



TRANSIT AND PARKING STRATEGY MEMORANDUM

TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL

FROM: M. MCCONNELL, TRANSIT OPERATIONS PLANNER

NOTED: B. FORSYTH, DIRECTOR OF TRANSIT AND PARKING STRATEGY
R. JAMES-REID, EXECUTIVE DIRECTOR OF ACCESS BARRIE
M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RE: ROUTE 11 AND 1A ROUTE REVISION

DATE: MAY 28, 2018

The purpose of this Memorandum is to provide members of Council with an update concerning a minor route revision to route 1A and to route 11. As part of the 2018 Business Plan (motion 18-G-014) Council approved a service level change form that would extend route 11 to the Allandale Recreation Center and adjust the route frequency from 30 to 40 minutes in an attempt to increase the ridership on route 11. The minor revision of route 1A and route 11 are complimentary to each other and thus are expected to be implemented together. Implementation is expected to begin July 8, 2018. The full route revision reports can be found in **Appendix A**. Relevant highlights are as follows:

ROUTE 11:

- **Reason for Route Revision:** Route 11 has been in operation for approximately two years and maintains very low ridership relative to other routes. Barrie Transit's guiding service standard principles indicate a conventional fixed route should operate with a minimum ridership of 8.0 boarding's per service hour. It has been observed that route 11 operates with a ridership of 3.6 boarding's per service hour during weekdays and 2.3 boarding's per service hour during Saturdays.
- **Proposed Solution:** Barrie Transit staff are proposing to extend the service coverage of route 11 with the goal to improve ridership levels. Thus, route 11 will be re-routed (Map is included in Appendix A):
 1. From the relatively undeveloped section of Mapleview Drive to the industrially developed Saunders Road.
 2. The route will extend further north to Allandale Rec Centre and Innisdale High School from Park Place. Schedules have been optimized to coordinate with the high school bell times to encourage student ridership.
 3. *(Future Plans)* The route has been designed to extend and service the future First Responders Campus, and other businesses along the underserved Fairview Road. The route extension to Fairview road would be put in place following: A) the construction of the First Responders Campus, to ensure accessible pedestrian infrastructure is in place B) following the Fairview road closure associated with the Big Bay Point Rd/Harvie Rd overpass project.
- **Impact to Riders:** This route will operate with a higher headway and will be re-routed from some low-ridership stops (approximately 0.85 riders per day) to service more developed areas. This revision will provide a net 21 additional stops for riders to travel between work, the Allandale Recreation Centre, school, shopping, and home.



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- **Cost:** This revision has no budget implications.

ROUTE 1A:

- **Reason for Route Revision:** It has been observed that Route 1A is consistently late throughout the day with late observations increasing between 12:00 and 17:00 on a typical weekday. The late observations are most frequent from 17:00-18:00 with a late observations rate of 48% at each time point along the route. Late buses have significant implications to the actual and perceived reliability of Barrie Transit resulting in missed work schedules, appointments, leisure activities, or timed transfers.
- **Proposed Solution:** A solution was recommended by Barrie Transit Staff which 'loops' the bottom of route 1A (Map is included in Appendix A). This route revision saves approximately 5 minutes of travel time with minimal impact to riders. The 5 minutes of saved time will be accommodated throughout the route's schedule to improve on-time reliability and timed-transfers at the Barrie Transit Hubs (Park Place, Allandale GO, Downtown, etc.).
- **Impact to Riders:** It was determined that on an average weekday, 5.5 riders will be negatively impacted from the re-routed service and 25 riders will be positively impacted from a shorter travel time. The simultaneous Route 11 revision is planned to accommodate the 5.5 negatively impacted riders.
- **Cost:** This revision has no budget implications.

Staff will be rolling out a full communications plan that includes social media posts, Barrie Transit website notifications, MyRide notifications, and updates to all hard copy public schedules to keep the public up to date on the proposed route revisions.

APPENDIX A

Route 11- Proposed Route Revision

1.0 Introduction to Route Revision

1.1 Existing Route 11 Description

Route 11 operates between Fenchurch Manor and Barrie Transit's Park Place retail hub. This relatively short route is approximately 4 km. Route 11 operates from Monday to Saturday with a 30-minute frequency between 6:15a and 7:00p. The route map is provided in **Figure 1**.

