



**LOCAL BEST PRACTICES REVIEW**  
**DRAFT SUB-REPORT TO THE ENVIROMENT**  
**BACKGROUND**

November 2011





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## **INTRODUCTION**

The purpose of this summary is to present a broad review of local environmental sustainability activities within the Capital region. The municipalities included in this review are Parkland County, Stony Plain, Spruce Grove, Sturgeon County, St. Albert, Fort Saskatchewan, Strathcona County, Leduc County, the City of Edmonton and the City of Airdrie.

Data collected for this summary was obtained from the various planning documents within each of the municipalities and supplemented by information available on their websites, through media releases and via personal communication with Administrative representatives of the municipalities referenced. The primary source of data regarding environmental management came from documents such as Municipal Development Plans (MDP). Not every community had documents or policies that identify environmental management specifically, like an Environmental Sustainability Framework, but all had either taken action or developed policy that address environmental management in their community. Some communities have put significant efforts into environmental sustainability planning and can be used as a model for others e.g. the City of Edmonton's 2009 *EcoVision* Report and their current project, *The Way We Green*.

The following review is organized to reflect the Environment Backgrounder Report, which examined seven key topics of environmental sustainability that are of importance to the City of Leduc and its residents. These topics include:

- Waste Management
- Water and Wastewater Stewardship
- Energy Use
- Greenhouse Gas Emissions
- Land Use
- Air Quality
- Noise Pollution and Light Efficiency

The only deviation to this is a subsection in the Land Use component on transportation initiatives, because there was a high level of transportation-specific activity occurring in the region.

## **WASTE MANAGEMENT**

Waste management has come a long way in recent years and include many aspects of environmental management and responsibility. There are many advanced systems being developed for effective waste management in the region.

Spruce Grove, Stony Plain and Strathcona County have all developed waste management programs that include an organics collection program in addition to the collection of solid waste and dry recyclables from residents' homes. Strathcona County implemented curbside collection of organics and recycling in the "Green Routine" initiative, which was implemented in 2008. There have been discussions in the past

considering the creation of a regional compost facility in order to centralize the efforts of these neighbouring communities. Similarly in Airdrie, due to its proximity to the City of Calgary and other, smaller communities, there has been talk of strengthening regional partnerships, yet no concrete measures have been taken.

Should Leduc go forth with implementing a curbside collection of organic waste, there would be great potential for increasing the seven percent share that is currently being diverted with the yard program. In 2009, for example, Spruce Grove diverted 2,094 metric tonnes of organic waste, which includes the tonnage collected from its seasonal curbside program and its year round Eco-Centre drop off program. This results in a diversion rate of approximately 40%, compared to Leduc's Leduc's diversion rate of 20% (2009 data).

Another fruitful and relatively long-established initiative has been St. Albert's Pay-as-you-Throw (PAYT) program, which provides incentives for residents to initiate a reduction in their own waste by taking advantage of other city programs. The primary incentive is one that seems to matter the most to a majority of people: cost. The program allows residents to choose between three levels of waste collection by providing tags for garbage. The program increases in cost as the number of bags requested increases from \$2.20 - \$8.80 on top of the regular flat rate. St. Albert was the first municipality in Canada to pursue this type of program. St. Albert residents represent a lower annual rate per capita of residential waste than the provincial average (195 kg versus 288 kg), which has been attributed to the success of the PAYT program.<sup>1</sup> Since 1996, the year that the program was introduced, there has been a documented 25% decrease in waste generation.<sup>2</sup> In building upon previous targets and the success of the PAYT program, St. Albert hopes to further reduce residential waste generation to 125 kg/capita by the year 2020, as outlined in the Environmental Master Plan. While the success of this program is noted, St. Albert will be initiating an automated curbside collection program for both organics and regular waste similar to that of Strathcona County's in June of 2011. One difference is that they allow residents to choose a smaller organics cart if storage is a concern, and the cart size chosen does not change the cost to homeowners.

In Airdrie, residents have a two-unit weekly garbage limit to which they must adhere that employs a tag system similar to St. Albert's current approach. Additional tags are available for purchase (\$2 per unit), up to a 5-unit limit.<sup>3</sup> Furthermore, Airdrie provides yard composters at a discount to its citizens, similar to Strathcona County and others. The City is clear in their recognition that food and organic wastes often represent one half of the average household's waste and their website provides information to residents about the benefits of yard composting.

