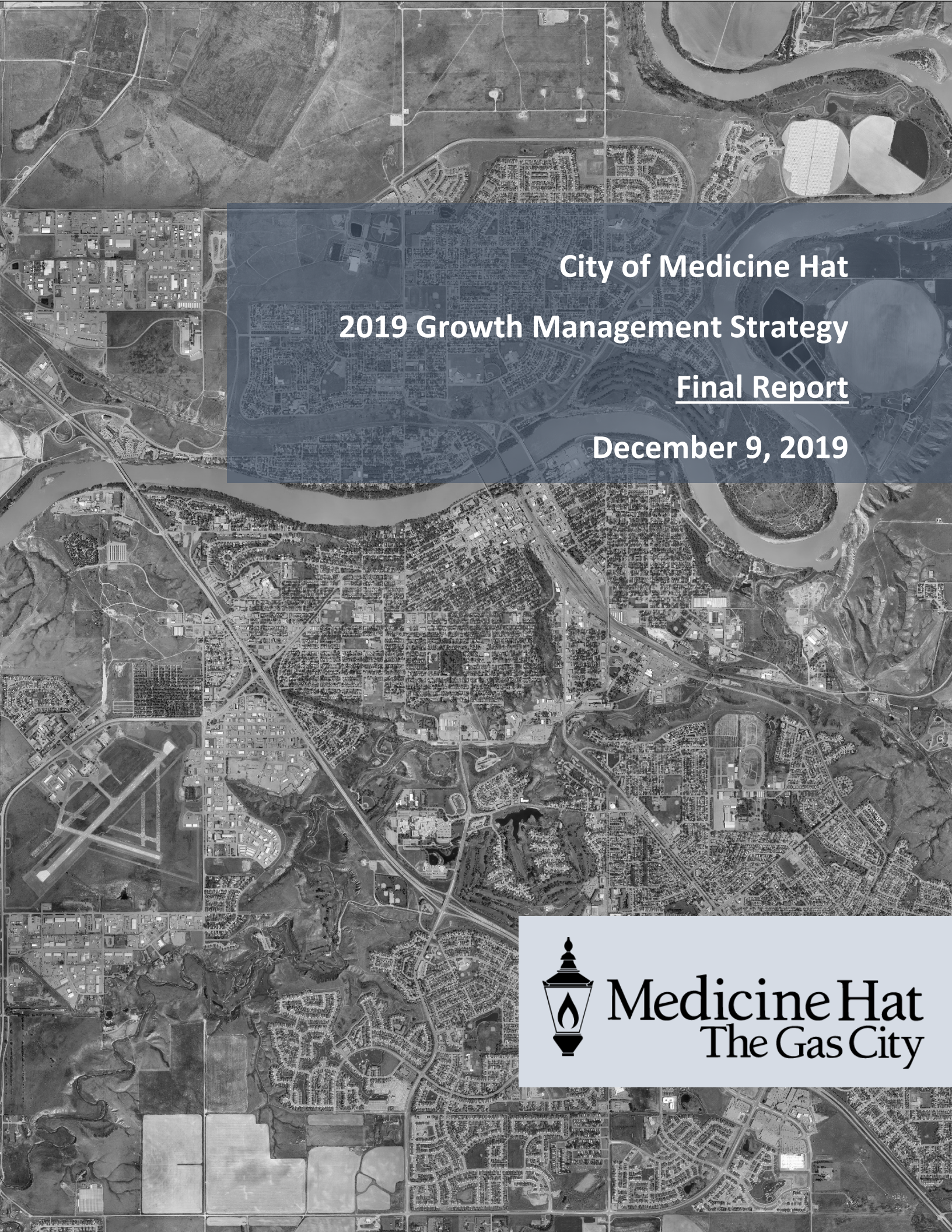

City of Medicine Hat

2019 Growth Management Strategy

Final Report

December 9, 2019

Medicine Hat
The Gas City

Disclaimer

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Acknowledgements

Thank you to the City of Medicine Hat staff all the individuals and organizations who contributed their time and expertise to this report.

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Executive Summary

The key to moving towards a more financially sustainable future is to develop stronger links between land use and servicing, and understanding the financial impacts of city design and service levels. The Growth Management Strategy (GMS) looks first at the evidence that linear, low-density growth is often an expensive form of growth, and looks at ways in which growth can be more financially sustainable. In this way, the information in the GMS will serve to help the public understand the link between different types of growth and cost, and recommend policy changes which can be incorporated into a new Municipal Development Plan (MDP) for Medicine Hat.

Among the unique aspects of this project was to utilize eight (8) 'typologies' as samples for analysis of land use, servicing levels and cost. Each typology is analyzed according to the predominant land uses and level of servicing provided. This included both at-grade and below-grade servicing. In most cases cities provide a standard 'base' level of servicing. The problem with this approach is it sometimes does not respond well to the adjacent land uses it is intended to serve. Medicine Hat was concerned that a 'one-size fits all servicing standard' was leading to underutilized servicing capacity and increasing cost for maintenance. In other words, the level of servicing provided did not always match the intensity of the land use it served.

The typologies yielded financial results which shows a range of values indicative of the amount of population being served, the amount of employment uses, the degree of mixed-uses, and the overall costs to maintain infrastructure within a given typology. The range is illustrated below.

Typology	Net Financial Contribution	Net Financial Contribution (per ha.)
Regional Power Centre	$1,180,000	$23,274
Downtown (Central Business District)	$680,000	$12,431
Heavy Industrial	$436,000	$6,556
Light Industrial	$770,000	$5,965
Corridor Mixed Use	$196,000	$5,117
Historic Neighbourhood Residential	($152,000)	($1,792)
Suburban Neighbourhood Residential	($380,000)	($5,711)
Established Neighbourhood Residential	($1,470,000)	($10,992)

The takeaways from the typology analysis are that purely residential neighbourhoods require services which have costs that tend to outstrip the revenue generated from that typology. Adding uses, to create more mixed-use environments, adding employment uses, and generally adding more non-residential uses will tend to balance the financial equation and move the neighbourhood typology towards a more neutral, sustainable financial impact. Another important element for Medicine Hat is to promote and retain a balanced amount of non-residential and employment uses. If employment uses relocate outside the city, and residential population continues to grow, this could potentially put upward pressure on the mill rate in Medicine Hat over the next 30-year period.

The second part of this study is the application of three future growth scenarios which are based on findings from the typologies. The scenarios are essentially projected build-outs of the city to a population of 100,000 based on 3 levels of infill development – 10%, 20% and 30%.

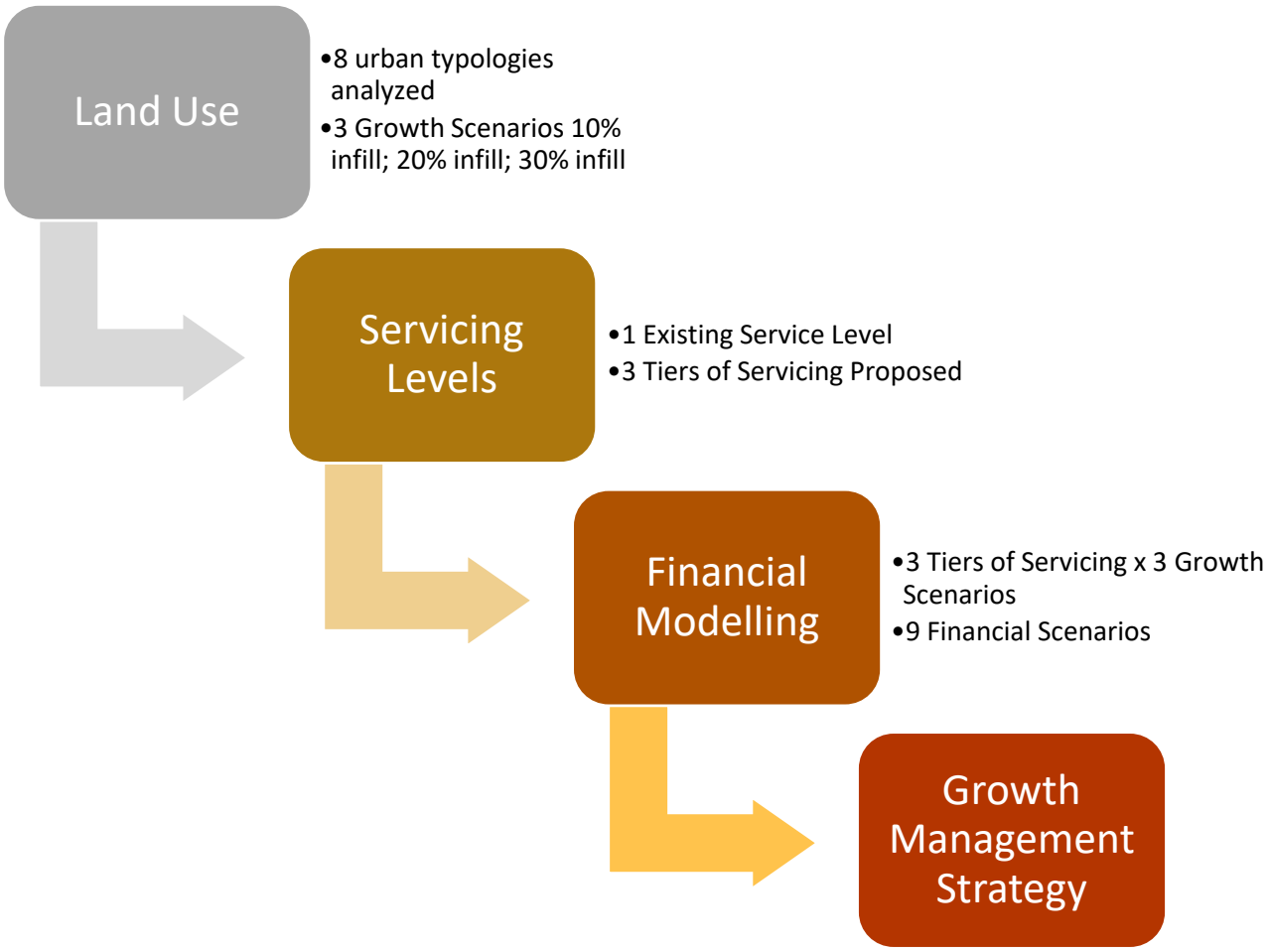
Thirdly, the analysis provides a detailed breakdown of the financial impacts of applying 3 new servicing tiers to 3 Growth Scenarios. Overall, growth as defined in each of the Growth Scenarios is expected to provide the City with an overall financial benefit. This benefit has been estimated to be equivalent to lower municipal tax rates in the range of 3% to 8.4% by the end of the forecast in 2048.

The magnitude of the financial benefits depends on, not only the amount of growth, but also the nature of growth. In addition, the service level standards applied to new growth also have an impact on the fiscal impact analysis results. A key assumption in achieving a positive financial result for each of the Growth Scenarios is the assumption the City will achieve 'balanced growth' – where non-residential development is assumed to occur at a pace equivalent to residential growth. In addition, those scenarios where there are a greater proportion of larger, higher valued dwelling units, the financial results are more beneficial than where there is more multi-family and lower valued dwelling units.

In the financial analysis, both the costs and revenues associated with development are included. Each growth scenario differentially allocates growth to typologies, including the mix of single family and multi-family residential development. The estimated assessment value of different housing types and population density per unit result in single family residential development typically having a net financial benefit as compared to multi-family development, which from an operations perspective is mostly break-even.

The Alternative Service Standard options evaluated also have implications for the financial results. Generally, implementation of lower service standards increases the benefits of growth by a factor of two (comparing the lowest standard against the highest standard).

Below is a graphic which summarizes the GMS process and analysis:



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SUPPLEMENTARY MATERIAL:

1. **Detailed Typology Profiles**
2. **Growth Parameters and Financial Variables**

section 1

Introduction

Section 1 Introduction

1.1 Setting the Stage for Sustainable Growth

Medicine Hat is planning for a sustainable future. A new Municipal Development Plan (MDP) is being completed which sets out the vision and goals for the City over a 30-year period, or to a population of 100,000 people. What seems apparent is the status quo and 'business as usual' approach to urban growth and development will not provide the citizens and stakeholders with the best future possible. In particular, it has been widely recognized that a linear, horizontal form of growth and development is more expensive to build and maintain from an infrastructure point of view, than a compact, higher density, mixed-use environment.

The City of Medicine Hat has expressed a desire to move towards a more financially sustainable future by moving away from a 'one size fits all' approach to infrastructure servicing.

1.2 Understanding Growth Patterns and Cost Implications

This GMS is, in many ways, pioneering work where the key element in this project has been to develop stronger links and a greater understanding between land use, servicing and municipal finance. The GMS contained in this document is intended to inform and strengthen the growth policies contained in Medicine Hat's new MDP which forms the policy basis for implementing changes to land use and servicing.

Much of the learning from this GMS exercise has come from the formation of urban typologies. Eight distinct land use categories were identified based on similar development characteristics. For a city the size of Medicine Hat it was evident that the vast majority of the city could be grouped into eight (8) typologies based on predominant land use pattern. Analyzing the typologies from a land use, servicing, and financial perspective produced a detailed understanding of the existing development patterns in Medicine Hat, and provided insight into how the City could grow more in a more economically sustainable fashion.

Each typology was analyzed according to the level of servicing required. This has the potential to provide a more cost-effective approach to servicing; one which recognizes that it is wasteful to provide a single standard level of servicing to areas of the city which are likely to never fully utilize those services.

Sidewalks and trails which are never used, streets which are too wide (or too narrow), excess (surplus) capacity in sewers and expensive public realm features which remain underutilized are expensive to build and maintain. In most cases cities provide a standard 'base' level of servicing. The problem with this approach is it sometimes does not respond well to the adjacent land uses it is intended to serve. For example, most cities have only 2-4 servicing levels – Residential, Commercial/Institutional and Industrial are fairly common. However, as cities grow, the land uses tend to become more diverse. For example, there could be seven or more distinct types of land use districts – being served by only 1 level of servicing. This may lead to areas being over-served by infrastructure which is expensive to build, maintain and operate.

A common issue in Western Canadian cities right now, is the stated policy goal of 'intensification', or increased density in core areas. However, many cities either do not know the condition or capacity of the necessary servicing to accommodate more growth. Furthermore, in order for cities to grow more sustainably, they must do a better job of equating policy, land use and levels of servicing.

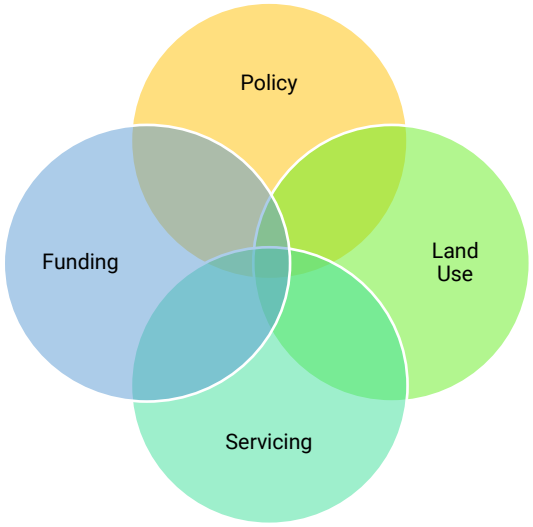


FIGURE 1 - POLICY = LAND USE = SERVICING = FUNDING

Too often municipalities will adopt high level policies which describe an overall goal to be more sustainable, but are uncertain how to proceed to meet that goal. This project will help put 'sustainability' into practice.

1.3 BUILDING FROM THE 2011 GROWTH MANAGEMENT STRATEGY

In 2011, planningAlliance was contracted to develop a strategy to guide the update to Medicine Hat's Municipal Development Plan. The Municipal Development Plan was adopted in 2012.

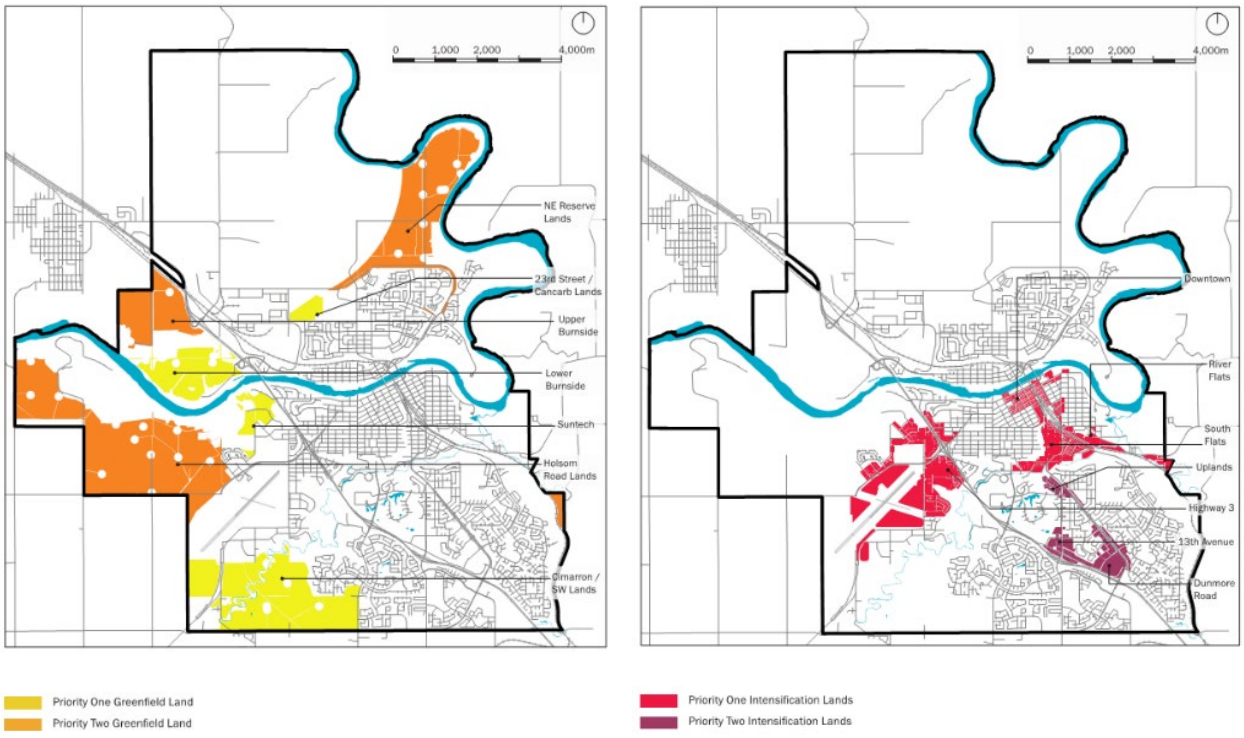
The 2011 Growth Management Study focused on the 'how, where and when' of Medicine Hat's growth in response to the new Tri- Area Inter-Municipal Development Plan adopted for Medicine Hat, Redcliff and Cypress County. 'Smart Growth' was adopted by Medicine Hat City Council as an umbrella strategy in 2007 which would guide and shape how Medicine Hat would grow. Three principles would be promoted as the most sustainable way to grow:

1. Compact, mixed-use neighbourhoods;
2. Growth in existing residential communities (intensification);
3. Alternative Transportation Options.

The report indicated that there was strong support for more sustainable growth amongst stakeholders consulted during the GMS project. At the same time, it was indicated by the stakeholders that adoption of Smart Growth strategies would require a 'Culture Shift' within Medicine Hat amongst decision makers, residents, the business community and City Council.

The report indicated that sustainable growth is a combination of two market forces – Intensification and Greenfield Development. Ideally, both of these market forces are balanced. The issue in 2019 is centred around the current imbalance between intensification and greenfield development. Less than 10% of population growth is occurring as a result of intensification. On the other hand, large areas of land (2,126 ha. or 5,253 acres) of land is unconstrained and potentially available for greenfield development.

The Growth Management Strategy divided the city into Priority Greenfield and Intensification areas:



Among the many observations V3 has identified in the 2011 GMS Report is that Medicine Hat has an abundance of both Greenfield and Intensification Lands within current city limits to accommodate growth to 2060 (Priority One lands) and 2110 (Priority Two lands). The GMS Report did not set targets for intensification. However, it has become clear that the desire for more intensification is not being met, and growth is not in balance between Greenfield and Intensification areas. There are many reasons why this may be occurring, and some of the issues may be resolved via more information concerning costs, policy shifts and specific catalytic developments which capitalize on existing assets within the City Centre of Medicine Hat.

1.4 Reaching Long-Term Growth Goals

It is understood that this Growth Strategy will be used to support the finalization of the new Municipal Development Plan, but will not be adopted as part of the MDP bylaw.

The GMS will be utilized by the City in these ways:

1. As a tool to engage the public on how the City's future growth should be accommodated;
2. Inform the Development Concept and policies within the MDP;
3. To assist with the future project of update the Off-Site Levy Bylaw; and,
4. To assist with the future project of updating development standards as required.

The GMS will focus on achieving two primary goals.

Goal #1 – Design a Financially Sustainable Model

The first goal is that all growth must be financially sustainable.

Being financially sustainable will include not only the overall impact of short-term construction costs (i.e. major water transmission line to suburban growth area) but the long-term and continual replacement of all infrastructure (i.e. the roads, pipes, etc. of suburban areas). Therefore, to account for these long-term liabilities, the servicing levels of neighbourhoods will need to match the revenue potential of the contributing developed land. Through the MDP this will be accomplished by designing a Transect that will tie development patterns and built form to servicing levels (i.e. dense corridors will have high service levels whereas low density fringe areas will have minimal service levels). It is expected that these service levels will not be uniform across the City. All typologies of the Transect must be independently financially sustainable (i.e. one zone should not subsidize the other). The level of detail requested in this project is conceptual and high level transects. Detailed servicing standards for each transect is not requested at this time.

Goal #2 – Apply the Financially Sustainable Model

The second goal is that the GMS will strategically direct growth within the city to areas that are suitable for infill development; maximize the use of existing infrastructure; and, limit and delay the expansion of new infrastructure.

Growth is intended to occur as a mixture of both infill and greenfield development. The GMS includes a minimum of three scenarios for growth. A high-level financial assessment accompanies each scenario.

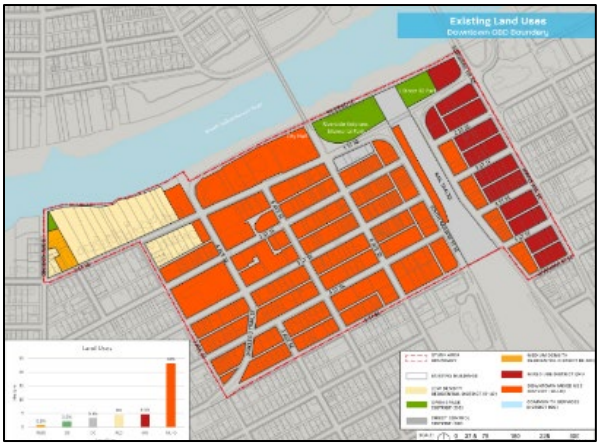
section 2

Understanding Growth in Medicine Hat

Section 2 Understanding Growth in Medicine Hat

2.1 INTRODUCING TYPOLOGIES

A typology is defined as a 'classification' based on a general type. In the case of this Growth Management Strategy, the eight typologies were formed based on a common land use characteristic, and to a lesser degree, a common location within Medicine Hat. The illustration below shows two different typologies – a suburban residential typology, and a downtown or Central Business District typology.



Each typology was derived from the existing urban development within Medicine Hat – these are not hypothetical typologies. Each typology has been selected from areas of Medicine Hat and analyzed using a standard set of Medicine Hat data to describe the land uses, servicing infrastructure and finance/cost characteristics.

Given the differences in age, lot size, dwelling and building characteristics, road network, mix of use, etc. it was expected that each typology which makes up the majority of Medicine Hat's urban fabric would yield a different revenue/cost impact on the City. The task of this GMS Report is to assess the relative cost/benefit of each typology and interpret the results to yield policy recommendations.

2.2 Defining Typology Data

The following table describes each of the data sets used in the analysis.

