



Executive Research Study Findings
Norway and Finland
February 16 to 24, 2011

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Executive Research Study Findings

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Imagine walking in downtown Edmonton on a Saturday afternoon in January. It's cold, -18 C, but the sky is a beautiful blue, the sun is shining and all around the city feels alive.

Colorful banners hang from city light posts, inviting people to Edmonton's latest winter celebration. Pedestrians and cyclists make their ways on walkways and roads clear of snow and ice. In Churchill Square, snow has been piled up on the northwest side, creating a wall to protect people from chilly winds. In the middle of the square, children and adults alike are taking turns whooshing down a snow slide. Ice sculptures adorn the square, and there are a few large chunks of snow off to one side for anyone who desires to try snow carving. Front doors at the Art Gallery of Alberta will remain open, where inside, local entrepreneurs offer samples of hot cider and mulled wine. As the sun sets, lanterns with flames burning inside will begin to glow at building entrances, creating a warm, inviting feeling as darkness settles on the city.

This is an Edmonton that embraces and celebrates winter; a vibrant city that promotes the positive qualities of northern climate living, a place citizens and tourists want to spend time during the winter months.

Executive Summary

In 2011, the City of Edmonton's Community Services Department was charged, under the leadership of Councilor Ben Henderson, with developing a WinterCity Strategy to recast Edmonton as a livable winter city; a city that gets global recognition and attention for its major winter events.

As part of the research phase, it was recommended that an Executive Research Study be conducted of international winter cities. Norway and Finland were identified as valuable places to visit based on their reputations for embracing winter.

An Executive Research Study Taskforce, consisting of Councilor Henderson, Rob Marchak, Paul Loosley and John Mahon, was sent abroad between February 16 and 24, 2011. They set out to identify, align and integrate leading winter practices of world class winter cities.

Their findings have been compiled to identify the critical elements for a successful winter city.

Key Winter City Elements

Embrace Winter

It's a highly contagious idea. Winter cities market their winter events and make citizens proud of their winter city identity. Winter cities listen, observe and try to understand their citizens; creating a buzz that builds connections both locally and beyond. A social marketing campaign can help to change citizen's attitudes around winter and wintertime culture. City residents are the best ambassadors for a winter city.

Authenticity

The best winter cities are unique - places like no other. They embrace the different seasons of winter – from the first snow fall which quickly melts to the cool, crisp days following - lovely days to sit at an outdoor café, warmed by heaters and blankets. The holiday season is next; streets fill up with markets and a festive feeling. Then the deep winter, when temperatures can plunge and days are short but often brilliantly sunny, inviting people to come outside and ski, skate, snowshoe or walk – and soak up the sun while it shines. This particular winter season is known as 'Frosty Winter' in Rovaniemi, Norway. And into March and April, winter changes again. The days are longer and often warmer, though winter reminds people it's not quite gone, with windy days and occasional snow storms. The key is to ensure city spaces are built to both invite pedestrian traffic and offer spontaneous city life during these different seasons of winter.

Winter Culture

Successful winter cities have neighbourhood groups, city districts and/or city administrations that support plans for a lively and social winter life. They experiment with new ideas, new combinations and partners. For example, spectators and/or participants use snow blocks for play, or join a winter walk program. They can watch human curling, a competitive snowball event, or take in a local music festival held outdoors. Soccer and other games are played on heated outdoor sports fields.

Accessibility

Ideally, everyone should have equal opportunity to enjoy the city, with daily access to work, shopping and recreation. Pedestrians, cyclists and strollers need priority status in a winter city. Successful winter cities tend to focus less on cars and more on clearing bike paths, walking paths and public transportation routes.

Maintenance

Feeling that you can get around safely is crucial for a winter city. Winter cities need careful and repeated maintenance to keep them safe, clean and attractive. Pavement, furnishings, landscapes and urban spaces need to be available and useable in the winter time.

City Spaces

Public space is the theater of everyday life. The winter season has many good weather days that can support an active street life. People-oriented public and private spaces need to offer places to sit and talk, run, play, listen to music, buy vegetables and to enjoy winter's warm moments. Outdoor public spaces should be flexible enough to allow for a broad variety of activities, and handle a variety of winter weather.

Nature

Winter cities offer a rugged landscape in the middle of their cities. The green canopy, water edge, interactive ice and snow elements, and connections to wilderness areas all help to create a visual and tactile complexity when combined with the changing seasons. Nature has profound psychological and therapeutic benefits; our winter landscape can offer something for everyone.

Public performance

Taking in performances is educational, restorative and pleasurable. All of the winter cities visited have regularly scheduled sporting, arts, festivals, cultural events, trade conferences, and other exhibitions which attract local residents and people from around the world. Partnerships are often formed, for example between the organizations hosting these events, the city and the airport, to ensure the themes of “winter, snow and ice culture” are embraced and promoted.

Creative Lighting Schemes and Art

Visual quality is important in a winter city. Night walks with music and contrasting lighting effects are both creative, and inviting to a wide variety of people. International light-designers can be invited to use different lighting strategies to celebrate the darkness and put a new glow on the city. Lighting up buildings and trails with lowlights, from the ground up, helps create a more majestic feel than the traditional sky-down lighting approach. Art works in urban areas, parks and public buildings add to winter joy and wonder.

Landmarks

Winter cities need experiences that are memorable, inspiring and even thrilling to both local residents and visitors. Popular landmarks, local architecture, including sporting and arts centers, and natural landforms can offer good experiences and act as memorable icons for a winter city. Landmarks that have local significance as well as fun and expressive ice forms both provide a valuable experience. Winter city life is tied into the quality and quantity of local landmarks and their inherent experiences.

Inviting Public Spaces

Public spaces should help us relax, by acknowledging physical comfort and convenience even in the winter time. Winter cities offer generous, magnetic and transformative public spaces and major pedestrian boulevards. They provide seating, shelter, restrooms, and where appropriate, encourage vendors to set up sidewalk cafés.