Leduc County championed a Blue Bag program that came about in 2007 that accepts blue bags at the regional landfill and transfer stations. Given that it is less convenient than a curbside program, diversion

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<sup>1</sup> Solid Waste Management System Review, April 2009

<sup>2</sup> Solid Waste Management System Review, April 2009

<sup>3</sup> City of Airdrie Website, [http://www.airdrie.ca/recycling\\_waste/res\\_garbage\\_collection.cfm](http://www.airdrie.ca/recycling_waste/res_garbage_collection.cfm)

rates are not as high as municipalities that provide that service. The City of Fort Saskatchewan operates a curbside garbage and blue bag recycling program, with blue bags provided to residents through a sponsorship by Shell that extends to 2011.

Airdrie operates two recycling depots. Their second, smaller facility opened in April 2010 and it saw a total of 252,840 kg of recycling processed between April and December 2010. According to town officials, current recycling levels are on par with many other curbside collection programs, so there is currently no plans to alter their recycling depot system.

The City of Airdrie has identified some general goals relevant to waste management which they would like to pursue in the Municipal Development Plan. One of the tenets of the town's "triple bottom-line" is that of environmental responsibility. There is mention that in the future, the goal is to produce zero waste. Airdrie is currently at the research and exploration phase of determining what kinds of alternative waste management and disposal options are available. In 2009, the town commissioned an Integrated Solid Waste Management Strategy Development which outlined additional diversion opportunities that could potentially increase the current diversion rate (24%) by another 12-40%.<sup>4</sup> Airdrie has also indicated a willingness to actively pursue partnerships with surrounding communities. In comparison, the City does well in terms of waste per capita, at 198 kg/person in 2009 compared to 289 kg/person province-wide.<sup>5</sup>

## **WATER AND WASTEWATER**

Municipalities are recognizing the importance of reducing the use of potable water. St. Albert has committed to achieving a water consumption goal of 200 L per person by the year 2020<sup>6</sup>. In the summer months, watering the lawn can count for up to 40% of a household's water usage<sup>7</sup>, which identifies an easy area to make dramatic water use reductions. The City of Airdrie is currently implementing a Community Water Wise Program, which aims to increase water quality and to reduce water usage by 10% or more over 2010 levels.

One of the most common mitigation efforts has been the rain barrel program, which provides rain barrels to residents either free or at a reduced cost. Spruce Grove, St. Albert, Strathcona County and Airdrie have all implemented a version of that program to varying levels of success. The benefits of the program are that it is simple to do and provides a direct benefit to homeowners through a reduction in their monthly water bill. St. Albert and Strathcona County purchase theirs in bulk and offer them to citizens at a discount for \$50 (St. Albert) and \$45 (Strathcona County). In Spruce Grove, barrels are sold

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<sup>4</sup> enVision Airdrie ICSP, Gap Analysis and Recommendations, February 24, 2010, page 34

<sup>5</sup> Airdrie Municipal Development Plan, July 20<sup>th</sup>, 2009

<sup>6</sup> St. Albert Environmental Master Plan, January 29, 2009

<sup>7</sup> [http://www.strathcona.ab.ca/departments/Utilities/Water/Water\\_conservation/Outdoor\\_water\\_saving\\_tips/save-your-rain-for-a-sunny-day.aspx](http://www.strathcona.ab.ca/departments/Utilities/Water/Water_conservation/Outdoor_water_saving_tips/save-your-rain-for-a-sunny-day.aspx)

at cost, at \$65. Other municipalities simply offer their residents a rebate for purchase. The City of Edmonton has an informative page that summarizes potential savings available to the average homeowner by using a rain barrel. They identify that a household with roughly 100m<sup>2</sup> of roof surface could save approximately \$100 on their water bill over the course of the summer months.<sup>8</sup> Furthermore, this same household would reduce its own greenhouse gas emissions by 67kg per year. The City of Leduc also undertook a subsidized rain barrel program in 2010.

On the consumer side of things, other straightforward measures include rebate programs for the cost of retrofitting homes by replacing water fixtures in the house and toilets, similar to the Climate Change Central rebates offered by the City of Leduc now. Spruce Grove offers \$75 when a resident replaces his or her dual flush toilet and \$50 for a low flow model. The City of Airdrie has put up \$50 for residents when they replace their toilet with a 6L flush, and \$100 for a dual 3L/6L flush, in the form of a credit on their utility bills. Strathcona County also provides similar rebates. These programs are all undertaken through the Climate Change Central program.