Typology Category	Dataset	Description
Land Use	Population	Data shared by the City of Medicine Hat and represents the total population within each typology boundary. Note: Population for the Suburban Neighbourhood Residential included a 10% increase to account for full build out.
	Land Area (ha)	Total area within each typology, calculated by georeferenced GIS within a very high degree of accuracy.
	Population Density (per ha.)	Total population in each typology divided by total land area.
	Dwellings	Determined through both data shared by the City of Medicine Hat and housing counts on satellite imagery.
	Dwellings per ha.	Total dwellings in each typology divided by total land area.
	Parks (ha)	Data from City of Medicine Hat, confirmed through analysis of GIS information.
	Zoning	Based on existing land use districts for the City of Medicine Hat.
	No. of Detached Houses	Total determined through analysis of data from the City of Medicine Hat.
	No. of Multi-family buildings	Total determined through analysis of data from the City of Medicine Hat.
	No. of Commercial buildings	Total determined through analysis of data from the City of Medicine Hat.
	No. of Public Spaces	Total determined through analysis of data from the City of Medicine Hat.

Typology Category	Dataset	Description
	No. of Vacant Lots	Total determined through analysis of data from the City of Medicine Hat.
	Avg. Lot Size	Total area within the typology used for dwellings, and divided by the total number of lots.
	Avg. Size of Lot (ft^2)	Simple conversation from hectares to ft^2.
	Avg. Dwellings per hectare	Total dwellings divided by total typology area.
	Age Distribution	Data from City of Medicine Hat and Statistics Canada.
	Population Density	Total population within the typology divided by area.
	Redevelopment Potential	The suitability of each typology measured by studying land use patterns and understanding urban planning principles.
Servicing	Arterial Roadway – length and width	Data taken from the City of Medicine Hat engineering standards, and through calculations from georeferenced mapping.
	Major Collector – length and width	Data taken from the City of Medicine Hat engineering standards, and through calculations from georeferenced mapping.
	Minor Collector – length and width	Data taken from the City of Medicine Hat engineering standards, and through calculations from georeferenced mapping.
	Local Roadway – length and width	Data taken from the City of Medicine Hat engineering standards, and through calculations from georeferenced mapping.
	Sidewalk – length and width	Data taken from the City of Medicine Hat engineering standards, and

Typology Category	Dataset	Description
		through calculations from georeferenced mapping.
	U/G Water – Length	Length of utility lines measured from GIS data shared by the City of Medicine Hat.
	U/G Stormwater – Length	
	U/G Sewer - Length	
	Area of Roadway (m^2 and percentage)	Area calculated by measuring total length of the road carriageway and multiplying by the road ROW. Percentage based on total road area compared to total typology area.
	Cost of all Roadways to construct	Used Opinion of Probable Cost (OPC) generated by analyzing Medicine Hat engineering standards and previous public works expenditures.
	Length & Area of Sidewalks (m^2 and percentage)	Area calculated by measuring total length of the sidewalks and lanes and multiplying by their width. Percentage based on total sidewalk/lane area compared to total typology area.
	Length and area of lanes (m^2)	
	Cost of lanes – gravel and paved	Based on OPC generated from engineering standards, municipal public works experience and engineering expertise.
	Cost of Watermains	
	Cost of Stormwater piping	
	Cost of Sewer mains	

2.3 TYPOLOGY PROFILES

The first part of this project involved the identification of up to 10 urban land use typologies. After an examination of the Medicine Hat OCP and land use data, it was determined that eight (8) typologies would serve to define the vast majority of Medicine Hat's land uses:

1. Historic Neighbourhood Residential;
2. Established Neighbourhood Residential;
3. Suburban Neighbourhood Residential
4. Corridor Mixed Use;
5. Downtown;
6. Regional Power Centre;
7. Light Industrial Employment Area;
8. Heavy Industrial Employment Area.

See **Detailed Typology Profiles** supplementary material package for a detailed description of the eight typologies used in this report.

2.4 LAND USE SUMMARY OF EACH TYPOLOGY

The table below provides a summary of the development characteristics which form the eight typologies used in this analysis. There is a total of three residential typologies, two mixed-use typologies, a retail typology and two employment typologies.

Typology	Population Density/ha	Avg. Lot Size m^2 (ac.)	Development Density Units/Ha. (units/ac.)	Avg Bldg. Size	Area of Roadways (%)	Area of Sidewalks (%)	Area of Lanes (%)	Redevelopment Potential (measurement of likelihood)
Historic Neighbourhood Residential	21 (8.5/ac)	627.8 (.16)	11 (4.5)	1,130	16	2.41	4.14	47%
Established Neighbourhood Residential	24 (9.7/ac)	663 (.16)	10 (4.0)	1,111	17.5	2.48	6.06	37%
Suburban Neighbourhood Residential	36 (14.6/ac)	508.8 (.13)	13 (5.3)	N/A	15.2	2.97	5.42	15%
Corridor Mixed-Use	12 (4.9/ac)	856.2 (.21)	7 (2.8)	N/A	18.2	2.67	N/A	63%
Downtown	12 (4.9/ac)	1,441.8 (.36)	8 (3.2)	N/A	19.8	3.19	N/A	67%
Regional Power Centre	0	3231.1 (.80)	N/A	N/A	8.5	0.39	N/A	25%
Light Industrial Employment	0	9,696.9 (2.39)	N/A	N/A	7.3	0.26	N/A	15%
Heavy Industrial Employment	0	642,865 (158.9)	N/A	N/A	1.92	N/A	N/A	8%

The vast majority of Medicine Hat urban areas are serviced with a single standard of infrastructure. This standard is defined in more detail in Section 3.3. From this table, there are several characteristics which stand out.

- The development and population density of residential areas of Medicine Hat are low, and well below the MDP target of 17 dwellings per hectare (7 units per acre).
- Mixed-Use Corridor and Downtown areas have very low residential densities, but high % of areas devoted to streets and sidewalks. This suggests that there are many opportunities to increase development density in both of these areas as infrastructure exists to support more density.
- Average Lot sizes are large compared to norms found in many cities. A typical residential lot will consume 495m^2 of land (15m x 33m) and will typically not include lanes. Medicine Hat lot averages range from 508.8m^2 (Suburban) to 663m^2 (Established Neighbourhood).

Land consumption (and linear distance for servicing) is therefore 2.8% to 33.9% greater than in standard average residential neighbourhoods.

- The highest redevelopment potential exists in the Downtown and Corridor Mixed-Use areas.
- The lowest development density is in the Corridor Mixed-Use areas.
- Area with the highest % of space devoted to sidewalks is in the Downtown. This area also has the highest % of area devoted to roadways indicating that circulation and connectivity is a key feature of the Downtown.

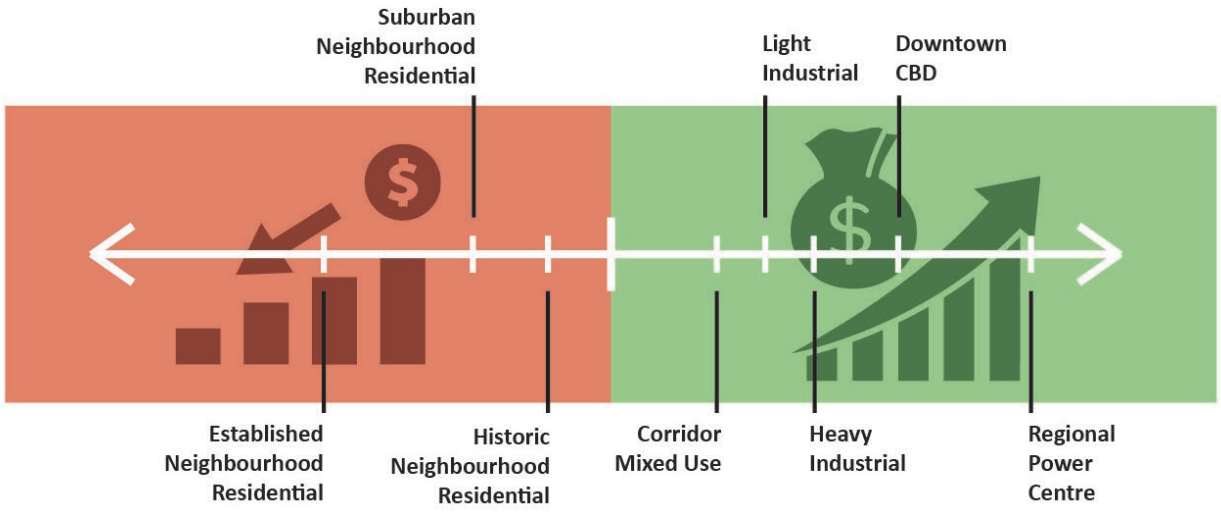
2.5 FINANCIAL SUMMARY OF TYPOLOGIES

The following assumptions have been made regarding the financial analysis of each typology:

- Historical data between 2009 and 2018 has been reviewed in developing the estimates provided below.
- The analysis includes all city expenditures, including: operating expenditures, contributions to capital from operations and repayment of principal on debt.
- Non cash costs associated with amortization are not included in operating expenses.
- Non-tax revenues include: operating revenues, operating grants, interest on investment, licenses and permits, payments-lieu-of-taxes, rentals, penalties on taxes and other expenditures as reported in the City's financial statements.
- Assessment by assessment class.
- Tax rate splits by assessment class.

Applying the cost / revenue allocations to the metrics for each typology a net revenue/expenditure is determined. Based on the assessment available for municipal taxation in the typology, municipal tax rates are determined for the typology. These are compared to the 2018 municipal tax rates for the City as a whole to determine the net impact of the typology on the City's financial picture.

Typology	Cost/Revenue Allocations – *Share of City* (Expenditures)	Cost/Revenue Allocations – *Share of City* (Revenue)	Cost/Revenue Allocations – *Value* (Expenditures)	Cost/Revenue Allocations – *Value* (Revenue)	Assessment Mix (%) (Res./Non-Res.)	Net Financial Contribution
Historic Neighbourhood Residential	1.8%	1.7%	$6.9M	$4.5M	74/26	**($152,000)**
Established Neighbourhood Residential	2.5%	2.4%	$9.7M	$5.96M	95/5	**($1,470,000)**
Suburban Neighbourhood Residential	1.8%	1.8%	$7.28M	$4.84M	98/2	**($380,000)**
Corridor Mixed-Use	0.7%	0.7%	$2.69M	$1.82M	41/59	**$196,000**
Downtown	1.4%	1.2%	$5.59M	$3.27M	75/25	**$680,000**
Regional Power Centre	1.0%	0.9%	$4.1M	$2.29M	1/99	**$1,180,000**
Light Industrial Employment	0.8%	0.8%	$3.0M	$2.02M	0/100	**$770,000**
Heavy Industrial Employment	0.3%	0.2%	$1.2M	$650k	0/100	**$436,000**



Explanatory Notes for the Financial Analysis:

Calculation of Benefit/Cost:

- The estimated allocation of operating expenditures and revenues to each typology is used to determine a net cost that would be required to be recovered from municipal taxes. The municipal tax rates (using 2018 tax rate splits) required to cover the tax requisition amount for the typology is determined from the assessment in the typology. These tax rates are compared to the City's tax rates. Where the typology tax rates are lower than the citywide tax rates, the typology is making a net contribution to the financial position of the City (gain). Where the typology calculated tax rates are higher than the citywide tax rates, it is being subsidized by the rest of the city, and is a net drain on the financial position of the City.

- Municipal tax rates are the Citywide rates and the calculated municipal tax rates to balance the net costs for each typology. The estimated typology municipal tax rates use the same mill rate splits as established for the 2018 citywide tax rates.

- Where the difference in the municipal tax rates calculated to balance the net costs of a typology are lower than the citywide tax rates, that typology is making a net contribution to the city's financial picture. This occurs for 5 of the 8 typologies.

- The assessment presented is that which has been established to exist in each typology for tax purposes (2018).

- Municipal tax revenues w Citywide tax rates are the actual (estimated) municipal tax revenues collected from each typology.

- Tax revs with Typology Rates is what is required to be collected to balance the net cost of the typology.

- The Gain/Drain is the difference between what was collected using Citywide tax rates as compared to what would need to be collected to balance the net costs to the City of each typology.

What's included in the Net Cost Calculation?

- An allocation of all city expenditures, including: operating expenditures, contributions to capital from operations and repayment of principal on debt.

- Non-cash costs associated with amortization are excluded from operating expenditures. As this analysis uses 2018 (and also reviewed historical data back to 2009) amortization was not included in this analysis as actual expenditures made on Life Cycle Costs for refurbishment and

- Replacement of infrastructure would be included in the actuals. When looking at the Growth Management Portion of the analysis (forward looking) we will work with the City to determine how much of Life Cycle Costs will be included in future capital expenditures.

- Non-tax revenues include: operating revenues, operating grants, interest on investment, licenses and permits, payments- lieu-of-taxes, rentals, penalties on taxes and other expenditures as reported in the City's financial statements.

How the Typology Municipal Tax Rate is Calculated?

- Estimates of the assessment (2018 taxable) is based on information provided by the City. The net expenditures (operating revenues - operating expenditures) determines the tax requisition required for each typology. Municipal tax rates are estimated to balance the net expenditures in each typology using the 2018 citywide municipal tax rate splits. These calculated typology tax rates and revenues are compared to the actual citywide tax rates and tax revenues collected from each typology to determine if the typology is a net contributor or drain on the City's financial picture.

Each Typology is Unique

- The Established Neighbourhood Typology is similar to the Suburban Neighbourhood Residential typology in that it is primarily residential (5% vs 2% non-residential assessment). However, the Established Neighbourhood Typology assessment per dwelling unit is approximately 2/3 of that for the Suburban Neighbourhood Residential Typology, which significantly reduces the taxable assessment per capita and per cost unit. As a result, its drain on the City financial position is significantly greater. This is something to consider as relatively newer suburban residential neighbourhoods age and the assessed value per dwelling unit declines.

section 3

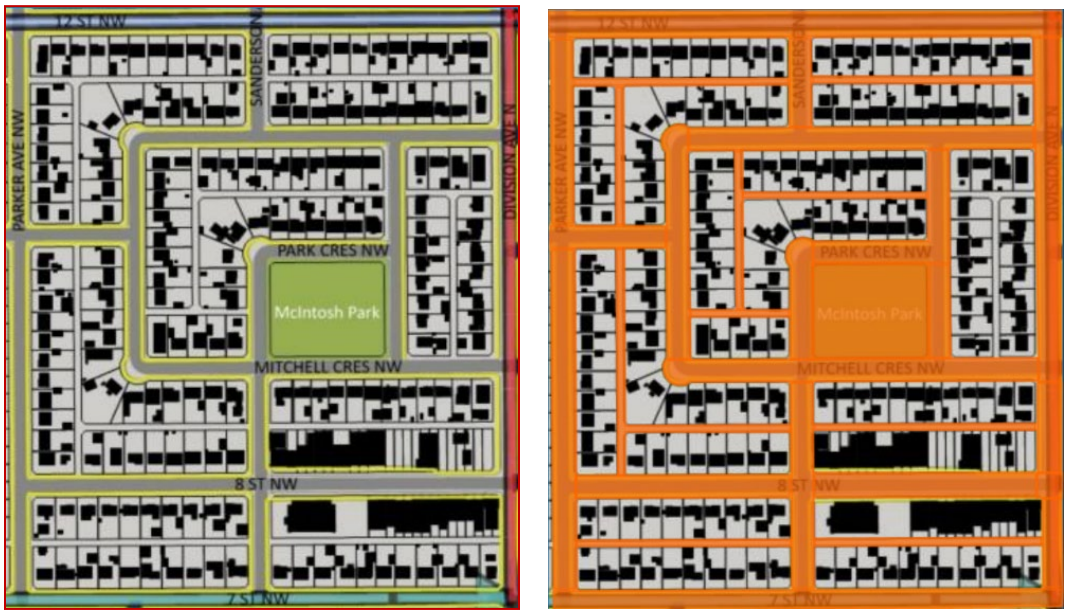
Sustainable Growth

Section 3 Sustainable Growth

3.1 Creating a Sustainable Transect Typology

How Does Design Relate to Costs?

In the examples below, the urban area on the left is the concept for a residential neighbourhood which includes private lots, sidewalks, streets, lanes, a park, etc. The area on the right shows the same concept with the area of land and infrastructure which is "dedicated" to the municipality upon approval of development. In other words, the orange coloured areas of infrastructure become the property of the municipality and it is their responsibility to ensure that the infrastructure is operated and maintained in perpetuity. The initial capital construction of the major 'off-site' infrastructure (arterial roads, trunk sewers) is funded mainly from 'development levies and charges'. The developer pays for all 'on-site' infrastructure.



In Alberta, the Province sets out in the Municipal Government Act the infrastructure which can be cost recovered via development charges:

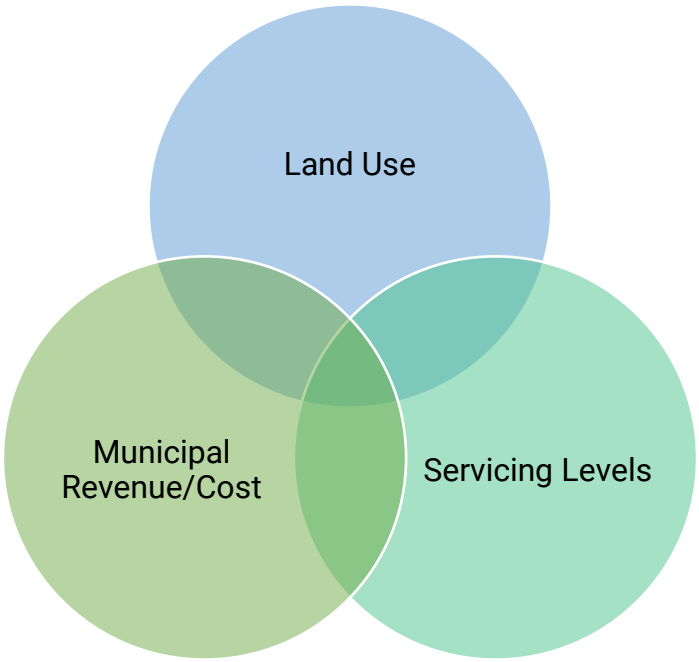
1. Infrastructure for the treatment, transmission and supply of **water**.
2. Infrastructure for the treatment, movement and disposal of **sanitary sewage**.
3. **Storm sewer** drainage facilities.
4. **Roads** required by, or impacted by, the development.
5. **Land** required to provide the infrastructure.
6. Community **Recreation Facilities**.
7. **Fire** Hall facilities.
8. **Police** Station facilities.
9. **Libraries**.

The development charges will pay for the above major facilities and infrastructure; however, the design of the development plays a large part in determining if the tax revenue collected from the development will cover the costs of operation and maintenance of the infrastructure and facilities over time.

In general, a more compact, mixed-use, mixed-density development will tend to yield enough tax revenue to sustain and pay for the services, operation and maintenance expected to be delivered to residents by a full-service municipality. Larger lot, homogenous development which is predominantly single-family residential will tend to put upward pressure on municipal costs. The alternatives are to either change the design requirements of development or look for ways to cover increased costs through property taxes and/or higher user fees.

3.2 DEVELOPMENT CONSIDERATIONS

What is a 'sustainable transect typology' (STT)? In this project, we have defined a STT as a form of urban development which attempts to balance three important aspects of growth:



'Sustainability' in planning generally encompasses 3 principal dimensions:

1. **Environmental sustainability**, in the urban context, refers mainly to the consumption of land and the amount of resources needed to construct and maintain the built environment. Can be expressed as the amount of land needed to support a typical household. In this sense, smaller lots with two-storey homes would be more environmentally sustainable than large lots with large bungalows.

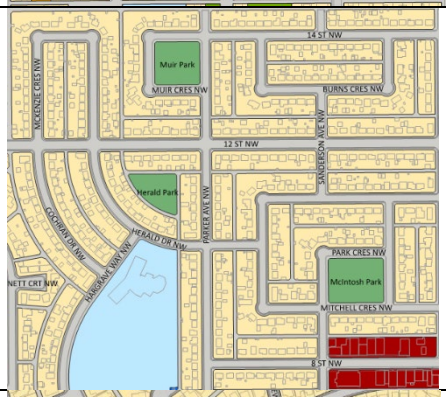
2. **Social and Health sustainability** refers to the impact various forms of development have on relationships, community and overall physical and mental health of individuals, families and neighbourhoods. Some research has identified isolated, single-use, low-density forms of development as detrimental to the long-term health and well-being of residents. The built environment does not encourage walking, biking, playing outside, engaging with neighbours or contain non-residential uses which encourages a full range of human activity.

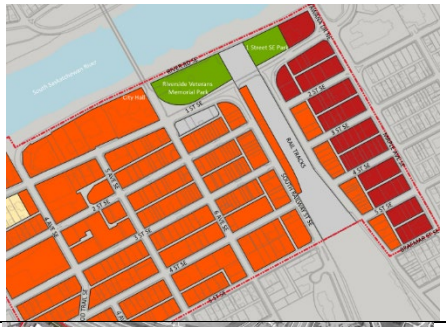
3. **Economic sustainability** refers to the ability of a community to operate and maintain services, both physical and social services, indefinitely without large increases in revenue over and above inflation.

Given the above definitions, V3 examined the eight (8) representative typologies in Medicine Hat, and extracted features which are most closely aligned with the principles of sustainability.

LAND USE CONSIDERATIONS

From the Typology analysis, V3 has extrapolated features from the eight typologies which contribute towards more overall sustainability. This section focusses on the development and land use aspects of sustainability. The following table consolidates the sustainability features of each typology:

Typology Name	Typology Example	Sustainable Features	Notes
Historic Neighbourhood Residential		• High degree of connectivity and intersection points. • Walkable proximity to amenities • Higher diversity of land uses (non-residential)	Connectivity is important to encourage circulation and creates more opportunity for interaction with neighbours. Diverse land uses encourage walking, biking and social interaction. More density would support non-residential uses and increase municipal revenue.
Established Neighbourhood Residential		• Centrally located schools to encourage walking/biking. • Distributed park network provides proximity to greenspace.	Obesity amongst Canadian children is at an all-time high. Walkable schools are essential to decrease reliance on auto trips. Distributed Park Space increases feelings of wellness and increase property values.
Suburban Neighbourhood Residential		• Distributed park space w large central park and network of pocket parks. • Stormwater Detention Ponds	Large park spaces can include recreation programming. Networks of pocket parks tend to increase property values. Surface detention ponds decrease the infrastructure needed to manage drainage, and increase property values.

Typology Name	Typology Example	Sustainable Features	Notes
Corridor Mixed-Use		• Mixed-use development • Minimal building setbacks • Connectivity with destinations • Compact development • Served by Public Transit	Plenty of infrastructure for a low population base increases likelihood of redevelopment. Good connectivity and central locations can lead to revitalization when catalyst developments are encouraged. Land use policy and regulation is permissive.
Downtown		• Mixed-use development. • High degree of connectivity. • Large number of destinations. • Well-served with public transit. • Density in strategic locations.	Excellent infrastructure to encourage circulation and movement. Large amounts of infrastructure is present but underutilized. Opportunity and room to locate city-wide amenities. Need to focus on opportunities afforded by the South Saskatchewan River.
Regional Power Centre		• Limited locations serve Regional population. • Revenue generating land uses.	Limited public infrastructure, but plenty of space can lead to redevelopment. Area provides city with largest revenue. Highly specific uses and purpose with no residential.

Typology Name	Typology Example	Sustainable Features	Notes
Light Industrial Employment Area		• Employment areas w full sanitary servicing are necessary in urban areas. • Reduced service levels are appropriate in some locations. • Revenue generating land uses.	Provides City with good revenue without needing soft services. Opportunity to reduce servicing costs. Limited opportunity for mixed-use transition.
Heavy Industrial Employment Area		• Employment areas w full sanitary servicing and large sites are necessary in urban areas. • Limited services are provided. • Revenue generating land uses.	Very limited public services required. Provides City with good revenue without needing soft services.

3.3 SERVICING & INFRASTRUCTURE CONSIDERATIONS

The terms of reference for this project stated that there was a concern in Medicine Hat that a single servicing standard was being employed in a city with multiple low-density environments. The application of a single service level meant that some areas of the city were over-serviced. Although this may be simple to administer, it is more costly to build and maintain infrastructure which is not required, or not being used by the adjacent land uses.

