

6 | 2017 Rapid Transit Network Plan

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6.1 | Objective

The 2017 Rapid Transit Network Plan (RTNP) is a supplementary plan to the 2012–2016 Five-Year Service Plan. It identifies rapid transit services and infrastructure elements planned for implementation between 2014 and 2017. RTNP will enhance the existing Viva service and implement new Viva services to expand York Region’s rapid transit network.

2017 Rapid Transit Network Plan initiatives will:

- > Increase transit ridership
- > Decrease transit travel time
- > Improve schedule reliability
- > Increase transit network connectivity

6.2 | York Region - 2031 Transit Network

In the 2009 York Region Transportation Master Plan Update, the 2031 Transit Network identifies long-term transit corridors required to accommodate increased transit demand based on forecasted population and employment growth within York Region. As seen in **Figure 5**, the rapid transit network consists of multiple corridors of BRT in mixed traffic with transit priority measures, BRT in dedicated lanes, Light Rail Transit (LRT), a Subway and Commuter Rail. **Figure 6** illustrates the funded vivaNext construction projects planned to be completed by the end of 2018.

The RTNP initiatives are consistent with the transit priority corridors identified in the Master Plan Update – 2031 Transit Network and complement the funded vivaNext construction projects.



6.3 | Overview

The proposed RTNP and the vivaNext construction program are complementary. Currently, Viva service is provided by operating in mixed traffic with transit priority measures. The construction of rapidways along major corridors, construction of the Cornell Terminal and the Spadina Subway extension into York Region are supported by the implementation of the RTNP as shown in **Figure 7**.

6.4 | Rapid Transit Network Plan – Routing Update

Viva blue (Yonge Street)

Viva blue operates along Yonge Street from the Finch GO Bus Terminal to the Newmarket GO Bus Terminal. Viva blue 'A' operates along the same route however bypasses the Richmond Hill Centre Terminal. In 2017, construction of the Yonge Street rapidways from Highway 7 to 19th Avenue and from Mulock Drive to Davis Drive is scheduled for completion. In 2018, it is proposed Viva blue operate between the Finch GO Bus Terminal and the Newmarket GO Bus Terminal partially in dedicated lanes.

Viva yellow (Davis Drive)

At present, transit service along Davis Drive is provided by conventional bus service only. Construction of the Davis Drive rapidway is expected to be completed by the end of 2014 and Viva yellow is proposed to start operating in early 2015. Viva yellow is proposed to operate in the rapidway between Yonge Street and South Lake Hospital and then in mixed traffic to Highway 404.

