THE TOWN OF HALTON HILLS SPECIALIZED TRANSIT PLAN

FINAL DIRECTION REPORT: EXECUTIVE SUMMARY

SUBMITTED BY:

LEFT TURN RIGHT TURN LTD.

To the attention of:

The Town of Halton Hills

June 10, 2021

TABLE OF CONTENTS

1 INTRODUCTION

The Town of Halton Hills has developed a Specialized Transit Plan to improve the ActiVan service within the Town and support the broader Halton Hills Transit Service Strategy.

The Specialized Transit Plan was developed in two phases. Phase 1 (Mid-term Directions) summarized the short-term plan and presented the findings of the current state assessment and made recommendations that impacted the 2021 operating budget. These included adjustments to the service delivery model and service improvement recommendations to better align with the AODA. This Phase 2 report summarizes ActiVan's long-term vision and plan to meet demand, improve service efficiency and customer service for the next 10 years. Figure 1 outlines the tasks involved in both phases.

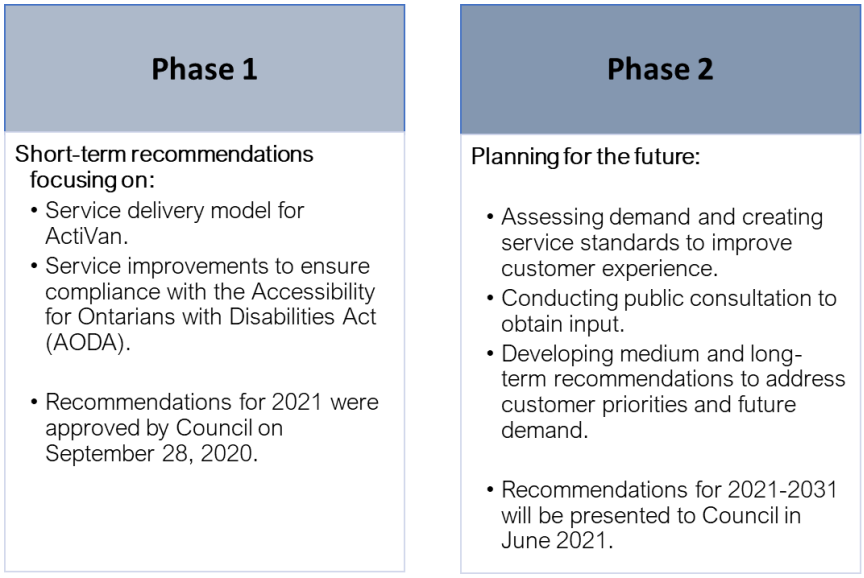

Figure 1 - Overview of the Specialized Transit Plan

The development of the Specialized Transit Plan involved extensive staff discovery sessions, stakeholder meetings and public engagement. Central to the project were two virtual open houses conducted to obtain public input about customer experience that fed into the recommendations. Figure 2 outlines the various stakeholders engaged throughout the project, including customers, the Accessibility Advisory Committee, community partners who provide services to ActiVan's customers, and regional peer agencies.

Figure 2 - Stakeholders engaged throughout the project

Stakeholders were engaged in virtual meetings throughout both phases of the Specialized Transit Plan. The project team met with these stakeholders to inform and gain input into the outcomes of the Plan and to understand current customer experience and challenges, and to define areas for service improvement. The feedback informed the finalization of the service standards and study recommendations.

2 SHORT TERM RECOMMENDATIONS & MIDTERM DIRECTIONS REPORT

Figure 3 outlines Phase 1 recommendations that were presented to and approved by Council in September 2020. Phase 1 recommendations focused on selecting a service delivery model to apply going forward and addressing gaps in AODA compliance. Details of Phase 1 recommendations can be found in the Town of Halton Hills Specialized Transit Plan Midterm Directions Report. These recommendations have been approved as part of the 2021 budget and are currently being implemented.

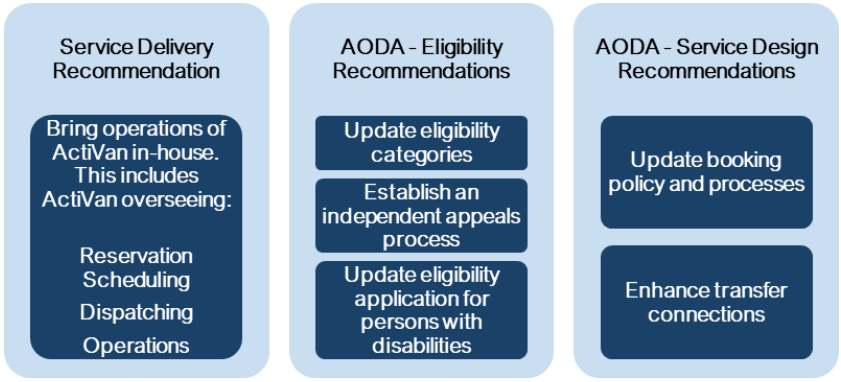

Figure 3 - Phase 1 Council approved recommendations for 2021

3 KEY FINDINGS

The development of the Specialized Transit Plan began with a current state assessment that involved extensive staff discovery sessions, internal stakeholder meetings, public engagement and data analysis of current conditions and future demand for service. The findings of this assessment provided an understanding of ActiVan's current state as well as challenges and opportunities it faces in the future. The discussions with stakeholders and the results of the public survey revealed that ActiVan staff have a strong dedication to serve customers and are eager to make required changes to improve efficiency and customer service. While ActiVan has many efficient processes and provides excellent customer service, there are some areas of improvement to better align with the AODA, optimize efficiency, prepare for growth and improve cross-boundary travel for customers. Figure 3 outlines the key project findings.

Excellent Customer Service
ActiVan staff are dedicated to providing high quality and timely service to their customers. ActiVan views its relationship with its customers as a top priority and continuously strives to improve it.

Misalignment with the AODA
ActiVan's current policies and processes are mostly aligned with the AODA. However, there are some eligibility and service design changes that ActiVan should implement to better align with the AODA, increase efficiencies and enhance customer experience.

Challenging Cross-boundary Travel
ActiVan's current service does not provide efficient cross-boundary trips. Based on survey results, customers voiced that they would like more information and opportunities for cross-boundary travel.

Focus on Net Zero Commitment
Sustainability is one of Halton Hills' top priorities. ActiVan is dedicated to its net zero commitment and is resolved to transition to an electric fleet by 2031.

Efficient Operational Process
ActiVan has been applying many best practices in establishing processes to ensure efficient operations. No show rates are low and scheduling processes are effective. However, there are opportunities to further improve efficiencies in both service planning and scheduling.

A New Approach to Service Delivery
The current model with in-house operations has been working well for ActiVan in many ways. However, in anticipation of future growth and increased costs, new options must be evaluated to ensure the best model is being utilized.

Preparing for Universal Access Service (UAS)
The introduction of the Universal Access Service will impact ActiVan's eligibility and operational policies and processes.

Growing Demand for the Service
The COVID-19 pandemic has impacted current demand and is expected to have an impact on ridership in the next 1-3 years. Beyond that, however, ridership is expected to re-bound, and demand is anticipated to grow substantially. In the next 10 years, ridership on ActiVan is expected to grow from 51,000 trips in 2022 to 86,000 trips by 2031.