V3 was asked to examine the current service and infrastructure standard in Medicine Hat and determine if there is merit towards establishing multiple tiers of servicing. After looking at the Medicine Hat servicing model and the eight typologies, V3 is of the opinion that there could be up to three (3) service levels which would be appropriate in Medicine Hat. Each would apply to a different context within the city.

The following is a description of the three (3) levels of service presented in the Level of Service Analysis table:

1. Urban Level of Service

The Urban Level of Service is to be used where the proposed development will be required to meet all of the current Medicine Hat Municipal Servicing Standards (MSS) and typical roadway cross-sections. This level of service does not deviate from the MSS or typical roadway cross sections.

Urban levels of service are also to be used in existing developed areas where rehabilitation or improvements are being completed. This level of service is most appropriate in existing neighborhoods because the water/sanitary/storm infrastructure and roadways are existing, therefore, it is more feasible to rehabilitate or upgrade the existing system rather than put in a new conveyance system or change the roadway cross-section. For example, it would be more feasible to rehabilitate existing gravity sanitary or storm infrastructure rather than install a new low-pressure sanitary system or storm Low Impact Development (LID), respectively. As well, modifying the level of service in these areas may not be acceptable to existing land owners or tenants.

2. Semi-Urban Level of Service

The Semi-Urban Level of Service does not reduce the water, sanitary, or storm infrastructure from the Medicine Hat MSS, however, roadway cross sections will differ from the typical roadway cross-sections.

Changes from the typical roadway cross section under Semi-Urban Level of Service are as follows:

- Reduction in carriage way;
- Removal of a parking lane – one (1) parking lane only; and,
- Sidewalk on one side of roadway only.

Semi-urban Level of Service is applicable for new developments where gravity sewer, and stormwater management is required or desired, however, roadway cross-section modifications would be acceptable. Although this level of service reduces parking and sidewalk requirements, there is still one parking lane and one sidewalk for circulation and access.

3. Sub-Urban Level of Service

In the Sub-urban Level of Service Medicine Hat MSS are maintained for water only. Sanitary and storm standards are revised as follows:

- Sanitary – Low pressure collection system.
- Storm – Low Impact Development (LID) Infrastructure, or ditch and culvert conveyance only.

By revising sanitary and storm standards to a Sub-urban Level of Service, it reduces the capital cost of infrastructure development through the use of fewer manholes, potentially shallower installation depths than gravity mains and smaller pipe diameters.

In Downtown Central Business District (CBD), Corridor Mixed-Use (CMU), Established Neighborhood Residential (ENR), Historic Neighborhood Residential (HNR), and Suburban Neighborhood Residential (SNR) the use of LID infrastructure may be considered to reduce stormwater main and stormwater management facility sizing.

In heavy and light industrial and regional power center (RPC) zoning, stormwater may be managed through roadway ditches and culverts. This would eliminate the requirement for stormwater mains and manholes, as well as remove the requirements of a subdrain system below the roadway.

Sub-urban Level of Service road cross-sections are also revised from the Medicine Hat MSS as follows:

- Rural road cross-section, where possible
- Reduction in carriage way.
- Removal of parking lanes – No parking lanes along roadway.
- No sidewalks, roads to have curb and gutter or drainage is being facilitated through ditches and culverts along roadways.

Sub-urban level of service is to be used for new development where there are no existing roadways or infrastructure that would need to be modified or reconfigured to meet the sub-urban level of service.

The following table on the next page has been prepared to showcase the difference, and potential cost savings of the three-tiered servicing approach, costs are based on a per linear metre unit. It is important to note that rear lanes have been removed from both the semi-urban and sub-urban servicing tiers.

Typology	'Urban' Level of Service	'Semi-Urban' Level of Service (New)	'Sub-Urban' Level of Service (New)

Downtown Central Business District (CBD)
 	
Corridor Mixed-Use (CMU)
	Water – Standard servicing - *$960/lm*
	
	Sanitary – Standard servicing - *$790/lm*
	
	Storm – Standard servicing - *$1,090/lm*
	
	Roads:
	
	Local
	• 16m & 19m ROW Standard Cross-Section
	• Carriageway of 10m with 3m lanes
	• Two 2m Parking Lanes
	• 1.5m sidewalk width on both sides
	• ***OPC:***
	  ○ ***$3,470/m for 16m right-of-way***
	  ○ ***$3,560/m for 19m right-of-way***
	
	Collector/Arterial Roadways
	
	• ROW 22 – 31.1m ROW Standard Cross Section
	• Carriage way of 12.4-19.0m
	• 1.5m sidewalk width on both sides
	• ***OPC:***
	  ○ ***$3,750 per linear metre for 22m R.O.W,***
	  ○ ***every additional metre in width costs $140/m***
		Water – Standard servicing - *$960/lm*
		
		Sanitary – Standard servicing - *$790/lm*
		
		Storm – Standard servicing - *$1,090/lm*
		
		Roads:
		
		Local
		• 16m & 19m ROW
		• Carriage way of 8m with 3m lanes
		• One 2m parking lane
		• 1.5m sidewalk width on one side only
		• ***OPC:***
		  ○ ***$2,740/m for 16m right-of-way (Cost reduction of $730/m)***
		  ○ ***$2,850/m for 19m right-of-way (Cost reduction of $710/m)***
		
		Collector/Arterial Roadways
		
		• ROW 22m – 31.1m ROW Standard Cross Section
		• Carriage way 9.7 – 16.3m with 3.5m lanes
		• One parking lane – reducing road width by 2.7m
		• 1.5m sidewalk width on one side only
		• ***OPC:***
		  ○ ***$3,250 per linear metre for 22m R.O.W,***
		  ○ ***every additional metre in width costs $140/m. (Cost reduction of $500/m)***
			Water – Standard servicing - *$960/lm*
			Sanitary – Low pressure system for new developments - *$500.00*
			Storm – LID infrastructure to reduce main size and SWMF sizing- *$1,080/lm*
			
			Roads:
			
			Local
			• 16m & 19.6m ROW
			• Carriage way of 6m with 3m lanes
			• No parking lanes
			• No sidewalks, curb and gutter only
			• ***OPC:***
			  ○ ***2,460/m for 16m right-of-way (Cost reduction of $1,010/m)***
			  ○ ***2,570/m for 19m right-of-way (Cost reduction of $990/m)***
			
			Collector/Arterial Roadways
			
			• ROW 22m or 23.2 m
			• Carriage way 7 - 13.6 m with 3.5m lanes
			• No Sidewalks
			• No Parking lanes – reducing road width by 5.4m
			• ***OPC:***
			  ○ ***$2,810 per linear metre for 22m R.O.W,***
			  ○ ***every additional metre in width costs $140/m. (Cost reduction of $940/m)***

Typology	'Urban' Level of Service	'Semi-Urban' Level of Service (New)	'Sub-Urban' Level of Service (New)
Established Neighbourhood Residential (ENR) **Historic Neighbourhood Residential (HNR)** **Suburban Neighbourhood Residential (SNR)**	**Water** – Standard servicing - *$810/lm* **Sanitary** – Standard servicing - *$790/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW Standard Cross-Section • Carriageway of 10m with 3m lanes • Two 2m Parking Lanes • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,470/m per linear meter for 16m right-of-way*** ○ ***$3,560/m per linear meter for 19m right-of-way*** Collector/Arterial Roadways • ROW 22 – 23.2m ROW Standard Cross Section • Carriage way of 12.4-13.60m • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,750 per linear metre for 22m R.O.W,*** ○ ***every additional metre in width costs $140/m***	**Water** – Standard servicing - *$810/lm* **Sanitary** – Standard servicing - *$790/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW • Carriage way of 8m with 3m lanes • One 2m parking lane • 1.5m sidewalk width on one side only • ***OPC:*** ○ ***$2,740/m per linear meter of right-of-way for 16m (Cost reduction of $730/m)*** ○ ***$2,850/m per linear meter of right-of-way for 19m (Cost reduction of $710/m)*** Collector/Arterial Roadways • ROW 22m or 23.2m • Carriage way 9.7 – 16.3m with 3.5m lanes • One parking lane – reducing road width by 2.7m • 1.5m sidewalk width on one side only • ***OPC:*** ○ ***$3,250 per linear metre for 22m R.O.W,*** ○ ***every additional metre in width costs $140/m. (Cost reduction of $500/m)***	**Water** – Standard servicing - *$810/lm* **Sanitary** – Low pressure system for new developments - *$500.00/lm* **Storm** – LID infrastructure to reduce main size and SWMF sizing -*$1,080/lm* **Roads:** Local • 16m & 19.6m ROW • Carriage way of 6m with 3m lanes • No parking lanes • No sidewalks, curb and gutter only • ***OPC:*** ○ ***2,460/m per linear meter of right-of-way for 16m (Cost reduction of $1,010/m)*** ○ ***2,570/m per linear meter of right-of-way for 19m (Cost reduction of $990/m)*** Collector/Arterial Roadways • ROW 22m or 23.2 m • Carriage way 7 - 13.6 m with 3.5m lanes • No Sidewalks • No Parking lanes – reducing road width by 5.4m • ***OPC:*** ○ ***$2,810 per linear metre for 22m R.O.W*** ○ ***every additional meter in width costs $140/m. (Cost reduction of $940/m)***

Typology	'Urban' Level of Service	'Semi-Urban' Level of Service (New)	'Sub-Urban' Level of Service (New)
Heavy Industrial (HI) **Light Industrial (LI)**	**Water** – Standard servicing - *$900/lm* **Sanitary** – Standard servicing - *$960/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW Standard Cross-Section • Carriageway of 10m with 3m lanes • Two 2m Parking Lanes • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,470/m for 16m right-of-way*** ○ ***$3,560/m for 19m right-of-way*** Collector/Arterial Roadways • ROW 22 – 31.1m ROW Standard Cross Section • Carriage way of 12.4-19.0m • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,760 per linear meter for 22m R.O.W,*** ○ ***every additional meter in width costs $140/m***	**Water** – Standard servicing - *$900/lm* **Sanitary** – Standard servicing - *$960/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW • Only one parking lane – reducing road width by 2.5m • 1.5m sidewalk width on one side only • **OPC:** ○ **$2,740/m &** ○ **$2,850/m right-of-way for 16m and 19m, respectively. (Cost reduction of $730/m & $710/m)** Collector/Arterial Roadways • ROW 22 – 31.1m ROW Standard Cross Section • Carriage way 9.7 – 16.3m with 3.5m lanes • One parking lane – reducing road width by 2.7m • 1.5m sidewalk width on one side only • **OPC:** ○ **$3,250 per linear metre for 22m R.O.W,** ○ **every additional metre in width costs $140/m. (Cost reduction of $500/m)**	**Water** – Standard servicing - *$900/lm* **Sanitary** – Low pressure system for new developments- $630/lm **Storm** – Ditches and culvert conveyance only - $160/m **Roads:** Local • 16m & 19m ROW • No parking lane • No Sidewalks or curb/gutter • No subdrain system under-roadway • **OPC:** ○ **$1,640/m for 16m right-of-way (Cost reduction of $1,830/m)** ○ **$1,930/m for 19m right-of-way (Cost reduction of $1,630/m)** Collector/Arterial Roadways • ROW 22 – 31.1m ROW Standard Cross Section • No parking lane – Reduce road width by 5m • No Sidewalks or curb/gutter • Stormwater controlled through ditches along roadway • **OPC:** ○ **$1,990 per linear meter for 22m R.O.W,** ○ **every additional meter in width costs $140/m. (Cost reduction of $1,770/m)**

Typology	'Urban' Level of Service	'Semi-Urban' Level of Service (New)	'Sub-Urban' Level of Service (New)
Regional Power Center (RPC)	**Water** – Standard servicing - *$900/lm* **Sanitary** – Standard servicing - *$790/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW Standard Cross-Section • Carriageway of 10m with 3m lanes • Two 2m Parking Lanes • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,470/m for 16m right-of-way.*** ○ ***$3,560/m for 19m right-of-way.*** Collector/Arterial Roadways • ROW 22 – 31.1m ROW Standard Cross Section • Carriage way of 12.4-19.0m • 1.5m sidewalk width on both sides • ***OPC:*** ○ ***$3,750 per linear meter for 22m R.O.W,*** ○ ***every additional meter in width costs $140/m***	**Water** – Standard servicing - *$900/lm* **Sanitary** – Standard servicing - *$790/lm* **Storm** – Standard servicing - *$1,090/lm* **Roads:** Local • 16m & 19m ROW • Only one parking lane – reducing road width by 2.5m • 1.5m sidewalks on one side only • ***OPC:*** ○ ***$2,740/m for 16m right-of-way (Cost reduction of $730/m)*** ○ ***$2,850/m for 19m right-of-way (Cost reduction of $710/m)*** Collector/Arterial Roadways • ROW 22 – 31.1m ROW Standard Cross Section • Carriage way 9.7 – 16.3m with 3.5m lanes • One parking lane – reducing road width by 2.7m • 1.5m sidewalks on one side only • ***OPC:*** ○ ***$3,250 per linear meter for 22m R.O.W,*** ○ ***every additional meter in width costs $140/m. (Cost reduction of $500/m)***	**Water** – Standard servicing - *$900/lm* **Sanitary** – Low pressure system for new developments- *$630/lm* **Storm** – Ditches and culvert conveyance only - *$160/m* **Roads:** Local • 16m & 19m ROW • No parking lane • No Sidewalks or curb/gutter • No subdrain system under-roadway • ***OPC:*** ○ ***$1,640/m for 16m right-of-way (Cost reduction of $1,830/m)*** ○ ***$1,930/m for 19m right-of-way (Cost reduction of $1,630/m)*** Collector/Arterial Roadways • ROW 22m – 31.1m • No parking lanes – Reduce road width by 5m • No Sidewalks or curb/gutter ○ Stormwater controlled through ditches along roadway • ***OPC:*** ○ ***$1,990 per linear meter for 22m R.O.W,*** ○ ***every additional meter in width costs $140/m. (Cost reduction of $1,770/m)***

3.4 Service Standard Impacts on Typology Profiles

Of importance to this analysis is the implications of applying alternate service standards for new development in the City. The financial implications of the service standard options for each typology and scenario has been provided below. This analysis includes an estimate of the municipal tax revenues required to balance the total municipal costs and operating (non-tax) revenues for each typology for each growth scenario and alternative service option. The potential municipal savings associated with employing the alternative service options is provided below.

Downtown Central Business District Typology

The Downtown Central Business District Typology will require a tax contribution of over $3.8 to $4.2 million to break even in 2048. The potential savings resulting from implementing lower municipal service options is relatively small for the Downtown Central Business District Typology. This is largely a result of the relatively small amount of development and redevelopment in the Typology that alternative service levels would be applied to. The most significant savings would be for Growth Scenario 3, where the benefit of reduced service levels ranges from approximately $130,000 to almost $150,000 by 2048.[1]

Downtown Central Business District: Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	3,929,472	0
	Semi-Urban Level of Service	3,868,345	(61,127)
	Sub-Urban Level of Service	3,859,816	(69,657)
2	Urban Service Level	3,879,911	0
	Semi-Urban Level of Service	3,813,802	(66,109)
	Sub-Urban Level of Service	3,804,578	(75,334)
3	Urban Service Level	4,220,203	0
	Semi-Urban Level of Service	4,089,073	(131,131)
	Sub-Urban Level of Service	4,070,775	(149,428)

[1] Note that the estimated savings provided for each Typology reflect 'order of magnitude' estimates.

Corridor Mixed Use Typology

The Corridor Mixed Use Typology will require a tax contribution of over $4.2 to $4.6 million to break even in 2048. The potential savings resulting from implementing lower municipal service options is relatively small for this typology. As with the Downtown Central Business District, this is largely a result of the relatively small amount of development and redevelopment in the Typology that alternative service levels would be applied to. The most significant savings would be for Growth Scenario 3, where the benefit of reduced service levels ranges from approximately $110,000 to approximately $125,000 by 2048.

Corridor Mixed Use: Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	4,242,055	0
	Semi-Urban Level of Service	4,208,393	(33,662)
	Sub-Urban Level of Service	4,202,682	(39,374)
2	Urban Service Level	4,133,619	0
	Semi-Urban Level of Service	4,099,920	(33,698)
	Sub-Urban Level of Service	4,094,203	(39,416)
3	Urban Service Level	4,550,798	0
	Semi-Urban Level of Service	4,442,523	(108,275)
	Sub-Urban Level of Service	4,424,152	(126,645)

Established Neighbourhood (Residential) Typology

The Established Neighbourhood (Residential) Typology will require a tax contribution of over $65 million to break even in 2048. The potential savings resulting from implementing lower municipal service options is relatively small for this typology. This is largely a result of the relatively small amount of development and redevelopment in the Typology that alternative service levels would be applied to. The most significant savings would be for Growth Scenario 2, where the benefit of reduced service levels ranges from approximately $110,000 to approximately $210,000 by 2048.

Established Neighbourhood (Residential): Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	65,419,541	0
	Semi-Urban Level of Service	65,322,254	(97,287)
	Sub-Urban Level of Service	65,231,737	(187,804)
2	Urban Service Level	65,275,711	0
	Semi-Urban Level of Service	65,167,111	(108,600)
	Sub-Urban Level of Service	65,066,068	(209,642)
3	Urban Service Level	65,455,793	0
	Semi-Urban Level of Service	65,381,903	(73,890)
	Sub-Urban Level of Service	65,313,155	(142,638)

Heavy Industrial Typology

The Heavy Industry Typology will require a tax contribution of over $2.6 million to break even in 2048. As heavy industry does not require significant municipal infrastructure and servicing, the potential for the application of alternative service level options is minor for this Typology.

Heavy Industry: Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	2,377,072	0
	Semi-Urban Level of Service	2,375,158	(1,914)
	Sub-Urban Level of Service	2,370,275	(6,798)
2	Urban Service Level	2,371,994	0
	Semi-Urban Level of Service	2,370,080	(1,914)
	Sub-Urban Level of Service	2,365,197	(6,798)
3	Urban Service Level	2,370,982	0
	Semi-Urban Level of Service	2,369,068	(1,914)
	Sub-Urban Level of Service	2,364,185	(6,798)

The net revenue associated with development in this typology significantly overwhelms the incremental costs associated with the municipal share of servicing costs. It has been assumed that the initial cost of investing in servicing to support development would be borne by development, either directly or through levies. The municipal costs associated with servicing is the operating expenditures and life cycle costs associated with the infrastructure. In the analysis, life cycle costs have been allocated to the typology annually based on the life expectancy of the infrastructure and the investment amount.

Historic Neighbourhood (Residential) Typology

The Historic Neighbourhood (Residential) Typology will require a tax contribution of over $11.4 to $13.0 million to break even in 2048. The potential savings resulting from implementing lower municipal service options are significant for Growth Scenarios 2 and 3. This is a result of the potential for larger blocks of redevelopment to occur which will allow for a greater implementation of the alternative service level options for these scenarios. The most significant savings would be for Growth Scenario 3, where the benefit of reduced service levels ranges from approximately $245,000 to approximately $460,000 by 2048.

Historic Neighbourhood (Residential): Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	13,041,047	0
	Semi-Urban Level of Service	12,991,709	(49,338)
	Sub-Urban Level of Service	12,949,114	(91,933)
2	Urban Service Level	11,836,000	0
	Semi-Urban Level of Service	11,600,092	(235,908)
	Sub-Urban Level of Service	11,396,426	(439,574)
3	Urban Service Level	12,248,789	0
	Semi-Urban Level of Service	12,002,879	(245,910)
	Sub-Urban Level of Service	11,790,578	(458,211)

Light Industrial Typology

The Light Industrial Typology will require a tax contribution of over $5.2 to $5.3 million to break even in 2048. The potential savings resulting from implementing lower municipal service options are relatively small for this Typology due to the lower servicing requirements.

Light Industrial: Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	5,327,083	0
	Semi-Urban Level of Service	5,294,541	(32,542)
	Sub-Urban Level of Service	5,192,490	(134,593)
2	Urban Service Level	5,357,089	0
	Semi-Urban Level of Service	5,324,547	(32,542)
	Sub-Urban Level of Service	5,222,496	(134,593)
3	Urban Service Level	5,363,070	0
	Semi-Urban Level of Service	5,330,528	(32,542)
	Sub-Urban Level of Service	5,228,476	(134,593)

As with Heavy Industry, the net revenue associated with development in this typology significantly overwhelms the incremental costs associated with the municipal share of servicing costs.

Regional Power Centre Typology

The Regional Power Centre Typology will require a tax contribution of over $2.5 million to break even in 2048. The potential savings resulting from implementing lower municipal service options are relatively small for this Typology because most of the Typology area is currently built and the opportunity for applying alterative service level options is limited.

Regional Power Centre: Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	2,510,789	0
	Semi-Urban Level of Service	2,510,427	(362)
	Sub-Urban Level of Service	2,507,761	(3,028)
2	Urban Service Level	2,580,849	0
	Semi-Urban Level of Service	2,580,497	(352)
	Sub-Urban Level of Service	2,577,904	(2,945)
3	Urban Service Level	2,582,971	0
	Semi-Urban Level of Service	2,582,619	(352)
	Sub-Urban Level of Service	2,580,026	(2,945)

Suburban Neighbourhood (Residential) Typology

The Suburban Neighbourhood (Residential) Typology will require a tax contribution of $28 to $30 million to break even in 2048. The potential savings resulting from implementing lower municipal service options are most significant for this Typology as this is where the majority of development that would be affected by these service options would occur. The potential municipal savings associated with implementing the Semi-Urban Leve of Service is estimated to be approximately 900,000 in 2048 for each of the Growth Scenarios. When considering the Sub-Urban Level of service, these savings increase to over $2 million in 2048 for each Growth Scenario.

Suburban Neighbourhood (Residential): Fiscal Impact Analysis Results

Growth Scenario	Service Option	Total Municipal Revenues (2048)	Savings from Urban Service Level (2048)
1	Urban Service Level	30,015,747	0
	Semi-Urban Level of Service	29,099,720	(916,027)
	Sub-Urban Level of Service	27,894,567	(2,121,180)
2	Urban Service Level	30,299,221	0
	Semi-Urban Level of Service	29,405,400	(893,822)
	Sub-Urban Level of Service	28,229,460	(2,069,762)
3	Urban Service Level	31,122,935	0
	Semi-Urban Level of Service	30,251,502	(871,433)
	Sub-Urban Level of Service	29,105,017	(2,017,918)

Summary

As expected, the municipal cost savings associated with implementing alternative service level options is dependent upon the magnitude and nature of development that would be serviced. This potential is greatest for the Suburban Neighbourhood (Residential) Typology, where the benefits of implementing the Semi-Urban Level of Service is approximately $900,000 in 2048. These benefits increase to over $2 million in 2048 with the implementation of the Sub-Urban Level of Service option.

The Historical Neighbourhood (Residential) Typology holds the second greatest potential savings that result from adopting the alternative service level options. The potential benefits range from approximately $245,000 to approximately $460,000 by 2048 for Growth Scenario 2 and 3 respectively.

The benefits of implementing the alternative service level options results in relatively small financial benefits for each of the other typologies due to the nature of development (ie. Industrial) or the scope of development and/or redevelopment which would limit the ability to implement the alternative service level options.

3.5 FISCAL ANALYSIS & LONG-TERM FINANCIAL SUSTAINABILITY

Fiscal impact analysis in the context of municipal development is designed to determine the financial consequences of different growth scenarios and associated planning, policy and servicing decisions made by local government. In this analysis, the financial implications of growth are considered in the context of eight growth typologies that define the nature of growth in Medicine Hat. It also considers three basic alternative servicing options to meet the requirements of this growth in the City (see Section 3.3).

The general approach to evaluating the financial implications of growth and the alternative servicing options was to do the following:

- Define a Base Case financial forecast that defines the financial picture of the City without growth. This financial forecast projects the operating expenditures and revenues associated with maintaining existing facilities and services to the built form of the City as of 2018. This projection does not incorporate any growth as all growth is captured in the Development Scenario.

