

Follow the Suburban Roads:

How Car-Centric Values Shaped the City of Calgary's Urban Landscape and its Sustainable Future

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Note: the cover image is an altered version of an illustration by Dan Page included in Marzena Czarneck's article "Living on the Edge of Calgary City Limits" written in 2016 for Avenue Calgary.

Executive Summary

The City of Calgary is rapidly growing with a current population of 1.4 million that is only expected to increase. Alongside this growth, the City's greenhouse gas (GHG) emissions continue to rise due to sprawl and car dependence. These growth management and climate pressures present an opportunity for Calgary's planning and development practices to either continue on the same trajectory and expand their suburban communities into the outer edges or transform their existing areas with an increase in density and public transit services.

Calgary's current plans and policies that guide their planning practices include a variety of goals and targets to address these pressures. The Municipal Development Plan created in 2009 contains the target to transfer 33% of population growth into established communities by 2039 while the 2018 version of Calgary's Climate Resilience Strategy provides the target of an 80% reduction in emissions from 2005 levels by 2050. Although these targets are promising, planning decisions and practices by the City continue to expand the suburbs and ensure car dependence is a part of Calgary's distant future. This report argues that the inconsistency between planning policy and practices reveals that Calgary's planning practices are shaped by socio-cultural values of individualism, mobility and freedom tied to the car and the oil industry. These values and practices do not prioritize an environmentally sustainable and equitable future for Calgary.

The aim of this report is to understand how these values rooted in post-World War II land use and development practices continue to impact today's sustainable planning practices. To gain this understanding, the report begins with a literature review of texts on how the North American built landscape – in particular, the post-World War II suburbs – shaped Canadian socio-cultural values. It then explores how this North American history played out in Calgary's post-World II land use and development practices. The report then moves into a discussion of current plans and policies that guide sustainable planning practices in the City, which leads into a look at two ongoing large infrastructure projects – the 14 new communities and the Green Line. These projects showcase a lack of focus on sustainable development in Calgary's planning practices that is inconsistent with plans and policies. In other words, the projects highlight that car-centric values still inform Calgary's present and future sustainable planning practices.

Table of Contents

1. Introduction.....	1
2. North American Post-World War II Suburban Growth.....	4
3. Calgary’s Post-World War II Suburban Growth.....	8
4. Calgary’s Current Plans and Policies.....	11
5. Case Studies: Continued Devotion to the Car or Calls for Change?.....	14
<i>a. Case Study #1: Calgary’s 14 New Communities.....</i>	<i>15</i>
<i>b. Case Study #2: Calgary’s Green Line.....</i>	<i>18</i>
7. Conclusion.....	22
References.....	24



1. Introduction

Alberta, Canada is known on an international scale as the place with the world's largest energy project – the oil sands (Paskey, Steward & Williams, 2013). This reputation of Alberta as the land of oil is reflected in the urban form with sprawl of cities, such as the City of Calgary. Without the restrictions of the ocean or mountains to stop growth, communities in Calgary continue to be built outside of the inner city. This limitless growth has resulted in 6.5km of cycle tracks added in downtown Calgary, yet there have been 400km of roads constructed over the last decade (Klaszus, 2020b). The large difference suggests that the City prioritizes the use of cars over other transportation modes. These decisions made by the City result in the continued increase of greenhouse gas (GHG) emissions, which are already high – Calgary and Edmonton have the highest GHG emissions per capita in Canadian Cities, with transportation currently comprising one third of Calgary's emissions while the rest comes from buildings (Klaszus, 2020a).

Calgary's Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP) approved in 2009 have high-level land use and transportation planning goals for the next 60 years that attempt to counter this trend. The 2018 Climate Resilience Strategy further highlights a desire to decrease emissions with transportation and land use policies that achieve the City's target of an 80% reduction in GHG emissions from 2005 levels by 2050 (City of Calgary Environmental Management, 2018c, p. 8). The Strategy focuses on a shift to electric and low-emissions vehicles for short-term reductions with long-term hopes for the gradual development of "high quality transit, bike, pedestrian and car-pooling networks" that will become the "backbone of a low carbon transportation system" (City of Calgary Environmental Management, 2018c, p. 43). Overall, the City's goals are bold and innovative while also maintaining that the car will remain the primary means of travel in the immediate future.

Although these plans promise a shift towards sustainable planning and development in the long-term, in practice the City's planning and development does not always align with its vision. City Hall is still planning for a car-centric future with recent approval of 14 new communities on the outer edges and continuous cuts to a new and vital part of the public light rail transit (LRT) system called the Green Line (Klaszus, 2020a). The City's short-term goals and decisions in the last few years project a hope that car technology will save the day in order to sustain most people's current lifestyle in Calgary.



Figure 1. A post-carbon future for downtown Calgary envisioned with green tech like hyperloops, wind farms, and sustainable architecture (Source: Mitchell, 2019)

For Calgary planning and development practices, the car is simultaneously the primary culprit and solution to climate change. I argue that this car-centric focus reveals that Calgary's built landscape continues to be shaped by socio-cultural values tied to the car and the oil industry. In other words, post-World War II North American values of individualism, mobility, and freedom connected to the material object of the car and the oil that fuels it promote planning and development practices that sustain the single-family, middle-class Western lifestyle. The influence of these values on the landscape raise the following questions about the present and future of Calgary's sustainable planning: How do these socio-cultural values influence today's sustainable planning practices? How effectively can planning practices promote climate action while working within these values?