Figure 4 - Key findings from current state assessment and stakeholder engagement

4 SERVICE AND ASSET PLAN

The following outlines the ActiVan service and asset plan over the next 10 years. The plan addresses projected growth in demand and aims to improve service efficiency, service quality and meet Town goals. Figure 5 provides a simplified overview of how the service and asset plan was developed.

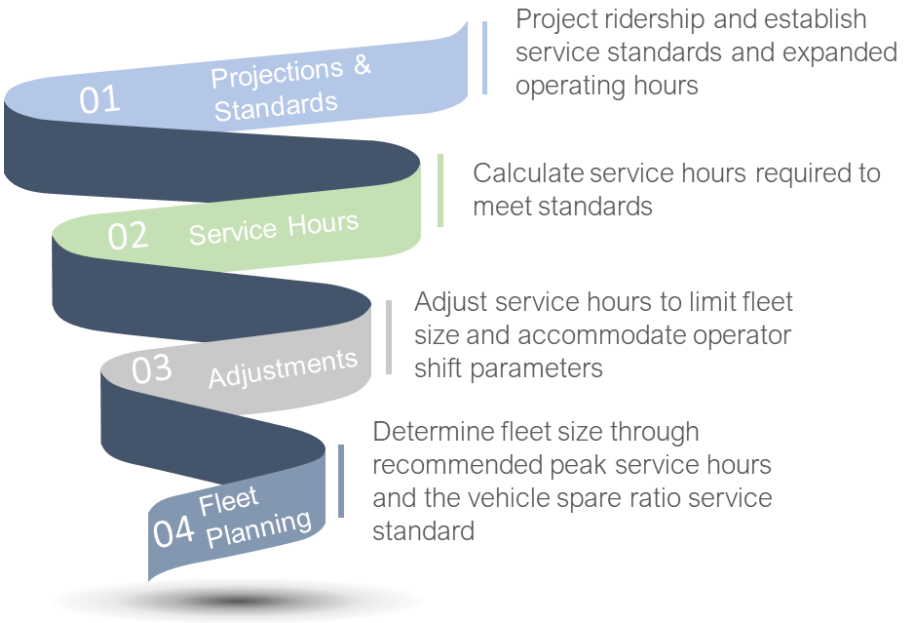

Figure 5 - Methods of Service Plan and Asset Plan Development

Ridership projections and service standards form the foundation of the service plan and together are used to calculate the service hours required to meet standards. Several other service recommendations, including expanding operating hours and better matching of service to demand further help to shape the calculation of service hours in meeting standards. The calculated service hours are then adjusted to limit fleet size and accommodate operator shift parameters while still meeting service standards. The final recommended service hours are then used to determine fleet size. This is done by applying the vehicle spare ratio service standard to the recommended peak service hours or recommended peak vehicles. Staffing calculations are related to the recommended service hours with adjustments to account for operational and administrative considerations.

4.1 SERVICE STANDARDS

Service standards were developed to guide ActiVan in the design of its policies and practices towards effective achievement of its goals. They were developed with consideration to peer and industry standards and best practices, and an assessment of current challenges, including public engagement input, current ActiVan performance and an effort to maintain or surpass the current customer experience. The standards

played an important role in guiding the development of the service and asset plan and other recommendations in later sections of this report. The standards are intended to broadly cover all areas of ActiVan functions and measures of success and are broken down into five key focus areas; Eligibility, Customer Service, Service Quality, Service Efficiency and Operations. It is recommended that ActiVan enact as policy the five key focus area standards identified in Figure 6 below.

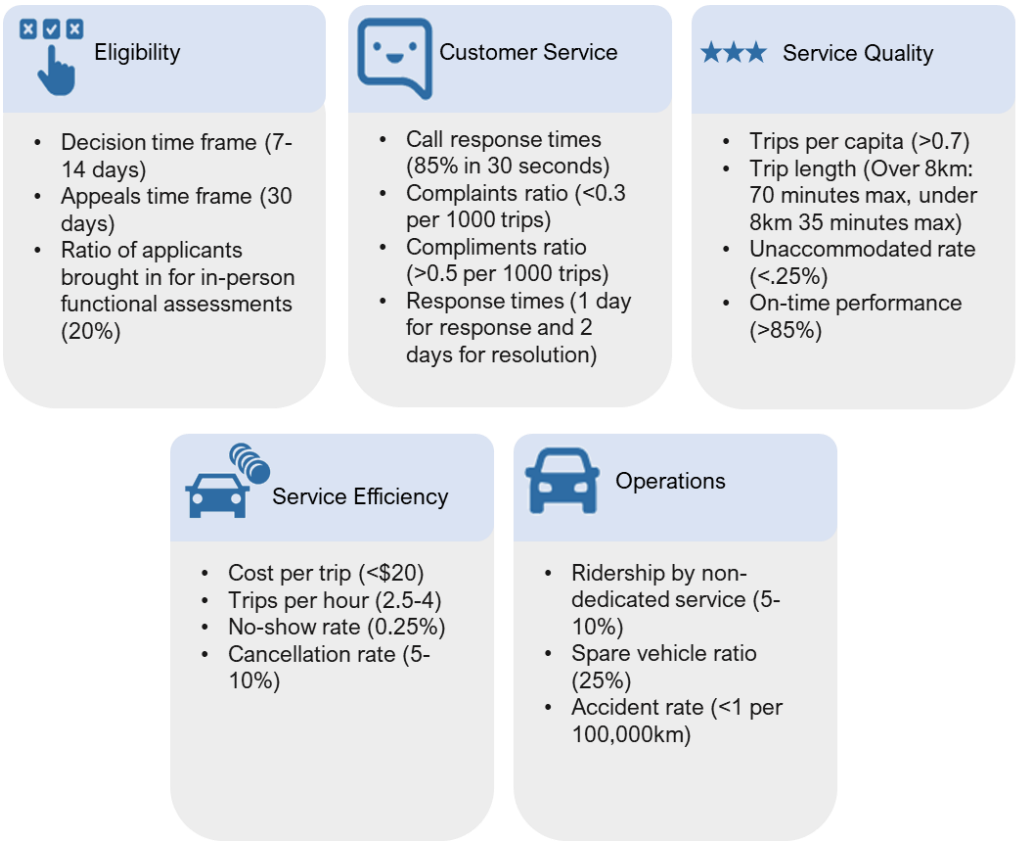

Figure 6 - Service standards

4.2 PROJECTED GROWTH

ActiVan ridership is closely tied to levels of population, employment, and the proportion of seniors in the population. All three factors are expected to grow significantly over the next 10 years, thus increasing expected demand for ActiVan. Recommended changes to the fare structure, operating hours and dedicated vehicle span of services will also increase ridership. The COVID-19 pandemic has impacted current demand and is expected to have an impact on ridership in the next 1-3 years. Beyond that, however, ridership is expected to rebound, and demand is anticipated to grow substantially due to the factors outlined above. ActiVan's ridership (not including Taxi Scrip) is expected to increase from approximately 51,000 trips in 2022 to 77,000 trips in 2026 and 86,000 trips in 2031. Figure 7 below outlines the projected ridership for the next 10 years.