The City of Fort Saskatchewan has set itself a target of reducing per capita water consumption by 25% in the future.<sup>9</sup> A particular focus for Fort Saskatchewan has been public education about water. Since the water is supplied through a regional initiative, residents have less knowledge about how the water system works. This disconnect is being remedied through public information aimed at fostering increased public stewardship. Moreover, Fort Saskatchewan has brought in regulations governing the specific days on which homeowners may water the grass. It consists of an even and odd day system, whereby one is only permitted to do so on alternating days.

Similarly to the case of recycling solid waste, the City of Edmonton has many clever initiatives for reducing wastewater. The Gold Bar Wastewater Treatment Plant can supply up to 5 million litres a day of high-quality process water to industry by processing municipal wastewater that has already been pulled from the river and used in households. Consequently, 2, 650, 000 m<sup>3</sup> of water has been supplied through this secondary processing since October 2005.<sup>10</sup> The Gold Bar Wastewater Treatment Plant uses biological nutrient removal (BNR) to harness the natural properties of wastewater to remove phosphorus and ammonia-nitrogen from wastewater. Edmonton was also the first Canadian city of its size to use UV treatment as a part of its process.

On the subject of stormwater management, there is a growing trend towards embracing the principles of Low Impact Development (LID), which includes the use of rain gardens, bioswales, and wetlands as a part of the stormwater system. In their most current planning documents, the City of Fort Saskatchewan has stated that it will review development regulations to promote the use of low impact development techniques for stormwater.<sup>11</sup> One of the techniques most often employed has been the retention of

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<sup>8</sup> <http://www.edmonton.ca/environmental/programs/rain-barrel-water-collection-calculations.aspx>

<sup>9</sup> Fort Saskatchewan Community Sustainability Plan, December 8, 2009, pg. 51

<sup>10</sup> GE Water and Process Technologies: Case Study (saved in Sharon's folder)

[http://www.gewater.com/pdf/Case%20Studies\\_Cust/Americas/English/CS1265EN\\_0607.pdf](http://www.gewater.com/pdf/Case%20Studies_Cust/Americas/English/CS1265EN_0607.pdf)

<sup>11</sup> Fort Saskatchewan Municipal Development Plan, September 14, 2010, pg.42

stormwater in various types of ponds, and all the municipalities adhere to this principle. Fort Saskatchewan and Parkland County have been enhancing existing wetlands to filter the water before it rejoins the water source. Spruce Grove has a comprehensive storm water management program, which incorporates a number of green infrastructure best practices. The City of Edmonton has also initiated several studies related to water re-use and implementation of LID principles. There are also two residential neighbourhoods currently being developed in the Big Lake area of northwest Edmonton, which is an environmentally significant watershed that employs LID systems. Strathcona County also encourages new developments to employ LID techniques and has made strides to retain wetlands and/or use wetlands as a part of the stormwater management system in new developments.

## **ENERGY USE**

Municipalities have an opportunity to reduce their own energy usage as a corporation by retrofitting and designing new buildings to a green standard. They also have a role to play in encouraging households to adopt similar practices. Not all municipalities in the surrounding region have embraced energy reduction to the same extent.

One method to reduce energy consumption is to replace street lighting and traffic signals to high efficiency Light Emitting Diode (LED) lights, which consume less power than traditional lights in use throughout much of Canada. Spruce Grove and Leduc have already retrofitted all of their traffic and pedestrian crossing lights. Stony Plain is presently investigating the possibility of following suit. Both have been working with energy providers to gain a better understanding of the available options for street lighting. Spruce Grove makes heavy use of LED lights in its Christmas lighting, and Stony Plain is planning to do so for its decorative lighting. The City of Edmonton has also replaced its downtown Christmas lights with LEDs. Strathcona County has gone forward and replaced 800 traffic lights with LED. In the City of St. Albert, LED lighting is being implemented in certain traffic signals and environmentally friendly buildings. Likewise, Fort Saskatchewan has set itself the goal of exchanging traffic lights and is now in the planning phase for this goal.

