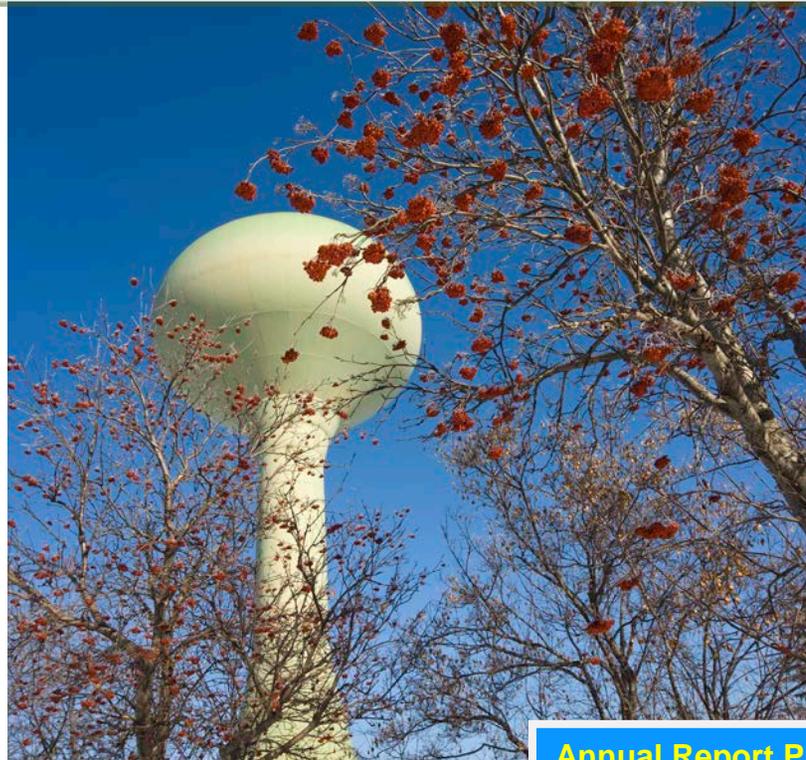


**Environmental Master Plan 2014 Annual Report:
Reporting on Benchmarks, Metrics, and Priority Actions**

(January to December 2014)



**Annual Report Produced: October 2015
Compiled By: Environmental Initiatives, ENVS**

Environmental Master Plan 2014 Annual Report: Reporting on Benchmarks, Metrics, and Priority Actions

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Introduction

Red Deer's progress towards improving environmental performance and achieving goals set in the Environmental Master Plan (EMP) continues to be a strong priority for the community and for The City as a municipal organization. This work began in 2011 when The City of Red Deer Council unanimously adopted the Environmental Master Plan (EMP) with the endorsement and encouragement of many community organizations and stakeholders and the Environmental Advisory Committee (EAC). The EMP was created to provide The City and Red Deer residents with a road map to improved environmental sustainability. To achieve this, the Plan presents clear goals and measureable environmental targets, as well as recommendations for actions for both The City of Red Deer and the wider community. The goals and objectives set out in the plan cover all aspects of Red Deer's environmental sustainability including air, water, transportation, waste, energy, built environment, and ecology. The plan contains immediate, mid-term, and long-term actions and priorities to meet the environmental goals.

Over the last number of years, The City and its partners have demonstrated an ongoing commitment to implementing the plan's goals. Collaboration and leadership from many partners has allowed important and significant environmental improvements to take shape.

The EMP is an important tool in the implementation of the environmental component of The City's Municipal Sustainability Framework. The City is committed to annually reporting its progress towards the various plan targets to the community, in order to continue to improve and to keep the community informed and involved. An annual report and report card to the community are issued each year. Some elements of this year's annual report will be similar to previous reports since the targets and objectives generally have not changed; but some aspects will differ given the fact that the Environmental Master Plan is building on previous results, new programs and actions have been introduced, and new as well as expanded partnerships have been built. Additional plans have stemmed from the Environmental Master Plan based on recommended actions or areas for specific, additional work. To date these plans include The Greening the Fleet strategy and the Waste Management Master Plan update. This year's Environmental Master Plan Annual report includes detailed annual updates on these specific stand alone reports as they take on their own set of initiatives, their own implementation structure and progress targets, but which fundamentally and specifically link back to the EMP. These annual updates, under the overall umbrella of the EMP, can be found in the appendices of this report.



In 2014, The City of Red Deer's population reached more than 100,000 people. Continued growth momentum brings both opportunities and challenges. The actions of local Red Deerians are central to ongoing improvement of our environmental performance. As previous annual reports demonstrated, action not only by the government, but also by many partners, organizations, and residents help move goals forward now and for the next 100,000 new residents.

The Plan's Focus Areas

The intent of the EMP is to benefit the full range of Red Deer's environment; therefore the plan identifies seven broad but encompassing focus areas: Water, Ecology, Transportation, Built Environment, Air, Energy, and Waste. Each focus area has an over-arching goal and identifies either two, three, or four metrics to measure progress towards this goal. The metrics include targets so that it is clear what the Plan is striving for. There are 19 metrics in total, each with a target expected to be achieved over the life of the plan. Previous annual reports explained what progress occurred for each of the metrics over the preceding year and provided results for corresponding targets. The current annual report presents this progress information for 2014 alongside the 2013 results, allowing comparison of community performance from year to year.

In addition to establishing a benchmark and target; each metric includes actions that are recommended to help Red Deer achieve the EMP goals. Because not everything can be done at once, the actions are divided into immediate (top priority), short, medium, and long term timeframes. The annual report provides a list of the top priority actions and notes progress and status of each action. This information is contained in ***Table B: At a Glance – Top Priority Action Progress January – December 2014.***

The Goal of the Annual Report

The EMP is written and designed as a proactive tool to direct improvements and progress in environmental action in Red Deer. The Plan was envisioned by both the EAC and City Council as a guide towards enhanced environmental sustainability. For this reason, it is essential that progress be tracked over the long haul; to measure pace and progress towards targets over the envisioned time frame.



The annual report helps both The City and the Red Deer community identify accomplishments and also pinpoint what needs to be reconsidered or reset if progress is not moving ahead in the way the community expected. Recognized adjustments or changes are recommended to City Council for consideration.

The Environmental Master Plan has a 25 year outlook. Therefore, it includes shorter term and longer term goals, as not all actions can be or need to be completed in the first few years. This report also explores the achievements, progress, and actions of the Environmental Master Plan in 2014.

The annual report is also about celebrating achievements and inspiring progress. One of the chief ways to inspire others is to note what's been completed, look at the results, and describe what still has to be tackled. As was done with previous years' reporting, The City will be sharing annual report results not just in the form of this detailed document but also in the form of a report card to the community distributed throughout Red Deer and available on The City web page.



The Red Deer River.



2014 Year Highlights

During 2014 several groups and individuals worked hard to continue progress and efforts for environmental priorities in Red Deer.

Environmental Advisory Committee 2014

Support and Advocacy

Support and advocacy for the EMP came forward in many ways. The Environmental Advisory Committee brought attention to the goals of the plan and some of the key environmental issues to be tackled by the plan by relying on it as a key base for the review and recommendation of environmental issues within their mandate of advising Council or Administration.

As part of their role as ambassadors to the plan the Environmental Advisory Committee's role included raising public awareness.



Planning, Advising and Contributing

In 2014 The City was approached by The Government of Alberta to participate in an advisory committee looking at regional air quality issues; specifically fine particulate matter. The advisory body is investigating and responding to air quality fine particulate matter exceedances over the next year. The committee is comprised of representatives from local industry, other regional municipalities, Parkland Airshed Management Zone (PAMZ), public members and Provincial staff from various ministries/departments. This work is continuing into 2015.



