

# Industrial Zoning Review: Regulatory Toolbox

Literature Review, Municipal Survey, and Regulatory Toolbox

## Introduction

This document summarizes background research completed for the Industrial Zone Review project being conducted by the City of Leduc Planning & Economic Development Department. This research includes a literature review on industrial land use regulation and a survey of 10 municipalities in Alberta. A 'Regulatory Toolbox' was created based on the findings of the research.

This document is a part of the research phase of the project, and compiles a wide range of information. While there is some analysis on the applicability of certain things to the City of Leduc context, that is not the focus of this report. It is intended that further research may be done on individual tools identified in the regulatory toolbox, as future project goals dictate.

## Goals and Objectives

The intent of this report is to summarize research and compile a list of potential land use regulatory tools for the City of Leduc to consider implementing in its industrial zones. This report specifically seeks to answer:

- What does academic literature say about industrial land use regulation?
- How do other Alberta municipalities regulate their industrial zones?
- Are the regulatory tools identified compatible with the City of Leduc's goals and vision?

## Literature Review

A review of available literature and the work of other municipalities was conducted to collect and understand a wide array of regulatory tools that could be implemented through or alongside the City of Leduc's Land Use Bylaw (LUB). Professional planning and academic literature on the topic of industrial development was limited and difficult to locate.

A 2012 discussion paper from Metro Vancouver titled "Discussion Paper: Best Practices for the Intensive Use of Industrial Land" was highly useful, and provided several ideas and resources. However, its focus on Metro Vancouver and similar jurisdictions around the world is very different from the Leduc context.

Included as an appendix is a table from the same paper which identifies several different industrial sectors, and their general land use characteristics and compatibility with others. This is useful as "different industrial sectors/users can have considerably different location and building needs, as well as different impacts on surrounding areas." Therefore, the ability to mix different uses and sectors together in the same area differs depending on the use. This table could provide guidance on which industrial uses can be mixed (or even defined within the same broader definition) and which ones should be defined uniquely and separated from other kinds of uses.

## Regulatory Toolbox

The Regulatory Toolbox is a list of various regulatory tools found in the literature that may help the City of Leduc achieve the objectives of the Industrial Zone Review project. The four large-scale objectives identified to this point are *better design*, *improved process*, *densification*, *intensification*, and *maintaining safety*. Future analysis may identify additional objectives and this would then result in further scrutiny of each regulatory tool using this larger list of objectives.

- **Better Design:** Achieving more aesthetically pleasing and functional urban form, including buildings, landscaping, site design, and more.
- **Improved Process:** A wider array of options of what to do on industrial land, a simpler process for changing what is being done on the land, and a streamlined, more user-friendly development process.
- **Densification:** Increasing the amount of building on industrial land, typically measured through site coverage, building heights, and floor area ratio.
- **Intensification:** Increasing the amount of activity on industrial land, typically measured through jobs, goods produced, revenue, and more.

- **Maintaining Safety:** Maintain the existing robust safety standards and regulations within the Land Use Bylaw.

Each tool is briefly explained below and then related to the City of Leduc context. Finally, a summary table indicates which tools may help to achieve which objectives.

### Industrial Design Guidelines

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Yes	No	No	No	Yes

Industrial Design Guidelines are a commonly used tool to improve the design and appearance of industrial parks. A cursory review found them in effect in several Alberta municipalities, including Rockyview County, Mountain View County, and Stettler County. However, Metro Vancouver (2012) recommends against “development design requirements and building features that are for aesthetic purposes only” if the primary goal is industrial intensification.

The City of Lethbridge LUB has Site Design Guidelines attached as an appendix, which contain basic site design recommendations for all land uses.

The City of Leduc already employs design guidelines directly within the Land Use Bylaw, particularly for the downtown. Design direction envisioned in the Downtown Master Plan was put into regulations in the LUB through various overlays that cover the downtown area. There are also some design-focused regulations within the Telford Industrial Overlay.