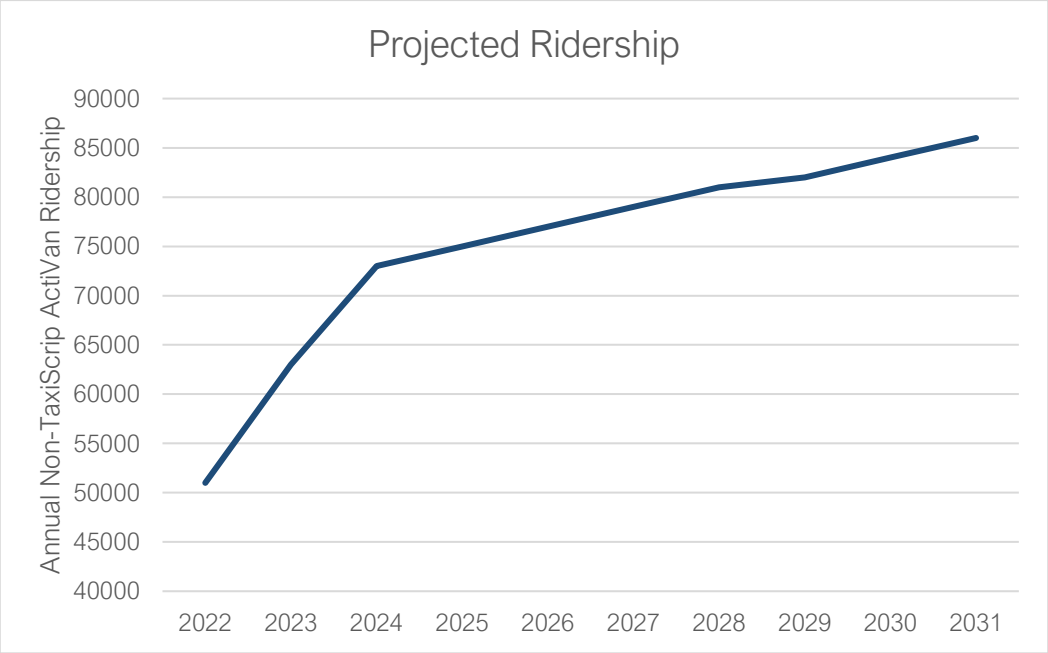

Figure 7 - Projected growth in ActiVan trips (not including Taxi Scrip trips)

The following recommendations are required to support the anticipated growth in service while enhancing the efficiency and quality of the service The increased demand refers only to non-Taxi Scrip trips. Overall trips, including Taxi Scrip are expected to decline significantly when UAS replaces Taxi Scrip trips.

There is uncertainty regarding the population projections used for this study due to the delay in anticipated growth based on Halton Region's Official Plan and Halton Region's Integrated Growth Management Strategy. Revised projections may reduce the ridership projections but are expected to be small enough so as to not affect the recommendations in this study.

4.2.1 Service Plan Recommendations

The following recommendations help to improve service efficiency and quality and are used to calculate recommended service hours which, in turn, guide fleet and staff planning.

Increase service to match projected demand

The service hours outlined in Figure 8 have been recommended to accommodate the growing demand and established service standards. The trips per hour and the ridership by non-dedicated service standards are predominately used to determine the appropriate level of service relative to demand. Non-dedicated services are those that do not purely serve ActiVan customers such as ad-hoc taxis, Taxi Scrip and UAS. Service hours are also adjusted to limit capital purchases and accommodate operator shifts. The recommendations affect both demand and service hours.

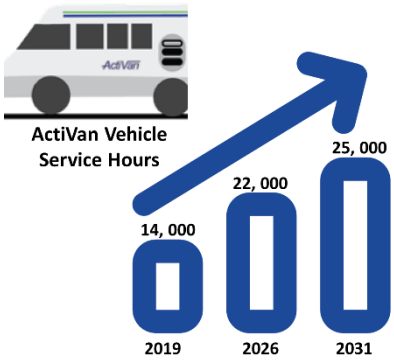

Figure 8 - Projected annual vehicle service hours (not including Taxi Scrip)

Extend operating and dedicated ActiVan vehicle hours

The extension in service hours will enable ActiVan to address current accessibility issues, provide more convenient transportation options for customers and meet legislative requirements. The recommended hours are planned to effectively capture projected demand and better align with planned Universal Access Service (UAS) operating hours and those of adjacent transit services. Figure 9 below outlines the recommended expansion in service hours for the entire ActiVan service and the extension for the use of its dedicated accessible vehicles.

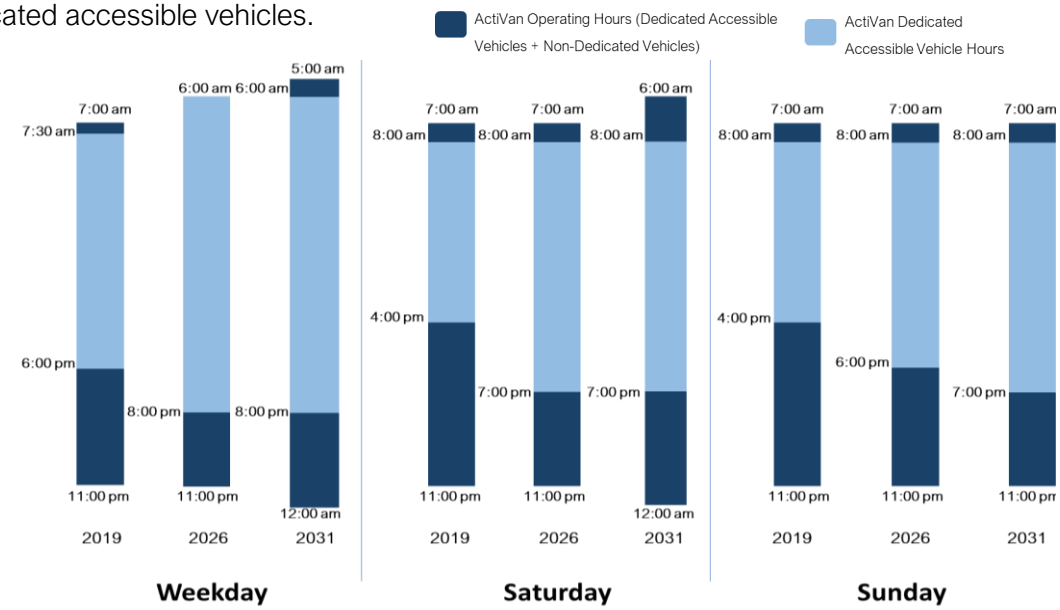

Figure 9 - Planned ActiVan operating hours

Match service to demand by time of day

Current service levels are flat throughout any given weekday with five dedicated ActiVan vehicles generally on the road between 7:30am and 5pm. However, weekday demand fluctuates with peaks occurring around 8-9am and 3pm. Customers and staff reported challenges in meeting trips requests on weekdays around 3pm prior to the pandemic. The proposed service plan better matches daily service to demand to improve service efficiency and quality.

Figure 10 below shows the percentage distribution of the demand, current service and recommended future planned service throughout an average weekday. For example, nearly 14% of current weekday trips occur between 8am and 9am. However, only 8.5% of weekday ActiVan service hours are delivered during this time period. The service plan proposes an increase in the relative number of vehicles on the road during this peak demand period. This would increase the percentage of weekday service between 8am and 9am to 12% and 13% in 2026 and 2031, respectively. Figure 10 also highlights service hour adjustments made to limit vehicle purchases adjust for operator shifts. Both factors slightly flatten the planned level of service throughout the day compared to demand, specifically for the 3pm peak period.
It is recommended that ActiVan plan service according to demand by hour of day and day of week on a quarterly basis to enhance service efficiency and quality.

