

Redefining the Design of Car Dealerships: Creating Experiential Retail
Environments that Bridge the Gap between Brick-and-Mortar and
E-commerce to Minimize Ecological Footprint

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ABSTRACT:

This interior design practicum aims to create a sustainable car dealership showroom that responds to global climate change challenges while increasing functionality and resilience for future use. The automobile industry is the largest contributor to environmental pollution, and the transportation sector is Canada's second-largest source of greenhouse gas emissions. This practicum explores the concepts of the lean dealership approach and omnichannel system in automotive retail. The proposed site is chosen to showcase the opportunity of a smaller-scale footprint, connectivity and its potential to integrate e-commerce into the interior design of traditional brick-and-mortar settings. Additionally, the study highlights the importance of experiential retail space theories in enhancing the buying experience for consumers and visitors.

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CHAPTER 1.0: PROJECT INTRODUCTION

1.1 Purpose and Typology

1.2 Design Inquiry

1.3 Design Objectives

1.4 Methodology

1.5 Theoretical Framework

1.1 PURPOSE AND TYPOLOGY

The automotive industry is experiencing significant changes as car manufacturers and dealerships adapt to changing consumer behaviours and the need for environmental sustainability. For example, automakers have adopted just-in-time parts delivery to build their vehicles efficiently, and dealerships envision a future with reduced inventory and smaller lots. Furthermore, the shift towards online shopping and built-to-order purchases could reduce the ecological footprint of traditional showrooms while still meeting the customer's needs. However, the existing dealerships' programming and systems consume significant energy, and maximizing functionality within smaller spaces remains challenging.

In response to the challenges faced by traditional dealerships, such as energy consumption and large ecological footprints, the proposed typology for car dealership showrooms will be part of an "omnichannel" system that works with local businesses instead of competing against them. This system will be equipped with new technologies and a different way of marketing, providing a fully immersive traditional car dealership buying experience in a fraction of the size. Furthermore, to reduce energy consumption, parts and service departments will be distributed to reputable local shops authorized to work and distribute parts for the vehicle. By adopting this sustainable and adaptable approach, the proposed typology seeks to meet the changing demands of car buyers while creating a more customer-focused and engaging showroom that meets the evolving needs of the automotive industry. With its smaller footprint and focus on sustainability, the proposed dealership typology presents a convincing argument for a new and more efficient way of operating within the automotive industry.

The proposed typology for car dealership showrooms creates a functional and modern space equipped with advanced technology, such as virtual and augmented reality, to enhance the customer's buying experience and to keep up with recent marketing trends in the automotive industry. In addition, the proposed typology creates a more customer-focused and engaging showroom that meets the evolving needs of the automotive industry. As part of the new car shopping experience, implementing digitization and personalization profiles that can be linked to social media will be essential.

This interactive process will create a more tailored and enjoyable customer experience and bridge the gap between traditional brick-and-mortar selling strategies and online business strategies. It ensures the design is tailored to the dealership's needs while providing consumers with a unique and personalized experience.

The design will address concerns about non-adaptable dealership buildings, with adaptive reuse for a universal showroom that can accommodate any business in the future. Additionally, the showroom's location, 155 Fort Street, will emphasize a smaller scale footprint, connectivity, and modernizing the original purpose of the building as a car dealership in 1928. Overall, the proposed typology aims to create a sustainable, adaptable, and customer-focused showroom that meets the changing demands of car buyers and the evolving automotive industry needs.

Response to the Global Pandemic Situation

Regarding COVID-19 considerations, the proposed typology aims to adapt to specific situations, such as global pandemics. During the recent pandemic, establishments and retail locations have had to implement specific restrictions. The showroom has a minimal staff and restricts the number of people allowed in the space due to its by-appointment-only policy. This approach will enable the dealership to control the number of people using the space while offering an optimal solution for in-person car shopping experiences without worrying about encountering too many people in the room.

Furthermore, as the showroom operates strictly on an appointment-only basis, the staff has sufficient time to sanitize and prepare the space for new customers before their arrival. This guarantees that the showroom is a clean and safe environment for customers to browse and purchase vehicles, which is particularly important given the current concerns surrounding hygiene and cleanliness. The proposed showroom typology offers a viable solution for car dealerships to continue offering in-person shopping experiences while adapting to the challenges of COVID-19 restrictions.

1.2 DESIGN INQUIRY

This project aims to investigate how car dealership ecological footprints can be reduced by exploring why North American dealerships require more significant real estate than those in other countries. Understanding these factors can inform the design of car dealerships, potentially leading to more sustainable redesigns. Additionally, this practicum project emphasizes the importance of interior design and its interdisciplinary relationship with other fields, such as consumer behaviour, urbanism, and marketing.

The following research questions served as guidance for this project:

1. How can the space layout of traditional car dealerships be redefined to create a sustainable and engaging shopping experience for customers while also optimizing space utilization and minimizing ecological footprints?
2. How can the design of traditional brick-and-mortar car dealerships be redefined to incorporate e-commerce channels and provide a seamless omnichannel shopping experience for customers?
3. How can the automotive showroom shopping experience be redefined to become more immersive and adaptable to emerging consumer trends?
4. How can the design of a car dealership be re-imagined to create more flexible and adaptable spaces capable for various events, functions, and customer needs?

1.3 DESIGN OBJECTIVES

1. To design a car dealership that can perform its essential functions with a reduced physical footprint to minimize its environmental impact.
2. To design a car dealership environment that provides users a pleasant and comfortable experience and mitigates the commonly experienced sensations of anxiety and intimidation upon entering such an environment.
3. To design a car dealership showroom that integrates online and in-person experiences, merging e-commerce with conventional brick-and-mortar practices to offer customers a seamless and comprehensive buying experience.
4. To establish an innovative car dealership that harnesses cutting-edge technologies to enhance the car buying experience, enabling customers to engage in an interactive and immersive environment.
5. To design a car dealership that prioritizes sustainability and promotes economic growth.

1.4 METHODOLOGY

This practicum comprises a research and design component and involves a thorough literature review using theoretical and evidence-based resources, studying precedents, analyzing site conditions, and programming.

1.5 THEORETICAL FRAMEWORK

This study examines the prevalent issues in the automotive industry, specifically focusing on the substantial ecological footprints associated with car dealerships and their existing interior design challenges. The design inquiry began with exploring scholarly literature related to sales and marketing in the automotive industry. As illustrated in Figure 1, three key areas of investigation were A) Traditional car dealership design, B) Alternative to brick-and-mortar and C) Experiential retail (see also Chapter 2).

Extensive examination of the issues of showroom sustainability can be found in the work of Maxton and Wormald (2004); Lafontaine and Morton (2010); Kiff (2000); Batat (2019); Levy, Weitz and Grewall (2018); Hoffman and Akbar (2023); and Castelli (2016).

The first investigation explores Lafontaine and Morton's analysis of the automotive crisis, linking it to dealership termination and state franchise laws that explain North American dealerships' large footprint and operation costs (see also Chapter 2.1.1-3.).

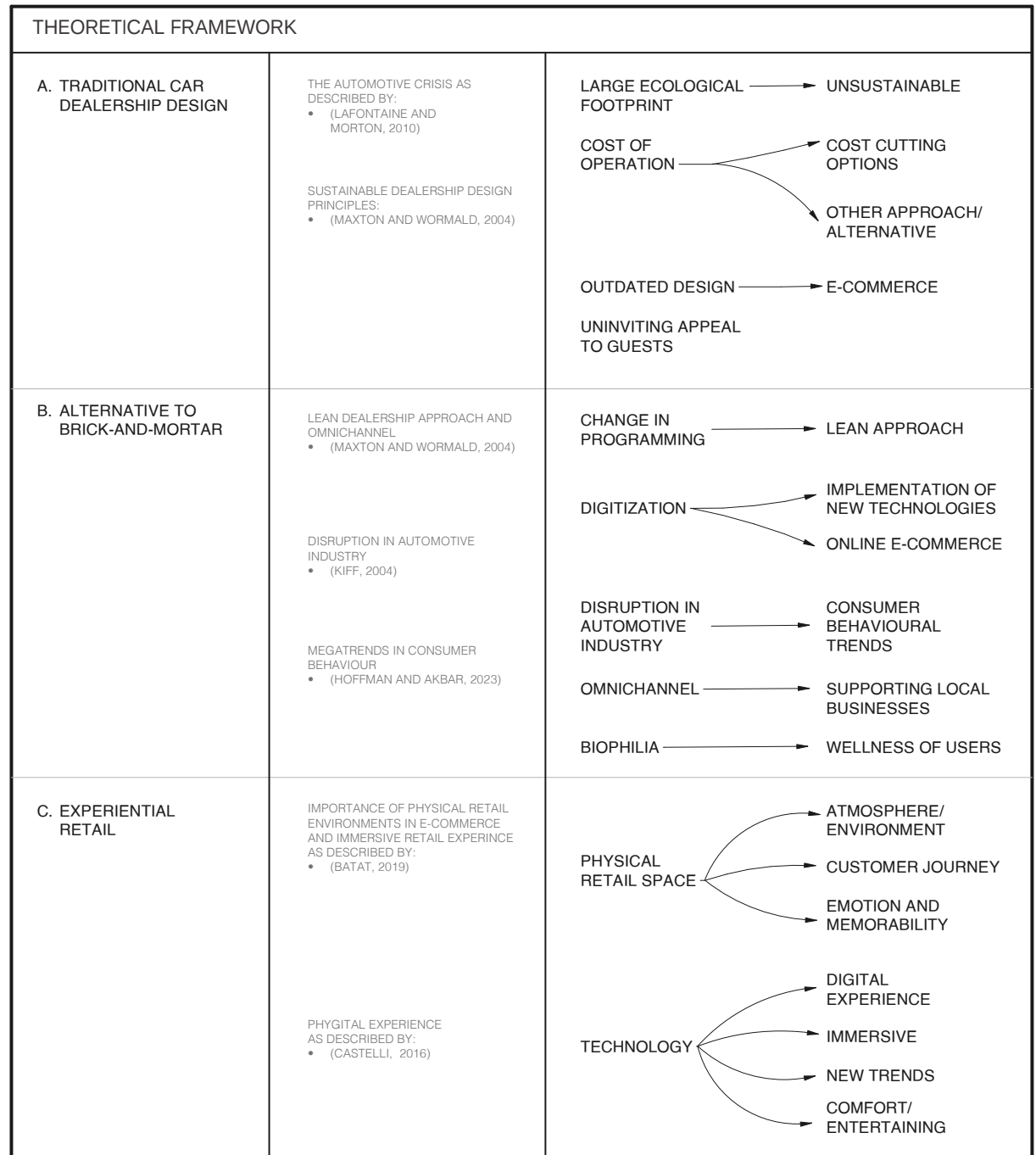


Fig. 1 Theoretical Framework

This section is also supported by Maxton and Wormald's (2004) research, which provided insights into sustainable dealership design principles.

The second investigation discusses Kiff's (2000) lean dealership approach and examines alternative models of disruptive entities like Tesla and Carvana within the conventional automotive ecosystem. Additionally, Hoffman and Akbar's (2023) publication explains prevailing megatrends shaping present-day consumer behaviour (see also Chapter 2.1.4.).

Finally, the third investigation focuses on Batat's (2019) work, specifically on the essential elements of experiential retail spaces and the pivotal role of physical retail environments in e-commerce (see also Chapter 2.2. and 2.4.).

CHAPTER 2.0: LITERATURE ANALYSIS

In this section of the design research, an exploration unfolds into the insights and theoretical contributions of various authors and scholars such as Maxton and Wormald (2004), Lafontaine and Morton (2010), Kiff (2000), Batat (2019), Levy, Weitz, and Grewall (2018), Hoffman and Akbar (2023), and Castelli (2016). As previously outlined in the Theoretical Framework section, their collective body of work has been instrumental in unveiling and dissecting the automotive industry, forming the basis for an extensive background research relevant to sustainable showroom design.

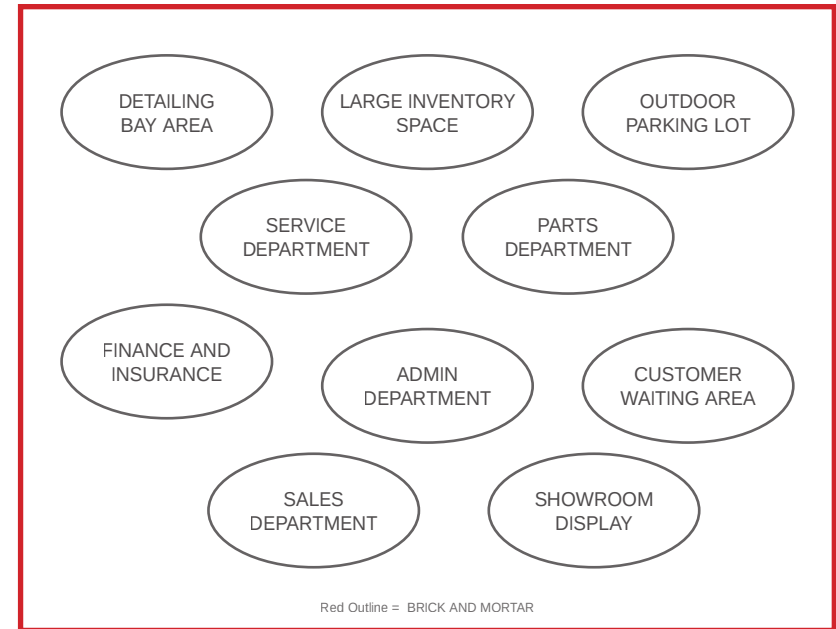
This background research aims to cultivate a comprehensive understanding of the automotive retail landscape, navigate the evolving e-commerce paradigms, and identify viable, sustainable interior design methodologies explicitly tailored for physical showroom spaces. This endeavour is foundational in unraveling the industry's intricacies, aiming to integrate a theoretical basis with pragmatic, eco-conscious design strategies in automotive showroom environments. Furthermore, this research explores the significance of brick-and-mortar retail within e-commerce, aiming to uncover the critical role of physical retail space and propose strategies that elevate the consumer's buying experience.

2.1 Challenges with Existing Dealership Setting

The world is changing quickly. We are more connected globally than ever before, production and consumerism is at an all time high, but we are also facing significant challenges in the midst of a global climate crisis. Many businesses are making modifications to respond to these significant changes, and are taking risks to remain viable; car dealerships are not immune to these changes. It is possible that traditional car dealership showrooms might be at a point of extinction. Automotive retailers are finding new ways to respond to changing needs of people, such as enhancing the customer's buying experience. Significant disruptions have impacted the automotive retail industry, in particular those that respond to the changing needs of consumers, such as implementing digitization in operations and interacting with customers using omnichannel marketing.

Omnichannel marketing centers on establishing a smooth and unified customer experience throughout every channel and touch point that a company has to offer (Levy, Weitz, & Grewal, 2014). Figure 2 implies that regardless of whether customers engage with a company through its website, social media, mobile application, or brick-and-mortar store, they will encounter a uniform and coherent experience. As a result, dealerships no longer need to provide everything at one, physical location. Through this new approach, the site of the dealership showroom can have a smaller scale footprint and focus on connectivity and the merging of e-commerce into a traditional brick-and-mortar setting.

TRADITIONAL DEALERSHIP SETTING



OMNI-CHANNEL SYSTEM

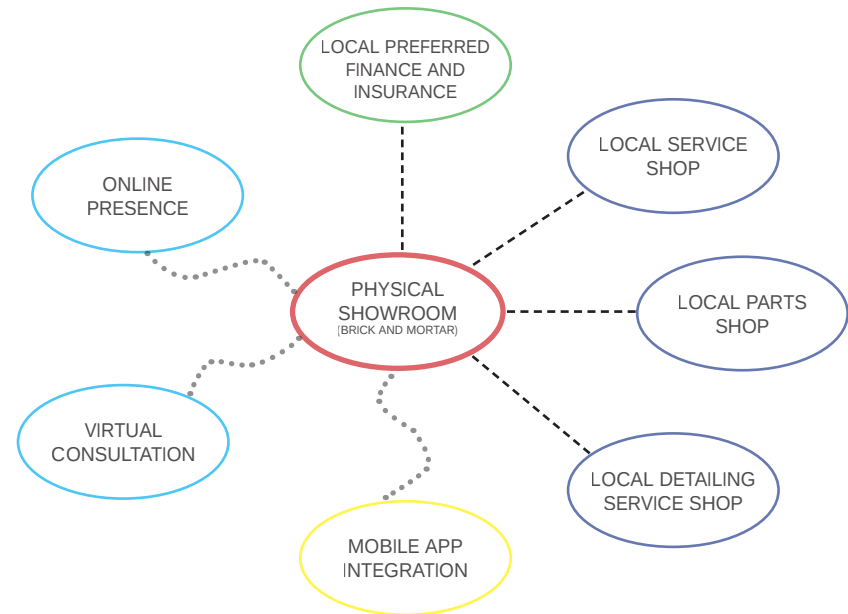


Fig. 2 Comparison of Traditional Dealership Setting and Omni-channel System Setting

- **Traditional car dealership** settings often aim to be one-stop shop to provide comprehensive services and convenience to customers. While the one-stop-shop model provides convenience and a holistic approach to customer service, dealerships need to balance this with adaptability, cost considerations, and the evolving preferences of modern consumers who increasingly prefer digital interactions and streamlined online services.
- **Omnichannel systems**, on the other hand, are designed to allow customers to engage with a business through various channels, while maintaining a unified experience. The system is specifically designed to ensure seamless integration, improve customer satisfaction, and maximize resource utilization while reducing waste. In addition, these systems actively engage local customers, support the local economy, and promote sustainable practices in the automotive industry.

Large automotive car corporations and related businesses, however, have established legislation that helps the automotive industry protect their business viability that restrict direct sales operations, promoting dealership expansion nationwide and limiting innovation to new marketing typologies and space design. These laws have remained unchanged since the early establishment of the automotive industry. Creating new dealerships allows car companies to expand and opportunities to create demand for supply and other resources locally (Lafontaine & Morton, 2010, p. 242). A variety of state laws give the dealerships guaranteed profitability and survival at the expense of manufacturers' profits (Lafontaine & Morton, 2010, p. 242). Furthermore, since the dealerships have total control of regulations, consumers suffer from dealership price mark-ups resulting in higher prices for cars and restricts dealerships' programming and operations to apply new business models and innovative approaches to lower the costs and its current footprint.

Another problem with dealerships is that, with the growing population, they are also growing exponentially; with that expansion, traditional dealerships require large properties to build new facilities. Some automotive companies, such as General Motors, believe in expanding as much as possible as part of their marketing strategy (Lafontaine & Morton, 2010, p. 243). In contrast, Toyota operates on a 'leanness' approach and does not require building multiple dealerships. In addition, since Toyota is an import brand, they have limitations on how many dealerships they can build in every state or region in North America.

The size and number of dealerships do not correspond to the success rate of sales on dealerships. Having “too many dealerships” is not an advantage in some cases and is not correlated to more significant sales. Figure 3 compares GM and Toyota dealerships in the Pittsburgh Area. The number of dealerships does not correlate with vehicle sales. Figure 3 shows that despite fewer dealerships, Toyota achieves higher sales compared to GM. Sales performance depends on factors like brand popularity, customer preferences, marketing strategies and product offerings. Therefore, while Figure 4 suggest a disparity in the number of dealerships between GM and Toyota, the sales depicted in Figure 4 highlights Toyota’s success in achieving higher sales with a fewer dealerships in the Pittsburgh Area. In Canada, according to Statista, the car companies, Ford and Toyota, have the most car sales in the year 2020-21 (2022). They are the most popular car brands and have the most sales not because of the number of dealerships they have established but for their reputation of reliability.

There are new car companies trying to utilize new business models. For example, Tesla, a newer car manufacturer, has a level of controversy surrounding their marketing strategy wherein consumers can buy directly from the manufacturer through online transactions. Every Tesla showroom is intentionally located in busy areas such as shopping malls and established pop-up stores nationwide. This process alleviates the need for building new franchise dealerships and offers a different way of reaching out to potential consumers without having to go to dealerships. The location of Tesla dealerships is very accessible in terms of connections and public transportation; an individual can quickly glance at their products when they pass by the showroom or pop-up store.



Fig. 3 (Lafontaine & Morton, 2010). Markets: State Franchise Laws, Dealer Terminations, and the Auto Crisis. (p. 245) American Economic Association. [Map showing GM and Toyota Dealership in Pittsburgh Area].

Number of Vehicles Sold per Franchise, by Brand, in 2008

Toyota Division	1,589	Dodge	292
Honda Division	1,253	Mitsubishi	213
Lexus	1,158	Volvo	213
Nissan Division	785	Suzuki	194
BMW Division	737	Land Rover	170
Mini	655	GMC	167
Mercedes-Benz	651	Hummer	167
Infiniti	624	Porsche	130
Acura	538	Jeep	126
Hyundai Division	509	Chrysler Division	124
Ford Division	477	Cadillac	112
Chevrolet	459	Pontiac	101
Saturn	440	Saab	92
Kia	427	Jaguar	84
Mazda	400	Lincoln	83
VW Division	381	Mercury	65
Audi	324	Buick	52
Subaru	313		

Fig. 4 (Lafontaine & Morton, 2010). Markets: State Franchise Laws, Dealer Terminations, and the Auto Crisis. (p. 246) American Economic Association. [Number of Vehicles Sold per Franchise, by Brand, in 2008].

2.1.1. Traditional Car Dealership Setting

History of Car Dealerships

1800's

During the mid-1800s, William E. Metzger established the first car dealership in America to sell steam automobiles from *General Motors Corporation* (Lafontaine & Morton, 2010). At that time, the transaction method for selling a vehicle was simpler, where a single-page written contract agreement was signed by both parties that lasted for a year while car manufacturers sold cars directly through factory stores and other methods such as mail order, traveling sales associates and wholesale distributors (Lafontaine & Morton, 2010).

1900's

Beginning in the early 1900s, car manufacturers took over the wholesalers' responsibilities and became direct dealers. The dealership is essential in supporting aggressive sales strategies and becoming an investment facility responsible for repair services and inventory (Lafontaine & Morton, 2010). The year 1927 was the peak year of the fast growth of established car dealerships in the United States, and at least 53,125 dealerships were built and operating at that time. In 2001, 22,007 dealerships were open and operating nationwide, and the number continues to decline along with the car sales revenue (Lafontaine & Morton, 2010).

Traditional car dealership facilities typically consist of: a sales department, service technicians, parts department, finance department and administrative support staff including receptionists, database management personnel and lot attendants where there are usually at least 15-20 employees.

The Waverly Auto mall located on the south side of the city of Winnipeg, Manitoba, is a great example of a car dealership that takes up a lot of energy and land. It is located on Zone M1-M3 or Heavy Industrial Zone (Winnipeg Zoning Map). The location is very inconvenient in terms of access to other amenities and public transportation.

In this zone, there are no nearby stores and amenities that are walkable and is very close to a residential property. If dealerships are located within an area that is zoned for commercial mixed-use, this will help to reduce the need for a large sized real estate dealership. This is beneficial for all users, as it will alleviate the need for vehicle to go places and it can help an individual to fit-in their errands during their lunch break, especially during the winter months as amenities are walkable and public transportation is accessible. In terms of the staff and employees' physical and mental health, having nearby amenities and activities can have a positive impact on concentration and productivity at work. Additionally, according to the article '*Productivity Through Coffee Breaks: Changing Social Networks by Break Structure*', low-intensity exercise such as walking, especially with peers, during lunch break, can boost serotonin and dopamine levels that helps an individual to cope with stress and at the same time reduces health risks (Olguin et al.)

The Lean Dealership Approach

Beyond the traditional dealership model, there is a newer "lean" dealership concept that focuses on continuous improvement and finding a better way to do something while also eliminating "wastes" in the system (Kiff, 2000, 116). New competitors such as Tesla and AutoNation are using lean strategies to change the way dealerships operate by using smaller properties for

their fully functioning dealerships. The “leanness” approach on car dealership focuses on four steps:

1. *Specifying value in the eyes of consumer*
2. *Identifying the value stream*
3. *Make the value-creating steps flow*
4. *Promoting a “pull” culture and pursue perfection*

By implementing these four steps, dealerships can understand the consumer’s point of view in terms of specific products or services that they need. Having an understanding on the consumer’s demands, dealerships can analyze the market trends and allows them to curate a program and operations that is tailored to specific, target consumers (i.e. made to order products) and this way, dealerships can reduce over production, use of raw materials and there will be no need for large storage facilities and parking lots to store overstock parts and vehicles.

Changing the existing practices of dealerships, in terms of programming and operations, is crucial to identifying the business waste and fully achieving leanness in the dealerships. The Postponement strategy and Demand Management are examples of strategies that can help to reduce waste. In the postponement strategy, it adopts the concept of ‘made-to-order’ where the production does not take place until customer orders are received, whereas in demand management, the salesman also acts as an account manager where they perform basic diagnosis of the vehicle and book customers for services and workshops; avoiding shuffling customers between departments. For example, instead of customers calling the receptionist, the receptionist directing toward a salesperson, and then the salesperson directs the customer to the service department, this model has the salesperson as the client relationship officer, reducing confusion and wait time for customers. Not only can this reduce trips

and appointments to the dealership, it can also increase the customer’s satisfaction (Kiff, 2000, 120).

In terms of space planning, because everything is made to order, lean dealerships can eliminate large storage facilities to stock inventories and parts can be outsourced from the manufacturers and have them picked up in the dealership when it arrives. In addition, since the dealership is run on demand management, where the salesperson takes on additional roles, there will be no need to allocate an office space for techs, sales, and administrative and reception staff within the interior space. The reduction of waste in the lean dealership approach can lead to reduction of over-all operational costs by scaling-down the physical footprint and also by improving customer fulfillment by providing client’s expectation and demand and not forcing them to purchase unnecessary items and what is readily available.