### Elements of Form-Based Code

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Yes	Yes and No	No	No	Yes

Although similar to Industrial Design Guidelines, form-based code describes regulations that are written directly into a land use bylaw. Emphasis is put on built form over land use, and the building-to-street relationship is prioritized (Planetizen Courses, 2020). Although no land use bylaws in Alberta were found that employ a fully form based code that completely prioritizes form over use, many have employed elements of form-based code to varying degrees, creating a more hybrid approach.

Both the Town of High River and City of Beaumont’s land use bylaws have a greater focus on form-based code than the average Alberta municipality. Beaumont’s Business Light Industrial district identifies three “Frontage Type Standards”, and most buildings are required to implement one of these three standards. High River also utilizes several frontage standards and elements to regulate the interaction between building and street.

### Relaxing or Eliminating LUB Regulations

Setbacks, site coverage, FAR, height, etc.

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Maybe?	Yes	Yes	Yes	Yes

Metro Vancouver (2012) recommends that municipalities “review industrial zoning bylaws to eliminate any undue regulations that may prevent higher density industrial building development.” While certain regulations like setbacks and height restrictions are generally considered reasonable and necessary, the key here is to ensure that restrictions are not superfluous, unnecessary, or arbitrary. Furthermore, restrictions like site coverage and floor area ratio (FAR) can be unnecessary where parking or landscaping regulations are in place. On the other hand, site coverage and FAR can potentially be inconsistent with parking or landscaping regulations. All of these are reason to at least review land use bylaw regulations to ensure they are working well and not an undue restriction on development.

### Relaxing or Eliminating Parking Regulations

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Maybe?	Yes	Yes	Yes	Yes

Metro Vancouver (2012) suggests periodically reviewing parking requirements to ensure they are still appropriate, as parking needs can change over time. As certain industrial uses have become increasingly automated over time, there may be a decreased need for employee parking. The City of Edmonton recently removed all parking minimums from their land use bylaw, which is discussed more in the Municipal Survey section of this document.

### Relaxing or Eliminating Landscaping Regulations

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
No	Yes	Yes	Yes	Yes

Along with industrial design guidelines, landscaping regulations could fall into the category of “features that are for aesthetic purposes only” (Metro Vancouver, 2012). Landscaping regulations consume land, do not increase functional efficiency, and increase construction and maintenance cost. Furthermore, they may only slightly enhance the aesthetic appeal of a development if the landscaping is designed or maintained poorly. If the only goal is density and intensity, it may be worth completely eliminating landscaping regulations. However, well designed and maintained landscaping can significantly increase the environmental sustainability and aesthetic appeal of an industrial area. To ensure a balanced approach, it is worthwhile periodically reviewing landscaping regulations to ensure that they are still producing the desired outcomes, and identifying areas where any improvements or relaxations can be made.

### Allowing More Commercial Uses in Industrial Areas

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
No	Yes	Yes and No	Yes and No	Maybe?

Metro Vancouver (2012) noted that allowing too many commercial uses in an industrial area can degrade the industrial area and ultimately threaten the industrial uses there. They stressed the importance of “protecting” industrial lands in order to ensure the continued viability of industrial uses. While allowing increased commercial uses in industrial zones does densify and intensify the land, it does not densify or intensify the industrial use of the land, and could even decrease the industrial use of the land. Furthermore, safety could be compromised if uses are not mixed properly. However, this may be a good option for areas where industrial development has stagnated and more flexibility is required, or where the types of industrial development are relatively compatible with commercial uses.

### Consolidating Land Use Definitions

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
No	Yes	No	No	Maybe?

Consolidating land use definitions to make them broader and more flexible could streamline the permit process and make land open to a wider variety of uses. However, this could degrade the industrial nature of the land and potentially compromise safety if more commercial uses are permitted. (See “Allowing More Commercial Uses in Industrial Areas” above.) Appendix: Industrial Sector Characteristics from Metro Vancouver (2012) may be useful for a land use definition review.

The City of Edmonton is currently undergoing a comprehensive zoning bylaw review, and is proposing to reduce their list of 127 narrowly defined uses to just 20 broadly defined uses, 5-6 of which are commercial/industrial uses. Their proposed list may also be helpful for Leduc’s own review.

### Consolidating Districts

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
No	Yes	No	No	Maybe?