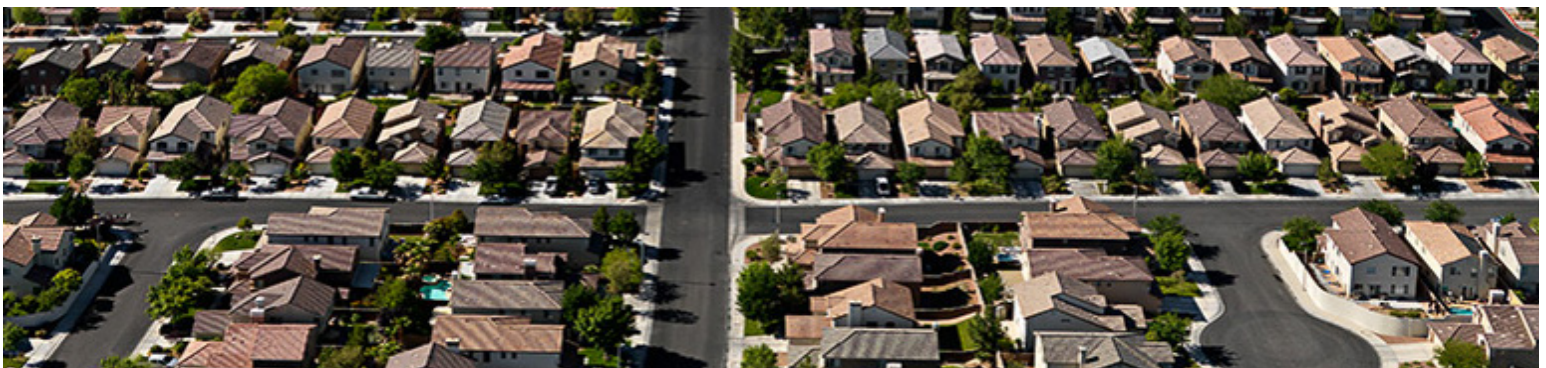
Beverly A. Sandalack and Andrei Nicolai state that a main way that Calgary's planning practices continue these values is through "discussions of Calgary's development and growth" that "usually centre on transportation issues and ideas of orderly expansion rather than on sustainable development and urban design" (2006, i). Aligned with this idea that the City lacks focus on sustainable development, this paper shows how Calgary's current planning practices are part of the North American history of environmental degradation and power imbalance in order to reveal ways to create practices that build just and environmentally sustainable communities.

To address these topics, the paper begins with a literature review of texts on how the North American built landscape – in particular, the post-World War II suburbs – shaped Canadian socio-cultural values. It then explores how this North American history played out in Calgary’s post-World II land use and development practices. The paper then moves into a discussion of current plans and policies that guide sustainable planning practices in the City, which leads into a look at two ongoing large infrastructure projects – the 14 new communities and the Green Line. These case study sections explore the relationship between planning policies and practices to highlight that car-centric values still inform Calgary’s present and future sustainable planning practices.

2. North American Post-World War II Suburban Growth

During a presentation about his book *Walkable Cities* on May 23, 2019 in Vancouver, British Columbia, Jeff Speck consistently linked his work on American cities to Canadian communities with an overarching statement that Canada is “bad, but slightly less bad” than America in its use of cars and the creation of suburban sprawl. Speck’s comment highlights not only the similarities between American and Canadian cities, but how the planning and development of cities in Canada is rooted in American socio-cultural history and values. Research on this history reveal deeply troubling patriarchal, growth-dominated roots of planning that continue to be re-iterated in Canada today. Past planning concepts caused a significant increase in suburban sprawl in the 1940s that reflected and helped solidify American values of individual freedom and liberty. Due to this marked shift in the 1940s and Canada’s similarities to America in its development, this section will review discussions of post-World War II American planning and development practices in academic texts to show how practices helped form the Calgarian cultural and physical identity throughout the mid-20th and early 21st century.

In the mid-20th century, there was rise in popularity of the critique of planning practices by scholars in the fields of history, geography, architecture, economics, political science, and sociology due to a noticeable shift in the built landscape. The increase in research followed the start of the mass production and expansion of single-family housing in the 1940s, which became a part of the post-World War II American city where people could raise their children and purchase homes in seemingly safe and idyllic spaces. The continued progression of transportation technology, inclusion of TVs in homes, and the subsequent transformation of new family-friendly spaces during this time spurred doubt and criticism by many scholars of the time, such as Peter Hall and Jane Jacobs.



Suburbs #1 by Edward Burtynsky



Figure 2. A photo of Tysons Corner in Virginia that depicts what Garreau defines as an Edge City (Source: Rosenberg, 2019)

Even with the consistent cries for change from scholars, the suburbs expanded so much into the landscape that by the 1980s these suburban areas once designated for middle-class family homes transformed into small cities that Joel Garreau labels Edge City (1988). *Figure 2* shows an Edge City that includes sprawling land with large malls and grocery stores in Virginia that used to be mainly residential neighbourhoods with barely any amenities. While the suburbs were growing, William H. Whyte’s work in the late 1980s focused on the importance of human communication in the city center and how American cities are “losing [their] center or ha[ve] already done so” with parking lots and blank walls taking up “too much empty space” while there are “too few people” (p. 6). Even with these critiques, the Edge Cities continue to grow. So, what does the historical outlook on this development of the home in urban planning research and theory reveal about what is fueling their success?

The suburbs became successful partly due to the ways that peoples' lifestyles, beliefs, and values became embedded in the suburban physical form. The expansive growth of the post-World War II suburbs throughout the late 20th and 21st century helped create and solidify the single-family home and the car as the American Dream that people should strive for. The suburbs worked alongside the automobile to create a shift in the landscape that impacted the cultural awareness of the car with the help of the authorization of the American Interstate Highway System in 1956, which Coton Seiler marks as “automobility’s full fruition” in the United States (2008, p. 3). The subsequent influence of the freeway on the structure of cities throughout North America solidified the cultural construction of the car as the liberating national symbol of the American Dream and helped shape the current North American built environment filled with highways and roads that maximize convenience and accessibility of the car. Drivers could now conveniently explore nature and the nation in their car and the process of driving became seemingly “liberating, individuating, revivifying, equalizing” in the social imaginary (Seiler, 2008, p. 13). This attachment of socio-cultural values to the car and the landscape it could reach helped feed the “cycle of suburban sprawl,” which in turn helped make “cheap cars” and the growth of energy production a necessity (Union of Concerned Scientists). Alongside the more visible aspects of the car and its American

Alongside the more visible aspects of the car and its American Dream, Matthew Huber suggests hidden “networked infrastructures,” such as pipelines and other gas distribution infrastructure are tied to the “social production of space” that is then translated into values of freedom and individualism (2015, p. 5). Central to these values is a privileged idea of who gains access to the hidden and visible infrastructures. The ability to access energy systems becomes another layer of inequality as Huber states that energy systems “reproduce inequalities in terms of who has access to particular temperature-controlled environments” (2015, p. 6). These “uneven geographies” constructed with the help of suburban development are embedded in North American socio-cultural values.