Also related to air quality, City staff are working on regional air quality research and action including creating municipal idle free toolkit in partnership with Town of Sylvan and Lacombe County.

Environmental Services staff were also contacted by the Cities of Edmonton, Calgary, and St. Albert who had heard about successful programs in Red Deer. These communities were looking for some tips and were requesting that the Department share success stories, advice, and learnings together with the Red Deer Public Library, with whom The City has partnered to offer Home Energy Audit kits. The kits are in circulation to residents to assist them in monitoring, assessing, and reducing their home energy consumption. The other cities wish to replicate this program in their own libraries and municipalities. To give credit where credit is due this was an initiative that Red Deer first learned about from Medicine Hat's successful launch - and The City just fine-tuned it for application in Red Deer. Clearly, the success is spreading and moving north!

During 2014, The City of Red Deer was also an active participant in the Integrated Watershed Management Plan process through the Red Deer River Watershed Alliance. This work will lead to an integrated regional plan looking at the future health and wellbeing of the Red Deer River Watershed.

Presentations & Awards

With regard to Environmental Master Plan initiatives, Environmental Services staff were pleased to deliver several presentations during 2014 to share learnings and next steps and in some cases to be the recipient of awards recognizing achievements related to the Environmental Master Plan:

- February - Webinar presenter on water conservation to the Alberta Urban Municipalities Association
- March - presentation to the ICLEI National Sustainability conference on our work related to municipal climate change resilience and adaptation planning.
- March - presentation to the Compost Council of Canada on Composting at Home program delivery.
- March - presentation on the water related targets and actions of the Environmental Master Plan and the progress being made was shared with the Red Deer River Watershed Alliance



- March - Watershed ambassador award – awarded to staff implementing the Environmental Master Plan and water protection and quality actions (2012, 2103, 2014)
- June - Action HERO Award 2014 for actions taken by Red Deer Transit to protect air quality
- October - invited panelist presenter on climate change planning at The Alberta Professional Planning Institute (APPI) annual conference.

Celebration and Education Events

In addition to presentations, the plan was celebrated in various ways throughout the year within the local community.



- Based on the focus areas of the EMP, seven distinct celebration days, one for each of the Plan's focus areas was hosted in 2014. These events were held in conjunction with national or internationally recognized environment days. The events highlight each of the plan's seven areas and educate the public about the goals of the EMP.
 - Internationally recognized **Earth Hour** held in March reminded the public about the importance of conserving energy which linked to the EMP's energy targets. Many residents, businesses, and facilities participated by turning off all non-essential lights – some even participated in Red Deer's first ever "Dim Swim" at select city swimming pools.





- Events for **World Water Day** – also an event held in March, World Water Day had The City partnered with the Red Deer River Watershed Alliance to highlight the Canadian and United Nation’s local and international goals of cooperation in protecting our water supplies.
- **Earth Day** celebrations in April proved a great way to celebrate spring but also to involve local residents and families who wanted to get active in nature and think about the importance of the ecology goals of the EMP.
- **Jane’s Walk** took place during the first weekend of May and invited residents to join up with guided walk in their community and consider the links between environment and urban developments.
- **Clean Air Day** in partnership with PAMZ, Alberta Environment and Sustainable Resource Development (AESRD), and NOVA Chemical Corporation this event occurred in June. It involved a free vehicle emissions testing clinic for gasoline vehicles where drivers were informed about emission reduction, idle free vehicle operation, and other measures to protect local air. Also part of the event was a trade show and Action Hero Air awards presentations.
- **World Car Free Day** in September linked to the EMP’s Transportation goals and sought to get people to try transit service or another way of moving around aside from their single occupancy vehicle for at least one day – but hopefully even more! The event was launched at the Saturday Farmer’s Market.



Celebration Days such as World Car Free Day and Jane’s Walk (shown here) were held in our community as part of promoting the objectives and targets of the Environmental Master Plan in 2014.





- ***Kick it to the Curb*** tied into the Waste Reduction goals of the EMP and was interconnected with Waste Reduction Week in October.
- Returning in 2014 was ***“Spooktacular”*** a waste reduction and diversion education event at the Waste Management facility. Many individuals and families took part in learning about the landfill and diversion pad operations through an in-depth tour. The tour allowed them to see first-hand the type of waste being recycled and diverted in our community. Several partners joined in the event this time around to share their information and role in reducing waste in our community including Waskasoo Environmental Education Society, Hearts of Women, Habitat for Humanity and the Recycling Council of Alberta.

*Jane’s Walk crossing Red Deer’s Pedestrian Bridge
May 2014.*



Recipients of the Action HERO Awards, 2014: City of Red Deer Transit receives their award together with Mayor Veer and all 2014 winners.



Partners All-Aboard!

In 2014 partnerships were fundamental in helping advance environmental programs and education and in supporting the drive towards EMP environmental goals. Local partners such as The Red Deer Public Library, Red Deer River Watershed Alliance, Waskasoo Environmental Education Society, Parkland Airshed Management Zone, Red Deer's Community Associations, Local School Boards, Red Deer College, Red Deer Sheraton Hotel, NOVA Chemicals, Lafarge Canada, Home Building Centre, Primary Care Network, Re-Think Red Deer, and contributed resources, loads of enthusiasm, knowledge and vision to support and expand the reach of the Environmental Master Plan successes. National and province wide partners such as Green Energy Doors, Alberta Environment and Sustainable Resource Development, Alberta Bike Swap, The Heart and Stroke Foundation, ICLEI and Alberta Energy Efficiency Alliance (AEEA) also supported and enhanced work locally. All partners provided tremendous effort, action-oriented assistance, and in-kind donations to ensure the plan's implementation continued to advance. The successes in working with community organizations and relevant agencies during 2014 signal that environmental progress can be enhanced with the support of like-minded partners.

Results Reporting

A primary reason for producing an annual report is to record and track progress.

The following table, **Table A: 2014 Report on Metrics and Measures**, presents the progress related to the Plan's 19 metrics. Note: a waste metric was added in 2013-14 to reflect the adoption of the Waste Management Master Plan. In most cases the following information is noted:

- The 2009 baseline measure (some baselines are for a later year in instances where data was not available or had to be collected and tabulated),
- The 2013 results – as reported in last year's annual report for comparative purposes,
- The 2014 results – being released here as part of this year's annual report, and
- Our most immediate targets for that metric (targets in the Plan are generally set for 2015, 2020, and 2035)

The table indicates whether the results-to-date suggest that Red Deer as a City and as a Community is on track to meet the 2015 (short term) target or whether additional actions or measures may be necessary in the upcoming 2015 reporting year.



Overall, the results and metrics of **Table A** demonstrate that some progress has been made. Out of 19 areas of measurement, results seen are:

- Success or Solid Progress in the right direction for 9 out of 19 metrics (waste metric added in 2013-14). These include:
 - water conservation
 - natural park dedication
 - man-made park dedication
 - integrated pest management
 - share of dwelling units close to community amenities
 - length of trail kilometres per resident
 - “footprint” of per capita land consumption
 - waste diverted, and
 - use of renewable energy
- Negative progress for 6 measures. To reach the 2015 goals set in the EMP efforts to address these areas will be necessary. Namely:
 - fuel consumption per capita
 - greenhouse gas emissions (corporate measurement)
 - air quality (particulate matter PM 2.5 metric only)
 - average building energy intensity
 - amount of residential solid waste
 - overall per capita disposal rate
- Flat-lining or limited progress on two measures:
 - modal split, and
 - land devoted to community gardens. There has been no or little change in the per capita availability of community gardens between the years 2012-2014. However, there are several achievements and successes in delivering this program such as:
 - garden use has increased by 93.1% in 5 years compared with a population growth of 9.7%.
 - an increase of 675% between 2010 to 2014, in the number of garden planters covering an area of 450 M²
 - Therefore, upon review the community garden flat-lining could be more about the metric selected to measure rather than actual progress on garden development. The metric is not necessarily reflecting the



interest or successes surrounding community gardens and many community initiatives are focused on local food and may potentially result in more urban gardening opportunities moving forward.