- Define several scenarios of municipal growth and alternative servicing options (i.e. Development Scenario) and the associated financial forecast of each, including all municipal operating expenditures and revenues.

- The Fiscal Impact of growth and alternative servicing option is equal to the difference between the Development Scenario and the Base Case.

Nine Development Scenarios were evaluated as part of this analysis: three growth scenarios each with three alternative servicing options. They are as follows:

Fiscal Impact Analysis Scenarios

Scenario	Growth Scenario	Service Scenario
1	1	Urban Service Level
2		Semi-Urban Level of Service
3		Sub-Urban Level of Service
4	2	Urban Service Level
5		Semi-Urban Level of Service
6		Sub-Urban Level of Service
7	3	Urban Service Level
8		Semi-Urban Level of Service
9		Sub-Urban Level of Service

The Fiscal Impact Analysis has been completed for each of the growth scenarios and alternative service options. The general and scenario specific assumptions used in the analysis are summarized below.

General Assumptions

- Base Year information is 2018 taken from Alberta Municipal Affairs Financial Information.[2]
- The assessment and municipal tax rate information for 2019 was included in the analysis. Thus while 2018 is the Base Year for the forecast, the 2019 tax and assessment information is incorporated in the forecast.
- All financial forecast information is presented in real 2018 $ and as a result does not incorporate inflation.[3]
- The municipal tax rate splits for 2019 were used for each year in the forecast period.
- The municipal tax rates in each year were determined to balance the operating budget in that year.
- Gas and Electricity function financial information was isolated and held at the 2019 levels so as to not have an impact on the long-range financial forecast for the other municipal functions.

[2] This information included a review of 2009 to 2018 data and was checked against the City's Financial Statements to ensure consistency.

[3] Inflation can affect operating and capital expenditures differentially. Similarly, inflation can affect the assessment base through changes in the market value of properties whose assessment is based on these values. These considerations are excluded from the analysis by presenting all results in real Base Year dollars (real 2018 $).

- Operating (non-tax) revenues (i.e. user fees and charges) were assumed to remain at the same proportion of operating expenditures based on 2018 data.

- Other operating (non-tax) revenues were assumed to be constant over the forecast period.[4]

- All projections were completed based on the scaled Typologies and aggregated to be reflective of the complete Development Scenario.

- All impacts are measured as the difference between the Development Scenario (which includes growth) and the Base Case (which assumes no growth). As discussed above there are 9 Development Scenarios that have been analyzed.

- Several measures of financial sustainability and benefit have been used in the analysis. These include changes to the municipal tax rates required to balance the municipal budget annually, debt levels, municipal operating expenditures and changes to the balance of the assessment base.

- With regard to changes in municipal tax rates, it should be noted that the projections provided here are developed for analytical purposes and not intended to be projections of actual municipal tax rates. The calculated municipal tax rates, and changes between scenarios, are an analytical tool to measure the relative financial position of the City for a given set of assumptions. Changes projected municipal tax rates have been used as an indicator of how the City may either benefit from the assumptions made in the Base Case as compared to the Development Scenario.

Base Case Assumptions

- It has been assumed that service levels would not change from those delivered in the Base Year (2018).

- It has been assumed that the operating expenditures and operating (non-tax) revenues from 2018 would be sufficient to support on-going provision of municipal services to the built area of the City. These expenditures have been adjusted to reflect the additional reinvestment required in infrastructure to fully fund the associated life cycle costs. The additional reinvestment required in existing infrastructure has been assumed to be made annually in equal installments.[5]
- It has been assumed that available grant funding from senior levels of government would remain at their 2018 levels over the forecast period.

[4] Other non-tax revenues include: interest on investments, rentals, licenses and permits, disposal of fixed assets, and fines and other revenues.

[5] Long term life cycle costs on existing assets has been estimated based on Base Year amortization values by function area as well as historical capital expenditures by function area. No attempt has been made to project the timing of when life cycle cost investments would be made. Rather these expenditures have been annualized over the forecast period.

- It has been assumed that the financing of future capital expenditures would follow the pattern of recent years regarding the portion of funds available from each of the following: operations, grants (up to the maximum available), debt, reserves and third-party sources.

- No contributed assets associated with growth are expected in the Base Case as no growth projected.

Typology Assumptions

- The information for each Typology as developed was expanded to represent the entire City. This required the definition of all developed and expected to develop areas of the City to be assigned to a Typology.

- The growth in each typology was allocated from aggregate City growth forecasts provided by the client.

- The financial information associated with each Typology was expanded to represent the entire area of the City assigned to the Typology. Various factors were used to complete this component of the analysis, including: share of population, share of dwelling units by type, share of employment, and share of assessment by class.

- Excluded from the Typology time series analysis were all expenses and revenues associated with the Gas and Electricity function areas as it was impractical to allocate the financial information for these areas across the Typologies. The financial information associated with the Gas and Electricity function areas was added into the Development Scenario total results for each scenario.

- Future investment in new infrastructure has been estimated on a per capita basis for each function area based on historical funding levels and the amortization for assets in each function area.

- It is assumed the life cycle costs associated with all new assets purchased and acquired through development would be 100% funded. This funding has been assumed to occur on an annual basis. While it is not expected that this would be how the City would fund these expenditures, it would be similar to the City putting away the required funds annually and funding life cycle expenditures from reserve funds generated from the annual contributions.

- It has been assumed that development would initially fund the direct costs of providing infrastructure for newly developing areas based on the alternative service options defined for this analysis. The function areas included in estimated acquired assets through development include those that have been received over the historical period 2009 to 2018. It is noted that this does not take into account the possibility that

additional developer funding may be secured for the function areas defined in the New Municipal Government Act.

Based on the long-term financial forecasts for the City for each of the three Growth Scenarios, the financial position of the City will be sustainable over the forecast period. A summary of the financial forecasts inputs (selected) and results for each scenario are located in **the Growth Parameters and Financial Variables** supplementary information package.

Using the Urban Level of Service option, the long-term residential mill rate projection is provided below. In the Base Case, residential mill rates (Real 2018 $) are projected to increase at an average annual rate of 0.56% per year. Each of the Growth Scenarios results in somewhat lower residential mill rates. The residential mill rates for Growth Scenario 1 are projected to increase at an average annual rate of 0.35% per year. The low residential mill rates for the Growth Scenarios is largely due to two factors:

Economies of scale in the delivery of municipal services. Because each municipal service areas have some fixed costs that do not vary with growth, these fixed costs are shared by new growth. Generally, where growth is the greatest, there is a compensatory increase in per unit cost savings.

The forecast of employment and associated non-residential development is assumed to marginally outpace population growth. This leads to an improvement in the City's 'balanced' growth position in the Development Scenario forecasts – that being the mix of residential and non-residential assessment becomes more favorable.

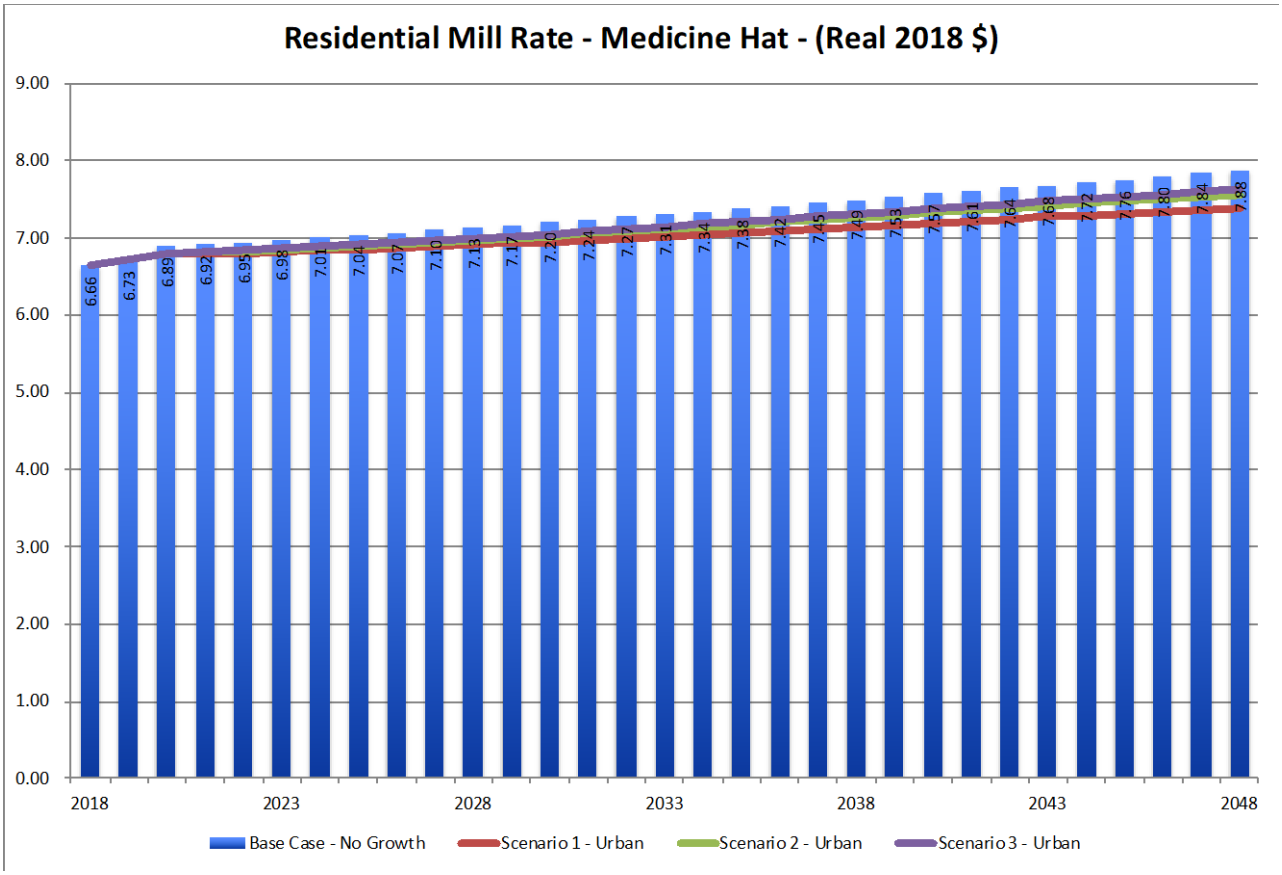
Each of the growth scenarios has been differentially allocated to the typologies based on direction provided by the City. This includes the population allocated to each area of the City as well as a breakdown of dwelling units by type (e.g. single family, multi-family). For the purposes of the financial analysis, assessment values have been attached to each dwelling unit type to estimate future tax revenues from residential development. A similar approach was taken to estimating future non-residential assessment.

Included in the analysis of each typology is the impact that growth and development have on incremental operating expenditures. In interpreting the results of the financial analysis, consideration should be given to the amount of growth and direct tax revenues generated from this growth, as compared to the additional operating expenditures incurred to support the delivery of services to this growth. The appropriate comparison is net incremental operating expenditures with net incremental tax revenues from development. As noted above, capital expenditures and life cycle costs are also included in the analysis. When reviewing the results of the analysis, considering both direct revenues and net operating expenditures, multi-family residential development was typically close to a 'break-even' result. However, single family development resulted in a net operating benefit, considering both direct property tax revenues and net operating expenditures. As a result, scenarios that have a greater proportion of single-family development generally performed better than those with a greater proportion of multi-family development, all else being equal. It is noted that this result depends on the assumed assessment per dwelling unit for both single and multi-family units as well as the population

density per unit. It is found that increasing the assumed assessment per unit for multi-family can achieve a similar fiscal result to that for single family development.

When alternative service options are evaluated, each is compared to the results within a scenario to see the implications of servicing on the financial result. When comparing the implications of alternative servicing across scenarios, the amount of development (in particular the incremental population and employment growth) and mix of development (e.g. single family vs multi-family residential development) can have implications for these results. Generally, where there is more single-family residential development as compared to multi-family development, the financial results are more positive. Also, where there is more development, the savings associated with lower service standards increase because of the volume of development and investment required.

Residential Mill Rate (Real 2018 $) – Urban Service Level



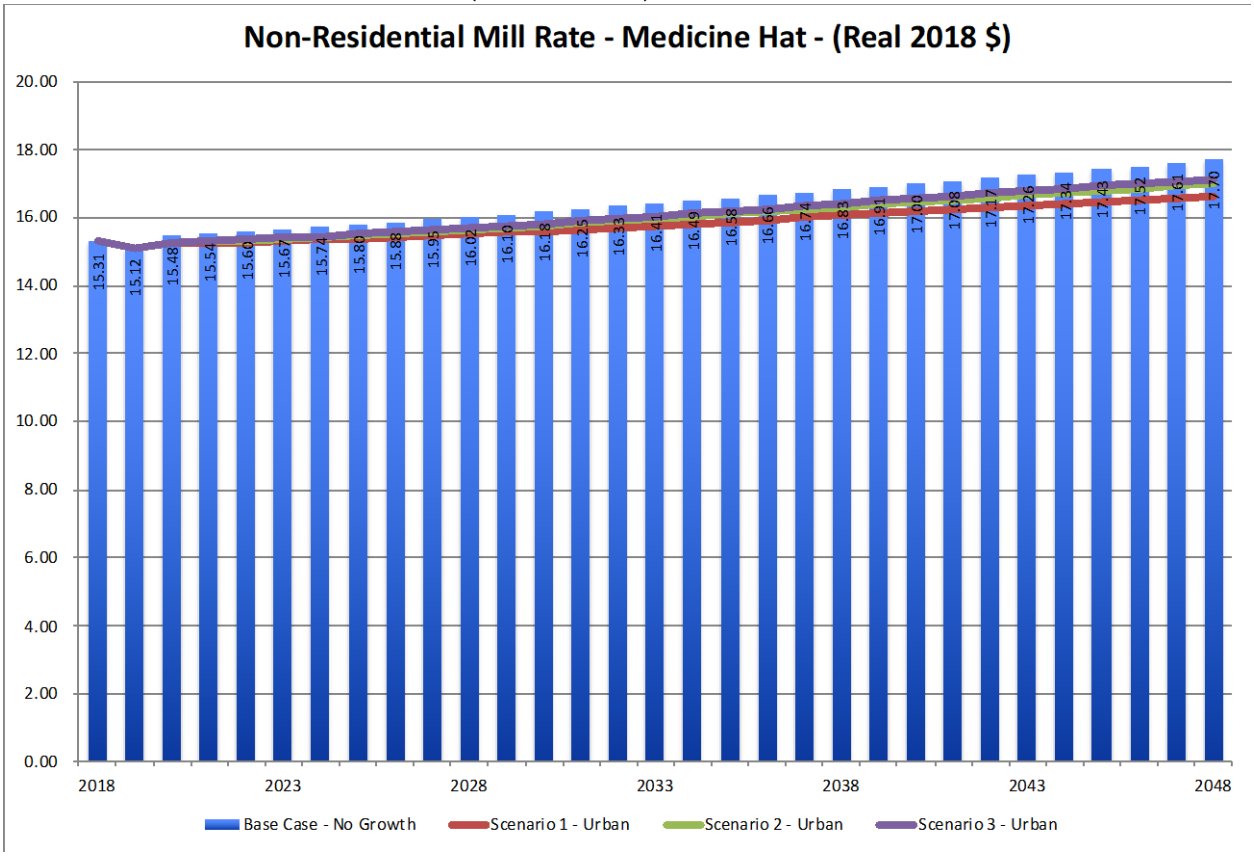
The benefits of the Growth Scenarios diminish with more growth as projected in Scenarios 2 and 3. This result from each of Growth Scenarios 2 and 3 having a subsequently higher proportion of multi-family housing which has a lower assessment value per unit (and per capita) resulting in lower tax revenue revenues from this additional development. This considers the net operating expenditures per capita that will be incurred. The benefits of economies of scale in

municipal service delivery are not sufficient to overtake the tax revenue reduction per dwelling unit resulting in somewhat higher municipal tax rates.

It is noted that the city-wide municipal tax results are similar for each of the alternate service options as those provided for the Urban Level of Service. The implications of implementing the different service options is discussed below.

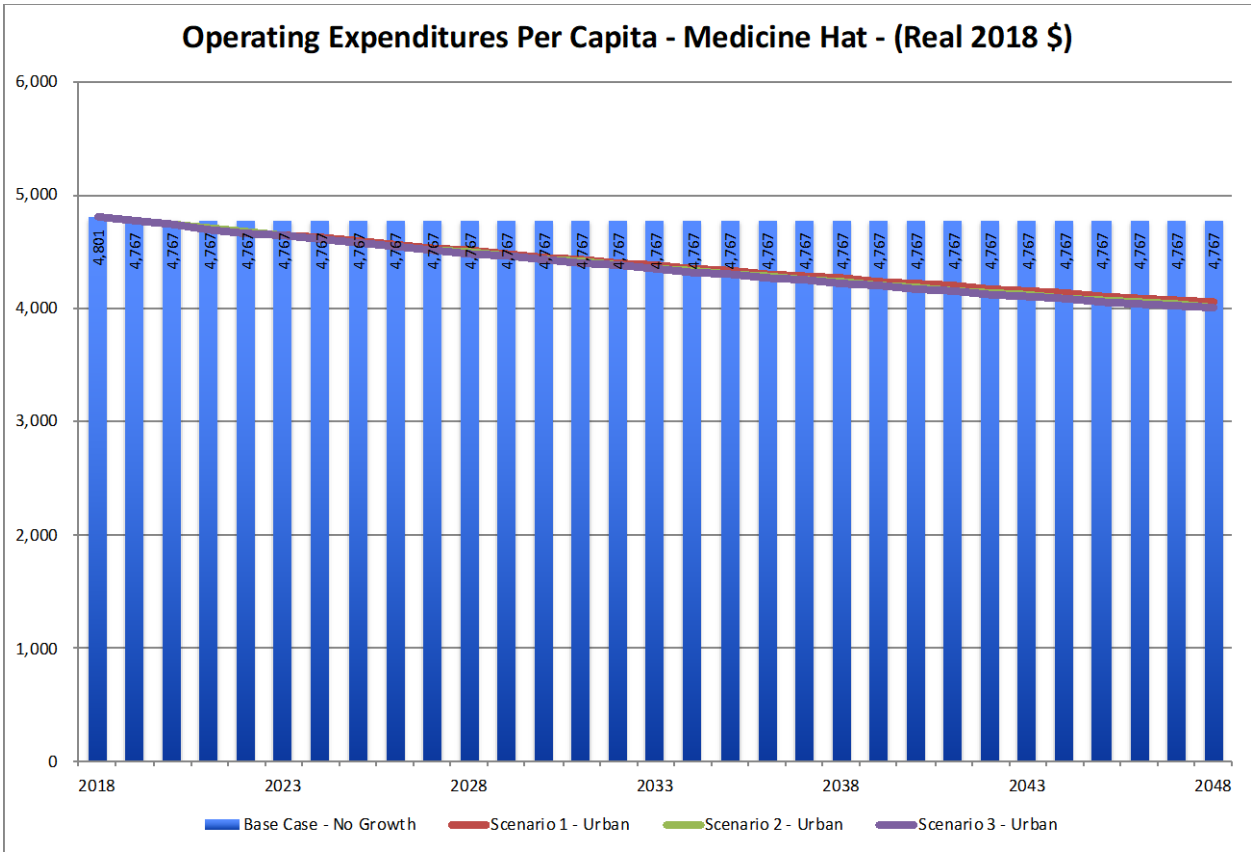
The financial forecast results for the non-residential mill rates are similar to those for residential mill rates. This is a result of assuming the tax rate splits between rates remains at the 2019 levels over the forecast period. In each instance the non-residential mill rate is lower in each of the Growth Scenario projections.

Non-Residential Mill Rate (Real 2018 $) – Urban Service Level



Operating expenditures per capita (Real 2018$) are summarized in the figure below. As noted above, average expenditures per capita decline with increases in population reflecting the capture of economies of scale.

Operating Expenditures Per Capita (Real 2018 $) – Urban Service Level



Capital expenditures, net of non-tax supported funding sources, are projected to increase per capital in both the Base Case and Growth Scenarios. These Net Capital Expenditures per capita reflect the portion of capital costs that are born by operations, including: Pay-As-You-Go (PAYGO) capital expenditures; and, repayment of principal on debt.

Future capital expenditures are, in part, based on the City's 10-year capital plan.[6] All proposed expenditures have been annualized and extended to reflect reasonable capital expenditures on both new infrastructure as well as the required reinvestment in existing and newly acquired infrastructure to cover associated life cycle costs. These costs are generally projected to increase for the following reasons:

[6] The City's 10 year capital expenditure plan has been used as the starting point for determine future capital expenditures. Where appropriate, this plan has been amended to increase funding on life cycle costs associated with existing assets, and adjusted to match historical capital expenditure per capita required to meet existing and future growth needs.

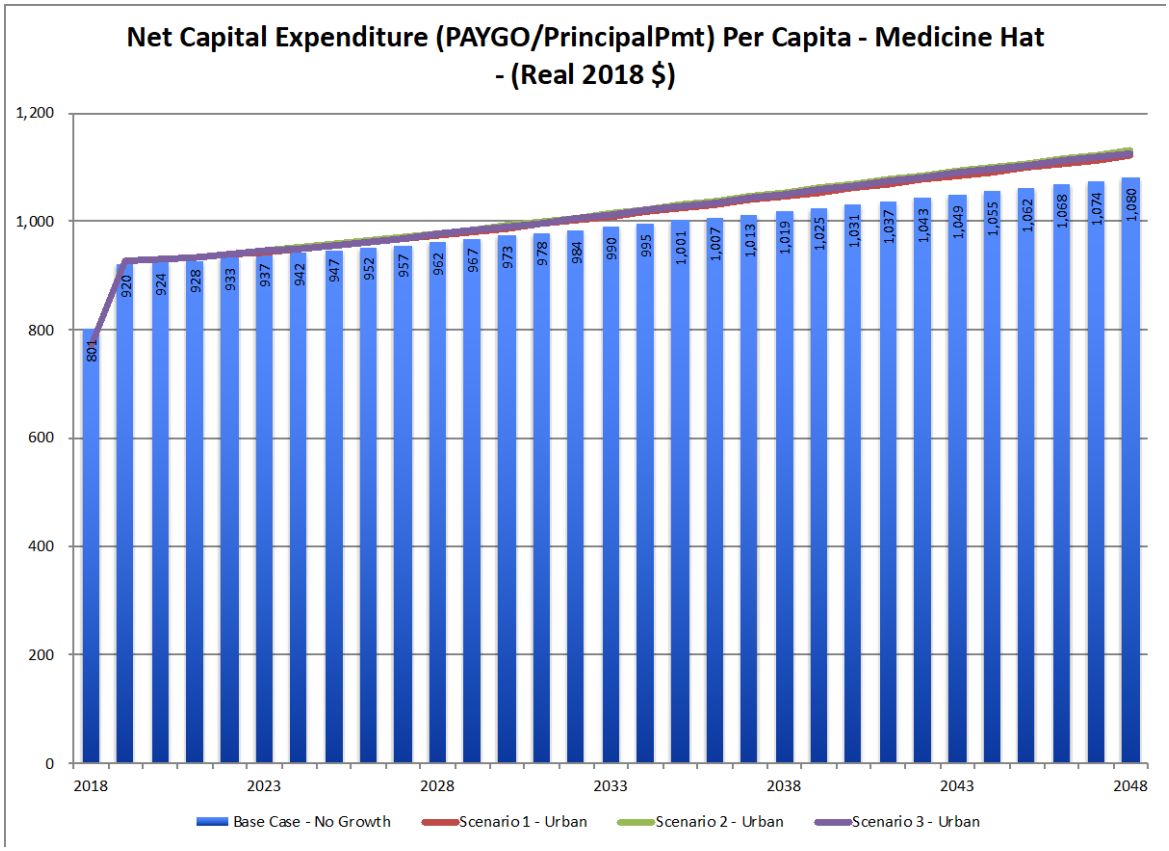
- Grants from senior levels of government are assumed to be fixed in real terms at their 2018 levels.

- It is estimated that currently not all required long term life cycle costs associated with the required reinvestment in existing assets is being made. It is assumed that the rate of reinvestment in existing infrastructure will increase over the forecast period.