Most of the dealerships including the most successful car companies including Ford and General Motors are starting to adapt these principles very recently as it shows an improvement not just in sales, but also to over-all work efficiency and operational cost-savings (Maxton & Wormald, 2004, 112). The Toyota company, one of the largest car manufacturers from Japan, and ranked number one automaker globally based on sales and market share, implemented and originated the idea of “leanness” in the car industry. Eija Toyoda and Taiichi Ohno applied leanness in the Toyota production system and it came from the Japanese principles *kaizen* meaning ‘continuous improvement’, emphasizing on finding a better way to build something, to design something and to use something (Maxton & Wormald, 2004, 11). Even if competitors replicate the lean strategy approach, they will never have the same result because it Toyota uses the principle of ‘continuous improvement’ and it will always be ahead of its competitors.

2.1.2. Large Ecological Footprint

One of the objectives of this project is to design a car dealership showroom that responds to global climate change by reducing the physical footprint while maintaining its function as a retail automotive space, and also increasing its resiliency for future use. Identifying the current issues in the automotive industry, including manufacturing production lead time, dealership operational costs, large size of real estate, and other determinants, is the first step to finding a solution to reduce the large ecological footprints of automotive dealerships within North America.

Existing Issues:

In North America, the United States of America holds the largest share of the automotive car market, accounting for 90.8% of the region's total value in 2021 (Market Line pg.8). The automotive industry brings commodities such as steel, fabricated components, suppliers, technologies, and labour. It has a significant economic role and contribution.

Car dealerships exist because in North America, state-based franchise protection laws prevent manufacturers from selling directly to consumers. Car companies must acquire sizable real estate to build car dealerships (Lafontaine et al). Every car brand must design a building associated with the company's protocol, programming, principles, and branding to stand out from competitors. Additionally, every car dealership needs ample, paved parking space to store and display in-stock vehicles for customers. North America may have the capacity for large parking lots, but land use should be more purposeful and compact in urban areas. Lastly, compared to other countries, car dealership showrooms in North America need to catch up to the newest trends in

strategies for selling vehicles. Therefore, it is essential to compare what car dealerships in other countries are doing to understand how size does not affect the functionality of the dealership.

2.1.3. Cost of Operation

In North America, individual vehicle use is high, and dealerships provide the “one-stop shop” service and find solutions to consumers’ demands (Kiff, 2000). Car dealerships are usually located on industrial-zoned land, to avoid paying high taxes and allow consumers to test drive cars to their full potential on the highway roads. However, consuming large footprints to build and maintain dealerships is environmentally and economically unsustainable.

According to Kiff’s ‘The Lean Dealerships,’ dealerships consume a large amount of water and energy to operate. On the exterior, landscaping consumes water for irrigation, and impermeable parking surfaces create high levels of storm water runoff. Monitoring the vehicles parked outside the dealership requires security cameras and adequate outdoor lighting. In the interior of the building, energy is wasted through large windows offering poor insulation, showroom lighting and slow-closing shop garage doors. In addition, complaints are frequent from customers and workers about the acoustics as noise from the shop. This affects workers’ concentration at work, resulting in less productivity and discomfort in their work environment.

Mixed typology

Companies are moving towards developing new strategies to market their products and reach out to their new customers. The commerce industries are analyzing changing business trends and new typologies that can help them produce new content or products to expand potential market to consumers.

However, car dealerships recently have been challenged by a lot of disruptions and are facing pressure in the business with growing price competition from omni-channel dealerships such as *Autotrader* or *Carvana* where customers can take the time to review a wide variety of vehicles online. The omni-channel system can reduce the need of building new dealerships for a specific brand of car company because it is a platform where consumers can get all the vehicle information online, including digital tours through Augmented Reality (AR) and Virtual Reality (VR) where it can eliminate to design large showroom and access any type of vehicle online.

Digitalization is also changing consumer's buying experience where they can now see price transparency and have all the final transaction online without any pressure from car salespeople. The digitalization process can reduce the size of office space in a typical car dealership and can make the consumer buying experience much more efficient with less paperwork. If dealerships cannot keep up with the latest trends and develop new programming that both responds to consumer wants, and also is profitable, traditional brick-and-mortar dealerships may become irrelevant.

Amazon Go

The multinational company Amazon Inc. is well known for e-commerce, online marketing, cloud computing and digital services that offer a wide variety of products globally. Consumers can purchase anything online and have the items delivered to their door or picked up at their preferred postal office drop-off location (Ives, Cossick, & Adams, 2019 p.2-3). However, very recently, Amazon launched Amazon Go, a combined grocery and convenience store prototype. It allows consumers to purchase everything online and have it picked up at their most convenient time without waiting in line (Ives, Cossick, & Adams, 2019 p.2-3).

They carry almost anything from food and beverage, including health and home items. However, things like disposable diapers, tobacco products, lottery tickets, and ice have yet to be available in grocery stores. The concept of Amazon Go is great for accessibility and convenience with the help of advanced new technology. Especially for people with a hectic schedule, having all the items prepared and ready to be picked up in less than a minute is time-efficient and beneficial. An Amazon Go retail store is only approximately 2400 square feet, including 1800 square feet of customer facing retail space and a small dining area, whereas a typical big-box grocery store operates with closer to 40-50,000 square feet of interior space (Ives, Cossick, & Adams, 2019 p. 3). Although it may not have all the features of a conventional grocery store, such as stock inventories, preparation areas, shipping and loading stations, office spaces, warehouses, and large retail floor space with a variety of products, Amazon Go still offers essential items for everyday living.



Fig.5 Buontempo, F. (2019). You can shop at Amazon Go without any checkout lines or cashiers — just simply take your items and walk out. [Image]. Insider. <https://www.businessinsider.com/guides/tech/how-to-shop-at-amazon-go>

Smaller dealerships in the automotive industry do not mean they cannot operate like large ones. While larger dealerships may have advantages like more resources and brand recognition, smaller dealerships have shown their ability to succeed through strategic planning, personalized service, and targeting specific markets. By being flexible, adaptable, and customer-focused, these smaller establishments have proven that success in the industry is not only about size but also about using the right combination of factors that work for both small and large dealerships. Amazon Go operates in small-scale retail space and with the help of advanced technologies and online transactions. It functions as a mix of grocery and convenience stores where the transaction process is different but much more time-efficient than a traditional big-box grocery store in North America. In terms of accessibility, the location of Amazon Go is also strategically located in an urban setting with many connections to public transportation so that everyone can access it without needing a vehicle. Lastly, because the selections are minimal compared to the wide varieties of product options of grocery stores, it adapts the concept of “leanness,” where it can provide tailored product preferences based on consumer behaviour and current market trends. This strategy can eliminate ‘wastes’ such as inventory of less favourable products, overproduction, and time-consuming product comparisons at the grocery store.

Metaverse

The tech giant Facebook has created Metaverse, where online users can interact with others by creating their own avatars in a virtual world using virtual reality devices and augmented technology. Metaverse also adopts new technologies, such as users’ facial recognition using wearable sensor-based devices where companies can detect the users’ emotions by tracking facial expressions and eye movements.

According to Inampudi's (2019) study, there are advantages to using Metaverse or similar advanced technologies that use virtual and augmented reality. In real-life experience, people that have challenging life situations, including disabilities, can now interact with other people and travel places virtually anytime. Another advantage of Metaverse is that individuals can fully express themselves without feeling awkward to others by creating their avatars based on user characteristics, style and preference. This can increase the user's confidence to interact with others without being judged because of their insecurities and challenging life circumstances. Lastly, this type of new typology can optimize a better collaboration environment in workplaces. For instance, a group of collaborators can meet anytime in a virtual space to share ideas in a much more immersive experience. With the help of sensor-based devices, users can read people's body language and emotions, which sometimes needs to be improved in other meeting applications such as Zoom or Microsoft Teams.

The automotive industry is slowly adapting and implementing virtual reality experiences in its showrooms. A few Audi dealers in Germany are starting to convert their meeting rooms to virtual reality rooms where clients can configure their preferred vehicle specifications and allow them to take a vehicle walk-through. As for avid Audi supporters, the virtual reality devices allow them to experience the Le Mans 24-Hour Race, where they can be part of the Audi pit stop crew (Käppler, 2017). By incorporating virtual and augmented reality devices in dealership retail spaces, the footprint of showrooms can be reduced while offering a fully immersive car shopping experience. Potential buyers with virtual reality devices at home can explore vehicles online, reducing trips to the dealership. Virtual test drives alleviate the need for storing physical test-drive vehicles and allow users to experience different driving scenarios. These applications address health safety concerns during the pandemic, enabling dealerships to meet consumer demands.

2.1.4. People are seeking new buying experiences

Recently, car dealerships have been challenged by other start-up car companies and several e-commerce platforms where consumers can skip the dealership process. Shopping for cars online is convenient for many people because it allows them to easily find options, read consumer reviews, and gather information about the vehicles they are interested in. In the early '80s and '90s, information about the vehicle was by word of mouth, advertisements, and by going into the dealerships (Lafontaine & Morton, 2010, p. 234-35). Nowadays, consumers tend to have already done their research before going to the dealership. Furthermore, according to *Deloitte*, today's consumers, including Millennials and Gen-Zs, where 60% use e-commerce and other digital platforms, have easy access to mobile devices and new technologies (Deloitte). The current megatrends have significantly affected these shifting patterns where the socio-economic drivers generate and shape consumer behaviour.

According to *Euromonitor* data (2021), these five drivers shape consumer behaviour today:

1. Shifting Economic Power

Emerging market economies have seen strong growth at a time when growth in advanced economies has faced headwinds

2. Population Change

Urbanization, migration, and aging combine to reshape consumer lifestyles and purchasing decisions. The car company Tesla, for example, understands the need of their audience and consumer. Most of their showrooms are in busy areas because their target consumers are

primarily aspiring middle and upper-class customers looking for prestige, the appearance of being environmentally friendly and cost-effectiveness. These consumers are mainly influenced by the new technology, finding alternatives to gasoline-powered vehicles and new ways of buying cars in the market.

3. Environmental Shifts and Pressures

Competition for resources and increasing awareness of environmental challenges are having a transformative effect on consumer behaviour. For example, consumers are becoming more aware of the large footprint that dealerships need to operate from manufacturer to end-products. People are now finding alternative ways to reduce footprints by going through paperless transactions, carpooling, taking public transportation, cycling and other methods to avoid the unnecessary waste that can harm the environment.

4. Technology

Technology plays a pivotal role in consumer decision-making and the ability of a business to meet the needs of today's consumers. It has created upheavals in consumer expectations, lowered entry barriers and inspired new business models. As mentioned previously, most consumers are Millennials and Gen-Zs. This demographic is greatly affected by social media and other digital platforms. Even older generations are adopting the "Millennial Mind-Set," where they are now embracing the digital influence and adopting modern technology in their everyday lives.

5. Changing Values

Hyperconnectivity gives individuals access to more information than ever, educating them on evolving social, cultural, and political landscape. With advanced, new technology, any type of resources and information can now be easily accessible to anyone. Whether through online or people interaction, the consumer tends to research before purchasing something, especially if it is a high-involvement purchase (e.g. car shopping).

Innovative and disruptive companies that understand the drivers shaping the world and resulting megatrends use this to execute change through renovation, where a company improves on previous ideas to increase market share, through to innovation, where a company grows an entire category, and ultimately disruptions, creating new markets where there were none before.

It is essential to understand these Megatrends and how they affect consumers. Once a company knows these trends, it can execute change in the business model by becoming innovative and disruptive to the existing model. For example, because Tesla understands what the target consumer needs and know that they are capable and have the potential to become innovative and disruptive, they developed a new business platform where that has never been done before successfully. In addition, their focus is to avoid building new dealerships because it is part of their code of being 'environmental-friendly', so instead, they developed a completely different system from a traditional brick-and-mortar dealership.

The traditional brick-and-mortar showrooms are facing challenges with new competitors in the automotive industry and disruptions in the automotive ecosystem that can significantly affect the business model. Dealerships must

reconsider the typical showroom layout to adapt to the new megatrends. With today's most advanced technologies and new ways of marketing and progressing business models, dealership showrooms need help coping with their new competitors in the automotive world. New car companies and businesses are now integrating digitization and using an omnichannel strategy to sell vehicles while others are reinventing their dealerships to downsize but still maintain the functionality of a traditional dealership.

According to Inampudi et al. (2019), it is expected soon that high-tech companies will start to invest and help on improving the dealership business models. Therefore, it could sustain the steadily declining dealership profits by reinforcing new strategies in the showrooms. Car dealership sales plunged from 8.9 percent in 2015 to 1.7 percent in the first half of 2018, while in most other countries in Asia and Europe, there has been a steady flat sales growth (Inampudi et al., 2019). Although many factors may affect car sales, including consumer trends, advanced e-commerce methodology and the current economic situation, a re-imagined design of the brick-and-mortar dealership can potentially accommodate new trends in the automotive industry, including digitization and other e-commerce platforms, while reducing operating costs and increasing efficiency by downsizing and reinventing the existing dealership programming and operational systems.

Carvana

In 2013, a used car retailer in Nashville, Tennessee, called *Carvana*, started with a new strategy to sell used vehicles (Travel & Leisure, 2013). Like Tesla, Carvana is not a full-service car dealership; it only sells used vehicles, and transactions and appointments can be made online. However, Carvana's proposed use differs significantly from a traditional automobile sales facility. The founder and president of Carvana stated that "rather than utilizing large surface

parking areas to store and display vehicle inventory on site, Carvana facilitates the sale of used vehicles online at Carvana.com.” At Carvana, a customer can virtually check the car inside and out, and all transactions and vehicle information can be accessed anytime online (Muller, 2020). Once the customer is settled with the virtual vehicle inspection, all registration and insurance policies can be done online, and the vehicle is now ready for delivery to the customer (Muller, 2020). The cars are then transported to the nearest Carvana Fulfillment Center. Then, the vehicle can be delivered to the customer's desired location or pick it up in person at Carvana's state-of-the-art “Vending Machine” structure (Travel & Leisure, 2013).

Carvana's car vending machine style is a unique, innovative way to display vehicles (see Figure 6). The “vending machine” is an innovative modern tower that displays vehicles to reduce massive land real-estate requirements and utilize the remaining space for other benefits (Muller, 2020). By doing this, Carvana not only reduces land-use requirements, but through exposure to thoroughfares, pedestrian ways, and lighting methods, it emphasizes the vehicle display (Travel and Leisure, 2013). Carvana's building design consists of a welcome centre, tower bay, work area, private office spaces, vehicle prep area and a mechanical room for maintenance (Planning commission agendas/ minutes). According to Carvana, “While most traditional car dealers require 10 to 20 acres to house their showrooms and inventory, Carvana requires, on average, only 1 to 3 acres for their “Vending Machine” stores” (Cavitt, 2018). Since most of Carvana's products and services are available online, the company does not require any display vehicles for direct sale. By doing this, they utilize a limited space without compromising the facility's functionality, and the “Vending Machine” style display is a beneficial marketing strategy (Muller, 2020). The purpose of the vertical tower is to attract potential clients passing by

and to store unsold and ready-to-be-picked-up vehicles (Zellers, 2016). Compared to large parking lots, a vertical parking system used to store vehicles has pros and cons. A significant advantage of vertical towers is that it allows dealerships to store their vehicle inventory without the need to acquire massive real estate, especially where there is a desire to keep the vehicle inside in pristine condition and protected from outdoor elements. Furthermore, particularly in Canada's harsh winter climate, indoor parking lots provide protection from the elements, which can help to keep vehicles in better condition and reduce the need for costly repairs (WeatherPort, 2022). Lastly, indoor parking lots offer added security, as they can be more easily monitored and controlled than outdoor parking lots (2022). One significant benefit of an outdoor parking lot over a vertically enclosed tower is less and cheaper maintenance. In Winnipeg, car dealerships' outdoor parking lots are equipped with security cameras,

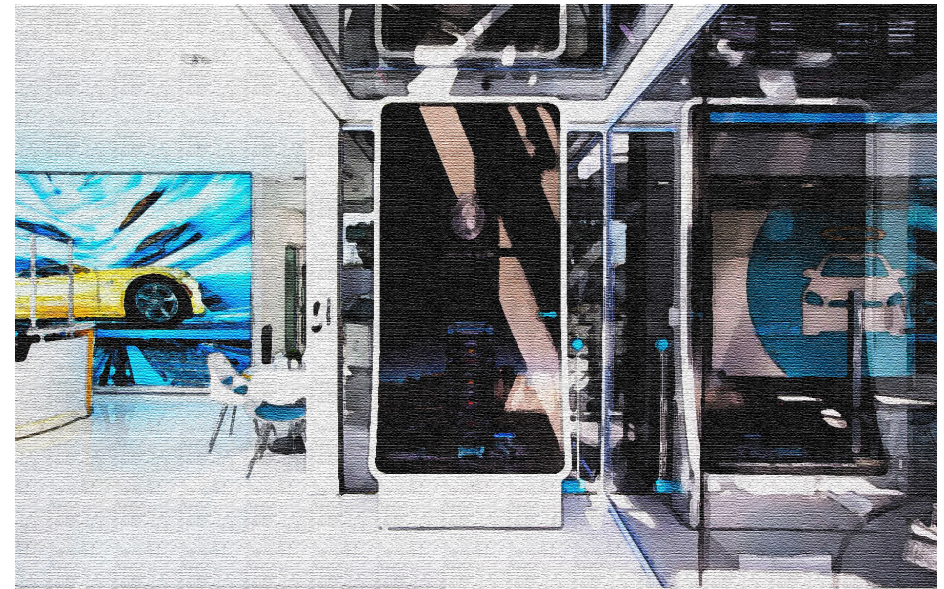


Fig. 6 Ng, J (2021). Review Journal. Carvana unveils 11-story car vending machine to Las Vegas. Retrieved April 1, 2021, from <https://www.reviewjournal.com/business/carvana-unveils-11-story-car-vending-machine-to-las-vegas-2287856/>. Digitally edited & Redrawn by Author.

outdoor lighting and regular maintenance of snow plowing during winter months. According to WeatherPort (2022), if anything gets damaged, such as cameras and outdoor lighting, they can be easily replaced immediately, and it will not affect the inventories outdoors. In contrast, once the mechanism starts malfunctioning in Carvana's vending machine, everything needs to be diagnosed by a qualified mechanical engineer, and the repair process can be complicated and expensive. Outdoor parking lots are also less expensive to construct and maintain than indoor parking lots. They have more spaces available, which can be helpful if the dealership has a large inventory of vehicles (2022).

Carvana's programming and business model differ from the traditional dealership settings, reflecting the dealership's design and layout. For example, an average dealership square footage in Winnipeg is 48,000 square feet; in contrast, Carvana operates on a typical 7,958 square feet, an 83.42% size reduction compared to typical Winnipeg dealerships (Love, 2018).

Carvana's design layout works well with their programming, and the methodology of digitalization helped the company to alleviate unnecessary spaces in the dealerships and provide an opportunity to combine space functionality. For instance, the sales associates also do the administrative role because all transactions happen online. They help with organizing pickup services, welcoming customers, helping find solutions to customers' questions and managing the database (Operations coordinator | Carvana). Therefore, there will be no need to create office spaces for financial advisors, sales associates, and meeting rooms because Carvana employees have multiple-task and dealership roles. The dealership also has an in-house service mechanic that inspects all the vehicles. A service bay is dedicated to further inspection and detail before handing out the purchased vehicle to its new owner. The dealership does not have a full-size shop space because third-party shops do all the vehicle inspections.

Tesla Showroom - Brandt Design Group

South Lake, Seattle, United States

As part of the 26000 square foot building renovation and conversion in South Lake Union, Seattle, Tesla leased and redesigned the space of a previously served auto repair garage (Tesla showroom - mercer island architect, Colin Brandt: Contemporary Residential & Commercial Design Architecture 2020). The building now consists of a mixed-use type of space, including office spaces, apartments, retail space and restaurants (Tesla showroom - Mercer Island Architect, Colin Brandt: Contemporary Residential & Commercial Design Architecture 2020). The exterior building has existing brick, and large windows are retained, contrasting it with its neighbouring modern building while emphasizing and respecting its historic architectural characteristics (Tesla showroom - mercer island architect, Colin Brandt: Contemporary Residential & Commercial Design Architecture 2020). While in the interior, exposed raw materials and existing structures can be seen throughout the whole space to maintain the industrial look aesthetic from the outside continuing to the interior space. Exposed wood ceiling, brick and concrete were cleaned and restored to retain the overall aesthetic of the exterior and interior connection. All structural, mechanical, and electrical components are exposed not only for easy access during maintenance but also to reduce the amount of construction inside the space. Like the previous Tesla examples, the space layout is very easy to navigate and straightforward. It has an open concept where all the displays are categorized as spread throughout the space, creating a gallery-like experience. There are also service area stations in this dealership, oriented the same way as the Tesla showroom in Los Angeles, where it is visible through the exterior and connected visibly in the showroom of the space.

This Tesla dealership is unique in how it was built and designed to comply with the adaptive reuse strategy. The dealership is in South Lake Union in Seattle and is known to be home to giant tech companies, including Amazon, Facebook, Apple, Microsoft and Google (O'Mara, 2016). These companies have occupied sizable real estate to operate and house thousands of employees and locals (O'Mara, 2016). Despite being a billion-dollar automotive company, Tesla has continued to adhere to its values and principles, emphasizing simplicity in both its products and dealership designs. The company operates on a minimal footprint, strives to use fewer resources, and works around existing facilities. Tesla's operations can significantly influence other automotive retailers and distribution if other larger companies operate similarly. As technology becomes more advanced and real-estate costs skyrocket, a company like Tesla realizes that cost-cutting can be done starting from real estate and changing the traditional dealership operations and business model by embracing and implementing innovative solutions to the existing model. To compete against larger automotive companies, start-up companies, including Carvana and Tesla, must operate efficiently, adapt to the digital living environment, and find a faster and better way to reach new niche audiences. These companies understand that consumer behaviour trends are shifting rapidly, and there have already been significant investments in the existing dealership business model from prominent automotive companies and associations they are against with. Nevertheless, they were thriving and remained competitive in the industry because of their new innovative approach to marketing their products. In addition, they developed a substantial foundation of programming that works for their whole ecosystem. As mentioned, they operate with a new business strategy, apply new innovative technology and embrace digital platforms where information can be accessed with whole transparency online. By doing so, these new start-up companies



Fig. 7 Tesla showroom Design by Brandt Design (n.d). Retrieved June 20, 2021, from <https://brandtdesigninc.com/project/tesla-showroom/>



Fig. 8 Tesla showroom Design by Brandt Design (n.d). Retrieved June 20, 2021, from <https://brandtdesigninc.com/project/tesla-showroom/>

allowed them to sell vehicles directly to consumers, which alleviated the need to open up and build new dealerships to further expand in reaching potential customers and operate on a minimal footprint.

Larger automotive companies need to understand the effects of these new disruptions on the automotive industry ecosystem. It is hard to ignore that these new start-up companies, such as Carvana and Tesla, are changing the traditional business model and improving over the years. As mentioned, the existing dealership programming was designed in the early 50s and may need to be revised to current trends. Large automotive dealerships may have to consider re-evaluating the existing business models, exploring various platforms, and generating revenue to keep up with the fast-evolving retail landscape. From a marketing perspective, dealerships may consider optimizing the dealership footprint based on current trends of 'Virtual Dealership' by implementing a showroom dedicated to virtual and augmented reality experience. Furthermore, traditional dealership settings should consider creating a client-focus showroom like the new start-up companies. For example, Tesla has a 'gallery-like' setting with an inviting consumer atmosphere. Consumers can comfortably walk around the dealership because it has a straightforward and easy-to-navigate space layout compared to traditional dealership settings. The interior design space of Tesla is also unique compared to traditional dealerships in that they tend to apply adaptive reuse and work around the existing condition of the facility, making every Tesla dealership unique. In contrast, in traditional dealerships, most of the space is newly built. It has no particular character and aesthetic, making the space uninviting and uncomfortable for guests and users.

Design Implications

1. **User-Friendly and Straightforward Orientation:** Tesla showrooms prioritize delivering a streamlined, uncomplicated consumer encounter. The designers have crafted the arrangement and structure of the showroom to be intuitive and effortless to comprehend, ensuring that customers feel at ease and comfortable during their visit.
2. **Adaptive Reuse and Sophisticated Atmosphere:** These emerging start-up companies prioritize environmental concerns as a core aspect of their values. They demonstrate this commitment by incorporating adaptive reuse techniques in their showrooms, showcasing their creativity and contributing to a sophisticated and inviting atmosphere. By leveraging existing facilities, they effectively re-purpose the available space, maximizing its potential while minimizing the need for additional construction. This approach aligns with their environmental values and proves to be a cost-effective solution, as it eliminates the expenses associated with creating an entirely new facility solely for a showroom.
3. **Layout for Future Utilization:** The car dealership's easily adaptable layout offers significant value to businesses considering occupancy. Its versatility eliminates the need for extensive changes or renovations when transitioning to a different purpose, saving time and money for new occupants.
4. **Embrace Digitalization and New Trends:** By embracing digitalization and leveraging emerging technologies like virtual and augmented reality, businesses can improve their efficiency and enhance the customer experience. These advancements can seamlessly integrate into

programming and space planning, providing a more streamlined and effective work flow.