Cities and towns may also choose to address the source of energy that they use at present. Although a long-term project, the City of Fort Saskatchewan is exploring the possibility of geothermal technology for existing and new buildings. Municipalities also may choose the source of their energy and some have opted for a portion or demand to be filled by green energy sources. For example, Stony Plain purchases 20% of its energy needs from a service provider that supplies “green energy.” They are also looking into possibly increasing that percentage. Strathcona County has developed an onsite community energy facility for their Centre in the Park initiative, which also includes the construction of a number of high efficiency civic buildings.

Conservation and efficiency are crucial areas in which municipalities may act. The City of Edmonton plans to shortly undertake the creation of an action plan, detailing how it could reduce its energy needs

through conservation and efficiency. A second component of the plan would address the lifestyle changes needed in a more energy-constrained future. In addition, as of 2006, all new City of Edmonton buildings and major renovations must meet the Leadership in Energy and Environmental Design (LEED) Silver standard; the City will achieve 30 percent or greater energy efficiency than the Model National Energy Code for Buildings in design and construction of new buildings.<sup>12</sup> In terms of presently owned and operated facilities, the City maintains high energy efficiency standards and this applies to buildings that are leased as well. On the other hand, Fort Saskatchewan utilizes best practices for energy conservation in the design of new facilities constructed by the city, and does not subscribe to any specific, overarching framework for this purpose. Strathcona County is investigating what would be needed for an energy audit, including determining costs and required resources, and has developed a Green Building Policy for municipal facilities.

Stony Plain has created a Municipal Green Building policy, using LEED certified standards when building new buildings or retrofitting old buildings. Upgrades to the Centennial Arena will utilize more efficient heating systems and lighting upgrades. In 2003, the Town built a new Town Office, which utilizes a number of energy efficient practices. They have also discussed upgrades to the golf course building, and the main public works building. In 2009, Stony Plain retrofitted their Community Centre with five new furnaces, lighting upgrades, and washroom low flow plumbing fixtures including toilets, urinals, sinks, partitions, and vanities. A new Fire Hall was built in 2006 and also implemented energy efficient strategies.

Municipalities also drive sustainability initiatives by focusing on public education and reaching out to residents with rebate programs. In 2008, the Stony Plain and Edmonton participated in a One Change: Project Porchlight Campaign, whereby every household in the community was given a compact fluorescent light bulb and information regarding household energy consumption. Since most homeowners rarely carry out an energy audit on their own, this can be a useful tool to generate some extra consideration from citizens for their own power usage. Spruce Grove has a clothes washer rebate program which allots up to \$200 from both the city and the province to switch to high efficiency machines.

In terms of outlining goals related to energy consumption, the City of Airdrie has been fairly specific in delineating its intentions for future reductions. The town is using 2010 as a baseline, and identifying 2020 to reduce a 20% per capita reduction in energy demand. They are also in the process of synthesizing a comprehensive set of data related to energy usage. Airdrie also desires the use of renewable energy sources in the future, like a 20% target for the energy used to heat buildings and 10% for the transportation system.<sup>13</sup> The City is also looking at the feasibility of a pilot project in district heating, which would distribute heat amongst several buildings from some sort of centrally located facility.

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<sup>12</sup> EcoVision Booklet, pg. 9

<sup>13</sup> enVision Airdrie ICSP, Gap Analysis and Recommendations, February 24, 2010

## **GREENHOUSE GAS EMISSIONS**

The issue of energy use is mostly intertwined with the need to reduce greenhouse gas (GHG) emissions. This is because the source of our energy makes a significant difference in the greenhouse gases being emitted by any particular community.

The Partners for Climate Protection (PCP) is a program offered through the Federation of Canadian Municipalities (FCM) and is an internationally based process committed to reducing greenhouse gases and acting on climate change. The City of St. Albert, Spruce Grove and Edmonton are members of the PCP program and have oriented their greenhouse gas goals with the PCP objectives. These objectives include creating a greenhouse gas emissions inventory and forecast, setting targets for emission reductions, developing and implementing a community and corporate wide greenhouse gas emissions reduction plan, and monitoring progress and reporting results.