Snow and Ice

While every city is different, snow and ice can be utilized for artistic expression, recreation and play. But, significant snow structures can play a very important economic role in addition, as they add more dimension and social life to a winter city. Successful cities view snow and ice as a strategic resource.

Summary

Edmonton is already host to a wide variety of winter activities, events and festivals which provide people the opportunity to get out and enjoy themselves during the winter months. The challenge ahead is to build on these existing strengths, to draw on best lessons from other winter cities and work together to brand Edmonton as a “winter city destination”: a city that is welcoming and fun to be in year round, that embraces public life in all seasons. We’ll need to market this brand – locally, nationally and internationally. Our success as a winter city will make Edmonton even more livable; a city people fall in love with, one where they want to come and play, and stay.

Background and Objectives

This Executive Research Study was created as a prelude to a larger project initiation taking place within Community Services called the WinterCity Strategy.

WinterCites Strategy

In 2010, the City of Edmonton's Community Services Department was charged with developing a WinterCity Strategy to recast Edmonton as a livable winter city.

Objectives of the WinterCity Strategy include:

- Encouraging discussion and feedback from all Edmontonians on a winter city life
- Promote the City of Edmonton's wintertime programs, services and experiences
- Identify and evaluate the challenges and opportunities of developing a sustainable and resilient WinterCity
- Suggest policy directions for Edmontonians and City Councilors to consider as part of a 10-year WinterCity Strategy and Implementation Plan

Executive Research Study

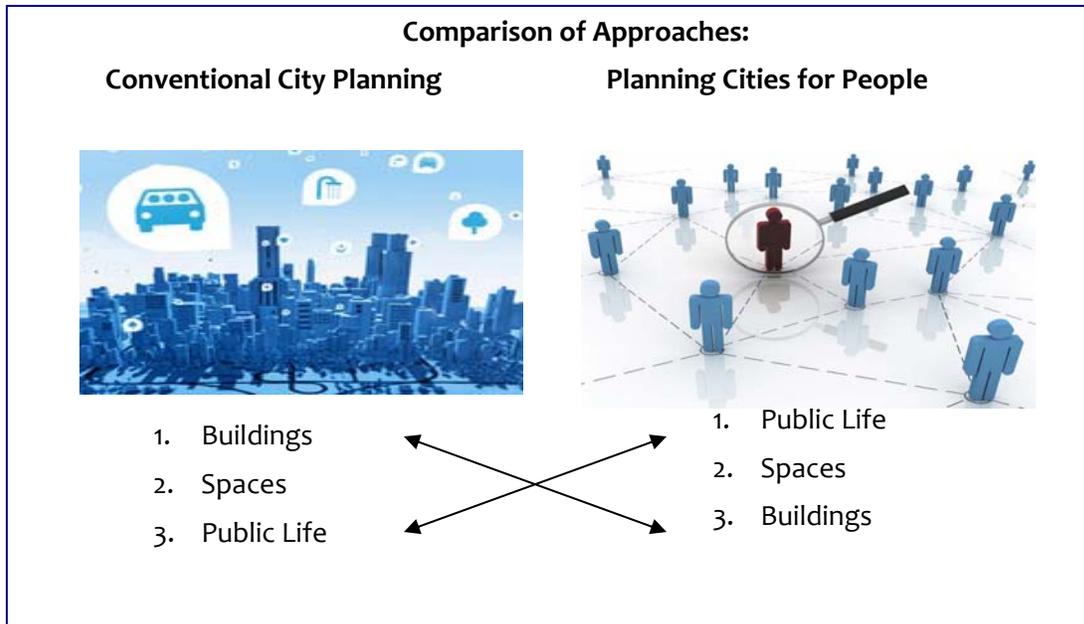
As part of informing the WinterCity Strategy, it was recommended that an Executive Research Study be conducted of international winter cities. Norway and Finland were identified as valuable places to visit based on their reputation for embracing winter.

A small Executive Research Study Taskforce was created, consisting of Councilor Henderson, Rob Marchak (Director of Business Planning and Performance Measurement), Paul Loosley (Director of Policy and Research, Community Strategies) and John Mahon (Executive Director, Edmonton Arts Council). The Taskforce was sent abroad to identify, align and integrate leading winter practices of world class cities. Meetings were organized with government counterparts, marketing firms, design firms and others working on winter city vitality, safety and sustainability, in order to gather data.

A list of the contacts made can be found in Appendix A. An inventory of winter programs, events and services in Edmonton can be found in Appendix B.

Cities for People

We acknowledge the use of Jan Gehl's book, *Cities for People*, as a foundation for shaping the executive research study. Gehl is an award winning architect and urban designer, whose international career has focused on improving the quality of urban life. In his book, Gehl offers a new paradigm for examining "winter cities", including several tools on how a city can increase the quantity and quality of well-planned beautiful public spaces that are human in scale, sustainable, healthy, safe and lively. Gehl practices an iterative approach to a city's public domain- its streets, squares and parks- as the stage and catalyst for quality urban life. His case studies and analysis provide guidance for supporting a "Winter City for People."



Edmonton’s WinterCities Strategy: Research Thesis

Utilizing Jan Gehl’s work, this Executive Research Study addresses several issues:

- How important are interactions between people, public life and good public realm for a winter city?
- Can we improve the possibilities for enjoying the climate naturally?
- How can this shift in thinking be used to advance good public policy?

We do so by looking using five different lenses to examine opportunities for developing a WinterCity:

Public Life

Public Spaces

Buildings

City Branding and Marketing

Creative Use of Light and Snow

Executive Research Study Findings

This section outlines the findings from the Executive Research Study Taskforce, which visited cities in Norway and Finland between February 16 and 24, 2011, for the purpose of researching successful winter city practices.

Public Life

The first lens used in the Executive Research Study was that of “Public Life”. What helps to build a lively, safe, sustainable and healthy city? How does the city cater to the people, in terms of walking, biking, staying, meeting and creating a good experience? How do we enhance these experiences for people during winter months?