5. Bridging the Gap Between Brick-and-Mortar and E-commerce: These start-up companies strive to combine the benefits of brick-and-mortar retail stores with the ease of online shopping by incorporating digital elements and internet functionality into the physical environment. This approach enables customers to enjoy a smooth and uninterrupted experience as they switch between virtual and in-person interactions.

2.2. Experiential Retail

The retail industry has undergone significant changes in recent years due to the rise of e-commerce and online shopping. This change in consumer behaviour has challenged traditional brick-and-mortar stores to remain relevant and competitive. However, instead of considering e-commerce a threat, it can be viewed as an opportunity for enhancing the in-person shopping experience. This is where the omnichannel system comes in, as it combines e-commerce and brick-and-mortar to create a seamless buying experience that meets the needs and preferences of modern consumers.

This shift affects the automotive industry, with thriving disruptive start-up companies and increased competition. As a result, car dealerships must find ways to stand out and offer customers a unique and engaging experience. A proposed new retail showroom space is crucial in providing an experiential retail space that adds value and excitement to showcase brands and attract new customers. By analyzing consumer behaviour and integrating advanced technology, this showroom can offer an exceptional retail experience that ensures customer satisfaction and gains a competitive edge.

While both Carvana and Tesla begin their retail presence with an online connection to customers, there is still a need for an in-person experience for the automotive industry. For example, Carvana has a generous return policy, allowing customers to test drive for 7 days after purchase. This tactile need remains necessary in a digital world.

2.2.1. The Role of Physical Retail Space within Omnichannel

Despite the rising popularity of e-commerce, the physical retail space remains significant in the automotive industry because it enables customers to touch, feel, and experience products firsthand, resulting in instant gratification. In the Omnichannel system, the physical showroom is an essential initial point of experiential contact for customers, and it plays an important role in creating a lasting impression on customers. Through customer feedback, it is evident that physical retail stores offer a more immersive shopping experience than online shopping.

According to Batat (2019), experiential retail spaces strive to actively engage consumers and foster emotional connections between the brand and customers, resulting in a memorable presence that becomes intertwined with their lives and cherished memories. Therefore, the aesthetic of the space is crucial in effectively communicating the brand's visual identity and creating a layout that signals the store's intentions for consumers. The design plays a significant role in shaping the perception customers gain about the overall environment and sets the stage for establishing emotional bonds between the brand and its customers.

The classification of atmospheric cues into five categories, as established by Turley and Milliman (cited in Kotler, 2019), offers a comprehensive framework for comprehending the diverse elements that contribute to the ambiance and overall experience of the retail space environment. The retail space can gain valuable insights into the multiple dimensions influencing consumer perception and behaviour by considering external variables, general interior variables, layout and design variables, decoration variables, and human variables. These variables will be incorporated and utilized in the proposed typology to communicate the interior design principles of the space effectively.

External Variables

In relation to the proposed site context and typology, variables such as building windows play a role in shaping the initial impression of the retail space. The design and placement of windows convey transparency and openness and invite potential customers inside. This external element sets the stage for the overall atmospheric experience. The exterior brick also adds an architectural character that showcases the building's historical texture and creates a warm and inviting appearance.

Interior Variables

General interior variables encompass colour, lighting, sound, and scent. These elements contribute to the sensory stimulation of consumers and evoke specific moods or emotions. The colours, lighting and music elements will be deliberately configured to create a specific feel and atmosphere depending on the space's purpose and function

Decoration Variables

Decoration variables such as visual displays, interactive screen displays, automotive parts displays, and furniture, contribute to the showroom's visual identity and can evoke certain emotions or associations. The displays are well-chosen to align with the Toyota brand's message and engage customers deeper, adding to the overall experience.

Human Variables

Human variables will be represented by employees who are essential in shaping the atmosphere through customer interactions. The friendly and knowledgeable staff creates a welcoming environment, assisting and contributing to a positive and memorable shopping experience.

The physical retail space is a multidimensional concept encompassing various atmospheric variables that provides a comprehensive framework for understanding factors that shape the ambiance and overall experience within a retail environment. This holistic understanding of the physical retail space experience not only influences consumer perception and behaviour but also contributes significantly to the success of the retail establishment. By strategically incorporating these variables into the design and layout of the automotive retail space, it can effectively convey the brand's identity and curate an engaging and immersive experience for customers.

2.2.2. Customer Experience Journey: Slow Retail

Retailers and interior designers work together to convey brand identity and narratives, resulting in better customer engagement. The retail space comprises spatial organization, atmospheric design, and interactive elements that provide a space that stimulates the senses and immerses customers. Well-designed retail environments prioritize enhancing experiences that align with the slow retail model, emphasizing discovery, exploration, play, community engagement, learning, shopping, and sharing. The framework of experiential retail environments suggests four guiding principles that must be embodied in designing a customer's journey: storytelling, fluid space, digital zone space, and community-centred space.

Storytelling space

The space is designed to embody the brand's essence in a three-dimensional form. It embraces the art of storytelling and curation to display and communicate the brand's identity effectively. The foundation of customer experience lies in storytelling, where brands tell compelling narratives to promote brand awareness and value (Alexander & Blazquez Cano, 2020, pg. 8). By sharing the brand's history, companies can differentiate their products and services from competitors, fostering customer loyalty and establishing shared values. Placing customers at the center of the brand's story creates a sense of closeness and authenticity, encompassing ideological, symbolic, experiential, and emotional dimensions. A successful narrative incorporates solid emotional content for brand identification, theatrical and artistic elements, and memorable and culturally appropriate messaging while preserving the brand's essence and identity (Alexander & Blazquez Cano, 2020, p. 8-10).

Fluid Space

This space embraces the qualities of agility, adaptability, and continuous improvement, characterized as being in a continuous 'beta-mode,' where new ideas are constantly being testing and refined. It is a dynamic environment for exploration, testing new technologies and offering immersive experiences (Alexander & Blazquez Cano, 2020, p. 10).

Digital Space

These spaces leverage technology to provide enhanced customer experiences by utilizing technology-driven elements that offer unique and engaging interactions that capture the attention and interest of customers (Alexander & Blazquez Cano, 2020, p.10).

Community-Centered space

The community-centre space promotes a sense of community, encourages socialization, and provides a welcoming environment for customers to linger and immerse themselves. It serves as a hub where people can connect and cultivate a sense of belonging within the community (Alexander & Blazquez Cano, 2020, p.10). It is an interactive and engaging setting that is often collaboratively created, emphasizing the importance of human interaction and connection. By emphasizing the shared experience, this space invites customers to engage with one another, sparking conversations and creating lasting memories.

The concept of the experience journey goes beyond just understanding the customer's journey. Customer experience design considers socio-cultural and

other factors at different levels - macro, meso, and micro. These factors impact how consumers live and evolve through their experiences, ultimately affecting their entire customer experience and relationship with the brand. This can positively or negatively affect sales, customer satisfaction and loyalty, and the brand's reputation and image.

2.3. Brand Loyalty: Emotion and Memorability

In marketing and design perspectives, it is important for retail environments to incorporate elements that stimulate emotions instead of just concentrating on functional stimuli. Experiential retail spaces prioritize subjectivity, intangibility, and symbolism, establishing a strong competitive edge through impactful experiences, emotional connections, and empathetic interactions with consumers (Batat, 2019, p.52). Furthermore, per the Euromonitor International Voice of the Consumer: Lifestyle Survey (2022), 74% of millennials prioritize experience over material possessions. This indicates that consumers desire direct engagement with products or services, seeking enhanced and distinctive brand interactions. They actively seek authentic and personalized experiences that align with their tastes, preferences, and lifestyles. In order to meet these demands, the physical retail space should utilize sensory appeal and implement technology as a facilitator to deliver value-added experiences.

Five Factors of Experiential Marketing in Retail Space

The five following factors were determined in Batat's research as experiential marketing strategies that can substantially impact the consumer's emotions and aid in compounding the memorability of a retail space.

1. *Theming* – Serves to organize the consumers' impressions by unifying various elements around a cohesive narrative (Batat, p. 81).
2. *Harmonization of Impressions* – Focuses on ensuring positive consumer experiences that leave a lasting impact (Batat, p. 81).
3. *Memory Mix* – involves offering items or products that serve as reminders of the experienced moments (Batat, p.81).
4. *Elimination of the Negative Aspects* – Is crucial in preserving the quality of the customer experience (Batat, p.81).
5. *Engagement of Five Senses* – Enhances the memorability of the consumer experience by involving multiple senses in products or services. (Batat, p.81).

It is vital to create a connection between consumers and the space in order to provide a meaningful and immersive experience, and leave a lasting impression. Implementing Batat's experiential marketing factors facilitates this connection, fostering a stronger bond between the brand, product, and consumer. This approach can further cultivate consumer loyalty and build trust, therefore emphasizing the significance of the role interior designers play in effectively shaping these spaces.

Case Study - *Abercrombie & Fitch*

Abercrombie & Fitch, an American company established in 1892 by David Abercrombie and Ezra Fitch, initially served men in outdoor sports. It gained popularity among influential individuals but faced bankruptcy in the 1970s while attempting to expand its market reach. However, after being acquired by Limited Brand Company, the brand underwent a successful revival in the 1980s. It shifted its focus to teenagers and introduced experiential and sensory concept stores offering various sports and urban products. Abercrombie & Fitch consistently implements this immersive experiential concept across its United States and Europe stores, providing customers with a unique and enjoyable experience that engages all their senses (Batat, 2019, p.53).

The company pays attention to various aspects of multisensory experience – using sight, sound, smell, and touch to enhance the customer experience and utilized to take on sensory engagement in shaping the customer's experiential journey. The store creates a visually appealing atmosphere with dim lighting, which brings a sense of serenity and warmth while highlighting the colourful clothes. Customers can also emphasize the tactile aspect by touching and trying on items without assistance. They can enhance the auditory experience through ambient music, creating a trendy and festive atmosphere reminiscent of a nightclub. Additionally, the brand emphasizes the sense of smell by instructing employees to regularly spray their signature perfume on clothing, further immersing customers in the Abercrombie & Fitch experience (Batat, 2019, p. 54).

By actively engaging customers through a sensory experience, Abercrombie & Fitch successfully creates a fully immersive environment that leaves a lasting impression on consumers.

- The experience offered by the company provides customers with both physical and emotional elements that are designed to leave a lasting impression. Through the innovative “memory mix” concept, customers can create physical memories by taking souvenir photos with models and taking home a tangible keepsake. In addition, the concept store features a unique and memorable atmosphere that sets it apart from other retail stores, leaving customers with an intangible memory experience.
- The purpose of the store concept is to provide customers with a pleasant shopping experience. They focus on creating a positive atmosphere and festive ambiance, which helps customers overcome any negative feelings they may have had about shopping before. This strategy results in higher customer satisfaction levels and helps strengthen the connection between the customer and the brand.
- The company demonstrates a profound understanding of its customers' emotions and requirements. By assigning vendors to specific sectors, staff acquire in-depth knowledge and can offer tailored assistance. This approach prioritizes the customers' needs, fostering a stronger connection between them and the brand, elevates the overall experience and underscores the company's commitment to its customers.
- Abercrombie & Fitch has successfully created a thematic environment that resembles a trendy nightclub to elevate the shopping experience for its target audience. The use of ambient music, dim lighting, and an energetic atmosphere caters to the preferences and aspirations of their customers. This innovative approach enhances the overall shopping experience, giving customers a unique and memorable encounter beyond traditional shopping.

The emotions of experience-driven consumers is important in how they perceive and interact with brands. Their emotional state greatly affects their decision-making process and satisfaction. Therefore, it is important for brands to effectively communicate with consumers throughout their experiential journey to fully engage them and shape their perceptions and emotional attachment to the brand. To create a comprehensive and immersive experience, brands should focus on aesthetics, organization, ambiance, knowledgeable staff, and product quality. By doing so, they can create emotional connections with consumers and build loyalty by influencing their perception.

Caru and Cova (2003) state that what makes an experience pleasurable is the consumer's immersion in an authentic experience. The collaboration between physical retail spaces and experiential elements in an omnichannel system transforms the shopping experience into an immersive experience beyond what online shopping offers. It enables customers to deeply engage customers with the brand, leaving a lasting impact and developing a stronger connection. Customers can interact with the products directly by providing opportunities to implement sensory elements within the designed space. Moreover, knowledgeable staff offers personalized assistance and guidance, adding genuine interaction to the shopping journey. As a result, consumers who engage in immersive consumption and purchase processes are more inclined to cultivate positive, pleasurable, memorable and unforgettable emotions, leading to reliving those sentiments in future experiences.

2.4 The Role of Technology in the Physical Showroom

The previous chapter delved into how the automotive industry and traditional car showrooms have been impacted by the emergence of new competitors and the changing shopping behaviours of consumers due to

digital transformation. To tackle these challenges, automotive companies have started focusing on creating immersive and experiential retail experiences.

This has involved incorporating advanced technologies in physical settings to enhance customer engagement and interaction. Interactive digital screens and signage, iPads, mobile applications, and virtual reality (VR) are commonly used innovations in automotive retail (as cited in the Store of Future).

Drivers of Digital Transformation

In the era of digitalization, organizations across various industries face the compelling need to undergo transformative changes to stay competitive and meet the evolving needs of their customers. According to Batat (2019), three key factors drive digital transformation: technological drivers, demographic drivers, and socioeconomic drivers. These drivers collectively shape the businesses' landscape and provide insights into the forces propelling digital transformation.

Technological drivers – With the increasing use of social and mobile technologies, consumers have become more informed and proficient in using various digital platforms. They share their experiences and viewpoints and use these platforms to promote their products and services. As a result, businesses must adapt their strategies to make the most of this digital landscape, taking advantage of mobile and internet usage, connected devices, data, the cloud, and user interfaces.

Demographic drivers – Ensuring technology access for all is driven by demographics, including vulnerable individuals with disabilities. As urbanization and technology spread globally, diverse populations are

being integrated into the digital world, enabling businesses to expand their consumer base with a broader range of people. To foster inclusivity and expand reach, digital companies must recognize and cater to the needs of different demographics in an interconnected world.

Socioeconomic drivers – Individuals belonging to the millennial and post-millennial generations have become a significant part of a global digital culture. Their proficiency in digital technologies allows them to enhance their experiences in both consumption and social activities.

This aptitude for navigating the digital realm enables them to enrich their lifestyles and foster stronger connections with others.

Phygital Experience

Research has proven that digitalization and online shopping experiences offer convenience for fast retail products. However, consumers still prefer to visit physical stores and experience digitalization in person instead of relying on online browsing because, as mentioned earlier, experiential retail space offers a tangible and immersive experience that complements the convenience of online browsing, providing consumers with a well-rounded and satisfying experiential experience. This is where the concept of phygital customer experience comes in, and the goal is to bridge the gap between the physical and digital realms to create a seamless and integrated shopping journey for customers.

Phygital combines “physical” and “digital,” representing society's ongoing digitization, particularly in business and commerce (Castelli (2016). To cater to the needs of increasingly connected, mobile, and discerning consumers, e-commerce stores have been compelled to reinvent themselves.

This concept challenges companies to reconsider the interconnectedness between the real and virtual worlds, aligning with consumers' evolving expectations. Castelli (2016) suggests that the resulting consumption experiences blend the characteristics of both physical and digital realms. Regardless, tech-savvy consumers who expect seamless multi-channel experiences see the phygital experience as the ultimate solution to cater to their demands. It involves setting up integrated gateways between physical and digital channels, ensuring a consistent experiential journey for consumers as they transition between the two environments. The transformation of physical retail space now incorporates digital tools such as Augmented Reality and Virtual Reality that support customers, emphasizing the significance of a comprehensive and cohesive phygital approach.

Virtual and Augmented Reality Experience

The utilization of digital tool shapes unique distinctive interactions in the context of the phygital environment, influenced by socio-material characteristics. Digital contexts offer consumers a different realm when traditional constraints no longer apply.

- Geographical boundaries become irrelevant as digital platforms transcend physical limitations.
- Past events can be reactivated by accessing archived data.
- Virtual objects and elements allow for the realization of seemingly impossible aspirations.
- The high level of interactivity in digital contexts empowers consumers to participate in the co-creation of valuable and meaningful experiences actively.

Users can enjoy immersive experiences in digitally-created environments, ranging from realistic simulations to imaginative and fictional realms. This phygital experience engages users with sensory aspects, such as visual, auditory, and tactile elements, providing a multidimensional encounter. These technological advancements can revolutionize how consumers perceive physical retail environments and reshape the shopping experience by bridging the gap between the virtual and the real world.

In conclusion, the experiential retail experience is an invaluable guide for retailers and designers seeking to improve the physical store customer journey. It emphasizes the importance of adapting to changing consumer needs and keeping pace with the ever-evolving retail industry. This study enhances existing research on physical retail spaces by showcasing the significance of designing spaces that forge an emotional connection with customers, providing them with an immersive journey. Retailers and designers can create unique and visually appealing spaces that differentiate themselves from online competitors. The proposed typology for retail space seeks to seamlessly enhance the customer's experiential journey and foster an emotional connection with the brand. This will be achieved by incorporating sensorial experiences and interactive elements, such as augmented and virtual reality, based on theories and research from this chapter. These strategies enable physical stores to provide added value, becoming destinations where customers can engage with the brand deeper and make lasting impressions, particularly in a digital-dominated world.

2.5. Summary

The background literature research described in Chapter 2 provides the basis for informed and strategic implementation of modern car showroom design. Table 1 summarizes the key findings of the various sources cited in Chapter 2 and potential interior design implications.

The literature analysis also revealed several key topics from which several key design strategies emerge. These are summarized in Table 2. These findings, along with the take-aways from the precedent analysis (p. 35-38), form the guiding principles used to direct decision-making throughout the programming, planning, and design phases of the sustainable showroom design developed in this practicum.

Table 1: Summary

Topic	Analysis	Design Implications
2.1 CHALLENGES WITH EXISTING CAR DEALERSHIPS - Traditional car dealership settings - Large Ecological Footprint - Cost of Operation - People are seeking new buying experiences	- Car dealerships exist in North America to cater to the high demand for vehicle transportation and are located in industrial-zoned areas to avoid high taxation rates. However, they consume large amounts of waste energy, and the traditional brick-and-mortar dealership setting is unsustainable. - The “lean” dealership approach improves car dealership business models by reducing waste, understanding consumer demands, and implementing postponement and demand management strategies to increase sales, efficiency, and customer satisfaction. This concept leads to long-term success and staying ahead of competitors. - Car dealerships face pressure from omnichannel competitors like Autotrader and Carvana, which offer customers a platform to review and purchase vehicles online, reducing the need for physical showrooms. Digitization is also changing the buying experience, with greater price transparency and online transactions, which may make traditional brick-and-mortar dealerships less relevant if they do not keep up with the latest trends. - The automotive industry’s regulations restrict innovation and limit the adoption of new marketing typologies and space designs. Dealerships’ exponential growth requires large properties to build new facilities, resulting in high consumer costs and restraints on dealership programming and operations. Tesla’s different approach to selling directly to consumers and establishing showrooms in busy areas has allowed them to reach potential customers without needing new franchise dealerships. - Start-ups and e-commerce platforms are disrupting the retail auto industry in North America as consumers increasingly prefer to research and purchase cars online. Megatrends such as shifting economic power, population change, environmental shifts and pressures, technology, and changing values are shaping consumer behaviour, and innovative and disruptive companies can use these trends to execute change in their business models. - The traditional brick-and-mortar showrooms in the automotive industry face challenges from new competitors and disruptions in the ecosystem, leading to the need for dealerships to reconsider their layout and adapt to new megatrends through digitization and other e-commerce platforms. It is expected that high-tech companies will invest in improving dealership business models, which can help sustain declining dealership profits while accommodating new trends and reducing operating costs.	- In order to reduce the large environmental impact of traditional car dealerships, the industry needs to reconstruct its operations, identify and eliminate waste, and use strategic locations with existing buildings to reduce the need for large brick-and-mortar establishments. Toyota’s lean approach can be a model for this. From an interior design perspective, the goal is to reuse existing materials, use environmentally friendly materials, and create a healthy environment. Changes in programming and space layout will be made to meet consumer needs and incorporate new trends such as virtual and augmented reality and digitization. - The proposed dealership should re-imagine the traditional settings found in existing large dealerships and integrate new trends, including digitization and virtual dealerships. It should establish a versatile layout and collaborate with local businesses to provide services such as auto repairs and outsourcing parts for customers.
2.3 EXPERIENTIAL RETAIL - The Role of Physical Retail Space within Omnichannel - Emotion and Memorability - The Role of Technology in the Physical Showroom	- The physical retail space remains significant in the automotive industry despite the rise of e-commerce, as it provides a more immersive and gratifying shopping experience. By strategically incorporating external, interior, decoration, and human variables, car dealerships can create an experiential retail environment that effectively communicates the brand’s identity, engages customers emotionally, and minimizes the ecological footprint. - The physical retail space is essential in creating an exceptional customer experience journey for slow retail. By incorporating brand storytelling, fluid and adaptable spaces, digital zones for enhanced interactions, and community-centered environments, retailers can design immersive and engaging experiences that lead to increased customer satisfaction, loyalty, and a positive brand reputation. - The automotive industry integrates technology in showrooms to create immersive retail experiences through interactive screens, mobile apps, and virtual reality, bridging the gap between physical and digital realms. This “phygital” approach meets customer expectations, enhances sensory experiences, and transforms the perception of retail environments.	- The proposed dealership model is to incorporate retail experience journey. Customer experience design should consider socio-cultural and other factors at different levels - macro, meso, and micro. - The use of advanced technologies, such as immersive interactive displays and virtual/augmented reality, is crucial in achieving a highly immersive and memorable shopping experience. By utilizing these technologies, customers can engage in various activities offered by the retail space in innovative ways.

Table 1: Summary (continued)

Topic	Analysis	Design Implications
2.3 BRAND LOYALTY: EMOTION AND MEMORABILITY	- From a marketing and design perspective, it is essential to go beyond functionality and incorporate emotional elements in retail space design. Experiential retail spaces prioritize subjectivity, intangibility, and symbolism, creating competitive advantages through impactful experiences and emotional connections with consumers (Batat, 2019, p. 52). - The Euromonitor International Voice of the Consumer: Lifestyle Survey 2022 reveals that 74% of millennials prioritize experiential engagement (Euromonitor International, 2022). To meet these demands, physical retail spaces should utilize sensory appeal and technology to deliver value-added experiences. Abercrombie & Fitch exemplifies a successful immersive experience by engaging all senses through visual aesthetics, music, touch, and scent, resulting in a lasting impression on consumers. - By creating a fully immersive environment, brands can leave a memorable impact on customers and foster emotional connections, leading to long-term loyalty.	- Develop a compelling narrative or theme that resonates with the automotive brand to evoke emotions and create a memorable experience. - Engage visitor's senses to create an emotional connection. - Provide interactive displays. - Offer a personalized experience that caters to individual customer preferences. - Provide memorable takeaways that connect visitors with the showroom experience.
2.4 THE ROLE OF TECHNOLOGY IN THE PHYSICAL SHOWROOM	- The automotive industry has responded to the challenges of digital transformation and changing consumer behaviors by creating immersive and experiential retail experiences. This involves incorporating advanced technologies such as interactive digital screens, mobile applications, and virtual reality (VR) in physical settings. - Digital transformation is driven by technological, demographic, and socioeconomic factors, shaping businesses' landscape and driving change. The concept of phygital experience combines the physical and digital realms to provide a seamless and integrated shopping journey. - Virtual and augmented reality technologies enhance the phygital experience by offering immersive and interactive encounters for users, bridging the gap between the virtual and real worlds. - Retailers and designers can benefit from understanding the importance of emotional connections, omnichannel integration, and customer engagement to create compelling and aesthetically pleasing environments that differentiate them from online competitors.	- Provide the visitors the opportunity to test interactive digital displays. - Implement Virtual Reality (VR) and Augmented Reality (AR) experiences. - Integration of Test Drive Simulators. - Implementation of Smart Lounge Area.

Table 2: Key Concepts

TOPIC FROM LITERATURE REVIEW	THEORISTS	KEY CONCEPTS
Challenges with Existing Car Dealership	Graeme P. Maxton John Wormald Lafontaine & Morton	Based on the ideas established by the theorists mentioned, the aim should be to revolutionize the car dealership experience by addressing existing dealership design challenges and their environmental impact. Commencing with a thorough understanding of its ecological footprints, the strategy advocates for sustainable design and programming, adaptability, minimizing carbon footprints, and ongoing improvements. The goal is to position the entire dealership system as pioneers in alternative sustainable practices within the automotive industry.
Experiential Marketing	Wided Batat Stefan Hoffman	In response to evolving retail landscape, highlight the significance of physical retail space in the automotive industry and enhance the customer experience through design principles suggested by Bata and Hoffman's research. The design principles include leveraging strategic combinations of interior design, digital, and human variables components (e.g. tactility); consequently, the goal should be to create an experiential retail environment within the showroom. Embracing the concept of "slow retail," Batat's studies advocates for the incorporation of brand storytelling, adaptable spatial design, digital zones for interactive experiences, and community-driven elements, which are critical in cultivating the experiential element within the showroom.
The Role of Physical Retail Space within Omnichannel System	Levy, Weitz & Grewal Lafontaine & Morton	Optimize the role of the physical space within an omnichannel system. By re-imagining the showroom layout with a customer-centric approach, an integration of interactive product display zones and digital touchpoints facilitate a seamless transition between online and offline experiences. Incorporate a flexible layout that will accommodate events and workshops,

Table 2: Key Concepts (continued)

TOPIC FROM LITERATURE REVIEW	THEORISTS	KEY CONCEPTS
		intended to provide diverse opportunities for community interaction. Offer customers an immersive experience via a virtual showroom. Per the studies by Levy, Weitz and Grewal, data-driven optimization refines the showroom layout, making it an adaptive and dynamic space that complements the dealership's overarching omnichannel strategy.
Changing Consumer Behaviour	Stefan Hoffman, & Akbar <i>Euromonitor Data</i>	Creating a consumer-centric design for the automotive showroom draws inspiration from Stefan Hoffman's influential theories on consumer behaviour, particularly the Megatrends such as shifting economic power, population change, environmental shifts and pressures, technology and changing values. These megatrends are important in shaping the decision-making process within the showroom. The design should have a strong emphasis on experiential and personalized customer journey to adapt to the changing landscape of consumer behaviour in today's market.
The Role of Technology in the Physical Showroom	Wided Batat Castelli	Wided Batat and Castello highlight the importance of technology in the physical showroom through a comprehensive approach known as "phygital," which integrates both physical and digital experiences. This approach offers consumers a tangible and immersive encounter that complements the convenience of online browsing, ensuring a well-rounded experiential journey. The physical retail space should be equipped with advanced technology such as interactive sensory experience, augmented and virtual reality and driving simulator.