There are two municipalities in the region that have committed to hard targets for achieving this broader vision. Spruce Grove committed itself to reducing emissions to 20% below 1996 levels by 2013 for its municipal operations, and to affect a reduction of 6% below 1996 levels for community emissions by 2013. Edmonton has committed to lower municipal and community emissions by 6% from 1990 levels by 2010, and eventually by 20% before 2020. Municipalities have acknowledged that meeting their GHG targets is a challenge given the growth in the region and are working to address this.

In a more abstract sense, the City of Edmonton is looking to establish and implement a *Renewable Energy Plan* for Edmonton detailing the renewable energy options and corresponding transition strategies that are most prudent and effective, for the community as a whole as well as for city operations.<sup>14</sup> It would institute a *City-wide Energy Transition Plan* specifying how Edmonton will reduce its energy demand through conservation and efficiency, and transition from fossil fuels to renewable energy sources.

The situation facing St. Albert, as a smaller community, varies from that of Edmonton. In St. Albert, there are few industrial emitters of greenhouse gases. Thus, greenhouse gas emission reduction will focus on residents doing their own part to reduce their consumption of energy at home, at work, and through their vehicle usage. Referring back to the interrelated nature of all these measures, St. Albert's recycling and composting activities in 2007 resulted in a net greenhouse gas emissions savings of 9586 tonnes.

## **LAND USE**

Land use is one of the most powerful tools available to a municipality for carrying out and enforcing desired policy outcomes. This is likewise true for environmental initiatives. Every municipality employs

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<sup>14</sup> EcoVision Booklet, pg. 9

land use zoning and bylaws, but the extent to which they use them to shape a more green policy outcome varies as well. The City of Edmonton has adopted the “Smart Choices” program which includes eight major initiatives aimed at being more fiscally and environmentally sustainable.<sup>15</sup> One of these initiatives focuses on preserving and augmenting the scope of natural space within the city; it recognizes the crucial nature of maintaining the completeness of the network between all the various elements such as the river valley, other parks and open spaces and water resources. They moved forward with that plan to develop their new MDP (Municipal Development Plan) and TMP (Transportation Master Plan), *The Way We Grow* and *The Way We Move*, which also promote compact development techniques with a focus on increasing transit and multi-modal transportation. The County of Leduc similarly promotes the growth and safeguarding of green spaces, and have also incorporated a multi-modal focus in the TMP they are currently completing.

Edmonton also further supports environmental sustainability, and the parallel goal of the safety and security of its residents, by lessening impacts that result from extraction of natural resources, contaminated lands and hazardous uses. As for St. Albert, within the next five years the City will be remediating a brownfield landfill site into new sports fields for the community. In terms of density and growth, the City of Edmonton promotes a target of 25% of new housing units to be built within the downtown and mature neighbourhoods, as well as around LRT stations and transit centres.<sup>16</sup> The purpose of this particular initiative is to encourage more density, which subsequently reduces the ecological footprint occupied by the city. Land use can also aid in terms of transportation initiatives by spurring further development of the transit system. Edmonton has a vision whereby land use zoning complements growth in the public transit system, and vice versa.

Strathcona County has undertaken several innovative planning initiatives to encourage sustainable development initiatives. This includes their Centre in the Park initiative, which seeks to develop a new mixed use centre with increased density and environmental focus around key municipal institutions like County Hall. It also recently completed planning in the Emerald Hills area, which used the SuN LIVING approach for implementing sustainability and sustainable living concepts. They are also currently working on a new TMP that will apply a multi-modal and transit focused approach to transportation system management.

Parkland County has undertaken several steps in their planning and actual execution that takes heed of sustainability and green initiatives. The MDP policies allow for a cluster form of country residential development that results in compact, economical and efficient subdivisions that take strategic advantage of the regional water and sewer lines. The County also promotes designing efficient residential subdivisions that reduce the impact on the natural environment by retaining green space. Brownfield development is being actively encouraged. An actual example of such development that has been carried out is the decommissioning of the Wabamun power plant site. The county also requires a biophysical assessment as part of the land development process.

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<sup>15</sup> The Way We Grow, City of Edmonton

<sup>16</sup> The Way We Move, City of Edmonton

In terms of land use planning, Stony Plain has focused its efforts on ensuring the connectivity of the community using walking trails. Additionally, they advocate using construction strategies that are environmental conscious, sustainable and have low impact on the land. Sturgeon County aims to balance the geographic placement of open spaces and to provide public access to natural open spaces.