Walking

Walkability helps keep citizens engaged and fosters a sense of community. Winter climates make it a challenge for cities to maintain walkability. How do winter cities ensure walkways are manageable in the cold and snowy months?

World class winter cities remain pedestrian-friendly in winter by focusing primarily on pedestrian areas and bicycle paths and secondarily on cars. Plowing resources are used to clear sidewalks first. Streets are designed with the pedestrian in mind.

- Pedestrian networks connect major walking routes
- Street drains are placed in the middle of the road, minimizing the pedestrian’s chance of being splashed by melted snow
- Covered or sheltered pedestrian bridges encourage mobility in the winter, blocking pedestrians from wind, snow and rain

Winter cities such as Oslo and Helsinki use several tactics to aid with walking in the wintertime. Urban walkways are connected with pedestrian networks and walkway plowing is a priority. Ensuring dry nonslip pedestrian surfaces is an important part of whole- hearted invitations to walk in cities. Pavement types vary across both these cities with traditional cobblestones, natural slate and flag stones, and modern pavement. All have to be maintained to enable wheelchairs, small children, and pedestrian’s safe movement.

- Main walkways may be heated, keeping them free of snow and ice
- Sidewalk cement is grooved to prevent slippage
- Salt is used only on central roads, not on sidewalks as it stains clothing

Key lesson: Create a better balance between traffic and other city users. A good city for walking must remain functional all year round, and around the clock. Gradually bring down the amount of parking spaces, increase respect for pedestrian desire lines. Build medians in the street to curb traffic and facilitate safe pedestrian crossings. Create interesting walking routes with pedestrian streets and pedestrian priority streets, and ensure tactics and strategies are used to encourage comfortable, safe and accessible paths in the winter time.

Bicycling

European cities have long viewed bicycling as part of integrated transport thinking and active lifestyles.

Oslo, Helsinki, Oulu and Kemi all have comprehensive bicycle networks that have been largely gained by down-sizing car traffic. Bicycle paths are placed along sidewalks in the same direction as vehicular traffic, and are always on the right “slow side” of car traffic. Combining bike trips with public transit is also made accessible, with the provision of secure bicycle parking at transit stations and in other key urban areas. New offices and industrial buildings include bicycle parking, changing rooms and showers for cyclists.

Making a city bikeable is similar to making a city walkable. The set-up of the bike paths, however, needs to be separate from the pedestrian system, including:

- Dedicated bike lanes and paths,
- Bicycle icons,
- Special light signals for bicycles (six seconds before cars)

These all ensure safe biking and walking practices. If this is not possible, it is suggested that allowing bicycles on sidewalks is a better solution than not having any biking at all. Clearing biking paths needs to be made a priority for snow removal.

The cities of Kemi and Oulu, both in northern Finland, plow bike paths before roads, and Oulu commits to clearing bike paths by 6 a.m. after a snow fall. One architect in Oulu notes that reliable bike paths are key to encourage winter biking, but there are other things to consider.

- Protected areas to store bikes at destinations
- Places to change
- Reliable repair shops close to bike paths. Encouraging businesses to reward winter biking and making it truly the most effective way to get to the downtown core are also noted as tactics that may support winter bicycling

Key Lesson: Create safe winter cycling infrastructure and run campaigns to encourage winter cycling and increase awareness about cyclists in traffic. Encourage accessibility of public transit, walking and cycling in the winter. Encourage good and convenient bicycle parking facilities.

Opportunities to Sit, Stay, Stand and See

Winter climates can make it challenging to convince people to come out and participate in public activities and events, and even more challenging to convince them to stay outside. It’s important to encourage people to linger in public spaces to foster deeper connections with city life, and winter activities and events.

A strong four-season approach is used to provide aesthetic experiences as part of architecture and urban design of city spaces. Lively urban places:

- Provide protection against wind, rain and snow
- Maximize southern exposure
- Create good places to sit and rest
- Provide street furniture for standing and staying
- Landscape attractive areas

Both Oslo and Helsinki have worked to improve access and relationship between the city and the ocean, by improving the waterfront, creating soft edges and relocating vehicle traffic. There is an abundance of activities on the water edge including sailing, ice fishing, ice skating.

The city of Oslo has creatively attempted to sustain a winter public market by providing permanent structures for vendors. The structures were developed to resemble a small wooden sauna, and are heated, so that market vendors can remain outside over the course of a day.

Both Helsinki and Oslo have brought recreational and cultural life to eye-level view. Comfortable chairs and coffee cups provide reasons for longer stays in the city urban core areas; people gather where things are happening and more eyes on the street add to public safety. The key is to ensure city spaces both invite pedestrian traffic and offer spontaneous city life.

Both cities also focus attention on public spaces and major pedestrian boulevards. They provide seating, shelter, restrooms, accommodation for pets, and where appropriate, encourage vendors to set up sidewalk cafés to sell food and various sundries. Outdoor café seating and tables enliven the atmosphere, so visitors can rest, smoke, converse and observe the world. Moveable chairs and benches allow groups to arrange the seating as needed.

Key Lesson: Design cities to be comfortable in both the winter and summer months, and provide programming that draws citizens out and encourages them to stay.

Meeting

The act of meeting is important to develop a sense of community and allow for basic human activities: seeing, hearing and talking. Winter climates can lead to isolation if people stay indoors to avoid the weather. Winter cities need to work harder than others to create spaces and opportunities for people to meet. The University of Aalto, in Helsinki, notes that it is important to not only create buildings that work with the climate, but that events need to be programmed appropriately within existing indoor and outdoor spaces.

The urban design history of both Oslo and Helsinki has reinforced the need for city attractions to have clear lines of vision to support unrestricted views. They utilize a more focused approach to landscaping, fountains, trees, and the visual sighting of local retail shops to allow people more options to walk, stand or sit. Major city streets are interesting just to walk down in the evening and weekends due to the quality of their urban public spaces. The cities' images are enhanced by:

- Small spaces
- Interesting lighting fixtures
- Fine details in parks
- Opportunities to see other people.