Table 2: Key Concepts (continued)

TOPIC FROM LITERATURE REVIEW	THEORISTS	KEY CONCEPTS
Emotion and Memorability	Wided Batat Alexander & Blazquez	In the realm of automotive retail space design, retailers and designers stand to gain by recognizing the significance of forging emotional connections, integrating omnichannel experiences, and fostering customer engagement. Moving beyond mere functionality, it becomes imperative, from both marketing and design perspectives, to infuse emotional elements into the retail environment. Emphasizing subjectivity, intangibility, and symbolism, experiential automotive retail spaces aim to differentiate themselves from online competitors. This approach, highlighted by Batat (2019, p. 52), prioritizes the creation of competitive advantages through impactful experiences and establishing emotional connections with consumers.

CHAPTER 3.0: PRECEDENTS

Analyzing different built projects relevant to the practicum project can provide valuable insights and support design choices. This requires a thorough examination and contemplation of design components, structure, approaches, and how they can be relevant or connected to the design of the automotive retail space.



Fig. 9. Pat Lobb Toyota Showroom (n.d). Retrieved March 03, 2021, from <https://www.mnkhan.com/mnkhan-architects-projects/lobb-alamo-rockwall-toyota-dealership/> Digitally edited & Redrawn by Author.



Fig. 10. Pat Lobb Toyota (n.d). Retrieved March 03, 2021, from <https://www.mnkhan.com/mnkhan-architects-projects/lobb-alamo-rockwall-toyota-dealership/>. Digitally edited & Redrawn by Author.

- 3.1. Title of Project: Pat Lobb Toyota
Location: McKinney, Texas
Typology: Car Dealership

Toyota car dealership in North America goes above and beyond to exceed customers' expectations, while at the same time reducing its environmental footprint. Pat Lobb Toyota in McKinney, Texas, is the first automotive car dealership to achieve a Gold Certification in the Leadership in Energy and Environmental Design (LEED®), a green building rating system. The LEED certification verifies a building's ability to achieve environmental health and high performance in areas that are frequently occupied.

Twenty-eight percent of the materials used in Patt Lobb Toyota's construction had recycled content, and 97% of all construction waste was diverted from landfills. The company focused on HVAC systems, energy conservation and water use by implementing new technologies throughout the facility. They believed it would reduce the building's energy consumption by 37% compared to a conventional car dealership size.

Meticulous planning and a vast amount of time were spent researching to build the first LEED-certified car dealership in America. The orientation of the building was set to take advantage of Texas' seasonal climate. New advanced technology, such as Energy Management System (EMS), controlled and monitored HVAC system, incorporating low-flow water fixtures and implementing energy-efficient LED lamps was proven to enhance the interior's condition was incorporated with high considerations for the health and safety of its occupants.

Takeaways:

- Prioritizing sustainability and energy efficiency in design and construction, implementing measures such as programmable HVAC systems, efficient plumbing system, incorporating recyclable materials, and low-flow water fixtures.
- Focus on reducing energy consumption and costs by utilizing energy management systems, high-performance building envelop criteria and energy-efficient lighting.

3.2. Title of Project: Tesla Showroom

Location: Los Angeles, California

Typology: Car Dealership

Architect/Designer: Cass Calder Smith Architecture/Interiors

This Tesla dealership is designed as a commercial space that includes showrooms, gallery space, a lounge space, a few spots for a service bay and an outdoor garage for detailing space. The overall dealership size is 6000



Fig. 11. Tesla Showroom. Cass Calder Smith Architecture + Interiors (Photographer Eric Laignel) (n.d). Retrieved from: <https://archello.com/en/project/tesla-store>.

square feet; approximately 2000 square feet is dedicated to the showroom space and 4000 square feet to the service and lounge area (Tesla showroom: Retail: Cass Calder Smith). The space layout approach is very straightforward, where an individual can easily navigate. The showroom setup is similar to Westfield mall, where products are categorized and spread throughout the space. However, this Tesla dealership differs from Westfield mall and others because it has an in-house service area and detailing space. It has allotted four service bays connected visually to the showroom and exterior environments. The design intends to make the service process transparent for the clients, guests, and people passing by the area (Tesla showroom: Retail: Cass Calder Smith). CCS Architecture and Interiors took inspiration from Tesla's vision of efficiency, performance, and transparency with the design intent for the space. The materials used in the space were natural materials such as metal, concrete, and exposed timber, giving the space more rawness and contrasting the sleek modern look of the Tesla vehicle while accounting for durability and aesthetically pleasing space.



Fig. 12. Tesla Lounge Space. Cass Calder Smith Architecture + Interiors (Photographer Eric Laignel) (n.d). Retrieved from: <https://archello.com/en/project/tesla-store>.

All the materials used in the space also correspond to Tesla's goal of sustainability and efficiency, including fly-ash concrete, low VOC paints and finishes, FSC-certified wood, highly insulated e-glass, waterless urinals, cool roof systems, photovoltaic and solar water panels, and low wattage lighting (Laignel). The space design emphasizes Tesla's core values from its business model, products, and operations. Overall, the interior design is entirely different from a traditional dealership aesthetic. Different lighting temperature was set to create a mood in the space, making the displays more centre-focused, dramatic, and sophisticated. In contrast to the traditional dealership, the space feels brighter all the time due to extensive glazing and over-lit ceiling lighting, making the space more commercial. Furthermore, the space is designed toward a user-oriented approach, which makes the users feel welcomed and not intimidated by the sales associate. In this space, people can take their time to look around and entertain themselves, either while waiting for their vehicle to be serviced, getting advice from one of the Tesla representatives or just window shopping.

Takeaways:

- Creating a space that incorporates a commercial space with showrooms, gallery space, and lounge space.
- A space designed that is user-oriented space, making users feel welcomed and immersive experience.
- Using different lighting temperatures and technique to create a mood in the space, making the displays more center-focused, dramatic and sophisticated.
- Straightforward space layout and easy to navigate

3.3 Title of Project: Audi City
Typology: Car Showroom
Location: Berlin, Germany

The Audi City dealership is considered one of the best virtual dealerships because it provides customers with a personalized and immersive experience. The dealership uses digital technology to showcase Audi's entire product range in a compact urban space. Customers can use interactive touchscreens and configure their dream cars in real-time, choosing everything from the exterior color to the interior features. The dealership also offers customers a virtual reality experience, where they can explore the car's features and functions in a 3D environment.

The Audi City dealership's interior design offers a high-tech and futuristic environment that engages and immerses customers in the brand experience. The dealership features an impressive 32-foot digital power wall,



Fig. 13. Audi City - Berlin Germany. Automotive News (2014). Retrieved from: <https://www.autonews.com/article/20140511/RETAIL07/305129998/audi-makes-london-showroom-a-tech-rich-showpiece-for-the-brand>.

Digitally edited & Redrawn by Author.

which displays high-resolution images and videos of Audi vehicles, creating an immersive and interactive experience for customers. The showroom also features an array of interactive digital screens, allowing customers to customize and personalize their vehicle configurations and explore various options and features. The dealership's minimalist and sleek design aesthetic further accentuates the high-tech, futuristic feel and the elegance of the Audi brand.

Takeaways:

- Customer experience: The Audi dealership provides an immersive customer experience that engages all five senses, providing a unique experience for the customer.
- Efficient use of space: Audi City optimizes its space by using a multi-level approach that enables them to showcase a large number of vehicles in a compact space, maximizing the use of the available square footage.
- Interactive technology: The dealership uses interactive technology to allow customers to customize and configure their vehicles in real-time, providing a unique and personalized experience.

3.4 Title of Project: Future City Lab Exhibition

Location: New York, New York

The Future City Lab was included in the permanent exhibit of the Museum of the City of New York because it was designed with a focus on engaging and interacting with the audience, using various elements in the exhibit. The exhibition utilizes interactive kiosks, sensors, and screens to present visitors with information about the five key challenges and

contemporary case studies that New York is currently facing in the 21st century. The exhibit also includes interactive tables that are organized thematically to address New York's future challenges such as Urban Transportation.

The exhibit's interactive features comprise basic projections and touch-responsive interfaces that incorporate drag-and-drop tools and entertaining graphics. By utilizing such tools and graphics, the exhibit manages to immediately captivate the museum visitors and provide a more impactful visual experience, instead of presenting them with mundane statistics and information.

Takeaways:

- Encourage the guests to create and develop a personal connection with the experience.
- Ensure all interactive experience and display design elements account for accessibility.
- Provide a strong understanding regarding the integration of interactive, digital kiosks in an environment for visitors to create and allow to generate moments in the car buying experience process.
- Creating a curated individual experience in a smaller-scale operation.
- Incorporation of new technologies into their exhibition space, such as Virtual Reality.



Fig. 14. Future City Lab, Active Participation Sensor Screen (n.d). Retrieved from: <https://www.mcny.org/story/earth-day-2018>. Digitally edited & Redrawn by Author.



Fig. 15. Future City Lab. (Photographer Eric Laignel) (n.d). Retrieved from: <https://untappedcities.com/2017/04/13/inside-the-future-city-lab-at-the-museum-of-the-city-of-new-york-exhibit-new-york-at-its-core/>. Digitally edited & Redrawn by Author.

CHAPTER 4.0: FUNCTIONAL PROGRAMMING ANALYSIS

A functional program is crucial in determining the objectives and requirements of a project to ensure its success. It involves evaluating the client's needs, contextual factors, user demographics, and spatial relationships. By analyzing these elements, the program ensures that the design stays aligned with the project's original goals.

4.1 Client Description

The practicum client is the owner of a local Toyota dealership seeking to establish a smaller-scale presence, strategically positioning themselves to contend with emerging disruptive trends in the automotive industry. Their vision involves introducing an innovative dealership concept that aligns with evolving consumer behavior and integrates seamlessly with a novel e-commerce venture. The client's preference is to utilize an existing facility or building, incorporating adaptive reuse principles to reduce environmental impact and optimize cost efficiency.

4.2 Project Objectives

The project objectives are to design an automotive retail space that operates on a smaller scale than traditional dealerships while bridging the gap between brick-and-mortar and e-commerce shopping. Additionally, the objective is to provide consumers with a full car shopping experience by integrating digitization and fully immersive interactive experiences within the space.

4.3 Project Type

The automotive retail space will cater to the latest trends in car showrooms by providing a unique retail experience where customers can comfortably browse without feeling pressured by sales associates. In addition to serving as a lounge area, the space will also function as a gathering place for car enthusiasts. It will incorporate cutting-edge technologies such as virtual and augmented reality to enable virtual test drives, customizable vehicle specifications, and interchangeable environmental scenarios that demonstrate the vehicle's versatile capabilities. To create a more pleasant and healthier environment for both customers and employees, the space will feature biophilic design elements such as access to natural light, greenery, and natural materials.

4.4 Logistics of Facility

Site Location

155A Fort Street, Winnipeg MB, Canada R3C 1C8

Hours of Operation

Monday - Friday: 7am - 9pm

Saturday - Sunday: 11am - 11pm

Maximum guest seating capacity: Refer to Appendix A

Total employees: 3-10 people

Total number of employees working on site: 4-5 people

Total Circulation Space: (First Floor) 10,009 SF, (Rooftop) 2760 SF

Total Floor Area: 12,769 SF

For building code and regulation analysis, refer to Appendix A.



SITE ANALYSIS: EXTERIOR VIEW

Fig. 16. 155 Fort Street Exterior View [Photographs by Author]

4.5.1. Site Analysis - Site Selection Criteria

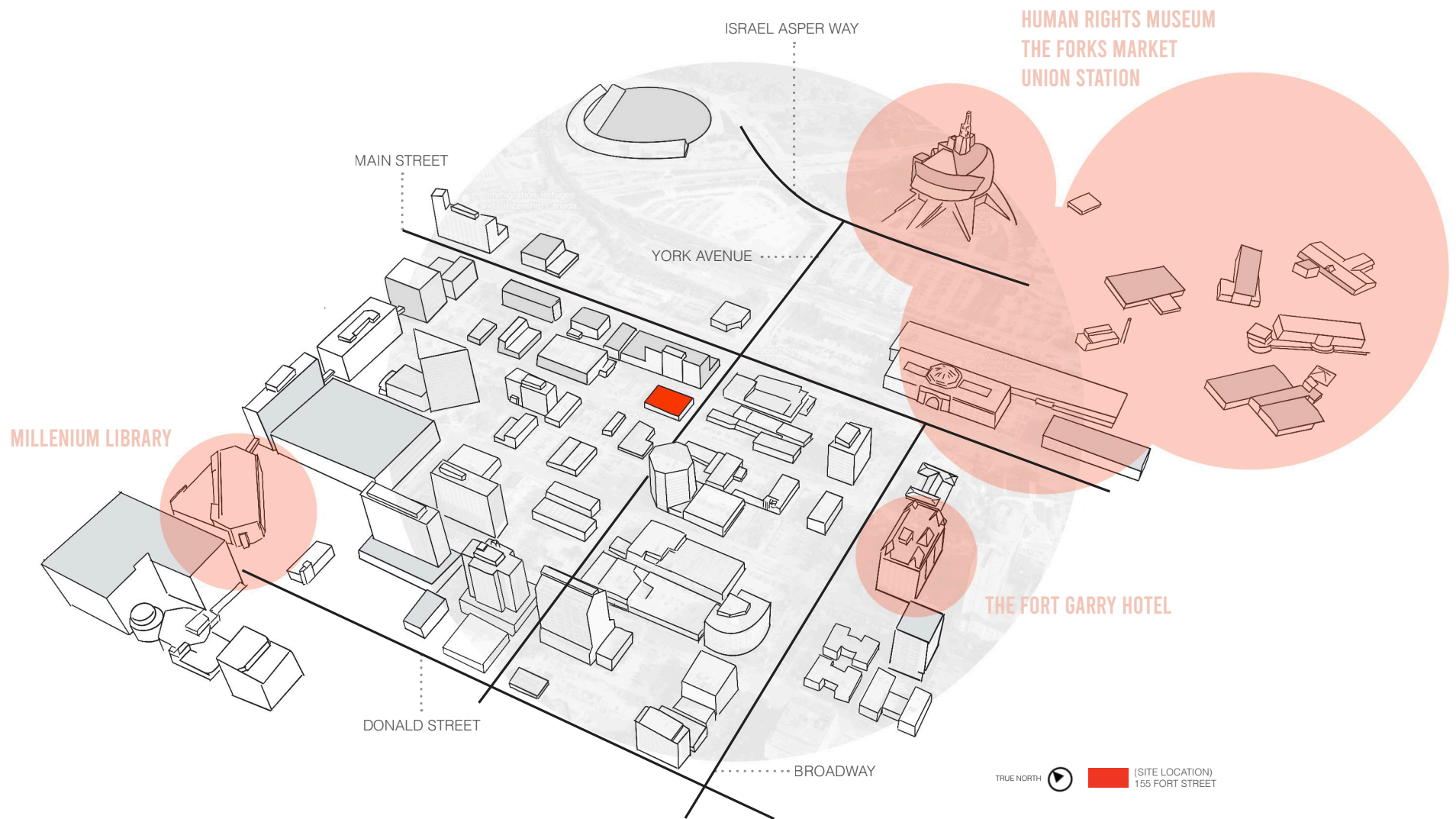
The location of the car showroom will be an adaptive reuse of 155-A Fort Street in Winnipeg, Manitoba's heart of the downtown location. The site selection for the new car showroom was based on several key factors, including its historical significance, size, and potential for adaptive reuse. The site offers a unique opportunity to combine modern design with historic qualities, creating a unique space. Additionally, the location of the site, situated at the intersection of Fort Street and York Avenue in the heart of downtown, offers exceptional accessibility and visibility. This highly visible location will allow the new car showroom to serve as a landmark destination, drawing in customers across the region. The site offers tremendous potential for a successful and enduring business with its historic charm, versatile space, and prime location.

Site Selection Criteria Key Factors:

1. Provision of suitable fire protection
2. Adequate delivery space and ease of access for full-size delivery vehicles
3. Inclusion optimized routes for electrical and data cabling
4. Appropriate on-site and off-site storage space
5. Optimal daylighting and views
6. Accessibility
7. Availability for optimal internal circulation
8. Adaptive reuse opportunities and structural envelope
9. Prominent Urban location

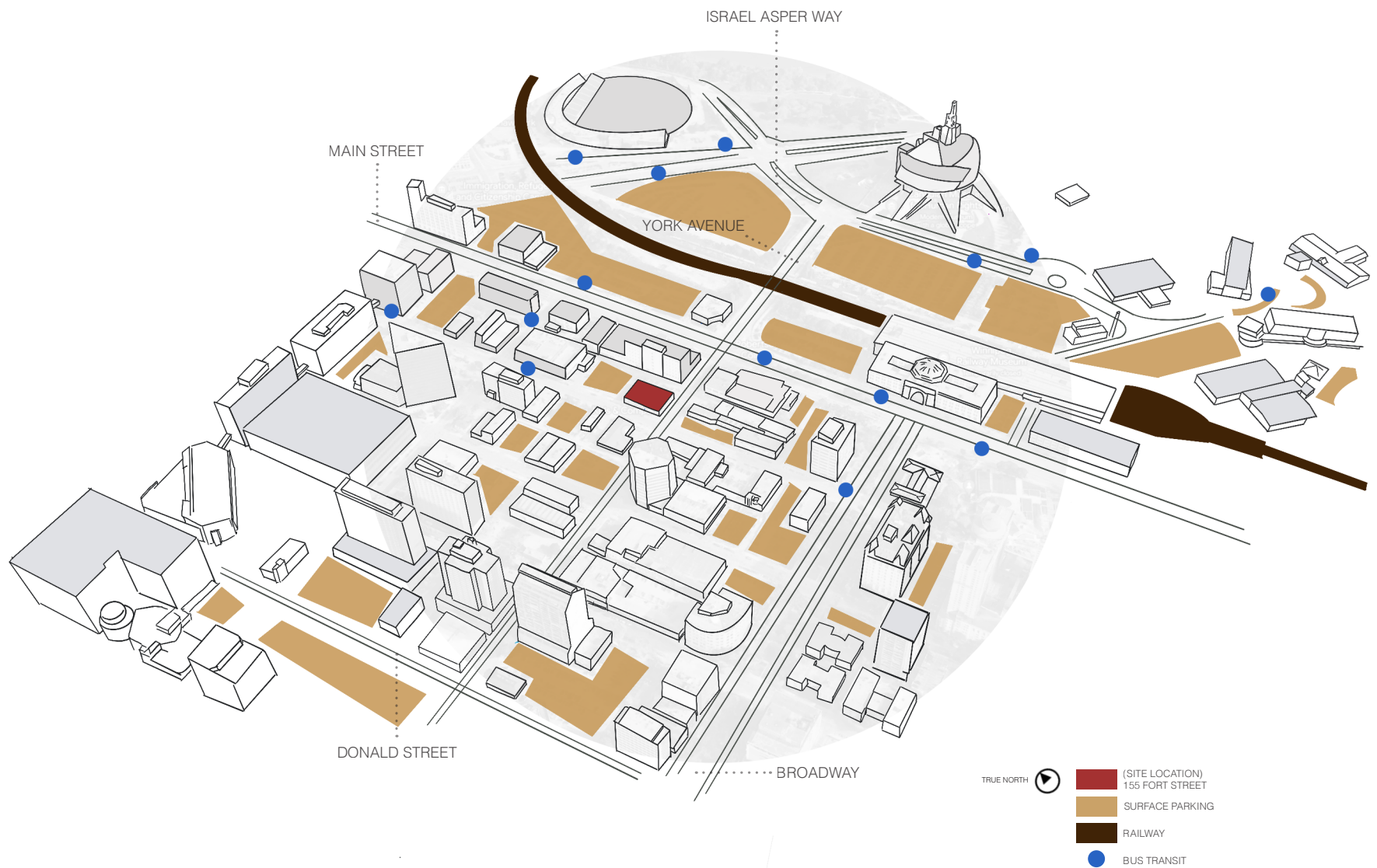


Fig. 17. Site Existing Condition
[Photographs by Author]

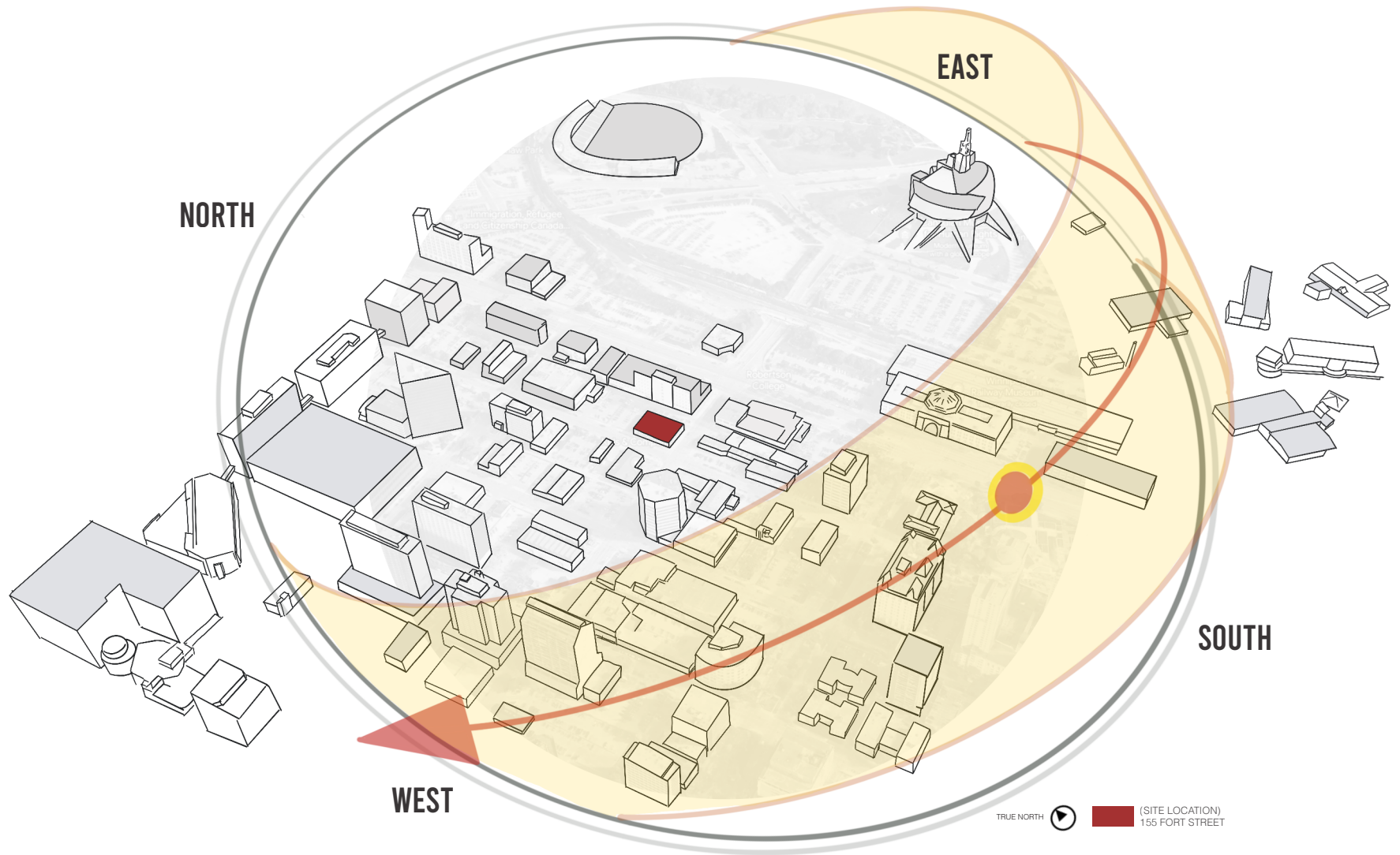


SITE CONTEXT: LANDMARKS DIAGRAM

Fig. 18. Landmarks Diagram

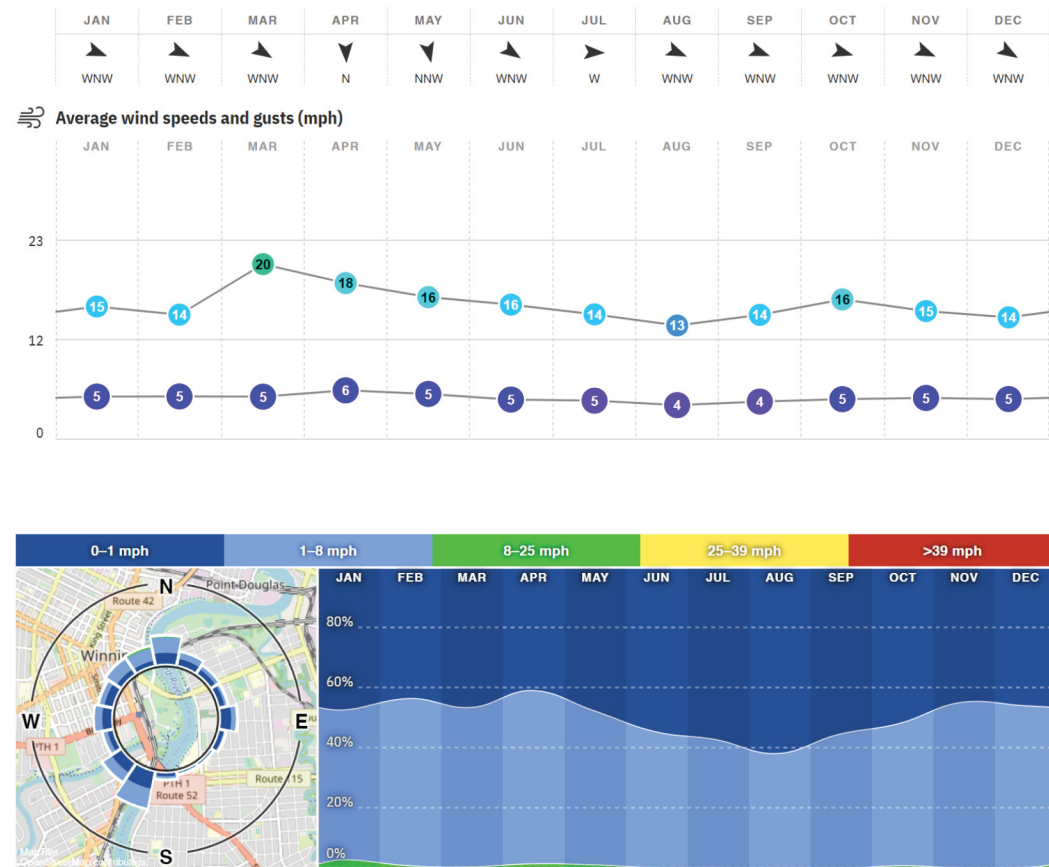


SITE CONTEXT: PATHS AND EDGES
Fig. 19. Site Context: Paths and Edges



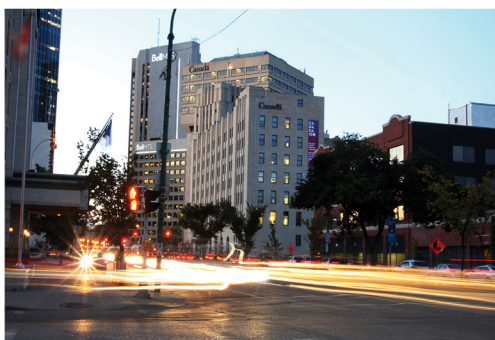
SITE CONTEXT: SUN PATH DIAGRAM
 Fig. 20. Site Context: Sun Path diagram

Studying wind direction is crucial for designing a rooftop event space as it directly impacts the comfort and safety of the users of the space. The direction of the wind can affect the temperature, air quality, and noise level of the space. Understanding the wind patterns can help determine the ideal location for seating, the placement of equipment and decor, and the need for windbreaks or other features to mitigate wind effects. By considering wind direction, a well-designed rooftop event space can offer a comfortable and enjoyable experience for guests.