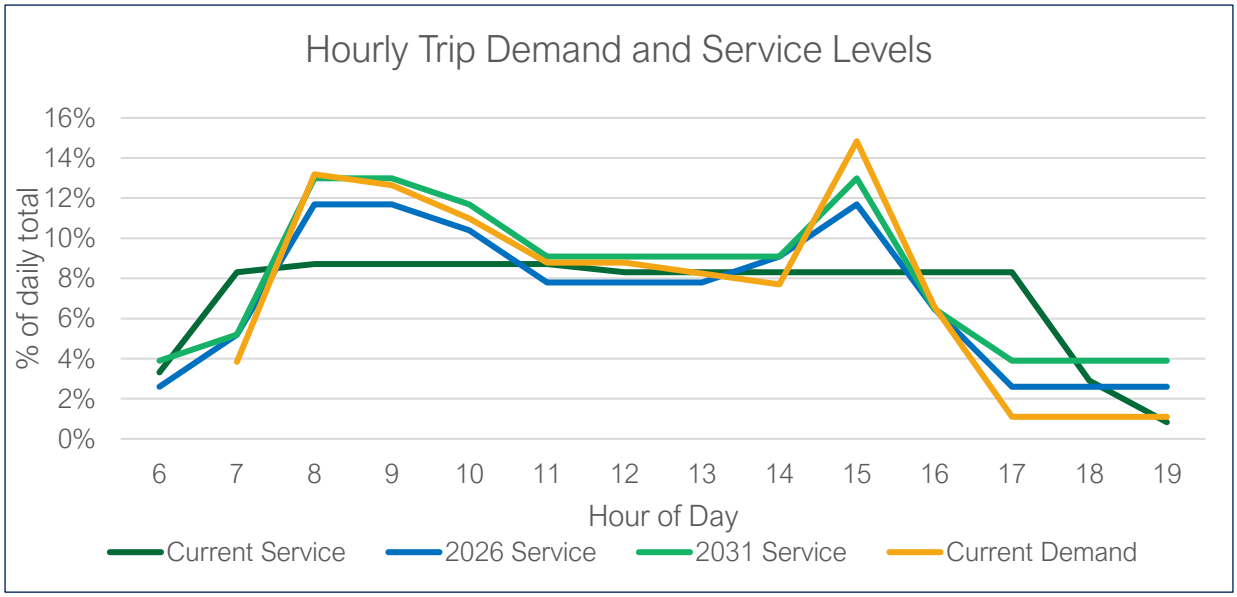

Figure 10 - The hourly % of daily weekday trips and vehicle service hours for current and planned service

The recommended vehicles by hour of day and day of week are presented in the Figure 11 below. Recommended vehicles approximately match the number of service hours in any given hour of day. These recommended vehicles reflect the aforementioned calculations used to determine appropriate levels of service hours by hour of day and day of week.

Current and Recommended Vehicles in Service by Time Period									
	Weekday			Saturday			Sunday		
Hour	Current vehicles in service	2026 Proposed vehicles in service	2031 Proposed vehicles in service	Current vehicles in service	2026 Proposed vehicles in service	2031 Proposed vehicles in service	Current vehicles in service	2026 Proposed vehicles in service	2031 Proposed vehicles in service
6		2	3						
7	5	4	4						
8	5	9	10	2	1	2	2	2	2
9	5	9	10	2	2	2	2	2	3
10	5	8	9	2	2	2	2	3	4
11	5	6	7	2	2	2	2	2	2
12	5	6	7	2	2	2	1	2	2
13	5	6	7	2	2	2	1	2	2
14	5	7	7		2	2		2	2
15	5	9	10		2	2		2	2
16	5	5	5		2	2		2	2
17	3	2	3		2	2		2	2
18	1	2	3		2	2			2
19		2	3						

Figure 11 - Vehicles in service by hour for current and planned service

Fleet requirements are largely tied to peak period demand. To guide fleet purchase decisions, ActiVan should monitor demand (trips + unaccommodated requests) per service hour on weekdays between 8-10AM and 3-4PM. Peak vehicle capacity should ensure that the higher of the two trips per service hour rates lies between 3.85 and 4.25.

Match service to demand seasonally

Figure 12 displays the seasonal fluctuation in ActiVan demand. Service levels are planned to decline in summer and over the December holidays from those indicated in Figure 11, to reflect reduced demand during those periods. It is recommended that ActiVan annually review seasonal fluctuations in demand and plan service accordingly.

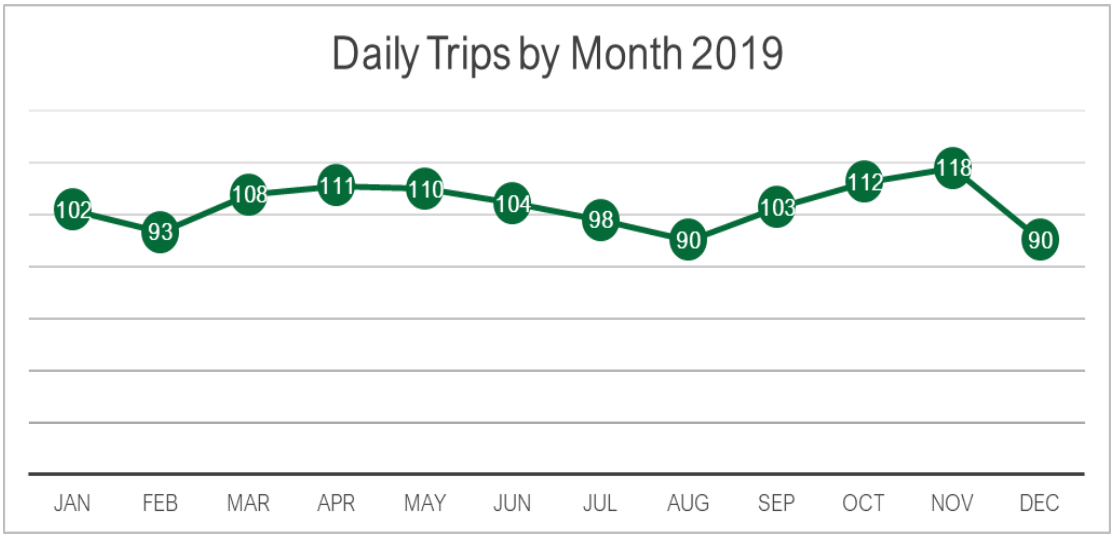

Figure 12 - Seasonal fluctuation in demand

4.3 FLEET PLAN

Figure 13 outlines the fleet plan developed to align with the current vehicle retirement process of seven years. The plan also recommends the purchase of additional vehicles to support peak service hours and the vehicle spare ratio standard (25%) recommended in study. To deliver on the service plan, it is recommended that ActiVan's fleet size increase by 60% in the next 10 years, from eight vehicles in 2022 to 13 by 2031.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Replacement vehicles										
MV 1 (Replaced with ProMaster's)	1	1								
Bus	1		1				1	1		2
ProMaster			1		1		1	1	2	1
New Vehicles										
Bus			1					1		
ProMaster		1			1			1		
Total vans in fleet	5	6	6	6	7	7	7	8	8	8
Total buses in fleet	3	3	4	4	4	4	4	5	5	5
Peak period fleet capacity	6	7	8	8	9	9	9	10	10	10
Spare vehicles	2	2	2	2	2	2	2	3	3	3
Total fleet	**8**	**9**	**10**	**10**	**11**	**11**	**11**	**13**	**13**	**13**

While this plan provides overall fleet guidance, due to uncertainties in future ridership it is recommended that demand be tracked on a yearly basis to guide vehicle purchases. New vehicles should be purchased when peak hour demand (trips + unaccommodated requests) per service hour reaches 4.2. Additional vehicle purchases should also be made to ensure the spare ratio service standard is met.