Highway #8 by Edward Burtynsky

Although the history of planning and development practices reveals the power of industry and government policies, environmental sustainability has been at the forefront of many texts about urban planning written in the 21st century due to the increasingly unavoidable effects of climate change and its connection to the self-indulgent ways North Americans live their lives. For example, Ken Greenberg’s *Walking Home* (2011), Jeff Speck’s *Walkable City* (2012), and Charles Montgomery’s *Happy City: Transforming Our Lives Through Urban Design* (2014) discuss ideas on how to “reclaim our cities” from the car and suburban sprawl by focusing on the happiness and health of people and the natural landscape (Speck, 2012, p. 11). The following are some examples of planning practices that can reduce emissions by developing these “useful, safe, comfortable and interesting” walkable and compact cities:

- Increase density so anyone can walk to amenities in 15 minutes;
- A mix of housing options;
- Access to public transit;
- Transportation infrastructure that offers the use of a range of transportation modes;
- Green infrastructure.

The authors who discussed these options are a few among many contemporary scholars and planners writing in the 21st century who believe that the time for change will come soon because “the costs in energy waste, infrastructure waste, and land waste are too high” to continue to expand wherever and whenever we please (Jacobs, 1961, p. xxv). This awareness of the possibility of change comes with the creation of strategic and clear transformative plans on how to move forward in new ways.

3. Calgary's Post-World War II Suburban Growth

Calgary's post-World War II growth resembles the typical American trajectory of wasteful sprawl. Sprawl in Calgary is characterized by suburban development, segregated land uses through zoning, and automobile dependence (Miller & Smart, 2011, p. 279; Sandalack & Nicolai, 2006, p. 181). The post-World War II period from 1945 to the 1980s was a time when "strong housing demand and rising profits in the [oil] industry" helped increase and solidify sprawl as a part of the City (Foran, 2009, p. 5). Although sprawl is an ongoing factor in the City since then, the density of suburban communities fluctuated overtime.

City development pre-WWII involved gradual, intermittent growth with the creation of Plans that were not realized. During World War I, the interwar years, and World War II, the population increased from 32,000 in 1916 to 88,000 in 1941 (Sandalack & Nicolai, 2006, p. 55). Residential neighbourhoods that are now inner-city communities were fairly dense and expanded to the north, south and west while industrial growth continued in the east. Transportation included streetcar lines and the introduction of gas-powered buses in 1931. In the 1920s, the car started to come into the picture and led to a decrease in use of public transportation.

Calgary's population increased rapidly post-World War II after the discovery of oil near Leduc in 1947, which increased the production and consumption of Albertan oil and led to many new main oil industry offices located in Calgary (Sandalack & Nicolai, 2006, p. 77). The Town of Calgary became a City in 1948 as it hit a population of 100,000 and the growth continued with particular explosion in the 1960s and 1970s (Sandalack & Nicolai, 2006, p. 78). The previous importance of ranching in the 1800s and the Canadian Pacific Railway in the early 1900s was replaced by a new dependence on the oil industry and the car that it fuels.

A boom in segregated zoning aligned with the emergence of car dependence in the 1950s. These zoning bylaws were first introduced in Alberta in 1929 and were "borrowed extensively from the American experience and established the familiar features of modern zoning" (Medeiros, 2). Thus, the province utilized (and continues to utilize) segregated zoning as a planning tool that separates land uses, typically through simple maps that assign land use for municipal regions. The tool separates industry from residential uses, which according to Matti Lemmens "frees the booming natural resource sector to wreak havoc upon the environment." Additionally, Lemmens states: "the energy sector continues to grow practically unencumbered

by residential community backlash because the effects of energy sector infrastructure lie beyond the purview of communities” (Lemmens 12). In other words, the lack of mixing land uses results in neglect of the natural environment as more space and energy is used without thought of the impact.

The use of transportation started to decline after World War II and the streetcar was completely replaced by cars and buses by 1950. An internal freeway system was created with the increase of downtown parkades and parking lots since only 2 to 3 percent of the City’s residents lived downtown (Sandalack, 85). Overall, the transportation and land use decisions during this time were centered on planning tools focused on the physical and technological aspects, such as cars and single-family houses, rather than on social and environmental implications of the decisions. As a result, suburban areas created between the 1950s and 1980s are some of the lowest-density parts of the city, “typically between four and six dwelling units per acre” (Miller & Smart, 2011, 279).

The oil industry and its employees were financially prospering in the 1970s and 1980s, which created a demand for new low-density neighbourhoods for middle income employees. During this time, Calgary participated in the creation of Edge Cities through suburban sprawl with strip malls and shopping centers in some parts of the City. The values of freedom to privately own a single-family home and drive to any part of the City came from a conservative oil-rich mindset that stretched throughout the city and its planning and development.



Calgary’s Lakeview neighbourhood built in the 1960s
Source: Calgary Ring Road Blog, 2018

Since the 1970s, spatial income inequality began to appear in Calgary and continues today, making Calgary the second-most unequal city following Toronto (Townshend, Miller & Evans, 2018, iv). Townshend, Miller & Evans argue that “these patterns of neighbourhood change over time reflect broader trends observed in metropolitan Canada, such as the rising incomes of central cities and declining incomes of suburban regions” (2018, iv). As a result, the City’s suburban development has overtime helped increase division between cities, or as Matt Huber states, create “uneven geographies.” Although this inequality continued, suburban developments built in the 1990s were denser, with “up to seven and in some cases as high as nine dwelling units per acre” [See Figure 3] (Miller & Smart, 2011, 279). Calgary continues practices that increase density in new suburbs today. But is this shift in the suburbs enough to reverse environmental and social impact from past planning practices?