SITE CONTEXT: WIND DIRECTION AND SPEED

Fig. 21. Site Context: Wind Direction and Speed



SITE CONTEXT: MATERIAL AND COLOUR INSPIRATION

Fig. 22. Site Context: Material and Colour Inspiration [Photographs by Author]

4.6. USER REQUIREMENTS

Table 3: Primary User Requirements

PRIMARY USERS	AGE	ACTIVITY (FREQUENT)	ACTIVITY (INTERMITTENT)	PSYCHOLOGICAL NEEDS	SPATIAL NEEDS
Product Specialist	18-40	- Greeting and interacting with customers as they enter the showroom or gallery. - Assessing customer needs and recommending tailored vehicle specifications based on their driving habits, budget and desired features. - Keeping the showroom and gallery space clean and organized.	- Keeping up-to-date with the latest product information and updates, as well as changes to government incentives and regulations related to EVs - Building customer relationships and following up with them after they visit the showroom. - Participating in team meetings and training sessions to stay informed about new products, services, and sales techniques. - Participating in community events and activities to promote Tesla's products and brand.	- A comfortable and functional workspace - Access to necessary resources, personal protective equipment, such as masks or gloves, if necessary for the safety.	- Clearance for movement and traffic flow - Ability to interact with all the users of the space. - Open sightlines to guests who are entering.
Front of the House (FOH Employees) - Barista - Bartender - Host/Server	18-50	- Operating and maintaining coffee-making equipment, such as espresso machines, grinders, and brewers. - Prepare and serve drinks, including cocktails, beer, wine, and spirits and check identification to verify age requirements for alcohol service. - Taking orders and serving food and drinks in a timely and professional manner. - Maintaining a clean and organized workspace, including cleaning equipment, restocking supplies, and disposing of waste.	- Continuously updating knowledge on new products, preparation methods, and drink recipes. - Training on local laws and regulations regarding alcohol services - Receiving of produce and food supply. - Weekly inventory counts - Staying up to date on menu changes, promotions, and other information that may impact customer experience	A well-designed and well-equipped workspace enables front-of-house professionals to perform their tasks efficiently. This includes ergonomic considerations, functional equipment, and a layout that supports smooth work flow and customer interactions.	- Access to communication tools, such as a phone, intercom, or walkie-talkie, to stay in touch with coworkers and manage guest requests. - A secure and organized coat check or storage area - Adequate lighting, climate control, and seating to ensure the comfort of both staff and guests. - Access to a first aid kit and any necessary emergency response equipment, such as a defibrillator.
Technical Support Specialist	18-40	- Respond to customer inquiries via, phone, email or chat regarding technical issues with products or services and explain technical solutions to customers clearly and concisely. Troubleshoot and diagnose technical problems using available resources and tools - In charge of setting up the virtual test drive and Augmented reality - Cleaning and organization of the virtual reality showroom and equipment.	- Communicate with other engineers and designers/developers to be informed of the latest market technology to solve complex problems that may arise. - Provide feedback to the development team on product usability and customer experience. - Maintain a high level of technical knowledge by participating in ongoing training and development programs.	- Collaborative environment - Access to Resources: Having easy access to resources such as technical documentation, troubleshooting guides, software tools, and equipment is vital for Technical Support specialists. They need a well-organized workspace that provides quick and efficient access to the necessary resources to assist customers effectively.	- Dedicated workspace or area that is equipped with the necessary technology and equipment to diagnose and resolve technical issues, such as a help desk or a service counter - A secure and organized storage area for any replacement parts or replace faulty equipment. - Access to diagnostic tools and software to troubleshoot problems with computer hardware, software, or other technical equipment

Table 4: Secondary User Requirements

SECONDARY USERS	AGE	ACTIVITY (FREQUENT)	ACTIVITY (INTERMITTENT)	PSYCHOLOGICAL NEEDS	SPATIAL NEEDS
Service Maintenance	18-40	- Conducting equipment repairs - Conducting repairs and check-ups on building systems	Maintaining open and transparent communication with the maintenance office and the dealership.	- A workspace that has enough physical space to accommodate the equipment, tools, and materials required for maintenance tasks. - A well-organized layout is essential to ensure that tools and equipment are easily accessible. - Sufficient lighting is crucial in a service maintenance workspace to enable technicians to perform detailed inspections and repairs.	- Access to the building's electrical, plumbing, and mechanical systems to perform repairs and maintenance as needed. - Access to tools and equipment to perform routine maintenance and repairs, such as power tools, ladders, and cleaning supplies
In-house software developer and programmer	25-40	- Developing software algorithms and applications for in-car systems. - Debugging and fixing software bugs and errors on vehicles, including hybrid and all-electric. - Collaborating with other teams, including hardware engineers and product managers, to ensure software systems meet requirements and specifications.	- Providing technical support to other teams and stakeholders - Conducting research and staying up-to-date on advancements in automotive software technology. - Writing and maintaining code for software systems.	- Ergonomic considerations - Secure Data storage - Collaborative spaces	- A dedicated workspace or office that is free from distractions and interruptions, allowing them to focus on complex software development tasks. - A collaboration space or meeting room for brainstorming and collaborating with software engineers, product managers, and other stakeholders.

Table 5: Tertiary User Requirements

TERTIARY USERS	AGE	ACTIVITY (FREQUENT)	ACTIVITY (INTERMITTENT)	PSYCHOLOGICAL NEEDS	SPATIAL NEEDS
Delivery Personnel	18-40	- Coordinating and scheduling vehicle deliveries to customers - Ensuring proper handling and transportation of vehicles - Inspecting and documenting the condition of vehicles prior to delivery	Coordinating and communicating with the shipping and delivery head office.	- A well-organized storage system within their delivery vehicles - Safety equipment - Organization and Tools and Supplies	- A loading dock or staging area for sorting and organizing packages for delivery. - A comfortable, climate-controlled workspace in delivery vehicles, especially during extreme weather conditions.
Horticulturist	18-40	- Pruning and shaping plants to maintain their health and appearance - Conducting soil tests and analyzing plant nutrition needs. - Selecting, planting and maintaining indoor and outdoor plants, including shrubs, trees and flowers	- Planning and implementing a variety of horticultural projects and programs, such as landscaping and interior green wall - Keeping records of plant care, such as watering schedules, fertilization programs, and pest control measures	- Proper storage and organization are essential for a horticulturist's workspace. It should include shelves, cabinets, or storage units to store seeds, plant materials, tools, fertilizers, pesticides, and other supplies. - A horticulturist's workspace should be equipped with cleaning equipment for routine maintenance. This includes brooms, mops, buckets, and cleaning supplies to ensure a clean and organized workspace.	- Access to water resources, such as hoses or irrigation systems, to water plants as needed. - A secure location to store tools and equipment when not in use, such as locked shed or storage room. Access to personal protective equipment, such as gloves, hats, and safety glasses, if necessary for safety of staff or plants.

4.7. SPATIAL REQUIREMENTS

Table 6: Spatial Requirements

SPACE	FLOOR AREA	FIXTURES, FURNITURE, EQUIPMENT (FFE) CONSIDERATIONS	ATMOSPHERE	MATERIALS	USER ACTIVITY
Main Entrance/ Registration Area	700 sf	- Welcome Sign Board - Registration Booth - Equipments: Touchpad, Custom millwork/table	- All white - Welcoming - High-Tech - Immersive - No receptionist - Virtual Assistant	- Custom millwork/Solid Surface - Computer equipment - Gypsum wall painted white - Custom Sign board - Sheet vinyl - Recessed Walk-off mat - Security Cameras	- Guest: First point of contact, streamlines check-in process. - Guest: Area for creating profile and waiver signing before going inside the showroom.
Gallery Space	465 sf	- Display shelving and table - Large LED panel screen - Accent lighting - Wall wash lighting fixture - Storage	- Welcoming - Showcase vibrant colours and textures - Exciting - Appealing - Art-Gallery like	- Plastic laminate - Car interior materials: Fabric, Leather, Suede - Car body panels in variety of colour - Existing Brick - Painted gypsum wall board - Sheet Vinyl	Visitors can physically feel and touch the textures and materials of the exterior and interior components of the vehicle.
Interactive Experience Space (3)	(1) 371 sf, (1) 323 sf, (1) 349 sf	- Multi-digital display - Multi-sensor - Multiple LED panel screen - Surround sound system - Podium with integrated touchscreen display - Security cameras	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor	- Sealed concrete flooring - LED panel screen - Level 5 High Insulated Gypsum wall board - High NRC rating Acoustic ceiling tile - Plastic Laminate for podiums	- Designed to provide visitors with an immersive and interactive experience. - Guest can customize their desired vehicle specifications and see them on a 1:1 scale, with the ability to view the vehicle in various environments.
Loading/Receiving/ Storage (2)	158 sf ea.	- General Lighting - Industrial Grade Dolly Cart	- Clean and organized - Bright General Lighting	- Sealed Concrete Flooring - Painted Gypsum wall board - Wall protection	- Loading and unloading of deliveries - Sorting and organizing - Inspection and documentation - Maintenance and cleaning
Feature Wall	151 sf	- LED Screen 3D surround sound speakers	- Dimmed lighting - Immersive	- LED Screen 3D Surround sound speakers	- Gallery-like space where visitors can experience interactive and up-close look at every vehicle's most impressive features. - Visitors can witness Toyota's latest models and features
Community Wall	165 sf	- Conventional seating space - LED Screen panel - Carpet Flooring	- Biophilic Design - Immersive - Intimate - Natural/Raw Materials	- Wood - Carpet - Acoustic Ceiling Panel - LED Screen	Visitors can learn about our various community programs, view photos and videos of our outreach efforts, and even participate in hands-on activities that showcase the impact of our programs on the community.
Data/I.T. Room	135 sf	- LAN/Data Equipment - Work station - Ergonomic Chair - Computers	- Comfortable - Functional - Technology - Sustainable	- Carpet Floor finish - Acoustic Ceiling tile - Painted Gypsum Wall	- Providing technical support - Network Management - Data Management - Research Development
Utility Room	109 sf	- Mop Sink - Cleaning Supplies - Storage - Tools and Equipment	- Clean and organized - Bright General Lighting	- Sealed Concrete Flooring - Stainless Steel Wall protection	- Cleaning - Storage - Maintenance

Table 6: Spatial Requirements (continued)

SPACE	FLOOR AREA	FIXTURES, FURNITURE, EQUIPMENT (FFE) CONSIDERATIONS	ATMOSPHERE	MATERIALS	USER ACTIVITY
UTR (Universal Toilet Room) (3)	68 sf ea.	- Grab bars - Raised Toilet - Wide doorway - Lowered Sink - Flush buttons - Mirrors	- Privacy - Clean and comfortable - Safe	- Wall Tile - Porcelain sink - Durable Stainless Steel - Rubber and Silicone	- Personal hygiene needs - Washing hands - Changing clothes - Taking medication
Washroom	50 sf	- Grab bars - Raised Toilet - Wide doorway - Lowered Sink - Flush buttons - Mirrors	- Privacy - Clean and comfortable - Safe	- Wall Tile - Porcelain sink - Durable Stainless Steel - Rubber and Silicone	- Personal hygiene needs - Washing hands - Changing clothes - Taking medication
Cafe/Bar Area	280 sf	- Counter area - Cafe/Bar Equipment - Sounds system	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor - Relaxing	- Wall Tile - Plastic Laminate - Sealed Concrete Flooring	- Socializing - Preparing Beverages, ready-made food - Taking orders - Operating equipment - Maintaining Clean and Organize workspace - Inventory
Lounge Space	1100 sf	- Built custom seating - Built in touch pad	- Dimmed lighting - Mellow smooth background music - Relaxing and Comfortable - Less Distraction - Adjacent to Merchandise area	- Wood bench seating and soft cushion seating - Portable touch screen pad - Sealed concrete flooring	- Opportunity to relax and unwind while reviewing vehicle specifications and client's activities in the showroom. - Purchasing a vehicle - Purchasing merchandise
Admin Office	122 sf	- Desk and chairs - File cabinets - Computers - Ergonomic Chairs	- Comfortable - Functional - Technology - Sustainable	- Carpet Floor finish - Acoustic Ceiling tile - Painted Gypsum Wall	- Taking care of the visitors/guest - Scheduling appointments - Data entry and record-keeping - Bookkeeping and financial tasks - Operations of the facility and showroom
Virtual and Augmented Reality Space	831 sf	- Multi-digital display - Multi-sensor - Multiple LED panel screen - Surround sound system - Podium with integrated touchscreen display - Security cameras	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor	- Sealed concrete flooring - LED panel screen - Level 5 High Insulated Gypsum wall board - High NRC rating Acoustic ceiling tile - Plastic Laminate for podiums	- Designed to provide visitors with an immersive and interactive experience. - Guest can customize their desired vehicle specifications and see them on a 1:1 scale, with the ability to view the vehicle in various environments.
Coat/Locker Area	200 sf	- Lockers - Bench Seating	- Functional and Efficient - Personal Space - Welcoming and Inclusive - Professional and Business-like	- Metal Lockers - Wood Benching	- Storage and Organization - Retrieving and Returning Belongings - Socializing and Interaction
Merch Area	200 sf	- Shelving Units - Casework - Display Table - LED Screen - Mannequins	- Clean and Minimalist - Futuristic Aesthetic - Interactive Displays	- Laminate - Metal - Glass - Acrylic - Plastic	- Browsing and Exploration - Product Interaction - Decision Making - Transaction and Checkout

Table 6: Spatial Requirements (continued)

SPACE	FLOOR AREA	FIXTURES, FURNITURE, EQUIPMENT (FFE) CONSIDERATIONS	ATMOSPHERE	MATERIALS	USER ACTIVITY
Pantry/Storage	192 sf	- Cabinet millwork storage - Metal racking with adjustable shelving - Prep Table	- Organized and Efficient - Clean and Tidy - Functional and Practical	- Metal Racking - Safety Flooring - Wall protection panel	- Storage and Organization - Preparation and Assembly - Inventory management - Cleaning and Maintenance
Memory Lane	450 sf	- Display cases - Integrated LED wall display - Seating and rest area	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor	- Sealed concrete flooring - LED panel screen - Level 5 High Insulated Gypsum wall board - High NRC rating Acoustic ceiling tile - Plastic Laminate	- Interactive exhibits that allow visitors to engage with the displays - Explore memorabilia and artifacts related to automotive industry.
Interactive Experience	280 sf	- Interactive displays - Audiovisual Equipment - Lighting Ambiance - Power and Connectivity - Signage and wayfinding	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor	- Sealed concrete flooring - LED panel screen - Level 5 High Insulated Gypsum wall board - High NRC rating Acoustic ceiling tile - Plastic Laminate - Carpet Flooring	- Exploration and Discovery - Hands-On Interaction - Multimedia Engagement - Social Interactions - Emotional Sensorial Experience
Kinetic Experience	170 sf	- Interactive Displays - Multimedia Screens - Customization Elements - Sound Systems - Product information stands	- Immersive - Dimmed to highlight accent lighting and LED displays 3D surround sound experience - High-technology - Appealing to visitor	- Sealed concrete flooring - LED panel screen - Level 5 High Insulated Gypsum wall board - High NRC rating Acoustic ceiling tile - Plastic Laminate	- Interactive exhibits - Hands-on Demonstration - Brand Immersion - Customization and Configuration - Brand ambassadors Interaction
Outdoor Storage	110 sf	- Portable Tables and Chairs - Outdoor maintenance care	Clean and Organize	- Sealed concrete flooring - Exterior Brick	- Inventory space for events - Equipment maintenance
Portable Cafe/Bar (Rooftop)	124 sf	- Counter area - Cafe/Bar Equipment - Sounds system	- Clean - Functional - Heavy-Duty - Weather proof	- Stainless steel counter - Plastic Laminate	- Preparing Beverages, ready-made food - Cater guests needs during events and special occasions.
Event Space	5216 sf	Seating area	- Open - Multipurpose - Calm and Relaxing	- Tile Flooring - Railings	Multipurpose functional event space to cater different types of events and occasions.

4.8. Spatial Zoning Analysis

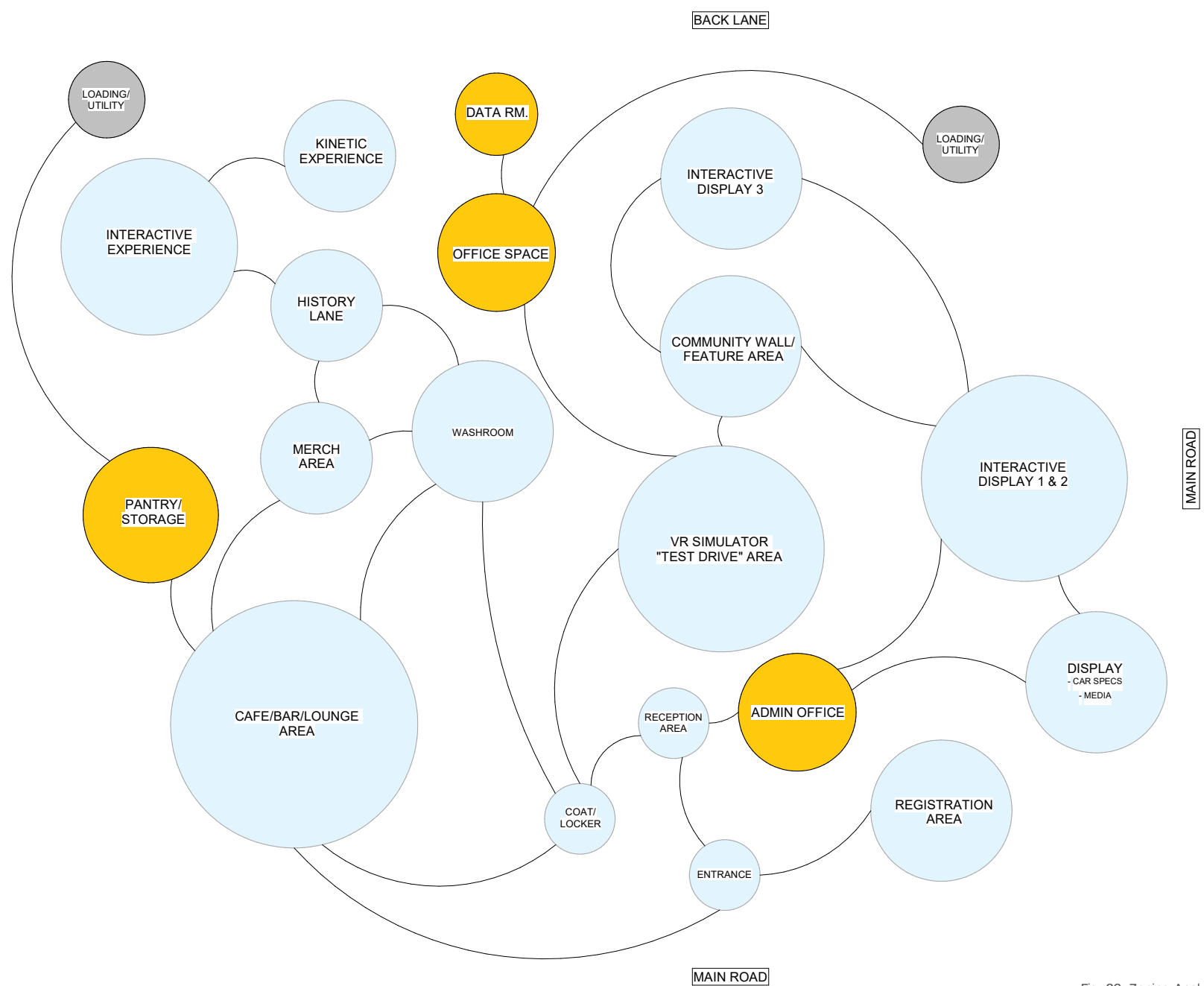


Fig. 23. Zoning Analysis - Main Floor

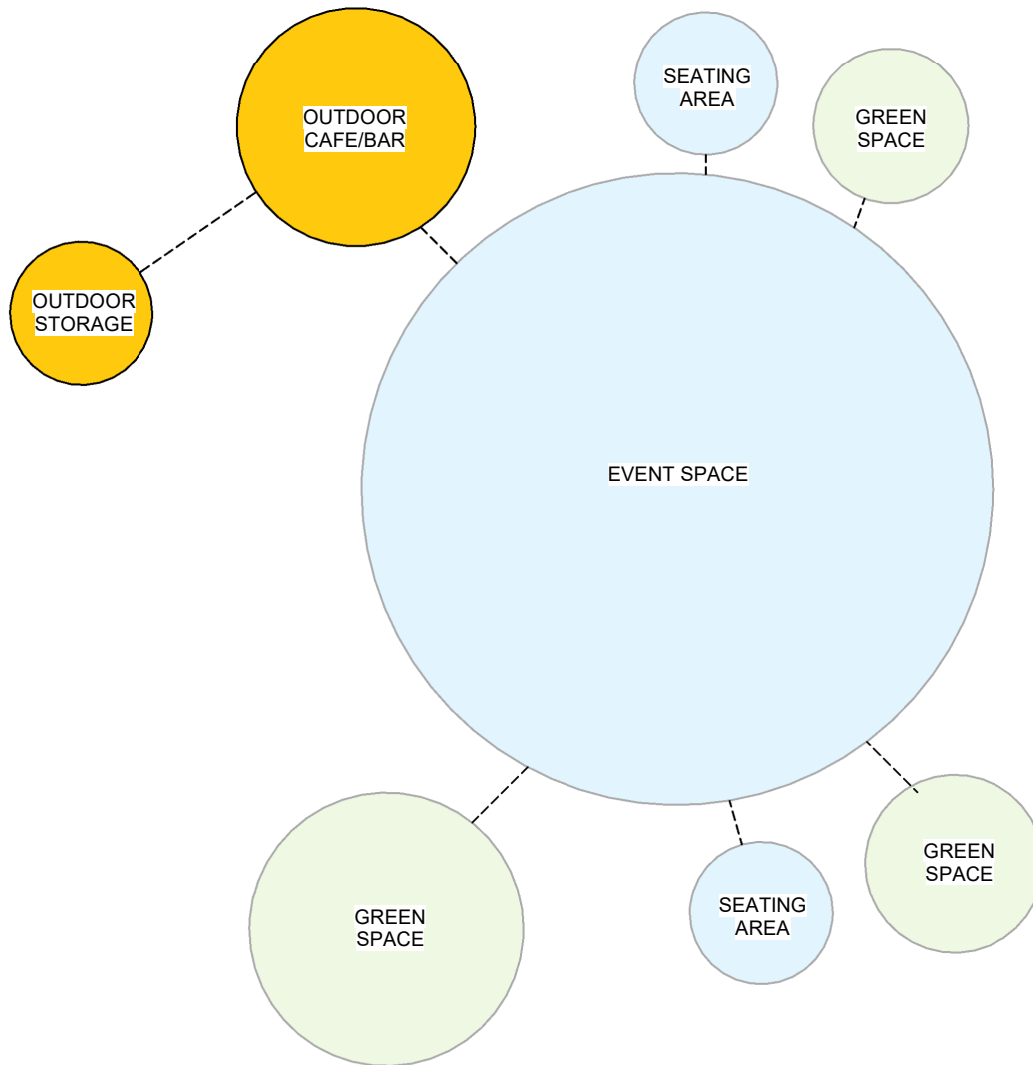


Fig. 24. Zoning Analysis - Rooftop

MAIN FLOOR

The main floor is consists of dedicated workspace, a retail space showcasing Toyota products, an immersive showroom designed to engage and captivate visitors with the latest offerings, and a gallery-like exhibit area narrating Toyota's history and roots. The goal is optimize the functionality of each space, providing a comprehensive and purposeful space planning that caters to the diverse needs and interests of users and guests.