A car-oriented city, with large city blocks and high noise levels, discourages people from seeing the details of city life. Successful winter cities tend to focus less on cars and more on trains and public transportation. Urban sprawl is also an issue, making public transit challenging, which in turn leads people to rely on their vehicles. In Helsinki, 72% of citizens take public transit to work. The key to this success is having frequent service so that it is easy and quick for citizens to use, even in the evenings and on the weekends.

Key Lesson: The relationship between the senses, communication and social field of vision is important for developing a city's quality of life.

Playing

Providing opportunities for wintertime sport and active recreation, especially those that occur outdoors, are key elements to building a culture around the winter time. The University of Aalto notes that cities are a great place to *play*; they need to be more than a dormitory or sleeping camp while people go to work and wait for summer. How do cities encourage this concept of *playing* in the wintertime?

Playgrounds, winter chess tournaments and sporting displays can work as recreational oases for children and adults. In Oslo, outdoor artificial turf fields are heated and kept clean of snow, so sports like soccer and lacrosse are played year round. The city also encourages spectators in winter sporting activities, because not everyone wants to participate actively in winter sports. Thus, sporting events need to be tailored to the spectators as well.

Recreational and social activities are included in large recreational parks and facility spaces. The quality and length of stay at outdoor activities is varied as is the quality of public spaces for functional activities, optional recreation and social activities. Oslo also does a good job of aligning indoor events with a winter theme.

All of the municipalities visited hold both indoor and outdoor winter events, parties, concerts, art shows, and cultural events throughout the winter season. Activities are enhanced with kiosks selling hot soup, hot drinks and warm meals to facilitate attitude changes through positive winter experiences.

Winter cities should encourage all types of winter culture; from sitting outside on blankets with coffee to winter walking groups through the woods. Tactics to build a winter culture include:

- being a tourist in your home town
- discovering your city's forgotten places
- emphasizing the fact that "winter" has several seasons - such as Rovaniemi's "eight seasons".

Initiatives like these can be used to build a strategy of play.

Key Lesson: Winter weather requires unique resources, activities and inventions. Mix up outdoor recreation settings and promote public health with more social activities and opportunities to simply see and hear other people; encourage winter playing in the city in winter.

Public Spaces

The second lens used in the Executive Research Study was that of "Spaces". Public space is the theater of everyday life and can be so year round. Successful city spaces are inviting and safe, with visual and aesthetic elements in squares, parks and urban districts. Specific inquiries under this lens included how climate is considered in urban design, transportation and infrastructure planning.

Generous, Magnetic and Transformative Spaces

The Norwegian architecture and design firm Snohetta believes that public spaces need to be generous, magnetic and transformative.

- Generous spaces create respect for the area
- Magnetic spaces draw people in
- Transformative spaces are free from rules and regulations, freeing people to be more creative. Snohetta suggests that risk management in public spaces impedes vibrancy and public engagement.

Public Space Policy

High density housing emerged as a theme for creating great spaces. The city of Oslo creates a sense of community by using in-fills to create high density housing, and encourages vibrancy even in winter with ground floor shops and services for residents.

Both Oslo and Helsinki have developed public space policies, where a great number of imaginative new designs have been applied across the neighbourhoods. The focus is moved away from traditional planning methods, to what small, more independent projects can do for a city neighbourhood. Tailor-made solutions on a place-by-place basis, which involve local design community and residents, have helped to build spaces ranging from small squares to large parks which function like oases (often converted from former industrial spaces). All different types of open spaces are highly appreciated. Snohetta does note that a careful balance between commercialization and space is required when creating public space policies, as an abundance of commercial space breeds mistrust amongst the populace.

Key Lesson: There is a need to make better use of winter spaces for outdoor events, parties, movies, sporting events and play. Look at establishing new squares that are generous, magnetic and transformative – and focus on people.

Buildings

“Buildings” was the third lens in this Executive Research Study. Every urban setting needs features that make it unique, a place like no other. Historical artifacts, landmarks, and artwork can help imprint distinct characteristics exclusive to that place. Physical structures that compose a city, their proportions, use of color, façade details and spatial quality, can influence peoples’ experience in a winter city.

Modern architecture both in Finland and Norway continues to set its roots in the northern landscape and stays true to tradition and history. Architecture is typified by Nordic minimalism and refinement. Yet, urban sprawl has also taken a toll on the built environment and the landscape of the Scandinavian countryside.

Creativity, Design and Change

While Helsinki is very much a Finnish city, with its distinctive Art Nouveau architecture and contemporary buildings, the influence of the Russian period of history (Byzantine- Russian Architectural heritage) is still easy to see. Statues and monuments still commemorate the tsars.

Helsinki also has a design district, where you can find locally designed modern furniture, distinctive one-off creations, and local designers such as Marimekko textiles and designs. Design Forum Finland hosts exhibitions by young local designers and arranges tourist design walks for tourists, bringing an authentic experience to city life. The latest architectural trends are represented by the Museum of Contemporary Art Kiasma and Sanomatalo in Helsinki city center.

The repurposing of the Cable Factory Hall (Merikaapelihalli) in Helsinki is a good example of public space with a wide variety of uses- offices, restaurants, museums, studios and galleries, as well as tiny band rehearsal rooms and two radio stations. Until the 1980's the Cable Factory was what the name implies, with an interior varying in shape and size.

In Oslo, the Opera House is breathtakingly modern with its distinctive glass walls, and marble and granite roof that slopes down to the water's edge. The stunning roof serves more than an aesthetic purpose – it's also a public place. People can walk up onto and across it and enjoy the panoramic view of Oslo. Parts of the roof are open to skateboarders and art adorns both the exterior and interior of the building.

The term *Nordic Classicism* has been used to describe some of world-famous Finish architect Alvar Aalto's work. Many of his buildings combined sleek lines with richly textured natural materials such as stone, teak, and rough-hewn logs. An architect with the City of Oulu, Finland notes that winter cities can return to the use of wood and other local building materials to develop more ecological buildings.