- Life cycle costs associated with all newly acquired assets have been assumed to be 100% funded, which is higher than the rate in the Base Year.

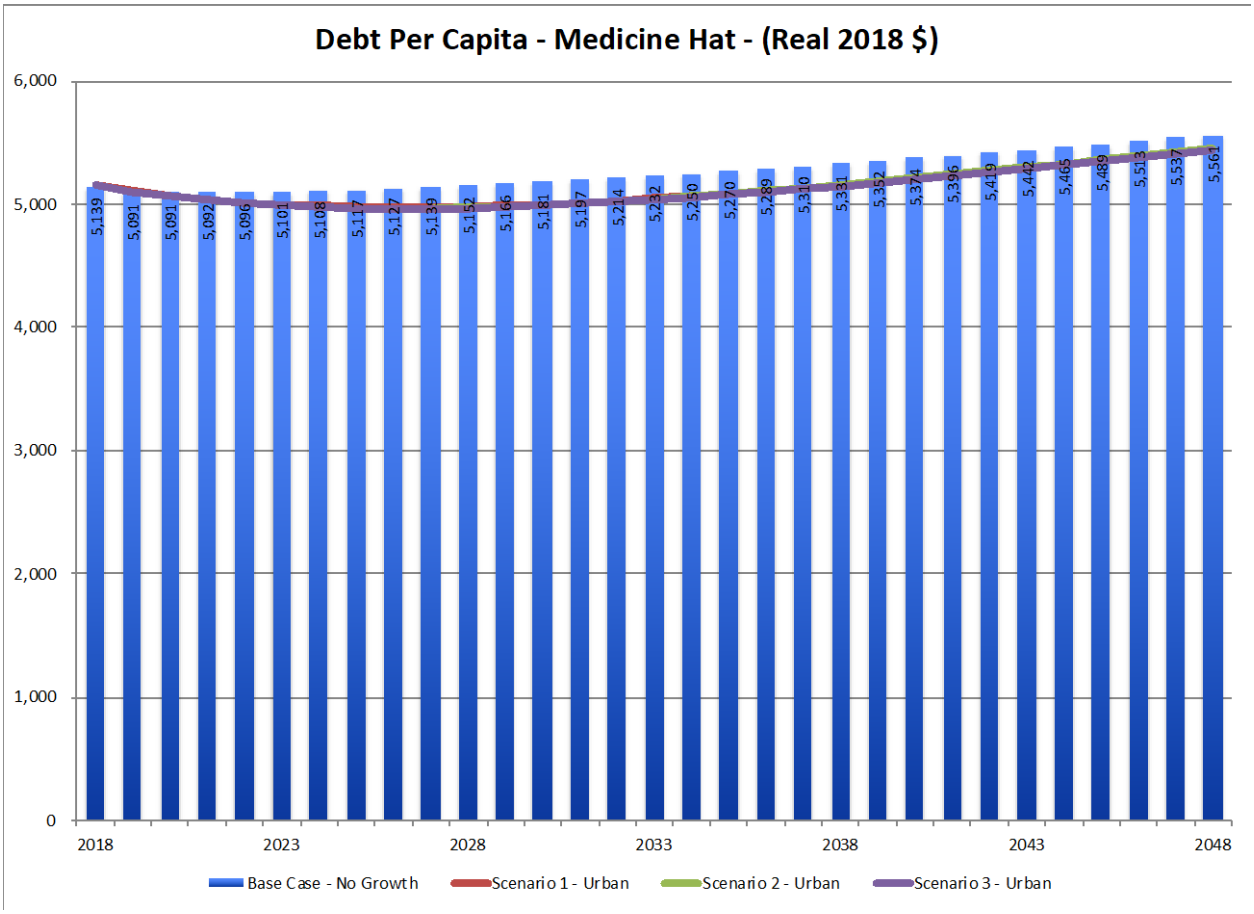
After an initial adjustment to the tax supported capital expenditures in 2019, Base Case average net capital expenditures per capita are projected to increase from $920 in 2019 to $1,080 per capita in 2048. These expenditures in each of the Growth Scenarios increase to $1,120 to $1,130 per capita by the end of the forecast. These costs include the life cycle costs of the contributed assets assumed to meet the Urban Level of Service standard as well as other new assets purchased by the City to support development.

Net Capital Expenditures Per Capita (Real 2018 $) – Urban Service Level



Debt per capita for the City is similar in each of the scenarios. The levels are somewhat lower for the Growth Scenarios over the forecast period based on the assumptions used in the analysis.

Debt Per Capita (Real 2018 $) – Urban Service Level

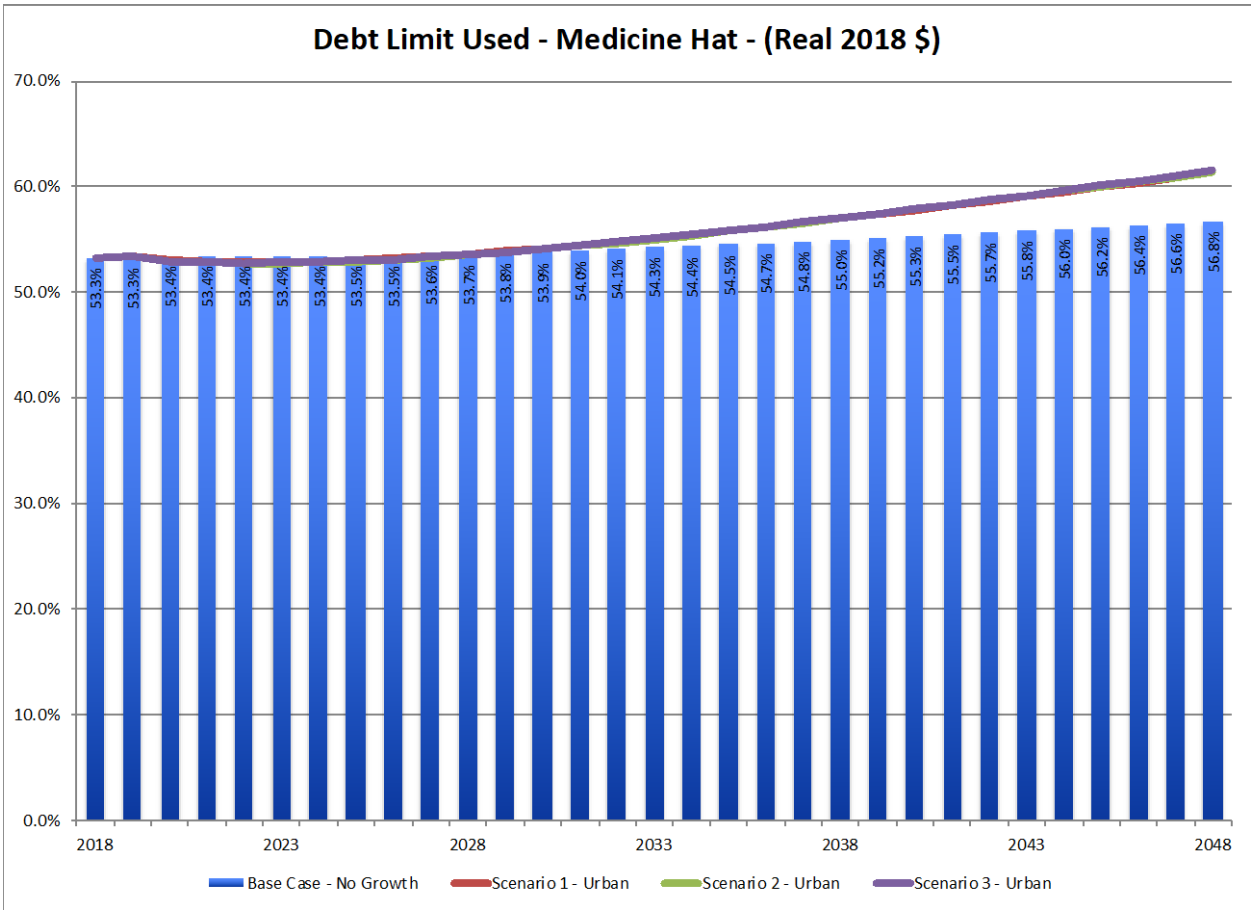


The portion of the City's debt limit used in the Base Case increases slightly over the forecast period from approximately 53% to almost 57%. This falls well within the provincial guidelines and the increase over the forecast period is small.

For each of the Growth Scenarios, the portion of debt limit used increase to just over 61.5%. This level of debt is still well within the provincial guidelines and if of concern, could be mitigated, if deemed necessary, with a transference of capital project funding from debt to operations.

The financial forecast also reviewed the debt service limit impacts in the Base Case and Growth Scenarios and found similar results. In the Base Case, the portion of debt service limit used increases from approximately 32% in the Base Year to just over 34% by the end of the forecast. In each of the Growth Scenarios, the portion of debt service limit used rises to just under 37%.

Debt Limit Used (Real 2018 $) – Urban Service Level

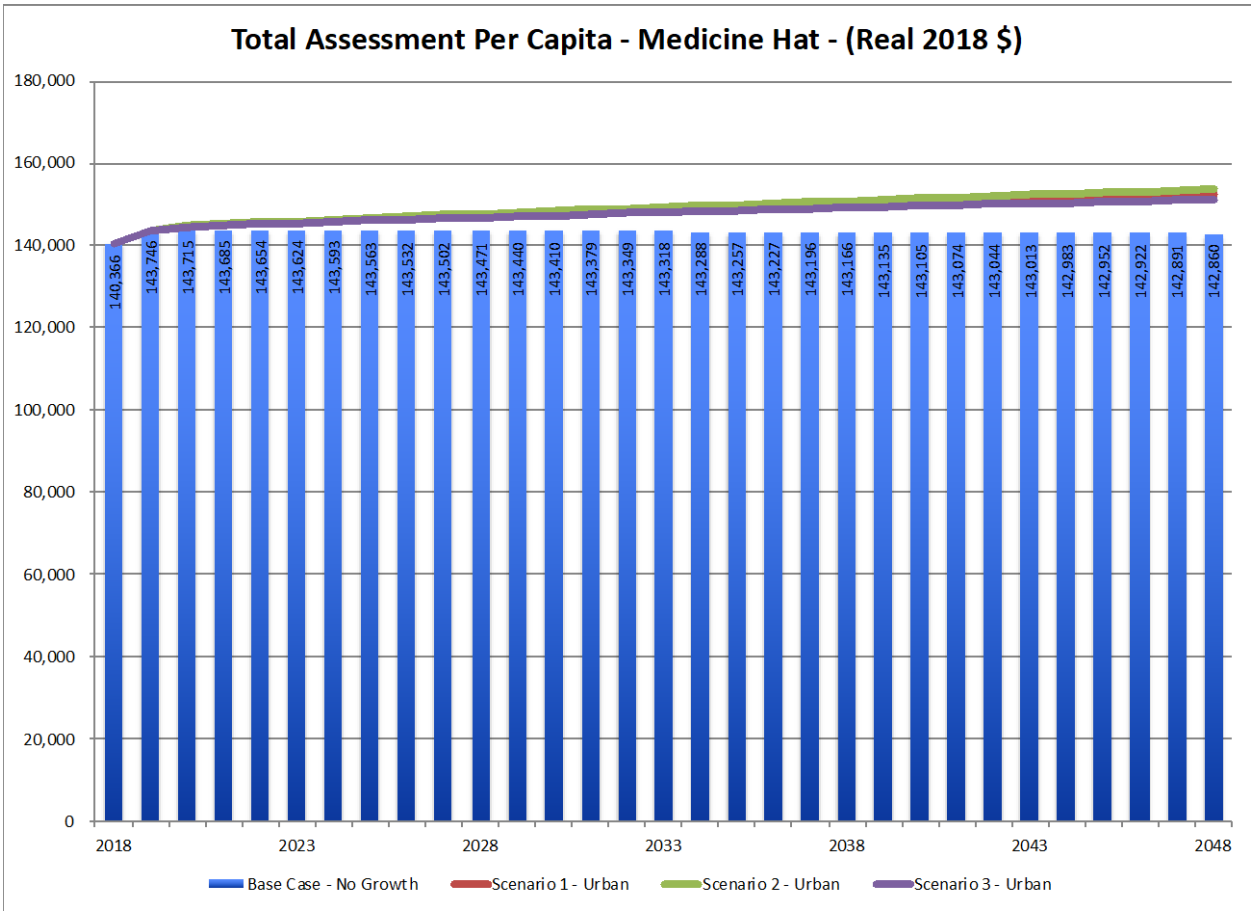


As noted above, the City's assessment base is projected to improve somewhat over the forecast period in each of the Growth Scenarios. This is a result of the population and employment projections, and ultimately the residential and non-residential assessment projections, developed so that the jobs that would be consistent with the population and labour force growth of City residents' results in jobs in the City.

In each of the Growth Scenarios, total assessment per capita is projected to increase to over $150,000 per capita. Similarly, the share of non-residential assessment as a proportion of total assessment increases from 24.4% in the last year of the forecast to 25%.

The increase in assessment per capita and share of non-residential assessment indicates an improvement in the strength of the fiscal capacity of the City. This result is contingent upon the City being able to attract and retain the businesses and employment associated with the growth of the City's population and labour force.

Total Assessment Per Capita (Real 2018 $) – Urban Service Level

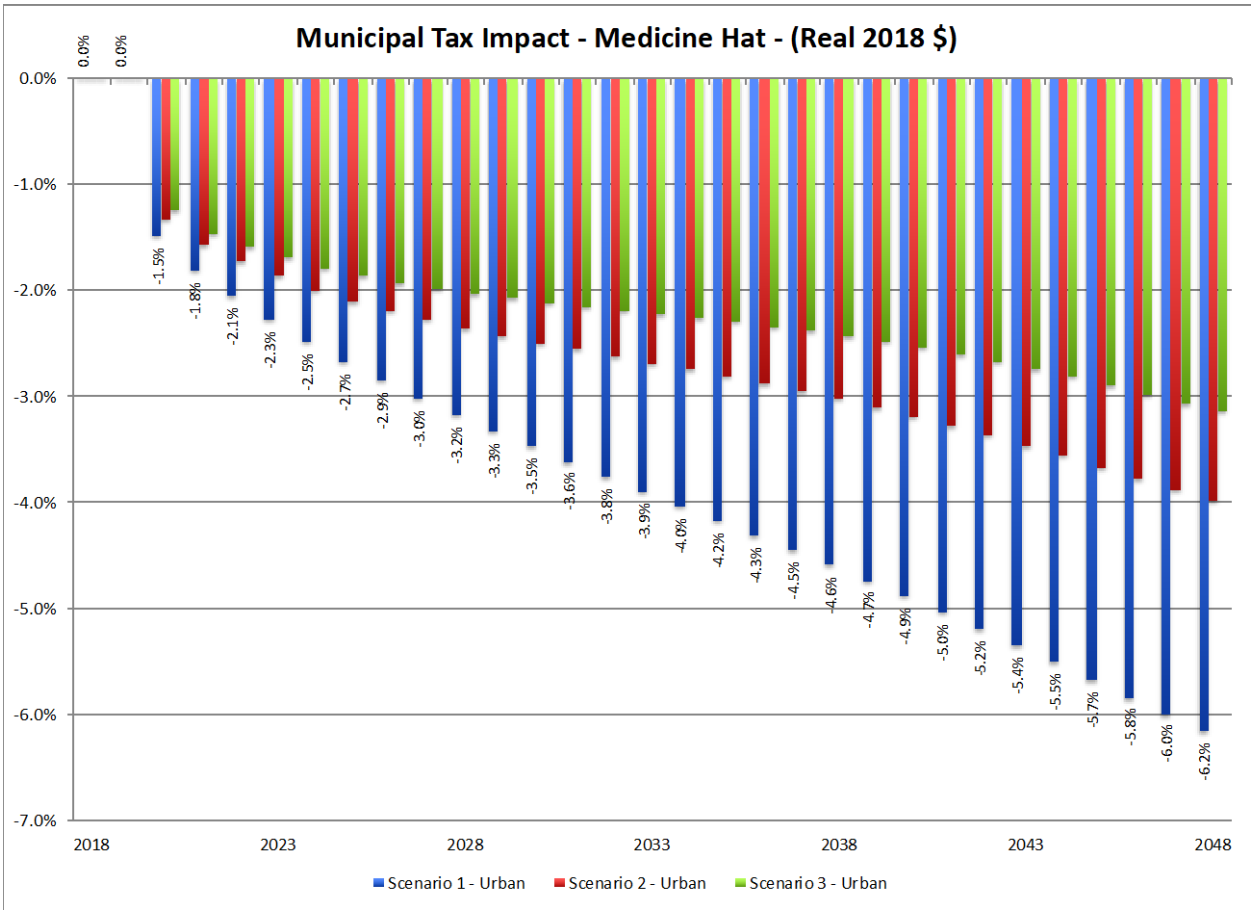


The overall impact of the growth scenarios on the City's financial position is positive. The benefits as measured by changes in real (2018 $) municipal tax rates is summarized for the Urban Level of Services option in the figure below.

The Municipal Tax Impact in each instance is measured as the difference between the Growth Scenario and the Base Case. For each Growth Scenario municipal tax rates are projected to be lower than in the Base Case, indicating that the City's financial position improves in each case. These benefits are estimated to range from a reduction in municipal tax rates of over 6% by the end of the forecast period for Growth Scenario 1.

These benefits are lower in each of Scenarios 2 and 3. This is largely a result of the additional growth in each of these scenarios being a higher proportion of multi-family dwelling units which will generate less assessment and municipal tax revenues per capita than in Growth Scenario 1. Regardless of the lower assessment from a portion of growth in these scenarios, the results of the analysis still indicate there is a net financial benefit to the City to grow. As will be seen from the analysis of the alternative service options, as service standards are lowered from the Urban Level of Service, the benefits of growth in each of the scenarios improves.

Municipal Tax Impact (Real 2018 $) – 3 Growth Scenarios: Urban Service Level



3.5 Defining the Sustainable Transect Model

Assuming service levels do not change, and given the features of a sustainable typology, what could a sustainable transect look like from a land use perspective?

What makes this Transect more sustainable?

The inter-relationship between land use, servicing and municipal finances is important. It is observed that areas with a wide range of uses and residential densities, in proximity, have a favourable impact on municipal finance. The main reason is the sheer number and range of revenue generating uses, with average to above average assessment values, within a defined neighbourhood area. In areas being served by a single infrastructure standard it also makes economic sense to fully utilize the infrastructure that is provided.

The above transect is also sustainable from a number of other viewpoints as well. The areas tend to promote active lifestyles and less driving. This leads to better and less expensive health outcomes. These areas also tend to promote social interaction. Social isolation is one of the most pressing issues in our society today. Vast areas of single-use, low-density, residential activity can lead to environments which are not conducive to social interaction within neighbourhoods.

Transects with more favourable outcomes tend to have the following characteristics:

1. They blend local employment uses within proximity to residential uses.

2. They encourage residential density in proximity to major amenities such as education facilities, hospitals, cultural and public transportation destinations.

3. The street systems are well-connected. Traffic is organized and managed, but the number of intersections is higher which leads to more pedestrian usage.

4. Multi-modal transportation options are available.

5. Density is used strategically to support transit and walkability to major destinations.

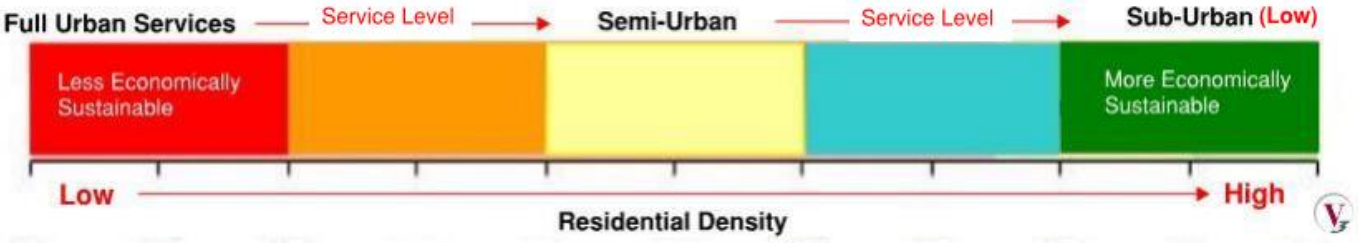
6. They focus retail on public street and squares. Smaller retail stores are located on streets which link anchor stores and where pedestrian volume is expected to be high.

7. They tend to have extensive public amenities, creative spaces and features.

Adding density simply for the sake of adding more units in the hopes of increasing assessed floor space per acre will not likely yield the positive financial results expected. Adding MUDs will have the benefit of adding more assessed floor space per acre, but also increases population and cost associated with serving more people. This tends to mute the positive financial effect of adding density. The key is to add amenities and features of development which can add, or increase, assessed value to all dweling types.

Adding density has other sustainable benefits since it reduces the linear distance between uses and reduces costs associated with shorter distances (ie. Underground services, garbage collection, street cleaning, etc.). Density also increases the market potential of commercial and employment uses in proximity which are critical to sustain municipal finances and keep mil rates low.

The introduction of lower servicing standards, also has a substantial postive impact on financial sustainability. However, the best strategy going forward is not to focus on only one aspect of sustainable growth. There are social, economic and environmental dimensions of growth which should also be considered. If the main focus is on more financial sustainability, the best strategy is to couple lower servicing standards with neighbourhood concepts which contain higher amounts of non-residential, revenue-generating uses.



section 4

Growth Management

Section 4 Growth Management

4.1 Aligning Policy with Sustainable Growth

The City is currently transitioning away from a subsidy model of municipal finance with a new initiative called 'Financially Fit for the Future'. The primary goal is to have a financially sustainable municipal budget that is not dependent on external subsidies from the City's business units (land development, natural gas, electricity).

How the City grows over the next 30 years will play an important part in establishing a strong financially sustainable framework for service provision and infrastructure asset management while offering a high quality of urban life to Medicine Hat citizens.

Recent consultations have noted that there appeared to be a strong appetite in the community to 'calibrate' the Medicine Hat MDP that was adopted in 2012.

The 2012 MDP included many progressive new directions for land use and ambitious density targets, primarily to be achieved through significant redevelopment of the city's historic and established neighbourhoods. It has been noted by the staff at City Hall that the target for infill and redevelopment is not accurate and represents an unreasonable goal given the activity and market demand for this type of development since 2012. It is the opinion within the administration that the community favours a variety of housing options provided in each neighbourhood and not limiting development to only compact forms of development. However, market demand for significant low-density residential growth compared to infill is at odds with overarching goal of becoming a financially sustainable community.

Therefore, a key policy shift in the new MDP will be determining a realistic balance between infill/redevelopment and greenfield development.

There is nothing inherently 'unsustainable' about urban growth. Sustainability is measured by a community's willingness to pay the true costs of all forms of development which are desired within that community. Municipalities have very little influence on market demand if the community is able to afford the costs of lower density growth. Through the analysis of the typologies, V3 and Applications Management have been able to show that some forms of development are subsidized by other forms of development when services are uniform across the city. Overall, there is one single budget for a municipality, and all of the forms of development and land uses contribute varying amounts to achieving a balanced budget.

One of the goals is to reduce that subsidy by adopting more appropriate service levels which are scaled to match the intensity of land use it serves.

4.2 Policy Directions for Consideration

The MDP will mark a new direction for development in the City. A direction in which all intensities of development are permissible if their local context accommodates the intensity and each transect/intensity has defined level of servicing infrastructure that meets the need of the transect while being financially sustainable. In other words, all intensities of development will be accommodated as long as all costs are known and covered through a sustainable source of revenue.

What follow are a few policy suggestions to help to increase the financial sustainability of Medicine Hat as it grows to 100,000:

Policy Direction 1: Regional Development

Consider a 'no net loss' approach to all aspects of regional development. All municipalities are seeking growth. There is a widespread assumption that all forms of growth generate tax revenue, which is true. The real question however, is does the form and design of development cover all the costs associated with the services to be provided to that form of development?

Why is this important?