- Uncertain or unknown results for the remaining two metrics (water quality of receiving bodies, and urban forestry). The necessary studies/research are underway for both water quality of receiving bodies and urban forestry but the EMP is still a little ways out from determining appropriate targets or baselines. The City expects the data reports to be available in 2015 at which time the EMP can consider and incorporate results for these two metrics.

In reviewing the 2014 results, and the four years of implementation that has occurred, it is important to recognize successful progress. However, it is also important to determine where progress is not as strong as required to hit EMP targets. It is also important to think about the obstacles or barriers that may be impeding progress, in order to improve. The City is firm in its commitment to implementation of the EMP actions and its desire to show corporate leadership. The City is eager to work with partners such as community agencies, businesses, and residents. As done in previous years, The City will produce a public report card on EMP information. The report card is about more than just reporting results; it is also about engaging city staff, local business operators, land owners, and residents and encouraging action by providing new ideas, new options, and new motivation to go with the new results!

Table A: 2014 Report on Metrics and Measures

Benchmarks and Metrics Results 2013-2014

EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
WATER					
Potable water consumption provided through municipal water supply, per capita (L/cap/day)	Residential: 242 L/cap/day Industrial/ Commercial /Institutional	Residential: 204 L/cap/day <i>ICI</i> : 118 L/cap/day	Residential: 195 L/cap/day <i>ICI</i> : 112 L/cap/day * Data from Environmental Services. **Note that water	Decrease by 8% (to 222.64 and 124.2 L)	Yes – 2014 saw continued success at achieving and even exceeding water conservation targets.



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
	(ICI): 135 L/cap/day		consumption can be dependent on weather conditions.		
Water Quality of Receiving Bodies *Measurement will be defined by results from the Urban Impact Risk Assessment for AB Environment	TBD – 2015 Collection of baseline data not yet complete.	Baseline and targets will be established in 2015 in conjunction with the Urban Impact Risk Assessment for Alberta Environment.	*2014 update- First two years of data have been collected. Baseline and targets will be established in 2016 in conjunction with the Urban Impact Risk Assessment for Alberta Environment.	To be set in 2016 (note extension to previous target date).	In progress, no results until 2016.
ECOLOGY					
Natural Areas: Land within the city's developed area devoted to native natural features (native tree stands, wetlands, seasonal streams, grasslands, and associated biodiversity)	Total Natural Area = 863 ha	Total Natural Area = 998.01 ha	Total Natural Area = 999.11 ha	Increase by 5% (to 906 ha)	Yes – continued success in 2014 - achieving and exceeding preservation targets.
Man Made Green Areas: land devoted to man-made natural features (city parks, turf areas shrub beds and naturalization areas).	809 ha	Total Man-Made Green Area = 847.45	Total Man-Made Green Area = 853.84 ha	Increase by 5% (to 849 ha)	Yes – 2014 saw achievement of the target.



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
Integrated Pest Management: Volume of toxic pest control product used per acre of municipally owned land (ml/acre)	210 ml/acre	2013: 22,850 ml insecticide (20,000 ml Pounce + 2850 ml Orthene) + 799,342 ml herbicide = 822,194 ml used 822,194 ml / 4,560 acres = 180 ml/acre	2014: 901,440 ml herbicide + 0 ml insecticide = 901,440 ml 901,440 ml / 4579 acres = 197 ml/acre	Decrease by 2% (to 205.8 ml/acre)	Yes – achieved continued success in 2014.
Urban Forestry: Urban forest coverage (percentage of area within city's developed area covered by tree canopy)	TBD by 2014, now extended	Urban Forestry Planning and Target setting was scheduled for 2014.	Terms of Reference for this Plan are being drafted/under review. Anticipated completion by end of April 2016.	No target set. Plan completion extended to 2016.	In progress – plan completion 2015-16.
TRANSPORTATION					
Total Fuel (gasoline and diesel) consumption data for the city annually (Note this metric replaces Vehicle Kilometres Travelled)	1257 litres/capita Total gasoline and diesel consumption: 112,998,927 litres	1190 L/cap Total gasoline and diesel consumption: = 115,512,866 L	1232 L/cap Total gasoline and diesel consumption= 121,487,130 L	Target is 1156 L/cap Target reflects a goal of reduction of 1.3% per year and equates to an overall 8% reduction by 2015 from the baseline year (2009).	Not on track to meet short term target. While results for 2009-2013 were variable, there had been an overall downward trend. In 2014, the fuel consumption data



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
(VKT) per capita/day by car used in 2011)					indicates that usage increased.
Modal Split: Percentage of different modes of transportation used to travel to work	Car: 88% Transit: 4% Pedestrian or Bike: 7% Other: 1%	Same as 2012 *Note –most recent results are 2011 Census figures from Statistics Canada next federal census is 2016.	Same as 2012 *Note –most recent results are 2011 Census figures from Statistics Canada next federal census is 2016.	2016: Car: 86% Transit: 5% Pedestrian or Bike: 8% Other: 1%	No new federal census data has been received. Most recent census indicates Red Deer is not on track unless car use drops and there is an increased reliance on alternative forms of transportation prior to 2016.
Dwelling Units within 400 metres of: 1) public trails, parks or other green space, 2) at least 5 basic amenities represented by commercial zoned properties or school sites*, and 3) Transit stops* *Council approved in 2012 Annual Report refinement of	2012 served as our baseline**. 1) Public trails, parks or green space = 100% 2) Commercial zoned property = 56% and existing schools = 38% 3) Transit stops = 97% **Baseline calculation does not include residential units not in an urban neighbourhood (e.g.	1) Public trails, parks or other green space = 100% 2) Commercial zoned property = 56% and existing schools = 38% 3) Transit stops = 97% Dwelling units within 400 meters of all of these parameters = 23%	1) Public trails, parks or other green space = 100% 2) Commercial zoned property = 55% and existing schools = 39% 3) Transit stops = 99% Dwelling units within 400 meters of all of these parameters = 24%	1) Public trails, parks and other green space = 100% 2) Commercial zoned property = 60%, and existing schools = 45% 3) Transit stops = 97%	Yes – for the most part; achieving target for proximity of all households to public trails, parks or green space. And exceeding target for residents with close proximity to transit routes. However, Red Deer will need to continue to work on the distance between dwelling units and commercially zoned



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
this metric to amenities represented by commercial and school sites and all transit stops.	Central Park is not included)***Measurement is completed as the crow flies.				sites and schools to increase proximity.
<p>Length of bicycle/pedestrian routes (km/capita) measured in lane kms. Includes bike routes (shared) and bike lanes (dedicated), multi-use trails (including asphalt and concrete surface trails in parks and shared trails (includes non-hard surface trails such as boardwalk, aggregate, wood chip, & pedestrian only trails).</p> <p>** note wording and definitions refined in 2012 to ensure clarity and inclusion of trails that reflect the transportation goals of the EMP</p>	<p>1 km ratio to every 672 persons</p> <p>(2009 Census: 89,891 persons)</p>	<p>Bike Lanes Shared 7.5 km <u>Dedicated 13.6 km</u> TOTAL 21.1km</p> <p>Park Multi-Use Trails Concrete 11.7 km <u>Asphalt 88.7 km</u> TOTAL 100.4 km</p> <p>Shared Trails Boardwalk 0.76 km Aggreg. 35.2 km Dirt 9.9 km <u>Brick 0.38 km</u> TOTAL 46.2</p> <p>Cumulative total 167.7 km With a population of 97,109, the ratio of bike/pedestrian routes to residents is 1 km: 579 residents</p>	<p>Bike Lanes Shared 7.3 km <u>Dedicated 12.2 km</u> TOTAL 19.5km</p> <p>Park Multi-Use Trails Concrete 12.1 km <u>Asphalt 95.4 km</u> TOTAL 107.5 km</p> <p>Shared Trails Boardwalk 0.76 km Aggreg. 36.7 km Dirt 8.3 km <u>Brick 0.38 km</u> TOTAL 46.1</p> <p>Cumulative total 173.1 km With a population of 98,585 the ratio of bike/pedestrian routes to residents is 1 km: 570 residents</p>	Increase by 5% (to 1 km ratio to every 639 persons)	Yes – continued success in 2014 - achieving and even exceeding set target.
BUILT ENVIRONMENT					