The practice of consolidating different land use districts is typically done to achieve a simpler regulatory framework and/or to achieve a greater mix of uses. It can be expected to have a similar effect to consolidating land use definitions, however this means that it comes with the same potential to ‘dilute’ industrial areas and compromise safety with too many commercial land uses.

As part of the City of Edmonton’s zoning bylaw review, Edmonton is currently proposing to reduce the number of industrial districts from 5 to 3, and commercial districts from 7 to 1.

### Density Bonusing for Environmental or Design Improvements

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Yes	Yes and No	Yes and No	Yes and No	Yes

“Density bonusing” is the act of allowing a higher than normal density or intensity for a specific development, in exchange for other benefits, such as aesthetic enhancements or improvements that benefit the environment. This tool is currently used in the Telford Industrial Overlay in the City’s Land Use Bylaw:

#### 18.8.3.4 Building and Site Design

1) The City may allow up to a 15% increase in Site Coverage for Developments that are constructed with green roofs.

Density bonusing is also offered for attainable housing in section 19.8 of the Leduc Land Use Bylaw.

However, this tool may have little effect in areas where land is already largely underdeveloped, like Leduc’s industrial parks. Density bonusing is more successful in areas where land values are already very high, and developers want to make as much use of the land as possible. If anything, underdeveloped areas should be reducing barriers to density, not imposing additional hurdles. Density incentivizing may be a more effective tool in Leduc than density bonusing. However, providing “bonus” relaxations to certain regulations in exchange for certain public goods does not have to be limited to density regulations, and could be used differently to fit different contexts. For example, solar roofs may be worth incentivizing as way to reduce greenhouse gas emissions in the city.

### Surtax on Vacant or Underutilized Land

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
No	No	Yes	Yes	Yes

While definitely a strong tool to promote the development of vacant land, a ‘vacant land tax’ is rarely used in Alberta, likely due to challenges around the implementation of applicable legislation, as well as potential for negative public backlash. St. Albert has implemented such a policy, but it applies only to residential lands. Such a tool remains complicated to implement, and would require significant political will to bring into effect. The Planning & Economic Development Department is bringing a report to Leduc City Council on this very topic in the near future, and Council’s feedback will be incorporated into this project.

### Overlays/Modifiers

Better Design	Improved Process	Densification	Intensification	Maintaining Safety
Maybe?	No	Maybe?	Maybe?	Yes

In response to [the City of Edmonton’s discussion paper on Commercial and Industrial zones](#), Sean Lee, RPP, MCIP, writes “the use of modifiers, overlays, etc. needs to be very carefully thought out, have very few categories, and be used predictably in large swaths (such as the current Main Streets Overlay), otherwise the purpose of a streamlined and modernized Zoning Bylaw will be lost.” [\(Lee, 2020\)](#)

The City of Leduc LUB already contains 11 overlays<sup>1</sup>, used for several different purposes, including as a buffer around special industrial uses, and to protect the natural environment around Telford Lake. While overlays are commonly used, they add complexity to the implementation of a land use bylaw and can be confusing for permit applicants and the public. Overlapping overlays can further add to the complexity. Leduc’s Cannabis Overlay and Industrial Protection Overlay overlap one another, as do the AVPA Overlay and the Infill Overlay. Additionally, the downtown area contains four small overlays, which are all

<sup>1</sup> 1. Airport Vicinity Protection Overlay; 2. Highway 2 Corridor Guidelines; 3. Downtown Parking Overlay; 4. 50<sup>th</sup> Avenue/50<sup>th</sup> Street Gateway Overlay; 5. Main Street District Overlay; 6. Main Street West Overlay; 7. Downtown Mixed-Use Overlay; 8. Telford Industrial Overlay; 9. Industrial Protection Overlay; 10. Cannabis Overlay; 11. Infill Overlay

overlapped by the Downtown Parking Overlay. A small portion of western downtown is covered by four different overlays (Main Street West, Downtown Parking, Highway 2 Corridor Guidelines, Infill).

Modifiers are a way to do the same thing as overlays within the regulations of the district itself, but are essentially just a different way of organizing the land use bylaw, as opposed to a completely different kind of tool.