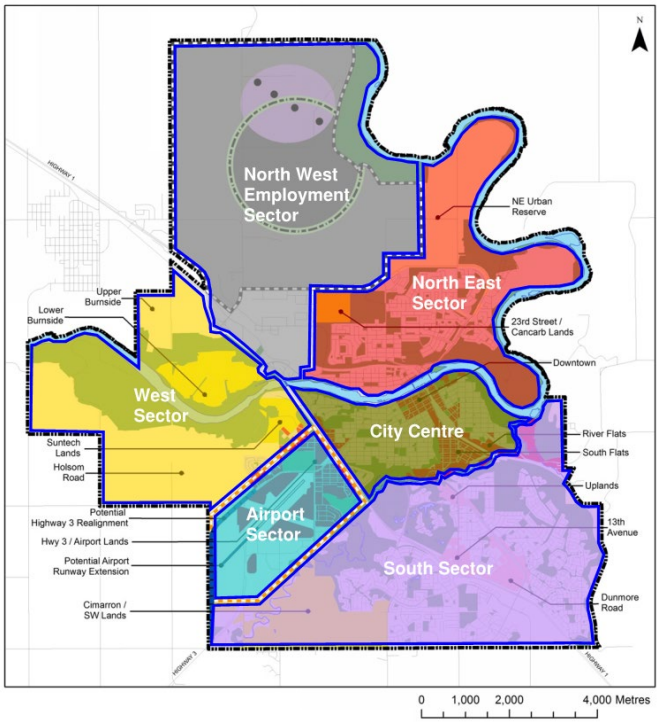
Municipalities may be encouraged to allow development to occur in areas which are not identified for growth and offer to ‘share’ tax revenue. Without understanding how much growth costs, and the implications of the design of that growth, municipalities may be entering into agreements which are actually ‘sharing’ revenue losses.

Policy Direction 2: Sector Planning

Consider moving towards a more comprehensive framework for future urban growth. For example, Medicine Hat could adopt a framework based on a larger, more comprehensive growth based on ‘Sectors’.

Why is this important?

At present, Medicine Hat’s growth is comprised of many small residential projects. Most of which do not constitute a ‘complete neighbourhood’. The difficulty in adding incrementally small amounts of residential growth to the City is that it makes planning for infrastructure expansion and development of new facilities and services more difficult and reduces the City’s ability to forecast budget revenues and expenditures. Minimum time horizon to plan, finance and execute major urban growth plans is 20 years. More time is better. From a planning perspective, 'incremental' or piecemeal growth rather than ‘comprehensive’ growth is more problematic and unpredictable.



Consider a high level, sector-based approach with the following:

1. Complete the residential projects currently underway or in the approval stages.

2. Move, over time, towards establishing larger sectors (or planning areas), which encourage comprehensive planning for the major infrastructure and land uses. Base the sector boundaries on areas which make sense to the community.

3. Within each sector, policies should be adopted which require larger more comprehensive neighbourhoods to be designed with minimum standards such as:

    a. Sufficient populations to support a centrally located school;
    b. Centralized park system;
    c. Non-residential and local employment uses for convenience to encourage biking and walking;
    d. Affordable housing;
    e. Stormwater management areas;
    f. Natural Areas.

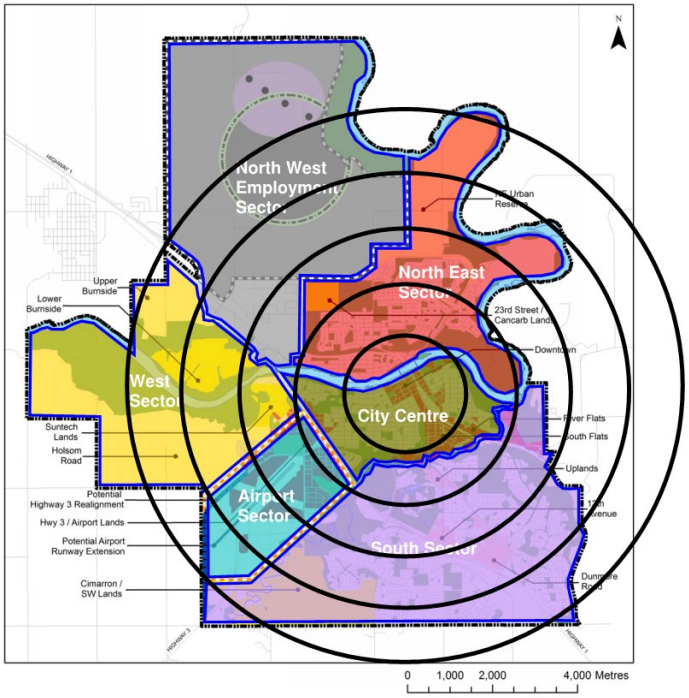
4. Within each sector growth is phased according to policies which promote the orderly growth and extension of services and infrastructure.

Policy Direction 3: Grow Concentrically around the City Centre

A concentric form of growth has more benefits than a linear form of growth. Concentric growth encourages movement to the City Centre. Transit service can be provided to a centralized hub more efficiently. The river acts as a transportation corridor through the City Centre utilizing trails and linkages to areas of population growth. Concentric growth ensures that there is as much proximity to the City Centre as possible. A concentric growth pattern allows greater opportunities for corridor development which lead to the City Centre

Why is this important?

Over time, the City of Medicine Hat needs to do as much as possible to encourage infill growth. This means that consumers, visitors, residents, etc. need reasons to live, work, play and invest in the City Centre.



Policy Direction 4: Develop Comprehensive Neighbourhoods

Neighbourhoods should be centered around elementary school catchment areas. Neighbourhoods are communities. As such they should be developed in a comprehensive manner. A best practice is to base a neighbourhood size on a walkable catchment area to a central community-based facility, such as a school.

Why is this Important?

A comprehensive neighbourhood concept allows the City to conduct a thorough review of all the land uses which make up the entire community. The review can consider all of the dimensions of sustainability – economic, social and environmental.

Policy Direction 5: Lead by Example

Align the Land Division business plan with high level community goals. Base location decisions for new public investments in major infrastructure on considerations and promotion of high-level goals.

Remove incentives which do not align with larger community goals. Although the scope of this study did not include conducting a scan of existing incentives, it is common to find incentives provided to encourage the purchase of one form of development, when the long-term goal is to encourage another form of growth. For example, Saskatoon has set infill targets of up to 30%, however, the Saskatoon Land Branch, who sells fully serviced residential lots, provides purchase incentives to consumers in greenfield neighbourhoods.

Why is this Important?

Cities will often state high level goals which are designed to encourage sustainable growth, but those high-level directions can be hard to achieve when policy, business practices, regulations and incentives do not align.

Policy Direction 6: Rezoning and Land Use Change should take into account Financial Considerations

Rezoning requests could include, as part of the land use review, an analysis to understand long term financial impacts of the change. This approach is particularly important if there are future requests to 'downzone' existing land use regulations. Downzoning is a term used to describe a process where the zoning being applied to a parcel of land will add limits to density or restrict density to a lower standard than what is already in place.

Why is this Important?

The overall financial outcomes of a rezoning are rarely considered. Rezoning is not designed to consider these factors. However, most Municipal Development Plans rely on Land Use Bylaws to implement policies which call for environmental, social and economic sustainability.

Policy Direction 7: Area Structure Plans/Concept Plans should include a Financial Analysis

Large development plans should consider both Capital construction and identify funding sources. It is well understood that development charges, such as off-site development levies, cover the majority of major capital costs (especially with the recent amendments to the MGA which added more municipal infrastructure to the list of eligible infrastructures which can be recovered through levies).

A complete Fiscal Impact Assessment which examines the full, life-cycle development costs for each development should be provided. Developers should also be required to conduct and submit information which will allow the City to budget for the ongoing Operation/Maintenance, Life Cycle Costs of new infrastructure over an extended period of time, and identify potential funding sources.

Why is this Important?

As stated previously, the more comprehensive a development plan is, the easier it is to plan for long term sustainable growth. A minimum planning horizon for a City is generally considered to be 20 years. Therefore, large plans should consider growth with a 20-year horizon or longer.

Policy Direction 8: Medicine Hat policy should direct Large, City-wide Facilities and Public Destinations to the City Centre

This policy would direct large, public facilities and destinations, such as Civic Centres, Art Galleries, Museums, Libraries, Theatres, etc. to the City Centre, whenever and wherever possible. This is especially important in regards to publicly funded projects in central locations along bus routes, accessible by bike and walking, and in areas where density is encouraged.

Why is this Important?

If one of the goals of the Growth Management Strategy is to encourage more infill growth, there must be catalysts which have the effect of attracting more development to the City Centre. Large public facilities and destinations can have a catalytic effect and encourage more infill growth.

4.3 MEDICINE HAT GAME CHANGERS

In 2019, the Medicine Hat City Council considered a recommended set of six (6) game changers as part of their 2019 MDP review and update. The game changers were adopted by Council, and three (3) of them are particularly important for the Growth Management Strategy.

1. The first Game Changer adopted by Council is a **Vibrant City Centre**. This includes a significant increase in the residential density in and around the Downtown. The intent is for the City to use every tool available to encourage more growth in the City Centre.
   The overall goal is to project at least a moderate level of population increase within the City Centre area. This could be comprised of mid-rise buildings (4-8 storeys) throughout most of the area with buildings taller than 9 storeys in strategic locations like the Arena Lands.

2. The second Game Changer is **Focused Intensification**. The aim of this initiative is to focus on a few selected nodes which have a high potential for growth and higher density. This could occur along some main corridors, and large strategic sites.

3. The third Game Changer is **Contextual Neighbourhoods**. The City will be pursuing a market-based approach to density instead of a minimum target. Therefore, the City will not restrict larger lot single family subdivisions, however, the trade-off is that there is the expectation for reduced service levels if they do end up being lower density.

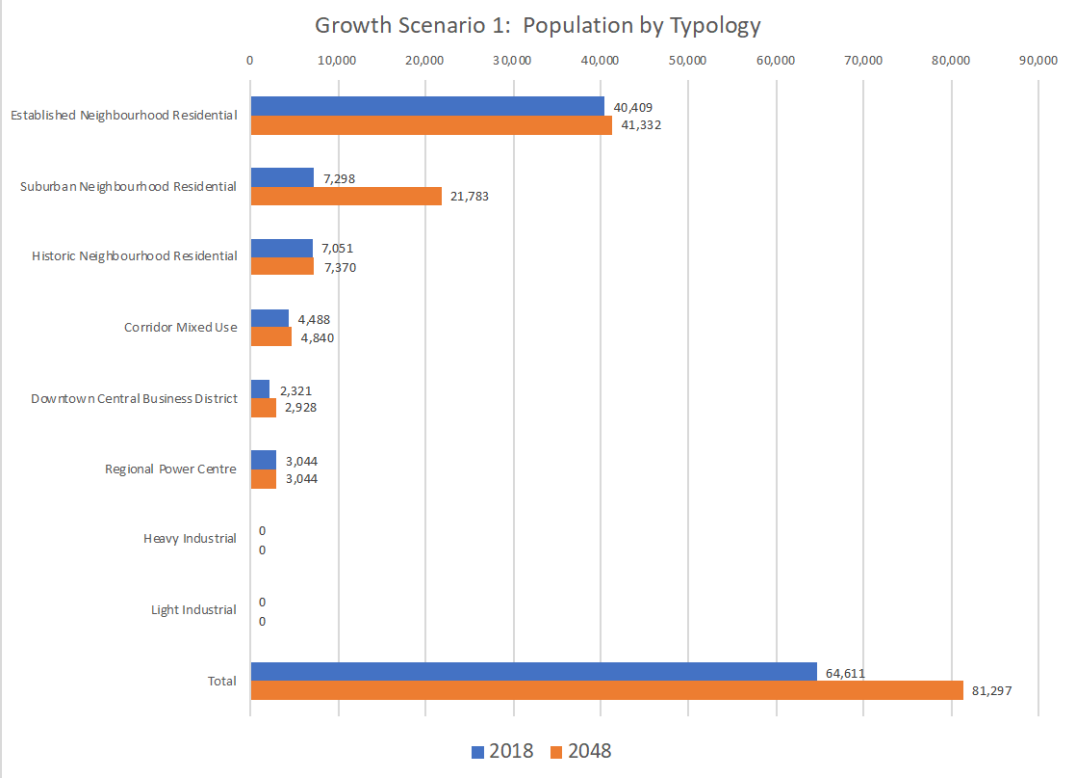
The GMS supports these 3 Game Changers and provides the City with fact-based evidence in the model for these initiatives and policy changes. This evidence is presented in the Growth Scenarios presented in Section 4.4 and Section 5 below.

4.4 GROWTH SCENARIOS

Scenario 1 (Base Scenario) – comprised of:

- 90% suburban growth with larger lot suburban development and reduced (Semi-urban) service levels (greenfield neighbourhoods which started with a standard service level, would be completed with the same service level);
- **Small** increase in infill development (up to 10%). Infill areas will continue to receive a standard level of service. Infill growth will mainly be in the new Vibrant City Centre and a few select Targeted Intensification areas where incentives are provided.
- New Employment Areas would be serviced using the new Sub-urban service level.

Growth Scenario 1: Population by Typology



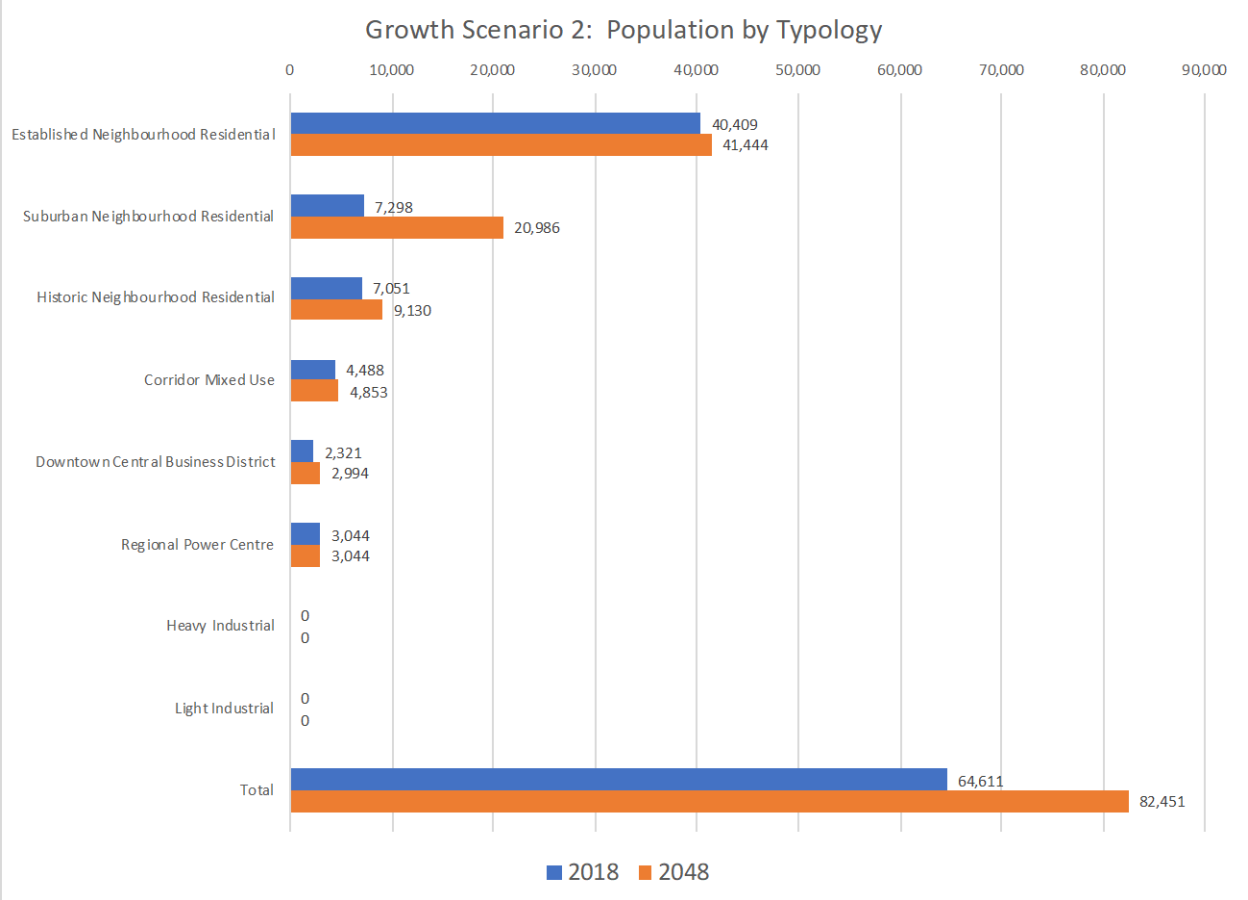
Scenario 2 – comprised of:

- 80-85% suburban growth with larger lot suburban development and reduced (Semi-urban) service levels;

- **Moderate** increase in infill development (15-20%):

    - Residential growth in new Vibrant City Centre;
    - Mixed-use Medium-Density development on Arena Site; and,
    - growth in select Targeted Intensification Areas.

Growth Scenario 2: Population by Typology



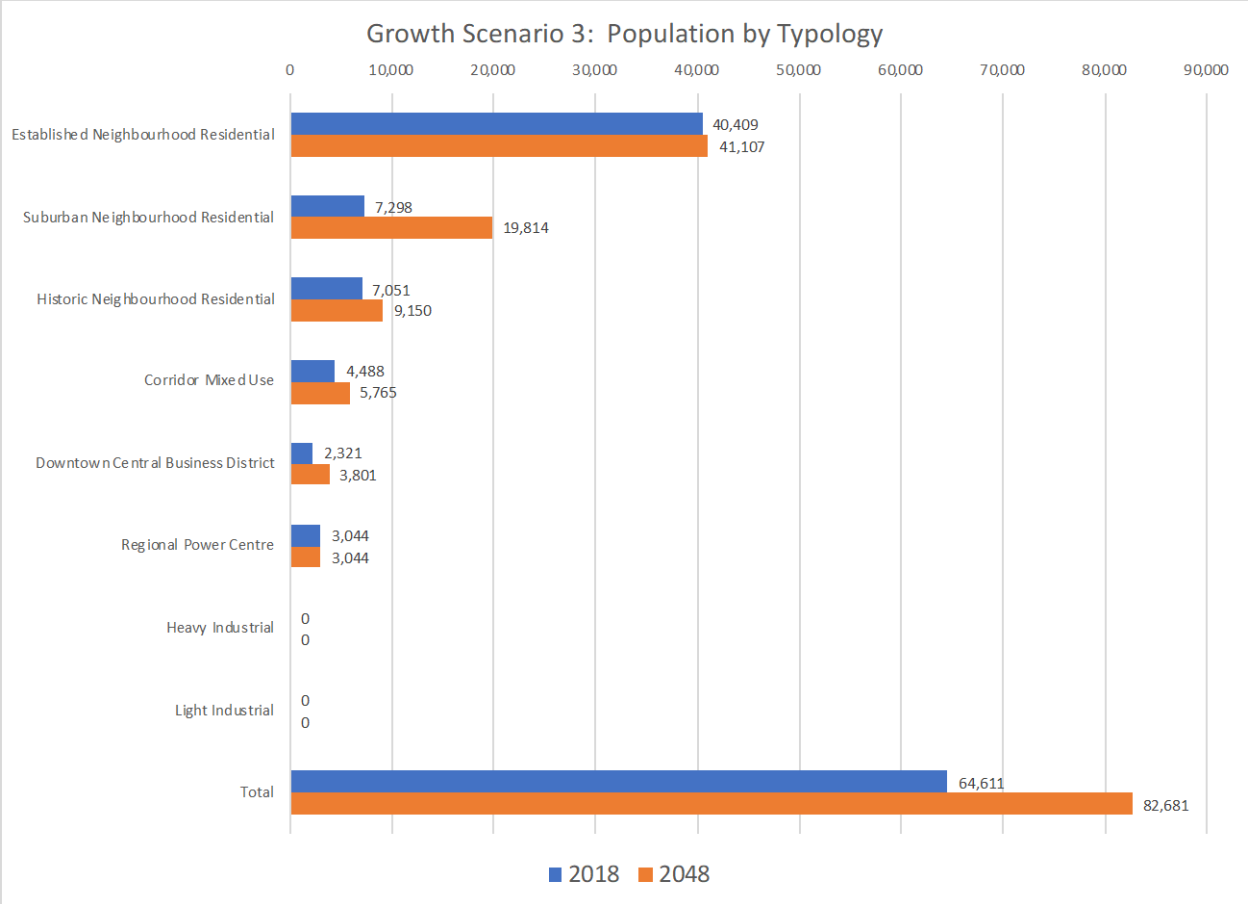
Scenario 3 – comprised of:

- 70-75% suburban growth with larger lot suburban development and reduced (Semi-urban) service levels;

- **Large** increase in infill development (25% - 30%):

    - Residential growth in new Vibrant City Centre;
    - Mixed-Use High-Density development on Arena Site;
    - New multi-unit residential growth close to new waterfront park; and,
    - growth in select Targeted Intensification Areas.