Blend Art with Architecture

Public art, particularly winter art, should be blended with the architecture of public spaces. Snohetta accomplishes this by having artists work as part of a team with architects and engineers to ensure creative and accommodating spaces.

Create Micro-climates

World class winter cities use urban design to make public spaces more comfortable in extreme weather. Leveraging sunlight (see page 16 for more details) and using slopes and structures to decrease wind can create micro-climates that encourage use of the space. Accumulated snow can also be put to use for insulating, blocking wind and creating spaces for people. The University of Aalto finds that these urban design tactics can actually raise the temperature of an environment.

The University of Aalto in Helsinki suggests a few ways to make buildings winter-friendly:

- Flat roofs, such as that on the Oslo Opera House, are more accommodating to winter conditions
- Use of solar panels to retain heat – the University notes that the Japanese have apparently developed technology that allows solar panels to continue working on cloudy days

Colour in Architecture

Nothing factors into architectural design as much as colour. A bolder use of paint colour is applied to architecture and allied design; shades of yellow, light orange and brown, ochre and white to architecture of varying shapes and sizes. The colour palette is striking in the winter landscape, bringing a warmth and depth to institutional, retail, business and residential environments. Colour schemes applied to the cityscape helps to turn the Finnish canvas of ice and snow into a warm, gold glow.

Use of Ice as Structure: IceBar Oslo

One of the best examples of a “winter building” is IceBar Oslo. The only permanent ice bar in Norway, IceBar Oslo is made entirely of ice: the walls, the furniture, the glasses and plates. Even the artwork is ice – and is an important part of the experience. IceBar Oslo is kept at -5 Celsius at all times and operates year round. Customers come and go in 45 minute intervals and are given designer thermal capes with hoods to keep

warm. The 75 tonnes of ice needed to build the bar comes from the Torne River in Lapland, Sweden. IceBar Oslo is actually most popular in the summer – likely as a place to cool down during Oslo’s warm summers.

Key Lesson: Create authenticity. Urban spaces need architectural or natural landform elements that distinguish them within the greater urban environment. Landmarks can range from simple to complex visually memorable icons that have local significance and meaning, or are simply fun or expressive forms.

City Branding and Marketing

The fourth lens used in this research was “Marketing”. The Taskforce wanted to know how, in addition to having engaging places, spaces and buildings, does a city effectively market itself as a destination that embraces winter? a place known locally, nationally and internationally as a ‘go-to-and-stay’ place in winter months, with events and activities that appeal to a wide range of people?

Become a Winter City

The more straightforward way to become a winter city is to call yourself a winter city. Oslo has named itself “The World Winter Capital”. This idea is simple, powerful and easily translated into many languages.

City administrators in Oslo believe that its success in becoming a world-class winter city is due to citizen engagement and support. It is important to get citizens involved in winter activities. In Oslo many people embrace winter sports and recreation, such as evening skiing, tobogganing and the world ski jump championships.

Helsinki, named the “White City of the North” has something to offer everyone. People spend time surrounded by stunning nature within the pulse of this vibrant city – because of the lakes and forests within the municipal boundaries. A city in the land of the midnight sun, Helsinki offers a variety of activities ranging from Christmas fairs to ski team viewings - no matter the season, no matter the amount of sunshine or moonlight.

Create a “Winter Brand”

World class winter cities take the concept of becoming a winter city further and create a winter brand. The brand can be incorporated into all marketing and communications materials. Good examples of this are found in Rovaniemi and Kemi, both in Finland.

Reindeer are abundant in Rovaniemi. So the city has created a winter brand around the concept of Christmas Reindeer and then extended it to include Santa Claus.

- Reindeer are embedded in the city logo
- Rovaneimi is known as the ‘hometown of Santa Clause’
- Tourist attractions include a Santa village complete with elves and a reindeer farm

Kemi has also branded itself around the theme of winter (albeit much differently than Rovaniemi). Kemi is known as the “City of Snow and Sea” and have tied both themes into travel attractions. A Snow Hotel represents the snow aspect of the city and an old ice breaker represents the sea aspect.

Leverage Existing Winter Events

Winter events don't have to be unique to a particular winter city. Cities can leverage holidays, including Christmas, Hanukkah, Chinese New Year and more to extend the season to as much as 3 or 4 months.

In Oslo, marketers leverage winter sports like skiing and skating. But they also make non-seasonal events work in winter by bringing them outside; transforming a song contest for example, into an outdoor event on a ski hill. Marketers there like to have one festival or event overlap with the next, creating a seamless holistic winter celebration.

Leverage the Resources of the Entire Region

Oslo also suggests using an entire city and surrounding area to embrace a winter brand. Start the experience for tourists at the airport – this is people's first point of entry to your city. Build from there, dressing the city in consistent winter banners and murals. Offer an 'all-city' attractions pass to museums, facilities and galleries – any places where tourists might want to visit. Include transit as a free part of the pass and you are well on your way to being thought of as a 'one-stop shop' winter city.

Marketers in Oslo also suggest engaging in cooperative destination marketing with surrounding municipalities to encourage visiting a certain area. This can be compounded with cheap direct flights.

Change Attitudes

One final recommendation made by both the City of Oslo and the University of Aalto is to use marketing and communications tools to shape people's attitudes about winter. From year to year, people forget how to deal with winter. Marketing winter events and making people proud of their winter city identity helps remind people that winter can be fun.

Changing attitudes, it was noted, needs to begin in the school years at an early age. The example of cross-country skiing was given by Oslo officials as a method to foster a deep appreciation for winter; learning how to cross-country ski is viewed as an essential component to life in Norway, similar to the view on swimming lessons in Canada. Resources to foster development of cross-country skiing have been implemented, such as hiring bus drivers to pick children up from school and take them to after-school ski programs.

The idea of exercise is also a fundamental key to appreciating winter in these countries; over half of Oslo's population has a recreation facility membership. That compares to just 4% in Edmonton. Coupled with the above notion of appreciating winter sports such as cross-country skiing, exercise creates a sense of appreciation of movement and health in the long winter months.