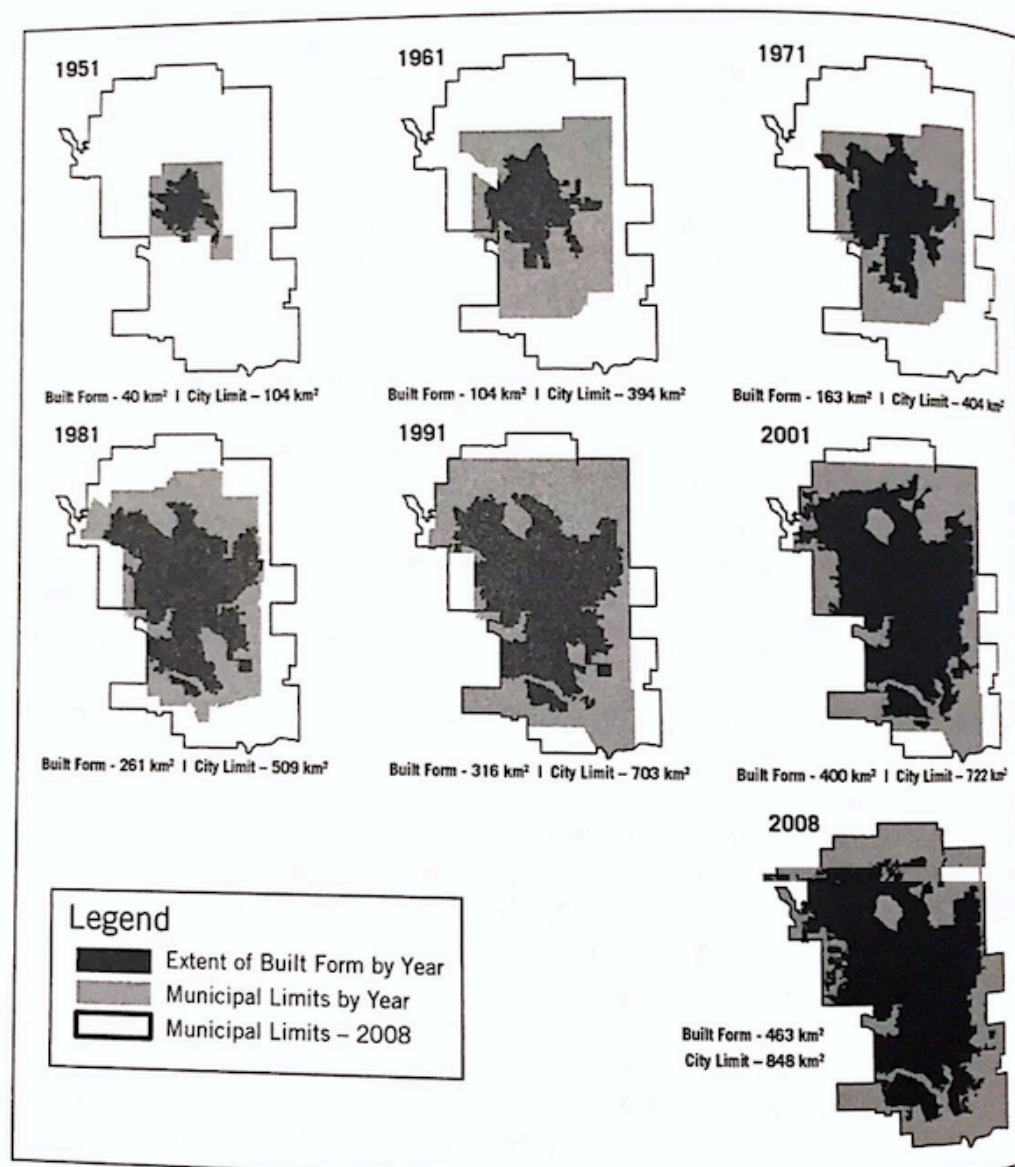


Figure 3. Calgary’s geographical expansion, built form, and municipal limits, 1951-2008
(Source: Miller & Smart, 2011, p. 280).

4. Calgary's Current Plans and Policies

Currently, the City of Calgary's planning practices are guided by a variety of plans and policies. Among them, the Municipal Development Plan (MDP) and the Calgary Transportation Plan (CTP) are the main plans that are constantly referred to when making planning and development decisions. imagineCALGARY is Calgary's long-range urban sustainability plan for the next 100 years that informs these documents. Created in 2006, the plan involved public engagement with 18,000 Calgarians to create the following shared vision:

Calgary: a great place to make a living, a great place to make a life.

(City of Calgary Building, planning and business, 2006, p.1).

This vision ensures that the primary objective of every plan, policy and planning practice is to enhance the lives of Calgarians.

Municipalities in Alberta with populations over 3,500 are required to prepare MDPs, which contain general goals and long-term plans and policies for a municipality. Adopted in 2009, Calgary's MDP is the City's main plan for the next 30 to 60 years to manage how Calgary grows and changes. The plan sets restrictions on sprawl while still expecting a car-dependent future with single family homes as the primary dwelling type. The following are the seven main goals that the MDP's policies are based on:



Figure 4. Diagram of Municipal Development Plan goals and policies (Source: Icons from MDP, p. 11)

These seven goals guide future land use and transportation decisions. For example, one main target that resulted from these goals is the transfer of 33% of the population growth into established communities by 2039. Jared Alves (2017) argues that there is no mention of some sustainable practices that are popular in other places, such as a Strategic Environmental Appraisal, but the MDP still does address environmental sustainability and even received the Sustainable Community Award from the Federation of Canadian Municipalities in 2011.

The MDP is often mentioned alongside its companion piece, the CTP, which works with the MDP to provide transportation targets and encourage a wider variety of transportation options in the City. The CTP includes objectives for walkable and compact communities that Speck suggests will “reclaim our cities” (2012, p. 11). The CTP presents a hierarchy of importance in its Transportation Sustainability Triangle [Figure 5], which shows that walking, cycling and transit are more sustainable modes than the car, and thus should be at the forefront of decisions. Overall, the document includes idealistic objectives alongside what it defines as “realistic choices that are convenient, affordable and attractive” (City of Calgary Building, planning and business, 2009a, p. 1-2).