Figure 6: vivaNext Funded Rapid Transit Infrastructure

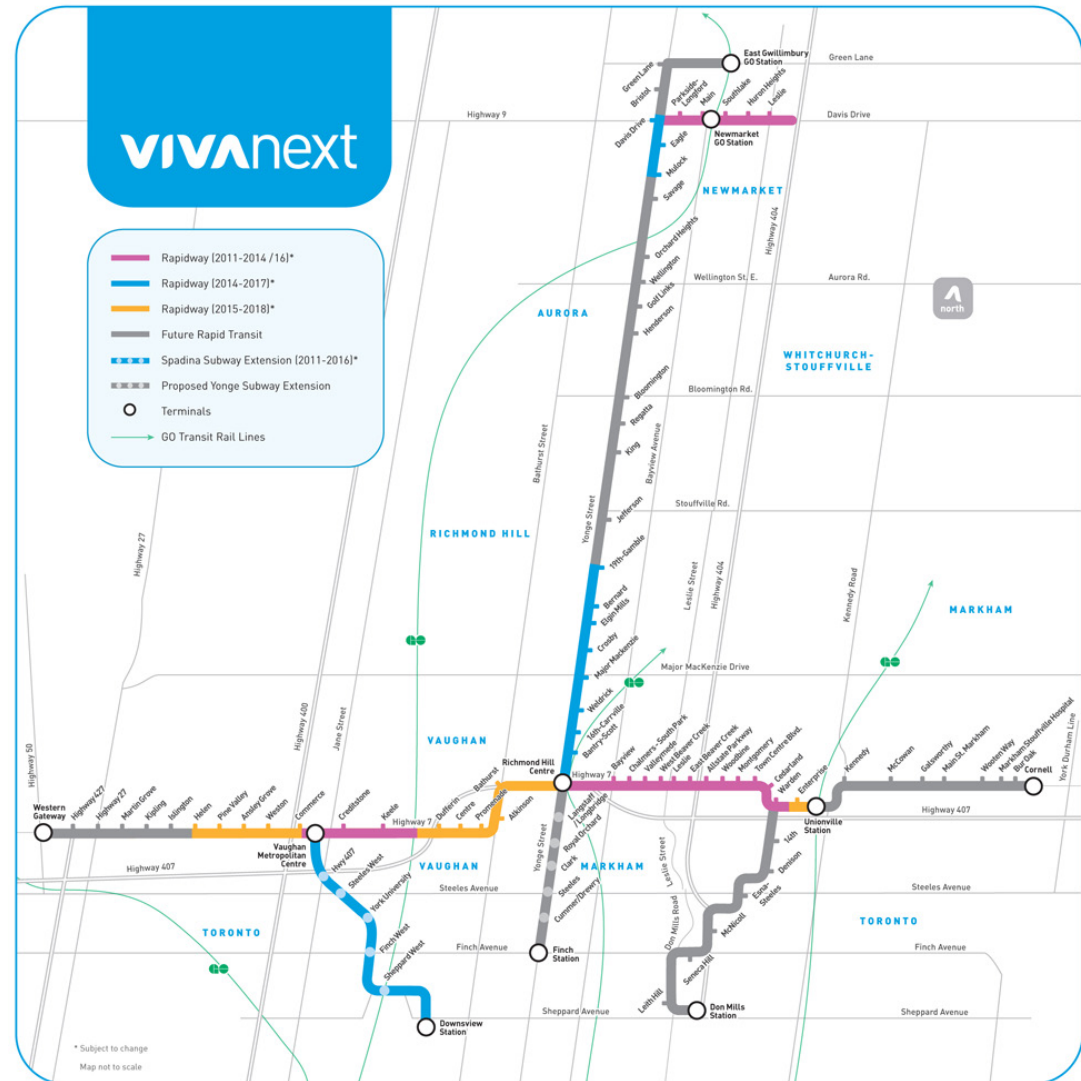
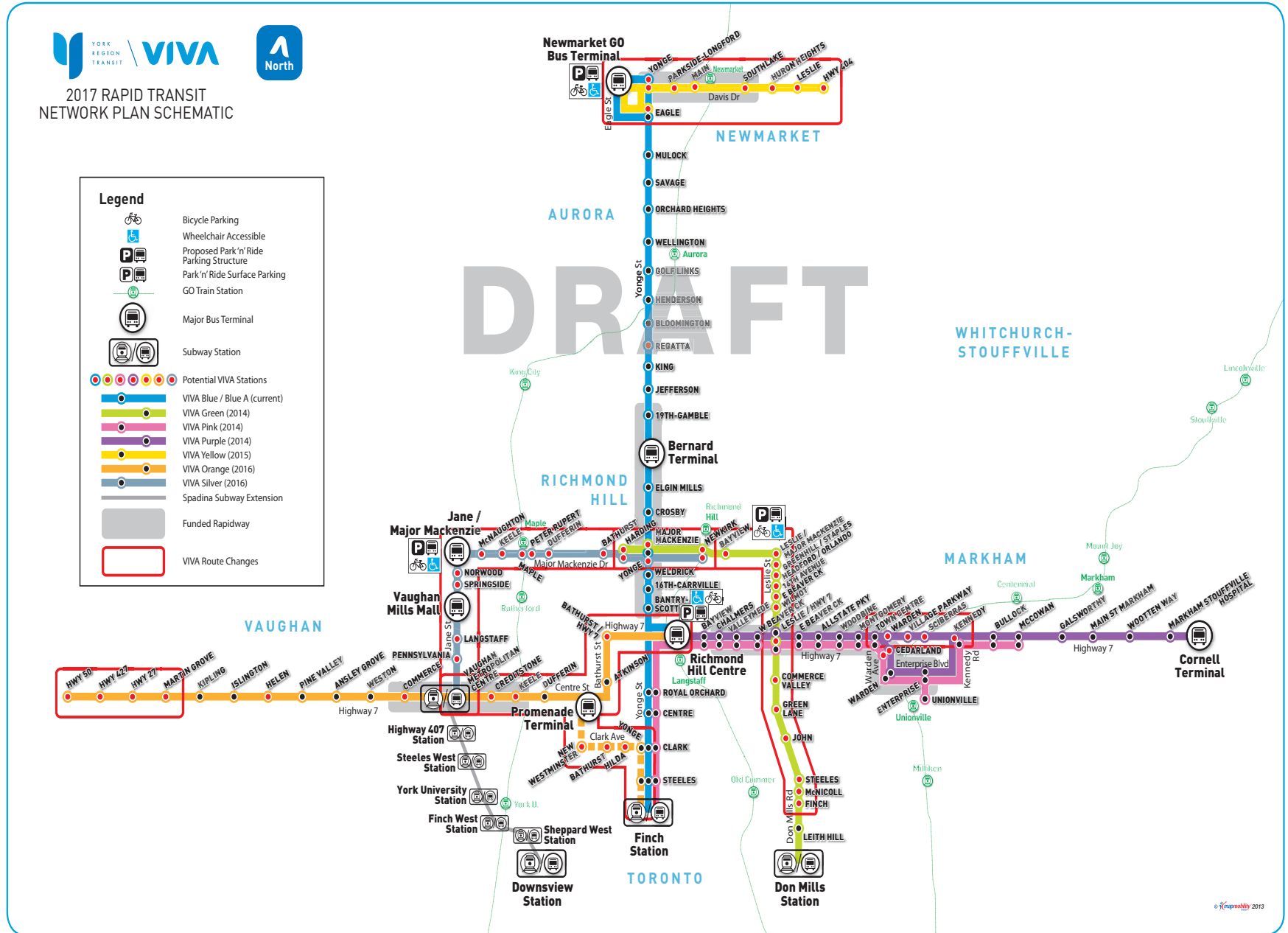