ROOFTOP EVENT SPACE

The rooftop area is dedicated for various events, such as product and car reveals, corporate gatherings, social events, and wellness activities. The space also includes green space area and other elements to promote wellness.

4.9. Adjacency Matrix

	Vestibule	Reception Area	Main Entrance/Registration	Coat/Locker	Gallery Space	Interactive Experience Space	Loading/Receiving/Storage	Feature Wall	Community Wall	VR and AR Space	Data/I.T. Room	Utility Room	UTR (Universal Toilet Room)	Washroom	Washroom	Office 1	Office 2	Cafe/Bar Area	Lounge Space	Merch Area	History Lane	Interactive Experience	Kinetic Experience	Outdoor Storage	Portable Cafe/Bar (Rooftop)	Event Space
Vestibule																										
Reception Area	●																									
Main Entrance/Registration	●	●																								
Coat/Locker	●	●	●																							
Gallery Space		○	○																							
Interactive Experience Space					●																					
Loading/Receiving/Storage																										
Feature Wall					●	●																				
Community Wall					●	●		●																		
VR and AR Space				○	●	●		●	●																	
Data/I.T. Room					○		○	○	●	●																
Utility Room						○		○		○	●															
UTR (Universal Toilet Room)				○						○																
Washroom				○						○																
Washroom				○						○		●														
Office 1					○		●				●	●	●	●	●											
Office 2							○				●		●	●	●											
Cafe/Bar Area							●						●	●	●	○	○									
Lounge Space													●	●	●											
Merch Area													●	●	●	○	○	●	●							
History Lane													●	●	●					○	●					
Interactive Experience													●	●	●					○	○	●				
Kinetic Experience													●	●	●					○	○	●	●			
Outdoor Storage																										
Portable Cafe/Bar (Rooftop)							○						○	○	○					○	○			○	●	
Event Space													○	○	○								○	●	●	

	N/A
●	PRIMARY ADJACENCY
○	SECONDARY ADJACENCY

Fig. 25. Adjacency Matrix

CHAPTER 5.0: DESIGN

The design concept for the proposed car dealership takes inspiration from the site location at 155 Fort Street. The idea behind this concept is to leverage the site's potential connections to nearby landmarks, transit routes, and amenities. The goal is to bring people together, especially car enthusiasts and potential consumers, by creating a space fostering community and interaction. Additionally, the proposed dealership is envisioned as one of the channels in an omnichannel system, further emphasizing the importance of connectivity in this context. Lastly, it will highlight the role of physical location and connectivity in creating a successful and innovative car showroom that not only sells cars but also serves as a hub for car enthusiasts.

Branding: *Crossroad 50 by Toyota*

“Crossroad 50” represents the idea of a meeting point where everything converges - people, cars, technology and time. The crossroad symbolizes the intersection of different paths and possibilities, bringing diverse perspectives and experiences together.

In Japanese culture, reaching the age of 50 is a significant milestone known as “kanreki.” It represents the completion of one cycle of life and the beginning of a new one.

Additionally, “50” is a celebration of Toyota’s year anniversary in Canada.

5.1 Design Concept

The innovative design concept for the automotive showroom is inspired by the unique characteristics of its site location at 155 Fort Street, which embodies an abstract representation of the surrounding environment. The abstracted lines represent the neighbouring amenities and landmarks, creating a sense of connection and accessibility. This design approach embodies the concept of interconnectedness. In order to bring this design concept to life, the abstracted form will be implemented in the space design and planning. The lines will be integrated into the physical space using materials such as flooring or wall treatments. The flow of the lines will also inform the layout of the space, creating a dynamic and engaging environment for visitors. By abstracting the site location and using it as the basis for the design

57.

concept, the proposed car showroom will have a unique identity that is closely tied to its surroundings. The focus on interconnectedness and accessibility through lines will also contribute to a sense of community and inclusivity, further enhancing the overall experience for customers and car enthusiasts alike.

The automotive showroom design reflects a commitment to interconnectivity, seamlessly integrating the conveniences of online commerce with the tangible elements of traditional brick-and-mortar retail. The objective is to establish a comprehensive and adaptable shopping experience that caters to diverse users and evolving consumer behaviours. Distinguished by innovative



Fig. 26. Branding Logo
Image generated by Author. Branding Logo. 2023. Visual Image



Fig. 27. Design Inspiration: Site intersection and connectivity
Image generated by Author. Design Inspiration. 2023. Visual Image

features, the showroom will incorporate advanced technologies, including Augmented Reality and Driving Simulator, setting it apart from conventional automotive showrooms. Furthermore, interactive spaces will be integrated, providing a dynamic space for user engagement and an opportunity to generate content for sharing on social media platforms.

Beyond technological trends, the commitment extends to delivering an immersive and interactive user experience. This forward-thinking approach not only addresses the modern consumer's expectations but also elevates the showroom's status as a pioneering entity in automotive retail.

The concept of "Crossroad 50" aligns with the forward-thinking design of the Toyota automotive showroom, symbolizing a focal point where various elements, including individuals, automobiles, technology, and time, converge. The cultural significance of "kanreki" reflects the showroom's constant dedication to evolution and adaptability, emphasizing its commitment to embracing change and meeting the dynamic needs of customers. This commitment to staying at the forefront of technological trends aligns with the notion of commencing a new cycle, solidifying the showroom's standing as a pioneering entity in the automotive retail landscape. Lastly, "Crossroad 50" is a guiding principle to the Toyota automotive showroom, highlighting the importance of adaptability, innovation, and the continuous pursuit of excellence as it enters a new phase marked by growth and renewal.

5.2 Design Development

- It visually represents that everything in the space is connected, symbolizing the connection between human-space interaction. This design approach fosters community and inclusivity by breaking physical barriers and creating a more open and accessible environment.
- The application of the abstracted form also represents that the space will be designed to connect and bridge the gap between traditional car dealerships, digitization, and e-commerce. The lines representing the nearby amenities and landmarks emphasize the importance of physical location while recognizing the growing importance of digital technologies in the automotive industry. The space will be designed to seamlessly integrate traditional in-person experiences with digital touchpoints, providing customers with a holistic and engaging experience.
- The application of the abstracted form represents a space that will be much more interactive and enjoyable to visit. The lines that weave through the space create a dynamic and engaging environment that encourages exploration and discovery. This design approach also highlights the importance of creating spaces that are not only functional but also visually stimulating and memorable.

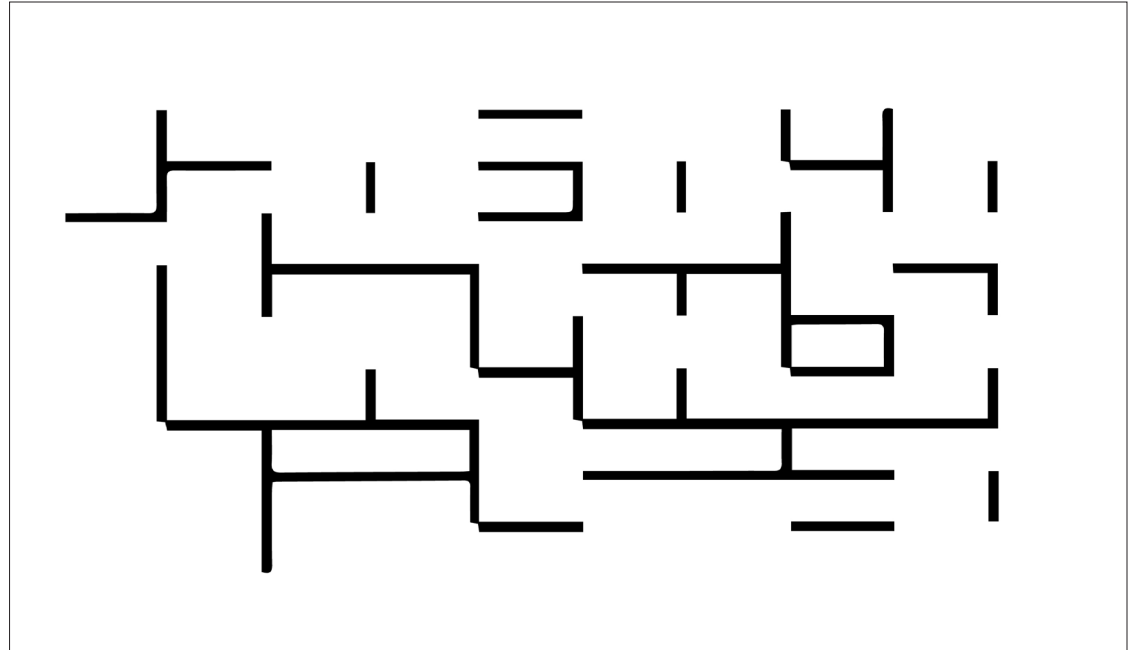


Fig. 28. Concept Development
Image generated by Author. Conceptual Development. 2023. Visual Image

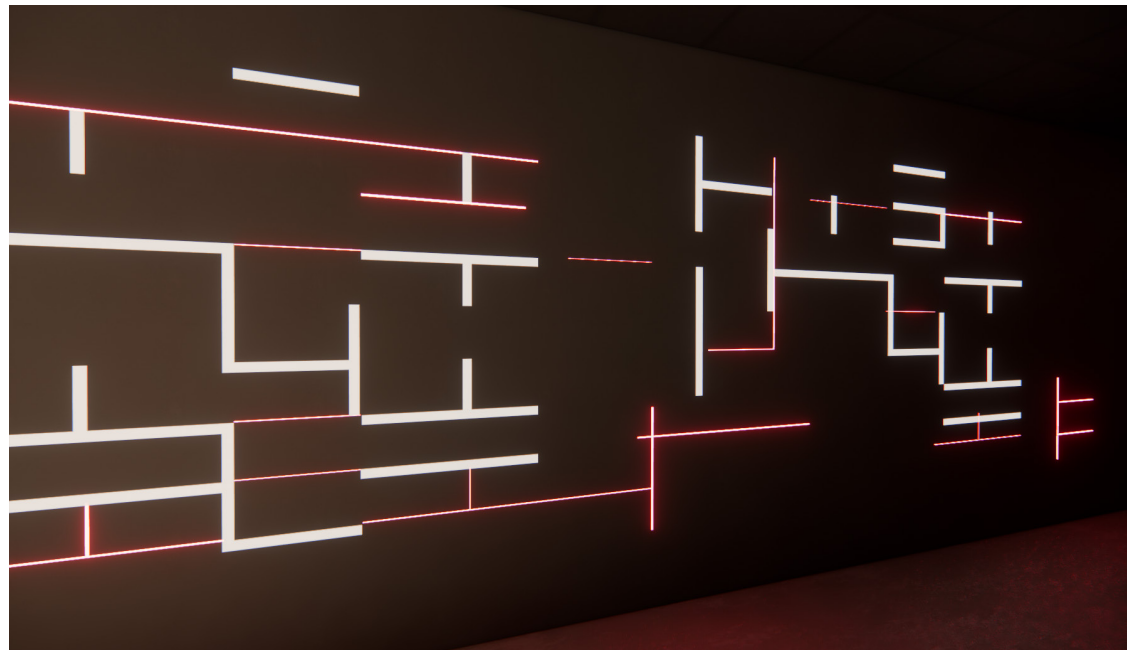


Fig. 29. Concept Development Application
Image generated by Author. Concept Development Application. 2023. Visual Image

5.3 Sensory Marketing / Branding

- As highlighted by Turley and Milliman's (2019) research (as per Chapter 2.2.1), the exploration of retail environments emphasizes the significance of various dimensions influencing consumer perceptions and behaviour by encompassing interior design, layout arrangements, and decorative elements - in shaping consumer perceptions and behaviours within retail spaces. This extends further into sensory stimulation, where elements like colour palettes, lighting schemes, soundscapes, and scents play pivotal roles in eliciting specific emotional responses and moods among consumers (as described in Chapter 2.2-2.3). Batat's (2019) research findings further reinforce that experiential retail environments aim not solely for functional stimuli but seek to evoke and engage emotions. This approach significantly enhances the experiential journey of consumers within these spaces, emphasizing the importance of emotional engagement alongside functional aspects.
- Elevating the automotive showroom experience involves incorporating human sensory elements to immerse users in a captivating manner. The showroom will feature strategically placed ambient scent diffusers to emit subtle fragrances of different environment, simulating a real-world experience. A systematic integration of acoustic beamforming, which refers to a technique using multiple sensors to manipulate signals and control the directionality of sound (Chiariotti et al., 2019), and room calibration will be implemented to achieve an advanced auditory experience. In the retail space area, there will be a subtle ambient and instrumental music to create a calming and relaxed atmosphere.
- In the driving simulator, for example, if the user selected a mountain terrains as their preferred test-drive environment, the simulated environment will be enhanced with a corresponding scent, such as the fragrance of a forest, providing users with heightened sense of being outdoors (refer to Figure 30). The auditory component will feature realistic sounds of engine revving, suspension movement, tire crunch on gravel, rocks clattering and water splashing against the vehicle.
- Within the showroom, lighting also is a key factor in creating an immersive space. The directional lighting is used to highlight specific features of the space and create a dramatic feel. Dimming the entire showroom creates a visual focus on the subject, intensifies human sensory experiences and increases excitement, contributing to the overall immersive quality of the showroom experience.



Memory Lane Area



Kinetic Experience Area



Interactive Experience Area



Driving Simulator Area

Fig. 30. Sensory Marketing Application Examples
Image generated by Author. Sensory Marketing Application Example. 2023. Visual Image



Fig. 31. Branding Application Examples
Image generated by Author. Branding Application Examples.
2023. Visual Image

FIRST FLOOR PLAN LAYOUT



Fig. 32. Street Level Floor Plan

ROOFTOP FLOOR PLAN LAYOUT



Fig. 33. Rooftop Floor Plan

5.4 Design Proposal

Reception and Registration Area

The Reception and Registration area (figure 34 & 35) is a space that serves as the first point of contact for guests visiting the immersive experience showroom. The lobby is designed to provide a welcoming atmosphere and offers a streamlined check-in process. Upon arrival, guests can create a profile and sign a waiver to use the immersive experience showroom. If assistance is required, a button is provided, which will prompt an employee to provide voice assistance. The atmosphere in this space conveys a merge of futuristic and motorsport-inspired design aesthetic inspired by the Toyota brand identity.

The design of the space incorporates several features that enhance the overall experience for visitors. Digitization is also implemented through a registration process that allows visitors to create an avatar, sign waivers, and digitally check-in. This streamlined process reduces wait times and enhances efficiency. Visitors can also easily view available appointments and open time slots online or in person, providing added flexibility and convenience for scheduling showroom visits. These features create a unique and seamless experience for guests visiting the space.



Fig. 34. Reception Area



Fig. 35. Registration Area



Fig. 36. Gallery Space

Gallery Space

The Gallery Space (figure 36) is thoughtfully designed to create an atmosphere that evokes the feeling of an art gallery. The layout encourages guests to explore the space at leisure. Actual materials used in each vehicle, including interior and exterior components, are displayed throughout the area, allowing visitors to touch and feel the textures and materials physically. This tangible experience caters to those who prefer actual material samples over digital images. The Gallery Space also serves as a storefront, providing passersby with a glimpse of the showroom activities and generating curiosity and interest in the space.

Interactive Experience Space

The Interactive Experience Space (figure 37 & 38) is a state-of-the-art showroom designed to provide visitors with an immersive and interactive experience. Here, guests can customize their desired vehicle specifications and see them on a 1:1 scale, with the ability to view the vehicle in various environments.

Visitors can interact with the vehicle by using advanced body motion sensors and gestures, opening doors and trunks and rotating it in a full 360 degrees, providing a truly engaging and unique experience. The atmosphere of the space is designed to be immersive, with the latest technologies and digitization implemented throughout.

The lighting in the area is inspired by the concept of “crossroads,” aiming to guide visitors to the space and add an element of intrigue and excitement. The Interactive Experience Space is the perfect destination for car enthusiasts, providing a cutting-edge and unforgettable experience that utilizes technology and design to enhance the guest experience.



Fig. 37. Interactive Experience 1



Fig. 38. Interactive Experience 2



Fig. 39. The Toyota Way/Community Wall

The Toyota Way/Community Wall

The "Toyota in the Community" area (figure 39) demonstrates Toyota's commitment to numerous community initiatives and partnerships that make a positive impact on the local community. This space is important in the showroom as it builds trust, enhances the company's image to its customers and gives deeper connection to the brand beyond products, as they see shared values and a sense of purpose.

The wood installation represents a juxtaposition of high-tech and biophilic elements that define a harmonious blend of technology and nature. It creates a sense of connection to nature and brings warmth to the space. Despite the significant ecological footprint associated with the automotive industry, the area serves as a reminder to its audience/consumers that the company is committed to being a responsible and caring entity dedicated to the well-being of both the community and the environment.



Fig. 40. Feature Wall

Feature Wall

Featuring a large, high-resolution digital display that showcases the latest models and features of Toyota's vehicles in a dynamic and captivating manner.

Utilizing advanced projection mapping and dynamic content, the Feature Wall offers a visually stunning and interactive experience, giving visitors an up-close look at every vehicle's most impressive features. It also highlights the brand's history and legacy, giving visitors a deeper understanding of Toyota's values and vision.

Within the showroom experience, lighting is also a key factor in creating an immersive space. The directional lighting is used to highlight specific features of the space and create a dramatic feel. Dimming the entire showroom creates a visual focus on the subject, intensifies human sensory experiences and increases excitement, contributing to the overall immersive quality of the showroom experience.

Driving Simulator Experience

The driving simulator is another type of immersive experience that offers visitors a unique opportunity to explore and interact with every Toyota vehicle. It is equipped with VR and AR technology, a precise driving motion simulator, an acoustic beamforming and room calibration and digital processing (DSP) to create a more immersive, true-to-life sound experience. With these features, guests can fully immerse themselves, gaining the sensation of being inside the vehicle and experiencing it in a whole new way without the presence of the actual car.

Once visitors have selected their desired vehicle in the “Interactive Experience Space,” they can load their profile in the VR room and take it for a test drive virtually. Visitors can experience the vehicles in various environments and scenarios, ranging from bustling city streets to rugged mountainous terrains, allowing them to understand better how the vehicles perform under different conditions.

The driving simulator is designed to be inclusive and accessible, incorporating adaptive controls specifically tailored for users with mobility challenges. Additionally, it features voice commands and audio feedback for individuals with visual impairments. The customizable user interface allows adjustments for font sizes and colour contrasts, ensuring usability for a diverse range of users. Moreover, the driving simulator has fully adjustable seating and grab bars and is barrier-free, enhancing its accessibility features.



Fig. 41. Driving Simulator Area - looking West



Fig. 42. Driving Simulator Area - looking East

Lounge Space

After the immersive showroom experience, consumers will be directed to the lounge area. An interior progression was used in the transition layout from the Immersive showroom to the Lounge space to create a spatial contrast from a confined area to a larger, more open area. The purpose is to make the space more dynamic by playing with the element of surprise and changing the perception of the space.

The design was inspired by biophilia that conveys a calming and organic atmosphere, with natural materials and patterns that imitate elements found in nature. The lounge ceiling showcases patterns resembling tree branches or leaf veins, crafted from raw materials to establish an industrial aesthetic that works well with the existing fabric and textures of the building. The purpose of Integrating natural elements in the space is to promote relaxation and create a more inviting and hospitable atmosphere

Visitors who have come for the immersive experience can revisit their activities inside while seated in one of the lounge booths. They can make side-by-side comparisons and access a comprehensive summary of the vehicles they test-drove. Here, they can make informed decisions about potential vehicle purchases while savouring a beverage of their choice.



Fig. 43. Lounge Space including Bar/Cafe area



Fig. 44. Merchandise Area/Memory Lane 1

Merchandise Area

The merchandise area is a dedicated space where customers can explore and interact with various automotive-related products and accessories. It is designed to showcase an extensive range of merchandise, such as branded apparel, keychains, car care products, and other items related to the automotive industry. The merchandise area allows customers to enhance their connection to the brand, extend their ownership experience, and express their passion for automobiles through the purchase of branded merchandise.



Fig. 45. Memory Lane 2

Memory Lane

The Memory Lane is a captivating area that takes visitors through automotive history. It showcases a collection of iconic and vintage vehicle images through interactive screen panels, representing different eras and milestones in the automotive industry. This nostalgic and educational space allows visitors to immerse themselves in the rich heritage of automobiles, experiencing the evolution of design, technology, and cultural significance. Through carefully curated displays and engaging storytelling, the Memory Lane creates a memorable and enlightening experience, preserving the legacy and celebrating the passion for cars.



Fig. 46. Interactive Experience/Memory Lane 2

Kinetic Experience

The Kinetic Learning Experience is another immersive space that everyone can utilize. The space showcases Toyota's latest advancements in design and technology. It exhibits concept cars, engine prototypes and future mobility solutions, allowing visitors to envision the future of vehicle transportation. Visitors can engage with interactive screens, augmented reality and holographic displays, providing a new, fun approach to educate and connect with consumers/visitors.



Fig. 47. Kinetic Experience

Event Space

The event spaces offer a range of opportunities, including vehicle launches, product demonstrations, car shows, community gatherings, networking events, workshops, customer appreciation events, corporate functions, and private celebrations. These versatile spaces provide the perfect platform to showcase new car models, engage with customers, facilitate networking within the automotive industry, and host various events that cater to the diverse needs of customers, enthusiasts, and businesses alike. With their strategic locations and captivating surroundings, such as breathtaking views of Winnipeg's skyline and iconic landmarks like The Forks, these event spaces elevate the event experience, making it even more memorable and enchanting to its guests.



Fig. 48. Event Space - Banquet setting



Fig. 49. Event Space - Townhall setting

Design Limitations:

1. Sensory and Tactile

While the showroom design successfully immerses customers in an interactive experience, it currently falls short in delivering a comprehensive test-driving experience as it lacks the tactile elements, exterior and interiors, such as adjustable knobs, air conditioning, vents, and gear shifter. Nevertheless, rapid emerging technological advancements may soon enable the integration of these features into the driving simulator.

Given the substantial size of LED panels and the existing constraints of available screen technology, specific car colours may not show inaccuracy in the showroom. This discrepancy can arise from aging, wear and tear, and inadequately calibrated displays from the manufacturer. Additionally, the screens may lack the capability to showcase high-resolution images, potentially compromising the colour accuracy of specific vehicles. The considerable dimensions of the LED panels can contribute to issues like uneven brightness or inconsistent colour distribution in the displays.

Additionally, the driving simulators may not capture all the sensations experienced in a real car. For instance, the feeling of wind and temperature changes, which are essential aspects of driving, are challenging to replicate in a simulated setting. These sensations contribute significantly to the immersive nature of the driving experience, helping individuals understand their surroundings better. The complexity of simulating these details arises from real-world driving scenarios' varied and dynamic nature.

Lastly, dark spaces may present some challenges, including interactive room experiences and driving simulator spaces. The intentional use of low lighting, inherent to these environments, can evoke anxiety and claustrophobia in these spaces. Additionally, incorporating sound and lighting effects may lead to sensory overload for some users, resulting in a discomforting experience. Dark spaces, mainly reliant on technology, may encounter design constraints due to the vulnerability to technical glitches or malfunctions, which can disrupt the immersive experience of the users of the space and lead to unpleasant experiences.

2. Lean Dealership Approach

Implementing the Lean dealership approach aimed at optimizing efficiency and reducing waste. However, there are also potential disadvantages and challenges associated with implementing this approach in today's car dealership settings. Amongst these challenges is the inherent resistance to change from employees and management, who may be entrenched in traditional methodologies. The initial investment will require comprehensive training, technology integration, and process re-engineering, which can also be a hurdle, as some stakeholders may hesitate to allocate resources without immediately visible returns on investment.

The complexity of implementing Lean principles throughout the organization poses another obstacle, requiring a cultural shift towards continuous improvement and waste reduction. Moreover, not all dealership processes may seamlessly align with Lean methodologies, and attempting to force-fit them can result in unintended inefficiencies. Lastly, lean principles often require close collaboration with suppliers. However, disruptions in the automotive supply chain can pose challenges, and relying on just-in-time inventory may leave

dealerships vulnerable to supply chain disruptions. The reliance on a minimal inventory buffer means that any disturbance in the supply chain, such as unexpected delays or shortages, can significantly impact a dealership's ability to fulfill customer orders promptly. This vulnerability arises from the interconnectedness of Lean principles and the necessity for suppliers to meet demand in a timely manner. Therefore, dealerships may grapple with operational setbacks, delayed deliveries, and potential customer dissatisfaction if the delicate balance of the just-in-time inventory system is disrupted due to unforeseen challenges in the supply chain. Therefore, while the Lean approach promotes efficiency, it also necessitates careful risk assessment and contingency planning to mitigate the potential fallout from supply chain disruptions.