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
<p>Our Development Footprint</p> <p>"Per Capita Land Consumption" in metres squared per person</p> <p><i>Definition: "Per Capita Land Consumption" is the total amount of land within the city that has an urban type zoning (and is or will be imminently used for urban uses) plus roads divided by the current Red Deer population. Note: This metric replaced Development Density in Council's approval of 2012 Annual Report.</i></p>	<p>Baseline (2011)</p> <p>740.8 m²/person</p> <p>Figure broken into land use categories:</p> <p>-Commercial: 40.7 m²/person -Industrial: 96.2 m²/person -Institutional: 91.0 m²/person -Parks / Open Space: 151.5 m²/person - Residential: 200.2 m²/person - Roads: 161.2 m²/person</p> <p>TOTAL: 740.8 m²/person</p>	<p>696.9 m²/person</p> <p>Figure broken into land use categories:</p> <p>-Commercial: 31.6 m²/person -Direct Control: 14.5 m²/person -Industrial: 103.2 m²/person -Parks /Open Space/Institutional: 204.8 m²/person -Residential: 186.7 m²/person -Roads: 156.4 m²/person</p> <p>TOTAL: 696.9 m²/person</p>	<p>716.8 m²/person</p> <p>Figure broken into land use categories:</p> <p>-Commercial: 31.9 m²/person -Direct Control: 14.9 m²/person -Industrial: 105.4 m²/person -Parks /Open Space/Institutional: 201.8 m²/person -Residential: 192.7 m²/person -Roads: 170.1 m²/person</p> <p>TOTAL: 716.8 m²/person</p>	<p>1% per year from baseline data</p> <p>2015 – 4% drop from 2011 figure</p> <p>711 m²/person</p>	<p>On Track – 2014 results show reduction in per capita footprint compared with the baseline data. Yet, to meet the 2015 goal will be a challenge given that the Development Footprint/per capita land consumption increased during the past year.</p>
<p>Community Gardens: The land devoted to community gardens and urban agriculture in area (m²/capita)</p>	<p>0.4 m²/cap</p> <p>Note: This combined the total garden plot area as per the City Garden Plot Program with the raised bed garden</p>	<p>Total City managed plots:</p> <p>Large: 101 (12,120m²) + Med - 127 (7,620 m²) = 19,740m²</p> <p>Total Community</p>	<p>Total City managed plots:</p> <p>Large: 101 (12,120m²) + Med - 127 (7,620 m²) = 19,740m²</p> <p>Total Community Orchard/Food Forest:</p>	<p>Increase to : 0.5 m²/capita by 2015</p>	<p>No Change from 2012 or 2013 results. Meaning Red Deer has not achieved the target yet, it is being worked on. The 2015 target is ambitious.</p>



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
	space as per the Community Garden model (smaller, raised bed gardens that are funded by City and managed by community).	Food Forest area: 200m2 (fruit trees) +150m2(saskatoon hedge) = 350m2 Total community partnership gardens: 71 raised beds (377m2) TOTAL GARDEN AREA=19,740 + 377 + 350 = 20,467m2 = 20,467 m2 / 97,107 or 0.21 m2 / capita	Parkside Food Forest 200m2 (fruit trees) +150m2 (Saskatoon hedge) = 350m2 Mountview/Sunnybrook Orchard +100m2 = 350 +100 = 450m2 Total community partnership gardens: 81 raised beds (435m2) TOTAL GARDEN AREA=19,740 + 450 + 435 = 20,625m2 = 20,625m2/ 98,585 or 0.21 m2 / capita		
AIR					
Greenhouse Gas emissions per capita in tonnes (CO ₂ equivalent)	Baseline 2010: Corporate= 138,980 tCO ₂ e or 1.55 tonnes/ person Community:TBD <i>** Note there were miscalculations in</i>	Corporate= 136,401 tCO ₂ e or 1.40 tonnes/person Community: TBD	Corporate= 142,941 tCO ₂ e or 1.45 tonnes/person Community: TBD	Corporate Target = 30% by 2020 and 50% by 2035 as per 2010 Corporate GHG Inventory (2020- 97,286 tCO ₂ e or 0.965 tonnes/ person	No. The City of Red Deer is working towards reduction of corporate emissions but the emissions totals have increased. Community GHG Inventory (Community



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
	<i>baseline figures those were amended, and the 2010 actual was 138,980 not 137,000 tCO2e.</i>			2035 – 69,490 tCO2e or 0.689 tonnes/ person Community: TBD	Energy and Emissions Plan) is scheduled to launch in 2015.
Air Quality: maintain and lower ambient concentrations of airborne pollutants, not exceeding maximums defined by the Canada Wide Standard and AB Environment	PM2.5: 15.9µg/m3 (2007-2009) Canada Wide Standard metrics for: Ozone: 57.5 ppb (2007-2009) Sulphur Dioxide SO2: 0.44 ppb (2005-2009) Nitrogen Dioxide NO2 : 12.1ppb (2005-2009) Carbon Monoxide CO: 0.25ppm (2005-2009)	PM2.5: 30.7 µg/m ³ (2010-2012) *exceeds CWS trigger Ozone: 53.7 ppb (2010-2012) SO ₂ : 0.31 ppb (2009-2013) NO ₂ : 11.2 ppb (2009-2013) CO: 0.17 ppm (2009-2013)	PM2.5: 30 µg/m ³ (2011-2013) *exceeds CAAQS Ozone: 52 ppb (2011-2013) SO ₂ : 0.23 ppb (2010-2014) NO ₂ : 11.27 ppb (2010-2014) CO: 0.16 ppm (2010-2014)	By 2015: PM2.5: 20µg/m3 Canada Wide Standard metric Ozone: 58 SO2: 0.42 ppb NO ₂ : : 11.5 ppb CO: 0.24ppm	Yes and No. Most air quality measures are moving in the right direction towards (or already meet) the 2015 target. Except for Fine Particulate Matter (PM 2.5). Increased PM 2.5 puts Red Deer at a level where the Canadian ambient air quality standards (CAAQS), have been exceeded.



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
ENERGY					
Building Energy: Average Building Intensity (equivalent kWh/sq. ft. and sq. m)	Baseline (2012) 36.6 ekWh/sq. ft. 393.4 ekWh/sq.m.	39.6 ekWh/sq. ft. 425.9 ekWh/sq. m.	42.74 ekWh/sq. ft. 460 ekWh/sq. m.	*By 2015, 5% reduction from 2012 levels. (to 34.77 ekWh/sq. ft. and 373.73 ekWh/sq. m.) By 2020, 20% reduction from 2012 levels. (to 29.28 ekWh/sq. ft. and 314.72 ekWh/sq. m.) By 2035, 50% reduction from 2012 levels. (to 18.3 ekWh/sq. ft. and 196.7 ekWh/sq. m.) <i>*Based on targets set in Environmental Master Plan Appendix E Benchmarking Tool</i>	No. This metric saw an increase of 6% in 2014 from the baseline measure.
Renewable energy sources: percentage of energy utilized by The City of Red Deer that is produced through green sources (such as	15%	25% *Civic Yards vehicle wash produced AND sent 5,940 kWh of power to the grid. Civic Yards solar	25% * Civic Yards vehicle wash produced and sent 6,660 kWh of power to the grid. The amount of power generated by solar panels	Increase to 30%	Yes – on track to achieve.