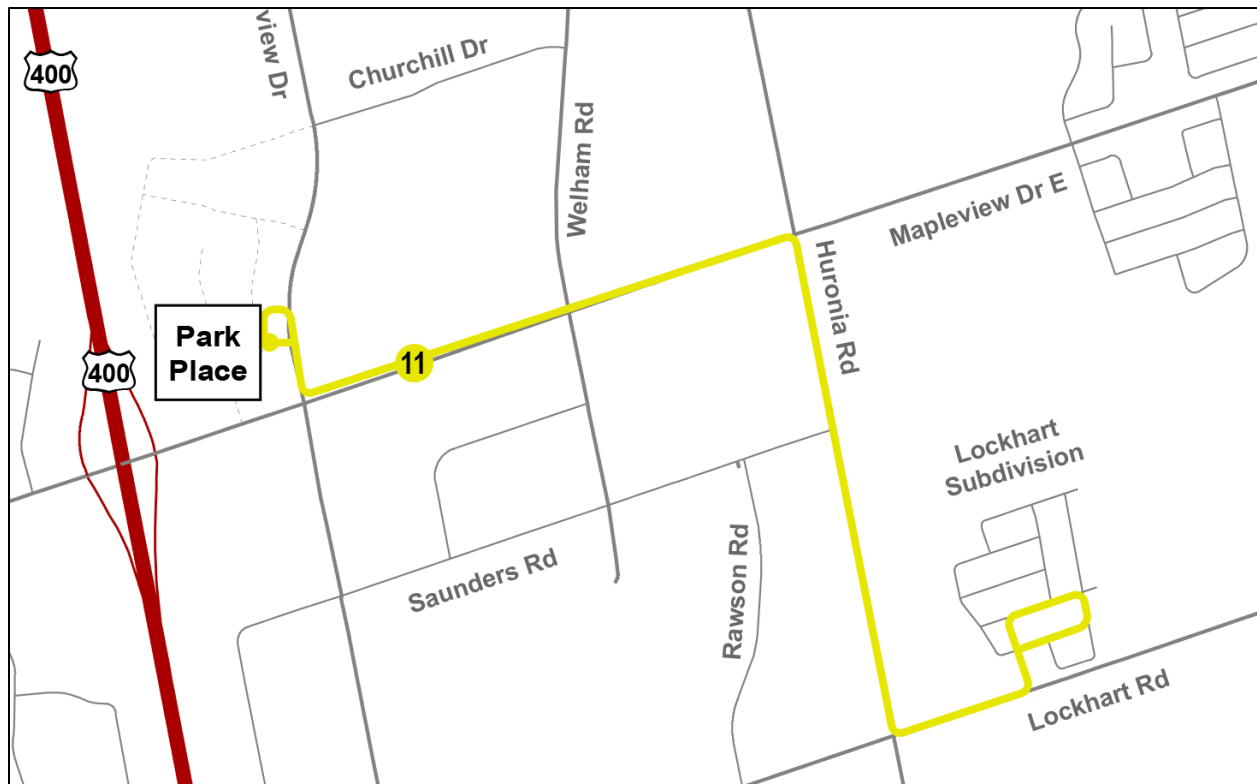


Figure 1: Route 11 Map



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1.2 Reason for Route Revision

Route 11 has been in operation for approximately two years and maintains very low ridership relative to other routes. Barrie Transit's guiding service standard principles indicate a conventional fixed route should operate with a minimum ridership of 8.0 boarding's per service hour. It has been observed that route 11 operates with a ridership of 3.6 boarding's per service hour during weekdays and 2.3 boarding's per service hour during Saturdays. **Table 2** summarizes the ridership for route 11.

	Weekday	Saturday
Daily	46.3	28.0
Boards Per Service Hour	3.6	2.3
Guiding Principle	8.0	

Table 1: Route 11 Ridership (January – March 2018)

Barrie Transit staff are therefore proposing to extend the service coverage of the relatively small route 11 to improve the ridership potential.