Creative Use of Light

Winter cities can use light, especially fire, to create luminescence and warmth during long winter days. Under the fifth research lens of "Light", the Taskforce noted creative use of light during winter months as a consistent finding in all municipalities visited.

Candles, Lanterns and Fire

The use of flames, particularly in Norway, really struck the members of the Executive Research Study. Lantern flames were glowing outside nearly every public establishment visited. It's a cost effective way to increase light and warmth during the cold winter months, and also a strategic marketing tactic; flame tends to draw people in, signifying a place of warmth and gathering.

- In Oulu, flames burned in ice fire places
- Flame was found embedded in snow or ice mounds
- Restaurant lanterns were often placed outside in the snow
- In Kemi, fire dancers are incorporated into the city's winter programming
- Candles are frequently used, both indoors and outdoors

The contrast between snow, ice and fire is a striking; juxtaposing these two elements creates wonder and intrigue.

Christmas lights in trees, windows and on houses are also used to help decrease the solemnity of long winter nights. Another suggestion is having people to bring flashlights to winter public events at night. The effect is wonderful and creates a sense of cohesiveness.

Light in Architecture

Illumination was key architectural element in the Scandinavian cities visited by the Taskforce. It was used day and night to highlight appealing elements. Snohetta notes that "light changes the objective and its relationship to the horizon" and that a city's architecture at night can be better defined by how you use light. The firm suggests

- Choosing southern exposures to capitalize on sunlight
- Using a good deal of glass, to increase light and access to Vitamin D, and to decrease static electricity

An architect in Oulu noted that it is important to understand the type of light you have, and leverage it. For example, Finland's sunlight is indirect, which is conducive to romantic architecture. Conversely, Canada's sunlight is direct, which lends itself to sculptural architecture. In Oslo, the shadows buildings will produce at various times in the year are taken into consideration during the design phase.

Staff at The University of Aalto believe light is more than a basic need for sight and safety. Light provides an opportunity to make spaces more creative. They note that architecture should stick to a light color scheme to avoid coming across as too somber in winter, and to better reflect what little light there is. However, architects in Oulu feel differently, suggesting that people need colour in dark climates and that darker colours soak up solar heat and are warmer to sit by.

Helsinki also uses creative lighting schemes, lighting trails from the ground up to create a more majestic feel than the traditional sky-down approach, using buildings as a palette for imaginative lighting, and incorporating music to contrast lighting effects on its walking trails and ski hills.

Creative Use of Snow

The final research lens used was “Snow”; another natural resource that can be leveraged in the winter.

Snow and Ice: An Underestimated Resource

Municipalities can position an abundance of snow as strength instead of an annoyance or irritant. It can be used as a building material by children and families as easily as by professional carvers and artists. Cities can use snow to add to winter play and recreation experiences; providing snow rides, snow molds, and carving tools to contribute to the winter experience along pedestrian streets and alley ways.

Snow can also be used to create beautiful and striking temporary public monuments or highly sophisticated art. Kemi creates sculptures and art made from special “snow cannons,” so that quality and lack of abundance in drier years do not affect the ability to create art with snow. Snow and ice, particularly icicles, can be used as decorations. As mentioned in the previous section on fire, ice can be used to build fireplaces creating a magical atmosphere for spectators at any type of event.

Snow in Architecture

The University of Aalto recommends using plowed snow to build structures that reduce wind. Imagine snow walls in Churchill Square, blocking wind and making the square more comfortable and inviting – while providing an additional place to store snow at the same time.

Researchers at the University of Oulu have studied the use of snow in architecture and the University considers itself to be a specialist in designing snow structures. It notes that snow has very particular behaviours and strength properties, and considerable work with computer models has been done to determine how specific snow structures and designs behave over time.

Snow Castles, Ice Hotels and Icebars

The cities of Kemi and Rovaniemi both use snow and ice castle themes to create vibrant and interesting attractions which appeal to locals as well as tourists.

The Kemi SnowCastle, an ice hotel and ice bar, is made from artificial snow as natural snow is too soft. The hotel is re-built with a new theme every year, and when the snow begins to melt at the end of the season, the construction company disposes of it. The lack of direct sunlight on SnowCastle extends its life, holding the melting point until late in the season. Temperatures between -3 and -5 degrees (naturally maintained by the snow’s insulation) make the climate suitable for sleeping, dining, and other social activities. When the weather is cold and clear there is a fair chance of seeing the northern lights, which is also a part of the SnowCastle experience.

Icebar Oslo is one in an international chain of ICEBARS run by ICEHOTEL Art and Design Group. ADG’s work began with an igloo that hosted an art exhibit. ICEHOTEL is responsible for the ICEBAR Stockholm, Oslo, Copenhagen, Istanbul, Tokyo and London. As international attractions, ICEBARS attract tourists and advertising deals with famous name brands such as Absolut, Hermes, Versace, Saab and Mont Blanc. These promote both the ICEBAR itself and the cities in general.

Snow Therapy

The concept of snow therapy is slowly emerging as part of winter culture. The idea is that snow is a readily available and cost-effective resource which can be used therapeutically with vulnerable populations. It provides a source of connection, accomplishment and creativity. It is also a great opportunity to build affinity

to local culture among multi-cultural groups. Using snow as therapy allows the free use of imagination and the expression of culture, self and art.

The founders of “Snowhow Oy” note that the key in using snow as a therapy tool is for participants to build something with snow, such as an obstacle course. The building process itself, more than the end product, is critical to the therapy. It fosters a sense of collaboration and achievement. Even those who don’t want to go outside can be involved, by providing input into the snow structure design and development stages.

Snow Removal

All municipalities the Taskforce visited note that snow removal is a complex issue with no easy answer, and seem to have relaxed attitudes about the matter. Oslo and Helsinki both struggle to maintain service levels in a cost effective manner. As in Edmonton, city administrators in Helsinki deal with the challenge of maintaining equipment for particularly heavy snowfall years, stating “We can’t do it - we can’t have snow equipment for the heavy snowfalls once every 20 years.”