Tool Summary Table

	<b>Better Design</b>	<b>Improved Process</b>	<b>Densification</b>	<b>Intensification</b>	<b>Maintaining Safety</b>
Industrial Design Guidelines	Yes	No	No	No	Yes
Elements of Form-Based Code	Yes	Yes and No	No	No	Yes
Relaxing or Eliminating LUB Regulations	Maybe?	Yes	Yes	Yes	Yes
Relaxing or Eliminating Parking Regulations	Maybe?	Yes	Yes	Yes	Yes
Relaxing or Eliminating Landscaping Regulations	No	Yes	Yes	Yes	Yes
Allowing More Commercial Uses	No	Yes	Yes and No	Yes and No	Maybe?
Consolidating Land Use Definitions	No	Yes	No	No	Maybe?
Consolidating Districts	No	Yes	No	No	Maybe?
Density Bonusing	Yes	Yes and No	Yes and No	Yes and No	Yes
Surtax on Vacant or Underutilized Land	No	No	Yes	Yes	Yes
Overlays or modifiers	Maybe?	No	Maybe	Maybe?	Yes

## Municipal Survey

The land use bylaws of 9 Alberta municipalities were reviewed to see how each municipality is regulating industrial land. This list includes municipalities comparable to Leduc, mid-size municipalities that are slightly larger than Leduc, the province's large metropolitan centres, and those municipalities that have particularly innovative or forward-thinking land use bylaws. No jurisdictions outside Alberta were reviewed at this time, as land use regulation frameworks and economic realities can vary greatly in other provinces or countries. The City of Calgary was reviewed briefly, but Calgary's land use bylaw is highly complicated, with a large number of districts, and is clearly intended for a much larger, more complex city. Therefore, it was not closely reviewed for this project.

For each municipality, a brief analysis with key points of interest is provided. Any tools from the Regulatory Toolbox (or the opposite of the tool) that each municipality appears to be implementing are also identified.

Finally, a table is provided to compare the key attributes of all 10 land use bylaws (including Calgary) to Leduc.

### City of Edmonton

The City of Edmonton is currently working on their "Zoning Bylaw Renewal" project, which is a complete rewrite of the City's Zoning Bylaw. Throughout the project, they have published several papers and public engagement resources explaining their philosophy behind the rewrite, and some of the proposed changes.

One of the areas of focus is a simpler, more flexible, and more understandable bylaw. To this end, Edmonton is proposing reducing the number of industrial zones from 5 to 3, and the number of commercial zones from 7 to 1. They are also proposing reducing their long list of land use definitions with just 20 broad definitions, however many of these definitions have further 'sub-uses' with additional regulations.

#### DC Districts

A cursory review of Edmonton's zoning bylaw map reveals widespread use of Direct Control (DC) districts, which are custom districts written for a specific parcel or a limited area of interest. While DCs are used in industrial areas, they do appear to be used more in lighter industrial or commercial areas. The heavier industrial areas appear to mostly utilize standard Medium Industrial and Heavy Industrial districts. This observation is supported by a review of 100 of Edmonton's DC2 districts (DC2.1000 – 1099, spanning July 2018 to February 2020). Only 11 of the 100 districts are described as being for industrial uses in the "General Purpose" section of the district. All 11 of these districts had a focus on "industrial business", "general industrial", or "lower intensity industrial" uses, often mixed with commercial uses. None of the districts reviewed mentioned medium industrial or heavy industrial uses.

Edmonton's Zoning Bylaw Renewal project does not intend to address the many DC districts across the city, which calls into question if Edmonton is truly reducing the number of districts it uses. However, DC districts do not appear to be as widely used for industrial areas as for residential and commercial areas. It remains to be seen how often Edmonton will implement new DC districts after the zoning bylaw is updated.

#### Parking

Before beginning the Zoning Bylaw Renewal, Edmonton reviewed their parking regulations and ultimately chose to eliminate parking regulations entirely, which they call "open option parking". Edmonton did extensive parking reviews, research, and public engagement before making the change. One of the key findings of their research that motivated the change was that there was no consistent pattern to how parking was being used across the City, and no discernable correlation between land use and the amount of parking required. They also found that generally, parking is over-supplied in the City of Edmonton.