1.3 The Proposed Route Revision

Original Routing		Route Revision	
11 (Northbound)	11 (Southbound)	11A (Northbound)	11B (Southbound)
Lockhart Subdivision	Park Place	Lockhart Subdivision	Allandale Recreation Centre
Westbound on Lockhart Rd	Southbound on Bayview Dr	Westbound on Lockhart Rd	Southbound on Bayview Dr to Park Place
Northbound on Huronia Rd	Eastbound on Maplevue Dr	Northbound on Rawson Ave	Southbound on Bayview Dr
Westbound on Maplevue Dr	Southbound on Huronia Rd	Westbound on Saunders Rd	Eastbound on Saunders Dr
North on Bayview Dr to Park Place	Westbound on Lockhart Rd to Lockhart Subdivision	Northbound on Bayview Dr to Park Place	Southbound on Huronia Rd
-	-	Northbound on Bayview to Allandale Recreation Centre	Eastbound on Lockhart Rd
-	-	Allandale Recreation Centre	Lockhart Subdivision

Table 2: Route Revision Description



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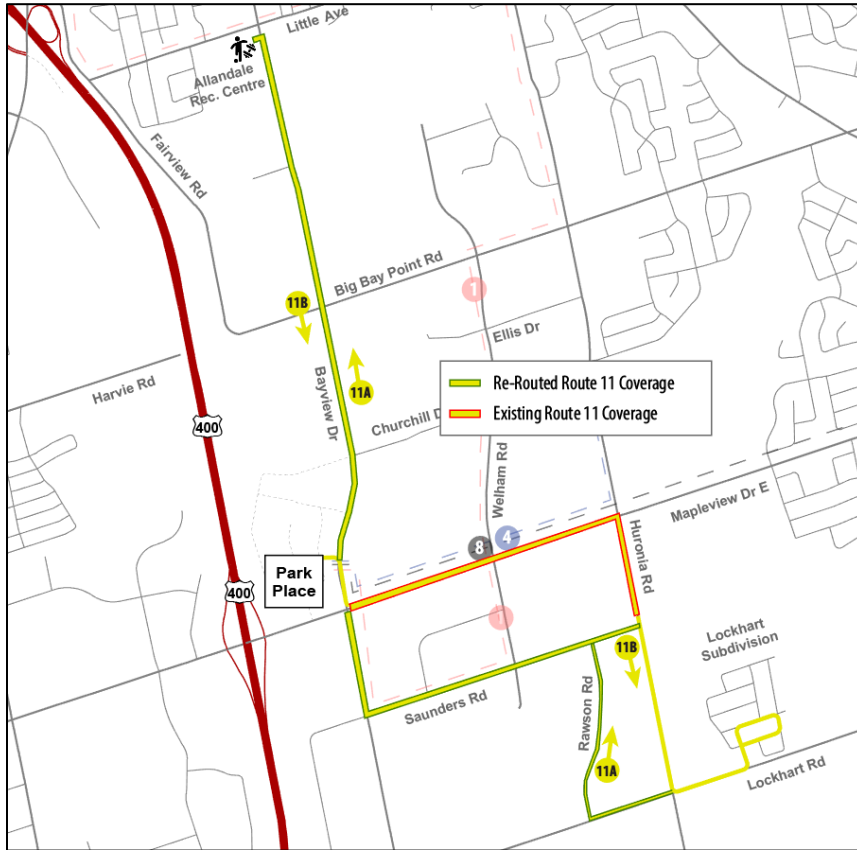