The City of Oslo acknowledges that planning for snow removal must happen as early as the road design phase; roads need to be designed to have somewhere for the snow to go without affecting traffic flow. One of the most effective ways to plan for this is to include boulevards between roadways and sidewalks. Helsinki is fortunate in that it has seaside access to dump snow.

Both Oslo and Helsinki note that parking legislation is a key to effective snow removal. Oslo creates substantial parking under buildings and roads and bans street parking during heavy snowfalls. Helsinki has taken a different approach, by only banning parking in some downtown areas and opening up public spaces, such as large squares, for temporary parking during snow falls.

Recommendations

Although the Scandinavian Peninsula enjoys a manageable winter climate with less harsh conditions than in Edmonton, there are numerous findings and key learnings to be transferred back to Edmonton city administration.

All of the winter cities visited during the Executive Research Study work with the cold climate, the natural landscape and temperament of their people to build liveable cities. The pulsing city lights, pedestrian friendly roadways, ice and snow collaborations and residents enjoying the good things in life all work to create an inviting, fun atmosphere, despite the isolation of northern latitudes and long periods of winter darkness. Scandinavian Peninsula cities work with local design communities to creatively use ice, snow, architecture and local design element. In doing so, these places have become world-renowned as winter city builders and designers.

The following are key WinterCity elements, derived from the findings presented in this report. Edmonton's WinterCity Strategy should incorporate these elements into future city planning and development, as well as using them as guidelines for creating new public spaces, initiatives and events.

Embrace Winter

It's a highly contagious idea. Winter cities market their winter events and make their citizens proud of their winter city identity. Winter cities listen, observe and try to understand their citizens; they create a buzz that builds connections both locally and beyond. A social marketing campaign can help to change citizen's attitudes around winter and wintertime culture. City residents are the best ambassadors for a winter city.

Authenticity

The best winter cities are unique - places like no other. They embrace the different seasons of winter – from the first snow fall which quickly melts to the cool, crisp days following - lovely days to sit at an outdoor café, warmed by heaters and blankets. The holiday season is next; streets fill up with markets and a festive feeling. Then the deep winter, when temperatures can plunge and days are short but often brilliantly sunny, inviting people to come outside and ski, skate, snowshoe or walk – and soak up the sun while it shines. This particular winter season is known as 'Frosty Winter' in Rovaniemi, Norway. And into March and April, winter changes again. The days are longer and often warmer, though winter reminds people it's not quite gone, with windy days and occasional snow storms. The key is to ensure city spaces are built to both invite pedestrian traffic and offer spontaneous city life during these different seasons of winter.

Winter Culture

The best winter cities offer lively and social winter life – which is supported by neighbourhood groups, city districts and/or city administrations. People can watch or join in a variety of activities: using snow blocks for play, joining a winter walk program, watching human curling or a competitive snowball event, or taking in a local music festival held outdoors. Heated outdoor sports fields extend seasonal play for soccer and other games. Successful winter cities experiment with new ideas, new combinations and partners.

Accessibility

Ideally, everybody should have equal opportunity to enjoy the city and have daily access to work, shopping and recreation. Pedestrians, bicyclists and strollers need priority status in a winter city. Successful winter cities tend to focus less on cars and more on clearing bike paths, walking paths, and public transportation routes.

Maintenance

Feeling that you can get around safely is crucial for people living in a winter city. Winter cities need careful and repeated maintenance to keep them safe, clean and attractive. Pavement, furnishings, landscapes and urban spaces needs to be available for extended winter time use.

City Spaces

Public Space is the theater of everyday life. The winter season has many good weather days that can support an active street life. People-oriented public and private spaces need to offer places to sit and talk, run, play, listen to music, buy food and to enjoy winter's warmer moments. Outdoor public spaces should be flexible enough to allow for a broad variety of activities, and to handle a variety of winter weather.

Nature

Winter cities offer a rugged landscape in the middle of their cities. The green canopy, water's edge, interactive ice and snow elements and connections to wilderness areas all help to create a visual and tactile complexity when combined with the changing seasons. Nature has profound psychological and therapeutic benefits; our winter landscape can offer something for everyone.

Public Performance

Attending public performances is educational, restorative and pleasurable. All the winter cities visited by the Taskforce have regularly scheduled sporting, arts, festivals, and cultural events, aimed at attracting both local and international attention. Partnerships are often formed, for example between the organizations hosting these events, the city and the airport, to ensure the themes of "winter, snow and ice culture" are embraced and promoted.

Creative Lighting Schemes and Art

Visual quality is important in a winter city. Night walks with music and contrasting lighting effects are both creative, and inviting to a wide variety of people. International light-designers can be invited use different lighting strategies to celebrate the darkness and put a new glow on the city. Lighting up buildings and trails with lowlights, from the ground up, helps create a more majestic feel than the traditional sky-down lighting approach. Art works in urban areas, parks and public buildings add to winter joy and wonder.

Landmarks

Winter cities need experiences that are memorable, inspiring and even thrilling to both local residents and visitors. Popular landmarks, local architecture and natural landforms can offer good experiences and act as memorable icons for a winter city. Landmarks that have local significance or ice forms that are fun or expressive both provide a valuable experience on their own merits. Winter city life is tied into the quality and quantity of local landmarks and their inherent experiences.

Inviting Public Spaces

Public spaces should help us relax, providing physical comfort and convenience even in the winter time. Winter cities offer generous, magnetic and transformative public spaces and major pedestrian boulevards. They provide seating, shelter, restrooms, and where appropriate, encourage vendors to set up sidewalk cafés.

Snow and Ice

While every city is different, snow and ice can be utilized for artistic expression, culture building, recreation and play. However significant snow structures can play a very important economic role in addition, through adding more dimension and social life to a winter city. Successful cities view snow and ice as a strategic resource.