Tools being used/proposed:

- Eliminating parking regulations
- Consolidating land use definitions
- Consolidating districts (except DCs)
- Overlays/modifiers



Edmonton’s Proposed Zones Compared to Leduc’s Existing Zones  
 From [\(City of Edmonton, 2020\)](#)

Table 1. Proposed Commercial and Industrial Zones

Summary of Current and Proposed Commercial and Industrial Zones				
Commercial Zone		Industrial Zones		
General Commercial	Business Employment	General Industrial	Heavy Industrial	
Example Developments				
<ul style="list-style-type: none"> <li>+ Corner Stores</li> <li>+ Medical Offices</li> <li>+ Big Box Retail</li> <li>+ Strip Malls</li> <li>+ Offices</li> </ul>	<ul style="list-style-type: none"> <li>+ Business Centres/ Offices</li> <li>+ Warehouses</li> <li>+ Strip Malls</li> </ul>	<ul style="list-style-type: none"> <li>+ Warehouses</li> <li>+ Storage Yards</li> </ul>	<ul style="list-style-type: none"> <li>+ Land Treatment</li> <li>+ Chemical Processing</li> <li>+ Hazardous Material Storage</li> </ul>	
Zoning Category Provision				
<b>Residential</b>	Limited	Not Permitted	Not Permitted	Not Permitted
<b>Commercial</b>	Major Focus	Major Focus	Limited	Limited
<b>Industrial</b>	Limited	Limited	Moderate	Major Focus

	General Purpose of the Edmonton Zone (as described by Edmonton)	Leduc Equivalents (Based on General Purpose Description and table above)	Rationale
Business Employment	To provide opportunities for commercial and industrial businesses which operate in a way that is <i>compatible with any adjacent non-industrial Zone</i> .	IL – Light Industrial IBL – Business Light Industrial *Flex Business	In practice, there is limited difference between IL and IBL, and for sake of simplicity, clarity, and being development friendly, these two districts could potentially be combined into a more general, permissive district.
General Industrial	To provide opportunities for industrial businesses which are predominantly located within enclosed buildings but may require outdoor areas for storage or limited outdoor operations.	IM – Medium Industrial *Aero Employment	Functionally equivalent
Heavy Industrial	To provide opportunities for intensive industrial activities with <i>major land use impacts</i> to surrounding properties.	IS – Special Industrial	The two districts are both intended for heavier industrial uses with significant potential impacts. However, Leduc’s IS district is limited in scope and scale, and is



			accompanied by an overlay to regulate land uses surrounding the district.
--	--	--	---

### Strathcona County

This review focused on the Urban Service Area of Strathcona County (Sherwood Park). This area contains a large industrial area, including a heavy industrial area with oil refineries. The County uses a Heavy Industrial Transition Overlay to buffer the heavy industrial area from other kinds of uses. This overlay prohibits certain uses within a defined radius of the Heavy Industrial District.

Strathcona County’s LUB appears to more specifically regulate industrial land than the City of Leduc’s, as it contains approximately 78 different industrial land uses, compared to Leduc’s 50. This may be due in part to the County’s large areas of heavy industrial or a wider variety of industrial activities in their industrial lands compared to Leduc. However, the high number of definitions is likely also due to a desire of the County’s planning department and Council to closely regulate industrial activities.

The County’s bylaw uses a maximum floor area ratio instead of a maximum site coverage to regulate building footprint size.

Tools being used:

- Many specific land uses (Strathcona County employs many more land uses than Leduc)
- Overlays/modifiers

### Fort Saskatchewan

Fort Saskatchewan’s Land Use Bylaw C23-20 industrial regulations are similar in many aspects to Leduc’s LUB. Both LUBs define approximately 50 different industrial land uses (many of them similar between the two bylaws), and employ similar setback, site coverage, and site design/landscaping regulations. The two bylaws were completed by the same consultant around the same time several years ago, and so at one point were nearly the same bylaw. However, since then the two bylaws have evolved differently as the two municipalities have changed and made bylaw amendments over the years.