Figure 2: Route Revision Map

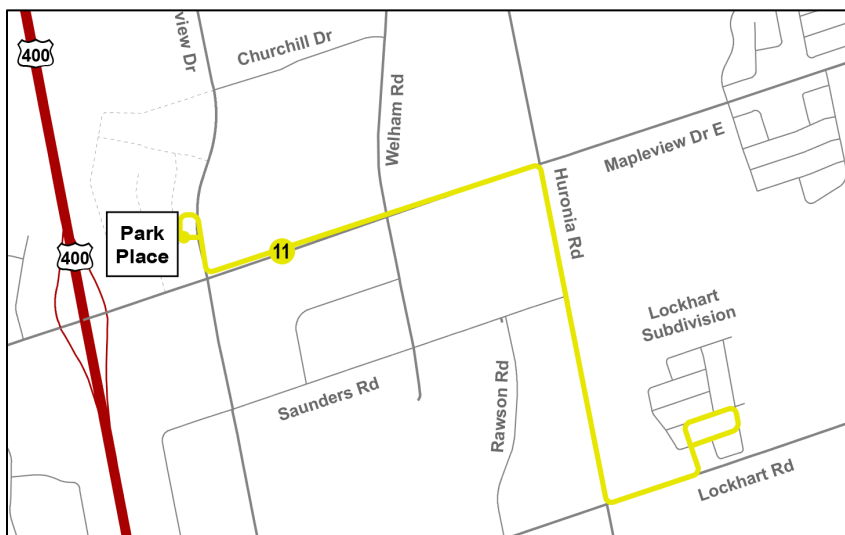


Figure 3: Existing Route 11 Map (For Reference)



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2.0 Route Revision Data Analysis & Implications

Ridership – Approximately 0.85 boards per weekday utilize the subtracted stops from the Lockhart Subdivision (February 2018). This is a relatively small ridership loss considering the potential ridership increases expected by the route revision.

Stop Changes - The proposed changes will reduce service on five stops and add service on twenty-six stops in an effort to increase the ridership of this route. The reduced stops have low ridership and are still service by route 8 & route 4 along Mapleview Drive.

Schedule - The schedule will operate on a 40-minute headway (currently runs at 30-minutes) as a result of the extended coverage. The recovery times along the route will be optimized to enhance connections with route 8 at Park Place for a timed-transfer and the AM/PM bell times of the Innisdale High School.

2.1 Summary of Route Revision Impacts:

Operation Impacts	Positive	Negative
Coverage	+ A net 21 stops are added to the route Providing additional coverage on the Saunders corridor, Bayview corridor, and Allandale Rec Centre.	- Loss of coverage on Mapleview (covered by Route 8).
Travel Time	+ Service timed with Innisdale Secondary School bell times to capture student trips.	- higher headway as a result of additional coverage
Riders	- Potential increase in riders from servicing the more development and parallel Saunders Rd from Mapleview Dr. - New service to Allandale Rec and the Bayview corridor could improve riders - Service timed with Innisdale Secondary School bell times to capture student trips.	- Approximately 0.85 riders a day utilized the subtracted stops.
Long Term Planning	+ Ability to extend service to Fairview Road supporting the first responders campus, onroute, and businesses once the Harvie Overpass is complete	

Table 3: Summary of Route Revision Impacts



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3.0 Conclusion & Summary

In an effort to increase ridership, route 11 will be operate with extended coverage and be re-routed to service more developed areas. This effort is undertaken to improve the ridership of Route 11 to the minimum performance standards of eight boarding's per hour, the existing ridership is between 2.3 and 3.6 boarding's per hour. If ridership gains are not realized to the minimum levels within 12 months of these changes, alternative service arrangements will be explored and transit service hours re-routed to more efficient routes.



Route 1A- Proposed Route Revision

1.0 Introduction to Route Revision

1.1 Existing Route 1A Description

Route 1A services Barrie in a north/south direction from the Park Place retail centre to the Georgian Mall retail centre via Welham, Huronia, Bradford, and Bayview corridors. The route operates 7 days a week on a 30-minute headway during peak times a 45-minute headway during off-peak times. An illustration of the original and proposed revised routings is provided below. The original Route 1A route is provided below in **Figure 4**.