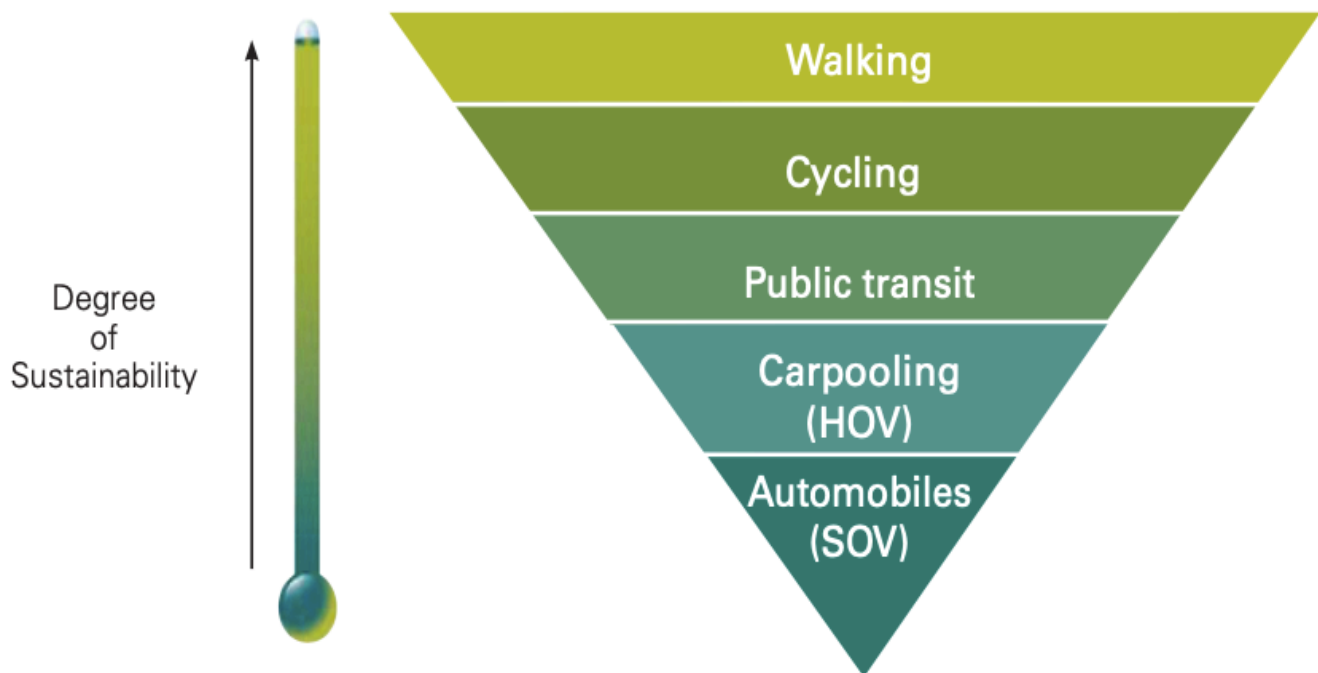


Figure 5. The Transportation Sustainability Triangle
(Source: City of Calgary Building, planning and business, 2009a, p. 3-3)

Less mentioned in discussions within the City but of particular importance to its environmentally sustainable growth is the Climate Resilience Strategy. A new version of the Climate Resilience Strategy was adopted in the June 2018 Strategy that revised previous targets from 2011 that were not reached due to a continued rise in emissions. The new strategy attempts to better connect the various Growth Management and Climate Plans so that sustainable residential growth can be a focus for the City. The 2018 Strategy includes two main goals:

- Reduce the City's contributions to climate change;
 - Take measures to reduce the impact of extreme weather events.
- (City of Calgary Environmental Management, 2018b).

Within the Strategy there are the Climate Mitigation Action Plan and Climate Adaptation Action Plan, which contain more detailed targets to achieve the goals. The plans are created to help reach the City's target of an 80% reduction in GHG emissions from 2005 levels by 2050 (City of Calgary Environmental Management, 2018c, p. 8). In terms of transportation and land use, electric and low-emissions vehicles are the primary focus of policies while other long-term policies that encourage low or zero-emissions transportation modes are included as well (City of Calgary Environmental Management, 2018a).

Even with objectives and policies that support environmentally sustainable planning and development practices in the documents, the MDP and CTP are currently under review due to the City's inability to meet the growth management and transit service targets that were set in 2009. The review hopes to set out a "richer set of indicators" for growth management that could "better flesh out where process is being made" (Blaschuck in Klaszus, 2020b). The review was supposed to explore what is important to the community for the next 20 years but was forced to reduce its scope in July 2019 due to budget cuts (City of Calgary Engage, 2020). The inability to meet some targets and the lack of importance to review ways to be able to meet targets brings into question to what extent the calls for change in the documents – both "realistic" and idealistic – impact planning and development decisions and practices compared to past practices and their socio-cultural attachments.

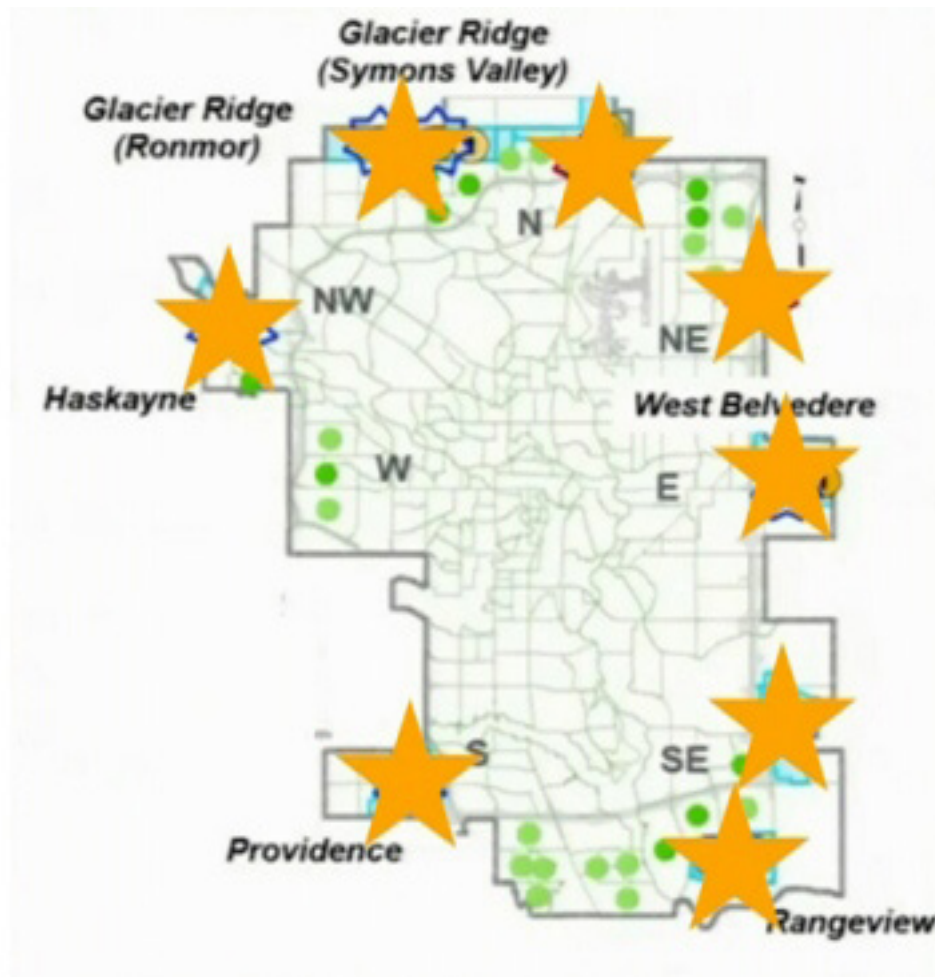
5. Case Studies: Continued Devotion to the Car or Calls for Change?