Growth Scenario 3: Population by Typology



Employment Growth

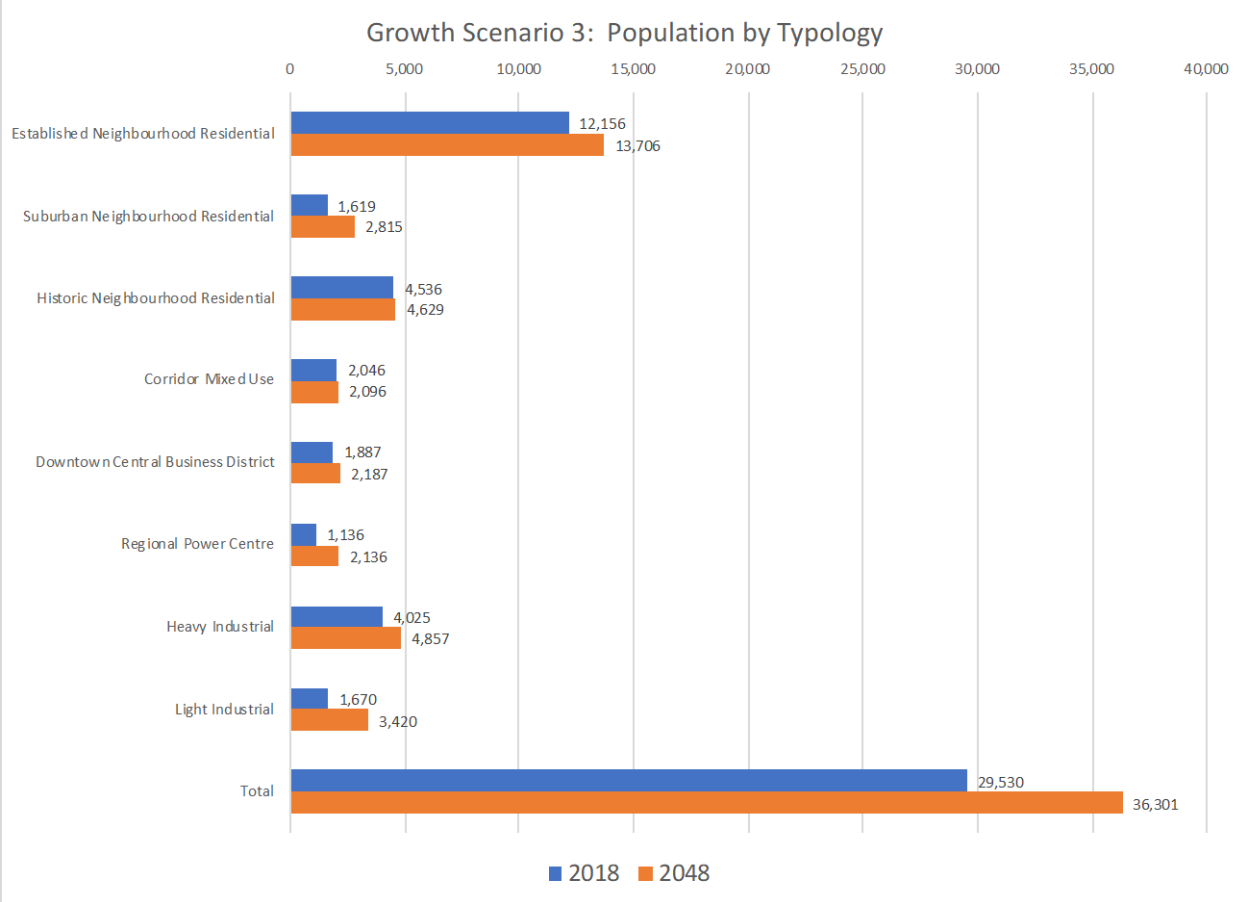
Employment projections have been developed to be consistent with the population projections, making assumptions about the labour force in the population and the proportion of the labour force that will be working. The employment projections are used to estimate the amount of non-residential assessment that

Employment (Total Growth)

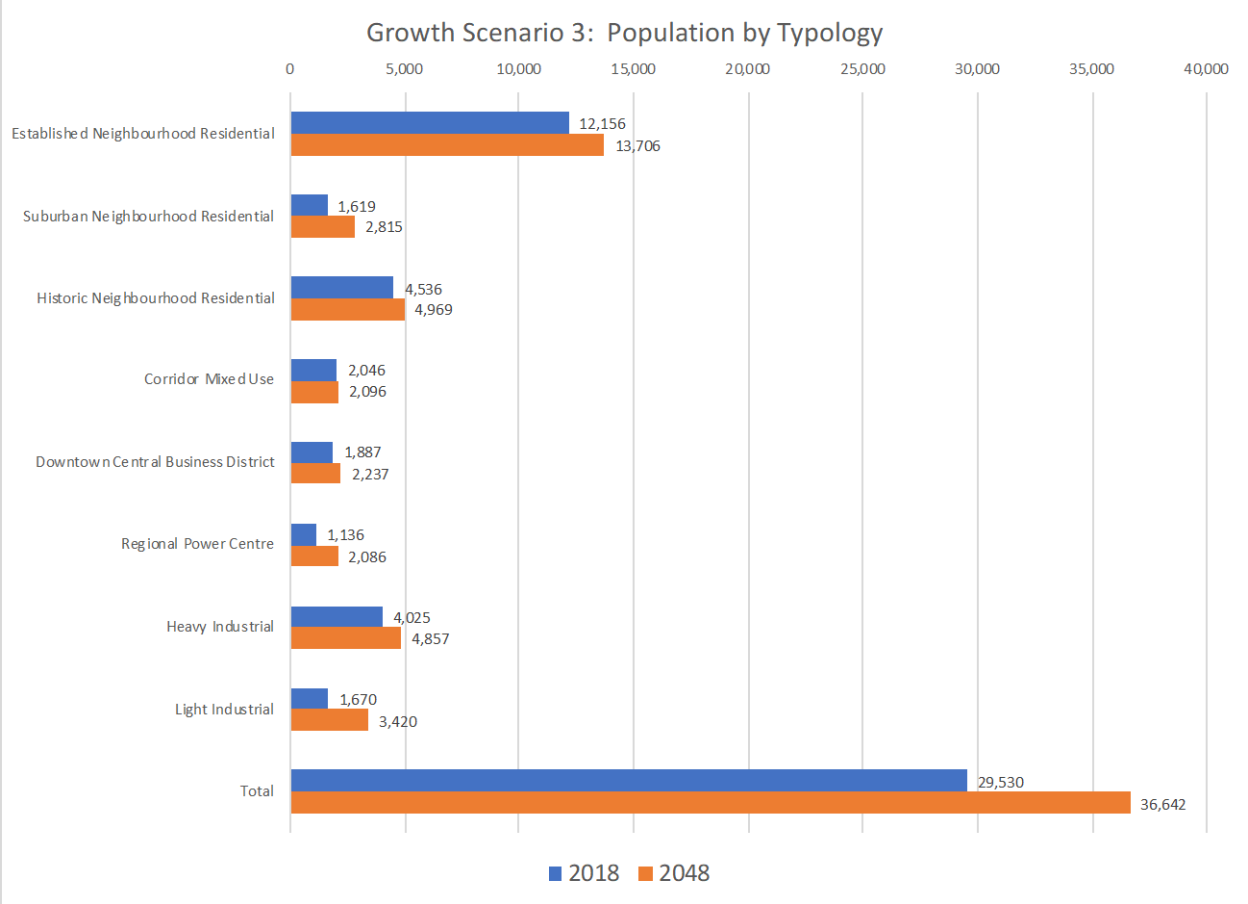
Growth Scenario	2018	2048	Growth	% Growth
1	64,611	80,185	15,574	24.1%
2	64,611	81,262	16,651	25.8%
3	64,611	84,476	16,865	26.1%

Employment growth has been allocated to areas in the City based on the defined Typologies consistent with the City's GMP. Population growth by Typology are summarized in the following tables.

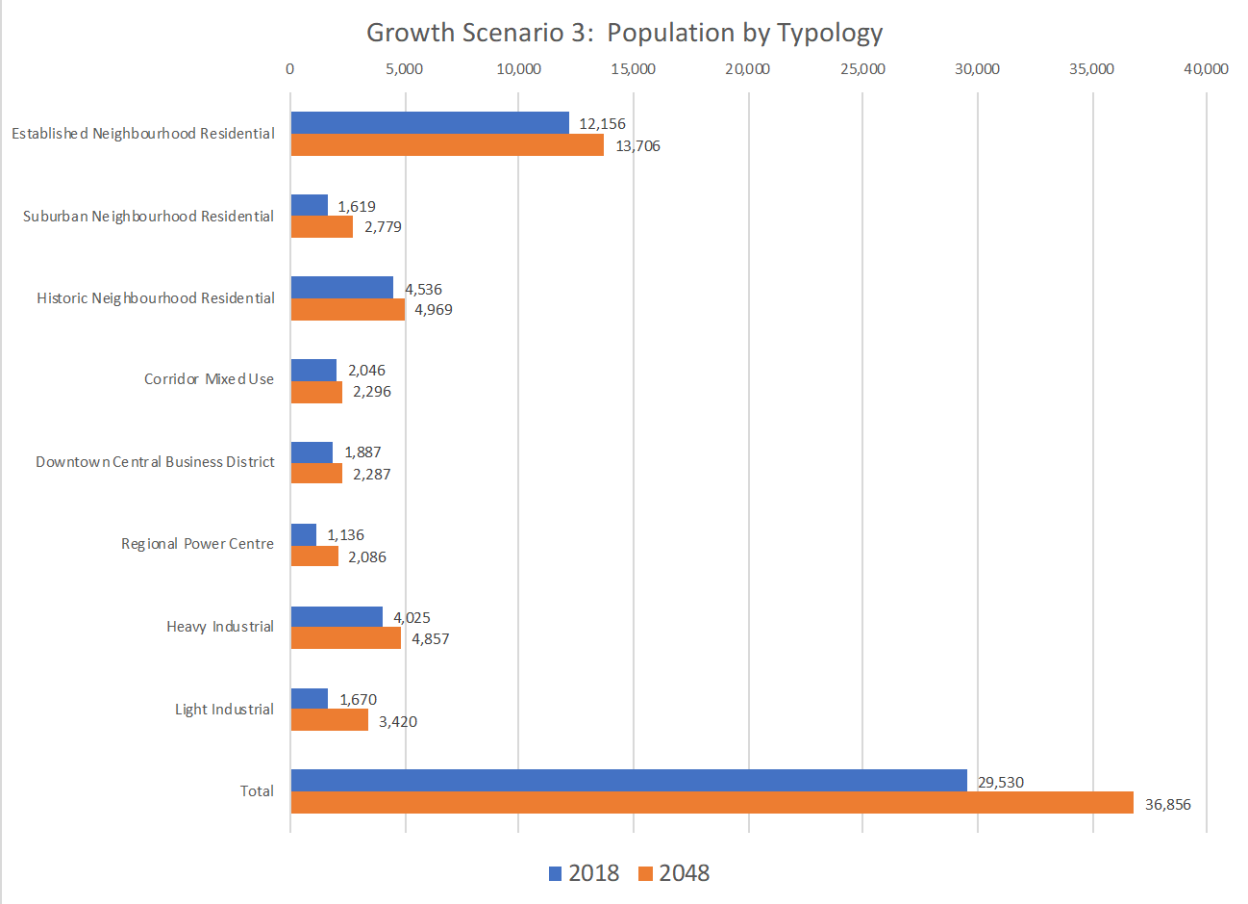
Growth Scenario 1: Employment by Typology



Growth Scenario 2: Employment by Typology



Growth Scenario 3: Employment by Typology



The growth projected for each Typology has implications for the demand for services and municipal costs associated with delivering these services, as well as the tax base in the Typology that will support these services.

section 5

Growth Scenario 1

10% Infill
90% Greenfield

Section 5 Growth Scenario 1

Growth Scenario 1 is the base scenario which examines the development, servicing and financial characteristics using the lowest targeted infill rate of 10%. The scenarios are models using Medicine Hat's identified growth areas from the 2011 Growth Management Strategy. In Scenario 1 the following characteristics are used to develop both infill and greenfield projections.

In order to compare the scenarios, specific assumptions are held constant:

- Medicine Hat will grow by a total of 18,000 people over 30 years.
- Annual growth will be an average of 600 people per year.
- 10% of infill growth will occur as General Infill in neighbourhood locations and be comprised of single-unit dwellings, semi-detached and suites.
- Three infill areas are used in the model: General infill; City Centre infill; and Targeted Intensification Areas.

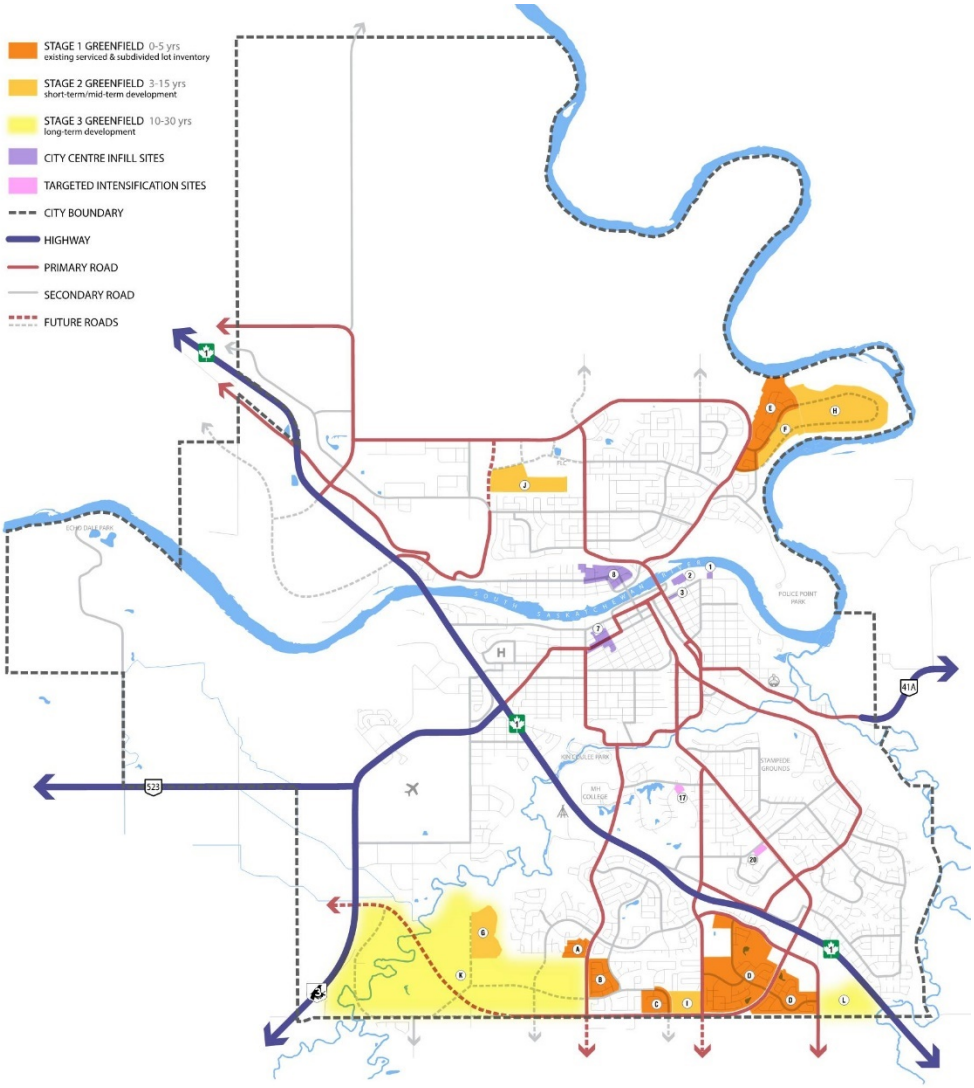
A. Infill Target – 10% Infill Growth over next 30 years – 1,800 people.

Type	Service Tier	Location	Dwelling Type	Dwellings/Ha.	Area (Ha.)	Units	Population
General	Existing	Various	SUD/Semi-Detached/Suites	Varies	Varies	60	180
City Centre	Urban	(#1) 954 2nd Street East	Mixed-Use High Rise, 10 storeys	150	.60	90	180
	Urban	(#2) Arena Lands	Apartments; Low-Rise	100	1.2	120	240
	Urban	(#8) Riverside ARP	Mixed-Use; Mid-Rise Apartments	150	2.0	170 (49% build-out)	340
	Urban	(#3) 827 2nd Street SE	Townhouses	50	.50	25	60
	Urban	(#7) Herald ARP Medium Density	Mixed-Use; Mid-Rise Apartments	150	2.0	170 (49% build-out)	340
Targeted Intensification Sites	Urban	(#17) 352 Primrose Dr. S.E.	Townhouses	50	1.3	65	160
	Urban	(#20) 3010 Dunmore Rd. S.E.	Mixed-Use; Low Rise Apartments	100	1.7	170	340
				Scenario 1 Infill Totals	9.3	870	1,840

B. Greenfield Growth plus 10% Infill Target over next 30 years – 18,000 people.

Type	Service Tier	Location	Predominant Dwelling Type	Dwellings/Ha.	Area (Ha.)	Units	Population
Scenario 1 Infill	Existing	Various	SUD to High-Rise	Varies	Varies	870	1,840 (10.2%)
Greenfield – Stage 1	Semi-Urban	(A) Saamis Heights 7	SUD				
	Semi-Urban	(B) South Vista 10/11	SUD				
	Semi-Urban	(C) Hamptons 1/2	SUD				
	Semi-Urban	(D) Southlands 4/5/6	SUD				
	Semi-Urban	(E) Ranchlands 3A/3B	SUD				
Totals Stage 1						700	1,750
Greenfield – Stage 2	Semi-Urban	(F) Ranchlands 3C	SUD			160	480
	Semi-Urban	(G) Coulee Ridge (Cimarron)	SUD			200	600
	Semi-Urban	(H) Ranchlands 4	SUD			700	2,100
	Semi-Urban	(I) Hamptons 3	SUD			150	450
	Semi-Urban	(J) Brier Run	SUD			500	1,200
Totals Stage 2						1,710	4,830
Greenfield - Stage 3	Semi-Urban	(K) Cimarron	SUD			2,400	7,500
	Semi-Urban	(L) Southlands 7	SUD			264	826
Totals Stage 3						2,664	8,326
Total Greenfield (All Stages)	Semi-Urban		SUD			5,074	14,906 (82.8%)
Scenario 1 Infill Totals						**870**	**1,840**
Total Infill and Greenfield						**5,944**	**16,746 (93%)**

What the above table shows is that with a projection of 18,000 people over 30 years, and with 10% Infill growth, all of the currently identified Greenfield developments make up only 93% of the growth expected. Therefore, there is room for more Greenfield development, if the Infill target stays at 10%. The Residential Scenarios are illustrated and summarized in a series of maps like the one below.



INFILL OPPORTUNITIES

ID	Site	Built forms	Density (u/ha)	Population
1	954 2nd Street SE (Lions Park area)	Mixed use. High-rise 10 storeys.	150	180
2	Former Arena lands	Apartments. Low-rise.	100	240
3	827 2nd Street SE	Townhouses.	50	60
7	Herald ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
8	Riverside ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
17	352 Primrose Dr. SE	Townhouses.	50	160
29	3010 Dunmore Rd. SE (Former Rona)	Mixed use or Apartments. Low-rise.	100	340

GREENFIELD

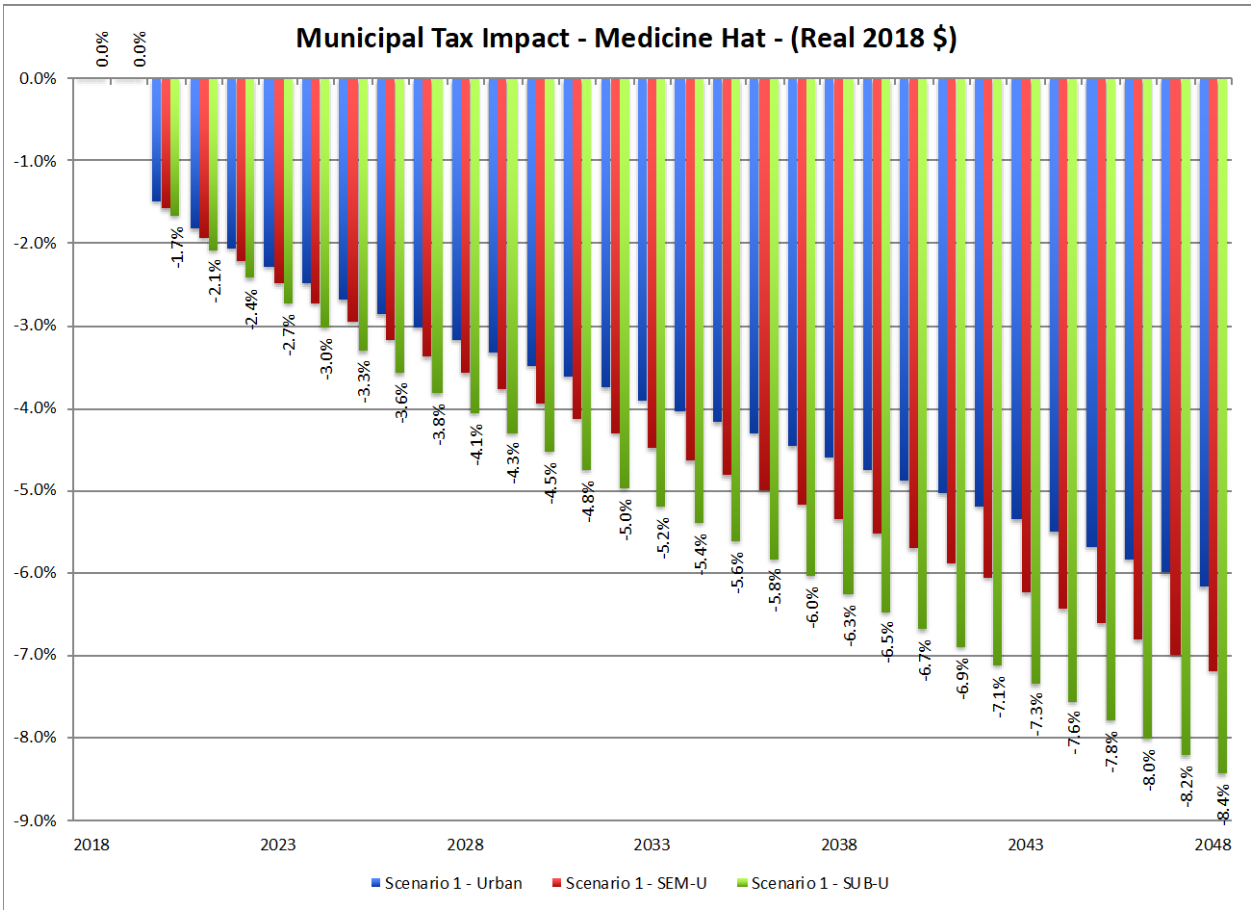
ID	Site	Units	Population
A	Saamis Heights 7		
B	South Vista Heights 10/11		
C	Hamptons 1/2	700	1750
D	Southlands 4/5/6		
E	Ranchlands 3A/3B		
F	Ranchlands 3C	160	480
G	Coulee Ridge (Cimarron)	200	600
H	Ranchlands 4	700	2100
I	Hamptons 3	150	450
J	Brier Run	500	1200
K	Cimarron	2400	7500
L	Southlands 7	264	826

Residential
Growth Scenario 1 -
Target Infill Growth 10%

Financial Implications of Growth Scenario 1

For Growth Scenario 1, the Sub-Urban Level of Service (SUB-U) provides the greatest benefit as measured by a change in municipal tax rates. By the end of the forecast period, it is projected that municipal tax rates would be **8.4% lower at this service level**, as compared to a reduction in municipal tax rates of **7.2% for the Semi-Urban Level of Service** (SEM-U) and **6.2% for the Urban Level of Service (Urban)**.

