ritual, yet it invariably takes place in a very public setting. Unlike other tributes to mark a death, it is an almost invisible one. There are no cellophane flowers, poignant plaques or sombre marble headstones.

Yet this ritual is leaving a different sort of trace.

Nevertheless, cemeteries will continue to be an important element of society. In terms of land use planning, and the formulation of spatial planning policy, it is important to be aware of potential environmental concerns, whether they are actual or perceived, and ensure that

appropriate consideration of this matter is given to proposals to establish new cemeteries. The variance between sites, soil composition, water table levels, all need to be addressed in the planning process.

ix. Considerations for Spatial Policy Formulation - Cemeteries

In light of the foregoing, it should be clear that cemeteries represent an important cultural and social component of the structure of our municipalities. Because cemeteries are physically manifest, (i.e. they are 'there', they exist as a use of land, etc.) they represent a use of land that shall be addressed in the spatial planning processes that is intended to articulate the municipal vision for the growth and development of our urban areas. Growth requirements are typically determined through demographic projections. These in turn influence spatial plans with respect to the provision of adequate land and resources for residential, commercial, industrial (employment), social, institutional, transportation, parks and open spaces land uses. Along with these uses, the provision of adequate land to accommodate a community's needs for the burial of the dead is required. In considering this issue, the discussion in this section provides an outline of the matters that should be considered in the formulation of appropriate spatial planning policy for this use. Specifically, the following matters should be considered:

Need:

- Are growth and mortality projections in line with each other and recognized in policy?
- Will the municipality be able to accommodate the projected mortality level and are suitable options available, not only in terms of the amount of land that will be required to accommodate future deaths, but in terms of the appropriateness of cemetery land to address cultural and societal values.

Horizon:

- Does the spatial planning horizon accommodate cemetery development such that the need for cemetery space can be accurately considered?

Location:

- Are there suitable locations available for the provision of appropriate cemetery space and is it appropriately sited such that it will not limit future growth options unnecessarily?
- Are cemeteries permitted within the non-urban areas of the municipality where sufficient land might be assembled for the use?

Size:

- Has the amount of land that will be required to address the projected need for cemetery land been appropriately identified?

Intensification:

- Have provisions been made to facilitate the intensification of existing and new cemetery land as may be appropriate?

Compatibility:

- Are there land use compatibility issues identified that might affect the location of new cemetery space?

Environment:

- Are appropriate policies, budgets, management / strategic plans in place to ensure the suitable balance for protection of the environment? Water supply? Biodiversity / Conservation / Ecological Areas?

Permanency:

- Has the permanency of the land use been considered in assessing its location?
- Will the location of the proposed use become problematic for the future growth of the community because the use must be considered to be permanent?

The foregoing provides a model against which spatial plans shall be assessed to ensure that appropriate policies addressing the provision of cemeteries are provided and that the use can be accommodated within the structure of the municipality.

This section has provided an overview of the planning process associated with the expansion or establishment of new cemeteries in terms of how they need to be accommodated through spatial planning policy. Various elements and characteristics of cemetery development need to be considered in this process. In order for the formulation of effective spatial planning policy, these matters must be considered. The problem is that although cemeteries have been part of the social environment throughout history, they continue to be either ignored or misunderstood in the context of spatial planning policy.

x. Spatially defining cemeteries, administration and record keeping

The City of Cape Town cemetery services is in process to develop a new software program, to centralize operations for cemetery & crematorium services. An organizational tool which will allow the cemetery planning & management to efficiently record and retrieve deceased records and reserved site information, and produce job sheets for staff in regards to burials. A software program that also spatially maps burial data in order to provide a spatial representation of the status of council's cemeteries. This feature will allow council to easily track land availability in council's cemeteries.

Another benefit would be the ability for cemetery data to be made publically available through council's website. Council receives approximately 1200 enquiries per year in regards to historical information and the location of a deceased person. Such a system has the ability to retrieve deceased records, and due to its mapping capabilities, is able to identify a location of the gravesite for members of the public. This capability is yet to be introduced, but is expected to dramatically reduce the number of customer enquiries made per year to the cemetery services team.

The implementation of such a system is anticipated to bring large benefits to the cemetery services team, particularly by the way of freeing up administration supports' workload, and by centralizing all recordkeeping.

3) CONCLUSION

Cemetery-related trends will also have an impact, primarily in-ground burial space increasingly becoming the preferred burial option. Other key considerations to be explored and will need to be addressed in the future include ***the need for additional land for cemetery purposes; the need to value our community; operational and cost efficiency considerations, and the option of exploring business and economic opportunities.***

There is a need for City of Cape Town to proactively respond to these key considerations in order to provide an efficient and professional cemetery & crematorium service. To guide council over the next 15 years, the City of Cape Town Draft Strategic Cemetery & Crematorium Framework, 2018-2033 introduces the following vision for cemetery services:

The City of Cape Town is committed to long term provision of cemetery & crematorium facilities that are responsive to the communities' needs and promotes community well-being and involvement.

To facilitate this vision and effectively respond to the key considerations mentioned above, the City of Cape Town Strategic Cemetery & Crematorium Framework, 2018-2033 has established a 15-year action plan to be implemented by City of Cape Town Department: Recreation & Parks. *The actions are based on the four principles of council needing to be responsive to demand and change; provide value to the community; be operationally and cost efficient, and be able to maximise opportunities.*

The key strategies of the action plan are:

- Ensure that the City of Cape Town cemetery & crematorium services are responsive to change, and maintain sufficient land and facilities to meet the current and future needs of communities.
- Maintain and improve the provision of cemetery & crematorium facilities as an essential community service, and enhance the cultural value, community awareness and benefits of cemetery & crematorium services and facilities.
- Continue to investigate and implement efficiency targets relating to operational, administrative and management roles.
- Take advantage of business and economic opportunities to advance cemetery & crematorium services.

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