Tools being used:

- LUB Regulations
- Parking Regulations
- Landscaping Regulations
- Overlays/modifiers

### Lethbridge

The City of Lethbridge Land Use Bylaw 6300 (approved in 2020) is also quite similar to the City of Leduc LUB in regards to regulation of industrial land. Lethbridge defines 54 different industrial land uses, and has similar setback and height regulations to Leduc. One notable difference is that all 3 of Lethbridge’s industrial districts have a maximum site coverage of 80%, much higher than Leduc’s 30-60%.

Tools being used:

- LUB Regulations
- Overlays/modifiers
- Site Design Guidelines

### High River

The Town of High River has one of the most unique and progressive land use bylaws in Alberta. Their new bylaw, passed in 2017, divides the entire town into just 6 districts, and regulations focus much more on built form than the typical LUB, however it still prioritizes land use as the key organizing factor. There is just one “industrial” district, called the “Service & Employment District (SED)”. It allows for a wide mix of employment uses, including “Light Industrial”, “Repair”, “Outdoor Storage”, “Heavy Industrial” (discretionary), and “Professional Office”.

High River’s LUB also has no parking regulations. Furthermore, the bylaw is organized in a unique way – there are no ‘general regulations’, instead, all regulations for a certain district, for every use, are in one long section. This may help development officers ensure they are implementing all required regulations, as it reduces flipping through different parts of the bylaw to find the applicable regulations.

Tools being used:

- Consolidating land use districts
- Eliminating parking regulations
- Elements of form-based code

### Beaumont

Beaumont's new Land Use Bylaw (passed in 2019) is very similar to High River's (it was completed by the same consultant.) It divides the entire city into just 7 land use districts, including one industrial district, called "Business Light Industrial (BLI)". Beaumont does not have any land designated for heavier industrial uses, but Medium Industrial is a discretionary use in this district.

This bylaw also consolidates land use definitions. There are only 4 "Industrial Uses": "Industrial – Medium", "Industrial – Light", "Recreational Vehicle Storage", and "Wash Station". There are also only 11 "Commercial Uses", and 45 total uses. (For comparison: Leduc has 50 industrial uses, plus all the uses listed in other categories)

Also similar to High River, Beaumont's bylaw has a focus on form-based code (although it still prioritizes land use as the key organizing factor). However, it does not completely eliminate parking minimums as in High River, but does significantly reduce and simplify them.

Tools being used:

- Consolidating land use districts
- Consolidating land use definitions
- Reducing parking regulations
- Elements of form-based code

### Airdrie

Airdrie is often considered Leduc's equivalent in the Calgary metropolitan area, as it sits just north of Calgary on Highway 2, but has its own significant employment base. Airdrie's land use bylaw, passed in 2016, is a more traditional LUB, similar to the City of Leduc's. It has 313 pages, a large number of land use definitions, and many land use districts, including 5 industrial districts and 3 commercial districts.

One interesting thing about Airdrie's bylaw is the existence of an "Airport Employment District", as Airdrie is home to a regional airstrip. However, this is a very bare bones district, the intent of which appears to be to provide ultimate flexibility and openness for airport operations and businesses near the airport. This district has only 3 development standards, paraphrased below:

1. Signs shall be regulated in accordance with relevant table.
2. Development permit not required for "Airport Operations uses and aviation-related facilities."
3. The Development Authority has jurisdiction on all development standards for non-aviation uses.

While this may appear business friendly, this could also create an environment of unpredictability for non-aviation uses in this district, as there are no consistent development standards.

Tools being used:

- Relaxing or eliminating LUB regulations

### Cochrane

The Town of Cochrane is currently in the midst of rewriting their Land Use Bylaw and has a very complete looking draft published April 2021 on their website. The bylaw has a nice, modern design, but the regulations themselves appear relatively standard, and similar to the City of Leduc. The regulations are not as extensive as Leduc's in some places, however it's unknown if this is the design of the bylaw, or simply due to the fact that it is a draft.

Tools being used:

- Relaxing or eliminating LUB regulations (?)