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
renewable resources and energy captured from waste)		panels generated 1,383 kWh of solar energy which was used within Building 300. **Data provided by Electric Light & Power.	at Civic Yards is no longer being tracked. Green energy purchased for 2014 was 11,842 MWH of EcoLogo certified green energy/48,230 MWH. ** Data provided by Electric Light & Power.		
WASTE					
Note: EMP metrics were augmented in 2014 to align with the Waste Management Master Plan adopted in 2013.					
Weight of Solid Waste: total weight of solid waste generation by single-family residences (kgs / capita /year)	183 kgs / capita /year	180 kgs/capita/year	Replaced by two new, more precise measures directly aligned with the Waste Management Master Plan (adopted by Council May 2013).	Decrease by 10% by 2015 (to 164.7)	Replaced, as below.
Amount of Residential Solid Waste*: <i>Measured as residential garbage in kilograms collected curbside in the city per household per year</i>	641 kg <i>Annual kg of garbage per residential curbside account</i>	640 kg <i>Annual kg of garbage per residential curbside account</i>	656 kg <i>Annual kg of garbage per residential curbside account</i>	2016 target is 550 kg; 2020 target is 450 kg ; 2023 target is 400 kg	No. The metrics indicate solid waste has increased (not decreased) from baseline.
*Note: new metric					
Overall per capita disposal rate: <i>(meaning the total</i>	Unknown	818 kg/capita	899 kg/capita	2016 target is 700 kg/capita;	No. The data shows an increase rather than decrease.



EMP Metrics by Focus Area	2009 Baseline	2013 Results	2014 Results	2015 Target	On Track?
Population	89,891	97,109	98,585	100,807	
<i>amount of solid waste disposed at the waste management facility including residential, multi-family residential, institutional, and commercial waste measured per year per capita and excluding waste from regional customers)</i> *Note: new metric				2020 target is 600 kg/capita; 2023 target is 500 kg/capita.	
Waste Diverted: percentage of waste diverted per year per tonne of waste land-filled.	10%	13%	14%	Increase to 20%	On Track – however, a substantial increase in diversion is needed by 2015 to meet the EMP goal.



2014 Year End Status - Actions and Initiatives

In addition to recording metrics, this report also considers the actions recommended in the EMP for implementation. The tables below identify general status (as of 2014 year end) and progress made or being made around the top priority actions and also the short term actions under the EMP.

More detailed information has been provided to The City's Departments and to the Senior Managers in order that they have current and complete status specifics; and so that these Departments can continue ongoing implementation progress.

In total the Environmental Master Plan contains 116 actions, of which:

- 27 are immediate/top priority actions.
 - As top priority, the plan's expectation was that these actions would have been completed by the end of 2012.
- 27 are short-term actions
 - Expected completion is by the end of 2015.
- 50 are medium-term actions
 - Expected completion is by the end of 2020.
- 12 are long-term actions
 - Anticipated completion is by the end of 2030.

So what is held over from immediate/top priority items?

- The overwhelmingly great news is that the immediate/top priority actions have all (with the exception of only one action) been completed or are substantially underway towards completion as of the end of 2014. An achievement to be proud of! Essentially, this means that 26 out of 27 actions have been completed or have made substantial progress.
- One immediate/top priority actions: Advanced Metered Infrastructure for electrical metering (Note: the water metering advances to facilitate this program is in progress) has been placed on hold due to various factors and so is inactive at the current time.



What about the short term priority items?

- In total, 27 plan actions are labelled short term priority. Between 2013 and 2015 these are being monitored with expectation of completion by the end of 2015. At this time, all are in progress, ongoing, or completed. Additional information can be found in **Table C** below.
- For details around medium and longer term actions, please refer directly to the Environmental Master Plan.

To summarize the most significant findings dealing with immediate/top priority actions are below:

Table B: At a Glance - Top Priority Action Progress January- December 31, 2014

		Action	Responsible Department	Description of Progress	Status
		Water (4 Top Priority actions)			
✓	1	Prepare an Integrated Storm Water Management Plan	Engineering	In Progress. Terms of Reference drafted. A steering committee of Department stakeholders will be formed to undertake the plan.	In Progress
✓	2	Develop environmental standards for City buildings including water conservation measures	Public Works/ Environmental Services	Water conservation standards development under way for completion in 2015, other actions (other environmental standards) are for future start.	In Progress
✓	3	Review water and wastewater rate structures, which will draw attention to the value of water.	Environmental Services	Project completed and fully implemented.	Completed
✓	4	Replace water meters with Advanced Metered Infrastructure (AMI) technology in conjunction with replacement for electrical meters.	Environmental Services	Review of the Advanced Metering (AMI) is underway. With regard to water meters preparations including proposal call occurred in 2014 with water meter installations to begin in 2015. Electrical meters are under separate review.	In Progress
		Ecology (3 Top Priority actions)			
✓	5	Enhance the existing City set-back policy to include water body and ecological protection related to Environmental Reserve setbacks under the Municipal Government Act	RPC	Exceeded MGA minimums by using the provincial <i>Beneficial Management Practices Guide Stepping Back from the Water</i> .	In Progress



		Action	Responsible Department	Description of Progress	Status
✓	6	Prepare and implement an Urban Forest Management Plan	RPC	Urban Forest Management Plan is slated for completion in 2016.	In Progress.
✓	7	Partner with community and development stakeholders to share ideas, explore opportunities and develop conservation tools to preserve green space such as a land conservation trust, land purchase, land swaps, tax incentives and reserve dedications.	RPC	Parks has partnered with various community groups, special interest groups, and developers to share ideas and explore opportunities. Limited opportunities to explore alternative conservation methods.	Completed.
		Transportation (3 Top Priority actions)			
✓	8	Incorporate high level core directions of the EMP into the Integrated Transportation/Movement Study as appropriate; Integrate sustainability principles such as active transportation.	Development Services	Completed.	Completed.
✓	9	Engage the community to participate in walkability audits in their neighbourhoods.	Engineering	No change. This initiative is planned to be incorporated into the "Tri-Plan" (Master Plans) in future.	In Progress.
✓	10	Partner to establish regional commuting resources such as transit services, carpooling, shuttle and emergency ride programs.	Transit	BOLT regional transit service has been established and has been in operation since September 2013.	In Progress.
✓	11	Partner with school boards to implement a walking school bus program to encourage students to walk to school in 3 or more schools.	Engineering	No uptake in Red Deer from schools or the community.	Concluded.
		Built Environment (4 Top Priority actions)			
✓	12	Develop city-wide infill guidelines and standards that emphasize minimum densities, compact form and environmental design standards.	Planning Department	Neighbourhood Planning and Design Standards (NPDS) address small scale infill development.	Completed.
✓	13	Undertake studies of both residential and commercial/industrial density in Red Deer to establish informed baselines and goals for future density targets.	Planning Department	The NPDS establishes standards which shape the pattern and form of neighbourhood development. No specific goals have been set although these documents establish the framework.	In Progress
✓	14	Partner with a developer to identify an infill pilot project on City land to demonstrate environmental design standards.	Land & Economic Development;	Timberlands RFP (not infill but new development with high emphasis on sustainability).	In Progress.
✓	15	Work with the community and developers to create a community garden stewardship initiative to facilitate the	RPC	Several achievements and successes in delivering this program:	In Progress.