Municipal Tax Impact (Real 2018 $) Alternate Service Levels: Growth Scenario 1



section 6

Growth Scenario 2

20% Infill
80% Greenfield

Section 6 Growth Scenario 2

A. Infill Target – 20% Infill Growth over next 30 years – 3,600 people.

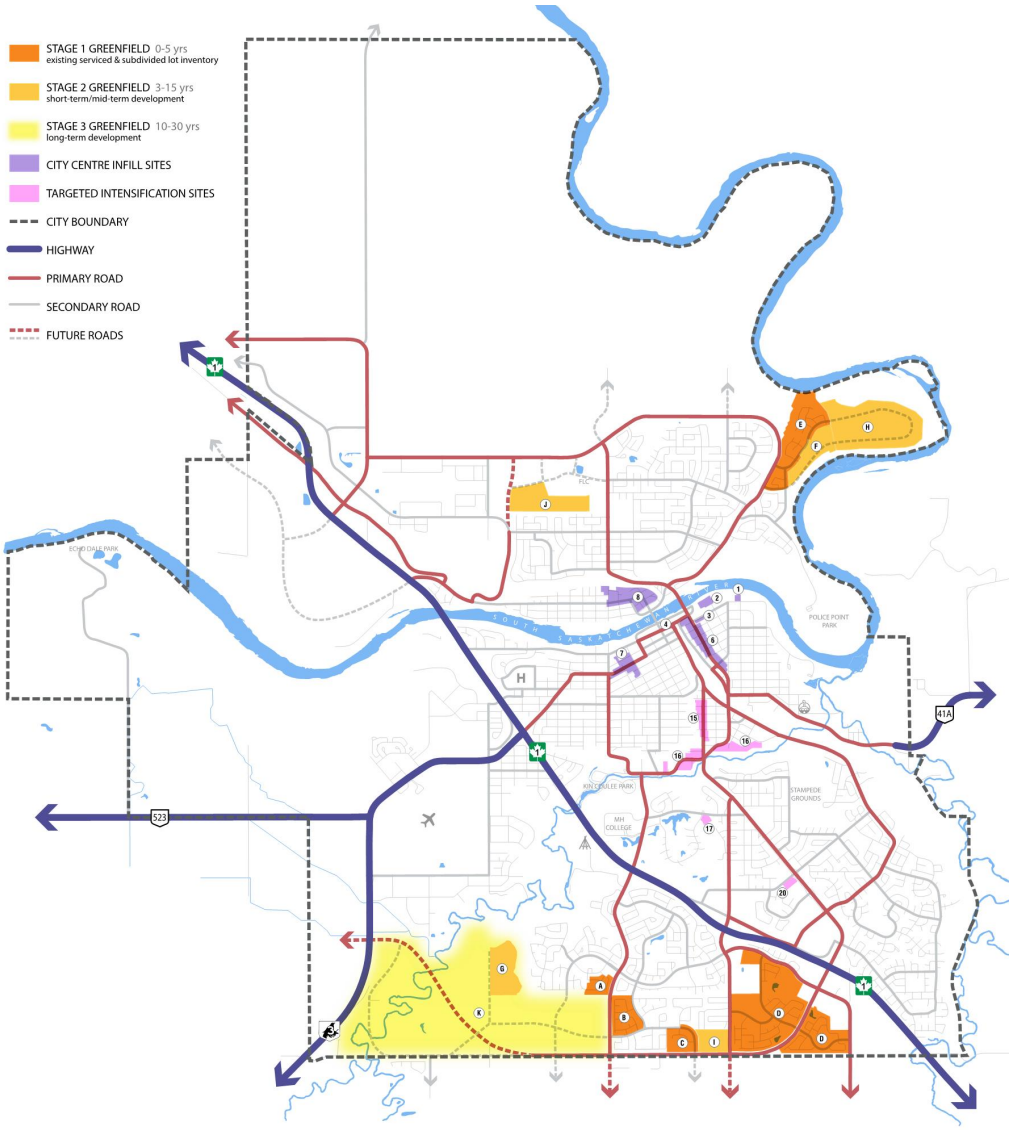
Cumulative Development Added to Scenario 1:

Type	Service Tier	Location	Dwelling Type	Dwellings/Ha.	Area (Ha.)	Units	Population
General	Existing	Various	SUD/Semi-Detached/Suites	Varies	Varies	60	180
City Centre	Urban	(#6) North Railway St. & Maple Ave Lands	Mixed-Use; Low-Rise Apartments	100	1.2	120 (17% build-out)	240
	Urban	(#4) 603 1st Street SE	Apartments; Mid-Rise	200	.15	30	60
Targeted Intensification Sites	Urban	(#16) South Flats land	Mixed-Use; Low-Rise Apartments	75	5.0	375	750
	Urban	(#15) Kingsway Lands	Mixed-Use; Low-Rise Apartments	75	5.0	375	750
Totals Scenario 2					**11.35**	**960**	**1,980**
Add Scenario 1					**10.3**	**870**	**1,840**
Total Infill Scenarios 1 & 2					**21.65**	**1,830**	**3,820 (21.2%)**

B. 20% Infill Target Plus Greenfield Growth over next 30 years – 18,000 people.

Type	Service Tier	Location	Predominant Dwelling Type	Dwellings/Ha.	Area (Ha.)	Units	Population
Infill Totals Scenario 1 & 2	Existing	Varies	SUD to High-Rise	Varies	**18.45**	**1,800**	**3,760 (20.9%)**
Greenfield – Stage 1	Semi-Urban	(A) Saamis Heights 7	SUD				
	Semi-Urban	(B) South Vista 10/11	SUD				
	Semi-Urban	(C) Hamptons 1/2	SUD				
	Semi-Urban	(D) Southlands 4/5/6	SUD				
	Semi-Urban	(E) Ranchlands 3A/3B	SUD				
Totals Stage 1						**700**	**1,750**
Greenfield – Stage 2	Semi-Urban	(F) Ranchlands 3C	SUD			160	480
	Semi-Urban	(G) Coulee Ridge (Cimarron)	SUD			200	600
	Semi-Urban	(H) Ranchlands 4	SUD			700	2,100
	Semi-Urban	(I) Hamptons 3	SUD			150	450
	Semi-Urban	(J) Brier Run	SUD			500	1,200
Totals Stage 2						**1,710**	**4,830**
Greenfield Stage 3	Semi-Urban	(K) Cimarron	SUD			2,400	7,500
(Not Required)	~~Semi-Urban~~	~~(L) Southlands 7~~	~~SUD~~			~~264~~	~~826~~
Totals Stage 3						**2,400**	**7,500**
Total Greenfield (All Stages)	**Semi-Urban**		**SUD**			**4,810**	**14,080 (78.2%)**
Total Scenario 2 Infill						**1,830**	**3,820 (21.2%)**
Total Infill and Greenfield						**6,640**	**17,900 (99.4%)**

What the above table shows is that with a projection of 18,000 people over 30 years, and with approximately 20% Infill growth, the currently identified Greenfield developments exceed the 80% growth target. Therefore, under Scenario 2, the (L) Southlands 7 Greenfield development is **not required** to reach the target population. This Scenario is illustrated and summarized below in the following map.



INFILL OPPORTUNITIES

ID	Site	Built forms	Density (u/ha)	Population
1	954 2nd Street SE (Lions Park area)	Mixed use. High-rise 10 storeys.	150	180
2	Former Arena lands	Apartments. Low-rise.	100	240
3	827 2nd Street SE	Townhouses.	50	60
4	603 1st St. SE (phase 2)	Apartments. Mid-rise.	200	60
6	North Railway St. & Maple Ave. lands	Mixed use or Apartments. Low-rise.	100	240
7	Herald ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
8	Riverside ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
15	Kingsway Ave. SE lands	Townhouses or Apartments. Low-rise.	75	750
16	South Flats lands	Mixed use or Apts. Low-rise.	75	750
17	352 Primrose Dr. SE	Townhouses.	50	160
20	3010 Dunmore Rd. SE (Former Rona)	Mixed use or Apartments. Low-rise.	100	340

GREENFIELD

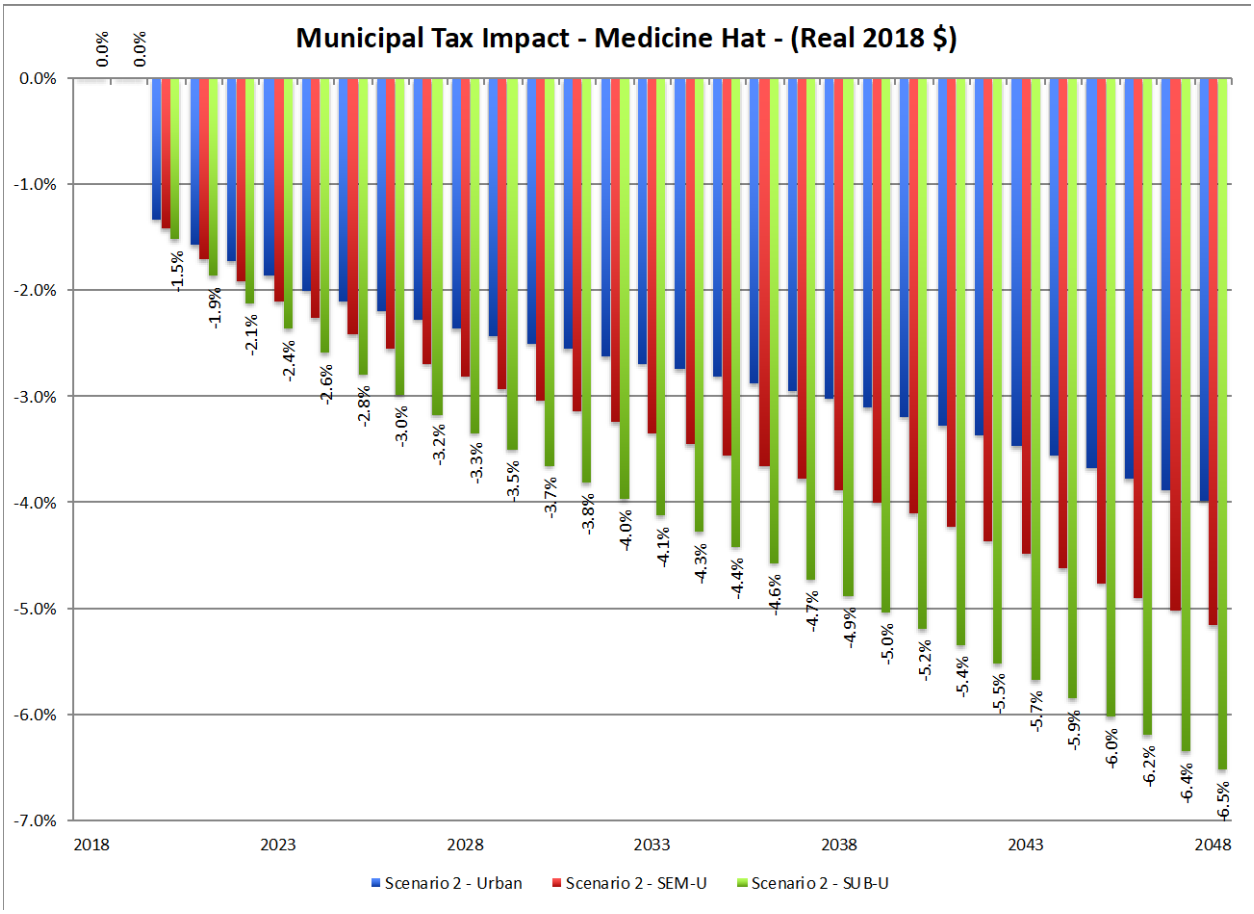
ID	Site	Units	Population
A	Saamis Heights 7		
B	South Vista Heights 10/11		
C	Hamptons 1/2	700	1750
D	Southlands 4/5/6		
E	Ranchlands 3A/3B		
F	Ranchlands 3C	160	480
G	Coulee Ridge (Cimarron)	200	600
H	Ranchlands 4	700	2100
I	Hamptons 3	150	450
J	Brier Run	500	1200
K	Cimarron	2400	7500

Residential
Growth Scenario 2 -
Target Infill Growth 20%

Financial Implications of Growth Scenario 2

As with Growth Scenario 1, the Sub-Urban Level of Service (SUB-U) provides the greatest benefit as measured by a change in municipal tax rates for Growth Scenario 2. By the end of the forecast period, it is projected that municipal tax rates would be **6.5% lower at this service level**, as compared to a reduction in municipal tax rates of **5.2% for the Semi-Urban Level of Service** (SEM-U) and **4.0% for the Urban Level of Service** (Urban).

Municipal Tax Impact (Real 2018 $) Alternate Service Levels: Growth Scenario 2



section 7

Growth Scenario 3

30% Infill
70% Greenfield

Section 7 Growth Scenario 3

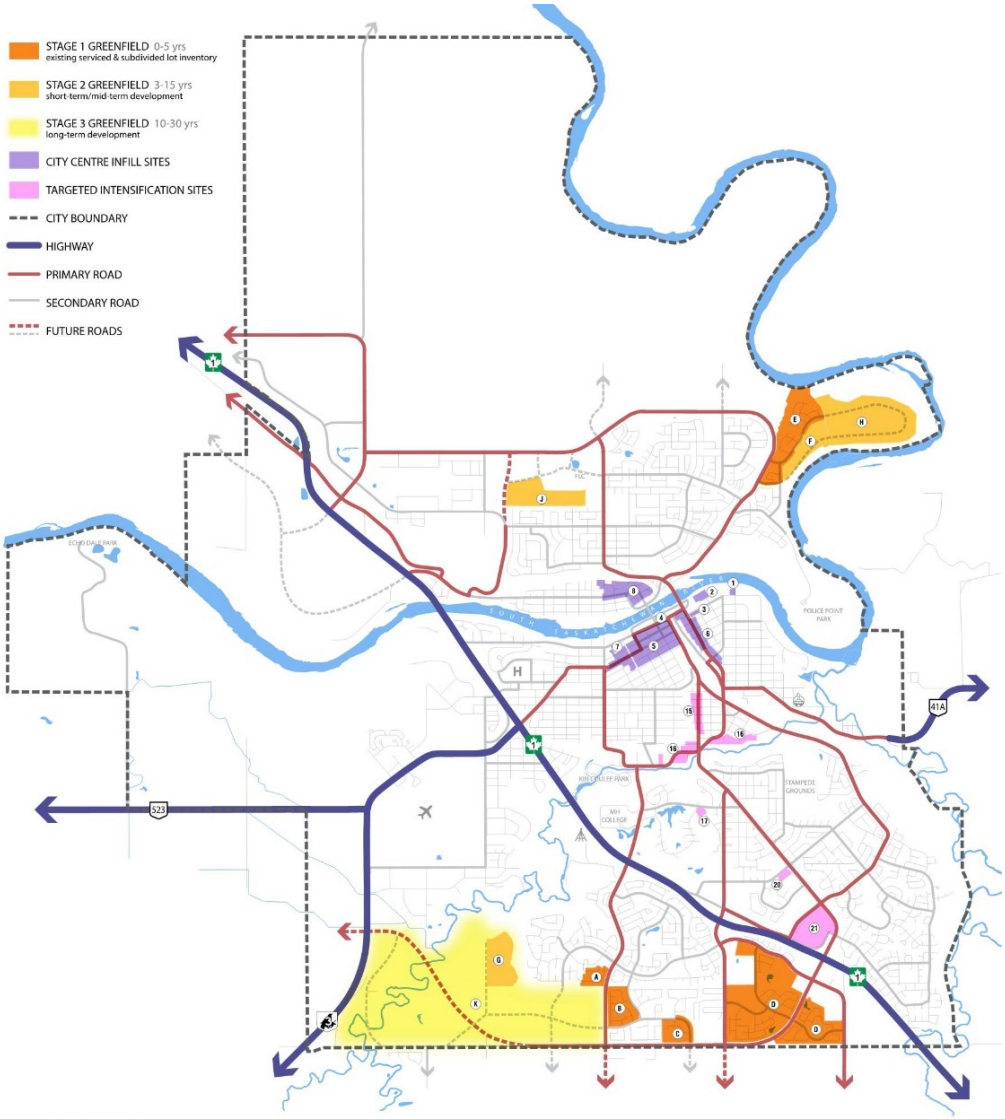
A. Infill Target – 30% Infill Growth over next 30 years – 5,400 people.

Type	Service Tier	Location	Dwelling Type	Dwellings /Ha.	Area (Ha.)	Units	Population
General	Existing	Various	SUD/Semi-Detached/Suites	Varies	Varies	60	180
City Centre	Urban	(#5) Downtown Core	Mixed-Use; Mid-Rise	250	Varies	400	800
Targeted Intensification Sites	Urban	(#21) Medicine Hat Mall	Mixed-Use; Low-Rise Apartments	150	3.0	450	900
Totals Scenario 3					**14.35**	**910**	**1,880**
Add: Scenarios 1 & 2					**21.65**	**1,830**	**3,820**
Total Infill Scenarios 1 -3					**36.0**	**2,740**	**5,700 (31.6%)**

B. Greenfield Growth plus 30% Infill over next 30 years – 18,000 people.

Type	Service Tier	Location	Predominant Dwelling Type	Dwellings/Ha.	Area (Ha.)	Units	Population
Infill Totals Scenario 1 - 3	Existing	Varies	SUD to High-Rise	Varies	**32.80**	**2,710**	**5,560 (30.8%)**
Greenfield – Stage 1	Semi-Urban	(A) Saamis Heights 7	SUD				
	Semi-Urban	(B) South Vista 10/11	SUD				
	Semi-Urban	(C) Hamptons 1/2	SUD				
	Semi-Urban	(D) Southlands 4/5/6	SUD				
	Semi-Urban	(E) Ranchlands 3A/3B	SUD				
Totals Stage 1						**700**	**1,750**
Greenfield – Stage 2	Semi-Urban	(F) Ranchlands 3C	SUD			160	480
	Semi-Urban	(G) Coulee Ridge (Cimarron)	SUD			200	600
	Semi-Urban	(H) Ranchlands 4	SUD			700	2,100
(Not Required)	~~Semi-Urban~~	~~(I) Hamptons 3~~	~~SUD~~			~~150~~	~~450~~
	Semi-Urban	(J) Brier Run	SUD			500	1,200
Totals Stage 2						**1,560**	**4,380**
Greenfield Stage 3	Semi-Urban	**(K) Cimarron (reduced)**	SUD			1,900	6,300
(Not Required)	~~Semi-Urban~~	~~(L) Southlands 7~~	~~SUD~~			~~264~~	~~826~~
Totals Stage 3						**1,900**	**6,300**
Total Greenfield (All Stages)	**Semi-Urban**		**SUD**			**4,160**	**12,430 (69.1%)**
Total Infill Scenarios 1 -3						**2,740**	**5,700 (31.6%)**
Total Infill and Greenfield						**6,900**	**18,130 (100.7%)**

What the above table shows is that with a projection of 18,000 people over 30 years, and with approximately 30% Infill growth, the currently identified Greenfield developments exceed the 70% growth target. Therefore, under Scenario 3, the (L) Southlands 7 and (I) Hamptons 3 Greenfield developments are **not required**. Scenario 3 is summarized in the map below.



INFILL OPPORTUNITIES

ID	Site	Built forms	Density (du/ac)	Population
1	954 2nd Street SE (Lions Park area)	Mixed use. High-rise 10 storeys.	150	180
2	Former Arena lands	Apartments. Low-rise.	100	240
3	827 2nd Street SE	Townhouses.	50	60
4	603 1st St. SE (phase 2)	Apartments. Mid-rise.	200	60
5	Downtown core	Mixed use. Mid-rise.	250	800
6	North Railway St. & Maple Ave. lands	Mixed use or Apartments. Low-rise.	100	240
7	Herald ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
8	Riverside ARP medium density lands	Mixed use or Apartments. Mid-rise.	150	340
15	Kingsway Ave. SE lands	Townhouses or Apartments. Low-rise.	75	750
16	South Flats lands	Mixed use or Apts. Low-rise.	75	750
17	352 Primrose Dr. SE	Townhouses.	50	160
20	3010 Dunmore Rd. SE (Former Rona)	Mixed use or Apartments. Low-rise.	100	340
21	Medicine Hat Mall site	Mixed use or Apts. Mid-rise.	150	900

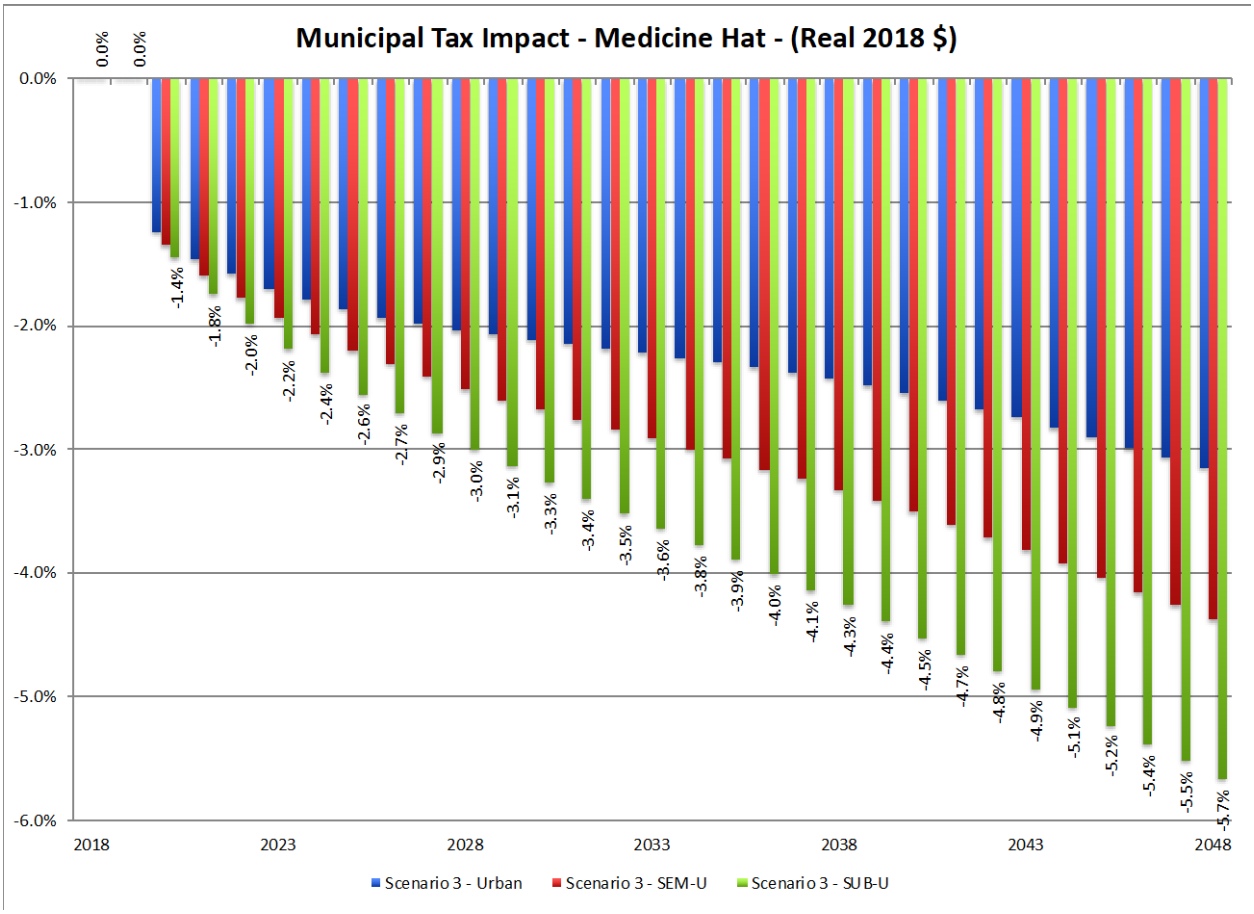
GREENFIELD

ID	Site	Units	Population
A	Saamis Heights 7		
B	South Vista Heights 10/11		
C	Hamptons 1/2	700	1750
D	Southlands 4/5/6		
E	Ranchlands 3A/3B		
F	Ranchlands 3C	160	480
G	Coulee Ridge (Cimaron)	200	600
H	Ranchlands 4	700	2100
J	Briar Run	500	1200
K	Cimaron	1900	6300

Financial Implications of Growth Scenario 3

As with both Growth Scenarios 1 and 2, the Sub-Urban Level of Service (SUE-U) provides the greatest benefit as measured by a change in municipal tax rates for Growth Scenario 2. By the end of the forecast period, it is projected that municipal tax rates would be **5.7% lower at this service level**, as compared to a reduction in municipal tax rates of **4.4% for the Semi-Urban Level of Service** (SEM-U) and **3.1% for the Urban Level of Service (Urban)**.

Municipal Tax Impact (Real 2018 $) Alternate Service Levels: Growth Scenario 3



Growth Scenario Summary

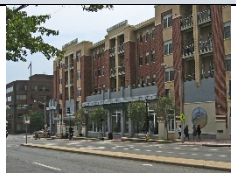
Growth as defined in each of the Growth Scenarios is expected to provide the City an overall financial benefit. This benefit has been estimated to be equivalent to lower municipal tax rates in the range of 3% to 8.4% by the end of the forecast in 2048.

The magnitude of the financial benefits depends on, not only the amount of growth, but also the nature of growth. In addition, the service level standards applied to new growth also have an impact on the fiscal impact analysis results. A key assumption in achieving a positive financial result for each of the Growth Scenarios is the assumption the City will achieve 'balanced growth' – where non-residential development is assumed to occur at a pace equivalent to residential growth. In addition, those scenarios where there are a greater proportion of larger, higher valued dwelling units, the financial results are more beneficial than where there is more multi-family and lower valued dwelling units.

The Alternative Service Standard options evaluated also have implications for the financial results. Generally, implementation of lower service standards increases the benefits of growth by a factor of two (comparing the lowest standard against the highest standard).

The introduction of lower servicing standards has a substantial postive impact on financial sustainability. However, the best strategy going forward is not to focus on only one aspect of sustainable growth. There are social, economic and environmental dimensions of growth which should also be considered. If the main focus is on more financial sustainability, the best strategy is to couple lower servicing standards with neighbourhood concepts which contain higher amounts of non-residential, revenue-generating uses.

Land Use Financial Summary

Land Use	Assessed Value	No. of People	Service Standard	Density (dwellings per acre)	Note
Single Unit Dwelling					
	↑		Urban	↓	↑ = above average → = average ↓ = below average
Financial Impact:	$	$	$	$	High assessed value Low Population contribute to positive financial benefit
	↑		Semi-Urban	↓	Lower service standards increases the benefits of growth by a factor of two.
Financial Impact:	$	$	$	$	Lower service levels have greatest financial impact in SUD districts.
Multi-Unit Dwelling					
	↓		Urban	↑	Low assessed value and higher population have a generally neutral financial benefit.
Financial Impact:	$	$	$	$	
	↑		Semi-Urban	↑	
Financial Impact:	$	$	$	$	
Mixed-Use					
	↑		Semi-Urban	↑	Higher assessed buildings with dwellings and lower service levels have more beneficial financial results.
Financial Impact:	$	$	$	$	There is currently limited demand for mixed-use living.
Employment Uses					
	→	None	Semi-Urban or Sub-Urban	None	Employment uses have a net financial benefit. Employment and Commercial uses should grow in balance with Residential growth.
Financial Impact:	$	$	$	$	