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| **BUSINESS CASE** | |
| **Proposed Project** | SUSTAINABLE URBAN TRANSPORT INITIATIVE IN WATERLOO, KITCHENER, AND CAMBRIDGE FOCUSING ON GRAND RIVER TRANSIT. |
| **Date Produced** | October 1, 2023 |
| Background | The Waterloo Region faces several critical challenges that require immediate attention:    **Environmental Concerns:** The region is confronted with pressing environmental issues, particularly the imperative need for sustainable transportation options to combat rising greenhouse gas emissions. With heightened awareness of climate change and air quality concerns, sustainable transportation is a top priority.    **Population Expansion:** The continuous influx of international students and businesses into the area exerts considerable strain on the existing transportation infrastructure. The need to accommodate this population growth while maintaining transportation efficiency is paramount.    Therefore, a well-connected transportation network is pivotal in bolstering economic vitality; easy access to work, educational institutions, and essential services is crucial for sustaining the region's economic growth and prosperity.    **Project Overview:**    This project seeks to establish a comprehensive Sustainable Urban Transportation Initiative across the expansive Waterloo Region, encompassing three cities and four townships. Its primary objective is to address the burgeoning demand for efficient and eco-friendly urban transportation solutions, with a specific focus on enhancing the Grand River Transit system.    The initiative entails the development of the public transportation system by incorporating electric and double-decker buses. This holistic approach aims to promote sustainable mobility throughout the region, aligning with the region's commitment to environmental responsibility and economic progress. |
| Business Need/ Opportunity | Our proposed project will address several immediate needs and opportunities in these proposed regions (Kitchener/Waterloo/Cambridge) which include:   1. **Alleviating Traffic Congestion:**   **Business Need:** The issue of traffic congestion in these areas have become critical, causing notable delays in commute times, increased gas consumption, and frustration for commuters.  **Opportunity:** This initiative will serve to relieve traffic congestion by encouraging the use of public transportation and eco-friendly ways of commuting which will invariably improve traffic flow while reducing travel time for both residents and businesses.   1. **Environmental Sustainability:**   **Business Need:** The need for both individuals and businesses to incorporate sustainable practices and reduce their carbon footprint in the process of meeting environmental regulations and customer demands is ever-increasing and cannot be over-emphasized.  **Opportunity:** With this initiative, we are offering both individuals and businesses the opportunity to support a transportation system that is sustainable, reduces commuting emissions, and significantly improves their quality of life as well as their corporate social responsibility (CSR) as businesses.   1. **Employee Quality of Life:**   **Business Need:** This initiative will attract and retain talent which is a vital concern for businesses. This is because, employees place great value on a work environment that is positive, supportive, and offers a high quality of life.  **Opportunity:** Improving the nature of public transportation will enable businesses to build a work environment which is attractive and can support talent acquisition and retention.   1. **Government Regulations and Incentives:**   **Business Need:** Governments have been increasingly promoting and encouraging the adoption and use of sustainable transportation through incentives, regulations, and grants.  **Opportunity:** This project is in direct alignment with these government regulations, therefore, will leverage available incentives and grants provided by the government and other individuals/institutions.   1. **Economic Growth:**   **Business Need:** As the expansion of businesses as well as economic growth are largely dependent on efficient and sustainable transportation systems, traffic congestion can significantly hamper the transportation of goods and services, leading to a drastic decline in the economy.  **Opportunity:** Instituting a transportation system that is efficient will boost economic growth by enhancing the timely movement of goods and services, reducing the cost of transportation, and attracting new businesses to these regions.  Therefore, our proposed topic will address critical and vital business needs related to traffic congestion, sustainability, attraction of talent, government support, economic growth, ad partnership opportunities in the Kitchener/Waterloo/Cambridge regions. This will better these communities while giving GRT (Grand River Transit) a competitive edge over other transportation companies. |
| Options | 1. **Environmental initiative:** Replace 23% of GRT diesel fueled buses to electric to reduce carbon emission. 2. **Comfort and Convenience:** Introducing Double Decker Buses on High-Traffic Routes 3. **Economic prosperity aspect:** Increase the frequency of bus commute times |
| Cost-Benefit Analysis | |
| **Option 1: Environmental Initiative - Electrifying 23% of GRT Buses to Reduce Carbon Emissions**    **Cost per Electric Bus:** $1.5 million    To replace 23% of the existing 285 GRT buses with electric models, a total of 66 electric buses will be procured.    **Total Budget:** $99 million    **Benefits:**  1. **Reduced Carbon Emissions:** The transition to electric buses contributes to a significant reduction in carbon emissions, aligning with sustainability goals.  2. **Promotion of Sustainability:** This initiative aligns with the Sustainable Development Goals (SDGs), emphasizing the commitment to environmental responsibility.  3. **Enhanced Brand Recognition:** Demonstrating a commitment to sustainability can enhance the organization's reputation among environmentally conscious customers.  4. **Corporate Social Responsibility (CSR):** Embracing environmentally friendly practices exemplifies a commitment to corporate social responsibility and sustainable business practices.    **Option 2: Comfort and Convenience - Introducing Double Decker Buses on High-Traffic Routes**    Cost per Double Decker Bus: $1.1 million    The plan involves replacing the existing buses on the top 20 popular routes with double-decker buses to accommodate more passengers comfortably.    **Total Budget:** $22 million    **Benefits:**  1. **Increased Passenger Capacity:** The double-decker buses are designed to accommodate up to 90 passengers, providing space for 20 more individuals compared to traditional buses.  2. **Enhanced Comfort and Convenience:** This upgrade offers passengers a more comfortable and convenient travel experience, contributing to excellent customer service.  3. **Improved Efficiency:** Addressing the issue of overcrowding and long waits at bus stops, the double-decker buses enhance efficiency by minimizing instances of fully occupied buses passing by.    **Option 3: Economic Prosperity Aspect - Increase the Frequency of Bus Commute Times**  Enhance the frequency of GRT bus services to boost economic prosperity within the region.  **Cost**   * **Operational Costs:** These will include additional fuel expenses, maintenance costs, and staff hours associated with increased bus services. * **Infrastructure Costs:** Building or upgrading bus stops, terminals, and infrastructure to accommodate increased frequency. * **Marketing and Promotion**: Costs associated with promoting the improved service to passengers.   **Total Budget: $25 million**  **Benefit**  1. **Increased Ridership:** Improved bus frequency is likely to attract more passengers, increasing ridership and fare revenue.  2. **Reduced Wait Times:** Passengers benefit from reduced waiting times, leading to a more convenient and efficient commute.  3. **Economic Activity Boost:** Enhanced public transportation can lead to increased economic activity as passengers may use this efficient mode of travel for work and leisure.  4. **Environmental Benefits**: Encouraging more people to use public transportation can contribute to reduced traffic congestion, lower carbon emissions, and improved air quality. | |
| **Recommendation** | |
| Given the growing population within the Waterloo region and the escalating demand for an environmentally sustainable public transportation system, **Options 1 and 2** will be implemented to enhance the effectiveness of the Grand River Transit Transport System. These options are strategically chosen to only optimize the transit system's efficiency and also foster a sustainable ecological environment. | |