Figure 13 - Proposed fleet plan

4.3.1 ELECTRIFICATION OF ACTIVAN'S FLEET

As part of the Council's Climate Change Resolution and the Town of Halton Hills' Low Carbon Transition Strategy, ActiVan has a directive to have a fully electrified fleet by 2031. Electric vehicles not only reduce GHG emissions and are much more environmentally friendly than diesel/gasoline vehicles but are also more efficient to operate with lower maintenance costs. In order to meet the Council's direction to go fully electric by 2031, it is recommended that ActiVan procure battery electric buses (BEBs) for all new bus purchases and replacements starting in 2024.

While technology is continuously changing for BEBs, they are still in the early stage of maturity, especially for electric vehicles used in specialized transit. At present, indoor storage is a key requirement necessary to support an electric fleet. In order to facilitate a transition beginning in 2024, substantial investments in supporting infrastructure would be required by the Town of Halton Hills prior to the delivery of multiple battery-electric buses.

It is recommended that an electric bus feasibility study be conducted in 2022 to assess detailed requirements of transitioning to an electric fleet. This includes an assessment of facility, infrastructure, maintenance and operations processes and training and all associated costs. The facility analysis should evaluate the infrastructure requirements that will enable the construction of the new facility to support an electric fleet. This involves assessing the power upgrades required to charge a full fleet, facility layout analysis to ensure sufficient space for charge stations, backup generator and operational layout to ensure efficient mid-day charging and vehicle pull-in and pull-out procedures. Consideration of a safe high voltage zone may also be required during maintenance of vehicles as electric vehicles are high voltage. Prior to deployment, it is recommended that the Town's maintenance staff and operators obtain BEB related training. The maintenance of BEBs differ from a traditional gasoline or diesel bus, as electric vehicles do not have as many moving parts (e.g. engine, transmission), and require new procedures with regards to charging and battery maintenance. Given their high voltage, maintenance technicians will also require high-voltage training in order to perform maintenance and repairs.

Bus operators will require training to drive battery electric buses. Although research suggests there is little difference in operating a BEB, training is still recommended to help drivers become comfortable with electric buses (as apprehension of new technology is expected). Training also helps to reinforce good driving habits to optimize the efficiency of electric buses by increasing battery life and decreasing operating and maintenance costs. The feasibility study should determine the operational requirements for electric buses including potential changes in the scheduling process to ensure required charging levels. The

feasibility study will also analyze advances in technologies, reductions to green house gas emissions and updated assessment of costs associated with transitioning to an electric fleet.

Finally, battery optimization is crucial to efficient operations of electric vehicles. Therefore, monitoring battery use upon deployment and ensuring timely maintenance, and a process to safely dispose batteries at the end of their life will become an essential part of maintenance and operations. Figure 14 below highlights the key considerations in the transition to a fully electric fleet.

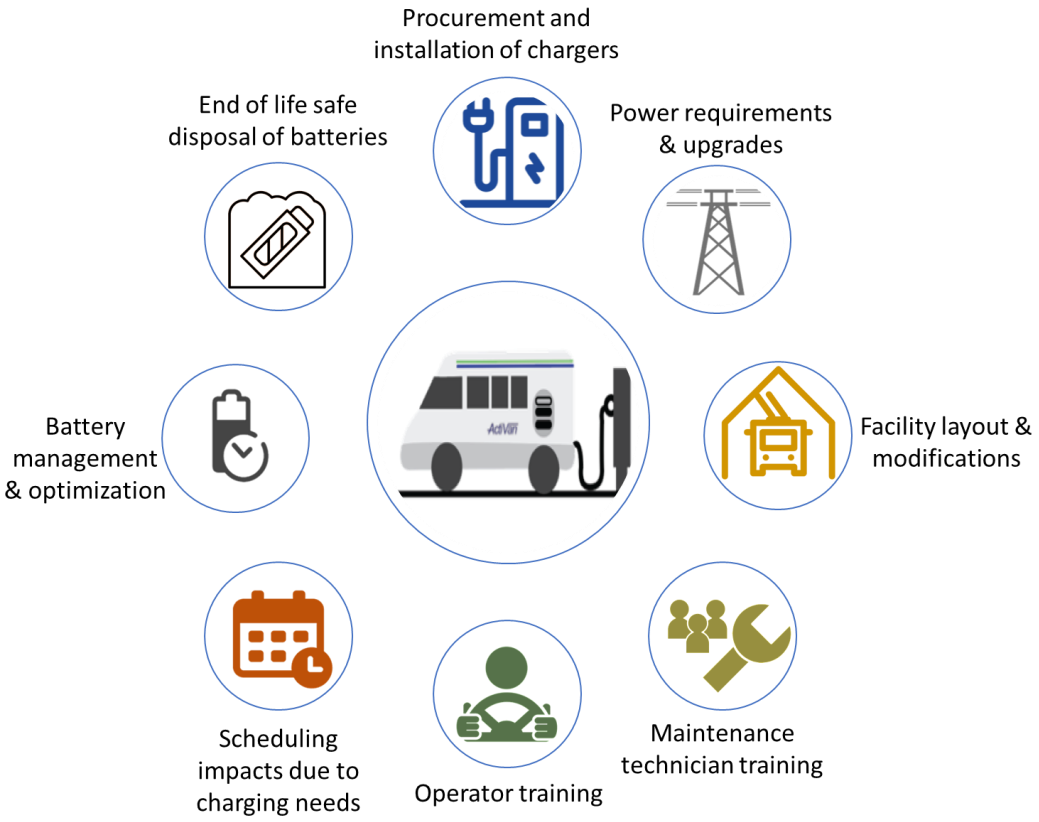

Figure 14 – Electric fleet considerations

Two budget scenarios have been developed (detailed further in Section 8 of the report) to compare the costs and timelines of procuring BEBs based on the completion of a new facility in either 2024 or 2029.

Scenario 1 (full electrification by 2031) is based on the assumption that a new garage facility is completed by 2024, or that the Town secure a temporary facility capable of housing the entire ActiVan fleet.

Scenario 2 (full electrification by 2035) is based on the assumption that a new garage facility is completed by 2029. In this scenario ActiVan would secure a temporary, albeit smaller, facility to support procurement of one (1) BEB to serve as a pilot.

In both cases, once a facility is secured and vehicle procurement is underway, the Town would also be required to purchase and install a battery electric charger (standard chargers can support two buses at a time). Next steps would be to provide maintenance technician and operator training prior to vehicle deployment as described in the section above. The high-level steps to deploying the first BEB is outlined in Figure 15 below.