The City of Airdrie has stated that all new Neighbourhood Development Plans must meet a minimum density of 7 units per developable acre, which would ensure a more compact urban form and thus a smaller ecological footprint. In planning documents, there are several references to employing the overall vision of pedestrian-friendly communities, reducing reliance on the private automobile, as well as the promotion of other, so-called active forms of transportation.

## **TRANSPORTATION**

There is a lot of municipal activity in transportation initiatives, and for this reason it has been separated as a separate subsection in this review.

The City of Leduc has moved in the right direction with the implementation of the C-line, which is reflected in similar initiatives in other municipalities surrounding Edmonton, such as Spruce Grove, St. Albert, and Fort Saskatchewan. They also run commuter bus services into the City of Edmonton, and particularly during peak work hours in the morning and afternoon. Bus lines into the City recognize the need of residents for a public transit alternative, as an affordable and environmentally-friendly way to commute for the significant portion of people that work in Edmonton. Besides commuter services into Edmonton, Spruce Grove also offers limited local service within town. Spruce Grove also strives to encourage active methods of transportation such as biking and walking and to create linkages between biking, walking, carpooling and transit. Parkland County's Transportation Master Plan may consider new initiatives for increasing efficiency in traffic movements such as strategically locating and operating parking areas that will allow for ride share.

The Town of Stony Plain implementation strategies include right-sizing vehicle fleets, optimizing travel and operations, substituting travel modes, and purchasing fuel efficient or alternative fuelled vehicles. In 2008, the Town purchased a hybrid town vehicle and electric ice resurfacer. The golf course also purchased 40 electric golf carts. There is a corporate anti-idling policy in place for Stony Plain: vehicles will not idle longer than five minutes (some exceptions apply) and construction equipment will not idle longer than 10 minutes. Town employees were also encouraged to support the anti-idling initiatives while in their personal vehicles. Free anti-idling window decals were created for employees to place in their windows. Carpooling of employees to and from work, as well during corporate events and meetings, has been actively encouraged.

The City of Fort Saskatchewan offers some commuter transit options to Edmonton, including morning and afternoon bus/shuttle service to Edmonton. Internal city transit options are limited, but include

handy vans and taxi vouchers available for seniors and the disabled. A regional transit system is a topic of discussion in the Capital Region given the difficulties smaller communities face in being able to provide this service efficiently. Many residents walk and cycle using the City's integrated trail system in Fort Saskatchewan, but perception is that access across streets can be difficult and the pathways often end at residential areas. One of the main public concerns includes unsafe pedestrian crossings across the highway and limited connections and pathways between neighbourhoods. Highway 15/21 is a significant throughway for heavy equipment and traffic. The public perception is that the City and taxpayers are paying highway maintenance costs caused by industry in other jurisdictions. This highway splits the City essentially into two parts and acts as a barrier to mobility. The Highway 15 overpass is considered a success. In considering an overpass for Highway 21, the perception is that people will not typically walk the distance to an overpass and an overpass would need to be quite high (approximately 8-9 metres) to accommodate the high loads that pass through the City.

Strathcona County has tried to diminish the number of employees travelling to work via single occupancy vehicles with parking pricing initiatives and improved transit to their County Hall/Community Centre. They are currently developing an Integrated Transportation Master Plan.

In the City of Airdrie, the local transit system is comprised of a Dial-a-Bus system and three local bus routes that run throughout most of the day. City planning documents make several references to reducing dependency on personal vehicles. Approximately 60% of residents commute to Calgary and the vast majority of these commuter trips are conducted in single-occupancy vehicles. As such, of particular interest to transportation planning in Airdrie has been a focus on providing a mass transit connection between central Airdrie and downtown Calgary. Airdrie runs a morning service to Calgary, with a complementary evening service back to the town, called the Intercity Express (ICE). They are also attempting to gather data as to what percentage of households are located within 400m of a public transit stop. Airdrie is also considering the development of a long-range plan for non-motorized transportation that may include a larger, regional trail system and a network cycle plan in the next five years.<sup>17</sup> In terms of involvement from the private sector, Airdrie is trying to engage downtown businesses in promoting cycling amongst their own employees, and the provision of the associated facilities necessary to foster that vision.