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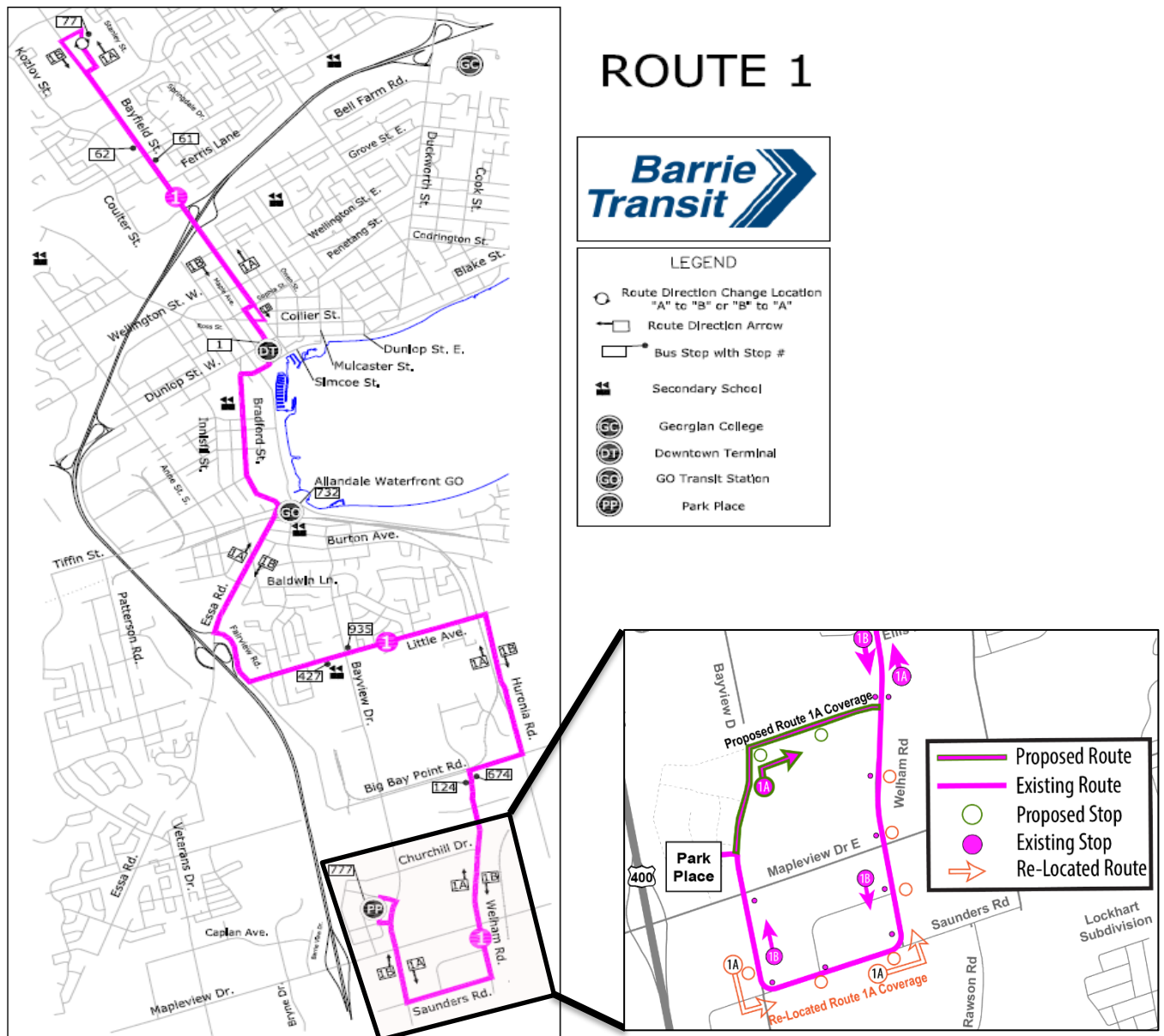


Figure 4: Original Route 1A

1.2 Reason for Route Revision

It has been observed that Route 1 is consistently late throughout the day with late times becoming worse as the trips are inhibited with AM and PM peak hour traffic. The route peaks with approximately 48% of all observations as late by 17:00-18:00 and takes two hours to return to the typical rate. The average late frequency by hour of day is provided below in **Figure 5**.

A late service failure is observed when a bus arrives at a stop greater than five minutes behind schedule.