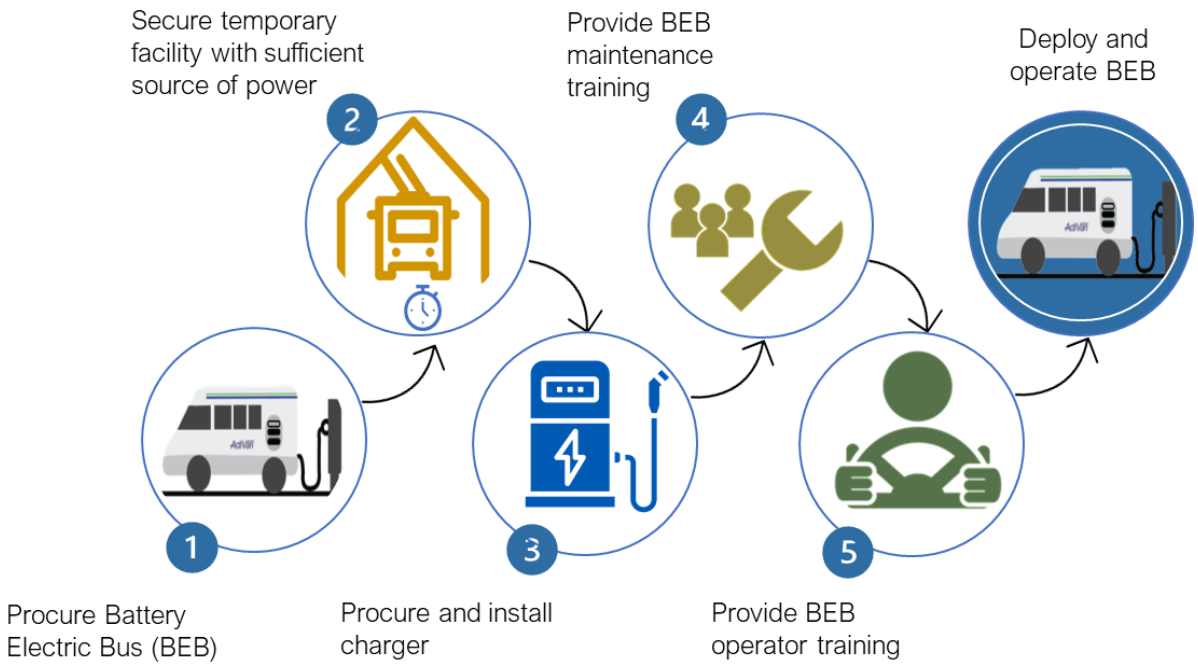

Figure 15 - Requirements to support the operation of BEB in a temporary facility

4.4 STAFFING PLAN

Staffing changes are needed to meet the recommended rise in service provision. Most growth in operator staffing is planned for full-time positions. Additional administrative staff demand is expected to meet rising service demand, increased managerial responsibilities due to in-house operators, and added eligibility-related responsibilities due to the introduction of UAS. Figures 16 and 17 below, represent the recommended staffing for operators and administrative staff, respectively.

Operators		
	Full-time	Part-time
Current	3	8
2026	8	6
2031	10	7

Figure 16 - Proposed Staffing Plan – Operators

Administration Staff		
	Full-time	Part-time
Approved for 2021 budget	3	4
2026	4	4
2031	4	4

Figure 17 - Proposed Staffing Plan – Administration staff

5 TECHNOLOGY RECOMMENDATIONS

Technology is an essential part of planning for the future and modernizing the way service is delivered to enhance efficiency and customer experience. Figure 18 below outlines the technology vision for ActiVan in the next years. These technology recommendations are made to enhance service delivery through improved scheduling capabilities, alternative methods of trip booking, modernized payment methods and support electrification.

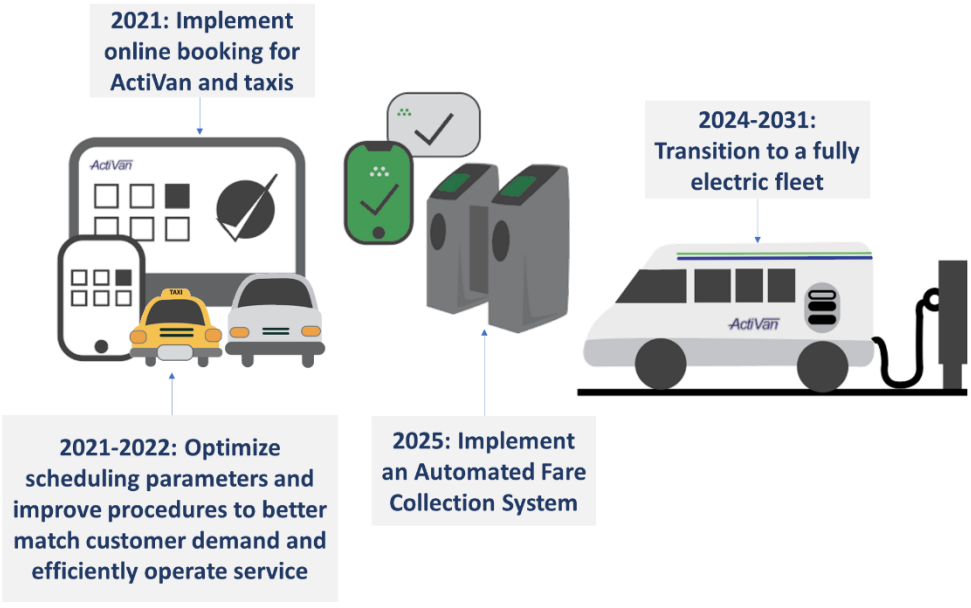

Figure 18 - Technology vision of ActiVan

Details of the above recommendations are provided below.

Technology Recommendations

2021

Implement online booking

ActiVan is currently in the process of rolling out TripSpark upgrades, a key component of these upgrades is implementing online booking. The online booking system will enable customers to book trips at any time, extending the ability to book outside of office hours. The online system will also increase efficiencies in the reservation process for ActiVan. It is recommended that ActiVan design the system to be simple and intuitive for its customers to use and provide customers with extensive marketing and training to ensure they are aware of and are comfortable using the system.

2021

Review TripSpark features and implement user training

The TripSpark application is feature-rich and requires training and retraining to keep aware of new tools and updates within the software. Doing so has the potential to significantly enhance booking and scheduling efficiently and better enable performance monitoring.

Over the next ten years, sizable advances are expected in automated and on-demand booking and scheduling. It will be important for ActiVan to keep pace with advances in TripSpark features to maximize cost-efficiency and service quality. It is recommended that enhancements begin in 2021 with greater participation in the TripSpark user community. $20,000 is budgeted for 2022 to improve the process for changing trip times in booking and for a health check and user training with TripSpark. The review and updating of speed and load time parameters are also planned for 2022.

2022

Conduct electrification feasibility study

It is recommended that ActiVan conduct a detailed feasibility study to assess advances in electric bus technology, power requirements, facility layout and upgrades to support an electric fleet. The feasibility study will also consider changes to maintenance procedures, scheduling impacts, analysis of greenhouse gas emissions and costs to operate an electric fleet.

2023

Extend current scheduling and dispatch software contract

The current system support agreement expires at the end of 2022.

ActiVan is recommended to extend the current scheduling and dispatch software conract to provide vendor support and warranty through to the planned end-of-life in 2025.

2024

Begin transition of fleet to electric vehicles

It is recommended that the Town begin its transition to an electric fleet with the purchase of battery electric vehicles and charging infrastructure in 2024. Depending on the completion of a garage facility by 2024, ActiVan is recommended to procure three electric vehicles. If the facility is not completed by 2024, the procurement of one pilot electric vehicle is recommended for 2024. BEB chargers will also need to be procured and installed to charge the fleet. Standard in-depot chargers allow for two buses to be charged at the same time. As a result, if three vehicles or one vehicle is procured, two or one charger(s) will be required, respectively.