The City of Calgary approved 4 major capital projects in the past couple of years – 14 new communities, a Green Line transportation system, a new arena, and a BMO Centre expansion. Among those projects, 14 new communities and the Green Line are presented as case studies in this report to show how post-World War II values still continue through planning and development projects. Some other reasons the two projects were selected are:

- They are current and ongoing projects that will shape the future of Calgary;
- They provide an exploration into a variety of planning areas – the Green Line is a transportation project that attempts to decrease car dependence while the 14 new communities are a land use project that increases sprawl;
- Insight into the projects shows how effectively planning practices are creating change within post-World War II value-driven community development;
- The projects highlight different planning practices as the transit project is in tension with the car-centric values attached to the 14 new communities;
- Since they are such different projects with separate outcomes, comparing their trajectory shows how the city balances and prioritizes values and policies.
- Lastly, both projects show an inconsistency between planning policy and practices.

5a. Case Study #1: Calgary's 14 New Communities

In July 2018, City Council approved 14 new communities on the outer edges of the City with the hope that they will deter people working in Calgary and developers from living in and contributing taxes to municipalities in close proximity such as Airdrie, Okotoks and Chestermere. City staff initially suggested eight communities based on the MDP, the Suburban Residential Growth Report, and population growth but Council added more communities for a new total of 14 (Klaszus, 2020a). Council increased the number based on a look at which areas already have Area Structure Plans (ASPs) – which are the first step for planning approval for a new community – with some ASP areas spacious enough for more than one community.



*Figure 6. 14 new communities within 8 starred areas that have Area Structure Plans (ASPs) (more than one community within some starred areas)
(Source: CTV News, 2018).*

These 14 new communities may seem like more of the same old suburban growth, but there are a few changes that help the new neighbourhoods align with targets. Firstly, the City views the Off-site Levy Bylaw as a positive as long as there is demand from developers and buyers to build the homes. The Levy was introduced in 2016 and means that developers cover a portion of off-site capital costs – such as water and wastewater treatment, major roads, libraries, and fire halls – on top of their obligation to pay for on-site infrastructure – such as streets and sidewalks within the neighbourhood. The City is also covering initial capital costs with the help of an increase in average property taxes by 7.5% that started in 2019 (Kanygin & Villani, 2020).

Other ways these communities differ from the older Calgary suburbs is their development into complete communities. The MDP includes a city-wide policy to create complete communities to “foster distinctive, complete communities with a strong sense of place” (2009, p. 38). According to the MDP, complete communities are:

“...vibrant, green and safe places, where people of varying ages, incomes, interests and lifestyles feel comfortable and can choose between a variety of building types and locations in which to live, and where daily needs can be met.” (2009, p. 38)

These communities are “compact and well-designed” with a range of housing choices, a variety of employment opportunities, neighbourhood stores and services, access to public transit, and social and green infrastructure (City of Calgary Building, planning and business, 2009b, p. 39). Density is higher than in older communities in order to increase sustainable and healthy living.

Even with these positive incremental changes to address suburban sprawl, the new communities increase the chance that the City will fail to meet climate and growth targets. The consideration of climate was not even a factor in the decision-making process – the word “climate” did not even appear once in the City’s reports (Klaszus, 2020a). Furthermore, the introduction of these new neighbourhoods is in direct opposition to the Climate Resilience Strategy that was unanimously approved a month earlier (Klaszus, 2020a).

The attempts to connect growth management to goals in the new Climate Resilience Strategy also did not impact this decision as it is unlikely that the City will meet its target of transferring 33% of population growth into established communities by 2039 due to this growth of new communities. The inability to meet targets suggests that the Climate Resilience Strategy and objectives that appear for complete communities in the MDP such as sustainable growth and land use efficiency are merely empty promises that are simply a part of a larger check list for cities. Former City Councilor Brian Pincott suggests that even “12 years ago, 33 [total communities] was unsustainable” and that the current total of 41 is “as close to throwing out the MDP as you could get” (Klaszus, 2020b). Furthermore, the new communities are far from the City core so even if they are complete communities, the residents will need to drive a vehicle large distances to get anywhere else. This car dependence for more of the population will continue to increase the capital and operating costs as well as GHG emissions.

In 2019 it was discovered that City Council expects a \$56.9 million-dollar shortfall for utilities, transportation and community services in these new communities over the next few years due to provincial budget cuts and a slower housing market (Rieger, 2019). It is evident that these practices based on persisting auto-centric values that continue suburban sprawl are not providing the City the MDP’s desired future.

5b. Case Study #2: Calgary's Green Line

Alongside suburban growth comes the need for more roads and lanes along them to accommodate the increase in people who drive them to get to where they need to go. Road expansion continues to be viewed as a necessity in Calgary that is provided to the public, such as the approval in March 2019 of Deerfoot Trail – a main transportation Corridor in the City – that will gain an additional 21km of new lanes (Cole, 2019). Within the many lane expansions, the Green Line is a large part of Calgary's attempt to tackle climate change and economic disparity that are both likely to increase with the addition of new communities. The Green Line is a 46km major LRT project in the works since 2010 with the objective to connect communities in north and southeast Calgary. The Line promises to be a “city shaping train” that addresses the public's call for a transit line that connects people from downtown to communities (Klaszus, 2019c).

The Green Line will be the third line in the CTrain network and will connect to the existing Red Line and Blue Line in Downtown Calgary [see *Figure 7*]. This new train system will be different than the previous two as it will consist of low-floor trains, which means it is more accessible to all ages and abilities with a shallow vehicle that is lower in height. The first stage is a 4km train near the southeast end at Sheppard that extends into downtown. Stage one has secured funding from federal, provincial, and municipal sources and will begin in 2020 with completion in 2026.