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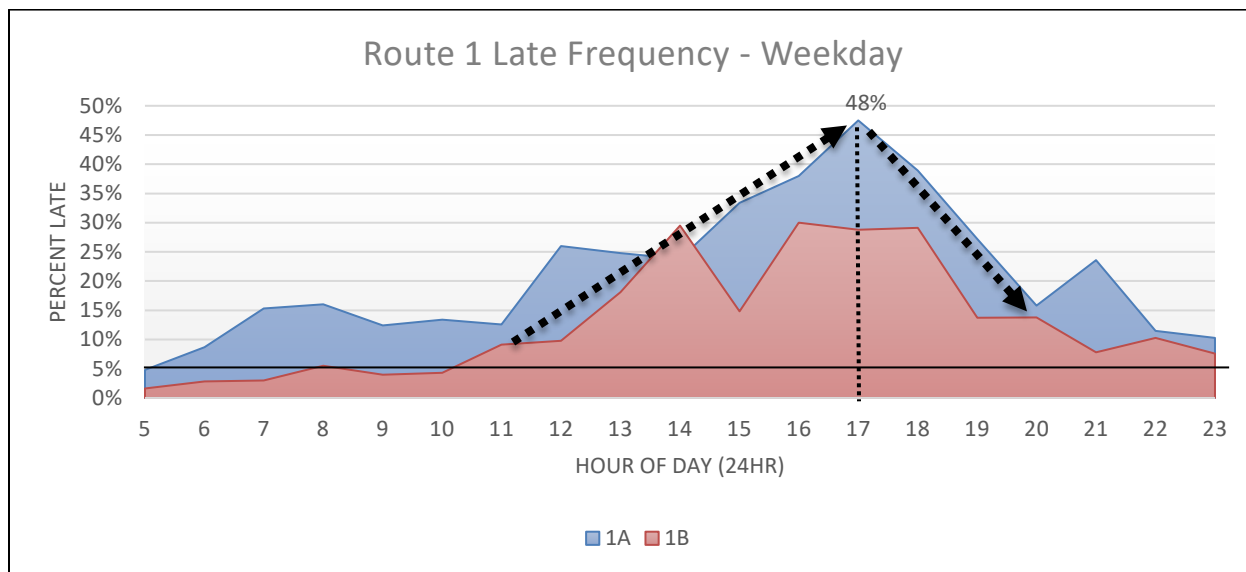


Figure 5: Route 1A Operational Issues (January – February 2018)

Poor Route Performance Implications - Poor on time performance is a significant detriment to Barrie Transit and overall ridership levels. Some of the negative implications include:

- A perceived and actual state of unreliability for customers needing to get to work, appointments, or leisure activities at a scheduled time.
- Missed timed-transfers resulting in significantly increased travel times.
- Additional time waiting at the bus stop. As Transit literature states “*waiting time is the most onerous factor to transit users*” (Chapman, 2006)

1.3 Route 1A – Proposed Route Revisions

Original Routing	Route Revision
Park Place	Park Place
south on Bayview Drive	north on Bayview Drive
East on Saunders Road	East on Churchill Drive
North on Welham Road	North on Welham Road

Table 4: Original and Proposed Route 1A

An illustrated summary of the route revision is provided below in **Figure 6**.



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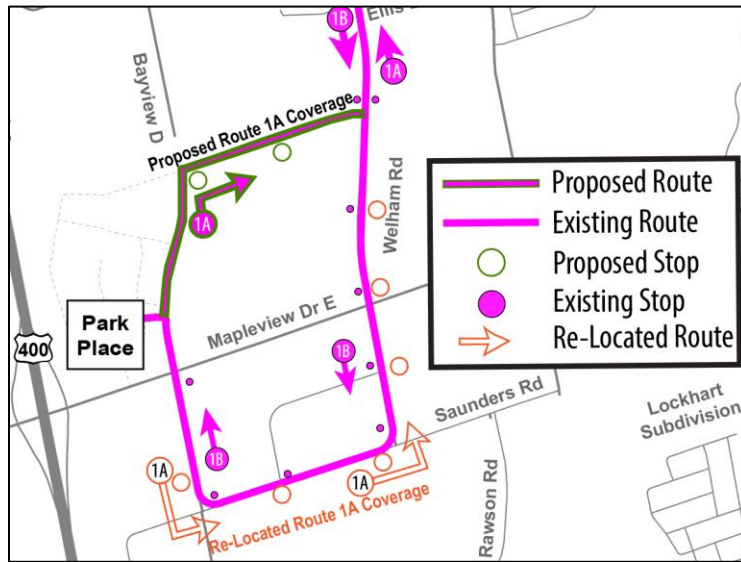