Figure 7: Draft 2017 Rapid Transit Network Plan



Viva purple (Highway 7 East)

Viva purple operates between Markham Stouffville Hospital and York University along Highway 7, Bathurst Street, Centre Street and Keele Street. Viva purple currently operates in mixed traffic between York University to Bayview Avenue and Highway 404 to the Markham Stouffville Hospital. These services are operating in rapidways between Bayview Avenue to Highway 404. In 2014, construction of the Highway 7 East rapidway between Highway 404 and Warden Avenue is expected to be complete.

The long term routing of Viva purple is proposed to operate between Richmond Hill Centre Terminal and Markham–Stouffville Hospital. This is proposed to be implemented in two phases.

Phase 1–2015: Purple will operate on Highway 7 between Town Centre Boulevard and Kennedy Road during weekday rush hours. Viva purple will alternate trips between Highway 7 and Enterprise Boulevard during weekday non-rush hour, Saturdays and Sundays/holidays (Enterprise Boulevard will be serviced by viva pink during rush hours).

Phase 2–2016: Following the opening of the Spadina Subway extension in 2016, Viva purple will operate between Richmond Hill Centre Terminal and Markham Stouffville Hospital only. York University will be served by the Spadina Subway.

Viva pink (Highway 7 East)

Viva pink operates rush hours between Finch GO Bus Terminal and Unionville GO Station along Yonge Street, Highway 7, Warden Avenue and Enterprise Boulevard. The completion of the Highway 7 East rapidway between Bayview Avenue and Warden Avenue will provide Viva pink with partially dedicated lanes. It is proposed Viva pink will extend service eastward in 2015, and operate from Highway 7 and McCowan Road to Finch GO Bus Terminal via Enterprise Boulevard and Unionville GO Station.

Viva orange (Highway 7 West)

Viva orange operates from Highway 7 and Martin Grove Road to the TTC Downsview Subway Station via Highway 7, Jane Street, York University and Dufferin Street.

In 2016, construction of the Spadina Subway extension and the Highway 7 West rapidway from Commerce Street to Bowes Road is expected to be complete. This will allow Viva orange service modifications to coincide with the Viva purple adjustments noted earlier.

Future rapid transit infrastructure improvements include construction of rapidways along Highway 7 West from Bowes Road to Yonge Street and Helen Street to Edgeley Boulevard.

In 2016, it is proposed Viva orange operate from Highway 50 (the Peel Region/York Region boundary) through the Vaughan Metropolitan Centre Subway Station to Promenade Terminal.

At Promenade Terminal, there would be a branch operating to the:

- > Richmond Hill Centre Terminal
- > Finch GO Bus Terminal

Viva green (Leslie Street/Major Mackenzie Drive)

Viva green operates from the TTC Don Mills Subway Station to Highway 7 and McCowan Road via Don Mills Road, Pharmacy Avenue, Warden Avenue, Enterprise Boulevard and Highway 7. It is proposed Viva green service be restructured in two phases (2015 and 2016).

Phase 1 – 2015: Viva green to operate along Leslie Street from the TTC Don Mills Subway Station to Major Mackenzie Drive.

Phase 2 – 2016: Viva green to be extended along Major Mackenzie Drive west to Trench Street.

Rapidways are not proposed along Leslie Street or Major Mackenzie Drive. Viva green would continue to operate in mixed traffic along these corridors.

Viva silver (Jane Street/Major Mackenzie Drive)

At present, transit service along the Jane Street and Major Mackenzie Drive corridors are served by conventional bus service only. With the completion of the Spadina Subway in 2016, it is proposed Viva silver operate from the Vaughan Metropolitan Centre Subway Station to Major Mackenzie Drive along Jane Street, then along Major Mackenzie Drive to the Newkirk GO Station in 2016. Viva silver is planned to be a BRT service operating in mixed traffic with transit priority measures.