### Red Deer

Red Deer is also currently undergoing a full review of their Land Use Bylaw. They have not published any drafts of the bylaw, but have published several reports as well as a "Project Philosophy" document on their website. The four guiding principles for their LUB review are:

- Reducing red tape
  - Less restrictive and more flexibility
  - Ask the question, “Should we regulate it? If yes, then to what degree?”
- Ease of use
  - Improve format and organization for legibility
  - Use plain language instead of planning and legal terms
- Improving customer service
  - Improve the application process
  - Make the LUB and information about it easier to access on the website
- Respecting the community
  - Consult all interested parties
  - Consider safety

Several of the project updates focus on land use definitions and which ones are permitted and discretionary, however so far these changes are focused primarily on commercial and residential uses. Nonetheless, some interesting changes Red Deer is proposing include:

- Combining two of their commercial districts into one (Consolidating Districts)
- Adding more uses to each commercial district (Allowing more uses)
- Making several discretionary uses permitted instead (Allowing more uses)
- Many land use definitions have been changed. Some have been made more general, while others have been split into multiple definitions and made more specific. (Consolidating land use definitions?)

Municipal Comparison Table

	<b>Leduc</b>	<b>Edmonton (Proposed)</b>	<b>Strathcona County</b>	<b>Ft. Sask</b>	<b>Lethbridge</b>	<b>High River</b>	<b>Beaumont</b>	<b>Airdrie</b>	<b>Cochrane (Proposed)</b>	<b>Red Deer</b>	<b>Calgary</b>
<b>Population (2019)</b>	33,032	972,223	93,381	26,942	101, 482	14,052	19,236	70,564	29,277	101,002	1,285,711
<b>Industrial Districts (Number of Districts and Names of Each)</b>	4 -Business Light Industrial -Light Industrial -Medium Industrial -Special Industrial	Reducing from 5 to 3 -Business Employment -General Industrial -Heavy Industrial  + Many DC districts	3 -Heavy Industrial -Light Industrial -Medium Industrial	5 -Light Industrial -Medium Industrial -Heavy Industrial -Industrial Reserve -Industrial Buffer	3 -Business Industrial -General Industrial -Heavy Industrial	0	1 -Business Light Industrial	5 -Mixed Business/ Employment -Office Park and Employment -Industrial Employment -Heavy Industrial Employment -Airport Employment	3 -Business Industrial -General Industrial -Special Industrial	5 -Business Service -Heavy Industrial -Light and Business Service- Residential -Business Service and Automobile Dealership -Industrial/ Commercial (Mixed Use)	7
<b>Commercial District (Number of Districts and Names of Each)</b>	4 -Central Business District -General Commercial -Commercial Shopping Centre -Commercial Business Oriented	Reducing from 7 to 1 -General Commercial  +Many DC districts	5	3 -Neighbourhood Retail and Service -Commercial Retail and Service -Fort Mall Redevelopment	6	2 -Service and Employment -Central Business District	2 -Main Street District -Commercial	3 -Neighbourhood Commercial -Community Commercial -Regional Commercial	5 -Commercial Transition District -Neighbourhood Commercial District -Historic Downtown District -General Commercial District -Highway Commercial District	7	>7

## Appendix: Industrial Sector Characteristics Table

Metro Vancouver Discussion Paper: Best Practices for the Intensive Use of Industrial Land