		Action	Responsible Department	Description of Progress	Status
		establishment and stewardship of additional community garden plots. Aim to introduce a new community garden each year for ten years.		<ol style="list-style-type: none"> 1) Densifying garden plot development – garden use has increased by 93.1% in 5 years versus a population growth of 9.7%. <ul style="list-style-type: none"> o accomplished through forcing denser planting areas 2) Creating Community Run Gardens –In 2014, The City has expanded to 81 planters covering an area of 450 M² (an increase of 675%). Note: The 2014 Capital funding for gardens is fully expended and new funding is not anticipated until 2017. 3) Adding Urban Orchards and Permaculture to parks 	
		Air (4 Top Priority actions)			
✓	16	Conduct a GHG inventory analysis, and develop a corporate GHG emissions reduction plan	Environmental Services	GHG inventory analysis report has been completed/ accepted as a planning tool by City Council. Plan is being implemented.	Completed.
✓	17	Identify large emitters of pollution within The City's corporate operations. Identify strategies to mitigate the effects.	Environmental Services	Recreation facilities are conducting audits/assessment. Waste Management Facility has been reviewed for methane capture and design is underway. Other facilities reviewing data.	In progress.
✓	18	Develop a Climate Change Adaptation and Mitigation Plan	Environmental Services	Project is underway, part one plan adopted by Council in 2014. Part 2 forthcoming in 2015-16.	In progress.
✓	19	Work with industries that have the most opportunity to reduce air pollution by identifying large emitters and potential strategies to mitigate their effects.	Environmental Services	Advisory Committee has been formed by the Government of Alberta in which The City has representation. Industrial partners are also represented. The focus of the committee is on reducing air pollution/responding to fine particulate matter exceedances.	In progress.
		Energy (4 Top Priority actions)			
	20	Replace electrical meters with Advanced Metered Infrastructure (AMI) technology for both residential and Industrial, Commercial, and Institutional (ICI) customers to allow them to better track, understand and modify	EL&P	No change in 2014 - will continue to assess possible actions over the next 2 - 5 years	On Hold



		Action	Responsible Department	Description of Progress	Status
		consumption.			
✓	21	Expand energy efficient street light program and work towards reducing the effects of light pollution.	EL&P		Completed/ Ongoing.
✓	22	Explore District Energy potentials in high-density neighbourhoods.	EL&P	The City is investigating Riverlands opportunities	In progress.
✓	23	Partner with renewable energy providers and community stakeholders to provide information about private renewable energy options.	EL&P	EL&P works with retailers to facilitate applications for solar installations. Red Deer's total installed solar powered sites (City owned & privately owned) increased from 17 to 19 in 2014. Generating capacity increased from 66.69 kW in 2013 to 145.78 kW in 2014.	Ongoing
		Waste (4 Top Priority actions)			
✓	24	Update the Waste Management Master Plan	Environmental Services	Waste Management Master Plan (WWMP) approved by Council.	Completed.
✓	25	Review tipping fee structure to identify opportunities to encourage (incent) diversion	Environmental Services	Implemented differential fees in 2014.	Completed.
✓	26	Create an education campaign, toolkits and pilot projects around household and community composting	Environmental Services	Program was launched in 2012 and ran very successfully again in 2013 and 2014.	Completed/Ongoing.
✓	27	Partner with developers and builders to advance recycling and diversion of construction waste on development sites	Environmental Services	Broad stakeholder consultation occurred as part of developing the WWMP, as well the plan considered construction waste diversion programs.	In Progress.



Short Term Actions

The most significant findings dealing with the 27 short term actions are summarized in **Table C** below. At this time, all are in progress, with 9 considered completed.

Table C: At a Glance – Short Term Priority Action Progress January- December 31, 2014

		Action	Responsible Department	Description of Progress	Status
		Water (5 Short Term (by 2015) actions)			
✓	1	Promote Naturescaping Contest	Environmental Services	Principles of naturescaping incorporated into the Healthy Yards program. Education program and were shared with the public at events and via City webpage.	Completed.
✓	2	Create a rain water capture program to promote the use of rain water for irrigation, building on the success of the existing rain barrel sales program.	Environmental Services	Preparations for the 2015 program underway.	In Progress.
✓	3	Explore using waste water effluent for irrigation at Riverbend Golf Course.	Environmental Services	Under review as part of the Water Conservation Efficiency and Productivity Plan (CEP).	In Progress.
✓	4	Establish a water quality monitoring program at key points along the Red Deer River and creek tributaries to determine the city's impact, analyse the river's capacity to handle pollutants, and develop methods to mitigate impacts	Environmental Services	Report for the River & Tributary Study complete and is available. Further sampling and analysis to be completed in 2015.	In Progress.
✓	5	Review the salt management plan for road maintenance with a focus on minimizing salt used	Public Works	The City of Red Deer has a formal salt management plan that provides operational guidance to effectively use salt (Sodium Chloride) to achieve traction control and anti-icing objectives. Salt, similar to other ice melting chemicals, is effective only at specific operating temperatures and corresponding concentrations. The City of Red Deer minimizes the amount of salt used in winter operations by	In Progress.



		Action	Responsible Department	Description of Progress	Status
				effectively varying the salt to sand concentrations based on the most effective concentration for the daily temperature. By applying salt at varying concentrations appropriate for the daily roadway surface temperature, the effectiveness of the traction control program is increased while minimizing the net use of salt.	
		Ecology (2 Short Term (by 2015) actions)			
✓	6	Re-evaluate storm water management policy relating to use of facilities as part of the municipal reserve requirement as outlined in the Neighbourhood Planning Guidelines	Planning Department	The Neighbourhood Planning & Design Standards (NPDS) clarify criteria for reserve dedication. SWM facilities are not listed as a suitable feature to include in MR dedication.	Completed
✓	7	Continue to enforce tree planting and native species requirements for new developments through the Land Use Bylaw	RPC	Ongoing: Acceptable species list is provided in the Engineering Design Guidelines and Contract Specifications. Enforced through a variety of mechanisms related to new development.	Completed/Ongoing.
		Transportation (1 Short Term (by 2015) action)			
✓	8	Evaluate trails and pathways mapping and technology resources to better connect people to the parks, pathways and trails system.	Engineering	In Progress.	In Progress.
		Built Environment (3 Short Term (by 2015) actions)			
✓	9	Update the Neighbourhood and Industrial Planning Guidelines and Standards to emphasize compact, pedestrian oriented development patterns, including increasing the minimum density for new development.	Planning Department	Completed for neighbourhoods through the adoption of the NPDS (2013). The Industrial Guidelines have not been amended, although the adoption of eco-industrial design guidelines and eco-industrial overlay district provide a strong basis for future work on industrial guidelines.	In Progress
✓	10	Encourage redevelopment of Brownfield sites in accordance with Greater	Planning Services Division	In progress. RFP for the Retention and Recruitment Action Plan (RRAP) to be awarded in 2015	In Progress



		Action	Responsible Department	Description of Progress	Status
		Downtown Action Plan.		brownfields will be part of this study.	
✓	11	Increase accessibility to locally produced food by creating a year-round Market in accordance with recommendations made in the Greater Downtown Action Plan and Community Culture Vision Plan.	RPC	Project moving forward in cooperation with Planning Services.	In Progress.
		Air (1 Short Term (by 2015) action)			
✓	12	Establish a community idle free program	Environmental Services	Program continued in 2014 reaching out to schools, businesses, agencies, and the general public. Was referred to as a model for new initiatives in Town of Sylvan Lake and Lacombe County.	In Progress.
		Energy (3 Short Term (by 2015) actions)			
✓	13	Develop environmental standards for City buildings and facilities that include guidelines for increased energy conservation of buildings (directed by policy 9.13 of the MDP).	Environmental Services	Water conservation standards development under way for completion in 2015, other actions (other environmental standards) are for future start.	In Progress.
✓	14	Explore the potential of increasing the amount of energy captured from the City's wastewater facilities	Environmental Services	A Cogeneration unit was built in 2014 (to convert digester gas into electricity for use in the plant). Start-up is slated for mid-2015.	Completed.
✓	15	Explore rate structure to promote conservation.	EL&P	New utility policy completed and approved by Council, 4002-CP, in 2013. No significant changes in 2014.	Completed.
		Waste (1 Short Term (by 2015) action)			
✓	16	Lobby the provincial government to develop and implement waste diversion programs	Environmental Services/ Advocacy Committee	AUMA resolution was submitted in 2013.	Completed.