Summary

Winter plays a large role in the lives of Edmontonians. Many of us already embrace the community festival spirit through the winter months, taking part in the wide variety of winter activities in our city. These range from sport and recreation opportunities, to festivals and other events, giving Edmontonians many opportunities to get out and enjoy themselves during winter months. This provides Edmonton with a strong foundation from which to develop a WinterCity Strategy.

The challenge ahead is to build on these existing strengths and draw on best lessons from other winter cities. To do so involves both grassroots and overarching strategic initiatives: from teaching school kids winter skills such as skating and skiing so they develop a positive attitude towards winter, to branding and marketing Edmonton as a “Winter City destination”. We can become a city that is even more welcoming and fun to be in year round. Our success as a winter city will make Edmonton even more livable - a city people fall in love with, one where they want to come and play, and stay.

Appendix A: List of Contacts

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Appendix B: Inventory of Winter Programs, Events and Services in Edmonton

Winter Festivals and Events

Winter Light: This celebration of winter in Edmonton runs from January to March. Winter Light activities include:

Deep Freeze Festival: Alberta Avenue comes alive with skating, curling, snow carving, street hockey, an outdoor mummers' play – and inside find great food, music and an arts market.

Ice on White Festival: The world's best ice carvers gather to sculpt frozen wonders in an ice carving competition on the streets of Edmonton's Old Strathcona. Edmontonians can try their hand at ice sculpting as well in workshops, or just enjoy the sights and entertainment/

Silver Skate Festival and Winter Celebration: Edmonton's longest running winter festival - an extravaganza of art, culture, recreation and sports programming.

Family Day: Activities at Churchill Square and City Hall including sleigh rides, skating, entertainment and great food.

Other Winter Light events:

Flashpoint

Illuminations

Common Ground

Mel Melt Down

Mill Mill Creek Adventure Walk

Star Star Party

Churchill Square: The heart of downtown comes alive with numerous events and celebrations during the winter months, including Light Up the Square-November, and New Years Eve.

Outdoor Activities

Edmonton's River Valley is the largest expanse of urban parkland in North America and is open and accessible all year long. From rugged river banks to wide open spaces, forests and walking trails, the 48-kilometre long River Valley Park stretch of the North Saskatchewan River has over 20 major parks and attractions.

Skating: Outdoor at city parks and community leagues, indoor at arenas.

Cross Country Skiing: 50 km of trails are maintained in the River Valley.

Walking, Running, Cycling: More than 37 km of trails are cleared of snow in the River Valley.

Skiing (Down Hill): Edmonton Ski Club, Snow Valley ski hill, Rabbit Hill ski hill, Sunridge ski hill

Tobogganing: The City maintains several toboggan hills with safe run-outs and reduced hazards.

Snow shoeing: opportunities abound in the river valley, as well as Edmonton's many parks.

Bird Watching The Edmonton Nature Club has monthly events and meetings for both the avid and armature birdwatcher.

Edmonton Attractions

Fort Edmonton Park: Celebrate an old fashioned Christmas, go moonlight shoe showing –just a few unique experiences during the winter months at Fort Edmonton Park.

Edmonton Zoo: activities and displays open throughout the winter months

John Janzen Nature Centre: Trail hikes and bird watching, just two ways the Centre showcases winter in Edmonton.

Children’s Day Camps: Days off school mean camps – where children can strap on snowshoes, or make an ice treat for a zoo resident – many of the city’s attractions offer day camps.

Living Local: Winter in Your Neighborhood

Edmonton is home to over 156 Community Leagues. Many have outdoor skating rinks, free to members. Neighbourhood parks have playgrounds and many have a small sliding hill for little ones. Sidewalks and main paths are cleared for a safe and enjoyable outdoor experience close to home.

Snow Shacks: A free neighbourhood drop-in program for 6-12 year olds offered by the City of Edmonton in partnership with community leagues at various playgrounds across the city. Outdoor activities include crafts, games, sports, and drama. Dress for the weather and be ready for winter fun.

City of Edmonton Services:

Snow Angels: The City of Edmonton encourages and recognizes citizens that lend a hand in clearing snow to neighbours, particularly seniors.

Community Sand Boxes: Free sand available at community leagues, to sprinkle on icy sidewalks.

Snow Removal: Edmonton’s Transportation Department has a priority system to keep traffic flowing smoothly when it snows: Sidewalks are also cleared on City Facilities and adjacent to Parks and City owned land.

Snow Concerns: Residents can call 311, the City of Edmonton’s service number, to report concerns and get information around snow removal.

Locations for Winter Outdoor Activities

Park	Cross Country Skiing Groomed Trails	Skating	Tobogganing	Snowshoeing	Bird Watching	Walking Trails
Argyll Park at Mill Creek 69 Avenue and 88 Street Mill Creek at Bonnie Doon	X			X		
Capilano 109 Ave and 50 St	X					X
Castle Downs 153 Ave and 115 th Street		X		X		X
City Hall Sir Winston Churchill Square		X				X
Emily Murphy Park Emily Murphy Park Road and Groat Road			X	X		
Gold Bar 109 Ave and 50 St	X			X		X
Goldstick Park 42 St and 101 Ave	X			X		X
Government House Park Groat Road and River Valley Road			X			X
Jackie Parker Park 50 St and 44 Ave		X	X			X
John Janzen Nature Centre White Mud Drive and Keillor Road				X	X	X
Kinsmen 91 Ave. and 108 St.	X			X		X
Millwoods Campus Park 66 St and 23 Ave		X		X		X
Riverside Golf Course Rowland Rd and 84 St	x			X		X
Rundle Park 113 Ave and 29 Street		X	X	X		
Snow Valley one block south of Whitemud on 119 St	x					X

Park	Cross Country Skiing Groomed Trails	Skating	Tobogganing	Snowshoeing	Bird Watching	Walking Trails
Terwillegar Rabbit Hill Rd West	x					X
Twin Brooks Natural Area 119 St and 16 Ave	x			X		X
Victoria 116 St and River Valley Rd	x	x		X		
Whitemud Park North Keillor Rd. and Fox Drive			X	X		
William Hawrelak 9330 Groat Rd	x			X	X	X