Sector	Activity	Location Requirements	Building Design	Heavy Truck Traffic Volumes	Other 'Bad Neighbour' Factors	Compatibility With Other Uses	Potential For Intensification and Form
<b>Textile</b>	manufacture of textiles, wearing apparel, luggage, handbags and footwear	very high cost sensitivity and labour dependence access to local labour pools	generic premises, often vertical importance of ceiling heights	low and irregular truck / van movements	very limited	very high	very high - multi-level buildings
<b>Printing</b>	publishing, printing and reproduction of recorded media, including books & newspapers	transport accessibility for printing facilities	Partially generic (more tertiary activities) part highly specific (printing plants)	moderate	due to process innovation fairly limited	very high due to limited overspill	high - multi-level buildings
<b>Metals, Machinery &amp; Equipment</b>	variety of activities, light manufacturing	dependence on raw materials and components, proximity to trunk roads	varying range of building specialisation, importance of ceiling heights	medium to high truck movements	moderate environmental overspill, often localised: smell, noise, pollution	limited; 'bad neighbour'	high - higher ceilings, other uses on building roof
<b>Wood &amp; Paper Products</b>	variety of activities, light manufacturing	dependence on raw materials and components, proximity to trunk roads	generic premises, range of sizes; large storage yards and floor plates	medium to high truck movements	moderate to high environmental overspill, often localised: smell, noise, pollution, scale	limited; 'bad neighbour'	moderate - ground floor access important
<b>Construction</b>	construction companies, yards for equipment and materials	proximity to markets important	generic 'sheds'; often open, untidy yards	high numbers of truck movements	high: noise, spread of dust and mud, visual amenity issues	limited, often (but not necessarily) a typical 'bad neighbour'	moderate - ground floor access important
<b>Utilities</b>	power and water companies, largely distribution	very high 'sunk' investment, relocation hard	substantial specialised infrastructure	low	low, but visual amenity issues	moderate	low
<b>Motor Vehicle Maintenance &amp; Repair</b>	repair workshops	dependence on low rent for repair workshops car access	generic low grade (repair workshops), often marginal, need for open yards	moderate to high numbers of car movements	some localised overspills, visual amenity issues	moderate	high - vehicle service on lower floor with other uses above
<b>Motor Vehicle Retail &amp; Sale</b>	show rooms / gas stations	dependence on visibility / accessibility	specialised (gas stations) to generic high grade (show rooms)	moderate to high numbers of car movements	limited overspills	high	high - vehicle parking on building roof
<b>Wholesale</b>	large variety in operations, from high-grade to low-grade	importance of market proximity for most operations	often generic, sometimes dependent on ceiling heights and large floor plates	high number of car and van movements	limited overspills	high	very high - higher ceilings, other uses on building roof
<b>Distribution &amp; Warehousing</b>	storage and distribution, some large, modern operations some smaller, pick-and-pack labour intensive operations	access to major trunk roads crucial	both highly specific & generic premises, some high-bay modern warehouses dependent on large floor plates, some small generic	very high	high; transport, noise, visual amenity	low or moderate depending on scale	very high - higher ceilings, other uses on building roof

Source: London Thames Gateway Industrial Land Study - Phase 2, URS, 2003 / Lower Lea Industrial Land Use Analysis, 2002-2016, GLA A+Uu 2004 / UrhahnUrban Design

## Works Cited

- City of Edmonton. (2020, July). *Zoning Bylaw Renewal Initiative Discussion Paper 3 Commercial & Industrial Zones*. Retrieved from Zoning Bylaw Renewal Initiative: [https://ehq-production-canada.s3.ca-central-1.amazonaws.com/62bdc017ea874d391bac8c983c697a6c8fbdfa91/original/1594345987/03CommercialandIndustrialZonesDP.pdf\\_491e5fe8ca61034a77464e8e78fc44a4?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIBJCUK4Z](https://ehq-production-canada.s3.ca-central-1.amazonaws.com/62bdc017ea874d391bac8c983c697a6c8fbdfa91/original/1594345987/03CommercialandIndustrialZonesDP.pdf_491e5fe8ca61034a77464e8e78fc44a4?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIBJCUK4Z)
- Metro Vancouver Metropolitan Planning, Environment and Parks. (2012). *Discussion Paper: Best Practices for the Intensive Use of Industrial Land*. Vancouver, BC: Metro Vancouver.
- Planetizen Courses. (2020, April 13). *What is a Form-Based Code?* Retrieved from YouTube: [https://www.youtube.com/watch?v=644gz7maHdM&ab\\_channel=PlanetizenCourses](https://www.youtube.com/watch?v=644gz7maHdM&ab_channel=PlanetizenCourses)
- Sean Lee, (2020, July 21). *White Paper Review - Commercial and Industrial Zones - Edmonton Zoning Bylaw Renewal*. Retrieved from LinkedIn: <https://www.linkedin.com/pulse/white-paper-review-commercial-industrial-zones-lee-rpp-mcip-cd/>