2025

Replace scheduling and dispatch software

The current scheduling and dispatch system is anticipated to reach end-of-life at the end of 2025. Prior to the end-of-life, ActiVan is recommended to plan, procure and implement the new system.

2025

Implement an Automatic Fare Collection System

It is recommended that ActiVan implement an Automated Fare Collection (AFC) system on its buses to offer customers additional options to pay their fares and provide ActiVan with a modernized and efficient way to collect and manage fares. The AFC would complement the existing cash fare boxes on the buses by adding payments methods that could include tap cards, credit card and mobile payments. The AFC system would involve the installation of validators onboard the bus to accept tap payments and the implementation of a central software system to process the transactions.

2031

Fully transition to an electric fleet

The recommendation to fully transition ActiVan's fleet to electric vehicles relies on the construction of a new facility by 2024. With a completed facility built to support an electric fleet, multiple BEB procurements and chargers can be made starting in 2024 to ensure complete transition by 2031.

Figure 19 - Technology Recommendations

6 PROCESS AND POLICY RECOMMENDATIONS

Various process and policy recommendations were identified through staff discussions, stakeholder engagement and public surveys. Figure 20 lists the recommendation focus areas of the Specialized Transit Plan.

These include changes to scheduling, maintenance and operational processes, eligibility and fare policy and organizational communications strategies. These recommendations are made to enhance the customer experience and improve the efficiency in which ActiVan delivers its service.

Figure 20 - Summary of processes and policies recommendations

The fare policy recommendations are detailed below while all other recommendations are outlined in the following Implementation Plan.

Fare Structure Recommendations

Update fare structure to a flat fare for all time periods

Currently, customers are required to pay either a $3 or $4 fare depending on their travel time. $4 fares are charged when dedicated ActiVan vehicle service is not provided. To be consistent with best practices and be in alignment with its peer Milton Transit, it is recommended that ActiVan update its fare structure to a flat fare for all time periods at $4. This fare structure update will help to make payment consistent and seamless for customers.

Introduce $100 monthly passes

Currently, ActiVan fares are only paid on a trip-by-trip basis, which becomes costly for frequent riders. A monthly pass can help to reduce costs and increase transportation freedom and choice for those who rely on it the most. Introducing a monthly pass is also an effective means for decreasing the impact of the single fare increase. It is expected that approximately 8% of current customers who make up 49% of current trips would use the monthly pass and see their costs decrease. As a result, ridership is projected to increase by 3% and revenue by 32% due to the two fare changes. Several different monthly fare rates were analyzed but the $100 fare provided the best balance of maximizing revenues while also increasing ridership and thereby indicating transportation value for current and potential users.

Figure 21 - Description of fare structure recommendations

7 IMPLEMENTATION PLAN

2021

Scheduling & Service Planning

- Review hourly ActiVan demand quarterly to guide the provision of dedicated service
- Use taxis for trips over 10km and with one non-urban origin or destination in peak periods

Fleet, Maintenance & Operations

- Maintain the current van to bus ratio for all new vehicle purchases
- Replace the current 3 seat vans with 6 seat vans
- Install recycling bins on ActiVan buses

Technology

- Implement online booking
- Review TripSpark features and implement user training

Eligibility, Registration & Fare Policy

- Update registration card format
- Introduce a support person application for customers without disabilities who request a support person

Organizational Communications

- Establish regular quarterly meetings with Halton Region transit partners

2022

Scheduling & Service Planning

- Optimize scheduling by updating speed and load time parameters in TripSpark
- Extend ActiVan vans/buses service:
  Weekdays
  Start: 7am End: 6pm
  Saturdays
  Start: 8am End: 5pm

Fleet, Maintenance & Operations

Technology

- Conduct electrification feasibility study

Eligibility, Registration & Fare Policy

- Revise mini user guide & online user guide
- Update fare structure to a flat fare of $4 for all time periods and introduce $100 monthly passes

Organizational Communications

- Establish a point person dedicated to ActiVan marketing and communications
- Engage Senior leadership to learn more about ActiVan services

2023

Scheduling & Service Planning

- Extend ActiVan hours:
  Weekdays
  Start: 6am
  End: 11pm

Fleet, Maintenance & Operations

- Adjust maintenance processes to ensure availability of ActiVan vehicles
- Integrate Universal Access Service (UAS) booking with ActiVan contact centre