		Action	Responsible Department	Description of Progress	Status
		Corporate Strategies (11 Short Term (by 2015) actions)			
✓	17	Identify an internal Champion. (First Steps: Work with an interdepartmental management-level group to confirm/determine the internal champion of the EMP.)	CLT	Elaine Vincent, Director of Development Services is in this role.	Completed.
✓	18	Establish an inter-departmental commitment to collaboration	Environmental Master Plan Champion	Departments are striving to collaboration through various initiatives including those at the Green Team.	Ongoing
✓	19	Implement the Core Direction of Encourage, Educate, Engage, Enable, and Expect	Environmental Services	This was incorporated in 2012 as part of the annual reporting/public report card.	Ongoing
✓	20	Find Ways to Report Progress and Updates	Environmental Services	This was incorporated in 2012 as part of the annual reporting/public report card.	Ongoing
✓	21	Advance Partnerships	Environmental Services/EAC; City Advocacy Team	Environmental Services continues its presence in the community to educate and encourage EMP implementation. Members of Council and Administration continue to work with various community groups in the area of environmental stewardship and leadership.	Ongoing
✓	22	Continue to engage the Environmental Advisory Committee	Environmental Services	EAC engaged through regular reporting to committee by Environmental Services	Ongoing
✓	23	Improve existing development guidelines to reinforce environmental targets.	Planning Department	As per report in 2013, NPDG: approved by Council October 2013. Engineering Guidelines: the NPDG will initiate changes to the Engineering guidelines in 2014/2015.	In Progress.
✓	24	Align corporate procedures with environmental goals	Legislative and Governance Services	A review of existing policies is currently underway to ensure alignment with the Governance Framework.	In Progress
✓	25	Embrace the Performance Benchmarking System.	All Departments, CLT	Complete and ongoing commitment to continue.	Ongoing



		Action	Responsible Department	Description of Progress	Status
✓	26	Identify the responsibility for data maintenance and monitoring	All Departments	The Annual Report protocol has begun to solidify these approaches. Ongoing improvements.	In Progress/ Complete.
✓	27	Commit to regular reporting back to the community, partners, and stakeholders.	Environmental Master Plan Champion	Completed each year since the Plan's adoption with an annual community report in 2011, 2012, 2013 and now 2014. Ongoing commitment to continue.	In Progress/ Complete.



Conclusion

This 2014 annual report details the progress made in moving Red Deer closer to the EMP's set environmental sustainability goals. This report indicates measured achievement across all seven focus areas. In addition, based on the actions that are ongoing or underway there is solid potential for further positive results in the 2015 reporting period.

Recommendations

1. That Council endorse the 2014 Environmental Master Plan Annual Report as presented.

Funding and Supporting Actions and Big Undertakings

In 2011, 2013, and 2014 special funds were approved by City of Red Deer Council for implementation of the Environmental Master Plan. These funds were from The City's four utilities and a share from the tax base. The earmarked funds allowed start up and initiation of plan implementation. The first year of funding provided the means for several significant actions from the plan to move forward. Some of the initiatives which got under way as a result of these special funds are:

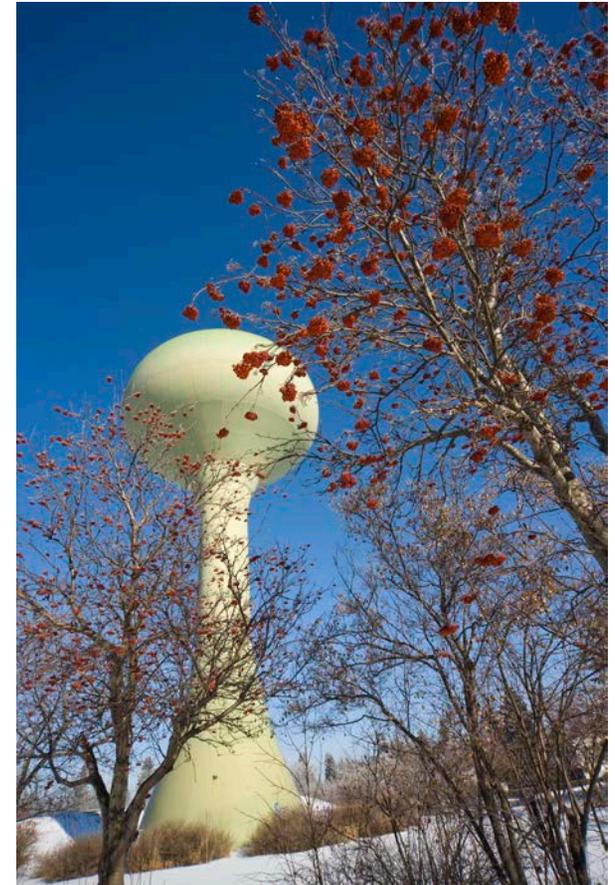
- greenhouse gas inventory analysis and development of a corporate greenhouse gas emissions reduction plan
- establishment/reaffirming of a community idle-free program (to reduce/eliminate vehicle idling)
- promotion of home energy audits and tool kits to help citizens make their homes more energy efficient (partnership with Red Deer Public Library)
- climate change adaptation and mitigation planning (partnership with ICLEI)
- developing environmental standards for City owned buildings - water conservation standards component
- community residential composting education program to divert waste
- Partnerships with surrounding municipalities and local employers to establish regional community resources such as carpooling, and new transit options (partnership with Green Trip)
- Strategies research and planning to "green" the municipal fleet



With these funds, and with the support of other partners and resources, implementation of the plan continues. The Environmental Master Plan has successfully set a foundation for advancing environmental leadership within our city.

Closing Thought

In closing, The City of Red Deer is proud of the past year of ongoing commitment to the objectives of the plan and the success in maintaining momentum to move forward. Progress has occurred both on the part of The City of Red Deer but especially on the part of citizens, key stakeholders and partners. The City of Red Deer is equally proud to work with so many excellent agencies, organizations, and individuals in the community during 2014 to advance the Plan's goals. The City will continue to collaborate and seek out new partnerships including funding support in 2015. Since the plan was first approved in 2011 there have been many steps forward. Thank you to Environmental Master Plan partners and community stakeholders for taking these steps with The City, and thank you Red Deerians! Here's to the many positive achievements and many more to come!



APPENDIX ONE - Year End Status Reports of Plans Adopted under the Environmental Master Plan

- Greening the Fleet Study – 2014 Annual Reporting
- Waste Management Master Plan – 2014 Annual Reporting



July 8, 2015

Greening the Fleet

Public Works

INTRODUCTION

The Environmental Master Plan (EMP) identified opportunities to reduce Green House Gas (GHG) emissions in the community by greening the fleet. “Greening the Fleet” simply means to: reduce the environmental impact of the City of Red Deer fleet, being fiscally responsible and mindful of social benefits. The current status of the primary initiatives taken to Green the Fleet is as follows.