The City of Edmonton has been actively replacing obsolete city vehicles still in use, as well as providing driver education and training on how to reduce fuel consumption. As many people know, Edmonton was the first city with a population under one million in North America to have a Light Rail Transit (LRT) system and the third city in Canada to incorporate LRT into its transit system. The fairly recent south LRT expansion significantly increased ridership and has had a positive impact on reduced automobile use. The city is also currently testing the use of diesel electric hybrid bus technology and it has purchased 231 new diesel buses.

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<sup>17</sup> enVision Airdrie ICSP, Gap Analysis and Recommendations, February 24, 2010, pages 42-43

## **AIR QUALITY**

Air quality is an area of growing concern for municipalities, though specific action-based policy is still in the development stages in most local municipalities.

One of the key ways municipalities are addressing air quality is by joining airshed associations. Stony Plain, St. Albert, Leduc County, Parkland County and the City of Edmonton have all joined the Alberta Capital Airshed Alliance (ACAA) to develop and implement clean air strategies in the capital region. St. Albert has identified some applicable goals relating to air quality. They seek to maintain air quality and to reduce non-renewable energy consumption and greenhouse gas emissions. However, St. Albert is similar to the City of Leduc in that it does not currently have data on the air quality within its boundaries. In order to resolve this, the city is pursuing the building of an air quality monitoring station in St. Albert with Alberta Environment. Once a station is built, the city will be able to establish a baseline reading for air quality monitoring.

The City St. Albert has passed an idle-free bylaw and the City of Edmonton has an anti-idling campaign. The focus of the bylaw in St. Albert is on excessive idling. It prohibits vehicles from idling for more than three minutes in a 30-minute period, with exceptions for safety and emergency vehicles. Idle-free zones around City facilities are also encouraged. It was also noted that it is important that City vehicles operate in accordance with the bylaw. The intention of the program was to both educate residents on the negative effects of idling and penalize excessive and unnecessary vehicle idling; this program was promoted via a “Let’s Clear the Air” campaign to raise awareness. While not going as far, Spruce Grove has implemented a corporate anti-idling policy for their own operation.

In the City of Edmonton, reducing greenhouse gas emissions has become part of a community initiative that started in 1999 called Carbon Dioxide Reduction Edmonton (CO<sub>2</sub>RE), which has benefits for improving air quality. Edmonton has four provincial ambient air quality monitoring stations in the City to watch out for urban pollutant levels and report on any anomalous air quality conditions.<sup>18</sup> Edmonton has also invested in advanced swimming pool water disinfection treatment systems that eliminate the risk of toxic chlorine gas releases.

## **NOISE AND LIGHT EFFICIENCY**

There is less documentation on the implementation of initiatives relating to noise and light pollution reduction efforts in communities, but small steps are being made in these key areas.

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<sup>18</sup> Discussion Paper, Air Quality

[http://www.edmonton.ca/city\\_government/documents/Discussion\\_Paper\\_2\\_Air\\_Quality.pdf](http://www.edmonton.ca/city_government/documents/Discussion_Paper_2_Air_Quality.pdf)

Parkland County can require noise buffers, fencing and landscaping techniques to enhance public safety and mitigate noise annoyance caused by roadway, railway, or airport operations upon adjacent areas.

The City of Edmonton employs a similar approach to reviewing development applications. In addition to that, they have also approved a Noise Bylaw, which provides them the ability to ticket particularly noisy vehicles, oversized trucks traveling outside of established truck routes, and regulate noise imposed by construction activities to daytime hours.

Strathcona County has taken a further step by developing a Light Efficient Community Policy document, which provides guidelines to light areas efficiently based on their use while also reducing light trespass. It also encourages voluntary light curfews for all use classes to reduce lighting at times when sites are not in use. It also includes recommendations to develop a public communications plan on the importance of appropriate lighting and its impact on health. They also have a Noise Control Bylaw that regulates domestic noise, construction noise, and loud vehicles.

## **CONCLUSION**

The preceding document has provided a review of activities occurring in the region related to a variety of environmental initiatives. There are many different ways that municipalities are addressing these diverse issues and it is clear that they are learning from one another's successes to clarify and change initial steps. It is clear that each municipality has its own strengths in their approach to environmental management, and each municipality needs to address these issues in a way that suits their population and context. There are a number of initiatives that the City of Leduc may want to consider to strengthen its own approach. This document will assist the City of Leduc in identifying those areas where an existing program could be used to inform a 'made in Leduc' solution.