Technology

- Extend current scheduling and dispatch software contract

Implement Universal Access Service

Recommendations with a positive environmental impact

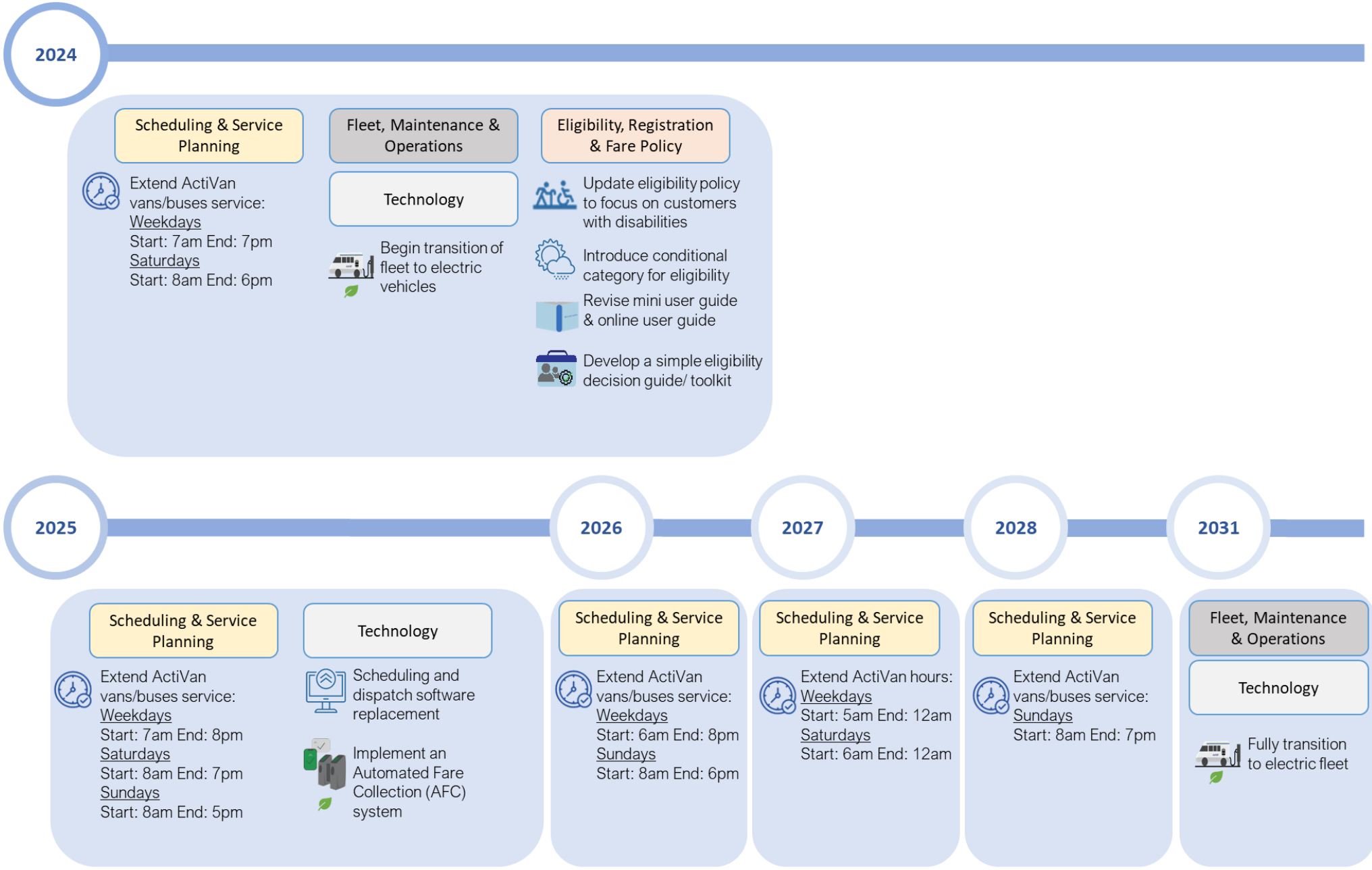

Figure 22 - Implementation Plan

8 BUDGET

8.1 OPERATING BUDGET

Operating budget expenses include administrative, maintenance, fuel and staffing costs for dedicated vehicles and contract costs for Taxi Scrip and taxis used on an ad-hoc basis to supplement service. Revenue encompasses ticket revenue from ActiVan vehicles and Taxi Scrip, rental revenue and payments from Halton Region to support reduced fares for low-income residents. No changes were projected to the provincial funding contribution, which is likely a conservative estimate. The contributions are tied to growing ActiVan trips and there is expected to be a continuing trend of increasing provincial spending on transit. Expected operating budgets are presented in the table below in 5-year increments from 2021. Year 2022 and 2024 are included as they present significant variations in the expected operating budget after fare changes and the introduction of UAS are assumed, respectively. The significant drop in 2024 revenue is attributable to the discontinuation of Taxi Scrip planned upon the implementation of the Universal Access Program.

Year	2019	2022	2024	2026	2031
Operating Expenses	$ 1,300,000	$ 1,950,000	$ 1,920,000	$ 2,160,000	$ 2,520,000
Operating Revenue	$ 290,000	$ 330,000	$ 230,000	$ 240,000	$ 270,000
Net Operating Cost Before Contributions	$ (1,020,000)	$ (1,620,000)	$ (1,700,000)	$ (1,920,000)	$ (2,250,000)
Provincial Funding Contribution (Gas Tax)	$ 566,000	$ 595,000	$ 595,000	$ 595,000	$ 595,000
Total Municipal Cost	$ (450,000)	$ (1,025,000)	$ (1,095,000)	$ (1,325,000)	$ (1,655,000)

Figure 23 - Proposed operating budget

8.2 CAPITAL BUDGET

In order to meet the directive to transition to a fully electric fleet by 2031 and align with the seven-year replacement cycle of current vehicles, transition to an electric fleet must begin in 2024. The most challenging pre-requisite for the Town would be provision of an indoor storage facility and charging infrastructure to support electric vehicles. Given the timeframes required to build a new facility, the Town will be required to lease an appropriately-sized temporary facility.

Alternatively, the Town of Halton Hills could take the strategic approach to defer electrification of ActiVan. Deferring full electrification of the fleet to 2035 would allow the Town to plan and build a new facility for 2029 to support all of the Town's varied fleets. This would avoid carrying costs of a temporary lease and would also allow the Town to monitor how the battery-electric bus market evolves in the coming years.

Two scenarios have been provided below to outline the capital budgets required investments reflecting the full electrification by 2031 and 2035. Facility costs are not included in the estimates.

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Standard Vehicle Purchase - Replacement	$280,000 1 Van, 1 Bus	$125,000 1 Van	-	-	-	-	-	-	-	-
Standard Vehicle Purchase - Fleet Addition	-	$125,000 1 Van	-	-	-	-	-	-	-	-
Electric Vehicle Purchase - Replacement	-	-	$440,000 1 Van, 1 Bus	-	$205,000 1 Van	-	$480,000 1 Van, 1 Bus	$495,000 1 Van, 1 Bus	$450,000 (2 Vans)	$810,000 (1 Van, 2 Buses)
Electric Vehicle Purchase - Fleet Addition	-	-	$250,000 1 Bus	-	$205,000 1 Van	-	-	$495,000 1 Van, 1 Bus	-	-
Electric Vehicle Charger Purchase	-	-	$280,000 2 Chargers	-	$150,000 1 Charger	-	$150,000 1 Charger	$310,000 2 Chargers	$160,000 1 Charger	-
Scheduling Software Purchases (TripSpark)	$20,000	-	-	$170,000	-	-	-	-	-	-
Automated Fare System	-	-	-	$150,000	-	-	-	-	-	-
UAS Integration	-	-	$50,000	-	-	-	-	-	-	-
Miscellaneous Purchases	$3,000	-	-	-	-	-	-	-	-	-
Total Capital Cost	**$303,000**	**$250,000**	**$1,020,000**	**$320,000**	**$560,000**	**$0**	**$630,000**	**$1,300,000**	**$610,000**	**$810,000**

Figure 24 - Scenario 1: Full fleet electrification by 2031 – Assumes garage facility completion by 2024

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Standard Vehicle Purchase - Replacement	$280,000 1 Van, 1 Bus	$125,000 1 Van	$130,000 1 Van	-	$135,000 1 Van	-	$320,000 (1 Van, 1 Bus)	-	-	-
Standard Vehicle Purchase - Fleet Addition	-	$125,000 1 Van	$160,000 1 Bus	-	$135,000 1 Van	-	-	-	-	-
Electric Vehicle Purchase - Replacement	-	-	$250,000 (1 Bus)	-	-	-	-	$495,000 1 Van, 1 Bus	$450,000 (2 Vans)	$810,000 (1 Van, 2 Buses)
Electric Vehicle Purchase - Fleet Addition	-	-	-	-	-	-	-	$495,000 1 Van, 1 Bus	-	-
Electric Vehicle Charger Purchase	- -	- -	$140,000 1 Charger	-		-	-	$310,000 2 Chargers	$160,000 1 Charger	$160,000 1 Charger
Scheduling Software Purchases (TripSpark)	$20,000	-	-	$170,000	-	-	-	-	-	-
Automated Fare System	-	-	-	$150,000	-	-	-	-	-	-
UAS Integration	-	-	$50,000	-	-	-	-	-	-	-
Miscellaneous Purchases	$3,000	-	-	-	-	-	-	-	-	-
Total Capital Cost	**$303,000**	**$250,000**	**$730,000**	**$320,000**	**$270,000**	**$0**	**$320,000**	**$1,300,000**	**$610,000**	**$970,000**

Figure 25 - Scenario 2: Full fleet electrification by 2035 – Assumes garage facility completion by 2029 and temporary accommodations in 2024

9 CLOSING REMARKS

The Town of Halton Hills has a forward-thinking attitude and an appetite for improvement that enables ActiVan to not only provide an efficient service but also transform the customer experience. The Specialized Transit Plan was developed with short, medium and long-term solutions to improve service efficiency and transform the customer experience from registration, to trip booking, to trip delivery. The next 10 years for ActiVan and its customers will be transformative in the way service is delivered and experienced. The recommended scheduling and operational processes will enable better matching of service and demand, while technological advances will propel ActiVan to modernize its services and provide customers with multiple and sustainable options to book trips and travel.