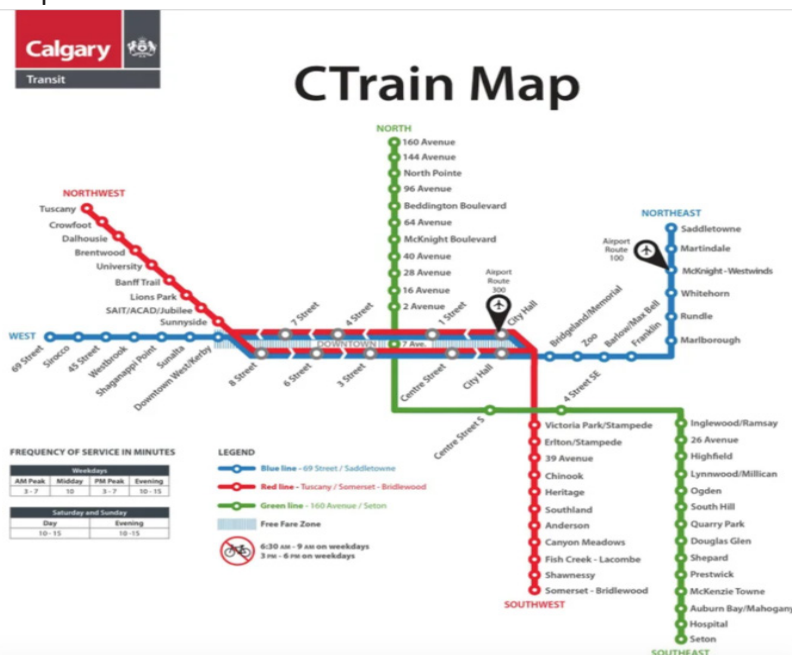


Figure 7. CTrain Map with the addition of the Green Line (Source: Huff & Claypool, 2019)

Even with this success that was 10 years in the making, the project has undergone delays due to controversy. The main point of contention over the Green Line is how the train will cross through downtown. Initially, the plan was to build a tunnel through downtown and over the Bow River next to it but City staff found construction and financial risks associated with the design. The tunnels would need to be dug further down in some areas, which means approximately seven stories of underground escalators would be included that defeat the purpose of the accessible lighter, low-floor train. As a result, alternative ideas produced by City staff suggest some of downtown underground stations should transform into a bridge over Bow River [See new route in *Figure 8* & Bridge Options in *Figure 9*] (City of Calgary Newsroom, 2019). Stage one of the project was split into two contracts in July 2019 due to discontent from the public, businessowners, and Councillors over the bridge idea. Councillor Evan Woolley also critiques that it is not a city-shaping project anymore as the high level designs do not include land use planning around stations (Klaszus, 2019c).

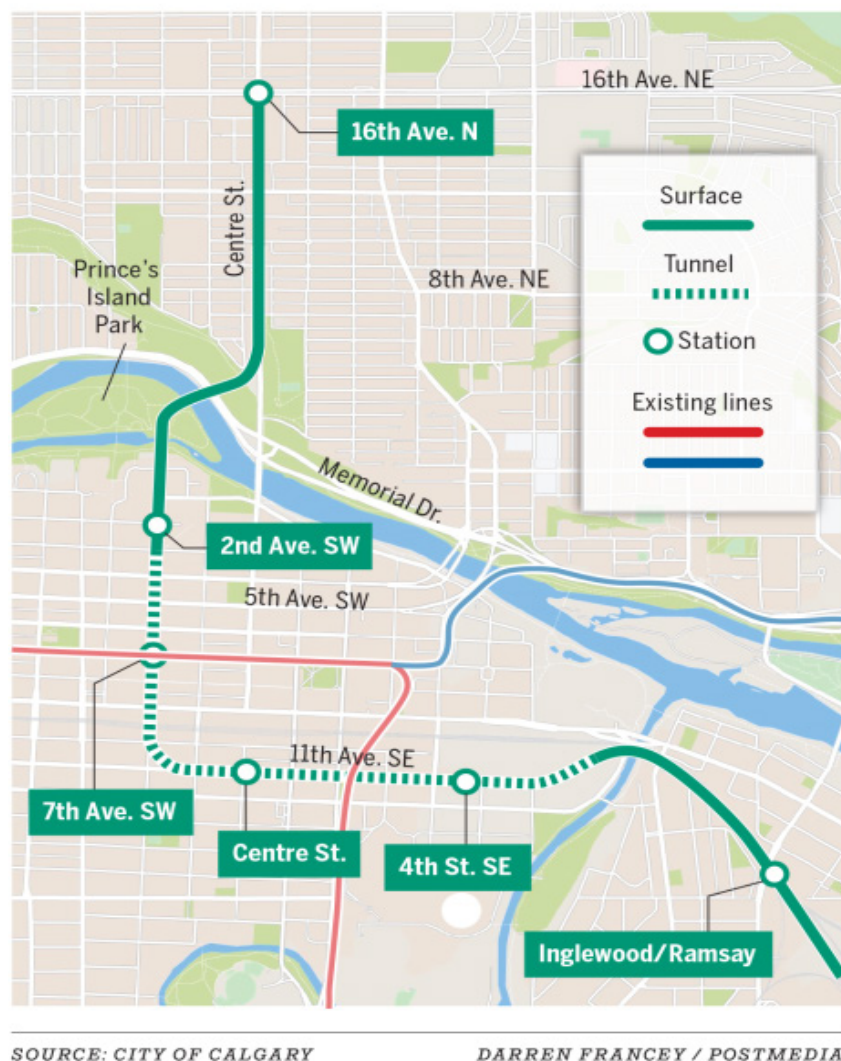


Figure 8. New Concept for Green Line (City of Calgary Newsroom, 2019)