I) ALTERNATIVE FUEL VEHICLE IMPLEMENTATION (CNG)

Background: In 2014, Council approved the Compressed Natural Gas (CNG) Transit Bus Proposal. It was determined that the use of CNG fuel in full size Transit buses will significantly reduce GHG emissions since Transit consumes two-thirds of all fuel used by the City subfleets. Implementing a CNG fueling infrastructure will make it viable to expand CNG into other subfleets, increasing synergies and further reducing GHG emissions.

Potential Benefits: Migrating to a CNG Infrastructure for Transit Buses, Paratransit Buses, Pickup Trucks (1 ton, $\frac{3}{4}$ ton, $\frac{1}{2}$ ton), HD Dump and Utility Bed Trucks has the potential to reduce petroleum consumption and environmental impact by decreasing fuel consumption and increasing fuel savings. The intent of converting to CNG versus diesel for the subfleets as mentioned will reduce GHG emissions.

Current Status: The CNG project has begun and a CNG project manager is in place to administer and deploy the project.

Next Possible Actions:

- Coordinate procurement of new CNG replacement Transit Buses with compatible completion stage of CNG project.
- Construction of fuel site and building modifications to start in Q3 of 2016.



- First CNG Transit Bus to be procured and in operation by Q4 of 2016.

II) IDLE FREE INITIATIVE

Background: In 2008, the City of Red Deer launched a fleet wide idle free initiative. To support this initiative, the city deployed signs, placed decals on vehicle doors, created an information card, and employees with exemplary idling behaviors received a \$5 coffee card.

Potential Benefits: For a relatively low implementation cost this initiative has potential to increase fuel efficiency thereby reducing the emissions footprint and increasing significant operational cost savings fleet wide.

Current Status: While the Idle Free program was launched successfully, it has lost momentum over the past several years due to lack of specific goals, periodic reviews, metrics to track its progress (on a subfleet as well as on individual driver's basis) and enforcement measures.

Anti-idling devices and equipment have not been implemented yet nor has incorporating a full-blown GPS system for tracking individual vehicles and drivers.

Next Possible Actions:

- Re-launch the Idle Free Initiative fleet wide – “Idling ‘Gets You Nowhere” Program
- Implement metrics to track progress
- Define achievable goals
- Encourage Good Behavior and Enforce Policy
- Install Anti-idling devices and equipment to vehicles
- Expand GPS system to more units to collect fuel use and driver behavior



III) SMART DRIVER INITIATIVE

Background: Implementing a Smart Driver Training program was identified as an achievable action that could significantly reduce operational costs and GHG emissions fleet wide.

Potential Benefits: Implementing Smart Driver Training fleet wide has the potential to improve fuel efficiency thereby decreasing fuel consumption and high maintenance costs.

Current Status: The Smart Driver Training is currently implemented for all new drivers fleet wide. Some of the Smart Driver training includes: driving within the speed limit, coasting around corners, not over-using the brakes, not being on and off the accelerator, non-aggressive driving, low rpms for fuel efficiency and more. Though training is being provided to all new drivers it is rather difficult to determine if the Smart Driver training is being practiced.

Next Possible Actions:

- Install driver information systems to show real-time efficiency of the vehicle and effects of driving behavior
- Develop driver incentives
- Civic Spirit Smart Driver Tips

IV) VEHICLE RIGHT- TYPING

Background: Initially started in 2009 to reduce overall capital expenditures and operating costs, the City is currently attempting to Right-type equipment with the input of subfleet representatives to ensure optimized vehicles are being purchased and utilized.

Potential Benefits: Right-typing has potential for a sizable operational cost and emission footprint reduction by purchasing smaller fuel efficient replacement vehicles fleet wide.

Current Status: The City has made a valiant effort of working with fleet representatives to right type the vehicles as part of new acquisitions, but there is no clear policy to support and help this program along. Conversations with subfleet representatives are ongoing but operators are not always receptive.



Next Possible Actions:

- Develop a clear Vehicle Right-Typing Policy
- Invite Subfleet Representatives to help create the policy which may encourage receptivity and compliance with the policy

V) VEHICLE RIGHT-SIZING THE FLEET

Background: It was identified that Right-Sizing the fleet has potential to increase the unit utilization by partnering and pooling resources with the subfleets.

Potential Benefits: Right-Sizing the Fleet has potential for generating savings by reducing operational costs (vehicle leases, new acquisitions, preventative maintenance) in accordance with the size of the fleet.

Current Status: The City Public Works Fleet continues to discuss Right-Size Fleet strategy with the subfleet representatives.

Next Possible Actions:

- Develop a clear Vehicle Right-Size Fleet Policy
- Invite input and policy creation from Subfleet Representatives

CONCLUSION

Several Greening the Fleet initiatives are underway and in various stages to meet the directive of reducing our GHG emissions in the community as identified by the EMP. Some initiatives are progressing slower than others but the next possible actions have been identified to assist with the momentum of these projects.



July 20, 2015

Waste Management Master Plan (WMMP)

Environmental Services

The Waste Management Master Plan (2014) was approved by Council on May 13, 2013, making 2014 the first full year of WMMP implementation.

2014 metrics

Covered in the main body of the Environmental Master Plan annual report.

2014 activities

Education / Promotion Approaches

- Government leadership
 - Work began on developing a corporate waste diversion strategy with the first pilot phase being implemented with Public Works in July 2015.
 - A team of staff from Financial Service, Environmental Initiatives and Waste Management began developing updates for the Procurement Policy to encourage waste reduction, diversion and other sustainability goals.
- Community Engagement
 - Supported Re-Think Red Deer's Garbage Free February kick-off by presenting on the Composting at Home program.
 - Held second annual Spooktacular family event at the Waste Management Facility in celebration of Waste Reduction Week. 2014's event was supported by a number of community groups attending to provide education related to Reducing, Reusing and Recycling (Recycling Council of Alberta, Hearts of Women, the Kerry Wood Nature Centre and Habitat for Humanity).
- Community based social marketing (CBSM)
 - WM and Communications staff attended training on CBSM
 - Began incorporating CBSM principals into design of education programs – including the Green Cart pilot.



Residential Waste Reduction / Diversion

- Continued Composting at Home program
- Designed the Green Cart residential organics collection pilot program – for implementation in April 2015.
- Continued assessment of plastics recycling markets and negotiations with recycling contractor to add further plastics to the blue box program.

Industrial, Commercial and Institutional (ICI) Waste Reduction

- Hired a new staffing position, which will focus on ICI waste reduction initiatives as well as support education and outreach for all waste management section programs.
- Developed proposed corporate waste diversion strategy with the intent to use it as a pilot/model to help assist the ICI sector.
- Participated in Communities of Practice group, which developed a guidance document for businesses titled “Finding the right hauler for you”. The group was province wide and included representatives from business, haulers and municipalities.

Infrastructure Enhancements

- Green Cart pilot will represent the first step in assessing automated cart based residential collection.
- Request for Proposal developed for and Organics Processing Facility Feasibility Study to determine technology and size of a facility to process residential and ICI food waste. A consultant will be selected in early 2015 with the final report expected in the fall 2015.

Regulatory Options

- Implemented differential tipping fees at the landfill. Differential tipping fees create a financial incentive to divert, since items suitable for diversion are charged a lower fee than materials requiring disposal.

What's next for 2015?

- Continued monitoring and assessment of Green Cart Pilot.



- Design Blue and Black Cart pilots, for implementation in spring 2016.
- Investigate expanding wood waste diversion at the WMF.
- Develop enhancements for multi-family recycling program.