6.5 | Fleet Plan

The proposed Viva bus requirements between 2014 and 2017 are shown in **Table 14**.

With the implementation of the RTNP, adjustments to both the Viva and conventional fleet will be required; an increase of 20 Viva buses and a decrease of 12 conventional buses when the update is fully operational.

6.6 | Financial Summary

The preliminary Viva annual operating costs between 2014 and 2017 are shown in **Table 15**.

Viva operating costs are estimated to increase by \$14,442,000 due to the RTNP service.

There are corresponding reductions in the bus operating costs for the underlying conventional bus network of \$5,892,000. Overall there is an estimated annual operating cost increase of \$8,550,000 by 2017.

All of Transportation and Community Planning have worked together to develop the preliminary designs and costing for the proposed RTNP. Refinement of RTNP requirements and associate costs will be on-going.

Table 14: RTNP Fleet Requirements

Viva Line	2014	2015	2016	2017
blue / blue 'A'	27	27	27	27
yellow	0	4	4	4
purple	18	18	8	8
pink	8	10	10	10
orange	8	8	19	19
green	4	6	7	7
silver	0	0	10	10
Viva Total	65	73	85	85

Table 15: RTNP Annual Operating Costs (in \$1,000s)

Viva Line	2014	2015	2016	2017
blue / blue 'A'	\$11,985	\$11,985	\$11,985	\$11,985
yellow	0	\$2,740	\$2,740	\$2,740
purple	\$10,118	\$10,118	\$5,115	\$5,115
pink	\$2,286	\$2,743	\$2,743	\$2,743
orange	\$3,535	\$3,535	\$11,262	\$11,262
green	\$1,134	\$2,300	\$3,748	\$3,748
silver	\$0	\$0	\$5,907	\$5,907
Viva Total	\$29,058	\$33,421	\$43,500	\$43,500

The preliminary RTNP capital requirements presented in **Table 16** include costs for transit priority measures, new vivastations and two structured parking garages. The identified capital projects are not currently funded by the vivaNext rapid transit infrastructure program.

6.7 | Implementation Plan

The proposed RTNP Implementation Plan is presented in **Figure 8**.

Preliminary design work will begin in 2014. Construction is planned for the various routes within the next four years with anticipated service start dates beginning in 2015.

Table 16: RTNP Capital Costs (in \$1,000s)

Viva Line	2014	2015	2016	2017	Total
blue / blue 'A'	\$0	\$0	\$0	\$0	\$0
yellow	\$3,896	\$0	\$0	\$0	\$3,896
purple	\$4,820	\$0	\$0	\$0	\$4,820
pink	\$1,490	\$0	\$0	\$0	\$1,490
orange	\$0	\$9,021	\$0	\$0	\$9,021
green	\$15,401	\$4,591	\$0	\$0	\$19,992
silver	\$0	\$22,629	\$0	\$0	\$22,629
Parking Garages (2)	\$0	\$0	\$40,000	\$0	\$40,000
Professional Services	\$2,561	\$3,624	\$4,000	\$0	\$10,185
Scope & Contingency	\$5,121	\$7,248	\$8,000	\$0	\$20,370
Grand Total	\$33,289	\$47,113	\$52,000	\$0	\$132,402

Figure 8: RTNP Implementation Plan

VIVA ROUTE		STAGE	2013	2014	2015	2016	2017
blue/blue 'A'	Construction	vivaNext Program	●	●	●	●	●
	Operation	Existing Service	●	●	●	●	●
yellow	Construction	vivaNext Program	●	●			
		RTNP Program		●			
	Operation	Existing Service	●	●			
		RTNP Service			●	●	●
purple	Construction	vivaNext Program	●	●	●	●	●
		RTNP Program		●			
	Operation	Existing Service	●	●			
		RTNP Service, Phase 1			●		
		RTNP Service, Phase 2				●	●
pink	Construction	RTNP Program		●			
	Operation	Existing Service	●	●			
		RTNP Service			●	●	●
orange	Construction	vivaNext Program	●	●	●	●	●
		RTNP Program			●		
	Operation	Existing Service	●	●	●		
		RTNP Service				●	●
green	Construction	RTNP Program		●	●		
	Operation	Existing Service	●	●			
		RTNP Service, Phase 1			●		
		RTNP Service, Phase 2				●	●
silver	Construction	RTNP Program			●		
	Operation	RTNP Service				●	●
Parking Garages (2)	Construction	RTNP Program				●	
	Operation	RTNP Program				●	●