Lastly, the lean dealership approach has vulnerabilities regarding just-in-time inventory systems. The recent COVID-19 pandemic, as an example, exposed those vulnerabilities. This crisis caused significant disruptions in the supply chain, impacting the availability of vehicles and parts globally, rooted in the heavy dependence on this inventory strategy inherent to lean principles—moreover, various natural disasters, climate change, economic crises and political conflicts can also have a global impact on the automotive industry supply chain issues. The resulting disruptions prompted shifts in consumer behaviour, favouring online transactions and contactless services. Navigating these changes while upholding lean principles, which traditionally emphasize efficiency and collaboration, emerges as a critical challenge for dealerships.

3. Omnichannel System

Introducing an omni-channel system in the lean dealership approach has its advantages, but it also brings challenges. Combining different channels, technologies, and data during implementation can be challenging, requiring careful planning. Keeping the customer experience consistent across various channels is tough and can lead to mix-ups in information, pricing, or service quality if the system is not integrated accordingly. Some customers may not like the change, especially those who prefer traditional channels, affecting their satisfaction and loyalty. Relying on technology also poses the risk of technical issues, potentially causing disruptions and impacting efficiency and customer service. Moreover, ensuring regulatory compliance becomes a concern, demanding meticulous attention to diverse regulations across channels and geographic locations. The need for seamless integration with third-party platforms and partners adds an extra layer of complexity, underscoring the multifaceted nature of the challenges involved in implementing an omni-channel system within the lean dealership framework.

Conclusion & Reflections

At the start of this practicum, I was keen on working on a project that would utilize my formal education in interior design and my interest in the automotive industry as a car enthusiast. I aimed to adopt an interdisciplinary approach to enhance my comprehension of car dealership operations and their required space. I was curious to explore the role that interior design could play in addressing these concerns.

My goal for this practicum is to design a car dealership retail space that offers an immersive shopping experience, reduces environmental impact, and connects physical and online retail shopping. I aspire to redefine the design of car dealerships by taking an interdisciplinary approach that would merge my formal education in interior design with my passion for the automotive industry. To achieve this, I set out five specific objectives for the project:

1. To design a car dealership that could perform its essential functions with a smaller physical footprint to reduce its environmental impact.
2. To create a dealership environment that would provide a comfortable and enjoyable experience for customers, mitigating any feelings of anxiety or intimidation often associated with these spaces.
3. To integrate online and in-person experiences in the showroom, combining e-commerce with traditional practices to offer a seamless and comprehensive buying experience.
4. To establish an innovative dealership that would incorporate cutting-edge technologies to enhance the car buying experience, providing an interactive and immersive environment for customers.
5. To prioritize sustainability and promote economic growth through the design of the dealership.

In this practicum, I have analyzed the existing issues in traditional car dealership settings and identified areas needing change. By breaking down the programming of these settings, I have found inspiration in Toyota's lean dealership approach and taken it as a model for implementing an 'omnichannel' marketing strategy. This allows dealerships to operate similarly by distributing their channels, such as service departments, parts departments, and other services that can be done elsewhere, generating income while helping local businesses instead of competing against them.

As part of the 'omnichannel' system, I focused on designing a retail space with a whole car-shopping experience operating on a smaller scale. Consumer behaviour trends were a key factor in determining the technologies and strategies needed to incorporate into the space, making it stand out from other car dealership showrooms. I learned that there is potential to have a car showroom without having actual vehicles in the space, instead relying on new advanced technologies such as virtual and augmented reality and driving simulators to supplement the physical cars.

Throughout this practicum, I have realized the importance of connecting traditional brick-and-mortar retail space and e-commerce, utilizing technology and understanding marketing trends. This means my design strategy is to design a unique space entirely different from the conventional automotive showroom. The design intent is to design a showroom that can accommodate all consumer demands and incorporate design elements and programming that is interactive and immersive to create a memorable car-buying experience. The objective is to address some of the existing issues in the automotive industry, stay one step ahead of the competition, and provide consumers with a unique and positive car-buying experience.

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APPENDIX A: BUILDING REGULATION ANALYSIS

BUILDING CODE ANALYSIS

MBC SECTION 3.1 - GENERAL

MAJOR OCCUPANCY CLASSIFICATIONS:
GROUP A, DIV. 2 ASSEMBLY OCCUPANCY
GROUP F, DIV. 3 - LOW HAZARD INDUSTRIAL OCCUPANCY
GROUP D, - BUSINESS SERVICES

TENANT AREA: 10,009 SF

BUILDING AREA: 11,690 SF

BUILDING HEIGHT: 1 STOREY

FACING NO. OF STREETS: 2 (FORT ST. AND YORK AVE.)

BUILDING IS SPRINKLERED: NO

FIREWALLS: N/A

HIGH BUILDING: NO

ALTERNATIVE SOLUTION: NO

DESIGN OCCUPANT LOAD: 100

MBC SECTION 3.2 - BUILDING FIRE SAFETY

CONSTRUCTION ARTICLES:

- 3.2.2.25 GROUP A, DIV. 2 UP TO 2 STOREYS (TENANT)
- 3.2.2.83 GROUP F, DIV. 3, UP TO 2 STOREYS (TENANT)
- 3.2.2.60 GROUP D, UP TO 2 STOREYS (TENANT)

MAX AREA FOR 1 STOREY FACING 2 STREETS:

- 1,250 SQ.M - 3.2.2.60
- 2000 SQ.M - 3.2.2.25 & 3.2.2.83

CONSTRUCTION: COMBUSTIBLE OR NONCOMBUSTIBLE

FLOOR ASSEMBLIES: EXIST. CONCRETE SLAB

ROOF ASSEMBLIES: EXIST. NON-COMBUSTIBLE

LOAD BEARING BEAMS AND COLUMNS: EXIST. NON-COMBUSTIBLE

SPATIAL SEPARATION: EXISTING - NO CHANGE

MBC SECTION 3.2.7.3. - EMERGENCY LIGHTING

EMERGENCY LIGHTING SHALL BE PROVIDED TO AN AVERAGE LEVEL OF ILLUMINATION NOT LESS THAN 10lx AT FLOOR OR TREAD LEVEL IN

- EXIT,
- PRINCIPAL ROUTES PROVIDING ACCESS TO EXIT IN OPEN FLOOR AREAS AND IN SERVICE ROOMS
- FOOD PREPARATION AREAS IN COMMERCIAL KITCHENS, AND
- PUBLIC WASHROOMS THAT ARE EQUIPPED TO SERVE MORE THAN ONE PERSON AT A TIME.

MBC SECTION 3.2 - SAFETY WITHIN FLOOR AREAS
SUITE SEPARATION: EXISTING 1 HOUR FRR DEMISING WALL

MAJOR OCCUPANCY SEPARATION: A2 TO F3 = 1 HOUR FRR

SUITE EGRESS: N/A

STORAGE OF DANGEROUS GOODS: NO

FLAMMABLE AND COMBUSTIBLE LIQUIDS: NO

OTHER HAZARDOUS PROCESSES:

- DUST COLLECTION: TENANT TO MANAGE THROUGH A THOROUGH MAINTENANCE PLAN TO ENSURE NO ACCUMULATION OF DUST COLLECTS ON THE EQUIPMENT(S) OR OTHER SOURCES OF HEAT OR IGNITION.

MBC SECTION 3.4 - EXITS

MIN TWO EXITS REQUIRED: 2 EXISTING - NO CHANGE

DISTANCE BETWEEN EXITS: 24.7 m > MAX DIAG. 31.4 m/2 = 15.7 m

TRAVEL DISTANCE:

- MAX 30 m
- MAIN FLOOR = 22.5 m

EXIT: NA

EXIT CAPACITY - DOOR: 1830 mm CAPACITY: 300

NUMBER OF PERSONS PER EXIT: 150

MBC SECTION 3.7 - WASHROOM FIXTURES

OCCUPANT LOAD/SEX = 100/2 = 50/SEX

WATER CLOSETS REQUIRED = 3 (1 MALE AND 2 FEMALE)
LAVATORIES REQUIRED = 2 (MALE AND FEMALE)

PROVIDED 3 (NON-GENDERED UNIVERSAL TOILET ROOM)

MBC SECTION 3.8 - BARRIER-FREE DESIGN

BARRIER-FREE PATH OF TRAVEL PROVIDED THROUGHOUT: YES

BARRIER-FREE WASHROOMS ARE PROVIDED: YES

PUBLIC ENTRANCE EQUIPPED WITH POWER DOOR OPERATORS: YES

APPLICABLE PROVINCIAL FOOD HANDLING GUIDELINE (MANITOBA HEALTH, 2016)

1. STRUCTURE

1.1 FLOORS:

- FLOORS AND FLOOR COVERINGS OF ALL FOOD PREPARATION AREAS, FOOD STORAGE AREAS, EQUIPMENT AND UTENSIL WASHING AREAS AND WALK-ON REFRIGERATION UNITS SHALL BE CONSTRUCTED OF SMOOTH, IMPERVIOUS AND DURABLE MATERIAL WHICH IS EITHER SEAMLESS OR WITH SEAMS THAT ARE HEAT-SEALED OR CHEMICALLY BONDED.

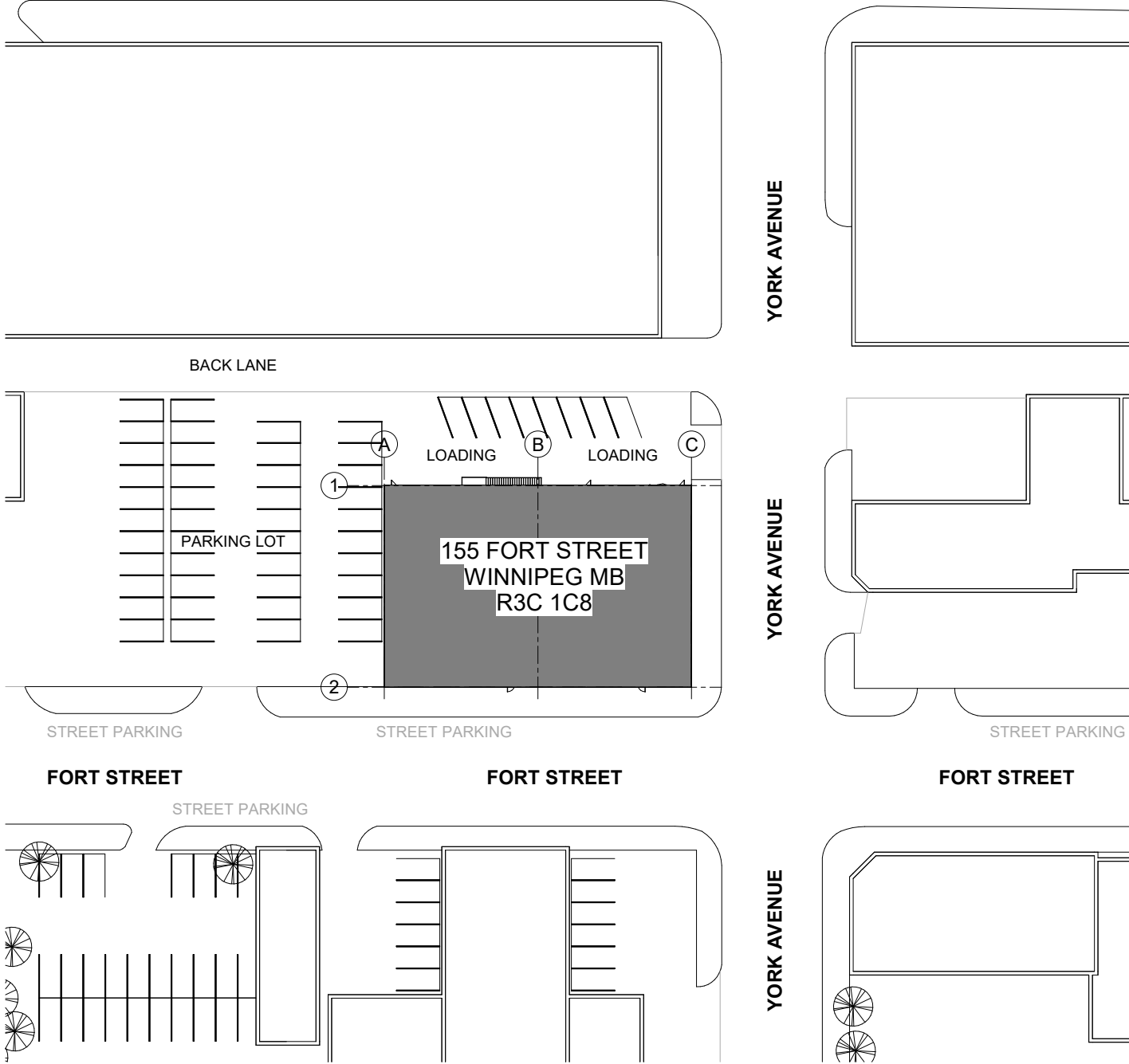
1.2. WALLS, PARTITIONS, AND CEILING

- ALL WALLS AND PARTITIONS IN FOOD PREPARATION AREAS, EQUIPMENT AND UTENSILS WASHING AREAS MUST BE OF A SMOOTH NON-ABSORBENT FINISH AND EASILY CLEANABLE AND DURABLE FOR THE PURPOSE INTENDED.
- STUDS, JOISTS AND RAFTERS IN FOOD PREPARATION AREAS, EQUIPMENT AND UTENSIL WASHING AREAS MUST BE COVERED AND NOT EXPOSED.
- CEILING IN ALL FOOD PREPARATION, EQUIPMENT AND UTENSIL WASHING AREAS MUST BE OF A SMOOTH NON-ABSORBENT FINISH AND EASY TO CLEAN. WHERE A T-BAR CEILING IS USED THE INSERTS MUST BE NON-PERFORATED AND PLASTIC COATED OR HAVE ANOTHER FINISH THAT IS NONABSORBENT AND WASHABLE.
- ALL FINISHING MATERIALS SHOULD BE OF COMMERCIAL GRADE QUALITY.

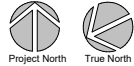
2. LIGHTING

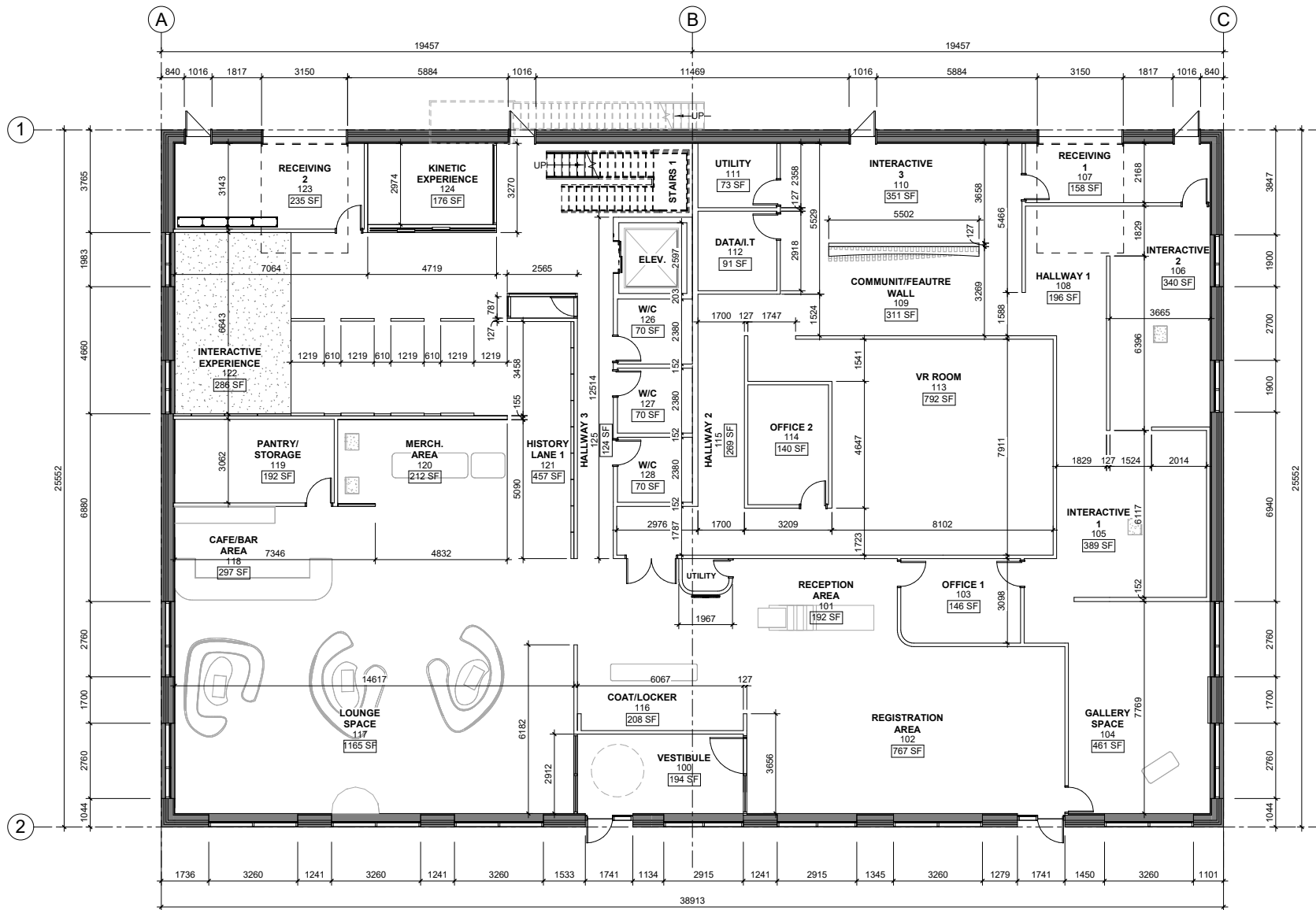
- STORAGE AREAS, WASHROOMS AND DINING AREAS MUST BE PROVIDED WITH SUFFICIENT LIGHTING FIXTURES TO ALLOW FOR PROPER CLEANING OPERATIONS. A MINIMUM OF 215 lx (20 FOOT CANDLES) IS REQUIRED AT A DISTANCE OF 76 cm (30") FROM THE FLOOR.

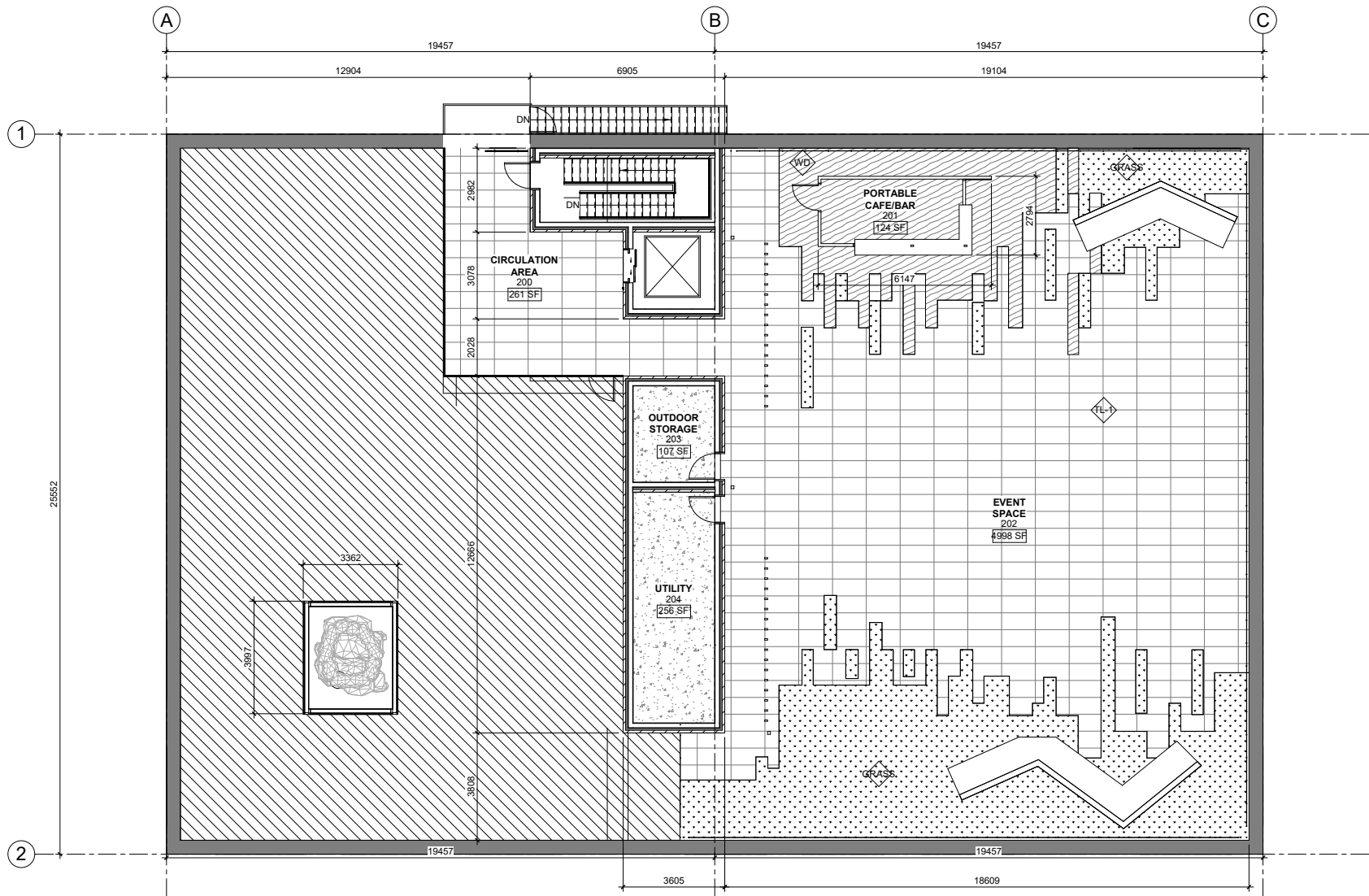
APPENDIX B: TECHNICAL & DETAIL DRAWINGS



1 155 FORT STREET - SITE PLAN
A1.0 SCALE: 1 : 350

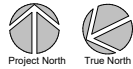






1
A2.2
SCALE: 1" = 100'

ROOFTOP - PARTITION AND MILLWORK



LEGEND:

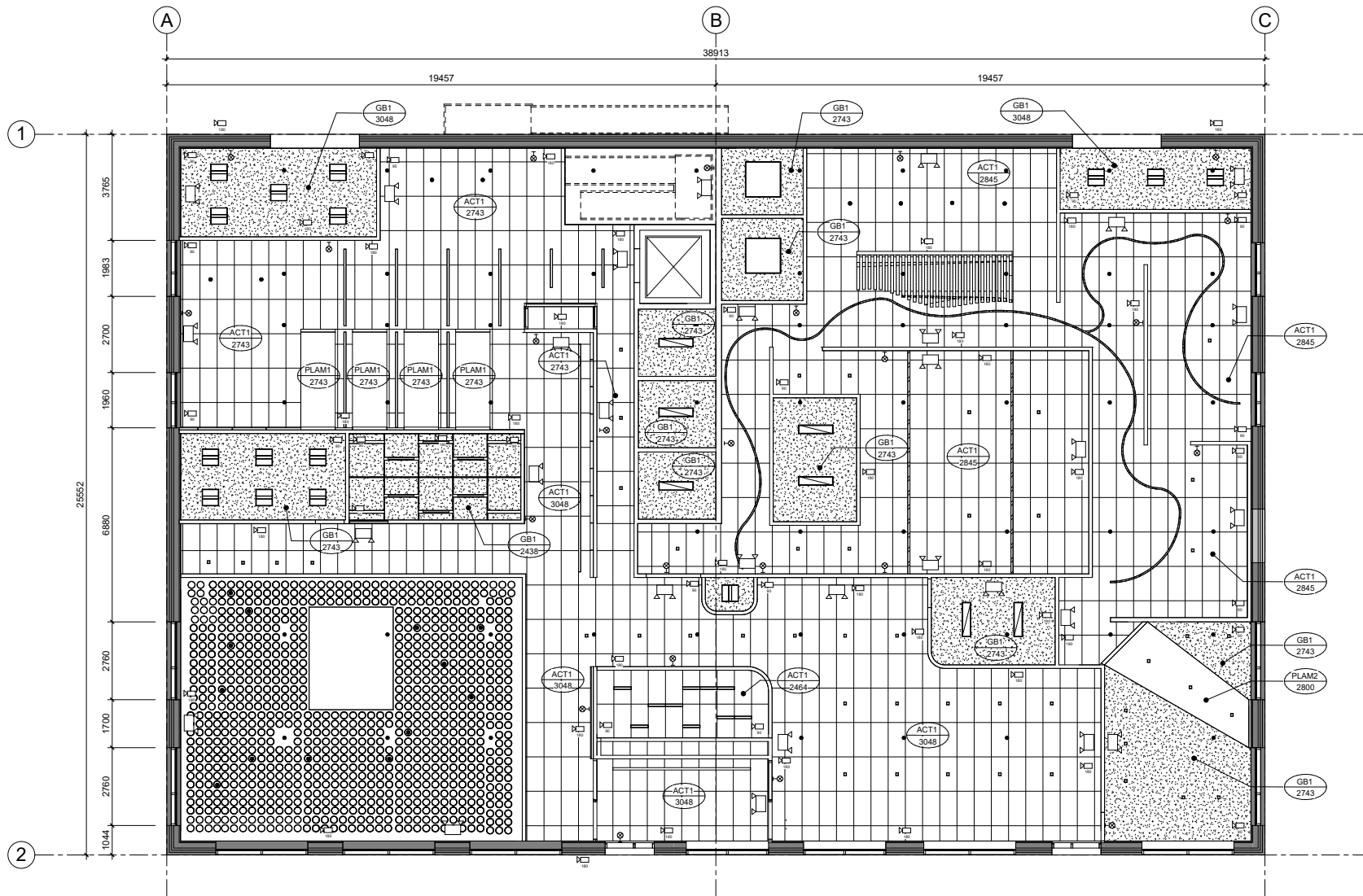
- EXISTING WALLS AND COLUMNS, TO REMAIN
- NEW WALL
- EXISTING DOORS, TO REMAIN;
- NEW DOORS
- NOT IN CONTRACT