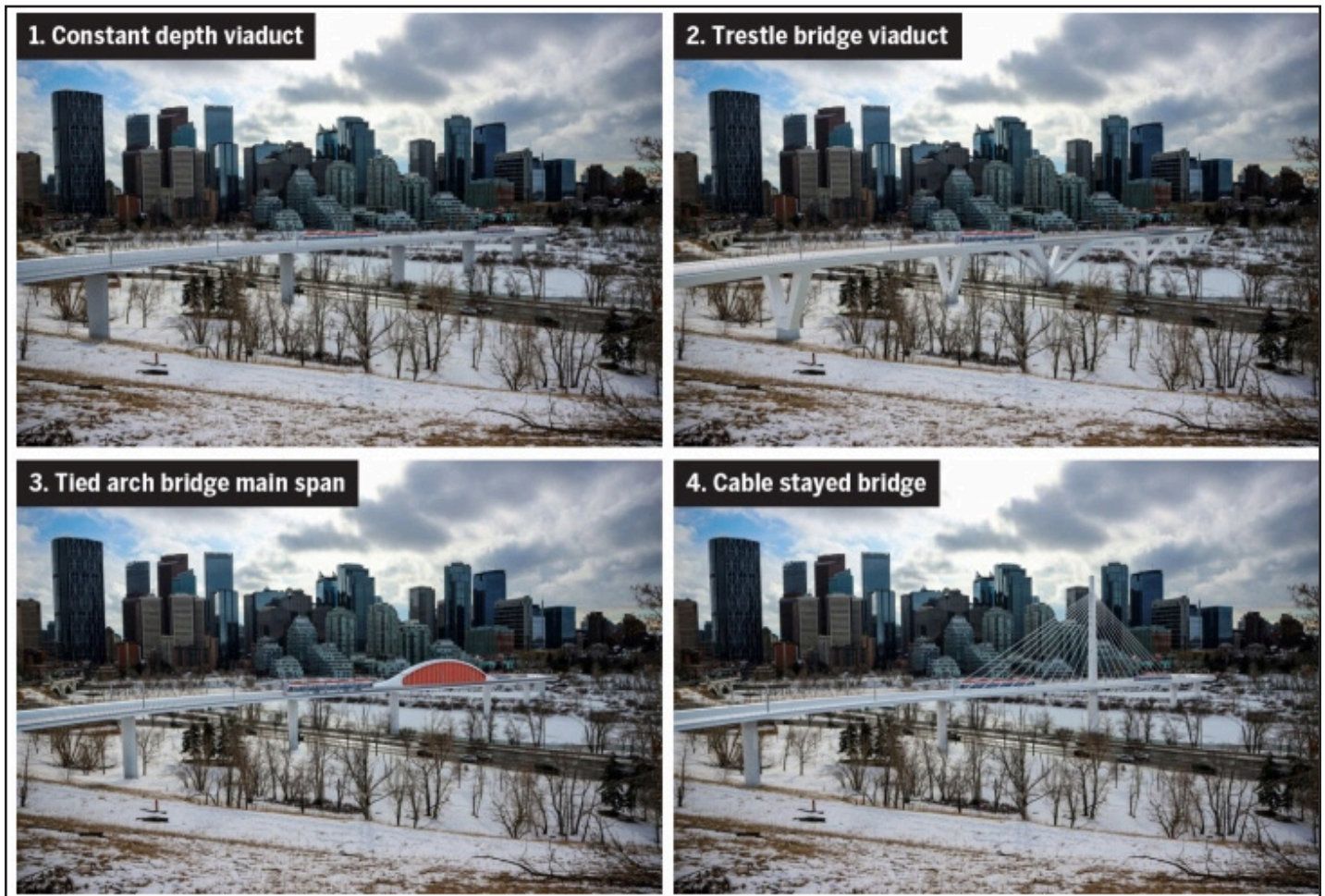


Figure 9. Four types of bridges the city of Calgary is exploring (Smith, 2020).

The future of the project was threatened by provincial budget cuts in February 2020 that required the City to make budget cuts on one of their four major projects, including the Green Line. The 14 new communities did not receive any budget cuts but the Green Line took a hit of \$100 million in cuts, adding uncertainty to the completion of other stages in the future. During Council discussion about the cuts, Mayor Naheed Nenshi stated:

“And so I look in this and I see, as Councillor Farrell pointed out, that there are cuts to transit, that there are cuts to pedestrians, but that there are no substantial cuts to roads and to motorists. But our policy says we have a pyramid: that we focus on pedestrians first, transit second, and roads third. And yet when we’re making the decisions that matter – the money decisions – sometimes we forget what our policy actually says.” (Klaszus, J, 2020a).

Nenshi's note that the hierarchy within the Transportation Sustainability Triangle in the CTP is not working reveals that Calgary's land use and planning practices that result from City Hall's decisions are still guided by the road, and by extension the car that drives on the road. The additional mention of "money decisions" as the "decisions that matter" also reveals that the importance of the physical object of the car in planning practices does not align with the vision of an equitable and sustainable future presented in the City's planning policies. The difficulty in moving forward with the Green Line project from the planning phase to implementation highlights this continued pattern of sacrificing the long-term future benefits for the sake of clinging to socio-cultural values and the economic prosperity that was connected to it.

7. Conclusion

Before providing recommendations, I will start the end of the paper by circling back to the beginning – the cover image and title. The cover page of this report harkens back to a popular image from *The Wizard of Oz* of the yellow brick road with the urban landscape in the distance. In the text, the road is a sign of hope as the protagonist, Dorothy, must find and walk it in order to enter Emerald City, where she can then go to home. The cover page includes many more lanes of roads that are not walkable leading to the City of Calgary, which also represents a hope that the car and its many roads will lead to a comfortable, free and happy suburban life. These values led the City of Calgary to develop in a dispersed manner that has entrapped many people with the necessity to own a car in order to move around the city in a comfortable and timely way. This lifestyle continues today and will continue in the future if the City continues its reliance on socio-cultural values linked to technology over environmentally sustainable and just planning practices.



Source: NewOwnNext, 2014

The case studies chosen for this report contradict each other – the 14 new communities capture the socio-cultural values embedded in the City’s planning practices, whereas the Green Line attempts to provide accessible transportation and decrease the climate impacts of the suburbs to reach the goals and targets in the plans and policies. The 14 new communities are clearly prioritized over the Green Line due to their quick approval and the Green Line’s slow development and recent budget cuts. The City’s differing treatment of the two projects shows that the sustainable and equitable targets and goals within Calgary’s plans and policies do not align with its planning and development practices. In other words, the case studies solidify the understanding that Calgary’s planning and development practices continue to be focused on planning tools that are based in certain physical and technological aspects, such as the car and single-family homes, that embody car and oil-centric values.

The City’s attempts to create a sustainable future within these values and practices through incremental changes, such as an increase in density within new communities, is better than nothing but will not allow Calgary to achieve its long-term goals. Moving forward, closing the gap on the inconsistency between planning practices and policies by “sticking to its decisions and intensifying its developed areas” is key for the City (Sandalack quote in Smith, 2019). Transferring the City’s planning practices to focus on already existing objectives in the plans and policies, such as increasing density in developed areas and building the public transit system, can help meet targets for a sustainable and just future while also transforming socio-cultural values through the built landscape.

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