Figure 6: Proposed Route 1A Revision

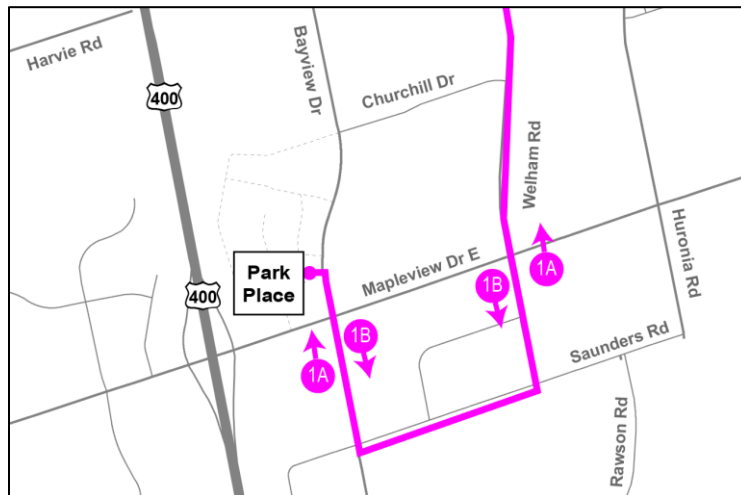


Figure 7: Existing Route 1 (For Reference)



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2.0 Route Revision Data Analysis & Implications

Route Revision Run Time Difference - On Monday November 13th, 2017 from 9:30 - 10:30 am and on Monday November 20th, 2017 from 4:00 – 5:00 pm a timed bus run was undertaken by Barrie Transit staff. The existing and proposed routes were timed over multiple trips and averaged. The results are summarized in the table below. The time savings from the new routing relative to the existing routing is between 5 minutes and 5 minutes/40 seconds depending on the time of day.

	Route 1A Travel Times		Difference
	Existing Route	Proposed Route	
AM Average	0:09:16	0:04:13	-0:05:04
PM Average	0:09:20	0:03:40	-0:05:40

Table 5: Route Run Time Difference

Ridership Considerations – The buses are equipped with automated passenger counter sensors. These sensors were to determine the ridership benefits and costs to this route revision. The passenger counters indicate that:

- 1.1.5.5 riders per weekday travel from Park Place to the re-routed stops on Saunders Rd and will be negatively impacted. The simultaneous route 11 revisions will mitigate the negative impact by servicing Park Place to Saunders Rd.
- + 25 riders per weekday travel around the southern section of Route 1A. These riders will observe at minimum a 5 minute reduction in their travel time.

2.1 Summary of Route Revision Impacts

Transit Operation Impacts	Positive	Negative
Travel Time	+ Faster trip by between 5'00" to 5'40" (minute, "second)	N/A
Coverage	+ New coverage on Churchill Dr.	- Reduced coverage to on Saunders Rd. (The proposed route 11 revision will maintain two-way service)
Riders	+ Better on time performance for all riders + Better connections along the route due to additional time. + Faster trip for the approximately 25 riders a weekday day traveling north from Park Place (riding around the south loop). + New Coverage on Churchill Drive	- 5.5 per day (The proposed route 11 revision will mitigate some of this negative)
Guiding Principles	+ More direct routing + More reliable schedule	N/A

Table 6: Summary of Route Revision Impacts



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3.0 Conclusion & Summary

In an effort to improve on-time performance, a revised route 1A is proposed. This revision will save approximately 5 minutes of travel time with 25 riders benefiting from the change and 5.5 riders negatively impacted by the change. A simultaneous route 11 revision is proposed to accommodate the 5.5 riders negatively impacted. The 5 minutes of reduced travel time will be accommodated throughout the route to improve connections at the hubs and main downtown terminal as well as improve on-time performance. This revision will lead a more direct routing as the original route is contra-flow to the rest of the route (southbound to northbound).