FLOOR FINISHES LEGEND:

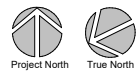
- CONC-1 EXISTING SEALED CONCRETE
- CPT-1 CARPET TILE
- CPT-2 CARPET TILE
- SV-1 SHEET VINYL
- SV-2 SHEET VINYL
- SV-3 SHEET VINYL
- SV-4 SHEET VINYL

- TL-1 EXTERIOR TILE
- WD WOOD FLOORING
- GRASS GRASS

NOTE: SEE SPECIFICATION IN APPENDIX C



1 FIRST FLOOR - REFLECTED CEILING PLAN
A2.3 SCALE: 1:100

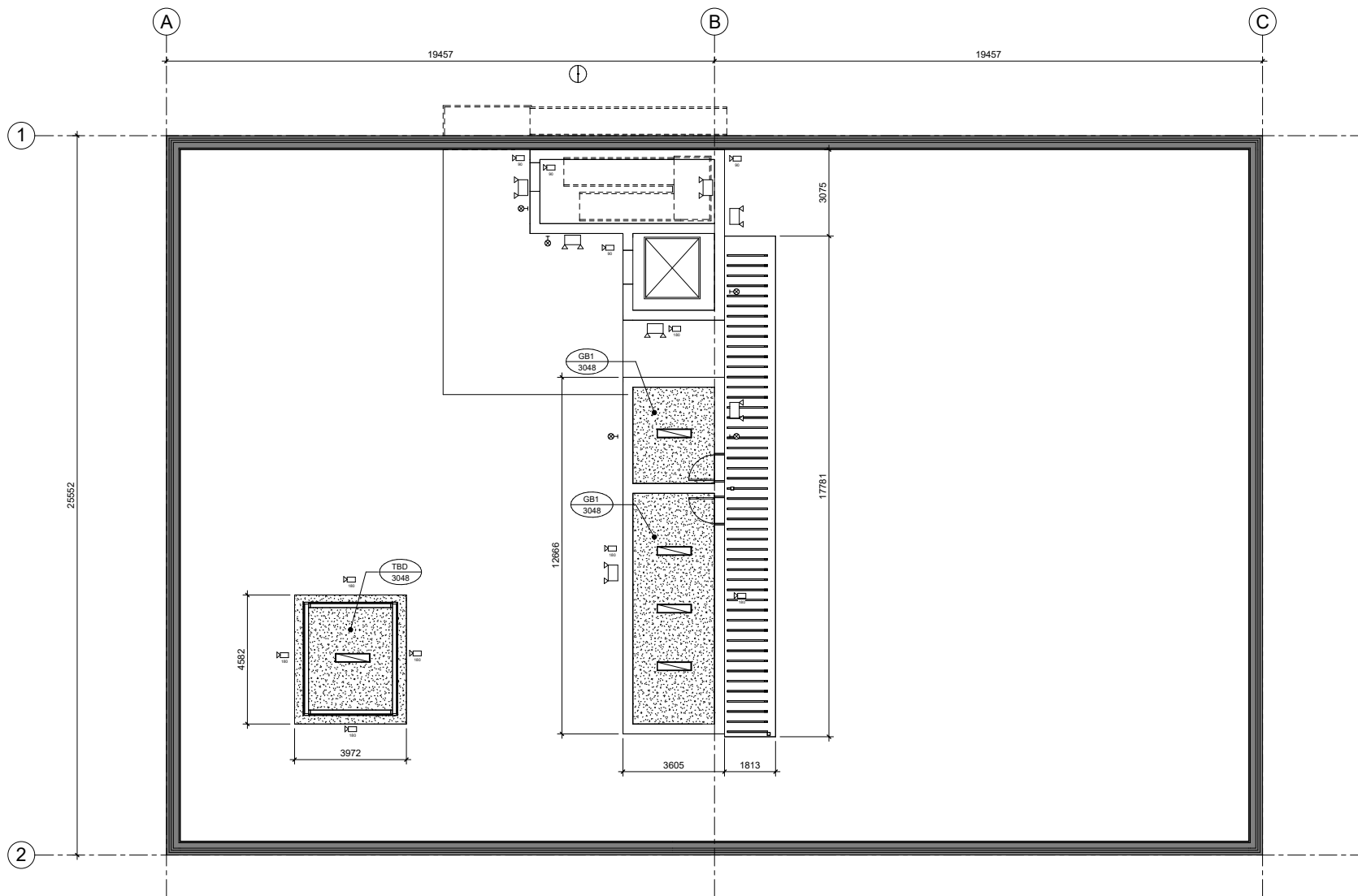


LEGEND:

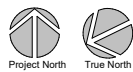
- ACOUSTIC CEILING TILES
- GYPSUM BOARD (DROPPED); PAINT FINISH
- GYPSUM BOARD AT U/S OF STRUCTURE TYPE "X" (1HR FRR) AND TYPE "C" (2HR FRR); PAINT FINISH
- RECESSED POT LIGHT
- RECESSED POT LIGHT
- RECESSED COVE LIGHT.
- RECESSED WALL WASH LIGHT.
- 1'x4' RECESSED CEILING MOUNT LIGHT FIXTURE.
- INDUSTRIAL SURFACE MOUNTED LIGHT.
- UNDER CABINET VALANCE LIGHT.

- WALL MOUNTED EMERGENCY LIGHT
- SECURITY CAMERA - 180 DEGREE
- SECURITY CAMERA - 90 DEGREE
- EXIT LIGHT
- SPRINKLER SYSTEM
- DECORATIVE PENDANT

NOTE: SEE SPECIFICATION IN APPENDIX D



1 LEVEL 200 - REFLECTED CEILING PLAN
A2.4 SCALE: 1 : 100

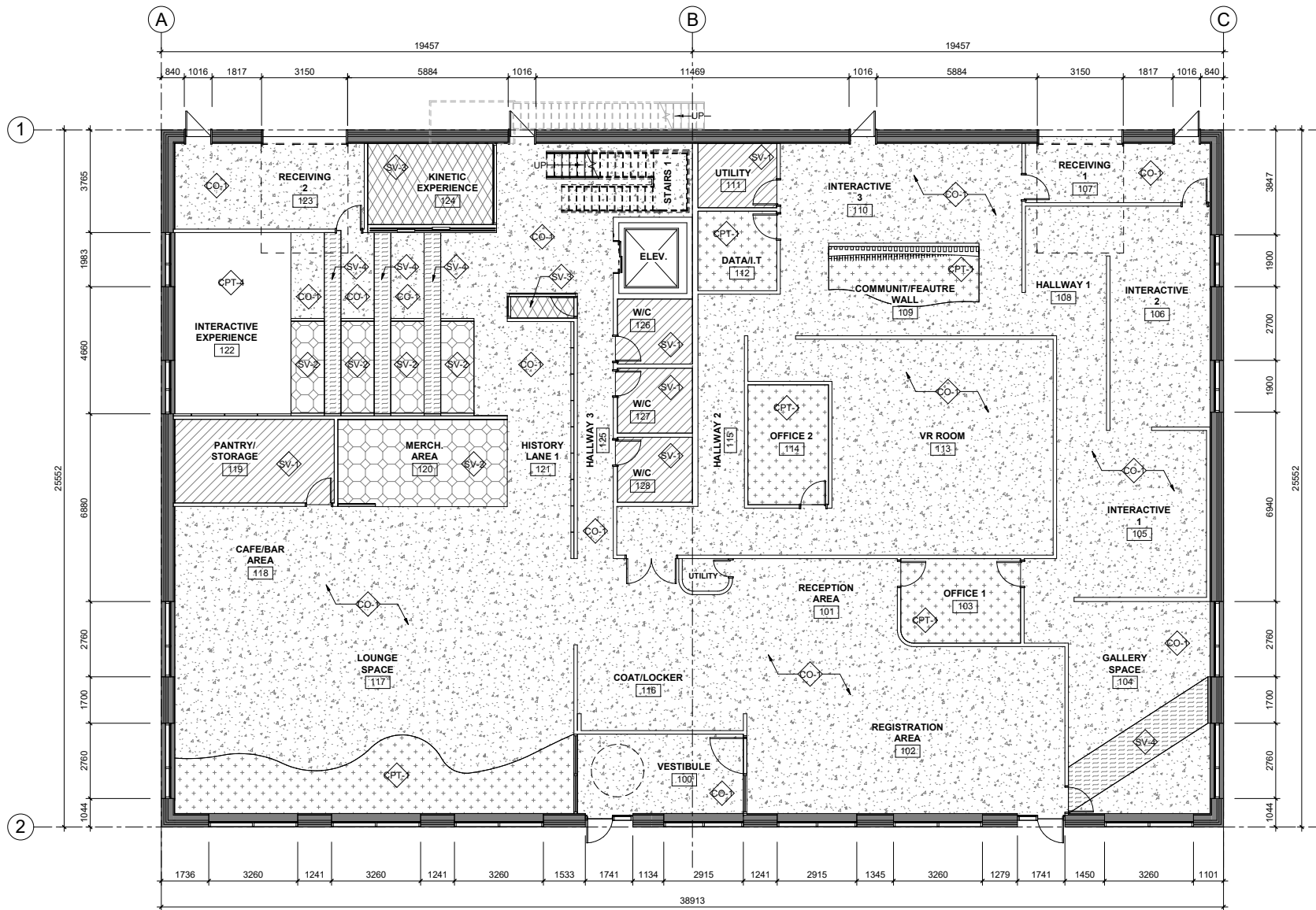


LEGEND:

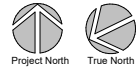
	ACOUSTIC CEILING TILES
	GYPSUM BOARD (DROPPED); PAINT FINISH
	GYPSUM BOARD AT U/S OF STRUCTURE TYPE "X" (1HR FRR) AND TYPE "C" (2HR FRR); PAINT FINISH
	RECESSED POT LIGHT
	RECESSED POT LIGHT
	RECESSED COVE LIGHT.
	RECESSED WALL WASH LIGHT.
	1'X4' RECESSED CEILING MOUNT LIGHT FIXTURE.
	INDUSTRIAL SURFACE MOUNTED LIGHT.
	UNDER CABINET VALANCE LIGHT.

	WALL MOUNTED EMERGENCY LIGHT
	SECURITY CAMERA - 180 DEGREE
	SECURITY CAMERA - 90 DEGREE
	EXIT LIGHT
	SPRINKLER SYSTEM
	DECORATIVE PENDANT

NOTE: SEE SPECIFICATION IN APPENDIX D



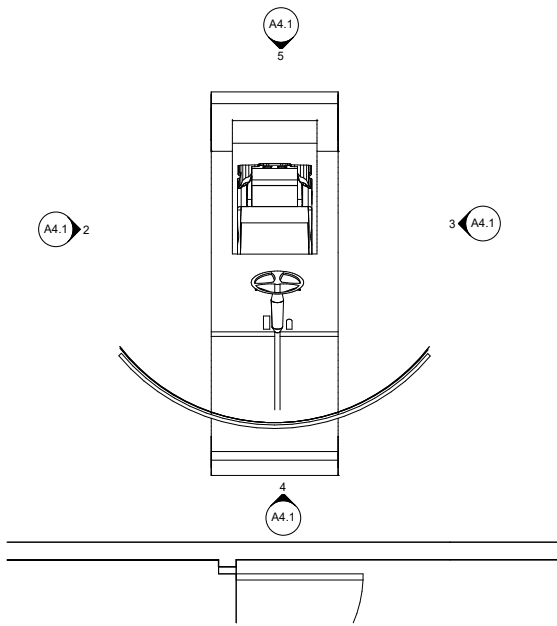
1 LEVEL 100 - FLOOR FINISH
A3.1 SCALE: 1:100



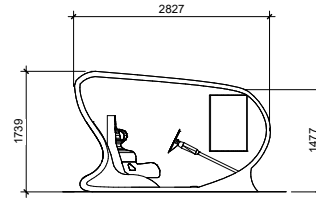
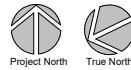
FLOOR FINISH LEGEND:

	CONC-1	EXISTING SEALED CONCRETE		TL-1	EXTERIOR TILE
	CPT-1/2/3	CARPET TILE		WD	WOOD FLOORING
	CPT-4	CARPET TILE		GRASS	GRASS
	SV-1	SHEET VINYL			
	SV-2	SHEET VINYL			
	SV-3	SHEET VINYL			
	SV-4	SHEET VINYL			

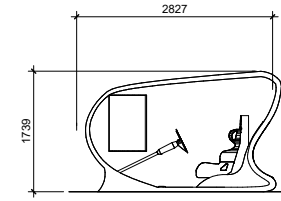
NOTE: SEE SPECIFICATION IN APPENDIX C



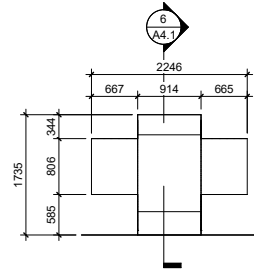
1 **DRIVING SIMULATOR - ENLARGED PLAN**
A4.1 SCALE: 1:25



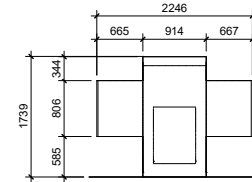
2 **DRIVING SIMULATOR - EAST ELEVATION**
A4.1 SCALE: 1:50



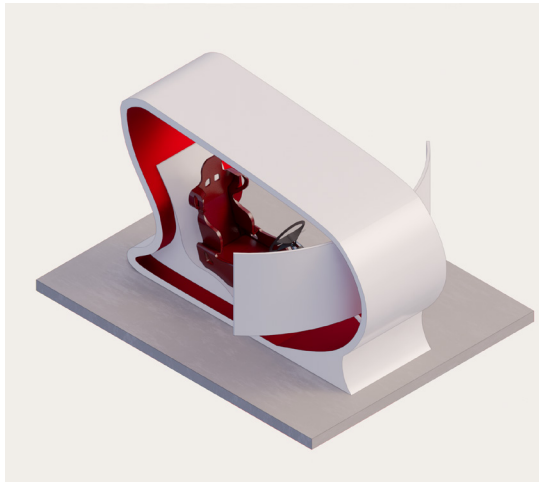
3 **DRIVING SIMULATOR - WEST ELEVATION**
A4.1 SCALE: 1:50



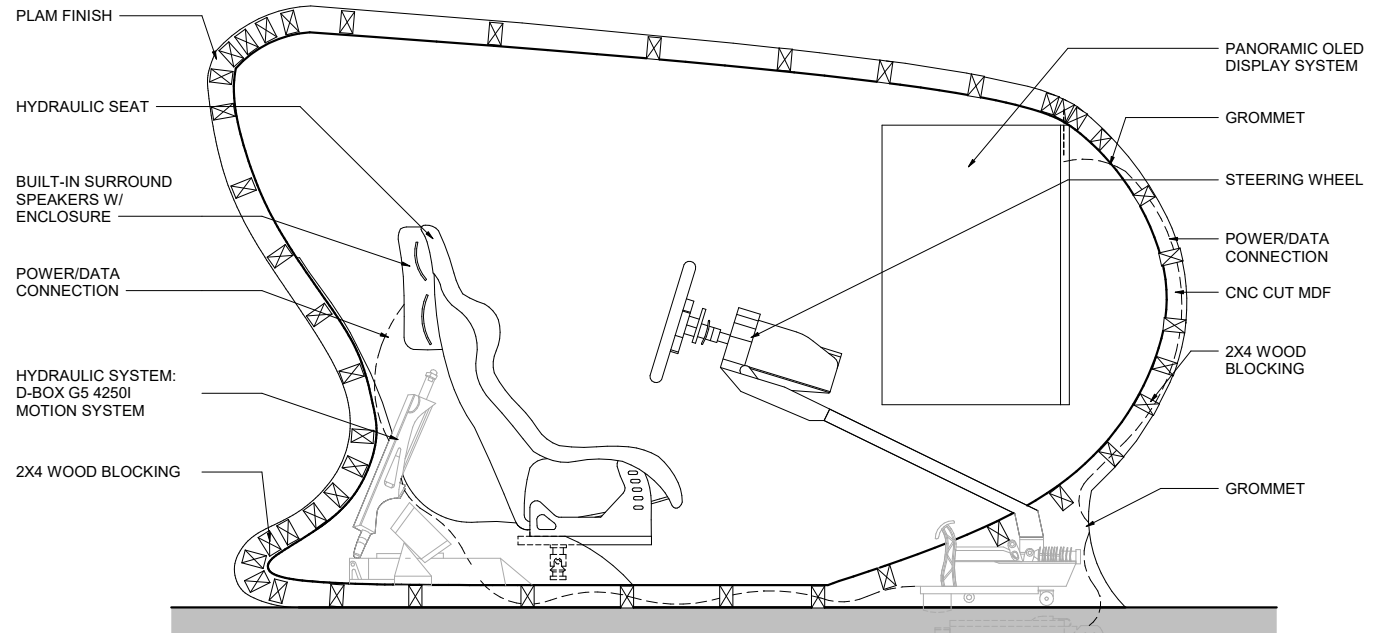
4 **DRIVING SIMULATOR - NORTH ELEVATION**
A4.1 SCALE: 1:50



5 **DRIVING SIMULATOR - SOUTH ELEVATION**
A4.1 SCALE: 1:50



DRIVING SIMULATOR - ISOMETRIC VIEW



6 **DRIVING SIMULATOR - SECTION**
A4.1 SCALE: 1:10



1 **ELEVATION - RECEPTION DESK**
A5.1 SCALE: 1:50



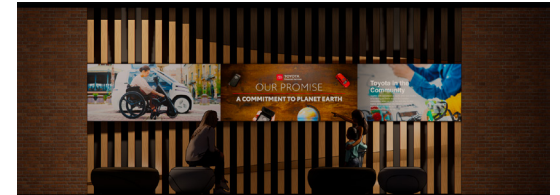
2 **ELEVATION - LOUNGE SPACE**
A5.1 SCALE: 1:50



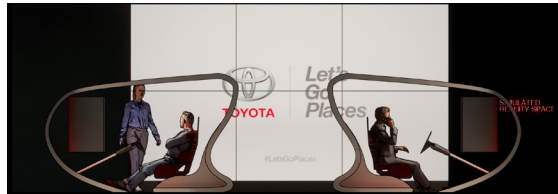
3 **ELEVATION - REGISTRATION AREA**
A5.1 SCALE: 1:50



4 **ELEVATION - MERCH AREA**
A5.1 SCALE: 1:50



5 **ELEVATION - COMMUNITY WALL**
A5.1 SCALE: 1:50



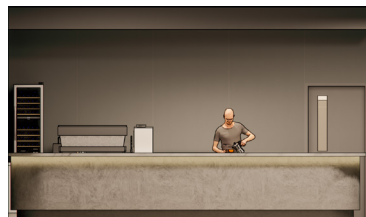
6 **ELEVATION - VR/DRIVING SIMULATOR**
A5.1 SCALE: 1:50



9 **SECTION 1 - SOUTH VIEW**
A5.1 SCALE: 1:100



7 **ELEVATION - INTERACTIVE SPACE 1**
A5.1 SCALE: 1:50



8 **ELEVATION - CAFE**
A5.1 SCALE: 1:50



10 **SECTION 2 - EAST VIEW**
A5.1 SCALE: 1:100

APPENDIX C: MATERIALS & FINISHES

FINISHES SCHEDULE					
ROOM NUMBER	ROOM DESCRIPTION	FLOOR	CEILING	WALLS	Remarks
100	VESTIBULE	CO-1	ACT-1	PT-1	
101	RECEPTION AREA	CO-1	ACT-1	PT-1, PT-2	
102	REGISTRATION AREA	CO-1	ACT-1	PT-1, PT-2	
103	OFFICE 1	CPT-1	ACT-1	PT-1	
104	GALLERY SPACE	CO-1	GB-1, PLAM-2	PT-1, PT-2	
105	INTERACTIVE 1	CO-1	ACT-1	PT-2	
106	INTERACTIVE 2	CO-1	ACT-1	PT-2	
107	RECEIVING 1	CO-1	GB-1	PT-1	
108	HALLWAY 1	CO-1	ACT-1	PT-2	
109	COMMUNIT/FEAUTRE WALL	CO-1, CPT-1, CPT-2, CPT-3	ACT-1	PT-2	
110	INTERACTIVE 3	CO-1	ACT-1	PT-2	
111	UTILITY	SV-1	GB-1	PT-1	
112	DATA/I.T	CPT-1	GB-1	PT-1	
113	VR ROOM	CO-1	ACT-1	PT-2	
114	OFFICE 2	CPT-1	GB-1	PT-1	
115	HALLWAY 2	CO-1	ACT-1	PT-2	
116	COAT/LOCKER	CO-1	ACT-1	PT-1	BACK PAINTED GLASS//PT-1
117	LOUNGE SPACE	CO-1, CPT-1, CPT-2, CPT-3	N/A	PT-1, PT-2	BACK PAINTED GLASS/PT-2,. DECORATIVE SUSPENDED ELEMENTS
118	CAFE/BAR AREA	CO-1	ACT-1	PT-2	BACK PAINTED GLASS/PT-2,. DECORATIVE SUSPENDED ELEMENTS
119	PANTRY/ STORAGE	SV-1	GB-1	PT-1	
120	MERCH. AREA	SV-2	GB-1	PT-1	BACK PAINTED GLASS//PT-1
121	HISTORY LANE 1	CO-1	ACT-1	PT-1	
122	INTERACTIVE EXPERIENCE	CPT-2	ACT-1	PT-2	
123	RECEIVING 2	CO-1	GB-1	PT-1	
124	KINETIC EXPERIENCE	SV-3	ACT-1	PT-2	
125	HALLWAY 3	CO-1	ACT-1	PT-1, PT-2	
126	W/C	SV-1	GB-1	PT-1	
127	W/C	SV-1	GB-1	PT-1	
128	W/C	SV-1	GB-1	PT-1	
137	STAIRS 1	CO-1	ACT-1	PT-2	
138	ELEV.	N/A	N/A	N/A	
200	CIRCULATION AREA	TL-1	N/A	N/A	
201	PORTABLE CAFE/BAR	N/A	N/A	N/A	
202	EVENT SPACE	TL-1	N/A	N/A	
203	OUTDOOR STORAGE	CO-1	GB-1	PT-1	
204	UTILITY	CO-1	GB-1	PT-1	

FINISHES LEGEND:

PAINT

PT-1 SHERWIN WILLIAMS SW 7005 PURE WHITE
PT-2 BENJAMIN MOORE, KENDAL CHARCOAL HC-166

SAFETY FLOORING/SHEET VINYL

SV-1 ALTRO STRONGHOLD 30, CANNON K30911
SV-2 MONDO UNI FLOORING. COLOUR: ICE U099
SV-3 MONDO UNI FLOORING. COLOUR: STONE U055

MILLWORK

PLAM-1 WILSONART WHITE D35 - HIGH GLOSS
PLAM-2 DESIGNER WHITE
PLAM-3 REGIMENTAL D12

STONE

STN-1 LAMINAM
CALCATTÀ MICHELANGELO
STN-2 LAMINAM
PIETRA GREY

FABRIC/UPHOLSTERY

FAB-1 MAHARAM - 459950-GOSSAMER
FAB-2 MAHARAM - 466435-002 FRIEZE
FAB-3 MAHARAM - 459950-106 ANECDOTE
FAB-4 MAHARAM - 7009-035 BLAZE

WOOD

WD-1 RECLAIMED WHITE OAK
APPLICATION: BENCH SEATING AREA,
OTHER WOOD TRIMS AND ACCENT

GENERAL FLOORING/EXISTING

CO-1 EXISTING CONCRETE
RESEAL AND TREATED

OUTDOOR TILE

TL-1 AMES TILE - WIDE, COLOURS: VAPOUR
TL-2 AMES TILE - WIDE, COLOURS: FOG
TL-3 AMES TILE - WIDE, COLOURS: ASPHALT

DECORATIVE CEILING

RECLAIMED AUTOMOTIVE TITANIUM PIPES

CARPET FLOORING

CPT-1 MILLIKEN URBAN SKETCH. COLOURS: URBAN SKETCH,
OYSTER SHELL
CPT-2 MILLIKEN URBAN SKETCH. COLOURS: URBAN
PORTRAIT - CHARTREU FLINT
CPT-3 MILLIKEN URBAN SKETCH. COLOURS: URBAN
PORTRAIT - BLACKEND MULCH
CPT-4 CUSTOM CARPET TILE FROM MILLIKEN. GRAPHICS
AND PATTERN WILL BE PROVIDED BY OWNER.



Fig. 50. Material Board. [Photograph by Author]

MATERIAL BOARD